

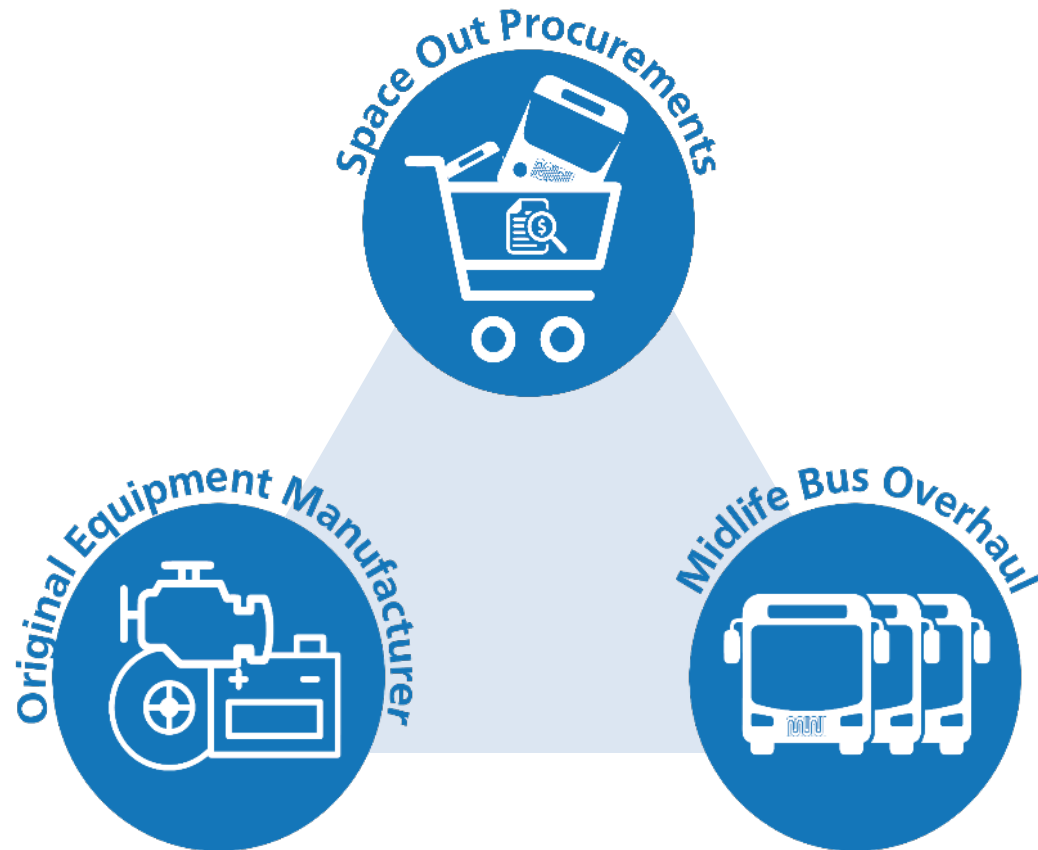
SFMTA Transition to a Zero-Emission Fleet



**EMSC Meeting
October 25, 2023**

SFMTA's Fleet Management Transformation

- Maintain consistent fleet average age
- Performance-based procurements
- Uphold robust maintenance standards and midlife investments
- Align with city's sustainability goals

