Hydrogen Opportunities for Airports

Today's Transit for Tomorrow's World

Lauren Skiver
CEO/General Manager
SunLine Transit Agency
Coachella Valley

- 1,120 square miles of service area
- San Gorgonio Pass in the west to the Salton Sea in the southeast
Operation – 370+ Employees

Routes
- 14 fixed routes
- 1 express route
- 1 regional route
- ADA Paratransit

Fleet
- 60 CNG
- 17 Hydrogen Electric Fuel Cell
- 4 Electric Battery BYD
- 39 CNG Paratransit Vehicles

Revenue Miles vs. Passenger Trips
- 4.3 million revenue miles
- 4.5 million passenger trips
ZEB Fleet

4- BYD

11

4 FC Shuttle Buses (Pilot Project)
5 awarded through VW Mitigation Settlement and vehicle replacement funds
5 awarded through EPA TAG

El Dorado National

Ballard
US Hybrid
BAE

New Flyer

Ballard
Cummins Hydrogenics
Siemens
Hydrogen Fueling Station Overview

Proton/Nel PEM Electrolyzer

900 Kg per day production
380 Kg use per day
2 dispenser fast fill rate
$8.7 Million CARB Grant
Hydrogen Fueling Station Lessons Learned

- Ensuring utilities were able to support project
- Ensuring we have personnel with the right credentials to execute the project
- Correctly estimating the amount of civil work involved
- Establishing a performance based statement of work
Microgrid to Hydrogen

SunLine is looking to expand its fueling systems

Solar Farm

700 Bar Public Fueling Station
Fuel Cell Shuttle Bus Project

California Energy Commission (CEC) Grant Funded Project With CALSTART

Four 22-foot Fuel Cell Paratransit Shuttle Buses

Vehicle Information
- Ford Transit 350 HD
- Fuel Cell US Hybrid
- Range: 250 miles
- Fueling: Hydrogen tank capacity of 13kg, fueling at 350 bar pressure

Total Project Cost $4,353,738
- CEC funded $2,688,548
- Cost Share $1,665,190

18-Months of Data Collection and Demonstration
ICT Rollout Plan Timeline

ICT Regulation Timeline for Airports

Dec 31, 2027
33% of ZE Shuttle Bus Fleet

Dec 31, 2031
66% of ZE Shuttle Bus Fleet

Dec 31, 2035
100% ZE Shuttle Bus Fleet

Regulated Airports

| Los Angeles (LAX)   | John Wayne (SNA)       |
| San Francisco (SFO) | Sacramento (SMF)       |
| San Diego (SAN)     | Mineta San Jose (SJC)  |
| Hollywood Burbank (BUR) | Palm Springs (PSP) |  
| Oakland (OAK)       | Santa Barbara (SBA)    |
| Ontario (ONT)       | Long Beach (LBG)       |
| Fresno (FAT)        |                        |
# Hydrogen Opportunities for Airports

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Other vehicles/infrastructures to consider:
- Cargo Trucks
- Runway Operations
- Terminals
- Control Towers
- Multi-Megawatt Fuel Cell Systems for Power
- Back-up Generators
- Aircraft
Thank You!

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