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OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 20, 2025

SUBJECT: ZERO EMISSION BUS (ZEB) PROGRAM UPDATE

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to:

A. RECEIVE AND FILE quarterly status report on the ZEB Program;

B. UTILIZE the Washington Department of Enterprise Services Contract or Colorado State Contract for a not-to-exceed expenditure amount of $50,000,000 inclusive of sales tax, for up to 40 battery electric buses (BEBs); and

C. APPROVE a Life-Of-Project (LOP) budget in the amount of $52,000,000 for the purchase of up to 40 BEBs, professional and technical support, labor and contingency under Capital Project 201078.

ISSUE

This update provides a status report on the ZEB transition plan, including bus acquisition, division electrification, funding status, and upcoming program activities. Due to major safety, schedule, and cost concerns, staff have canceled the bus procurement and will reprocure ZEBs through a four-prong acquisition strategy for the same number of buses. While the re-procurement is underway, there is an opportunity to accelerate the delivery of ZEB busses through piggybacking existing State schedule contracts. In addition, in parallel with this Report, staff are recommending award for a Progressive Design Build Operate and Maintain (PDBOM) contract to electrify Divisions 18 (Carson) and 7 (West Hollywood) as well as an equipment purchase and installation of en route chargers for the North San Fernando Valley Transit Improvements Project (NSFV TIP), the North Hollywood to Pasadena Bus Rapid Transit (NH2P BRT), and other sites across the County. Recommendations for the PDBOM and en route chargers are submitted to the Board in separate reports.

BACKGROUND

In July 2017, the Board approved Motion 50 by Directors Bonin, Garcetti, Najarian, Hahn, and Solis (Attachment A), which endorsed a ZEB Strategic Plan to transition Metro's entire bus fleet to zero-

emission by 2030. This was contingent upon cost and performance equivalence with Compressed Natural Gas (CNG) buses, as well as continued advancements in charging infrastructure. In 2018, the California Air Resources Board (CARB)'s Innovative Clean Transit (ICT) regulation mandated that all transit agencies in the state operate zero-emission fleets by 2040. In addition, ICT ZEB purchase requirements for large transit agencies require 25% of bus purchases to be zero emissions by 2023, 50% by 2026, and 100% by 2029.

Metro has met all state-mandated program requirements a decade earlier than the ICT mandate of 2029. In September 2019, Metro awarded its final option for CNG buses and committed to having 100% zero emissions in all future procurements. Furthermore, since October 2020, Metro has powered its bus fleet with 100% Renewable Natural Gas. Since the Board endorsed the ZEB Strategic Plan, Metro prepared a ZEB Program Master Plan in 2022 and a Master Plan Update in 2023. In September 2024, staff prepared a more detailed plan to deliver a 100% ZEB fleet no later than 2035. This ensures Metro's ability to continue providing reliable bus service, including availability of operations and maintenance funding to support the full seven million annualized revenue service hours as planned through the NextGen Bus Plan.

In 2021, Metro electrified the G Line, which has accumulated more than five million miles of zero-emission service. Electrification of the J Line and Division 9 (El Monte) is also underway.

DISCUSSION

Bus Acquisition
In January 2023, the Board authorized the solicitation of new battery electric buses pursuant to Public Contract Code (PCC) §20217. In April 2024, while the U.S. transit bus manufacturing industry was at a point of crisis, Metro released the largest solicitation for ZEBs in U.S. history, with a base order of 260 battery electric buses (BEBs) and 20 hydrogen fuel cell electric buses (FCEBs), with options to purchase up to 1,160 ZEBs. In July 2024, Metro increased the solicitation option amounts, allowing purchases of up to 1,980 ZEBs, and requested that Original Equipment Manufacturers (OEMs) propose an alternative base order quantity. Two proposals were received in March 2025, and despite enormous effort to prepare a solicitation that would bolster the transit bus manufacturing industry, Metro staff will not recommend an award due to major safety, schedule, and cost concerns. Instead, staff has canceled the procurement.

