



SFMTA

SFMTA Battery Electric Bus Pilot Program

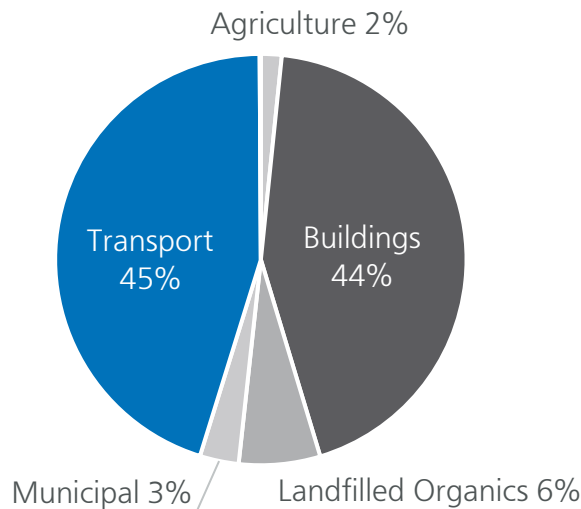
SFMTA Board
April 20, 2021



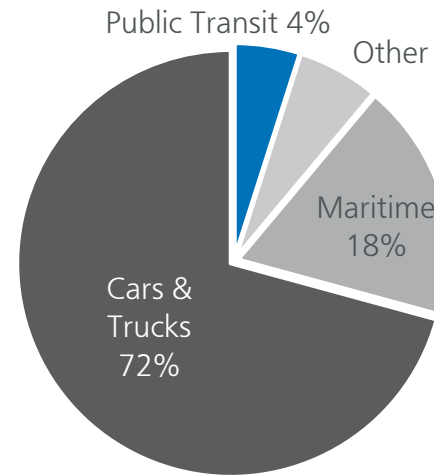
Climate Action at the SFMTA

- The SFMTA has been one of the foremost national leaders in pursuing sustainable, reduced, and zero emissions revenue transit vehicles.
- The SFMTA has already made significant strides toward a zero-emission future, accounting for less than 2% of the county's public transit emissions (and less than .01% of overall citywide emissions).

San Francisco Greenhouse Gas Emissions (2018)



Citywide



Transportation Sector

.01% of citywide emissions are attributable to Muni fleet

Progress Towards Zero-Emissions

Recent Accomplishments

- Launched a 40-ft Pilot program to test Battery Electric Bus
- Completed installation on a charging unit at Marin
- Initiated construction of scalable charging infrastructure for the Battery Electric Bus pilot program at Woods Division
- Completed the Design Criteria Document and Request for Qualifications Process for the Potrero Yard Modernization Project, the SFMTA's first purpose-build BEB facility

Battery Electric Bus Pilot

- In 2020, the SFMTA placed orders for three 40-ft battery electric buses each from New Flyer, BYD, and Proterra to determine the current state of battery electric bus technology.
- The pilot evaluates the bus building ability of each manufacturer to ensure they can provide safe and reliable buses for our riding public.
- These vehicles will be used in regular revenue service on the SFMTA's most demanding routes and will also be compared to existing hybrid and trolleys.
- The SFMTA now wishes to add a fourth manufacturer (Nova Bus) to the slate of test buses.



NEW FLYER



BYD AUTO



PROTERRA

NOVA BUS

Pilot Progress



Reasons for Adding Nova Bus to Pilot

- Nova Bus is a leading bus manufacturer in North America, with more than 12,000 transit buses sold in the US in the last 20 years.
 - Did not respond to the pilot program RFP due to no long-range battery electric buses at that time
 - Is a fully 12B compliant vendor and produces buses in New York
- Partnering with Nova Bus would increase competition, familiarize Nova with the SFMTA's preferred onboard system suppliers, and qualify one additional manufacturer with the capacity to produce vehicles at mass scale.
- Nova Bus is partnered with BAE Systems for their propulsion system. SFMTA has significant experience with BAE propulsion systems (over 300 BAE hybrid buses).
- Nova Bus has a strong local support network (Volvo/Prevost).

Nova Bus



LFS[®] *e⁺*

Powered by BAE Systems

Procurement Approach

- Commonwealth of Virginia Division of Purchases and Supply (DPS) has an interstate contract approved by FTA that includes 40-ft battery buses.
- The SFMTA can reduce procurement time and costs by using a pre-existing competitively bid process.
- The first vehicle is expected to arrive within 15 months versus 24-30 months with the bid/award process.
- Vehicles will arrive in time to be compared with other pilot buses from New Flyer, BYD, and Proterra.

Pilot Bus Pricing

- Pilot buses are more expensive than large scale production buses.
 - No volume discount
 - First time integration costs for SFMTA's preferred onboard system suppliers
 - Manufacturers not familiar with SFMTA's specifications and requirements
- SFMTA expects that the cost to procure 40-ft battery electric buses will be substantially lower as manufacturers gain experience working with SFMTA.

Pilot Bus Pricing

Contract	Amount
SFMTA-2019-02 (New Flyer)	\$4,452,536
SFMTA-2020-18 (BYD)	\$3,509,150
SFMTA-2020-19 (Proterra)	\$5,262,602
SFMTA-2021-06 (Nova)	\$4,772,266

Next Steps

- First battery electric pilot buses expected to start arriving Summer 2021
- Pending SFMTA Board approval, first Nova battery electric buses expected 12-15 months
- Facility upgrades underway, capacity would be expanded from 9 to 12 chargers



Thank you

