
THIRD READING

Bill No: AB 1738
Author: Boerner Horvath (D), et al.
Amended: 8/11/22 in Senate
Vote: 21

SENATE HOUSING COMMITTEE: 7-0, 6/13/22
AYES: Wiener, Caballero, McGuire, Ochoa Bogh, Skinner, Umberg, Wieckowski
NO VOTE RECORDED: Bates, Cortese

SENATE APPROPRIATIONS COMMITTEE: 4-2, 8/11/22
AYES: Portantino, Bradford, Laird, Wieckowski
NOES: Bates, Jones
NO VOTE RECORDED: McGuire

ASSEMBLY FLOOR: 46-21, 5/26/22 - See last page for vote

SUBJECT: Building standards: installation of electric vehicle charging stations:
existing buildings

SOURCE: Author

DIGEST: This bill requires the California Department of Housing and Community Development (HCD) and the California Building Standards Commission (CBSC) to research and develop building standards for the installation of electric vehicle (EV) charging stations in existing structures during certain retrofits and authorizes them to propose the standards for adoption.

ANALYSIS:

Existing law:

- 1) Establishes the CBSC and requires any standards adopted or proposed by state agencies to be submitted to, and approved by, the CBSC.

- 2) Requires the HCD to propose adoption, amendment, or repeal of building standards to CBSC for residential buildings, including hotels, motels, lodging houses, apartment houses, dwellings, buildings, and structures.
- 3) Requires HCD and CBSC to actively consult with interested parties, including, but not limited to, investor-owned utilities, municipal utilities, manufacturers, local building officials, commercial building and apartment owners, and the building industry when proposing and adopting standards related to electric vehicle (EV) charging infrastructure.
- 4) Requires CBSC to publish the California Green Building Standards Code (CALGreen) in its entirety every three years along with supplement pages 18 months after each three-year revision.

This bill:

- 1) Requires HCD and the CBSC to research and develop for adoption mandatory building standards for the installation of EV charging stations with Level 2 or higher electric vehicle supply equipment in existing multifamily dwellings, hotels, motels, and nonresidential developments during certain retrofits, additions, and alterations to existing parking facilities. HCD and the commission may propose these standards.
- 2) Requires HCD and the CBSC to:
 - a) Use Sections 4.106.4 and 5.106.5.3 of CALGreen as a starting point.
 - b) Consult with interested parties, including, but not limited to, the State Air Resources Board, the State Energy Resources Conservation and Development Commission, investor-owned utilities, municipal utilities, vehicle and electric vehicle supply equipment manufacturers, local building officials, commercial building and apartment owners, and the building industry.
 - c) Invite the participation of the public at large in the development of those building standards.
 - d) Propose standards that only apply to retrofits, additions, and alterations of existing parking facilities when a building permit is required and other significant construction, retrofits, or repair action is taking place.

- 3) Sets the following goals for updating the building standards related to EV charging:
 - a) There is adequate availability of charging given near-term electric vehicle charging needs.
 - b) There is sufficient charging capacity to support the long-term goal of achieving 100% electric vehicles statewide.

Background

Proposing Building Codes. The California Building Standards Code (Title 24) serves as the basis for the design and construction of buildings in the state. California's building codes are published in their entirety every three years; intervening code adoption cycles produce supplement pages halfway (18 months) into each triennial period. Amendments to California's building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. Through this process, relevant state agencies propose amendments to building codes, which the CBSC must then adopt, modify, or reject. HCD is the relevant state agency for residential building codes and the commission itself is for non-residential buildings.

HCD has an open, public process in proposing building codes to CBSC. They use public focus group meetings, relevant state agencies, stakeholder groups, building officials, local government agencies, construction industry representatives, environmental community representatives, building product manufacturer representatives, and others for gathering input for the proposed building standards. This bill directs HCD to propose building codes for retrofits and does not circumvent the existing process.

Comments

- 1) *California ZEV Mandates and Goals.* Pursuant to Executive order B-48-18, issued by Governor Brown in 2018, also referred to as the "ZEV Mandate," California aims to achieve five million zero-emission vehicles (ZEV) on the road by 2030 and 250,000 charging stations by 2025. Additionally, 15% of new cars sold in California must be ZEV or near-ZEV, according to the ZEV mandate. Pursuant to Executive Order N-79-20, the state has a goal to phase out the sale of new internal combustion engine vehicles by 2035. According to the California Energy Commission, in order to achieve this goal, California will require a total of 1.2 million EV chargers to support the transition.

