Streamlining EVSE Permitting and Building Codes

Electrification Coalition

EV market share is growing exponentially, yet publicly accessible charging deployment is not keeping pace. Permitting processes, building codes, and zoning rules vary across local jurisdictions, resulting in different design and approval requirements for EV charging stations, which can be lengthy and complicated. Delays related to unstandardized permitting processes can add weeks to more than a year to an EV charging infrastructure project and thousands of dollars in added costs. Streamlining permitting will reduce EV charging station project complexity, costs, and timelines.

Executive Summary

EVSE Permitting

- **Problem:** Securing building and electrical permits routinely delay the installation of electric vehicle (EV) charging infrastructure. These delays may increase construction costs as well as project timelines. As EV charging projects grow over the following decades, permitting challenges pose a risk to meet states' EV deployment targets.
- **Solution:** States should adopt best practices for station permitting to help local governing authorities streamline their processes and ensure station developers submit effective applications.

Building Codes

- **Problem:** The current requirements for EV charging in new construction are insufficient to meet the growing demand for charging capacity. More than 36% of residential housing in the US is multi-family housing, which will generally not have sufficient electrical capacity within their parking structures to support EV charging.
- **Solution:** To meet current and future EV needs, mandates should be implemented in new construction and major renovations, such as the following:
  - For multi-unit dwellings and non-residential/commercial properties, each parking stall must have at least 40 amp 208/240 volt service for each parking space;
  - subpanels should be distributed throughout the parking facility with no parking space more than 100 feet from an interconnection point;
  - the building should be "future-proofed" by providing the option to utilize Automatic Load Management Systems (ALMS) to provide Level 2 EV charging to 100% of parking spaces, as described in NEC 625.41 (2014); and
  - 20% of spaces are required to be "EV-Ready" and up to 100% of spaces be "EV Capable."

Electrification Coalition Policy Recommendations

- Promote EVSE Permitting and EV Building Codes:
  - *EVSE Permitting:* States should adopt best practices for station permitting[1] to help local governing authorities streamline their processes and ensure station developers submit effective applications
  - *Building Codes:* Require higher levels of EV charging readiness in new construction and major renovations.
- Develop a portal with key resources to support local communities/cities/counties and state agencies.
- Promote the designation of a state coordinator or ombudsperson on permitting and building codes.

Model State Legislation

- **California AB 1236:**[2] Jurisdictions are required to limit EVSE project reviews to health and safety requirements.
- **California AB 970:**[3] Builds on AB 1236 by adding specific binding timelines to review periods based on the size of a project and reduces minimum parking count requirements by the number dedicated for an EV charging station and associated equipment.

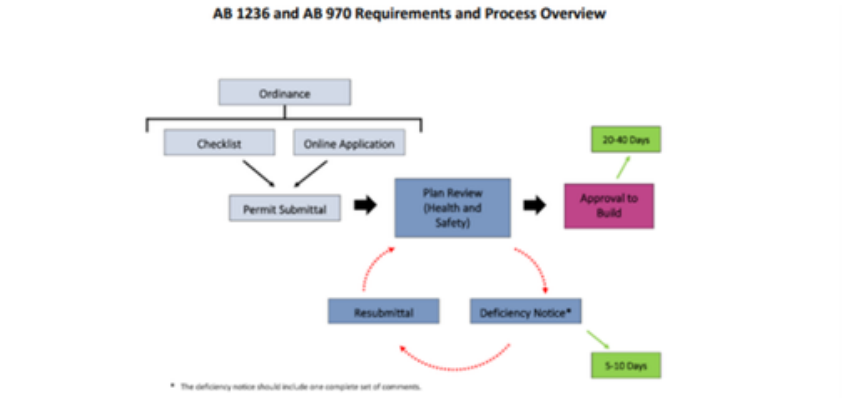

Diagram from the California Governor's Office of Building and Economic Development's "Electric Vehicle Charging Station Permit Streamlining Fact Sheet", page 2.

- **New Jersey S-3223:**[4] Establishes numerical requirements and zoning standards for installation of EV charging stations and make-ready parking spaces.
- **Oregon HB 2190:** Directs Dept of Consumer and Business Services to adopt state building code for new buildings; requires a minimum of no less than 20% of vehicle parking spaces.

1. https://www.transportationenergy.org/research/reports/ev-regulatory-best-practices
2. https://leginfo.legislature.ca.gov/faces/selectFromMultiples.xhtml?lawCode=GOV§ionNum=65850.7
3. https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=202120220AB970&showamends=false
4. https://www.njleg.state.nj.us/bill-search/2020/S3223

- **California SB 1482 (2022, Governor vetoed):** Requires each multi-family unit with parking to have one EV-ready parking space and receptacle with EV-ready signage; directs the Dept of Housing and Community Development to determine appropriate code requirements.
- **Delaware SB 187 SS1:**[5] Sets a municipal clock on EVSE permit applications and requires a permitting ordinance to be adopted. However, there are provisions related to restrictions on EVSE landscaping, among other items that pose challenges.

