

# ADVANCED TRANSIT VEHICLE CONSORTIUM

Los Angeles County Metropolitan Transportation Authority  
One Gateway Plaza  
Los Angeles, CA 90012

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March 1, 2018

2:00 p.m.

## REVISED RECAP of Proceedings

### Regular Board Meeting ATVC Board of Directors

LACMTA Headquarters  
One Gateway Plaza  
3rd Floor Board Room

Called to Order at: 2:04 p.m.

#### Directors/Alternates Present:

Borja Leon (Chair)  
John Fasana  
Ara Najarian  
Dave Perry

#### Officers

James T. Gallagher, President  
Jesus Montes, Interim Executive Vice  
President  
Donna Mills, Chief Financial Officer  
Michele Jackson, Board Secretary

1) APPROVED minutes of Board Meeting held November 29, 2017

BB	DP	BL (CHAIR)	JF	AN	
A	Y	Y	Y	Y	

2) INTRODUCED the New Sr. Director, Vehicle Technology & Acquisition, Mark Main

BB	DP	BL (CHAIR)	JF	AN	
A	P	P	P	P	

3) RECEIVED ATVC President's Report

a) Status of Projects/Issues

Silver Line – Integration of depot & en-route chargers

Orange Line – Integration of depot & en-route chargers and Altoona test for BYD artic equipment not complete

CNG procurements and approximately 14 mid-lifes per month beginning March 2018 will result in 90% reduction of emissions

Alignment electrification:

Orange Line – Contract awarded for trenching and conduit at Div. 8 and 2-5 depot chargers. En-route chargers to be added at North Hollywood, Canoga and Chatsworth.

Silver Line – Defining scope for combination of en-route and depot chargers dependent on information from BYD.

b) Response to Questions Posed by Board

Infrastructure – Upgrades for BEBs require MOL civil work (trenching and conduits) \$2 million for 10 charging stations + 3' wide island or lane for depot chargers  
Minimum one year lead time or 3+ years for conversion of full division.

Battery technology – 80-660 kWh – Metro averaged 50 miles/day; peaked at 130  
Capacity/range expected to reduce by 20-30% by year 12 (end of life)  
Need to avoid interoperability between charging methodologies.

ACTION TAKEN:					
BB	DP	BL (CHAIR)	JF	AN	
A	Y	Y	Y	Y	

Director Fasana asked if thought had been given as to which division would be converted first. Staff is suggesting scaling up one division instead of sprinkling electric vehicles throughout the system randomly. Divisions 10 and 4 might be the best to start with because they have more routes that can be handled by the range of the buses.

Director Najarian noted that the Orange Line ~~should~~ could be going into operation in 2020 with primarily an end-route charging system which is not viable for the rest of our system. Silver Line is the same kind of case.

Staff indicated they will be making a master plan over the next 18 months.

4) RECEIVED CARB's Zero Emission Regulation

BB	DP	BL (CHAIR)	JF	AN	
A	Y	Y	Y	Y	

Director Fasana asked to have the presentation mailed to everyone.

5) RECEIVED Presentation by ZE OEM's

- a) BYD batteries don't use cobalt. Their batteries are iron phosphate based. Want to add solar to reduce cost of infrastructure.
- b) GreenPower – Buses only – Try to keep costs below \$10,000/seat. Uses CCS charging which allows customers to use chargers that work for passenger cars. In the process of being Altoona certified.
- c) New Flyer – Still feels that fuel cell technology is viable. Use nickel, cobalt, manganese batteries from Xalt and A123 in Michigan.
- d) ~~Proterra~~

BB	DP	BL (CHAIR)	JF	AN	
A	Y	Y	Y	Y	

6) Consider items not on the posted agenda – NONE.

- Requested for next meeting:
- Autonomous bus technology
  - Autonomous trucks
  - Monorail and hyper loop
  - Skate tunneling technology
  - Personal transportation options (first/last mile)

7) ADJOURNED at 3:17 p.m.

Copies: ATVC Board Members and Alternates  
Phillip A. Washington, Metro CEO  
Stephanie N. Wiggins, Metro Deputy CEO

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