From a safety perspective, proposers could not meet the requirement for both a fully enclosed operator compartment and a driver exit window. In 2024, Metro achieved a significant milestone by retrofitting its entire bus fleet with full operator doors, resulting in a 67% decline in operator assaults and a 100% decline in violent assaults against operators. As the agency begins the design phase for our new bus, staff has a valuable opportunity to augment our dedication to operator safety by adding a fully integrated operator compartment and an operator exit window. Responsive proposers were reluctant to modify their bus design to meet the Metro specification for an integrated compartment.

From a schedule perspective, the highest-scoring technical proposal did not include a schedule that met Metro's requirements, nor a rate of bus deliveries. Metro's schedule required that bus deliveries begin in April 2028 to ensure both a maximum number of buses delivered before the 2028 Olympic and Paralympic Games and that CNG buses would be replaced prior to the expiration date of the

onboard CNG storage tank, which will begin to expire in September 2028.

From a cost perspective, the proposed best and final offer pricing from the highest scoring proposal returned for the BEB base buy was 7.4% above Metro's cost estimate- a more than $36.5 million cost impact. In other words, at the proposed contract price, Metro could afford 18 fewer buses compared to the cost estimate, which would have ripple effects for long-term capital planning and affordability for bus replacements.

While no award is recommended for the bus procurement, staff recommend pursuing the following four-prong bus acquisition strategy to ensure that bus replacements and ZEB program milestone progress remain on schedule:

1) Procure up to forty (40) BEBs through a state schedule contract (either the Washington or Colorado state schedules).
2) Update technical specs and re-release Request for Proposals (RFP) with up to (two) 2 bidding opportunities with base buys totaling 240 BEBs and options of up to 1,600 additional BEBs.
3) Pilot with international bus manufacture(s) for ten (10) 40' high range BEBs and ten (10) 60' articulated high range BEBs with options of up to 60 additional BEBs to encourage the advancement of technology and potential interest in U.S. market.
4) Procure twenty (20) FCEBs through a state schedule contract or separate procurement.

Participating in a state schedule contract will facilitate the prompt acquisition of buses and ensure compliance with our ZEB transition commitments. State schedule contracts have shorter lead times than standard procurements because specifications, options, and pricing are pre-negotiated with the OEM, and pre-production design and engineering complexity is reduced. State schedule contract pricing tends to be lower as well. Lastly, while state schedule contracts may not include options for a fully integrated operator compartment with an exit window, Metro can incorporate the requirement in the larger procurement of BEBs. Furthermore, industry outreach has indicated that the U.S. market has evolved and additional transit bus OEMs are able to provide BEBs, which makes it likely that Metro will receive more proposals on the procurement re-release, increasing competitive tension and the likelihood that proposers will meet all of Metro's requirements including delivery schedule. The RFP will be restructured to foster more competitive pricing and to promote technological advancements. This will be achieved by providing bidding opportunities for established OEMs capable of meeting Metro's delivery schedule and safety requirements. Additionally, there will be smaller pilot opportunities for OEMs with innovative technologies that can successfully fulfill Metro's requirements for extended service ranges. By pursuing this four-prong strategy, Metro will exceed its near-term goal to own 256 ZEBs by the end of 2028 as presented in the latest bus delivery schedule from the ZEB Program Quarterly Update in September 2024 and re-establish a pathway for long-term delivery certainty. Through this approach, Metro will also increase the number of ZEBs in the fleet for the 2028 Olympic and Paralympic Games.

Charging Infrastructure
Despite the need to re-procure, the bus procurement, Metro continues to meet program and division electrification schedule commitments. The next major milestone in Metro's transition to a ZEB fleet is full electrification of the J Line before the end of 2025. Electrification of the J Line requires depot

charging and en route equipment at Divisions 9 (El Monte) and 18 (Carson), en route charging equipment at Harbor Gateway Transit Center, El Monte Transit Center (EMTC), and a fleet of at least forty-two (42) electric buses. The charging equipment has been installed and commissioned, except for EMTC, which is in pre-commissioning. Metro anticipates that all required buses will be available for service in early December.