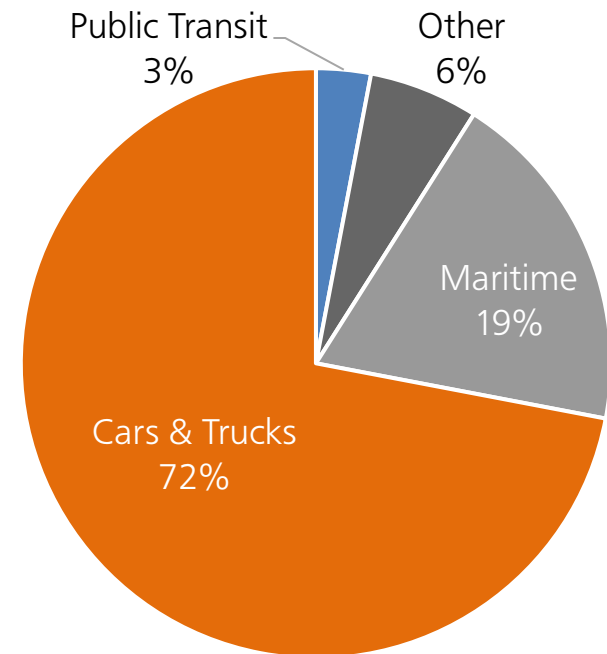


Climate Action at the SFMTA

47% of San Francisco GHG emissions come from the transportation sector – *Three fourths of those emissions are from personal driving.*

The SFMTA's core climate actions center on making walking, rolling and using transit more affordable, convenient and attractive than driving.

San Francisco Transportation Sector GHG Emissions, 2019



.02% of transportation emissions are attributable to Muni fleet

Historical Approach to Electrification

- SFMTA early adopter of hybrid buses – transition technology for battery-electric vehicles (BEB)
- In 2018, Green Zones introduced – Hybrid buses run entirely on batteries through historically impacted communities (68 vehicles)
- 2018, SFMTA Board adopted policy that targets full electrification by 2035, calls for all new purchases beginning in 2025 to be BEB (phases out trolleys)
- CARB adopts the Innovative Clean Transit regulation calling for full electrification by 2040; CARB supports all zero emissions vehicles

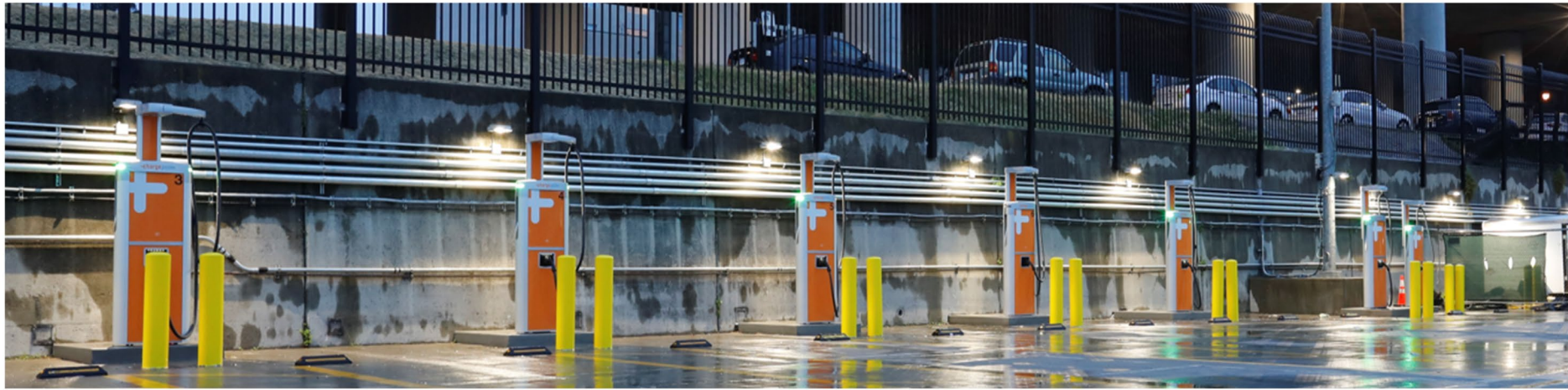


Our goal has not changed, we are still working towards a 100% zero emissions fleet. As the industry has matured, regulations have solidified and infrastructure requirements are known, we have charted a new path to get there.

