

MEMORANDUM

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: May 14-15, 2026

From: STEVEN KECK, Chief Financial Officer

Reference Number: 2.1s.(2), Action Item

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Division of Local Assistance

Subject: **SENATE BILL 1 TRADE CORRIDOR ENHANCEMENT PROGRAM – PROJECT SCOPE AMENDMENT – FORUM MOBILITY – BEYOND THE DOCK - HD ELECTRIFICATION OF THE PORT OF OAKLAND PRIORITY TRADE CORRIDORS PROJECT RESOLUTION TCEP-P-2526-19**

ISSUE:

Should the California Transportation Commission (Commission) approve a project scope amendment for the Senate Bill 1 (SB 1) Trade Corridor Enhancement Program (TCEP) Forum Mobility – Beyond the Dock - HD Electrification of the Port of Oakland Priority Trade Corridors Project (PPNO 2364S), in Alameda County, to revise the scope?

RECOMMENDATION:

The California Department of Transportation (Department) recommends that the Commission approve this project scope amendment for the SB 1 TCEP Forum Mobility – Beyond the Dock - HD Electrification of the Port of Oakland Priority Trade Corridors Project (PPNO 2364S), in Alameda County, to revise the scope.

DISCUSSION:

The SB 1 TCEP Forum Mobility – Beyond the Dock - HD Electrification of the Port of Oakland Priority Trade Corridors Project proposed to construct the first publicly accessible heavy-duty electric vehicle charging depot on Port of Oakland property to accelerate the widespread adoption of heavy-duty electric vehicles (HDEV). The project proposed to install 26 charging ports and 4 pull-through lanes, including overnight accessibility with driver amenities including restrooms and secure parking for personal vehicles.

The Department is now requesting a project scope amendment to upgrade the charging technology to accommodate the new, higher-powered HDEV models and align the infrastructure with the prevailing industry standard for commercial charging. The proposed

change will deliver eight Megawatt Charging System (MCS) ports, including four pull-through MCS lanes and four bobtail Combined Charging System (CCS) bays. This is compared to the originally proposed 26 low power CCS ports. This dual-standard approach is necessary to meet the Port of Oakland's lease requirement to maintain CCS capability, and to ensure charging access for the existing CCS HDEVs currently registered in the Port of Oakland. The upgrade to MCS chargers enables faster charging time and quicker turnover for charging stations, resulting in a higher daily truck throughput with fewer overall charging spots. The smaller number of charging units results in a substantially smaller physical footprint for the depot itself, leading to significantly lower construction costs. These changes are due to rapid unforeseen market and technological developments that occurred after the application submission.

Although this scope amendment reduces the project outputs, the proposed equipment is expected to provide a greater throughput of zero-emission heavy-duty trucks while the charging capacity remains the same. There is a delay in project schedule, however, the proposed benefits are the same with higher emission reductions per dollar spent along with a reduction in SB 1 TCEP funding.

ANALYSIS:

The Department's analysis has concluded that the rapid unforeseen market and technological developments are beyond the control of the applicant. The revised scope will upgrade the charging technology to accommodate the new, higher-powered HDEV models and align the infrastructure with the prevailing industry standard for commercial charging.

ANALYSIS RECOMMENDATION:

Based on the Commission's scope change guidance, as well as the analysis of the proposed scope changes, the Department has determined that this scope amendment will not significantly reduce the overall project benefit. The project benefits remain the same and the proposed changes will provide greater throughput than the original scope. Therefore, the Department supports the proposed scope changes for this project.

BACKGROUND:

SB 1 TCEP Guidelines stipulate that any agency implementing a project, present scope changes to the Department in a timely manner. The Department will make a recommendation to the Commission for final approval of this scope change with the understanding that scope changes that are significant and result in a decrease in project benefits may result in either a reduction of SB 1 TCEP funds or removal of this project from the program.

Attachment

Project Information

Project Title: **Beyond the Dock-HD
Electrification of the Port of Oakland
Priority Trade Corridors**

Nominating Agency: Caltrans (modified)

Implementing Entity: Forum Mobility

Funding Program(s): TCEP

District: 4

PPNO: 2364S

Cycle: 4

Submitted Documents

Scope Change Request

Original ePPR

Revised ePPR

Additional Information: The proposed scope modification request also includes an updated ePPR, and revised Benefit Cost Analysis that supports the overall site performance and public benefit by shifting from a high-density, first-generation Combined Charging System (CCS) design to a high-throughput Megawatt Charging System (MCS) model system.

