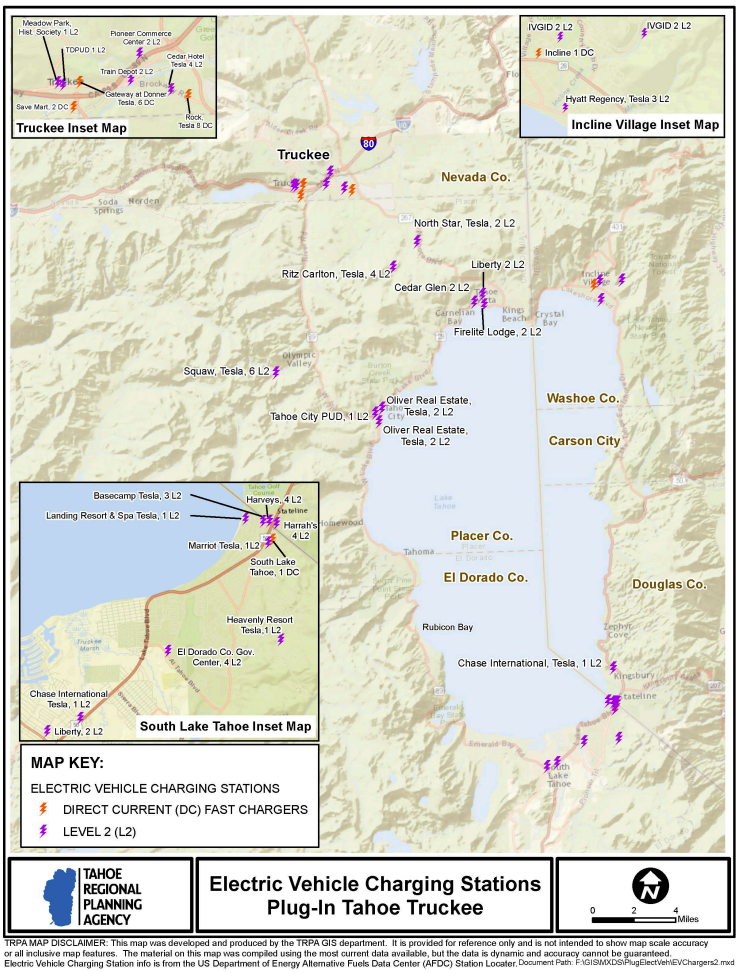
Tahoe striving to be electric-vehicle friendly



Electric vehicle charging stations in the Tahoe-Truckee area. Map/TRPA

By Carole Bernardi

INCLINE VILLAGE – Electric vehicle readiness is on its way to the Tahoe-Truckee region.

The Tahoe Regional Planning Agency, Truckee-Donner Public Utility District, an independent consultant team and a Plug-in Electric Vehicle Coordinating Council have all partnered to accelerate transportation electrification in the region.

Vehicle technologies in the United States and around the world are in a phase of rapid change. The last six years have seen the introduction of self-driving cars, mass production of electric vehicles, and new vehicle sharing. Electric vehicles are booming and this area has a chance to become the “electric highway in the sky.”

Millions visit the region and transportation has impacted air quality and become the second largest source of greenhouse gas emissions. To counteract the tendency to negatively impact the nature of our surroundings, regional planners are leading an effort to encourage the use of plug-in electric vehicles.

These vehicles have the potential to dramatically reduce petroleum consumption and greenhouse gas emissions, while increasing energy independence. There are two definitive types of plug-in electric vehicles: PHEV – plug-in hybrid electric vehicle and PEV – plug-in electric vehicle.

The Tesla Model X is all-wheel drive, has a 100kWh battery providing 289 miles of range, seating for seven, and goes from 0 to 60 mph in 2.9 seconds. Photo/Carole Bernardi

The PEV is 100 percent powered by electricity stored in a rechargeable battery and electric motor. The PHEV includes an internal combustion engine and rechargeable battery which includes regenerative breaking (where the gas engine kicks in when the electric system becomes limited). The pros with PEVs are no fuel costs, low maintenance, cheaper to operate and zero emissions with an average range of 100 miles on electric only. The cons are limited range anxiety and longer time to charge. PHEV's pros include a fuel option to rely on, but the cons are more emissions, more fuel dependency and more maintenance.

