



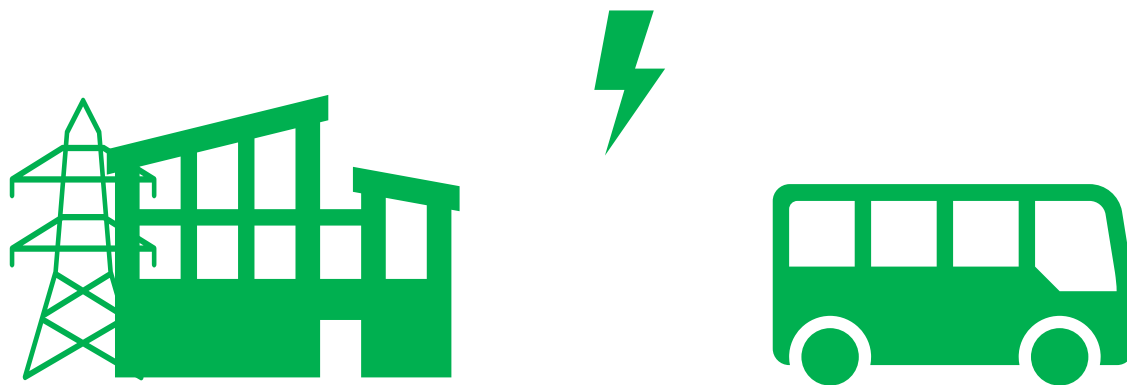
**SFMTA**

# San Francisco Municipal Transportation Agency Update on Facilities and Fleet Programs

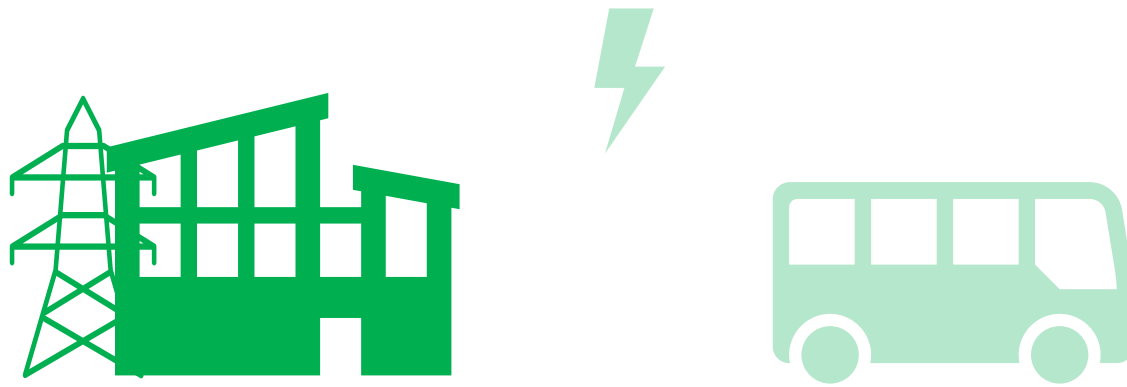
San Francisco County Transportation Authority Board

Item #10

November 28, 2023



A **Zero Emission Muni Fleet** is possible with new technology and requires **facilities upgrades** to power and maintain this fleet.



The **Building Progress Program** will modernize and adapt our facilities and create new revenue opportunities for transportation.

State of Good Repair

**Modernize aging SFMTA facilities** in order to meet the needs of everyone who travels in San Francisco.

Resiliency

**Improve the transportation system's resiliency** to seismic events, climate change, technology changes.

Community

**Make the SFMTA a better neighbor** in the parts of the city that currently host our facilities.

Compliance

**Meet regulatory compliance** and policy goals related to fleet electrification.

Started in 2017, the **Building Progress Program** is a **\$2+ billion planning and capital program** that continues to lead in innovative project delivery, adaptability, resilient planning and community outreach.

## State of Good Repair

Stations

12

Buildings\*

31

Acres of Land

60

Building Sq. Feet

1.9 M

Building Value

\$2.6 B

Backlog Value

\$0.9 B

Stations Value

\$2.6 B

Backlog Value

\$0.7 B

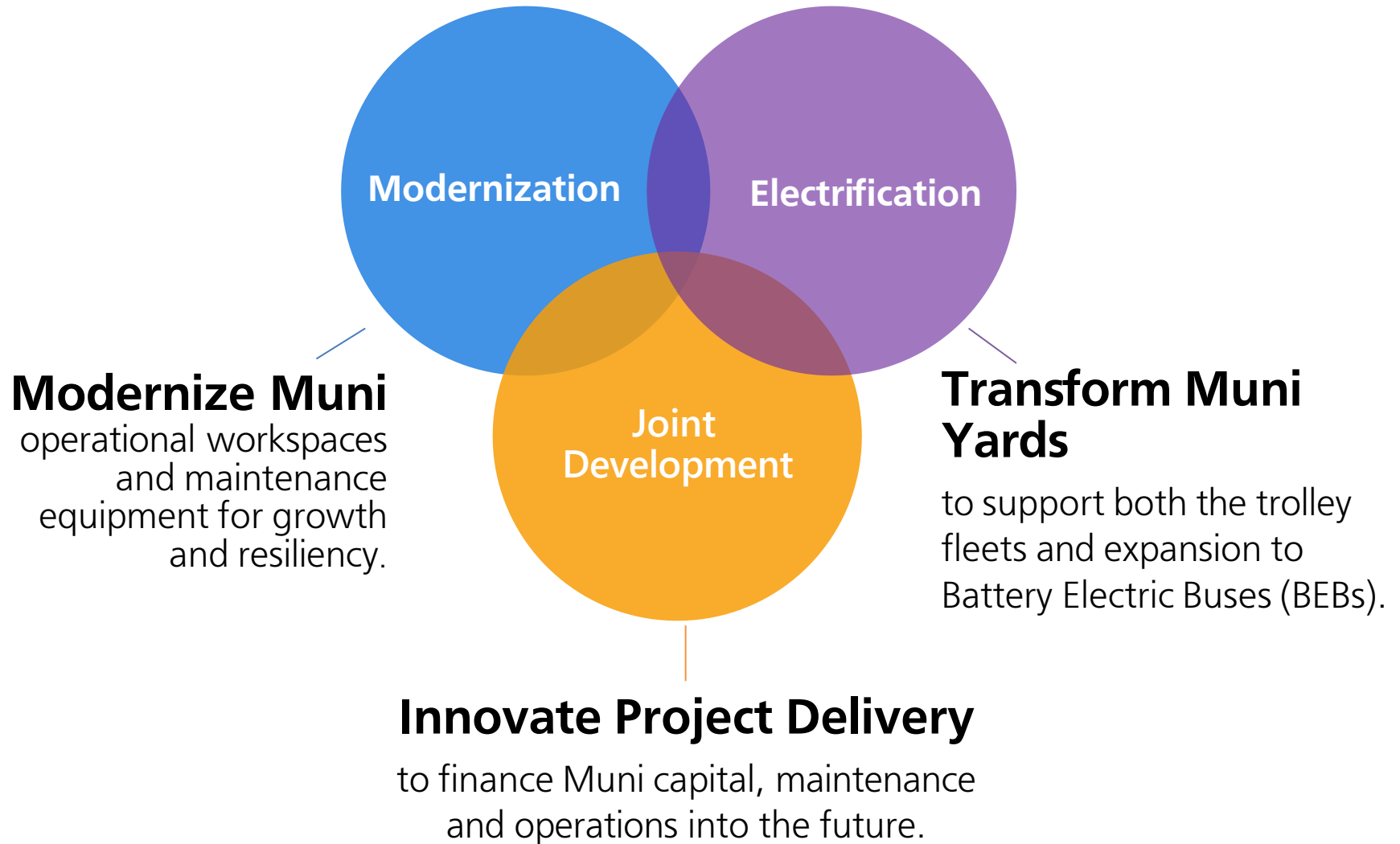
Investment and rehabilitation in the SFMTA's campus of facilities across San Francisco takes on one of the agency's **biggest State of Good Repair challenges.**

