Taking Charge: Electric Vehicle Charging Stations and Land Use

Many American cities were designed around the use of cars; what could the future of cities look like as traditional cars are replaced with new forms of transportation such as electric vehicles? As electric vehicles increase in prominence so will publicly available charging stations, undoubtedly having an impact on land use.

Electric vehicles are commonly seen as a more environmentally beneficial manner of transportation relative to traditional, greenhouse-gas emitting vehicles. While they have yet to grab a majority share of usage within the United States, awareness and use is increasing, with companies such as Tesla contributing towards greater relevance. In 2018, electric vehicles accounted for 2% of all vehicles in the United States, nearly doubled from 2017.

According to the U.S. Office of Energy Efficiency and Renewable Energy, owners of electric vehicles do more than 80% of their charging at home, yet the number of electric vehicle charging stations is growing. As of June 2019, Tesla alone has installed over 1,500 electric vehicle charging stations called Supercharger Stations across the globe. Tesla notes that installing stations in urban areas is a priority; these stations are placed near grocery stores, downtown districts, and shopping centers to maximize convenience.

The applicability and flexibility relative to traditional gas stations is important when considering the impacts of electric vehicle charging stations on land use. Charging stations can mimic the layout of traditional gas stations but be installed as single charging ports, making them highly flexible in terms of where they can be located. Early in summer 2019, the Department of Transportation in New York City announced plans to build 100 curbside charging ports across the city, which are designed to occupy two parking spaces, with the ability to charge two vehicles at the same time.

The flexibility to install curbside could lead to more charging stations in more diverse locations. Since they do not require entire plots of land for the large underground tankers that gas station requires, charging stations can be placed in existing parking lots or on existing sidewalks. Tesla has installed large electric charging stations that also mimic current gas stations, however.

Cities that choose to install publicly available charging stations have decisions to make, including about location and service fees. In Farmington, N.M., for example, the city has proposed constructing additional stations that range from no cost to $1.50 per hour.

Publicly available stations are dedicating space for parked vehicles for multiple hours throughout the day. A typical electric car can take up to eight hours to fully charge, and while this may not be the norm for public usage, this could lead to increased demand on parking facilities as otherwise available parking spots are absorbed by charging vehicles.

Cities that install stations like those in New York will need to plan streetscapes and account for transportation patterns, as curbside stations will mean parked vehicles in the curb lane for multiple hours a day. Whether new parking spots for charging will be regulated and charged the same as existing city parking is one question to consider.

For more examples of what states are doing with land use for electronic vehicle recharging, read the original post on BestinAmericanLiving.com.

For more information on land use issues, contact Nick Julian.