

ADVANCED TRANSIT VEHICLE CONSORTIUM

Los Angeles County Metropolitan Transportation Authority
One Santa Fe Ave., MS 63-4-1,
Los Angeles, CA 90012

JUNE 22, 2016

TO: BOARD OF DIRECTORS

**FROM: JOHN DRAYTON
EXECUTIVE VICE PRESIDENT**



SUBJECT: BYD ELECTRIC BUS BUY BACK PROPOSAL

RECOMMENDATION

1. Authorize the ATVC President to Accept BYD's unsolicited proposal dated June 2, 2016 offering to buy back five (5) battery electric 40 foot vehicles for a credit of \$3,000,000
2. Authorize the ATVC President to negotiate a new sole source contract to purchase up to five (5) new 60 foot articulated battery electric vehicles and charging equipment at a cost not-to-exceed \$6,670,000, including applicable taxes.

ISSUE

ATVC and Metro have been conducting a demonstration test of five BYD buses since June 2015. To date, performance has not met operational requirements, mechanical reliability has been subpar compared to typical CNG vehicles, and technological advances in manufacturing at BYD have made these five vehicles an ill fit for current Metro operation.

DISCUSSION

In June 2015 five BYD battery electric buses were put into service at Division 1 in downtown Los Angeles. Although BYD has been working hard to support this project, full integration of the ZEB's into Metro's operating environment has not been fully successful. Over the last 12 months, Metro accumulated a total of 36,000 miles in operation from Metro's Division 1 in Downtown Los Angeles. Limited range between charges and poor hill-climbing ability of these buses severely limits the lines on which they may be operated. Additionally, the buses have experienced low reliability. Though these challenges are typical when introducing a new product in a new environment, it has significantly impacted these buses availability for service.

Given these challenges, operation of these buses was suspended April 2016. Metro and BYD are currently discussing options for BYD to buy-back these buses and to offer a credit for future ZEB buses.

On June 2, 2016 BYD submitted an unsolicited and unprecedented offer to repurchase the 40' BYD vehicles and give the ATVC a credit of \$600,000 per vehicle to be used for the purchase of new BYD battery electric vehicles of ATVC's choice.

The Metro Orange Line has been identified as the top candidate line to be converted to electric operation. The Metro Orange Line operates on a dedicated right of way, utilizes platform fare collection, operates at a higher average speed due to less frequent stops, and has Metro owned terminus stations that can be retrofitted with en-route rapid charge equipment. The operating profile of battery electric vehicles is well suited for this type of duty cycle. Passengers and residents along the line will benefit from the inherent quietness of battery electric vehicles. Staff believes placing BYD 60' articulated battery electric buses into service on the Metro Orange Line will provide an ideal line for electric vehicles.

In December 2014 BYD brought their 60' articulated bus to Metro for a one week test on the Metro Orange Line. The overall performance of the vehicle was impressive, and the bus was positively received by the operators, maintenance personnel, and passengers. Vehicle performance was very good particularly in areas of acceleration and top speed; the bus also provided a smooth and very quiet ride.

DETERMINATION OF SAFETY IMPACT

There is no anticipated safety impact for operating zero emission electric buses on Metro's Orange Line. New Flyer is expected to utilize components and sub systems that have been proven in heavy duty applications and have been mass produced and used in buses currently in transit service.

Zero emission buses are expected to use high voltage electrical systems. While these systems are isolated from operators and passenger compartments, maintenance personnel will need additional specialized training to ensure they are prepared to maintain these higher voltage propulsion systems.

FINANCIAL IMPACT

Total LOP funding of \$3 million is included in Cost Center 3320 - Vehicle Technology, in project 201071. For FY17, there is \$6.308 million programmed to cover expenses for purchasing these buses and other zero emission bus projects. Because this is a multi-year contract, the ATVC President and the Cost Center Manager will be responsible for ensuring that future year funding is programmed.

Impact to Budget

There is no anticipated impact to the FY16 or FY17 budgets.

ALTERNATIVES CONSIDERED

1. Staff considered relocating the test to the new Division 13. This alternative is not recommended as it will incur additional infrastructure costs in relocating the chargers to that facility, and the routes do not substantially differ in profile from those at Division 1.
2. Staff considered initiating a new open procurement for 60' articulated battery electric vehicles. In June 2016 Metro issued a Request for Information and Qualification (RFIQ) to ascertain which transit vehicle manufacturers produce a battery electric 60' articulated transit bus. The results of this RFIQ indicate that only New Flyer and BYD currently offer this type of vehicle in the United States.

In April, Metro was notified of a grant award to purchase five New Flyer 60' articulated battery electric buses. Since New Flyer will provide the vehicles under this grant and the \$3 million repurchase credit is only applicable to buses purchased from BYD, staff does not recommend this alternative.