Sources:

[2021 SFMTA State of Good Repair Report](#)

[2017 SFMTA Facilities Framework](#)

\*Does not include inventory of 45 owned Operator Restrooms



### Modernization Program

Potrero Yard Modernization  
Presidio Yard Modernization  
Kirkland Yard Modernization  
Muni Metro East Expansion

### Electrification/ Retrofit Program

Woods and Islais Creek Yard Pilots  
Islais Creek Yard Electrification  
SFMTA Electrification EV Campus

### Capital Program

1200 15<sup>th</sup> Street PCO HQ  
Station Escalators/Elevators (e.g. Castro)  
Operator Restrooms

### Joint-Development Program

4th and Folsom  
Parking Garages  
Yard Modernization (Potrero + Presidio)

### Cable Car Barn Program

Cable Car Barn Improvements  
Cable Car Barn Master Plan

### Facility Condition Assessment (FCA) Program

Implementation of \$200+ million in deferred maintenance and repairs

Potrero Yard  
Modernization

Kirkland Yard  
Modernization

Presidio Yard  
Modernization

Muni Metro  
East Expansion

We have adjusted the  
**Modernization Program**  
based on:

- Muni Service
- Fleet requirements
- Regulatory requirements around electrification
- Funding availability + maximizing resources



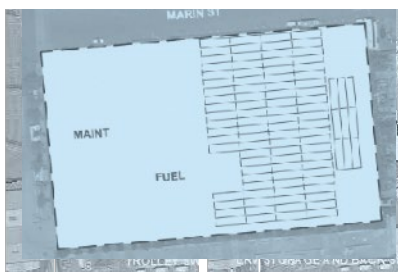
# PROGRAM (2019)

## Muni Metro East Expansion

Expand the site into the undeveloped 4 acres for a trolley coach facility

### 1399 Maintenance Facility

Build a trolley coach maintenance facility.



## Potrero Yard

Rebuild as multi-level trolley facility with private development above



## Presidio Yard

Rebuild as multi-level trolley and Zero Emission Bus Facility with private development adjacent



## Kirkland Yard

Modernize as a new Zero Emission Bus Facility



# UPDATED PROGRAM (2023)

## Potrero Yard

Rebuild as multi-level trolley facility with private development above



## Kirkland Yard

Modernize as a new Zero Emission Bus Facility



## Presidio Yard

Rebuild as multi-level trolley and Zero Emission Bus Facility with private development adjacent



## MME Expansion

Future fleet capacity and required swing.



**Efficiency**

Repair buses faster, improving Muni's reliability

**Sustainability**

Provide the green infrastructure needed for all-electric fleet

**Future Growth**

Accommodate fleet as it grows – room for 54% more buses at the yard

**Work Conditions**

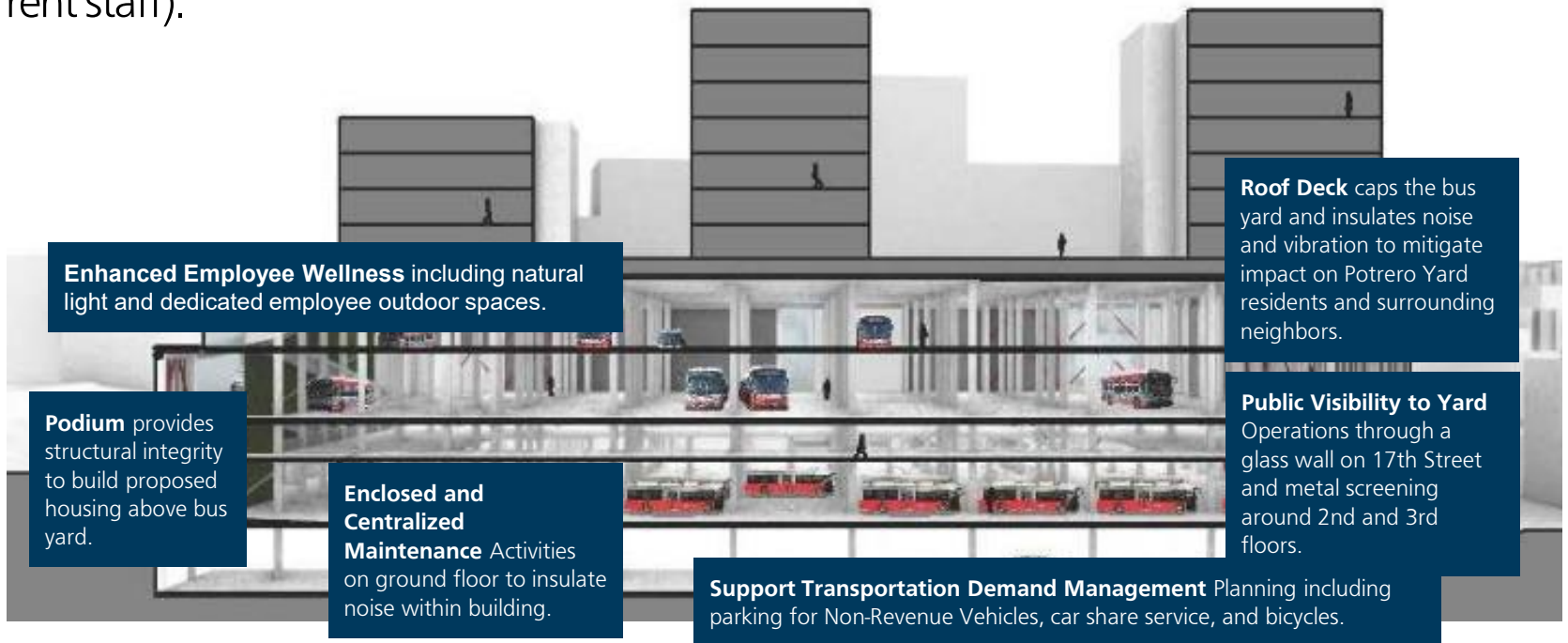
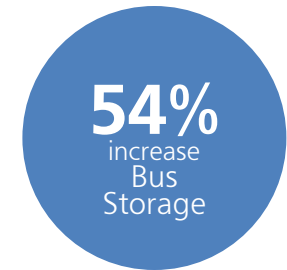
Improve environments, amenities and safety conditions for 800+ staff

