

The Road to Zero Emission Buses

November 12, 2019



Nomenclature

ZEB/ZEV: Zero Emission Bus/Zero Emission Vehicle

BEB: Battery Electric Bus

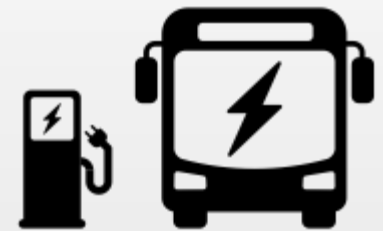
Lower-Emission: Highest standard, lowest emission traditional propulsion (diesel, gas)

Road to Zero Emission Buses (ZEB)

- CMTA Board approved initial purchase of electric buses-
22 April 2019
- Coordinating energy readiness with **Austin Energy**
 - North Ops Bus Depot redevelopment
- Participating in Austin Community Climate Plan, and integrating ZEB
- Actively participating in peer exchange and coordinated research:
 - APTA and transit peers
 - Zero-Emission Bus Resource Alliance (ZEBRA)
 - West Coast Center for Excellence
 - Center for Transportation and the Environment (CTE)

Transit Bus Replacements – FY2020

- FY18 and FY19 have included preparatory work to prepare for Battery Electric Buses
- Fleet plan requires replacement of 33 transit buses in FY20.
- 10 Electric Buses:
 - 4 Proterra 40 foot
 - 2 New Flyer 60 foot
 - 4 New Flyer 40 foot



Zero Emission Buses

- Proterra Battery Electric Bus



Zero Emission Buses

- New Flyer 60 foot and 40 foot



Charging systems



Zero Emission Roadmap



- North Ops Bus Depot at 9315 McNeil Lane, will become Capital Metro's state-of-the-art electric depot
- Coordinated planning for smooth bus deployment and charging infrastructure development
- Requires strong partnership between Austin Energy and Capital Metro



Depot Project Scope

Demolition of the 165,567 SF Serta foundation

Repaving for battery electric bus fleet

Lot will accommodate 186, 40' and 60' buses

Includes demo & repaving of Metro Rapid lot

Large amount of electrical conduit

Lighting, security cameras, stormwater drainage

Restriping of entire bus yard

Charging Requirements (estimated)

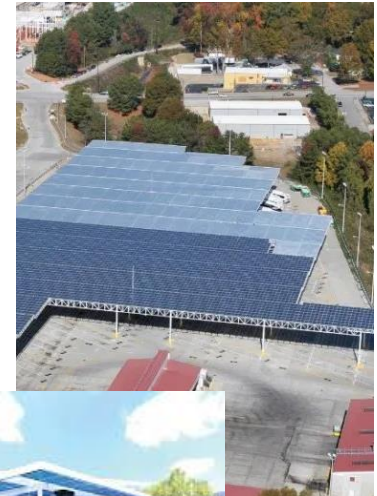


10 Buses = 0.95 MW

40 Buses = 3.8 MW

Exploring Solar

- Bus stop solar lighting
- Depot solar study
- Solar to storage



Safety Considerations/Process

Safety and Security Certification

Participate in industry workgroups: ZEBRA, APTA, West Coast Center for Excellence in ZEB, Center for Transportation and Environment

Pilot Phase: reviewing and adapting operations and safety procedures from 2 manufacturers

BEB Workgroup: Developing best management practices – Safety, Training, Operations, etc.

Next steps

- Continue grant and funding support
 - Including: TCEQ Clean Fleet, EPA DERA, FTA Low and No Emission Bus, and Texas VW Environmental Mitigation
- Coordinate with Austin Energy for infrastructure needs and rate structure
- Complete ZEB Roadmap and performance measures
- Integrate ZEV into Project Connect