State-Level Options for Securing Recommended EV-Ready Codes

- State code agency decides to study EV codes
- Governor's office directs state code agency
- Legislation directs state code agency to study and set
- Legislation setting state-wide percentage minimum, allowing local reach codes
- Legislation with high percentage requirements for building type and recurring code review process

Other State Policies

- **Massachusetts:**[5] An EVSE Expedited Permitting Task Force—including state, municipal, utility, and NGO representatives—created a model ordinance including a recommendation to "designate a municipal employee as an EV permitting [ombudsperson] to guide applicants, review initial submission packages, and communicate any needed revisions to the applicant."
  - The Massachusetts Board of Building Regulations and Standards[6] adopted in 2019 a (very modest) requirement[7] for new commercial construction to include one dedicated EV parking space in lots with 15 or more spaces.
- **California:**[8] Building codes for EVs can be found in the California Green Building Standards[9] Code 106.5.3 and A5.106.5.3 electric vehicle (EV) charging. The required number of parking spots and EV chargers varies according to the number of available spots within the parking lot. There are also stricter voluntary standards under "Tier 1" and "Tier 2" for installing electric vehicle supply equipment parking. This standard applies to new buildings in California designated as "green" buildings.

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5. https://legis.delaware.gov/BillDetail/78924
6. https://www.mass.gov/files/documents/2019/01/30/BBRS%20February%205%202019%20Meeting%20Agenda.pdf
7. https://www.sierraclub.org/massachusetts/blog/2019/03/new-building-code-improvements-for-electric-vehicle-infrastructure-are
8. https://www.ladbs.org/docs/default-source/publications/code-amendments/2016-calgreen_complete.pdf?sfvrsn=6
9. https://www.hcd.ca.gov/building-standards/buiding-code/index.shtml

- In addition to requiring EV-capable spaces for all new single-family and duplex housing, and 10% of spaces in new multi-family housing, California's statewide 2022 CALGreen[10] building code also requires 5% of multi-family housing spaces to provide EVSE and 25% of spaces to be EV-ready (defined as low-power level 2, serving a minimum of 20A/240V). Over 40 California cities[11] have adopted various reach codes that exceed CALGreen requirements; the city of Palo Alto, for instance, passed an ordinance[12] in 2014 requiring all new single-family residences and commercial buildings (including multi-family dwellings, mixed-use facilities, and hotels) to be EV-ready. Since January 2018, the city of San Francisco's Electric Vehicle Readiness Ordinance[13] has required all new residential and commercial buildings to configure 10 percent of parking spaces[14] to be "turnkey ready" for an EV charger installation and an additional 10 percent to be "EV-flexible" for potential charger installations and other upgrades. The remaining 80 percent of San Francisco parking spaces will be "EV-capable," ensuring conduit is run in the hardest-to-reach areas of a parking garage to avoid future cost barriers.

- Oregon:[15] The Oregon Department of Consumer and Business Services enacted a building code, 918-020- 0380 Electric Vehicle Ready Parking, requiring new construction of parking facilities with 50 or more open parking spaces to ensure that a minimum of 5 percent of parking spaces are EV-capable for future installation of electric vehicle charging stations.
- Washington:[16] The Washington Administrative Code Title 51 – WAC 51-50-0427 requires that 5 percent of parking spaces in new buildings be equipped with EV charging infrastructure in compliance with sections 427.3, 427.4 and 427.5. The applicant must round up to the next whole number if the calculated parking results in a fraction. This statute excludes occupancies with fewer than 20 parking spaces. The electrical room must be designed to accommodate 20 percent of all parking spaces with 208/240 V 40-amp.

10. https://www.dgs.ca.gov/BSC/CALGreen
11. https://www.peninsulacleanenergy.com/reach-codes/
12. https://www.cityofpaloalto.org/files/assets/public/v/1/development-services/green-building-files/electric-vehicle-ord-5263_effective-sept-2014.pdf
13. http://sfmayor.org/article/mayor-lee-signs-new-ordinance-make-san-francisco-electric-vehicle-ready
14. https://sfgov.legistar.com/View.ashx?M=F&ID=5135813&GUID=A3CD2AD8-1A42-44C8-9B19-E6F729877568
15. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=291677
16. https://apps.leg.wa.gov/wac/default.aspx?cite=51-50-0427

About the Electrification Coalition

The Electrification Coalition is a nonpartisan, nonprofit organization that advances policies and actions to facilitate widespread deployment and adoption of electric vehicles in order to reduce the economic, public health and national security risks caused by America's dependence on oil. For more information, visit electrificationcoalition.org.