**The Potrero Yard Modernization Project** is designed and scoped to address several critical policy priorities:

- ***State of Good Repair*** via the replacement of a 100-year-old maintenance yard.
- ***Climate and decarbonization*** via expanded vehicle capacity to create a large trolley hub.
- ***Housing*** via advancing an over 500-unit project consistent with the adopted Housing Element.
- ***Project Delivery*** via taking lessons learned and using new innovative methods of delivery.

## BUS YARD

The foundation of the project is a modern and expanded bus yard growing from 221,450 gsf to 698,687 gsf to accommodate 213 trolley buses (54% increase) 829 employees (78% increase to current staff).



The project is currently on-schedule, and the **critical path is advancing 100% schematic design, CEQA environmental requirements and land use entitlements/zoning**. A key focus for the project team is to keep the project on schedule.

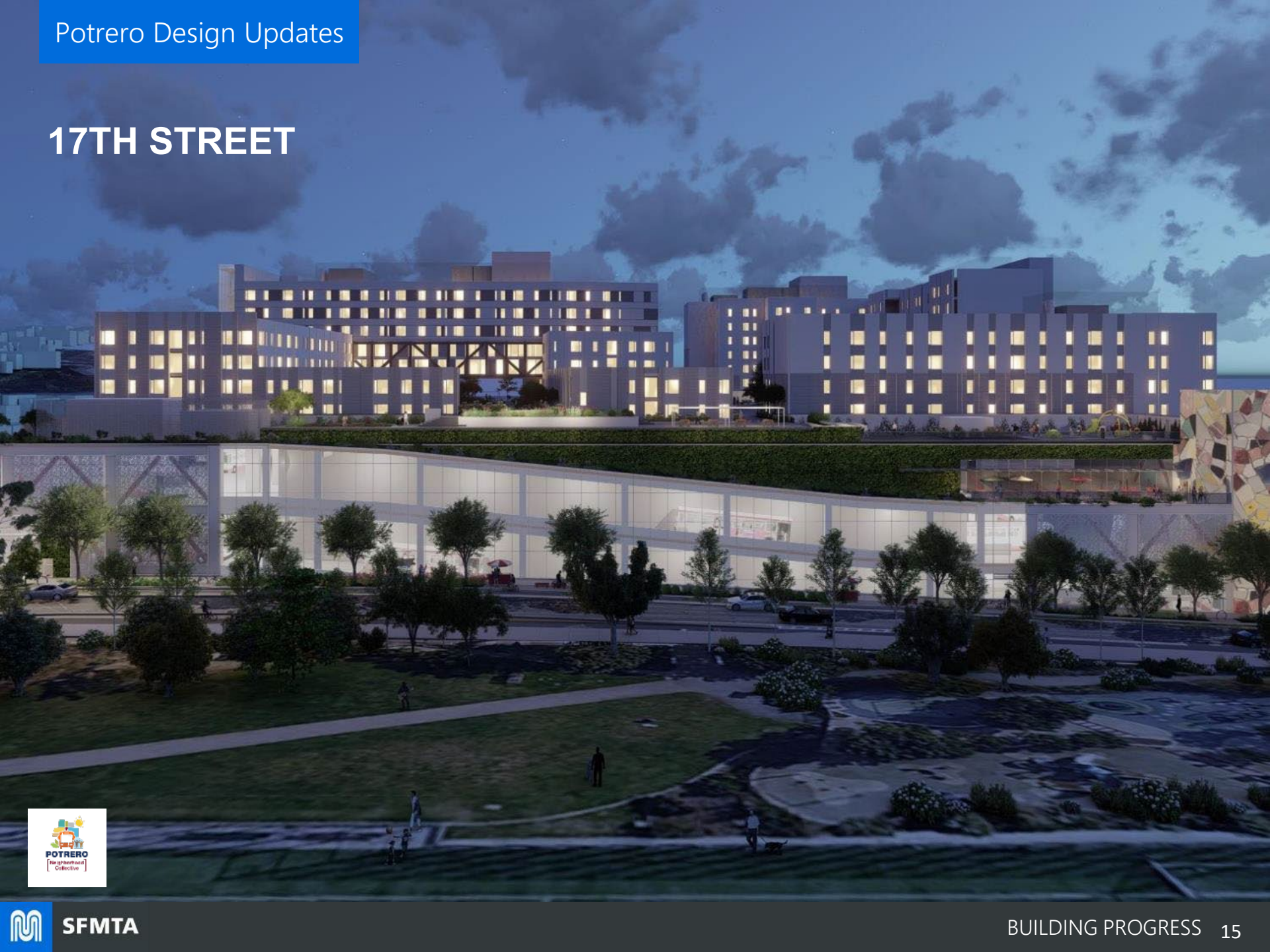
### **Schedule Milestone and Upcoming Tasks Include:**

- **Mar 2023:** *Draft 50% schematic design* submitted to SFMTA
- **Apr 2023:** *Project application* submitted to Planning Department
- **May 2023:** *Final 50% schematic design* submitted to SFMTA
- **Sep 2023:** *Draft 100% schematic design* submitted to SFMTA
- **Anticipate Winter 2024:** At close of Predevelopment Agreement phases 1 & 2, CEQA and Entitlements certified by Planning Commission and approved by Board of Supervisors
- **Anticipate mid-2024:** At close of Predevelopment Agreement phase 3, Agreements for Project and Housing Commercial Components are approved by SFMTA Board and Board of Supervisors

# VIEW FROM NORTHWEST



# 17TH STREET



Potrero  
Yard

Presidio  
Yard

Moscone  
Garage

5<sup>th</sup> and Mission  
Garage

The **Joint-Development program** maximizes land-use to generate revenue for transportation.

- Advancing Potrero Yard Housing Project.
- RFP was developed/released for Moscone Garage (pre-pandemic).
- Completed planning study for 5<sup>th</sup> and Mission Garage (pre-pandemic).
- Completed Caltrans Planning study for Presidio Yard.



