

## **Electric Vehicle Owners Want Charging Stations - Brevard NC**

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By [John Lanier](#) [[original post](#)]

In the tri-county area of Buncombe, Henderson and Transylvania counties, only Transylvania does not have a public place or work place where drivers can recharge their electric vehicles (EVs).

About a dozen people were on hand Thursday afternoon in the Brevard/ Transylvania County Chamber of Commerce meeting room to hear about the present and future of EVs and charging stations for them.

"Here in Transylvania County, we have not a single charging station," said Jim Hardy, chairman of Charge TC, a group advocating for the placement of EV charging stations in the county.

Hardy, who is the owner of a Nissan Leaf EV, said Asheville, Hendersonville and Waynesville all have one, if not several charging stations for EVs.

"The same thing can happen here," said Hardy.

Bill Eaker, senior environmental planner for the Land of Sky Regional Council, said in the mid-1990s, the organization began to hear concerns about air pollution in Western North Carolina.

In an effort to reduce air pollution and qualify for federal grants to improve air quality, Land of Sky began to work with municipalities to convert some of their vehicular fleets to alternative fuels.

Eaker said that while the federal government is concerned with reducing emissions, it's main reason for supporting alternative fuels is "energy security" that will allow the country to forego importing foreign oil, especially from those countries that have philosophies incompatible with the U.S.

Eaker said the top four alternative fuels are biodiesel, electricity, natural gas and propane gas. He said "there's no silver bullet" when it comes to making municipal fleets more efficient, but a variety of fuels can be used.

He said natural gas is good for vehicles that collect refuse and propane works well in shuttle buses and vans. He said the city of Raleigh has about 30 law enforcement vehicles running on propane. Gasoline may still be the best option for some vehicles if they have good fuel economy and low emissions.

According to Eaker, manufacturers are expanding their lines of EVs because of "very aggressive fuel economy standards" and tougher

fuel emissions standards. EVs play an integral role in helping car manufacturers meet those standards.

"It's amazing how it has grown in just a couple of years," said Eaker of the EV market.

He used the Nissan Leaf and Chevy Volt as two popular EVs that are somewhat different. The Nissan Leaf is a purely electric, plug-in vehicle. It has no tailpipe and no emissions. It can go about 84 miles on a single charge.

"When it runs out, it runs out," said Eaker.

The base price for a Leaf is about \$29,000, but buyers of a new Leaf receive a \$7,500 federal tax credit.

Unlike the purely electric Nissan Leaf, the Chevy Volt is a hybrid. Eaker said it gets about 38 miles to a charge, but once that runs out, gas is used. The Volt costs about \$34,000 and the federal tax credit also applies to it.

Eaker said those interested in purchasing new EVs should be aware that the tax credit could be less for other EVs that are less efficient.

Eaker said there are currently three charging levels.

Level One is simply a cord that plugs into a 120 volt outlet in the home. These charges usually take overnight because they charge at a rate of about 4 miles per hour.

Level Two chargers are found in most public and work places. They charge at a rate of 10-20 miles per hour.

Level Three chargers are DC Fast Charge. In 20 to 30 minutes they charge an EV to about 80 percent of its capacity.

Eaker said there are roughly 200 EVs in the five-county region served by the Land of Sky and probably 4,500 in the state of North Carolina.

"Those are relatively low numbers right now, but they are growing rapidly," said Eaker.

He said the number of charging stations in the region also is growing rapidly. At 36 locations in the region, there are 80 charging stations. Some locations have two or three chargers.

Eaker said the federal government has an Alternative Fuels Data Center website that provides all of the locations and addresses of charging stations.

Hardy said there is an application built into his GPS system that shows where all of the nearby charging stations are located.

Stan Cross, co-founder of Brightfield Transportation Services, which installs and operates charging stations across the state, said his company works with municipalities to find good locations.

It usually takes from three to five months to fund, permit and install the stations.

The charge to customers depends on the station level.

Cross said his company, at a Level Two charging station, charges 25 cents to plug in and \$1.50 for the first hour of charging.

Thus, the minimum fee is \$1.75. He said that is the equivalent of paying about \$1.50 per gallon of gas.

The cost to use the Level Three DC Fast Charge is \$5.95 per use, plus 10 cents a minute, which is the equivalent of paying \$2.00 per gallon of gas.

Cross said having a charging station in a community "puts that town on the map" for EV drivers.

Cross said 2017 is projected to be the "magic year" for EVs. By then there should be a "critical mass" of EVs on the road so that the business model is self-sustaining.

That partly will be due to the increased driving range of EVs.

He said the driving range per charge should double, so that models with an 80-mile range on one charge today should be able to go 160 miles on one charge by 2017.

When that occurs, people from Charlotte or Greenville, S.C. will be able to drive to Asheville, recharge and then head back home.

Cross said some of the Brightfield stations have solar-generated electricity through onsite solar panels.

He said it's comparable to having an oil well, oil refinery and gas station all at one location.

The biggest benefit of the solar-powered stations is that they are "emission-free."

(The electricity at some charging stations still comes from coal.)

Cross did say there is an issue when two cars arrive at one charging station. But there is a light that shows how much time is left before a car is fully charged, so the drivers who arrive late know how long they have to wait before plugging in.

He said there are also electronic applications that allow a driver to reserve a charging station whenever they get close to the station.

As with any new technology, he said the number of charging stations will grow to meet the demand but there will be a lag time to catch up with the demand.

When told that a parking deck might be constructed in Brevard, Cross said parking decks, particularly those that are just being built, provide a lot of opportunities.

He said the cost of installing the chargers and running the electric lines to them is less than at an existing deck, and that some decks could have solar panels on their roofs that could generate electricity for the charging stations.

Any excess power generated from the solar panels could be sold back to the grid.

He said that a parking deck with charging stations and solar panels would show that a community is "innovative."