Progress Made: Battery Electric Bus Pilot



Progress Made: Woods Charging Stations



Challenges, Lessons Learned

Timeline challenges

- Set back by the pandemic
- Facility upgrades take longer than expected
- Dependent on PG&E

Funding challenges

- Failure of Prop A (General Obligation Bond)
- Mixed record getting federal grants for costly infrastructure
- Cost of battery-electric-buses 30% higher than hybrid

Outcome: Our facility upgrades are not keeping up with our vehicle replacement needs

Progress: Potrero, Creating a New Trolley Hub



Electrification Program

Woods Yard Pilot
Phase II
(12 more BEB Chargers)

Islais Creek Pilot
Phase I
(6 BEB Chargers)

Kirkland Yard
Electrification

Islais Creek
Electrification

Presidio Yard
Modernization

Paratransit
Electrification

The **Electrification/Retrofit Program** readies the SFMTA for transition to Zero-Emission vehicles.

- Reviewed transit fleet requirements – timing, size, type, technology.
- Schedule and project sequencing based on current regulatory requirements.

Next Steps

- Designate Potrero rebuild as trolley hub and continue trolley buses (*60ft trolley buses will be temporarily stored during construction*)
- Revise Building Progress delivery timeline to reflect project delivery lessons learned and vehicle replacement priorities
- Buy a combo of hybrids and electrics through 2030 – BEBs would increase at pace of facility upgrades and available funding
- Update SFMTA Zero-Emissions Bus Policy to include trolley buses and extend 100% zero emission target date to 2040 (to match CARB)
- Apply for 2026-2029 partial exemption from CARB to allow for a combo of hybrid and trolley purchases

Proposed Procurement Plan



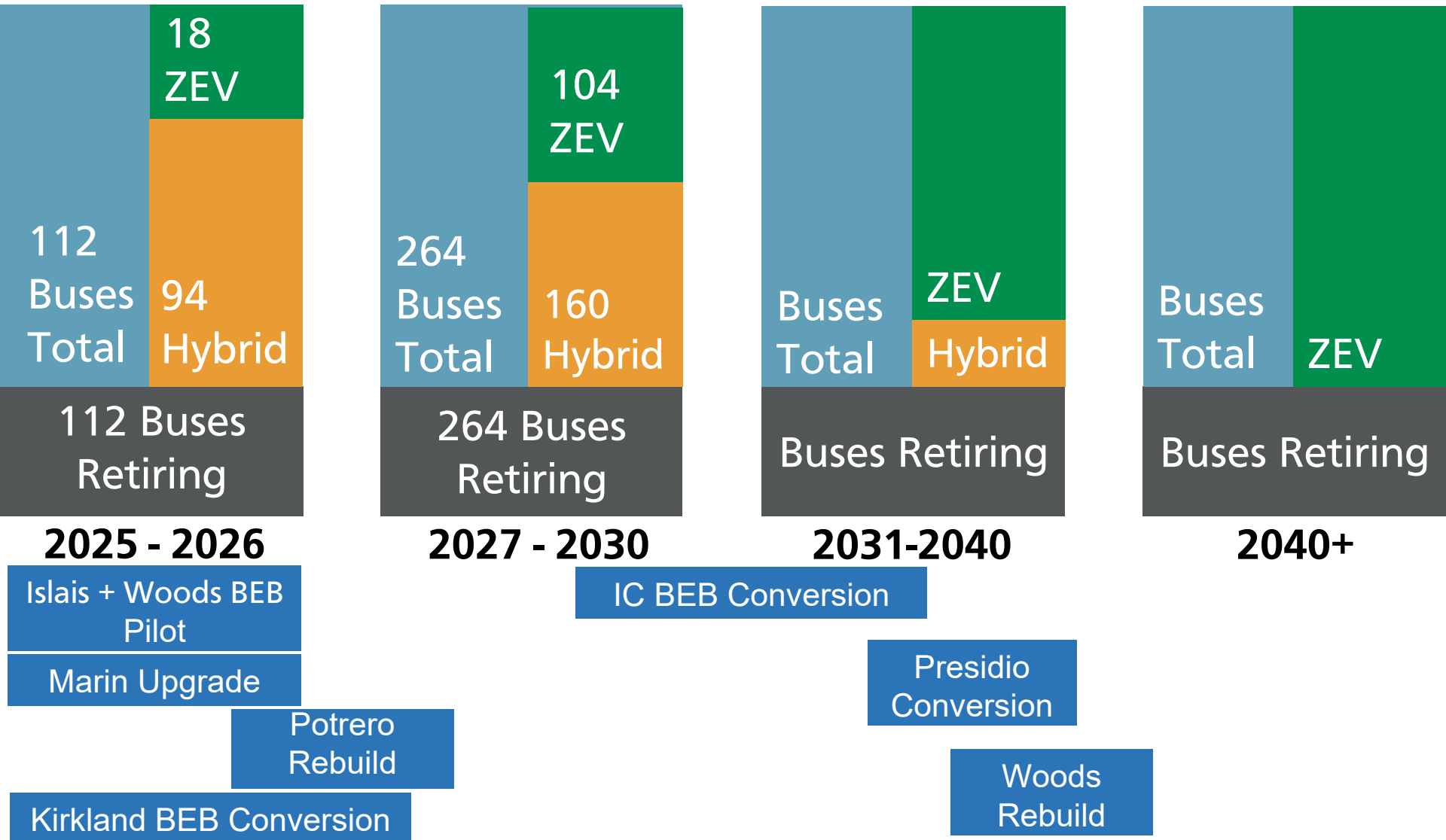
FY 25/26 - 112 hybrid electric buses need to be replaced

