

The Road to Zero Emission Buses

October 15, 2019

Nomenclature

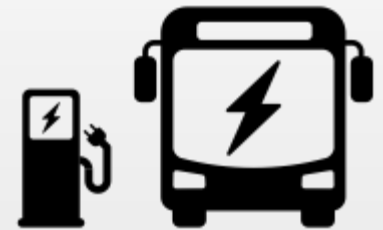
- ZEB: Zero Emission Bus
- BEB: Battery Electric Bus
- Lower-Emission: Highest standard, lowest emission traditional propulsion (diesel, gas)

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



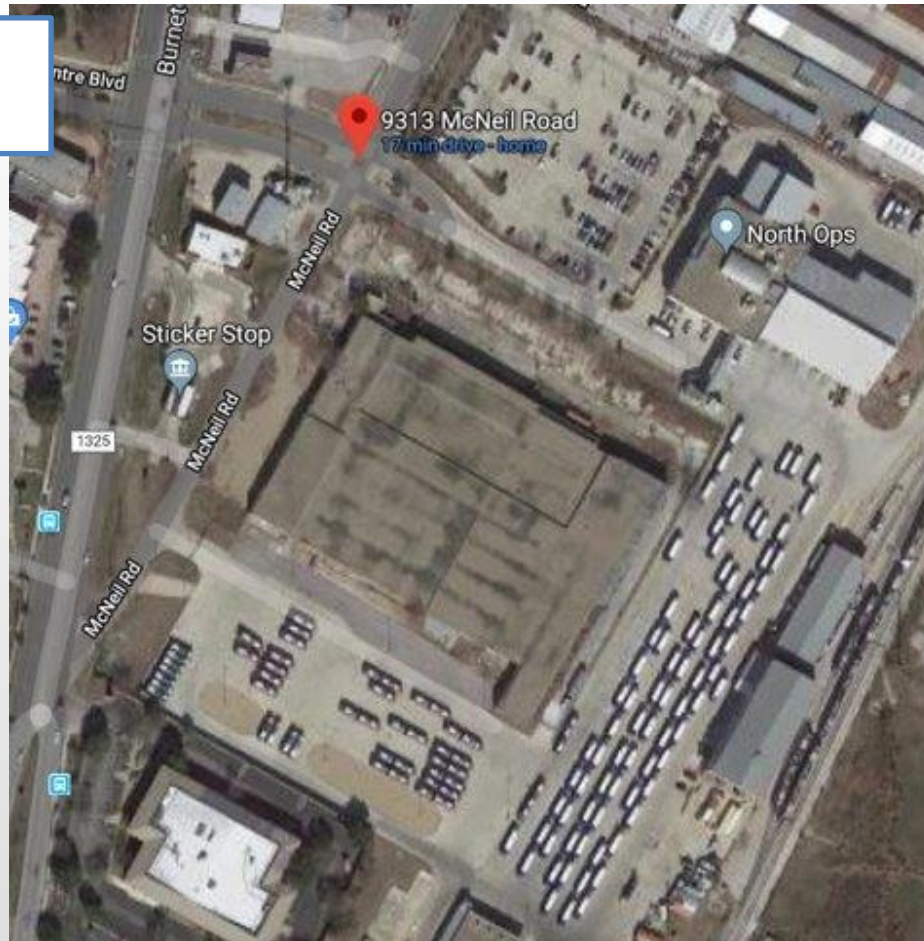
Project Scope

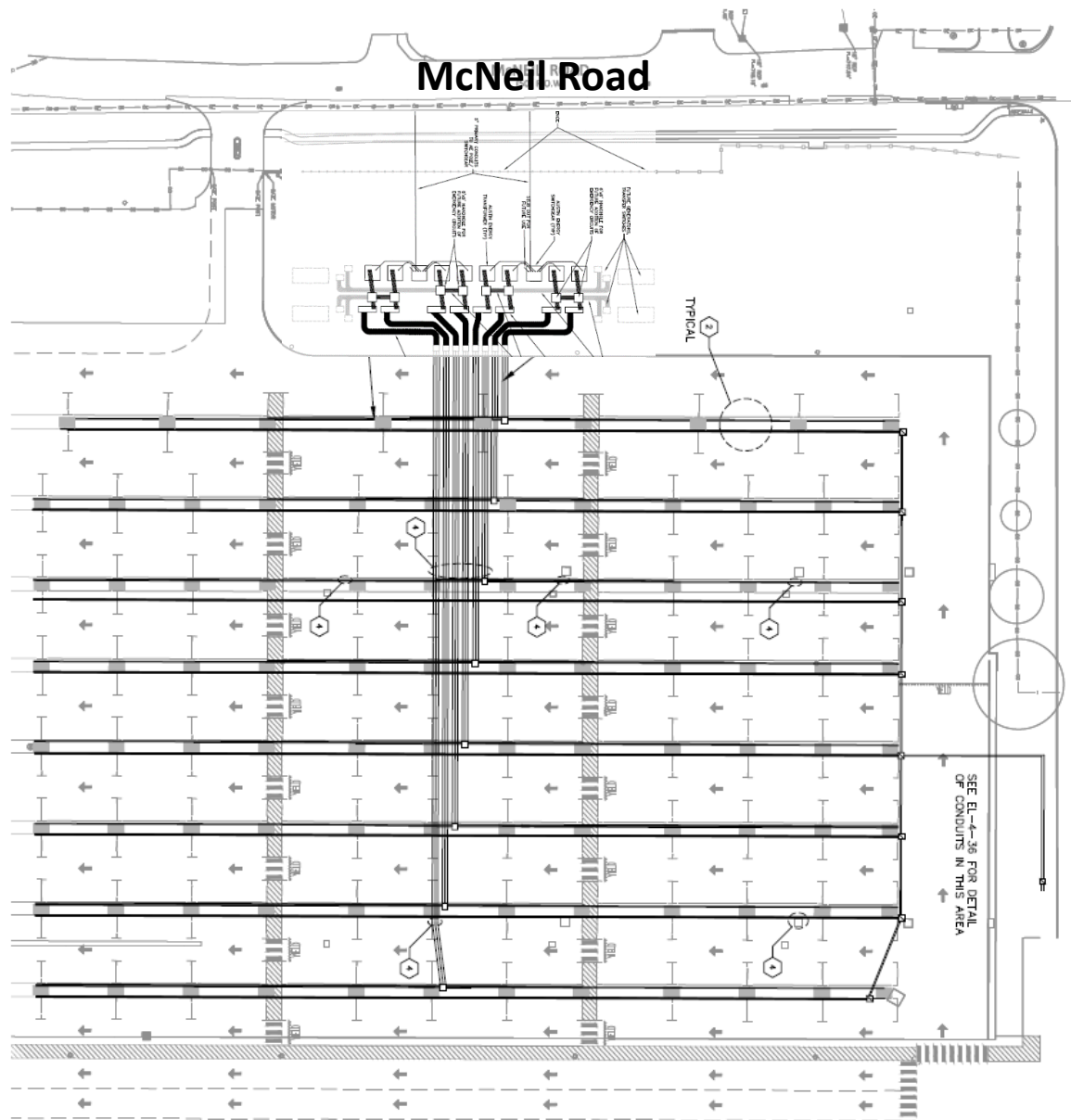
- Demolition of the 165,567 SF Serta foundation
- Repaving for battery electric bus fleet
- Lot will accommodate 186, 40' and 60' buses
- Includes demo & repaving of Metro Rapid lot
- Large amount of electrical conduit
- Lighting, security cameras, stormwater drainage
- Restriping of entire bus yard

Charging Requirements (estimated)

10 Buses = 0.95 MW

40 Buses = 3.8 MW





**Administration
Building**

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