Electric Vehicle Studies:

Neighborhood Electric Vehicles

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WHAT'S A NEIGHBORHOOD ELECTRIC VEHICLE?

- Neighborhood electric vehicles (NEVs) are **zero-emission vehicles** limited to a speed of 25 miles per hour and restricted to streets with speeds of 35 miles per hour or less. They generally have a 30-mile range.
- They include **cargo trikes, electric bikes, electric scooters, and segways,** amongst other smaller range electric vehicles.
- NEVs have an advantage over full-battery electric vehicles because they are **cheaper, smaller,** and **can be charged more easily** using a common 110 outlet.

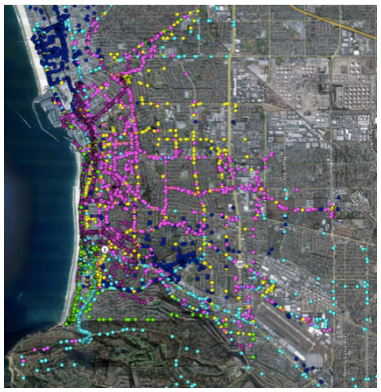
STUDY PURPOSE

The study aimed to understand if NEVs can replace a household's second or third vehicle, since **NEVs can accommodate many short trips.** 70% of a household's trips are under three miles – too long to walk and too short to take public transit, but ideal for short-range vehicles, including bicycles.

STUDY STRUCTURE

NEVs were placed in 50 households for a period of 3 months. GPS units were placed in the NEVs and in the other household vehicles to capture total household travel. **More than 20,000 trips were catalogued** into a database that include origin and destination, length, speed, fuel type, stop time, and route.

One of the benefits of this study, apart from showing the utility of NEVs, is that the South Bay Cities Council of Governments now has a rich database on travel patterns in the South Bay. These have been used in the emissions modeling for the South Bay Climate Action Plan.



STUDY FINDINGS

- **The average household reduces their emissions by 20% when an NEV is introduced. If there were 100,000 NEVs on the road, 10-15 million gallons of gas would be saved per year.**
- More than 40% of participants rated their experience driving a NEV with a **5 out of 5.** While some drivers were apprehensive, most came to understand the utility, flexibility, and advantages of the vehicles.
- Many drivers underestimated the number of short trips they regularly take.

To view the full study, visit www.southbaycities.org/programs/electric-vehicles/sbccog-ev-initiatives

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