

Zero Emission Bus (ZEB) Program Update Motion 31.1 Response

VEHICLE ENGINEERING & ACQUISITION



Metro

Operations, Safety, and Customer Experience Committee
September 19, 2024

Program Updates Since April 2024



- Released regional procurement to purchase up to 1,980 ZEBs, the largest ZEB order in U.S. history.
- Awarded \$77.5 million from FTA LoNo grant program.
 - **\$1.052 billion in state and federal funds secured to date.**
- Submitted updated power needs for (7) LADWP divisions. Preparing service requests for SFV opportunity charging sites.
- Civil work has begun for Division 9 electrification.
- First five chargers at Harbor Gateway Transit Center have been commissioned.

Fund Sources Secured Since April 2024

Fund Source	Amount (\$)	Use
Low or No Emission Grant (FTA)	\$77.5 million	Div 7 Buses and chargers and workforce development
Carbon Reduction Program	\$24 million	Div 18 chargers
Zero Emission Transit Capital Program (SB125)	\$175 million	Buses and chargers

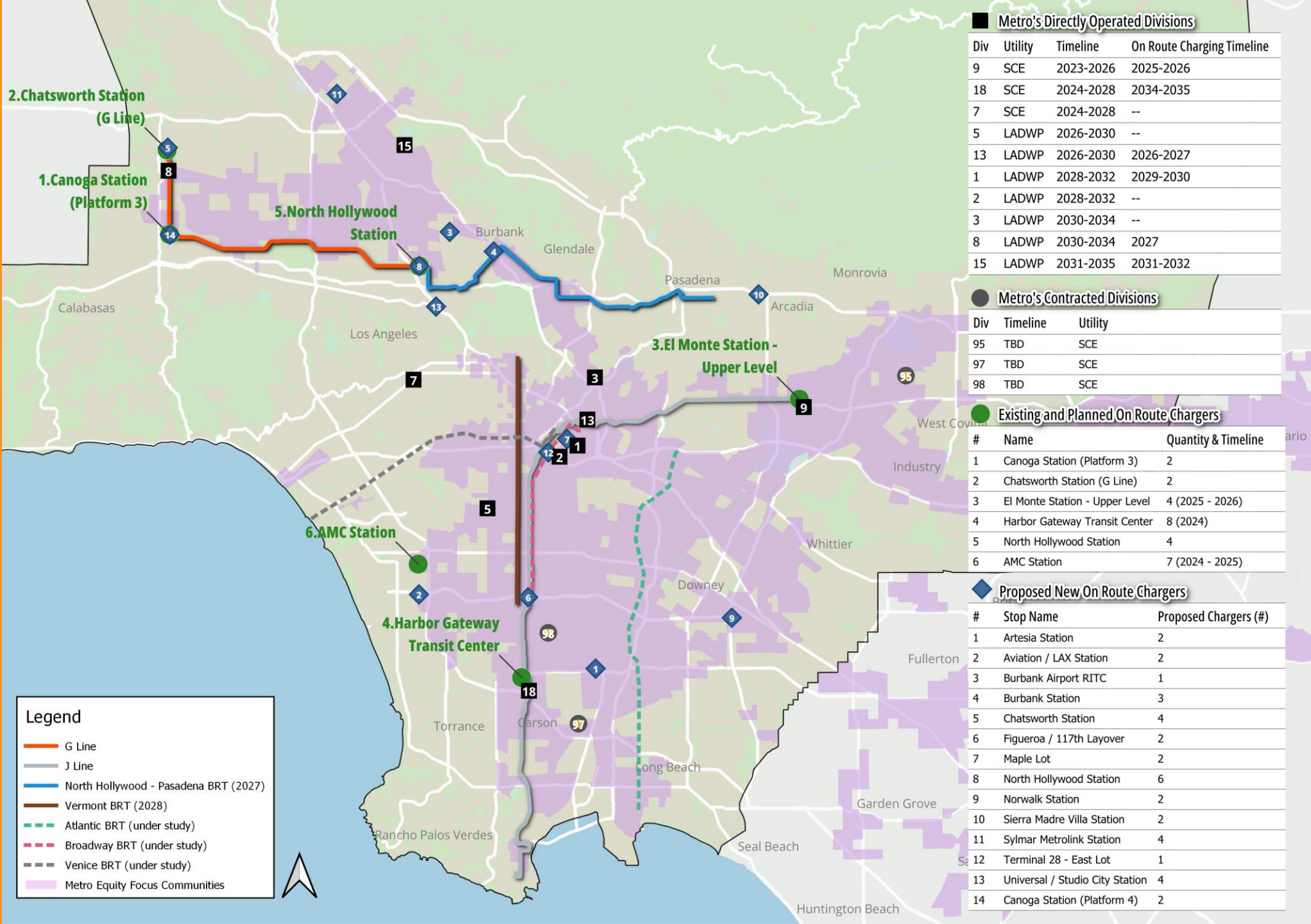


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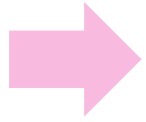
State and Federal Funding Strategy

- Working on several fronts to increase competitiveness:
 - Addressing issues in U.S. bus manufacturing industry
 - White House Roundtable on Clean Bus Manufacturing
- All-hands approach to securing state and federal funds.
- Continuously seek new grant opportunities and garner local support for projects.
- Seek vital support from and strengthen partnerships with climate advocacy groups.
- Advocate for extension of IIJA / BIL funding infusions.

ZEB Program Projects Map

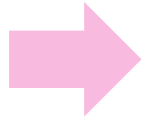


Transition Schedule



Project Milestones by FIFA World Cup (2026)

- Fleet of 145 BEBs in operation
- J Line, Division 9 & El Monte Transit Center electrified
- AMC Station electrified
- Divisions 18 & 7 under construction



Project Milestones by Olympic & Paralympic Games

- Division 18 electrified & Division 7 nearing completion
- North San Fernando Valley TIP & North Hollywood to Pasadena BRT electrified
- First buses from regional procurement begin to arrive.
- Solicitation for Divisions 5 & 13 and 1 & 2 will have been released.

Schedule Phasing Constraints

- Utility capacity upgrades
- Bus operations disruption mitigation
- Olympic and Paralympic Games contingency fleet acquisition



