



Massachusetts Bay Transportation Authority

MBTA New Bus Procurement

Program Update and New Contract No. V51PS02

Fiscal and Management Control Board

December 10, 2018

Background

MBTA's current bus fleet:

- Current fleet size – 1024 buses
- Average fleet age – 8 years
- MBTA bus service life is typically 12-15 years
- Propulsion technologies include CNG, diesel, hybrid, and electric trolley

MBTA bus fleet is expected to expand over the next 25 years and include new propulsion technologies



Future Bus Programs

In accordance with:

- Integrated Fleet and Facilities Plan
- Focus 40
- Better Bus Program including network redesign



A multi-year, multi-task Vehicle Engineering Professional Services contract is required to support:

- 194 New Flyer Hybrid Procurement (Board approval 10/1/2018)
- Electric Bus prototype program
- Specification Development and Procurement Support for future 40-foot bus fleets
- Future replacement of Silver Line buses

Bus Industry Overview

Trending towards advanced extended range hybrid and battery electric buses to reduce environment impacts and improve customer experience.

- Multiple bus manufacturers capable of producing various propulsion types
- Reduced maintenance and operating costs
- Improved reliability and passenger amenities
- Electric bus infrastructure upgrades required



New Award – Program Support

Vehicle Engineering is requesting the award of Contract No. V51PS02 – Engineering and Program Management Services for the procurement of new fleet buses.

- 10-year contract from Notice to Proceed (NTP)
- Aligned with the Authority's Integrated Fleet and Facilities Plan (IFFP)
- Contract organized by individual tasks for each new bus procurement
- Existing Contract No. V50PS01 for new bus procurement support is nearing completion



Contract Selection

Three (3) qualified engineering firm proposals were considered

- Selection committee unanimously selected Jacobs Engineering Group Inc. as the most qualified candidate based on industry experience and technical capabilities
- Jacobs has developed and maintained a strong relationship with the MBTA through previous bus procurement contracts over the last two decades
- Jacobs maintains a broad and deep team of technical, management, and procurement experts with intimate knowledge of the MBTA's needs and processes



Major Program Elements

Bus Procurement Strategy

- Replace existing aging bus fleet with available Options (194 Hybrid Buses)
- Evaluate new technologies and determine propulsion types based on fleet needs

60-foot Bus Program

- Continued testing of battery and extended range hybrid buses
- Specification development support for the next fleet of 60-foot buses
- Engineering, project management, and delivery support for 60-foot buses

40-foot Battery Electric Bus (BEB) Program

- Industry review and purchasing alternatives
- Specification development support for 40-foot BEBs
- Engineering, project management, and delivery support for 40-foot BEBs

Engineering Contract Services Breakdown and Budget

Task Support Envisioned	Independent Cost Estimate	Contract Percentage
194 forty-foot diesel electric hybrid buses <i>(Proposed Task 1)</i>	\$1.79M	15%
Up to 35 forty-foot battery electric buses (BEBs)	\$2.27M	19%
Up to 460 forty-foot buses of mixed propulsion design	\$5.48M	44%
Silver Line sixty-foot buses (propulsion type TBD)	\$2.69M	22%
Total Budget	\$12.25M	100%