

Bay Area officials push to build chargers for electric cars

By Paul Rogers

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The Bay Area is expected to soon become one of America's hottest markets for the first mass-produced electric cars, the Nissan Leaf and the Chevy Volt.

But in the rush to drive electric, one thing is missing -- places to charge up.

Concerned that the next generation of green drivers not be left stalled by the roadside, air officials have approved a \$5 million plan to install 5,000 electric car chargers around the nine-county Bay Area in the next five years at homes, apartments, office buildings, parking garages and other locations from San Jose to Santa Rosa.

There are currently about 120 public electric vehicle chargers in the Bay Area.

"We're trying to address range anxiety," said Damian Breen, director of grant programs for the Bay Area Air Quality Management District, which approved the program earlier this month. "We want people not to be worried their electric vehicle is going to run out of juice."

Funding for the program comes from a \$4 fee for air pollution programs that motorists pay as part of their vehicle registration.

Within the next few years, there could be tens of thousands of electric vehicles on Bay Area roads. Already, Nissan has taken 20,000 paid reservations nationwide for the Leaf, and GM is putting 10,000 Volts up for sale in November. By 2012, Toyota, BMW, Mercedes, Tesla, Mitsubishi and other companies are expected to sell electric or plug-in hybrid vehicles.

Exact locations for the charging stations have not been chosen yet, Breen said. But the goal of what is one of the largest programs in the nation of its kind is to divide chargers among homes, apartment buildings and public areas, from airports to supermarkets.

The Nissan Leaf, a five-seat vehicle that goes on sale in December and will travel 100 miles on a charge, will cost Californians \$20,380 after rebates and tax credits. A 110/120-volt cord from the car can be plugged into any wall socket but will take 20 hours to charge the vehicle.

Most Leaf drivers are expected to buy a 220/240-volt charger to install in their garages, cutting the recharge time to eight hours. But the charger costs \$2,200. Federal tax credits will pay up to half, and Breen said the air district will likely offer a voucher to cover 25 percent of up to 3,000 home units as part of its charger program.

The air district will place an additional 2,000 chargers -- 220/240-volt -- in public areas such as BART stations, shopping malls and parking garages. In most cases, motorists will swipe a credit card, like at a gas pump, and pay \$5 to \$10 to fully recharge a car, depending on the time of day and cost of PG&E power.

Lastly, 50 public high-speed chargers -- 480 volts -- also will be installed. Those will be able to recharge a Nissan Leaf in 30 minutes.

In the next few years, charging stations for electric vehicles will become commonplace, said Felix Kramer, founder of CalCars, a nonprofit group in Palo Alto that retrofits vehicles so they can be plugged in.

"Commercial parking lots are going to offer charging as a competitive advantage," he said. "New buildings will start announcing them as a feature to attract tenants. Condos will have them."

Kramer drives a 2003 Toyota Prius, which he converted to a plug-in hybrid in 2004 by adding dozens of lithium-ion batteries to the trunk. Because it can run on electricity before the gasoline engine kicks in, the car gets 100 miles per gallon of gas or more. Plugging it in at night to recharge the batteries is an afterthought.

"Everybody plugs in their cell phones to recharge them. It's no big deal," he said. "It takes me eight seconds to plug my car in."

Kramer said the air district's program should place most emphasis on home charging stations. Because the Leaf has a range of only 100 miles, he said, it will be purchased by many families as a second car, and charged mostly at home.

Chevy Volts will be able to travel 40 miles on electricity, and 340 miles total, because they also run on gasoline. The Volt, which will cost \$33,250 after federal tax credits (it isn't eligible for a state tax credit because it isn't a purely battery vehicle), recharges faster than the Leaf.

It will take about four hours to recharge the Volt on 220/240 power and nine hours on 110/120 power. Unlike the Leaf, the Volt doesn't need a separate charging station, but will have different power cords for 110/120 and 220/240, the latter of which requires special outlets, similar to the kind used for home dryers.

Homes and workplaces should be the air district's main priority, said Shad Balch, a GM spokesman.

"It's not about where you frequent the most," he said, "but where you spend the most time."

Last year, the air district approved a smaller, \$1.8 million program to install 474 chargers over the next two years. Those will be located at Safeways, Best Buys, Google and in public garages in San Jose, San Francisco, Oakland and other locations.