San Joaquin RTD: Who We Are

- San Joaquin Regional Transit District (RTD) is the regional transportation provider for San Joaquin County, located in California’s Central Valley.

- The public transportation provider:
  - Stockton Metropolitan Area (since 1965)
  - San Joaquin County (since 1994)

- Service area: San Joaquin County (over 1,400 sq. mi.)
  - Approximately 680,000 people
    - 7 incorporated cities
    - Rural communities
    - Unincorporated areas

- Services:
  - BRT, Fixed-route, deviated fixed-route, commuter, mobility on demand, vanpools, and a variety of ADA options.
Electric Bus Fleet

First Adopter

• In 2013, through a California Energy Commission grant and its partnership with Proterra, RTD introduced northern California’s first 100% battery-electric buses into service.

• RTD implemented the nation’s first all-electric BRT corridor in South Stockton. RTD is committed to investing in new technologies, not just as a matter of innovation, but as a matter of mobility, public health, and environmental justice.

Efficiency

• While the electric buses are more efficient (20 mpg) when compared to 3 mpg diesel and 6 mpg hybrid, the operating cost due to the cost of electricity has been elevated in comparison to the traditional fleet.

<table>
<thead>
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<th>Year</th>
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<th>Length</th>
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<td>2017</td>
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</tr>
<tr>
<td>2018</td>
<td>5 40-foot Proterra</td>
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New All-Electric BRT
As RTD plans to scale from pilot to fully-electric operations, new challenges emerge for transit electrification:

**Charging Technology**
- Standardization of technology
- Differences in depot & on-route charging

**Infrastructure**
- Power requirement is massive
- Long-term site and budget planning for infrastructure
- Grid upgrades to support new load

**Electricity costs**
- Demand charges increase charging costs for electric buses
RTD and PG&E Partnership

RTD and PG&E are partnering on a pilot to better understand these challenges and develop innovative solutions to aid future agencies in electrifying

PG&E Collaborates with San Joaquin Regional Transit District on Electric Vehicle Pilot

Release Date: June 21, 2018
Contact: PG&E External Communications (415) 973-5930

SAN FRANCISCO, Calif. — Pacific Gas and Electric Company (PG&E) today announced it will conduct an electric vehicle (EV) pilot with San Joaquin Regional Transit District (RTD) to help prepare the agency for its long-term electric transportation needs.

With San Joaquin RTD, PG&E will test how smart charging and battery storage can lower operating costs and maximize efficiencies for the agency. PG&E will test, analyze and compare the economics for charging at various times of the day using different models with and without battery storage. As part of the pilot, PG&E will fund up to five new electric bus chargers and a battery energy storage system, and will fund and build the infrastructure from the electric grid to the chargers and storage system.

San Joaquin RTD has taken a lead in electric transportation and already has electric buses in its fleet. This pilot aligns with San Joaquin RTD’s goal of being powered by 100 percent EVs by 2025.

San Joaquin Regional Transit District (RTD)

PRESS RELEASE

Contact: Terry Williams
Public Information Officer
(209) 457-6695
June 21, 2018

FOR IMMEDIATE RELEASE

RTD Selected for New PG&E Electric Vehicle Pilot Program

Stockton, CA — In another first for San Joaquin Regional Transit District (RTD) and Stockton, Pacific Gas and Electric Company (PG&E) today announced it will conduct an electric vehicle (EV) pilot to support RTD’s long-term electric transportation needs with chargers and infrastructure improvements.

Recently approved by the California Public Utilities Commission, this pilot will be a test case for PG&E’s new Fleet Ready program, which supports electric charging for customers with medium-duty, heavy-duty, and off-road fleets such as transit agencies, school districts, and delivery fleets. For this new pilot with San Joaquin RTD, PG&E will test how smart charging and battery storage can lower operating costs and maximize efficiencies for the agency.

Seeking to partner with a transit agency located in a disadvantaged community who already had electric buses and plans for more in the future in order to meet the timelines of the project proposal, PG&E chose RTD.

“Because we already had a plan for adding more electric buses to our fleet and have a long-term goal around electrification, PG&E approached us with this pilot opportunity,” said CEO Donna DeMartino. “Due to our focus on electric transportation, PG&E can jump right into creating the specifics of the pilot, which aligns with our goal of being powered by 100% electric vehicles by 2025.”
What Will it Take to Power Our Fleets?

Fully electrified fleets will have large energy needs, but utilities believe they can meet capacity requests with adequate planning and active collaboration with transit agencies.

A recent utility presentation estimated 100 buses will need nearly 8 MW:
- 250 buses = 20 MW
- 500 buses = 40 MW

For some perspective, the tallest skyscraper in the world, Burj Khalifa, requires 50MW.
Questions?