Recommending procuring both hybrid and battery-electric buses (*to SFMTA Board in Nov/Dec 2023*)

- 12 40 ft Battery Electric Buses
- 6 60 ft Battery Electric Buses
- 94 40 ft Hybrid Buses

FY 27-29 procurement will also require a combination of hybrid and battery electric buses

Hybrid and ZEV Procurement Schedule



No Impact On Our Workforce



- Transition to zero-emissions vehicles won't result in job loss
- Minimal training needed to transition staff
- Expanded workforce for infrastructure maintenance

Labor Task	Union
BEB Maintenance	Local 1414
Trolley Maintenance	IBEW Local 6
Overhead & Charging Infrastructure	IBEW Local 6
Electronic Component Repair	IBEW Local 6

Today's Action

- Approve amendment to the SFMTA Zero Emission Vehicle Policy. This amendment:
 - Aligns the Zero Emission Policy with the California Air Resources Board's Innovative Clean Transit (ICT) regulation, which requires transit agencies to target a 100% zero emission fleet by 2040.
 - Allows the SFMTA to continue to procure BEB, hybrid and trolley buses as laid out in the SFMTA's Zero Emission Rollout Plan.
 - Allows the SFMTA to consider other zero emission technologies, like fuel cell buses, to meet the ICT regulation.

Role of Trolley Buses

- Trolleys are an important part of the SFMTA's ZEV Program
- In Motion Charging trolleys are promising
 - currently conducting a pilot and planning to upgrade our existing fleet
- Considerations for expanding trolley fleet:
 - Run trolley buses on routes with partial overhead coverage
 - Only one trolley manufacturer available
 - Focus on ensuring availability of trolleys in North America market
 - State of good repair needs for trolley network should be prioritized over expansion
 - Massive build-out of trolley network would be costly and be met with public resistance
 - Still working on reliable and quick process for reconnecting with overhead wires after off-wire segments



An aerial, high-angle photograph of a large train yard or depot. The image shows numerous parallel tracks, each filled with a long train. The trains are primarily white with red accents at the front and rear. The perspective is from directly above, looking down the length of the tracks. The overall color palette is dominated by the white of the trains and the grey of the tracks, with a blue tint overlaid on the entire image. In the background, there are some industrial buildings with gabled roofs.

Thank you