Photo: First charging session at HGTC

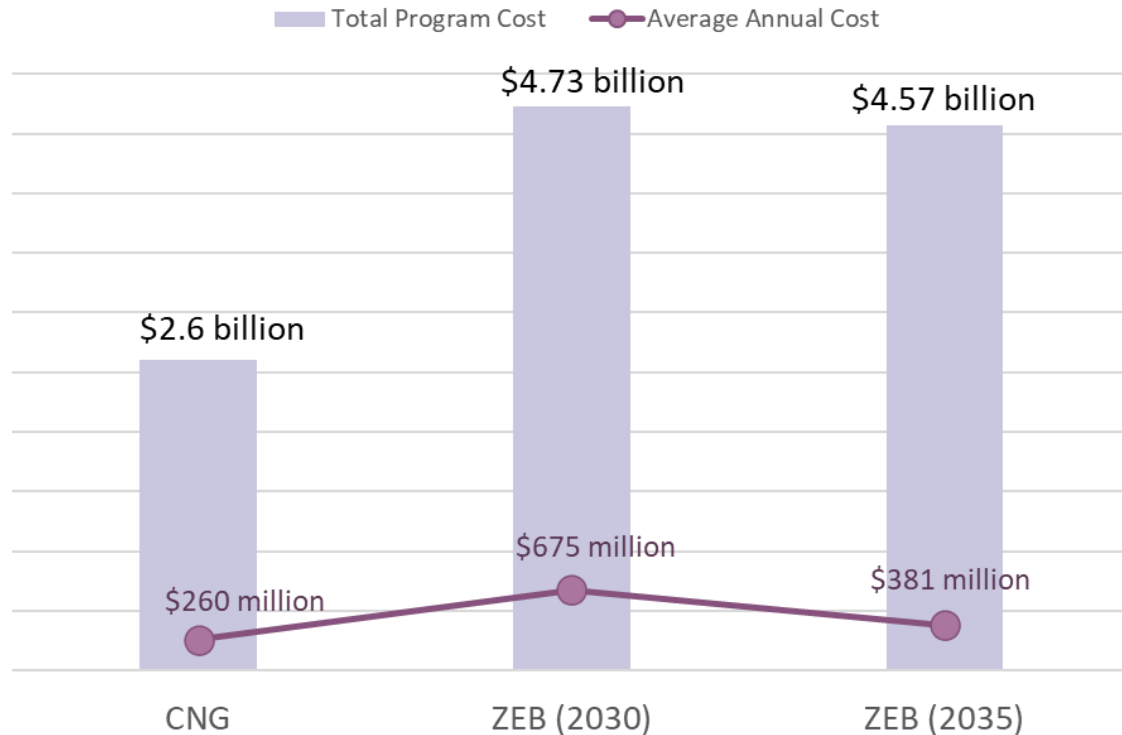


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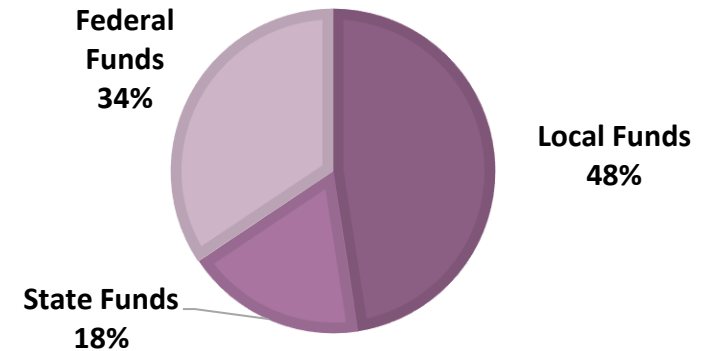
Program Cost and Funding



Estimated Capital Costs (RNG v. ZEB)

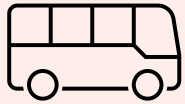
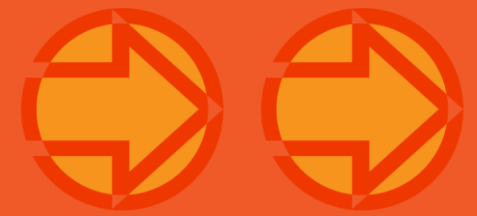


Funding Plan



- Local funds consist largely of Prop C and TDA. As a result, program will compete with annual operating budget.
- Revenue projections are heavily on borrowed capital; ~15% of total funding from debt issuances.
- Current revenue forecasts sufficient to deliver program, but reallocating funds from other projects may be needed if economic situation changes or costs increase.
- Continue to evaluate Charging-as-a-Service and other P3 approaches.

Hydrogen Fuel Cell Electric Buses (FCEBs)



- At current rate of technology improvement, up to 8% of Metro's 2035 / 2040 service blocks cannot be served by BEBs.
- Hydrogen FCEBs, which offer range and fueling time comparable to RNG, will be evaluated to meet long service blocks.
- Staff have identified Divisions 8 and 15, contracted service Division 97, and the Marilla Lot, a Metro-owned property near Division 8, as short-list locations for hydrogen fueling infrastructure.
- FCEBs have zero tailpipe emissions. Upstream emissions depend on fuel production method.
- For the 20-bus pilot, Metro intends to use green hydrogen, pending available and reliable local supply to support bus operation.

THANK YOU

