

# USPS Advanced-Drive Transport and Delivery Vehicle Demonstration Project

The San Joaquin Valley Air Pollution Control District (District) and project team oversaw the building and deployment of 15 zero-emission electric United States Postal Service (USPS) step-vans and charging infrastructure across two USPS hubs in Stockton and Fresno in California's Central Valley. The step-vans form the basis of the USPS Advance Vehicle Cluster from which USPS will continue to explore the electrification of its massive fleet of vehicles. 7 step-vans were built and provided by Motiv Power Systems and 8 from Cummins Electrified Power. During the project the USPS operated step-vans on routes of 50 to 75 miles with frequent stops.



The project included driver training, data capture and data analysis. It also creates a roadmap for further commercialization in parcel delivery service by demonstrating the practicality and economic viability of zero-emission units. A 'Voice of the Customer' event was held to discuss these opportunities with interested fleets. Funding was provided to evaluate opportunities for solar generation and storage to further enhance the benefits of zero-emission trucks.

**Dates:** 07/01/2017 – Spring 2020  
**Grantee:** San Joaquin Valley Air Pollution Control District  
**Partners:** United States Postal Service, CALSTART, Motiv Power Systems, Cummins Electrified Power, Black & Veatch  
**Grant Amount:**  
CARB Contribution: \$4,555,670  
Matching Funds: \$2,222,903  
Project Total: \$6,778,573



## Vehicles/Equipment Funded

15 zero-emission all electric USPS delivery step-vans:

- 8 Cummins Electrified Power (6 Fresno, 2 Stockton)
- 7 Motiv Power Systems (4 Fresno, 3 Stockton)

15 associated EVSE at two locations:

- Fresno Vehicle Maintenance Facility- 10 chargers: 4 3-Phase 208V/240V @ 100A Level 2; 6 Single Phase 240V @ 80A Level 2
- Stockton USPS West Lane Post Office- 5 chargers: 3 3-Phase 208V/240V @ 100A Level 2; 2 Single Phase 240V @ 80A Level 2

## Lessons Learned

- Electric vehicle on-road performance is on par with or better than gasoline vehicle performance
- Optimal locations for chargers is crucial to prevent logistical and operational issues
- USPS is evaluating resizing EV parking spaces as a potential solution to reduce charging infrastructure damages
- Electrical infrastructure costs and designs are not yet optimal but increasingly becoming more cost-effective

## Status Updates

- All 15 vehicles have been delivered and placed into service
- As of February 2020 the vehicles have been driven a total of 48,540 miles since their first deployment
- Vehicles meeting operational needs with few exceptions (i.e. AC can affect range in hot summer months)
- USPS intends to use the electric vehicles at least until the end of the warranty period and potentially longer