Summary

Reduction in Outputs?

Yes: No:

Reduction in Benefits?

Yes: No:

Increase/Reduction in Total Project Cost?

Increase: Reduction: No Change:

Increase/Reduction in SB 1 Funds?

Increase: Reduction: No Change:

Do all partners and funding entities approve of the proposed scope change?

Yes: No:

Does the SB 1 Office recommend?

Yes: No:

Original Scope

The Beyond the Dock – HD Electrification of the Port of Oakland Priority Trade Corridors project was originally programmed as a 26 Combined Charging System (CCS) port that were a mix of bobtail and pull-through charging bays, that would afford the site the capability to charge a maximum of 30 Heavy Duty Electronic Vehicles (HDEV) trucks, at one time, by utilizing the four pull-throughs for two HDEVs (one truck and trailer and one bobtail truck).

Proposed Scope

The proposed scope change for the Beyond the Dock – HD Electrification of the Port of Oakland Priority Trade project shifts to a Megawatt Charging System (MCS), upgrading the charging infrastructure to support faster charging speeds and greater throughput. The revised scope includes a combination of eight MCS ports and four lower-kilowatt CCS units, consisting of four MCS charging ports and four CCS bobtail charging ports.

Comparison of Project Scope Outputs		
Feature	Original Application (Approved)	Proposed Scope Change
Total Charging Ports	26 ports (4 pull-through & 22 bobtail)	8 ports (4 pull-through & 4 bobtail)
Pull-Through Lanes	4 lanes All kW-level (CCS)	4 lanes All MCS-enabled
Bobtail Charging Lanes	22 charging bays All kW-level (CCS)	4 charging bays All CCS-enabled
Charging Level Technology	All kW-level (CCS)	Mixed: 4 (MCS) & 4 kW (CCS)

Reason/Justification

This proposed project scope is pivoting the core charging architecture from a high-density, first-generation Combined Charging System (CCS) design to a high-throughput Megawatt Charging System (MCS) model to ensure the site's long-term viability and maximize public benefit. This critical technology shift is driven by the rapid, unforeseen, and near-universal adoption of MCS by HDEV Original Equipment Manufacturers and fleet operators.

MCS offers fundamental operational superiority, enabling a faster, "gas station" charging model (30–45-minute charging) that significantly maximizes vehicle

uptime and daily truck throughput compared to the original site plan, which was at 100% CCS design.

While the original scope featured 26 CCS ports, the new 24/7 publicly accessible design utilizes eight MCS ports with four pull-through MCS lanes and four bobtail CCS bays that will accommodate the new, higher-powered HDEV models and align the infrastructure with the prevailing industry standard for commercial charging.

The final design also incorporates a mixed solution featuring four pull-through MCS lanes and four bobtail CCS charging bays. This dual-standard approach is necessary to:

1. Meet the Port of Oakland's lease requirement to maintain CCS capability, and
2. Ensure charging access for the approximately 12 existing CCS drayage HDEVs currently registered in the Port of Oakland drayage truck registry guaranteeing that no already-deployed zero-emission vehicle is stranded by the technology transition

Impact to Cost:

The Beyond the Dock project was originally programmed for a project cost of \$8,099,000; this was split as \$5,521,000 in private funding and \$2,578,000 in TCEP funding.

With this scope change and the addition of new local funding the project cost is now \$6,128,000; which includes a receipt of Local Grant funding from the Bay Area Air Quality Management District for \$1,870,000. The reduction in the project cost also includes a reduction of \$628,000 in TCEP funding.

The new funding amounts are:

Funding Type	Project Cost at Adoption	Project Cost After Scope Change
Private funding	\$5,521,000	\$2,308,000
TCEP Funding	\$2,578,000	\$1,950,000
Local Funding – Bay Area Quality Mgmt District	0	\$1,870,000
Totals	\$8,099,000	\$6,128,000

Impact to Schedule:

Phase	Current Milestone Date	Proposed Milestone Date
PA&ED	10/10/2023	10/10/2023
PS&E (Design)	3/1/2025	3/1/2025
Begin CON	8/1/2025	8/14/2026
End CON	5/29/2026	3/15/2027

The schedule adjustments above are a direct result of the administrative timeline associated with this Scope Change and meeting the California Transportation Commission (CTC) meeting due dates.

To allow for a complete and well-documented submittal reflecting the project's technical transition to Megawatt Charging (MCS), the request was moved from the March meeting to the May 2026 CTC meeting.