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.

Vehicle  
Procurement

Charging  
Infrastructure

Maintenance  
and Storage

Funding

Risks

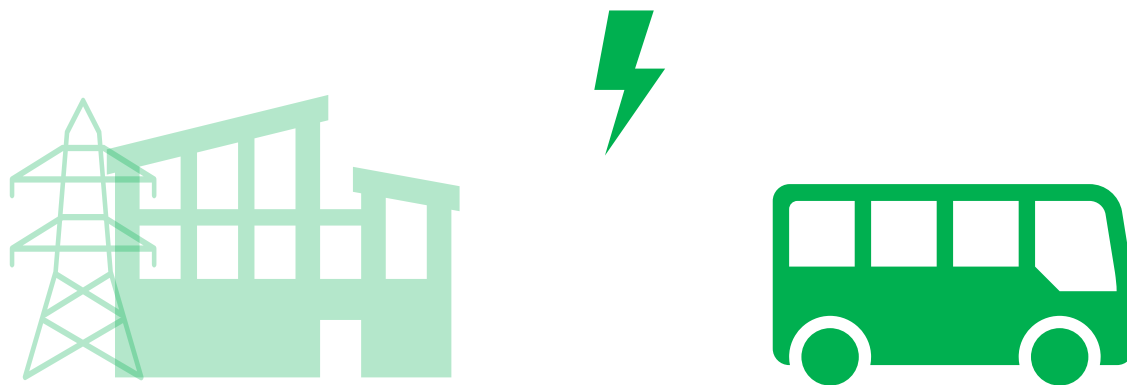
SFMTA is coordinating project sequencing for modernization and electrification upgrades with the larger plan to move toward an **entirely zero-emission transit fleet**.

Procurement timing for battery electric buses is reliant on:

- Available charging infrastructure
- Storage capacity for new buses

Risks include:

- Power/Load Requirements
- On and Offsite Infrastructure
- PG&E Capacity and Timing
- Funding



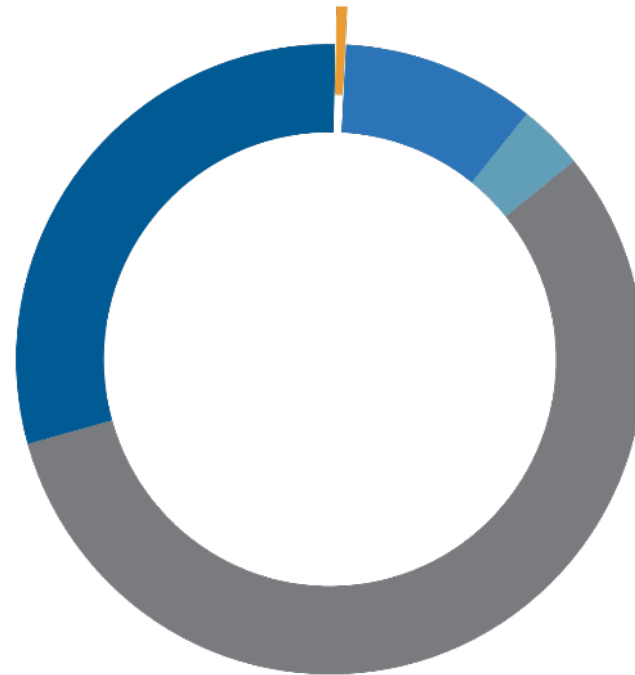
**Our goal remains a 100% zero emission fleet.** To reflect lessons learned and current conditions, we've charted a new path to get there.

**Transportation** accounts for about **44%** of greenhouse gas emissions in San Francisco



■ Buildings ■ Transportation ■ Landfilled Organics ■ Municipal ■ Agriculture

**Public transportation** as a whole **accounts for 0.55%** of greenhouse gas emissions in San Francisco



■ Other Emissions

■ Cars & Trucks

■ Public Transportation

■ Ships & Boats

■ Off-Road Equipment

**Private cars and trucks** account for about **30%** of greenhouse gas emissions in San Francisco



■ Other Emissions

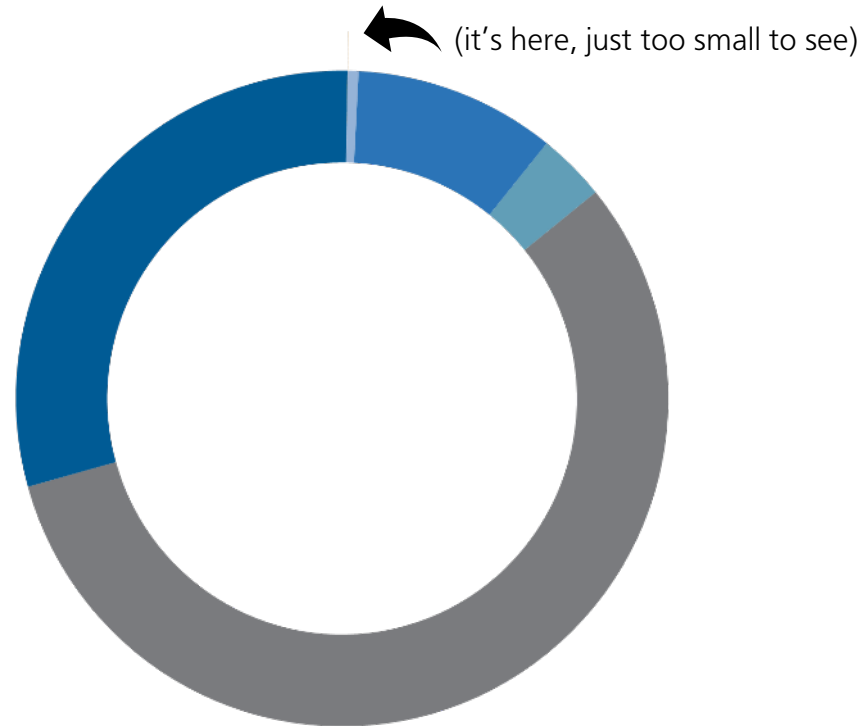
■ Cars & Trucks

■ Public Transportation

■ Ships & Boats

■ Off-Road Equipment

# Muni accounts for < 0.001% of greenhouse gas emissions in San Francisco



■ Other Emissions ■ Cars & Trucks ■ Muni ■ Other Public Transport ■ Ships & Boats

The best way to reduce vehicle emissions is to make **transit more reliable.**

Walking, rolling and using transit need to be more convenient and attractive than driving.

