



City Council Staff Report

Subject: Proterra Battery Electric Bus Purchase Contract
Author: Blake Fannesbeck
Department: Transit Department
Date: October 23, 2018
Type of Item: Consent Agenda

Summary Recommendation

Request to Authorize the City Manager to execute a Contract with Proterra, Inc., in a form approved by the City Attorney, for the purchase of seven (7) 35-foot battery-electric LOW FLOOR BUSES, and seven (7) Power Control System Depot Chargers, through the Federal Transit Administration (FTA) 5339c “Low-No Emission” grant program in partnership with the Utah Department of Transportation (UDOT) in an amount not to exceed \$1,063,879 of local matched funds. Contract total not to exceed \$5,066,089.

Executive Summary

The Transit Department is proposing entering into a service provider agreement with the electric bus manufacturer Proterra to procure seven (7) zero-emission E2 Series battery-electric buses that meet FTA Low-No Emission Grant Program specifications to replace seven (7) diesel buses that have reached their useful life of twelve (12) years. FTA funds have been awarded through UDOT with a delivery date of early winter 2019. Seven (7) “Depot Chargers” or Proterra Power Control System (PCS) units plus Charging Dispensers will be installed in the Public Works bus barn and used to charge the E2 Series Buses overnight. An overnight Depot Charger is anticipated to power buses up to 250 miles.

A Battery Lease Agreement for the seven Proterra buses is included under a separate agreement.

Acronyms

BRT – Bus Rapid Transit
FTA – Federal Transit Administration
RFP – Request for Proposals
UDOT – Utah Department of Transportation

The Opportunity

Due to rapid advancement with overnight charging, increased battery efficiencies, and a combination of current fast charge technology electric buses can now be fully considered on most routes within the comprehensive Park City Transit system. These seven new electric buses further accelerate the City Councils Energy goal.

Background

- 2016 Short-Range Transit Development Plan(s) identified that future consideration be given to electric buses as they continue to rapidly evolve.
- 2017 Park City Transit Department received a 5339c FTA “Low-No” grant (for the purchase of buses, related equipment and facilities), which reimbursed 79% of the total \$4,926,075 cost or \$3,905,378 for six (6) rapid charge electric buses. FTA Grants are administered through UDOT. Park City Municipal was responsible for the remaining 21% or \$1,020,697 of local matched funding - \$520,697 went towards the electric bus procurement; the remaining \$500,000 of local match was assigned for the installation of purchased charging equipment.
- Through research Proterra was again found to be the sole service provider of battery electric technology that fits the needs of Park City Transit. See attached Letter of Support to partner with Park City Municipal from June 2017.
- 2018 Park City Transit Department received a subsequent 5339c FTA “Low-No” grant totaling \$500,000, which will reimburse 10%, and \$3,502,210 in FTA 5311 funds (originally for replacement of older diesel buses) are to reimburse 69% of the total combined costs of \$5,066,089 or \$723,727 for each of the seven (7) E2 electric buses with custom configuration, and an equally divided portion of spare parts package and depot chargers. Park City Municipal is responsible for remaining 21% or \$1,063,879 of local matched funds.
- These buses will be ready for route service winter 2019.

<u>Date</u>	<u>Item</u>
October XX, 2017	Proterra Service Provider Agreement 2018
June 14, 2017	Proterra Letter of Support

Alternatives for City Council to Consider

1. Recommended Alternative:

Order seven (7) E2 battery-electric buses from Proterra

Pros

- a. Continued positive impact to Transit’s environmental footprint
- b. Winter 2019 route service to commence

Cons

- a. Daily redundancy required from newest electric batteries, will eventually necessitate increased charging infrastructure or risk wait times at chargers. Batteries still lack capabilities to backup and store energy during power outages.

2. Delay the order seven (7) battery-electric buses from Proterra.

Pros

- a. There are no pros

Cons

- a. Delay will cause Proterra to push production to 2020 or beyond

3. Null Alternative:

Do not approve the contract for the procurement of seven (7) battery-electric buses from Proterra

Pros

- a) No Pros

Cons

- a) Transit will be severely delayed in meeting Council's Net-Zero Carbon Resolution
- b) Transit will need to buy seven (7) clean diesel buses which will take an additional 18 months to replace the current old diesel buses.

Analysis

As part of the FTA Low-No Grant program, Park City has again partnered with Proterra Inc. to procure seven (7) zero-emission Proterra E2 electric buses to replace diesel buses that have reached their useful life of 12 years. Proterra's proposed combined costs of seven (7) buses is \$5,066,089 or \$723,727 for each of the seven (7) E2 electric buses with custom configuration, and an equally divided portion of spare parts package and depot chargers. In 2017 Park City Transit Department received a subsequent 5339c FTA "Low-No" grant totaling \$500,000, which will reimburse 10% or \$3,502,210 and FTA 5311 funds are to reimburse 69% of the total cost. Park City Municipal is responsible for the remaining 21% or \$1,063,879 of local matching funds. Participation in the FTA Low-No Program will help Park City Transit reduce emissions and lower the cost of ownership of its transit fleet.

This second year procurement more than doubles the existing number of electric buses on Park City Transit from 6 to 13. When electric buses replace diesel buses at the end of their useful life, the average fuel efficiency is increased along with decreased overall operating costs. The new procurement of E2 electric buses will charge mainly via an overnight trickle charge from a Depot Charger installed within Public Works garages. With an unprecedented 250 mile battery range, electric buses only necessitate a single midday charge, with the standard drive range averaging 50-100 miles in excess of a trickle charge range. Every route travels through one of the two transit hubs – each having a fast charge overhead charge unit which can be used if needed to provide an additional charge for the bus to complete the route for the day.

Park City Municipal will be leasing the electric bus batteries. Payments will be covered in the annual Transit operational budget. Leasing the batteries allows Park City Transit to spend less up front capital funds, while protecting battery performance for the useful life of buses. These electric buses will save approximately \$5,000 per year per bus due to more efficient mileage or 21 mpg electric vs 4 mpg for diesel.

Department Review

The City Manager's Office, the City Attorney's Office, Budget, and Public Works have reviewed this Staff Report.

Funding Source

The Transit Department has been granted funding from the FTA, administered by UDOT, to reimburse the City up to a combined total of 79% (\$4,002,210) of the cost of each vehicle. The remaining 21% (\$1,063,879) will be local matching funds.