Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

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**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
SEPTEMBER 17, 2026**

SUBJECT: METRO C-LINE TRACTION POWER SUBSTATION (TPSS) REPLACEMENT PROJECT

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to increase the Life of Project Budget (LOP) for the Project 205670 - Metro C Line Traction Power Substations Replacement by $63,000,000 increasing the Life of Project from $98,500,000 to $161,500,000.

ISSUE

The original C Line Traction Power Substations (TPSS) are approximately 31 years old and are nearing the end of useful lives. Although the TPSS remain operational, they require increasing maintenance and repairs, and critical spare parts that are no longer manufactured or readily available in the commercial market. Due to the age of the TPSS, growing maintenance needs, and limited availability of replacement parts, the TPSS must be replaced. In addition, the scope was expanded to include additional requirements critical to the TPSS installation. As a result, the existing LOP budget is insufficient to award the TPSS replacement contract; therefore, an LOP increase is required for project delivery.

BACKGROUND

The original C Line TPSS provides electrical power to trains operating on 18 miles of railroad along the I-105 freeway corridor between Redondo Beach Station and Norwalk Station. The TPSS were constructed in 1990 and began revenue service in 1995. As the equipment ages, its efficiency declines, increasing electrical energy usage and reduces reliability.

Many TPSS parts are no longer manufactured and require custom fabrication to maintain TPSS in service. In addition, the Original Equipment Manufacturer (OEM), Siemens, no longer provides technical maintenance support for the existing TPSS because of their age. The project is to replace aging substations with new energy-efficient TPSS to improve reliability and efficiency of electrical power for train operations.

The original engineering independent cost estimate, developed in 2024, was based on a Scope of

Work (SOW) limited to replacing 18 TPSS units using 2024 market prices for materials, labor, and manufacturing. A procurement package was initially prepared in 2024 for a design-build contract delivery method. However, the project scope of work was reassessed to address additional changes needed. The changes applied to the high voltage electrical cables, OCS electrical isolation switches, and substations electrical isolation switches. As a result, the TPSS design and specifications were brought in-house to develop in 2025 to incorporate those changes and transition the procurement to a design-bid-build delivery method. Since the original procurement package was developed, material, labor, and manufacturing costs have increased. The upgrades are intended to improve energy efficiency and reliability by providing remote monitoring alarms for predictive maintenance and are expected to have a service life of 31 years.

DISCUSSION

The original Metro C-Line TPSS are existing facilities and provide traction power to trains operating on the original C-Line. The project involves design, manufacture, construction, removal, and installation of new TPSS equipment that provides traction power to the Metro C Line train operations. These substations are critical to the operation of the rail line and include the installation of the latest TPSS technology to improve efficiency and energy usage. The project is scheduled to begin construction in 2026 and continue through 2030.

A $161,500,000.00 budget need has been determined based on the project scope. The increase in the Life of Project (LOP) budget reflects both market escalation and additional project scope requirements. The additional project scope was identified through continued design development and a more detailed assessment of the existing system conditions. These requirements were not fully known when the original LOP and cost estimate were developed. As the design progressed, additional requirement needs were identified as necessary to support the reliability of TPSS system. The additional project scope is expanded to include, (1) necessary replacement of the more than 69,000 feet of positive and negative feeder cables due to the age and poor condition of the existing cable system and associated connections; (2) the installation of new Traction Power Positive Isolation Switches to improve electrical safety for maintenance workers and (3) the replacement Overhead Catenary System (OCS) isolation switches to improve single tracking operations.

Inclusion of this additional scope now also minimizes interruption of train operations so that train operations will not be impacted twice (once for TPSS replacement and another time for high voltage cables and high voltage switches). The trend for labor and raw materials had been increasing every year and possible it would cost more if we replace in near future. In addition, substations are only part of the electrification system, and it is more beneficial to replace all electrification systems at once so the agency can save labor cost, bus bridges cost and minimize interruption to customers.

The increase in the LOP budget is attributable to the three additional scope requirements mentioned above, as well as significant increases in construction labor, materials, electrical and traction power equipment costs, supply chain constraints, extended manufacturer lead times, and increased contractor pricing driven by a competitive infrastructure market.

DETERMINATION OF SAFETY IMPACT

In accordance with Metro's State of Good Repair (SGR) requirements and Transit Asset Management (TAM) Plan, the original C-Line TPSS equipment is reaching the end of its useful life and must be replaced promptly to comply with safety and reliability standards. Replacement of the TPSS equipment will enhance safety, improve electricity usage, and ensure reliable power delivery to Light Rail Vehicles (LRVs) on the Metro C Line.

FINANCIAL IMPACT

This action will increase the LOP budget for capital project 205670 - Metro C Line Traction Power Substation Replacement, adjusting it from $98,500,000.00 to $161,500,000.00. $4,168,061.00 is included in the FY27 budget.

Since this is a multi-year project, the Project Manager will ensure that the balance of the funds is budgeted in future fiscal years.

Impact to Budget

The current source of funds for this action is Proposition A 35%, which is eligible for rail operations and Capital Projects. Use of Federal, State, and other local funding sources currently maximizes funding allocations given approved funding provisions and guidelines.

