



PARKING ENFORCEMENT

for Plug-in Electric Vehicle Charging Stations

As the adoption of plug-in electric vehicles (PEVs) increases, so does the number of electric vehicle charging stations. Data collected from electric vehicle drivers indicate that a majority of charging will occur at their residences. However, it is crucial that during early adoption of these vehicles, there is an established network of public charging stations readily available to reduce the range anxiety of current and potential drivers. Anyone can find locations and information about public charging stations by visiting the U.S. Department of Energy's database for Alternative Fuel Stations at www.afdc.energy.gov.

With the installation of publicly-available charging stations, it is necessary that these stations are available for access by PEV drivers. If a station is blocked, by a conventional internal combustion engine vehicle or other obstruction, then that charging station will not be available for a PEV driver that may need it. The purpose of this document is to provide an overview of options for parking restrictions and to provide guidance to entities who are considering adoption of such a policy or regulation.



Types of Parking Restriction Documents

Agencies will follow different types of guidelines when developing and enforcing parking for electric vehicle charging station spaces. Below are a few examples of policies that govern parking.

State Legislation

Some states have passed legislation concerning parking enforcement for electric vehicle charging stations.

- California state law gives local jurisdictions the ability to designate stalls for the exclusive purpose of charging and parking an electric vehicle that is connected for charging. This legislation also designates a process for citing and potentially removing vehicles in violation.
- The state of Hawaii enacted a state law requiring local jurisdictions to enact and enforce a designated penalty of \$50 to \$100 for any non-electric vehicle that parks in a designated electric vehicle charging space.

Parking Ordinance

When it comes to local jurisdictions, most are regulating electric vehicle charging station spaces on publicly-owned property through their local parking ordinance. Some are making specific amendments to their parking ordinance and others are simply using the language from the existing ordinance. For example:

1. **Parking Ordinance Amendment:** The City of Raleigh, N.C. passed an amendment to their Code of General Ordinances under Section 11-2174 “Parking Time Limited in Designated Places.” The ordinance added section (c) under 11-2174, which allows for the City to designate and reserve spaces for electric vehicle charging and also requires that electric vehicles parking at these spaces be attached to the charging station. The ordinance provides that anyone in violation of this ordinance will be subject to a \$50 fine. (See “Sample Ordinance” for full text.)
2. **Using Existing Parking Ordinance (without an amendment):** The City of Charlotte, N.C. did not create an amendment to their ordinance to regulate electric vehicle charging station parking. Instead, the City used the existing code, which provides sufficient language for enforcement mechanisms. The City of Charlotte Code of Ordinances, Section 14-216 “Illegal Parking” subsection (a) It shall be unlawful to stop, stand, or park a vehicle: 1)On a street or on any public property owned or leased by the City in violation of an official traffic control device when such traffic control device gives notice of restrictions or prohibitions on parking.

Parking Policy

In addition to state and local government agencies looking into enforcing electric vehicle charging station parking regulations, other institutions (such as universities, corporate campuses and community colleges) are also evaluating electric vehicle parking policies. Some examples of regulating charging station parking spaces include installing signs and restricting access to low-emissions vehicles, requiring a green parking permit or requiring a specific electric vehicle parking permit.

An example of a green parking permit comes from Davidson County, Tenn., which offers a “green parking permit” to qualifying clean technology vehicles (per EPA standards). The green parking permit is not limited to electric vehicles and provides people with the option of purchasing a permit to allow access to preferred parking spaces.

Enforcement Options

When it comes to enforcement, many organizations are taking varied approaches. Common approaches include:

Electric Vehicle and Other Low-Emission Vehicle Parking

There are a few options for electric vehicle and other low-emissions vehicle parking. In some cases, a city or agency will allow for a variety of alternative-fuel or reduced emissions vehicles to park at an electric vehicle charging station. In some cases, an agency will offer a green vehicle parking permit for alternative-fuel and hybrid vehicles to park at a space. In these examples, the agency will not discriminate between electric or other low-emissions vehicles. Some jurisdictions are allowing for hybrid and electric vehicle parking, while others are allowing for all alternative fuels.



Durham County Sign for Electric Vehicle and Hybrid Parking location

Electric-Vehicle-Only Parking (Doesn't Need to be Connected)



City of Charlotte Electric Vehicle Parking Sign. Photo courtesy of the City of Charlotte, NC

Some agencies are restricting electric vehicle charging station spaces to only allow for electric vehicle parking. These ordinances or policies do not require the electric vehicle to be connected or actively charging. This definition and interpretation can lead to difficulties in enforcement, because as new electric vehicle models come to the market, it may become increasingly difficult to distinguish electric vehicles from non-electric vehicles. If the electric vehicle is not required to be connected to the charging station, then electric vehicle drivers may decide to park

but not plug-in (especially if there is a fee to charge and they do not want to pay). This could, in turn, block access to charging stations from electric vehicle drivers who are in need of additional charge.

Electric Vehicles Must be Connected to the Charging Station

Many ordinances and policies are requiring that electric vehicles must be plugged-in or connected to the charging station. This policy is perhaps easier to enforce because the parking attendant will not need to identify the vehicle as electric– they can simply look to ensure the vehicle is connected to the charging equipment. The language in these ordinances and policies may need to be adjusted as wireless charging technology becomes more prevalent in public facilities.

