

# Blacksburg Fast-Charging Station Ribbon Cutting

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<http://www.roperld.com/science/ElectricCarsMusings.pdf>

This DC fast-charging station provided by Virginia Clean Cities will make it possible for drivers of battery-electric cars, called BEVs, in Roanoke, Lexington, Charlottesville, Wytheville, Princeton and other places up to 200 miles away to come to Blacksburg. This is a huge addition to the nine level-2 AC public charging stations in Blacksburg. This station charges about six times faster than level-2 stations. However, only BEVs with fast-charging capability can use this station; whereas, Plug-In hybrids, called PHEVs, and all BEVs can use level-2 stations.

Earlier today there was a ribbon cutting for an identical fast-charging station in Old Town Charlottesville, which I will find useful when I visit my granddaughter and great-granddaughter there, as will other drivers of battery-electric cars in our area. One of these stations is needed in Lexington, which I understand will happen soon, and in Lynchburg and Wytheville for Blacksburg drivers to use. Staunton already has one thanks to Virginia Clean Cities.

This fast-charging station has one cable for the Japanese/Korean CHAdeMO protocol and one cable for the U.S./European CCS-Combo protocol, although only one of the two cables can be used at the same time. There are over 1300 CHAdeMO stations and about 200 CCS-Combo stations in the U.S. presently, but those numbers are increasing fast.

Tesla has an adapter so that its cars can use CHAdeMO charging stations. So, expect to see many Teslas charging here. A Tesla was charged here last evening and a Tesla driver in Georgia has asked about using this station.

Tesla is installing its Superchargers strategically on Interstates at about one a day, with an average of 5 very-fast-charging DC stations per Supercharger location. They provide free energy for Tesla cars. There are presently over 1000 Supercharger stations in the U.S. The Supercharger stations are about 2.5 times faster than this station. It is interesting that a Tesla Supercharger costs about \$150,000 compared to about \$2 million to build a gasoline station, and about \$250,000 if Superchargers are powered with solar energy.

It would be great if other car companies would make a deal with Tesla so that all BEVs could use the very fast Tesla Supercharger stations, which may happen.

Tesla also is installing quickly AC charging stations that are about 2.5 times faster than level-2 stations, probably about 1000 installed so far. One is at Holiday Inn in Christiansburg and one is beside the fast-charging station in Charlottesville. I hope one will be here soon. It would be nice to have it and a level-2 charging station here for those PHEVs and BEVs that do not have fast-charging capability. The nearest level-2 charging station to this location is at the Shell Fuel Center on South Main Street, which is probably never used because it charges \$2 for two hours charging. The two at Kroger Fuel Center, The Inn at Virginia Tech and Campus Automotive are free.

Plug-in hybrids, such as the Chevrolet Volt, and battery-electric cars are being put on the road in the U.S. since 2010 about twice as fast as hybrid cars were starting in 1999. So, charging stations need to continue to be installed very fast across the U.S. to charge these quiet, cool, fast, reliable and clean cars when they are on trips.

Most drivers of battery-electric cars in Blacksburg will use this fast-charging station only for emergencies because they usually will charge their cars during nights in their garages or driveways. I charge my LEAF about 98% of the time in our garage using a level-2 charging station during early morning hours when AEP power plants aren't busy. Our solar panels, installed through the Solarize-Blacksburg project, provide about four times the energy my LEAF needs.

Virginia Tech students and others who live in apartments may use this fast-charging station when they need a quick charge; most of the time they will charge their cars more slowly at one of the conveniently-placed level-2 charging stations near them in Blacksburg. The new The Retreat housing complex on Prices Fork Road will have a level-2 charging station. Blacksburg should require all new housing to include wiring for future charging stations. I recommend a property-tax credit for installing level-2 charging stations at residences and housing complexes. We must encourage drivers to quickly shift from gas/diesel cars to electric cars!

It is important that signs and pavement marking reserve this parking space for battery-electric cars. Otherwise, battery-electric drivers might be ICE'd, as I have been several times at the fast-charging station in downtown Roanoke, which is not properly signed and marked. (ICE'd means that an Internal-Combustion-Engine vehicle has parked in the charging parking space.)

Thank You! Alleyn Harned and Matt Wade of Virginia Clean Cities, Virginia-Tech Electric Service, Carol Davis, Kelly Mattingly, Marc Verniel, Mayor Ron Rordam and other Blacksburg employees for making it possible to have this fast-charging station here.