

Vehicle Charging Infrastructure in Virginia



- **Level 2 Chargers**
 - Deliver 240 VAC to vehicles
 - They are built to SAE J1772 standards
 - Common operation and connector for all EV's
- **DC Fast Chargers**
 - 30 minute charge. With larger batteries charging times will increase.
 - 480V 3-phase power or 208V, 100 amp circuits
 - Needed to allow EV's to travel between cities
- **Tesla Supercharger**
 - Only able to be used by Teslas
 - Charge a vehicle faster than any other charger available
 - Half the battery in 20 minutes



- Prior to 2015 there were zero DC Fast Chargers (DCFC) outside of Northern Virginia
 - DCFC Charger Deployment program began in July 2014
 - Goal was to build out the publicly accessible quick charging infrastructure in Virginia by removing cost impediment
- Original scope was to find site hosts for six DCFC in Richmond and Norfolk



VCC staff member Michael Phillips at the ribbon-cutting at Main Street Station in Richmond

- Program has been extremely successful, resulting in not only the original six DCFC installations, but an additional 19, for a total of 26 public DCFC installed across the state, allowing for travel from Roanoke to Front Royal and Harrisonburg to Norfolk



A DCFC awaiting its next EV visit in Charlottesville

- Many areas of the state still do not have electric vehicle chargers, such as southern and southwest Virginia
 - There is a need to expand the program further
- VCC is working with Nissan to identify future site hosts
 - Nissan is willing to provide chargers at no cost to approved site hosts
- VCC is also working with National Parks to install electric vehicle chargers

- **Financial Costs**

- The cost to install an electric vehicle charger can be a barrier to installation
 - However, new chargers are available for under \$500 in many cases
 - Tesla destination chargers are provided for free

- **Site Hosts**

- Future Deployment is dependent on finding site hosts willing to install electric vehicle charging infrastructure
- Installation requires pouring a concrete pad, trenching for electric conduit, and connecting the equipment to the power supply
- The construction required can be a barrier for site hosts