Electric Vehicles Must be Connected to the Charging Station and Charging

Some policies are requiring that an electric vehicle must be plugged into the charging station and actively charging. Some difficulties with this policy may include determining if the vehicle is actively charging. This would require the driver remotely monitor the charging level of the vehicle or that the vehicle remotely notify the driver when charging is complete, and that the driver be available to move the car at that specific time. Additionally, it would require the parking attendant to check the charging status when determining if a citation is to be issued. In some cases, charging stations do not indicate if the vehicle has completed its charge and the vehicle may indicate charging status in different ways depending on the vehicle make and model.

Electric Vehicle Parking Permit

Another option is to require a PEV or low-emission-vehicle parking permit. Some cities and organizations are issuing special parking permits to drivers of electric vehicles that will give them access to electric vehicle charging station spaces. A PEV parking permit would require the monitoring and issuing of permits for PEV drivers. While this would be easier for the parking attendant to recognize and enforce the parking policy many electric vehicle drivers who may not have the designated permit would be prevented from using the charging infrastructure. This particular scenario is recommended mostly for locations that require parking permits for all vehicles such as corporate campuses, universities and community colleges.

Time Limits on Electric Vehicle Charging Station Spaces

Some entities are considering enforcing time limits for parking at electric vehicle charging station spaces. For example:

- North Carolina State University has a four hour limit on parking at an electric vehicle charging station space (with a Level Two charging station). The four hour time limit allows for electric vehicle drivers to recoup a sufficient level of charge for their vehicle while preventing a driver from leaving their car at a station all day, thus preventing other PEV drivers from charging.
- While the City of Raleigh has not placed time limits specific to electric vehicle charging stations, users of the charging stations must follow the parking time limits applied to all parking in that particular lot. For example, charging station spaces for on-street parking have a shorter time limit than charging stations located within a parking deck.



NC State University Electric Vehicle Charging Station Stall Sign

Sample Ordinance

Raleigh, North Carolina

Code of General Ordinances, Section 11-2174 (c)

The City Council may designate certain parking spaces on City streets at or near electric charging stations for use only by electric vehicles. An electric vehicle is one that operates, either partially or exclusively, on electrical energy from the grid, or an off-grid source, that is stored on board for motive purpose. An electric charging station is equipment that has as its primary purpose the transfer of electric energy to a battery or other energy storage device on an electric vehicle.

Spaces designated as reserved for electric vehicles shall be clearly marked as such. When a space has been so marked no person shall park or stand any nonelectric vehicle in that space. If an electric vehicle is parked in such a designated space but is not attached to the charging station it is in violation of this ordinance. Any non-electric vehicle so parked is subject to civil fine or removal. The fine for violation of this ordinance is fifty dollars (\$50.00) and shall be collected in the same manner and with the same penalties for late payment as other on street parking violations. Any vehicle parked in such a space must make the appropriate payment for the space and observe the time limit for the underlying parking zone.

Charlotte, North Carolina

Commentary: The City of Charlotte has not amended their ordinance; instead, they are using the existing ordinance which indicates that people cannot park in a space that is marked as reserved or restricted in some way. See Code of Ordinances, Section 14-216 (a) – (a)(1) Illegal parking. (a) It shall be unlawful to stop, stand, or park a vehicle: 1) On a street or on any public property owned or leased by the city in violation of an official traffic control device when such traffic control device gives notice of restrictions or prohibitions on parking.

National Examples

1. [California Department of Motor Vehicles](#)
VC Section 22511 Off-Street Parking: Electric Vehicles
www.dmv.ca.gov/pubs/vctop/d11/vc22511.htm
2. [Georgetown, Texas- Code of Ordinances](#)
Section 10.16.090
http://library.municode.com/HTML/13578/level3/COOR_TIT10VETR_CH10.16PA.html#COOR_TIT10VETR_CH10.16PA_S10.16.090ELVECHST
3. [California State University, Parking and Transportation Services](#)
<http://parking.fullerton.edu/ElectricVehicle.asp>
4. [Hanover, N.H- Parking Ordinance](#)
Part A Restricted Parking, Section (G) Controlled Parking Spaces, (4) Electric Vehicle Parking Zone
www.hanovernh.org/pages/HanoverNH_Parking/ord6.pdf
5. [Marin County, Calif.- Code of Ordinances](#)
Section 15.30.060
http://library.municode.com/HTML/16476/level2/TIT15TR_CH15.30PARECOFA.html#TIT15TR_CH15.30PARECOFA_15.30.060ELVECHSTPAST
6. [Davidson County, Tenn. - Green Parking Permit](#)
www.nashvilleclerk.com/motor-vehicles/green-parking-permit/
7. [Kane County, Ill- County Code](#)
Appendix E. Electric Vehicle Infrastructure, Section 2.2.1: Charging Station Spaces- Generally
www.countyofkane.org/Documents/Focus%20on%20the%20County/Kane%20Electric%20Car%20Ordinance%20Called%20National%20Model.pdf



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