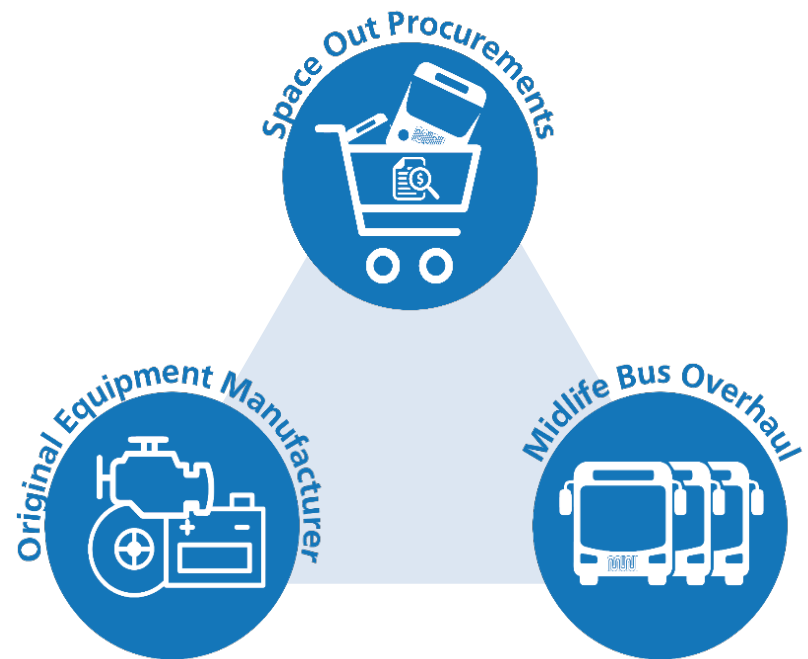
Right now, more reliable transit requires **more hybrid buses.**





# Fleet Management Transformation

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



# Progress Made: Battery Electric Bus Pilot



# Progress Towards Zero Emissions

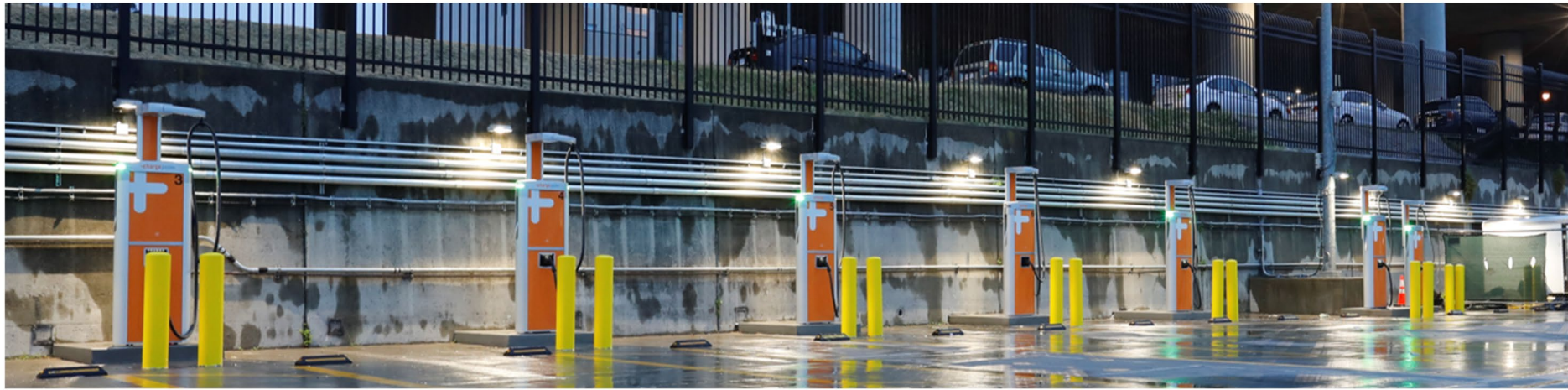
- 2007: SFMTA early adopter of hybrid buses – transition technology for battery-electric vehicles (BEB)
- 2016: Engine auto stop-start feature introduced to 54 buses, reducing idling times and emissions
- 2018: Green Zones introduced to 68 buses– hybrid buses run entirely on batteries through historically impacted communities

**Muni runs the greenest fleet of any city in North America**

# Progress: Battery Electric Bus Pilot



# Progress Made: Charging Stations



# Zero Emission Vehicle Policy

- 2018: SFMTA Board adopted policy that targets full electrification by 2035, calls for all new purchases beginning in 2025 to be BEB (*would phase out trolleys*)
- CARB adopts the Innovative Clean Transit regulation calling for full electrification by 2040; CARB supports all zero emissions vehicles (*including trolleys*)

# Lessons & Challenges

- COVID-19 delayed progress and highlighted the importance of fleet resilience and flexibility
- 2021 Climate Action Plan puts fleet electrification in the context of broader climate action
- Failure of 2022 General Obligation Bond significantly reduced our ability to fund facility improvements

# Lessons & Challenges

- Upgrades are dependent on PG&E, delays are likely
- Our record for obtaining federal grants is mixed

Outcome: Facility upgrades are not keeping up with our vehicle replacement needs, and we will not have a facility to house and charge 100+ battery electric vehicles by 2025



## New Zero Emission Vehicle Policy:

- Aligns with the California Air Resources Board's Innovative Clean Transit (ICT) regulation, which is currently 2040 for 100% zero emissions fleet.
- Allows the SFMTA to continue to procure BEB, hybrid and trolley buses as laid out in the SFMTA's CARB Rollout Plan.
- Integrates fleet electrification initiatives with broader climate change initiatives focused on mode-shift.

## Next Steps

- Designate Potrero rebuild as trolley hub and continue trolley buses (*60-ft 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