EQUITY PLATFORM

The C Line TPSS units are located along the I-105 freeway throughout Los Angeles County, including within Equity Focus Communities (EFCs) in Norwalk, Downey, Paramount, Lynwood, Rancho Dominguez, Willowbrook, Athens, Westmont, Lennox, and Hawthorne. The primary users of the C Line originate from very low-income households and lack access to personal vehicles. The C Line also serves as a vital transfer point to multiple bus and rail lines, supporting the mobility of workers, students, and residents. Replacing the TPSS units will enhance transportation reliability and efficiency, directly benefiting these riders.

VEHICLE MILES TRAVELED OUTCOME

VMT and VMT per capita in Los Angeles County are lower than national averages, the lowest in the SCAG region, and on the lower end of VMT per capita statewide, with these declining VMT trends due in part to Metro's significant investment in rail and bus transit. * Metro's Board-adopted VMT reduction targets align with California's statewide climate goals, including achieving carbon neutrality by 2045. To ensure continued progress, all Board items are assessed for their potential impact on VMT.

As part of these ongoing efforts, this item is expected to contribute to further reductions in VMT. This item supports Metro's systemwide strategy to reduce VMT through capital improvement investments to replace the Metro C Line Traction Power Substations. These capital improvement investments further encourage transit ridership, ridesharing, and active transportation. Metro's Board-adopted VMT reduction targets were designed to build on the success of existing investments, and this item aligns with those objectives.

*Based on population estimates from the United States Census and VMT estimates from Caltrans' Highway Performance Monitoring System (HPMS) data between 2001-2019.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Approval of this Board Action supports the following Metro Strategic Plan Goals:

Goal # 1 Provide high-quality mobility options that enable people to spend less time traveling.

Goal # 2 Deliver outstanding trip experiences for all users of the transportation system.

Goal # 3 Enhance communities and lives through mobility and access to opportunity.

This project helps maintain system service, reliability and safety standards to provide a world-class transportation system that enhances the quality of life for all who live, work, and play within Los Angeles County.

ALTERNATIVES CONSIDERED

Staff considered not replacing the original C Line TPSS's, but this is not recommended. The existing TPSS equipment was installed during the construction of the original C Line, which began revenue service in 1995. The TPSS equipment is 31 years old and is reaching the end of its useful life and must be replaced to comply with reliability standards. Not replacing this equipment would negatively impact rail operations and result in reliability service interruptions. If this LOP increase is not approved a contract cannot complete all enhancements for the replacement of the original C Line TPSS, which would result in increased risk of service disruptions. Metro would continue to rely on aging TPSS and that would become challenging to maintain for proper operation.

NEXT STEPS

Upon Board approval of the requested LOP increase, Operations - Infrastructure Maintenance and Engineering will proceed with the project scope and delivery.

ATTACHMENT

Attachment A - Project Expenditure Plan

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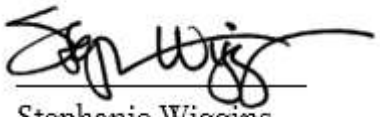

Stephanie Wiggins
Chief Executive Officer

ATTACHMENT A

Capital Project 205670 Expenditure Plan

Metro C LineTraction Power Substation Replacement

Use of Funds	ITD	FY27	FY28	FY29	FY30	Total
Metro C Line Traction Power Substations (TPSS) Replacement		$ 40,000,000	$ 40,000,000	$ 42,000,000	$ 27,000,000	$ 149,000,000
Metro Wayside Workforces		$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,375	$ 8,000,375
TPSS Engineering Design and Construction Specifications Development	$ 944,085	$ 1,000,000	$ 600,000	$ 600,000	$ 600,000	$ 3,744,085
Agency Costs (Design Support During Construction, Construction Management, Project Management, Procurement, Labor Compliance)	$ 255,540	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 4,255,540
Yearly Cash Flow Forecast	**$ 1,199,625**	**$ 44,000,000**	**$ 43,600,000**	**$ 45,600,000**	**$ 30,600,375**	**$ 165,000,000**

METRO C-LINE TRACTION POWER SUBSTATION (TPSS) REPLACEMENT PROJECT

Metro

Operations, Safety, & Customer Experience Committee Meeting
September 17, 2026

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to:

INCREASE the Life of Project Budget (LOP) for the Project 205670 - Metro C Line Traction Power Substations Replacement by $63,000,000 increasing the Life of Project from $98,500,000 to $161,500,000.

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ISSUE & DISCUSSION

ISSUE

The original C Line Traction Power Substations (TPSS) are approximately 31 years old, and although the TPSS remain operational, they are nearing end of useful lives requiring increased maintenance and repairs, and as well as critical spare parts are no longer manufactured or readily available in the commercial market. In addition, the scope was expanded to include additional requirements critical to the TPSS installation. The existing LOP budget is insufficient to award the TPSS replacement contract; therefore, an LOP increase is required for project delivery.

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ISSUE & DISCUSSION

DISCUSSION

A $161,500,000.00 budget need has been determined based on the project scope. The increase in the LOP budget reflects both market escalation and project scope requirements, identified through continued design development and more detailed assessment of the existing system conditions. The project scope has expanded to include a replacement of the positive and negative feeder cables due to the age and poor condition of the existing cable system and associated connections; the installation of new Traction Power Positive Isolation Switches to improve electrical safety for maintenance workers and the replacement Overhead Catenary System (OCS) isolation switches to improve single tracking operations. The increase in LOP budget is attributed to the additional scope requirements as well as significant increases in construction labor, materials, electrical and traction power equipment costs, supply chain constraints, extended manufacturer lead times, and increased contractor pricing driven by a competitive infrastructure market.

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