Construction of the gantry structure and installation of depot charging equipment at Division 9 continue to progress on schedule and will be complete in Spring 2026. Completion of the gantry structure is not required for full J Line electrification.

In March 2025, Metro released a Progressive Design Build Operate and Maintain (PDBOM) solicitation to electrify Divisions 18 and 7 (West Hollywood). Proposals were received in July 2025, and staff are recommending a contract award in parallel with this report. The project will construct more than 400 electric bus charging positions between the two divisions. Staff have identified an opportunity to include operations and maintenance of the charging equipment and charge management, and energy management systems under the project scope. Staff anticipate that both divisions will be electrified prior to the 2028 Olympic and Paralympic Games.

In 2024, Metro released a solicitation to procure en route charging equipment and submitted utility service requests for eleven charging sites in the Los Angeles Department of Water and Power (LADWP) service territory. Staff are recommending an en route charging equipment contract award in parallel with this report. Metro has retained its program planning consultant, AECOM, to prepare advanced conceptual designs and site condition assessments for each site. At the completion of this scope, Metro will prioritize detailed designs and develop delivery strategies for six en route charging sites that will support NH2P BRT, NSFV TIP, and Division 9 bus routes, with an aim to complete these sites no later than 2028.

FCEB Pilot
Metro continues to study the feasibility of hydrogen fueling infrastructure at Divisions 8 (Chatsworth) and 15 (Sun Valley) to support the 20 FCEBs that will be procured for the pilot. In September and October, Metro hosted several market sounding meetings with vendors across the hydrogen ecosystem to receive feedback on project development, delivery approaches, and funding opportunities. Staff expect to finalize the decision on the future location of hydrogen fueling infrastructure by the end of the year and will use market feedback to determine the delivery approach and develop a solicitation. The timing of the solicitation release will be based on the delivery approach.

In August, staff traveled to Oakland to visit the Port of Oakland, the world’s largest heavy-duty hydrogen fueling station, and AC Transit, which operates 30 FCEBs and two hydrogen fueling stations. The visit was organized by the Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) Hydrogen Hub, a public-private partnership organized to accelerate hydrogen projects on an industrial scale. The ARCHES 1,000-Bus Initiative seeks to deploy 1,000 FCEBs across thirteen California transit agencies over the next eight years. In October, the U.S. Department of Energy canceled $1.2 billion in federal funding for ARCHES.

Funding

To date, Metro has secured more than $1.5 billion from a mix of federal, state, and local sources for the ZEB Program. Tables 1 and 2 below outline the funding status for current and near-term ZEB charging infrastructure and bus acquisition projects. Project costs are based on estimates, not actual expenses.

Table 1. Funding Status for Charging Infrastructure Projects

Project	% Funded
Division 9	100%
Division 18	100%
Division 7	70%
NH2P BRT & NSFV TIP	100%
Hydrogen Fueling Infrastructure	0%
Division 5	0%
Division 13	0%

Table 2. Funding Status for Bus Acquisition Projects

Project*	% Funded
(40) State Contract BEBs	100%
(20) State Contract FCEBs	0%
(240) BEB Base Buy	100%
(20) BEB Pilot	0%
(173) Division 7 Buses	87%
(201) Division 5 Buses	0%
(184) Division 13 Buses	0%

** Parentheses indicate the total number of buses per acquisition*

Divisions 9 and 18's charging infrastructure is fully funded, while Division 7 is currently 70% funded. Metro has applied for $104.6 million in Congestion Mitigation and Air Quality (CMAQ) funds to fill the unmet need for Division 7 infrastructure and buses. The first 260 battery electric buses (BEBs) are also fully funded, as well as 87% of funding for Division 7 buses.

No funds have been secured for buses or charging infrastructure for Division 5 - although Metro has applied for $95 million and $39 million of 2025 Low and No Emissions and Bus and Bus Facilities funding (respectively). Likewise, no funds have been secured for buses or charging infrastructure in Division 13. The twenty FCEBs and hydrogen fueling infrastructure also remain unfunded.