Vehicle manufacture options for these types of vehicles range from $24,000 to $94,000-plus with more utility vehicle models on the drawing board (due to high demand in varying regions). The growth appears to be steady with 45 percent of regional residents showing ownership of Tesla models alone.

There are incentives the public may not be aware of. Rebates, like the Federal Electric Vehicle Tax Credit which grants up to $7,500. There's the CA-EV state rebate upward to $2,500 (for California). Time of usage (electricity) utility rebate (Washoe County issues "half price electricity" during the hours from 10pm-6am) and charging infrastructure tax credits up to 30 percent (usually implies a charging installation in resident).

Other natural incentives include: 1. Air quality (reduced greenhouse gas emissions), 2. Water quality (less gasoline pollution on roads seeping into the watershed), and 3. Noise (reduced roadway noise impact).

Let's say you've been convinced an electric vehicle is the way to go. The second part of that equation is how and where to

get charge?

The charging adapter cord is used only when not hooked up to a Tesla free charging station. Photo/Carole Bernardi

“In the Tahoe-Truckee region, most of the fast chargers are located in Truckee and are for Tesla’s only (16 stations). The only fast charger for other electric vehicles is located at Heavenly Village in South Lake Tahoe,” Steve Poncelet, Truckee-Donner Public Utility District’s spokesman, said.

A charging location can have multiple chargers, with three levels available. However, not all chargers are open to the public. Tahoe-Truckee has 71 percent open to the public. These might be contained to hotel guest use, as an example, and confirms the concern that access is an issue for the consumer.

These three levels of charging options are:

· Level One: for a PEV it’s the slowest and the cheapest, up to 14 hours, and found mainly in residential situations (220-volt accessibility). For PHEVs it’s a charge for to 2-7 hours.

· Level Two: for a PEV it offers 5-7 hours and for a PHEV 1-3 hours. These are usually found in commercial locations as well as residential (must be installed).

· Level Three: for a PEV this is what's called a direct current (Tesla charging stations) and takes 1 hour (fastest method). For PHEVs, it would average 20 minutes.

Why plan for this future transportation option when there are challenges here like limited electric SUV model options and cold weather where the estimated driving range is reduced by one-third?

"We surveyed the region and discovered that 70 percent of drivers are interested, but have never driven any type of electric vehicle. They're basically undereducated or hesitant no matter their concern for the environment," said Jennifer Cannon, associate planner with TRPA.

The biggest piece of the puzzle for the PEV Vehicle Readiness Project was answered when the TRPA/Truckee-Donner PUD/Independent Consultant team was awarded $200,000 from the California Energy Commission to accelerate the planning. As a part of this grant, a coordinating council was convened including utility companies, local government, experts, private sectors like ski resorts/hotels and local business associations. The council will provide recommendations, act as ambassadors and serve as a peer network offering education and outreach to the public.

Boosting and building this readiness plan with local policy will help accelerate development, increase access availability and viability for electric vehicles in the region. Municipalities are starting to install conduit into sidewalks in shopping districts and are requiring chargers for large parking lots and structures. Planned charging station installations will increase utilization by almost 90 percent and decrease what is known as "range anxiety" – a fear of

being stranded due to lack of charging infrastructures. Free market competition is already in full swing with utility companies competing with aggressive independents like EVgo, whose plan is to build the largest PEV charging network in the country.

Like any plan there is a schedule. Starting now with existing condition assessment and surveys, leading into toolkits and recommendations regarding policy and incentive, including education and outreach, the goal for the project is to reach implementation by May.

Based on the U.S. Department of Energy calculations, estimated CO2 reduction in California is 76 percent and 59 percent in Nevada between all PEV and PHEV vehicles.

Technological advancements are expected to go beyond private vehicle use all the way to driverless automated vehicles. Tesla already offers this option and encourages it for highway use only. There is also the future electric boat transportation that would protect lakes. Regional progress is under way with the Tahoe Transportation Department pursuing the purchase of electric buses.