# Trolleybuses are a critical part of a zero-emission future

**In-Motion Charging** holds promise for some trolley expansion in the future



# Proposed Procurement Plan



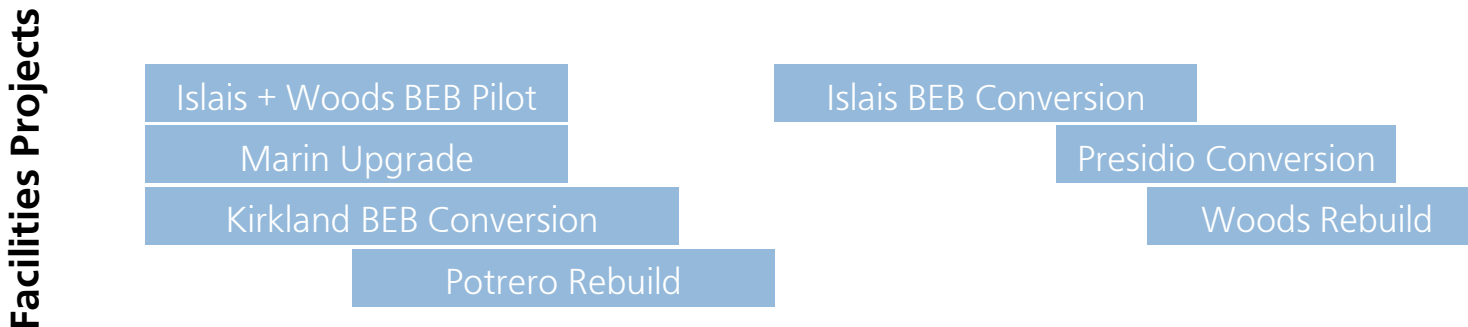
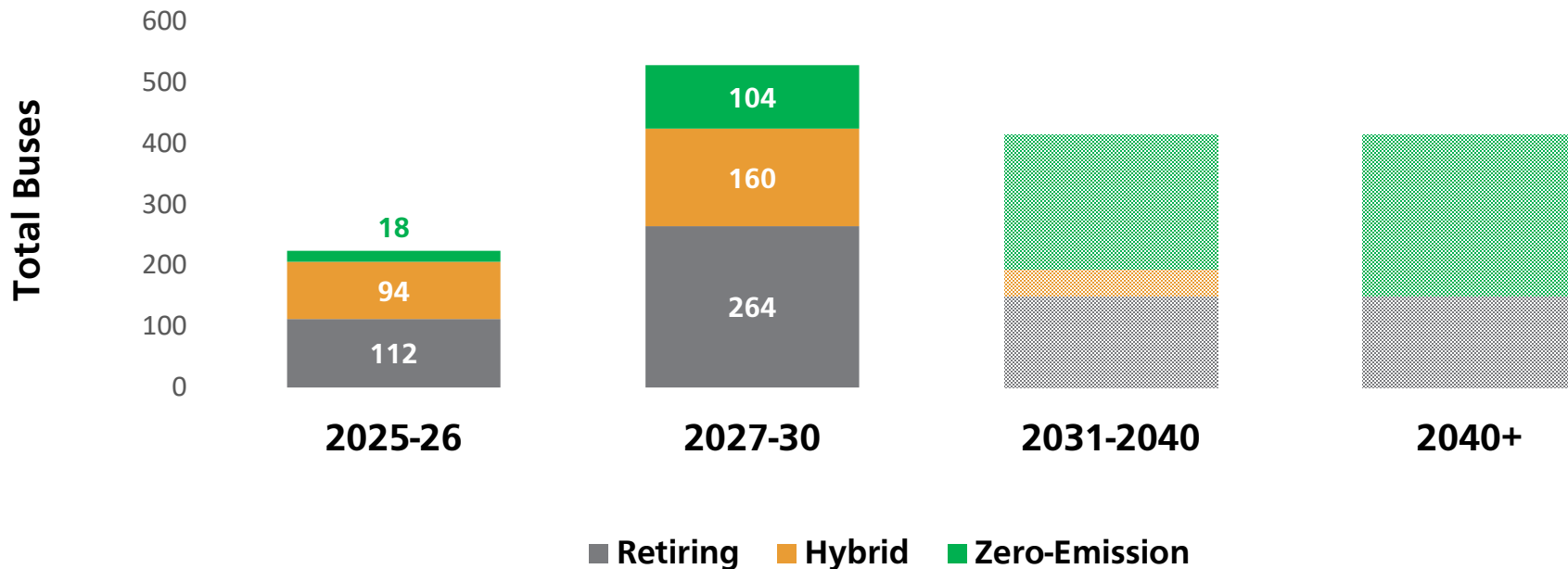
FY 25/26 — 112 hybrid electric buses need to be replaced

Recommending procuring both hybrid and battery-electric buses

- 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 Procurements



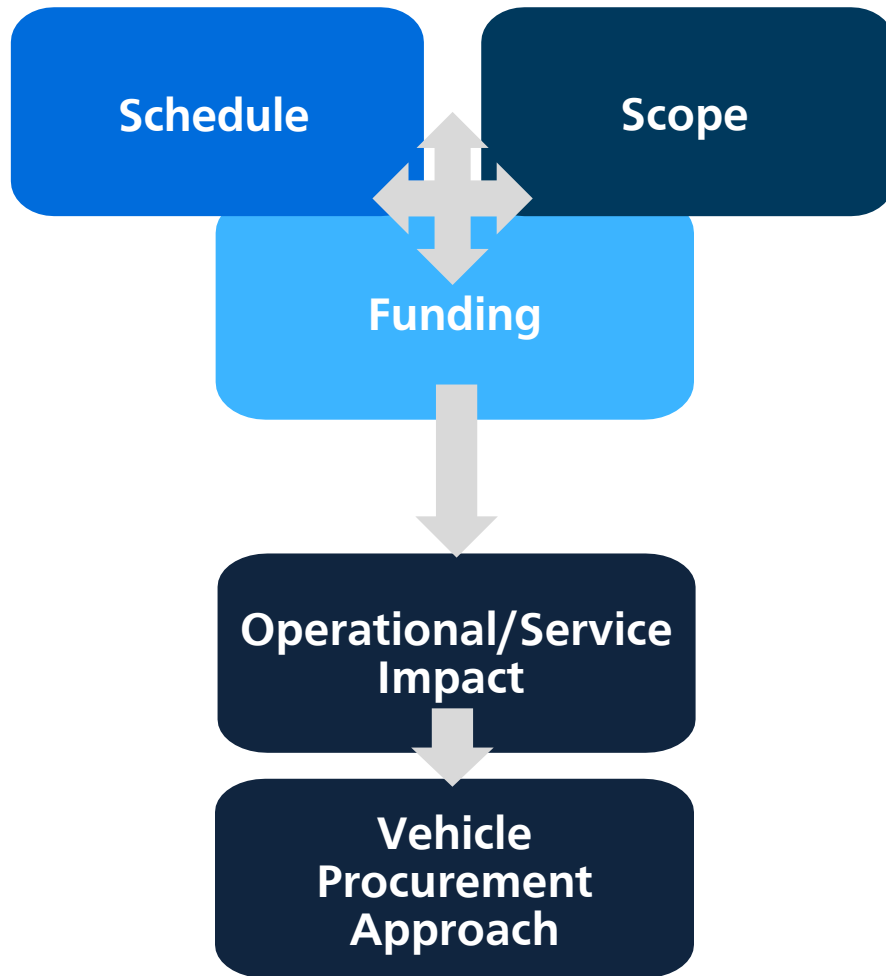
# A Just Transition for our Workers

Transition to zero-emissions vehicles won't cut jobs



- 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



## Risk Management:

- The Building Progress is a “pay-go” program, and with planning, design, construction and funding advocacy occurring simultaneously
- Funding and subsequent impact on schedule, delivery and cost (due to escalation) are risks that to date we have managed but remain
- Vehicle procurement approach therefore must be adaptable as we manage these risks

An aerial, high-angle photograph of a large train yard or depot. The image shows numerous parallel tracks, each with a train. The trains are light-colored with red accents. The perspective is from above, looking down the length of the tracks. The entire image has a blue color cast. The text "Thank you." is overlaid in the center in a white, sans-serif font.