The table below outlines pending funding requests for ZEB Program projects:

Table 3. Pending Funding Requests for ZEB Projects			
Grant	**Amount (in millions)**	**Project**	**Status**
CMAQ	$104.6	Infrastructure & Buses for Division 7	Award decisions expected end of 2025
2025 LowNo/BBF	$95 (LoNo) $39 (BBF)	Infrastructure & Buses for Division 5 Infrastructure & Buses for Division 5	Award decisions expected end of 2025
AHSC – Round 9	$25.9	Buses for Divisions 5 & 13	Award decisions expected end of 2025

While the current federal surface transportation authorization bill, which provided major infusions of funding for zero-emission vehicles and infrastructure, will expire on September 30, 2026, Metro continues to pursue an aggressive funding strategy for the ZEB Program. In September, Metro adopted the USA BUILD Initiative as Metro's official proposal to Congress and the Executive Branch as they consider replacing the Bipartisan Infrastructure Law (BIL) (P.L. 117-58).

Planning Activities

While there has been no change in the division's electrification and bus acquisition schedule since September 2025, staff are continually evaluating strategies and approaches to not only deliver the ZEB capital program but also ensure a seamless transition and long-term reliability of the bus fleet and charging equipment. The partnership between Operations and Program Management has proved highly effective in maintaining the division's electrification schedule, and staff are coordinating to develop charging infrastructure project delivery strategies that optimize the overall program schedule by evaluating existing resources, funding availability, and division-specific considerations and sequence. Staff have also begun to incorporate non-revenue charging plans into ZEB electrification plans to optimize equipment requirements, reduce costs, and mitigate conflicts and impacts to operations. Other planning activities include development of maintenance strategies for long-term reliability, change and operational management strategies to ensure staff across the agency are prepared for division-level ZEB operations, and safety and hazard assessments to evaluate risks, impacts, and mitigations and guide preparedness, response, and recovery procedures for Metro's ZEB operations.

FINANCIAL IMPACT

The total requested LOP budget is a combination of the contract amount up to 40 BEBs for $50,000,000 plus $2,000,000 million for professional and technical support and labor. Project funds will be budgeted under project 201078 in cost center 3320 Bus Acquisition. This will be a multi-year contract, and the cost center manager, project manager(s), and Sr. Executive Officer of Vehicle Engineering and Acquisition will be responsible for budgeting the costs in future years.

Impact to Budget

Funding for the requested LOP will come from a mix of State and Local sources that are eligible and available when required and provided to the project based on Board-authorized priorities.

EQUITY PLATFORM

The purpose of this report is to provide a program-level status update; project-specific equity impacts are discussed in detail in their respective project reports. Divisions 1, 2, 3, 5, and 9 are located within Equity Focus Communities (EFCs). Divisions 9 and 5 will be in the first half of the electrification schedule, and Divisions 1, 2, and 3 will be in the latter half. Because EFC residents may have a higher reliance on bus transit, delays to the electrification schedule could disproportionately impact EFCs by delaying air quality improvements through emissions reductions. However, despite these risks, the division electrification schedule and achievement of related air quality improvements currently remain on track. The use of a state contract for the procurement of a small quantity of buses will facilitate an accelerated delivery timeline of zero-emission buses and ensure Metro's transition remains on schedule despite issuing a new RFP.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This update supports Goal #3 to enhance communities and lives through mobility and access to opportunity and Goal #4 to transform LA County through regional collaboration and national leadership.

VEHICLE MILES TRAVELED OUTCOME

Vehicle Miles Traveled (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. These declining VMT trends are 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 operational activities that will maintain and encourage transit ridership. Metro’s transition to a ZEB fleet will enhance customer experience with vehicles that are quiet and use zero-emission technology. Metro’s Board-approved 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.

NEXT STEPS

Staff will continue to deliver on the charging infrastructure projects at Divisions 9, 18, and 7. Staff will also pursue the three-pronged bus acquisition strategy to ensure that bus deliveries remain on track.

ATTACHMENT

Attachment A - Board Motion 50

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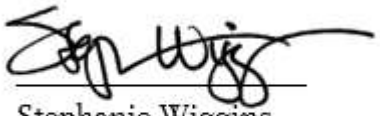

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