Next Steps

Once the Board approves the actions requested in recommendations 1 and 2 above, staff will transfer title and deliver the five existing buses back to BYD. Then the ATVC President will negotiate a new sole source contract for the purchase of five 60' battery electric articulated buses from BYD, and return to the Metro Board for Approval.

Prepared by: Steve Schupak, Program Manager, Electric Bus Program

Attachment: A. BYD letter dated June 2, 2016 offering repurchase
B. Funding and Expenditure Plan

Copies: ATVC Board Members and Alternates
Phillip A. Washington, Metro CEO
Stephanie N. Wiggins, Metro Deputy CEO
James T. Gallagher, Metro COO
Jesus Montes, Metro Executive Director Vehicle Acquisition

BYD ELECTRIC BUY BACK PROPOSAL
FUNDING/EXPENDITURE PLAN

	FY17 +	Total	% of Total
Uses of Funds			
Bus Acquisition	\$6,570,000	\$6,570,000	97.0%
Charging Equipment	\$100,000	\$100,000	1.5%
Professional Services	\$100,000	\$100,000	1.5%
Total Project Cost	\$6,770,000	\$6,770,000	100.0%

	FY17 +	Total	% of Total
Sources of Funds			
Measure R 35%	\$3,770,000	\$3,770,000	55.7%
BYD 40' Bus Credit	\$3,000,000	\$3,000,000	44.3%
Total Sources of Funds	\$6,770,000	\$6,770,000	100.0%

Initial sources of funding planned for Measure R 35%. Staff will apply other federal, state and local sources as they become available and applicable to project sources.



June 2, 2016

Mr. John Drayton, Executive Vice President
Advanced Transit Vehicle Consortium
One Gateway Plaza
M/S 99-9-1
Los Angeles, CA 90012

Re: Unsolicited Proposal for Repurchase of five BYD Buses

Dear Mr. Drayton,

At a recent meeting with Mr. Gallagher and Mr. Montes, they shared LACMTA's vision and continued interest in the evolution of battery powered transit buses.

LACMTA displayed great vision and courage by becoming an early adopter of this technology through the purchase of the first five long range battery electric buses through the Advanced Transit Vehicle Consortium.

While we believe the five buses were State of the Art product at the time they were ordered and assembled, it has become clear over the last several months that the buses are not meeting LACMTA's expectations for range and overall reliability.

BYD Coach and Bus is committed to the success of the overall electric vehicle market as we believe that zero emission vehicles are one of the key cornerstones in the battle against global warming and in fostering the development of sustainable and renewable energy sources.

Further, BYD Coach and Bus holds as one of our core values that all owners of any of BYD's technologies are 100% satisfied and it has become apparent through ongoing dialogue with LACMTA staff that the current group of five buses are not meeting that standard.

To remedy this situation BYD Coach and Bus would like to offer you the following unsolicited proposal involving these steps:

1. BYD Coach and Bus will purchase the five buses back from LACMTA for a price of \$600,000.00 each.
2. To prevent any further investment of LACMTA staff resource, time, and energy we propose that the evaluation and operation of the buses be suspended and the buses be returned to BYD Coach and Bus on or before June 30th, 2016.
3. Upon mutual agreement to the steps outlined in this proposal BYD will post a credit to LACMTA's account in the amount of \$3,000,000.00 to be used against the purchase of new BYD buses of your choice.
4. BYD Coach and Bus will build and deliver the new bus selection in our plant in Lancaster CA. as buy America compliant buses and built to our most current configuration.



5. The new buses will be built in compliance to LACMTA and ATVC contract OP33202790 specifications and requirements, with the modifications attached to this agreement as Attachment A and will incorporate generational updates and upgrades.

At a minimum, the following advances in our technology will be integrated into the new buses:

- 280 amp hour batteries versus 200 amp hour batteries which means more energy and range in the same or less space
- 12 year unconditional battery warranty
- 100 kw continuous power wheel motors with 150 kw peak output versus the current 90 kw maximum output motors for 40 foot buses and 180kw motors for our 60 foot models translating to better hill climbing and better acceleration

We believe this plan of action will help maintain LACMTA's position as a leader in helping to advance emerging vehicle technology by resuming an evaluation program based on current and relevant vehicle technology.

All of us at BYD Coach and Bus are dedicated to total customer satisfaction and this repurchase plan represents our dedication to you as our valued customer and we hope you will agree that this plan provides an acceptable process to restoring the ev program on a successful path.

Thank you very much for your consideration of this proposal.

Very Best,

A handwritten signature in black ink, appearing to read "Macy Neshati".

Macy Neshati
Vice President,
BYD Coach and Bus

cc: James T. Gallagher, Metro Chief Operations Officer
Jesus Montes, Metro Executive Director, Vehicle Acquisition
Victor Ramirez, Metro Executive Officer, Procurement
Steve Schupak, Electric Bus Program Manager
Phil Rabottini, Sr. Engineer