

Battery Electric Vehicle Study

Project Overview

Timeframe: 2 year study: 2012 – 2014

Funded by: South Coast Air Quality Management District

Research Agenda: To test the effect of introducing Battery Electric Vehicles into South Bay Households

Sample: 49 Households, self-selected

Participation: 2 months per household

Data Collection:

GPS Tracking of Household Destinations

- Baseline of Household Destinations: 2 weeks GPS data of household ICE destination before introduction of BEV
- Introduction of BEV: 2 weeks of GPS data of household destinations (ICE + BEV)
- Total: 1 month of monitoring household destinations

Pre/Post Surveys

Mid-Study Interview and Focus Groups

4 BEV Vehicles in Study – average range approximately 80 miles:

- BMW Active e
- Honda Fit EV
- 2 Nissan Leafs

Glossary of Terms

- ICE Vehicle = Internal Combustion Engine = Standard Gasoline Fueled Cars/Trucks
- Gasoline hybrid (Hybrid) = Prius
- EV - Electric Vehicle = Broad Class of EVs that include PHEV, BEV and FCEV
- PEV - Plug-in Electric Vehicles = Broad Class of PEVs that include both PHEV and BEV
- PHEV - Plug-in hybrid electric vehicle = Volt
- BEV - Battery electric vehicle = Leaf
 - Full speed, medium range electric vehicles = Nissan Leaf, BMW e3, Fiat EV
 - Full speed, long range electric vehicles = Tesla, BYD e6
- FCEV - Fuel cell electric vehicle
- NEV - Slow speed, short range electric vehicles = Neighborhood Electric Vehicles, e-bike
- EVCS = Electric Vehicle Charging Station
- L1 Charging = 110 charging (common household plug) – 7 to 8 hours for full charge
- L2 Charging = 220 charging (often requires an electrical upgrade; provides charging twice as fast as L1) – 3 to 4 vehicles for full charge
- DC 3 Fast Charge = 440 charging (can take an EV in 25 minutes to 80% capacity)
- SBCCOG = South Bay Cities Council of Governments
- SCAQMD – South Coast Air Quality Management District
- ARB = Air Resources Board
- Metro = Los Angeles Metropolitan Transportation Authority
- VMT = Vehicle Miles Travelled

BEV Participants – Who they were and where they lived:

Criteria	Goal	Total Participants	
		Selected	Target Goal +/-
Inland	17	14	-3
Beach	14	20	6
Peninsula	17	13	-4
Low Income (15-50k)	2	5	3
Middle income (50-150k)	30	31	1
High income (150k+)	16	12	-4
Single Family Home	24	29	5
Dwelling w/ Shared Walls - Apartment/Condominium	24	17	-7
110 only wiring	24	39	15
220 wiring available in parking area	24	10	-14
Former LUV participant	6	7	1

