Zero Emission Bus (ZEB) Program Update

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Operations, Safety, and Customer Experience Committee
April 18, 2024

Progress Made to Date

July 2017 — Metro's Board of Directors endorsed a ZEB Strategic Plan to transition the entire bus fleet to ZE by 2030

2018 — Compliance with California Air Resources Board's (CARB) Innovative Clean Transit (ICT) regulation mandates: two milestones achieved

- Publication of ZE Rollout Plan – Completed
- 100% of Bus Procurements be ZE beginning 2029; Metro started July 2022

2016-2019 — ZEB Procurements/Workforce Development – RFPs issued and contracts awarded for 145 BEBs

2017-2020 — Transition to Renewal Natural Gas (RNG) completed October 2020

2021 — Electrification of the G Line (Orange) completed

2021 — Electrification of D9, HGTC, and EMTC initiated

2024 — Funding Opportunities – Secured $446M, inclusive of $155M in local funding, to date

On-going

- Electrification of J Line (Silver)
- Conversions of SCE Divisions: D7, D9, & D18
- Workforce Development and Training
- Procurement of 1000+ ZEBs
- Aggressively pursuing additional funding opportunities

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2023 ZEB Master Plan Update

2022 ZEB Master Plan

- Two phased approach
  - Phase 1: Electrification of the two BRT routes
  - Phase 2: Electrification of the remaining bus services
- More static service modeling approach without technology growth projections.
- Operating landscape and market conditions have changed.

2023 ZEB Master Plan

- Evaluated three program phasing options with electrification targets in 2030, 2035, and 2040.
- Updated Metro bus service data to reflect post-COVID conditions, including NextGen Bus Plan recommendations.
- Refreshed vehicle data based on the most recent Metro fleet inventory.
- Included a comprehensive service modeling and on-route charging analysis, considering projected BEB technology growth and procurement timelines.
- Updated the utility and power needs at each division.
- Revision of program cost projections according to the updated division phasing schedule.
- Additional evaluations conducted regarding contractor-operated divisions, power simulations, and backup power analysis.

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Acknowledging Challenges

BEB Performance	Utility, Infrastructure, & Supply Chain	Costs
• Range • Reliability • Maintainability • Operability • Obsolescence	• Long lead time for grid upgrades • Grid capacity • Market availability	• ZEB continues to cost more to purchase than CNG buses • Charging infrastructure costs are still significant • Operating costs of BEBs have been high with initial deployments. • The 2030 target requires an estimated $675 million in annual cash flow. • Extending the target to 2035 would reduce annual cash flow requirements by $294 million between 2024 – 2030

Need to reconsider transition timeline and the division phasing schedule

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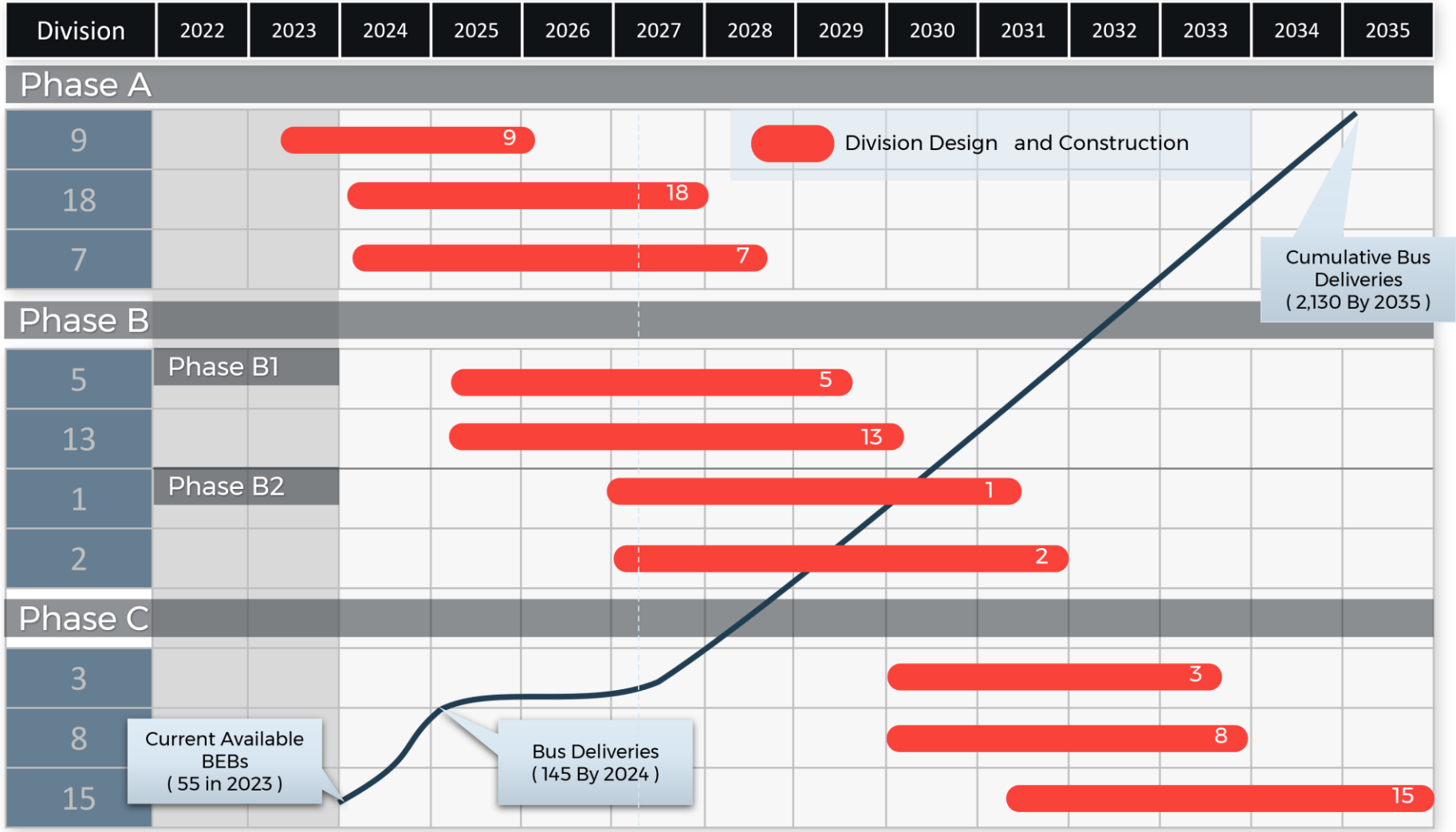
Revised ZEB Program Phasing Schedule



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THANK YOU

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