This two-month administrative adjustment has a direct "waterfall" effect on the project timeline: it pushed the date for the formal issuance of equipment Purchase Orders (POs) by two months, which in turn moved the physical construction start date to September 15, 2026, and the final end of construction to March 15, 2027

Despite these shifts in the physical construction schedule, there is no impact on the project's fiscal standing or funding eligibility. Forum Mobility remains fully committed to requesting the fund allocation within FY 25-26, consistent with the fiscal year approved during the 2024 TCEP adoption.

Forum Mobility will continue to coordinate closely with Caltrans staff to provide regular project updates and ensure the timely delivery of the project.

Project Milestone	Existing	Proposed
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	10/23/2023	10/23/2023
Circulate Environmental Document	Document Type: CE	
Draft Project Report	04/22/2023	08/01/2025
End Environmental Phase (PA&ED milestone)	02/25/2025	02/25/2025
Begin Design (PS&E) Phase	03/01/2025	03/01/2025
End Design Phase (Ready to List for Advertisement Milestone)	06/01/2025	06/01/2025
Begin Right of Way Phase	11/08/2022	11/08/2022
End Right of Way Phase (Right of Way Certification Milestone)	07/01/2024	07/01/2024
Begin Construction Phase (Contract Award Milestone)	08/01/2025	08/14/2026
End Construction Phase (Construction Contract Acceptance Milestone)	05/29/2026	03/15/2027
Begin Closeout Phase	06/02/2026	03/22/2027
End Closeout Phase (Closeout Report)	08/01/2026	05/17/2027

Impact to Outputs

Although there is a reduction of the number of DC charging port and vehicle stalls available for charging, the introduction of MCS infrastructure results in substantially increasing throughput and total charging capacity on the site, leading to increased project benefits.

MCS technology to maximize operational efficiency and respond to a faster-than-anticipated market shift.

The proposed MCS-capable ports will be deployed with a maximum charge rate of 1,200 kW and a simultaneous charge rate of 300 kW per port. By comparison, the originally proposed chargers were limited to a maximum charge rate of 300 kW and a simultaneous charge rate of only 100-150 kW.

While the original CCS-only design could support 30 trucks per day, the high-power MCS architecture increases this capacity to 81 trucks per day, a 170% increase in utility and emissions-reduction potential.

This represents a step-change in charging performance that materially reduces vehicle dwell time and enables more trucks to be charged per day using the same site footprint.

Approved Outputs as shown in Original ePPR

Project Outputs			
Category	Outputs	Unit	Total
ZEV infrastructure	Number of Locations with ZEV infrastructure	Each	1
ZEV infrastructure	Number of DC charging ports	Each	30
ZEV infrastructure	Number of vehicle stalls available for charging	Each	26
ZEV infrastructure	Simultaneous EV charging capacity	kW	2,000

Proposed Outputs:

Project Outputs			
Category	Outputs	Unit	Total
ZEV infrastructure	Number of Locations with ZEV infrastructure	Each	1
ZEV infrastructure	Number of vehicle stalls available for charging	Each	8
ZEV infrastructure	Simultaneous EV charging capacity	kW	2,000
ZEV infrastructure	Number of DC charging ports	Each	8

Comparison of Project Scope Outputs		
Feature	Original Application (Approved)	Proposed Scope Change
Total Charging Ports	26 port (30-vehicle capacity - 4 pull-through with 8-vehicle capacity & 22 bobtail each with a single vehicle capacity) (4 pull-through & 22 bobtail)	8 ports (4 pull-through & 4 bobtail)
Pull-Through Lanes	4 lanes All kW-level (CCS)	4 lanes All MCS-enabled
Bobtail Charging Lanes	22 charging bays All kW-level (CCS)	4 charging bays All CCS-enabled
Charging Level Technology	All kW-level (CCS)	Mixed: 4 (MCS) & 4 kW (CCS)

Although there is a drop in outputs, the project shows the benefits do not decrease.

The benefit-cost analysis (BCA) model used to calculate the project benefits reported in the original TCEP application was updated, using the updated daily maximum trucks charged as an input from year one (the project opening year, 2026) through the year 15 (2041). The estimated daily trucks charged reflects the anticipated operational efficiency achieved through the proposed scope change discussed in the previous section.