Thank you.



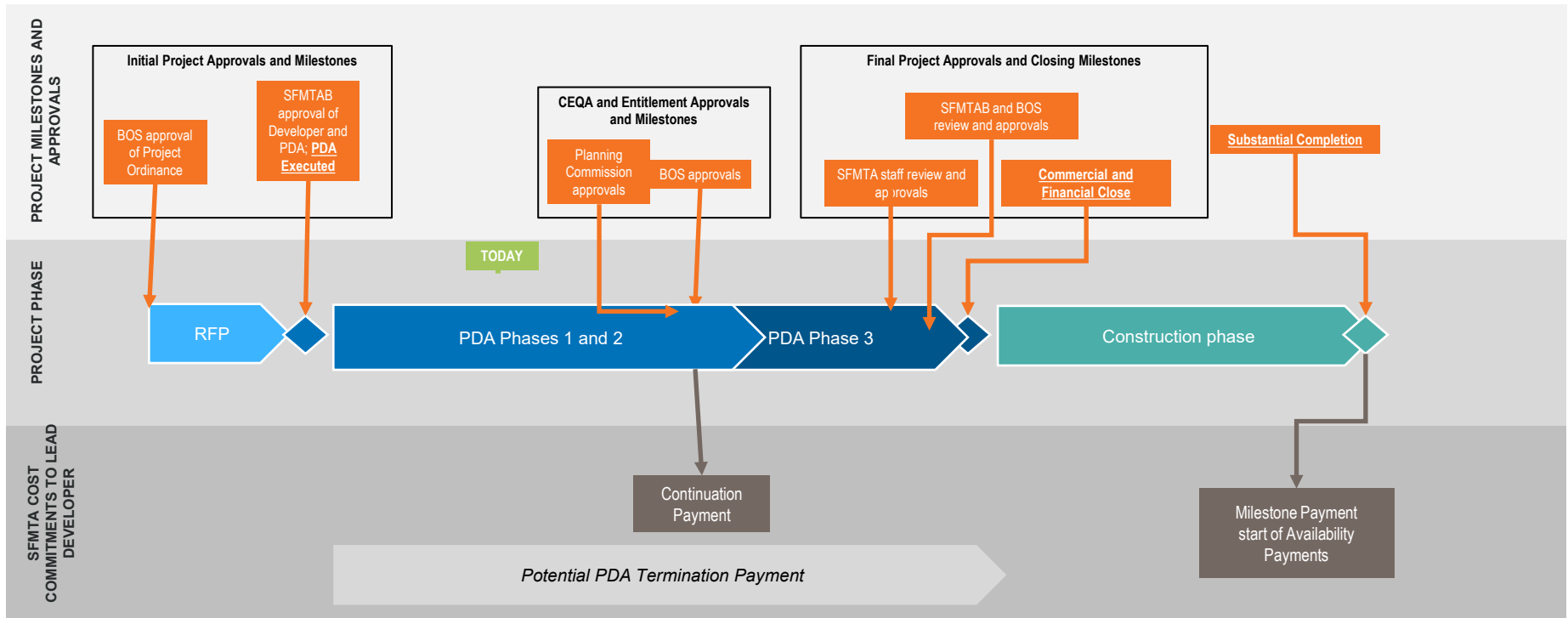


SFMTA

# APPENDIX

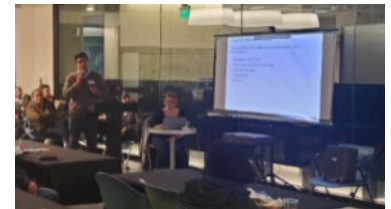


The project is currently on-schedule, and the **critical path is advancing 100% schematic design, CEQA environmental requirements and land use entitlements/zoning**. A key focus for the project team is to keep the project on schedule.



**Active engagement has been a foundational principal of this project** – SFMTA goes to the communities where they are and works with our partners, including the Potrero Working Group since 2018, with PNC joining in Nov. 2022:

- Potrero Working Group meetings monthly
- Community Listening Sessions (ongoing)
- Pre-Application Meeting (December 13, 2022)
- District 9 Beautification Day (February 11, 2023)
- In-Reach Meetings (March 14 and May 26, 2023)
- Open House (March 18, 2023)
- Civic Design Review (March 20, 2023)
- KQED Fest (April 28, 2023)
- Virtual Public Meeting (May 17, 2023)
- Carnaval San Francisco (May 27-28, 2023)
- Survey on Open Decision Points (March – May)
- In-Reach Events (Sept 19, 2023)
- Community Open House (Sept 20, 2023)



PNC uniquely combines **global leadership in infrastructure development with local expertise** – all with a commitment to innovation, efficiency, and community inclusion.



### Infrastructure Developer and Workforce Housing Developer

- Plenary Americas is a US-based company with US headquarters in Los Angeles.
- Portfolio of 59 public-private-partnership projects in North America. Total value of over \$17.3 billion. ~120 people who are responsible for managing the business in the US and Canada.
- Predevelopment experience including design, CEQA, permitting, stakeholder engagement.



### Affordable Housing Developer

- Experience developing affordable housing in San Francisco (Casa Adelante – 2060 Folsom, 1990 Folsom, 1296 Shotwell, Alice Griffith Apartments)
- Invested in enhancing the capacity of Black-led and Latin-led neighborhood rooted organizations in direct response to historic racial injustices committed against BIPOC communities.



### Design Team

- 30+ years in architecture and design industry in infrastructure (Salt Lake City Intermodal Hub, GoRaleigh Operations and Maintenance Facility, GRT Northfield Drive Bus Facility, Hamilton Transit Maintenance Storage Facility)
- 23+ years of affordable housing (Casa Adelante, Hope SF Potrero Hill, The Avery, Parcel Q).



