Wiring regulations for ev chargers

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Building codes, parking ordinances, and zoning ordinances can influence electric vehicle (EV) infrastructure planning by creating design standards, requiring a minimum number of EV-ready spaces for new construction, or allowing EV charger installation as part of zoning ordinances. In addition to considering charging for light-duty EVs, codes and regulations should also be adopted to support infrastructure for neighborhood EVs and e-micromobility options, which typically only require access to a 120V receptacle to charge.

Updating building codes can help a jurisdiction become EV friendly in several ways. For example, codes can be established that require all new construction and major renovations to incorporate EV charging infrastructure. Possible requirements include:

EV friendly building codes can also reduce the overall cost of EV charging infrastructure development if EV-ready spaces are incorporated into new construction. It costs 4-6 times more to add EV-ready elements post-construction compared to during construction or major renovation.

Updating and amending building codes is a familiar process for many local and state governments. To facilitate updates related to EV charging, the ICC provides model language that can be integrated into existing codes. This model language also supports consistent approaches for defining EV-ready spaces and formatting of requirements, making it easier for an applicant to find the required information when submitting a project for approvals.

Zoning ordinances regulate land use, including what can be built on a property. In the context of EV readiness, local governments can use zoning ordinances to control where EV charging stations are allowed or prohibited. Zoning can also be used to incentivize or require EV charging stations. Officials should understand how current zoning ordinances might prohibit or preclude the installation of EV charging stations and should review local ordinances to identify any language that could potentially impact installation.

For more information about zoning and parking ordinances related to EV readiness and EV charging station deployment, refer to the Alternative Fuels Data Center Laws and Incentives website.

The Fifth Edition of the IET Code of Practice for Electric Vehicle Charging Equipment Installation is now available. Technical Author Graham Kenyon provides some insight into what we can expect of the new publication.

The Electric Vehicles (Smart Charge Points) Regulations 2021 came into force in Great Britain in June 2022, and apply to private charging points rated at not more than 50 kW, installed after 30 June 2022. The legislation requires charging points to include:

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Part S of the Building Regulations came into force in England on 15 June 2022 and relates to EV charging point provision associated with dwellings and residential buildings and certain non-residential premises. The legislation mandates charging equipment to be at least Mode 3, with a power capability of at least 7 kW, with a universal outlet, supplied by a dedicated circuit, and mandates the equipment to be installed according to BS 7671 and the IET Code of Practice for Electric Vehicle Charging Equipment Installation.

The guidance on location and accessibility of charging points has been updated to take account of new standard PAS 1899:2022 Electric vehicles - Accessible EV charging points - Specification and the requirements of the Scotland Building Standards Division technical handbooks that came into force in June 2023.

Installers are also advised to consider RISCAuthority RC59 Recommendations for fire safety when charging electric vehicles when considering the location of charging points.

Section 10 of the Code of Practice, which looks at vehicle as storage, has been updated to reflect guidance on the latest BS 7671 requirements for prosumer"s electrical installations and includes guidance on V2H integration for installations operating in island mode, when the grid supply is disconnected.