As a result of these limited input updates, project benefits were maintained or increased across all evaluated metrics relative to the original application. Metrics that remain unchanged have ratio units that are not impacted by the scale of the project. Also of note is that the original ePPR at the time of the project adoption did not include Cost Benefit ratio or the job created, but was added as part of the scope change benefits analysis.

(See next page)

Trade Corridor Enhancement Program – Beyond the Dock – HD Electrification of the Port of Oakland Priority Trade						
Existing Average Annual Vehicle Volume on Project Segment		N/A				
Existing Average Annual Truck Percent on Project Segment		N/A				
Estimated Year 20 Average Annual Vehicle Volume on Project Segment with Project		N/A				
Estimated Year 20 Average Annual Truck Percent on Project Segment with Project		N/A				
Measure	Metric	Project Type	Proposed (Scope Change)	Approved (Baseline)	Delta	Notes
Congestion Reduction (Freight)	Change in Daily Vehicle Hours of Delay	All	0	0	0	
	Change in Daily Truck Hours of Delay	All (except rail)	0	0	0	
	(Optional) Person Hours of Travel Time Saved	All	0	0	0	
	(Optional) Daily Truck Trips Due to Mode Shift	Rail, Sea Port	0	0	0	
	(Optional) Daily Truck Miles Travelled Due to Mode Shift	Rail, Sea Port	0	0	0	
	(Optional) Other Information	All	0	0	0	
Throughput (Freight)	Change in Truck Volume	Highway, road, and port projects only	0	0	0	
	Change in Rail Volume	Rail	N/A	N/A	N/A	
	(Optional) Change in Cargo Volume	Sea port, airport	0	0	0	
System Reliability (Freight)	(Optional) Other Information	All	0	0	0	
	Truck Travel Time Reliability Index ("No Build" Only) (Optional Metric)	National and State Highway System Only	N/A	N/A	N/A	
Velocity (Freight)	(Optional) Other Information	All	0	0	0	
	Travel time or total cargo transport time	All	0	0	0	
	(Optional) Change in Average Peak Period Weekday Speed for Road Facility		0	0	0	
	(Optional) Average Peak Period Weekday Speed for Rail Facility		0	0	0	
Air Quality	(Optional) Other Information	All	0	0	0	
	Particulate Matter (PM 10)	All	1.0837	0.1054	+0.97830	Scope Change reflects optimized zero-emission equipment selection and updated duty-cycle projections, resulting in higher localized emission reductions per dollar spent compared to baseline."
	Particulate Matter (PM 2.5)		1.1225	0.1144	+1.00810	
	Carbon Oxide (CO ₂)		0	0	0	
	Volatile Organic Compounds (VOC)		6.35	0.593	+5.7570	
	Sulphur Oxides (SO _x)		0.2578	0.0242	+0.2336	
	Carbon Monoxide (CO)		12.3141	8.5277	+3.7864	
Nitrogen Oxides (NO _x)		61.7111	13.32755	+48.38355		

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Safety	Number of Fatalities	Road and	0	0	0	
	Rate of Fatalities per 100 Million VMT	Land Port	0	0	0	
	Number of Serious Injuries		0	0	0	
	Number of Serious Injuries per 100 Million VMT		0	0	0	
	(Optional) Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries		0	0	0	
	(Optional) Other Information	All	0	0	0	
Cost Effectiveness	Cost Benefit Ratio	All	32%	32%	0%	Funding-to-cost ratio remains consistent with the baseline at 0.32, maintaining the state's proportional investment despite the reduction in total project scale.
	(Optional) Other Information	All	0	0	0	
Economic Development	Jobs Created	All	50	50	0	Job creation estimates remain consistent with baseline projections as the core construction and installation components of the electrification infrastructure are preserved in the revised scope.
	(Optional) Other Information	All	0	0	0	

Summary

This proposed project scope is pivoting from a high-density, first-generation Combined Charging System (CCS) design to a high-throughput Megawatt Charging System (MCS) model to ensure the site's long-term viability and maximize public benefit.

MCS offers fundamental operational superiority, enabling a faster, "gas station" charging model that significantly maximizes vehicle uptime and daily truck throughput compared to site plan that a 100% CCS design, which aligns with Port of Oakland objectives of maintaining charging capacity and access for HDEVs.

This project was adopted to serve the drayage fleets that operate from the Port of Oakland, as well as offering 24/7 public charging for any HDEV through a reservation system or on-demand charging. Despite the pivot in the outputs, however, the project has shown that benefits will increase, thus still delivering within the original intent of the project.