### Consultants

- 30+ years of Bay Area commercial construction experience (100 Van Ness, UCSF – Clinical Science Building, Pier 70 – Horizontal Improvements + Public Realm)
- 19+ years of facilities maintenance and operational management experience
- 35+ years of Bay Area communications consulting

# MARIPOSA STREET

PERSPECTIVE



# BRYANT STREET

PERSPECTIVE



# 17TH STREET

PERSPECTIVE



# HAMPSHIRE STREET

PERSPECTIVE



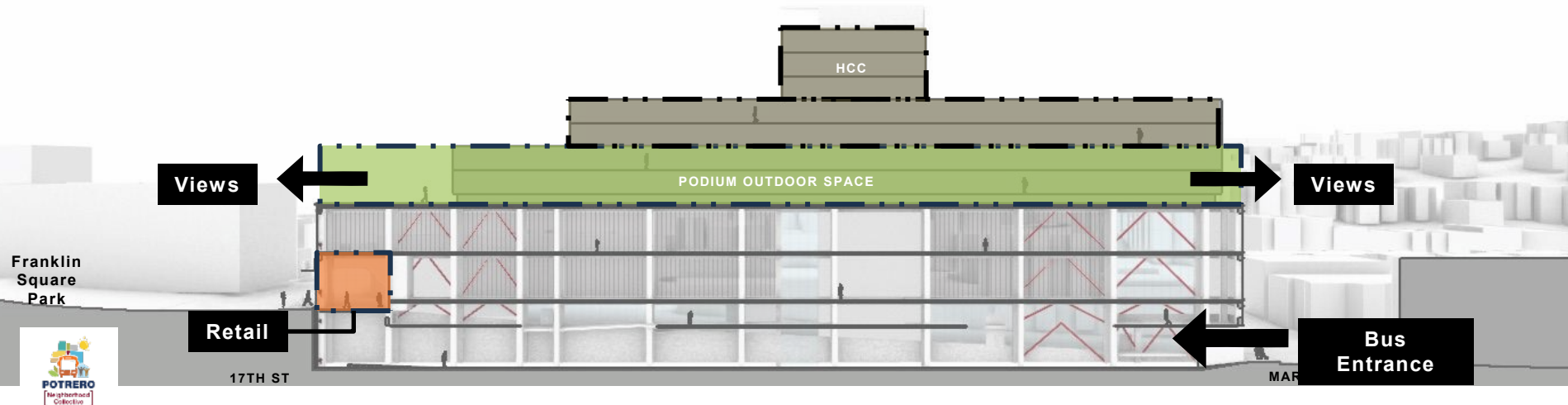


# YORK STREET

PERSPECTIVE



# SECTIONS



# SFMTA, RETAIL AND PUBLIC RESTROOM

ENTRY



# RESIDENTIAL

ENTRY

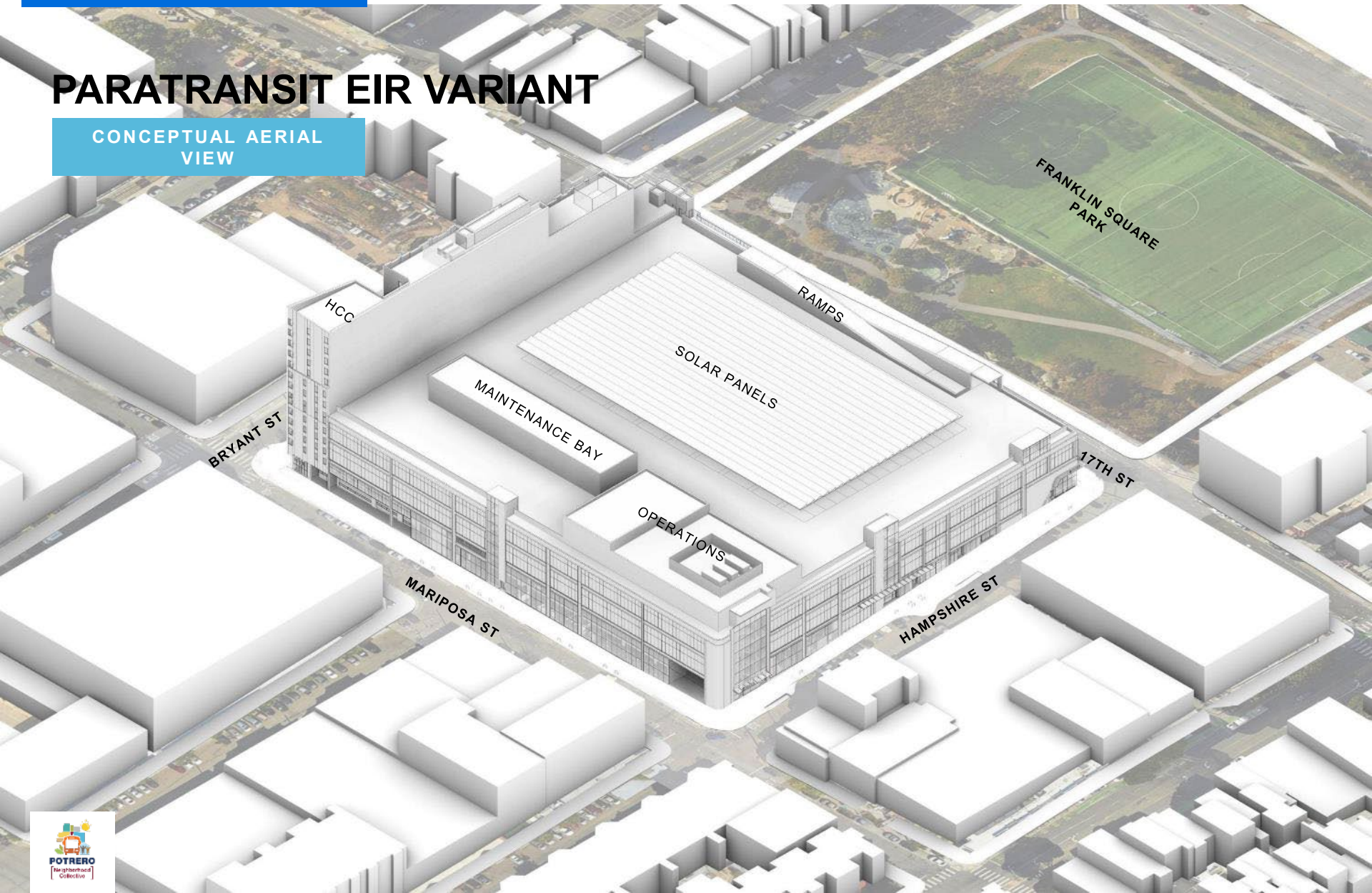


# PODIUM



# PARATRANSIT EIR VARIANT

CONCEPTUAL AERIAL  
VIEW



# Role of Trolley Buses

Trolleys are an important part of the SFMTA's ZEV Program

In Motion Charging are promising – currently conducting a pilot and planning to upgrade our existing fleet

100% Trolleys are not the best fit due to:

- Only one manufacturer available and they may not continue to build (also impacts parts/ support)
- State of good repair needs for trolley network should be prioritized over expansion (e.g., most substations are past their useful life)
- Public concerns over new overhead wires
- Facility challenges mirror BEB
- Still working on reliable process for going on/off wire

