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Filer:	Raquel Kravitz
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AC Transit ZEB Programs

Salvador Llamas – Chief Operating Officer

2023 APTA Outstanding Public Transportation System Award

OVERVIEW

7 Elected Board Members

1.5M people in service area

364 square miles

128 lines (18 transbay)

16.7M annual service miles

2,200+ FTE's

7 facilities (4 bus-3 support)

637 buses (58 ZEBs)

Rider Demographics

- **65%** low income
- **75%** people of color
- **29%** Limited English Proficiency
- **27%** of riders are traveling to work
- **30,000** student trips to and from school every school day

Riders During Pandemic

- **40%** of riders made an essential trip
- **15%** of riders identified as an essential worker
- **43%** riders do not have access to a car

We serve

Essential workers, students, low-income, seniors, commuters, individuals with disabilities, and anyone wishing to reduce their carbon footprint.

ZERO EMISSION

- Leader in advancing ZE technology since 2000
- Implemented one of the nation's most comprehensive ZEB programs
- Started with H2 electric bus technology and expanded to include battery electric buses.

Over 5M ZE miles, eliminating 12,830+ metric tons of CO2

Leading the way to a **ZERO EMISSION FUTURE.**

ZETBTA "5X5 STUDY"

Stanford University's Precourt Institute of Energy

World's first comparison of BEB & FCEB

5 different bus types: diesel, diesel hybrid, BEB, FCEB, legacy FCEB

Same routes from the same division using the same Bus Operator pool

Same key performance indicators

HYDROGEN FUEL STATION

80’ by 40’ footprint

Liquid H2 storage tank

Vaporizer towers

Compressor or cryo-pumps

H2 gas buffer tubes

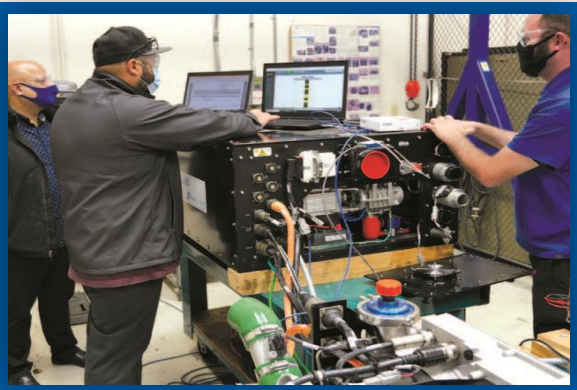
H2 station dispensers

ZEB *HYDROGEN* ⟷ ZEB *BATTERY*

- Fueling capacity 78 (D2 & D4)
- Expand to 130 at D4 & D6
- Increasing capacity to 325

- Charing capacity 6 (D4)
- Expand to 50 at D4 & 26 D2
- Increasing capacity to 82

WORKFORCE DEVELOPMENT



- ❑ Safety & Familiarization
- ❑ Advanced Diagnostics
- ❑ Approx. 318 hours of ZEB specific training

Mechanic Development

FCEB-BEB Coursework	Hours
Orientation and PPE/High Voltage	8
Energy Storage System	40
Power Train Technology	40
Fuel Cell	30
5-Week Technical Training Program	200

QUESTIONS?

THANK YOU!