- 2) *Where are we in achieving our goals?* According to the California Energy Commission, there were about 650,000 light-duty ZEVs at the end of 2020, of which the vast majority are battery electric vehicles (BEV) or plug-in hybrids. ZEV sales share is about 12.5% of all car sales, but the majority of these sales are attributed to Tesla, which only produces battery electric vehicles. Presently, there are 79,000 electric vehicle chargers in California, about 55% percent of them are private chargers.
- 3) *How does this bill help in getting to our goals?* One major limitation for the switch from gas-powered cars to EVs is the availability of charging. Their price has decreased over time with some new EVs costing less than \$40,000. Their range is now up to 200 miles, which is very reasonable for commuters. However, charging stations are difficult to come by. This bill helps bring charging capability to people which may make adoption more appealing because charging would become more widely available. Research from UC Davis' National Center for Sustainable Transportation suggests that access to charging does have a positive effect on ZEV's, even though they could not tease out quantitative information.
- 4) *Charging and installation types.* There are three different levels for charging electric vehicles. Level 1 charging uses a common household outlet, but is very slow. Level 1 charging works well for plug-in hybrids, but not for BEVs because their battery packs are much bigger. Level 2 charging infrastructure can charge a BEV from empty to full overnight, and it uses an outlet similar to an outlet for a dryer for a home. Level 3 chargers are for fast charging with few residential locations because they are very expensive and require large voltages. Charging at a level 3 station would cost more than the charging one's vehicle at home, but it is faster. Fast charging is a new technology and it remains to be seen whether home charging or fast charging stations are preferred by consumers. Consumers may prefer "filling up their tank" at a station than charging at home even if it is more expensive.

There are three categories of installation. "EV Capable" means that the space can be an EV charging port (everything but the outlet). "EV ready" means that there is an outlet for level 2 charging. "EV Installed" means that there is a charging station for level 2 charging versus an outlet. This bill requires the infrastructure for "EV installed" outlets.

The Federal Department of Energy estimates the cost to be \$1,000-\$20,000 for a level 2 charger. The cost ranges vary wildly depending on the output and

amount of work needed for the infrastructure (conduits, site improvements, upgrading electrical service, etc.). The higher end numbers would be for complete retrofits and construction. However, this bill applies to buildings where a retrofit is already happening and not requiring a retrofit for existing buildings.

- 5) *Existing Requirements.* There are EV charging requirements for new construction, but there are no requirements for existing buildings. In the upcoming cycle, there will be requirements for existing multifamily buildings to include EV charging. Specifically, when new parking facilities are added, or an electrical system is added or altered and the work requires a building permit, 10% of the altered spaces must be EV capable. This bill aims to go further by requiring EV installed spaces for retrofits but allows HCD and CBSC flexibility to figure out how to do it through their process. This would follow the pattern for codes for new buildings in that the first cycle required EV capable and this upcoming cycle will require some EV installed spaces.
- 6) *Keeping the EV charging bills straight.* SB 1482 (Allen, 2022) requires HCD to propose mandatory standards for level 2 charging in new multifamily dwellings. AB 2075 (Ting, 2022) requires CBSC to convene a workshop of EV charging infrastructure standards. This bill requires HCD to propose standards to level 2 charging in retrofitted multifamily dwellings, hotels, motels, and non-residential buildings.
- 7) *Senate Appropriations Amendments.* In the Senate Appropriations Committee, this bill was amended so that the CBSC and HCD are not forced to propose the building standards among other minor clarifications.

Related/Prior Legislation

AB 2075 (Ting, 2022) requires CBSC to convene a workshop on EV charging infrastructure standards. *The bill is currently on the Senate Floor.*

SB 1482 (Allen, 2022) requires HCD to propose mandatory building standards for Level 2 EV charging in multifamily dwellings. *The bill is currently on the Assembly Floor.*

AB 965 (Levine, 2021) would have required HCD to propose mandatory building standards. CBSC would have to research, develop, and propose for adoption codes for electric vehicle charging infrastructure for existing nonresidential development.

Originally had multifamily dwellings as a part of the bill. *The bill is currently on the Senate inactive file.*

AB 684 (Levine, 2019) would have required HCD and CBSC to research, develop, and propose building standards for electric vehicle charging infrastructure for existing multifamily dwellings and nonresidential development. *The bill was vetoed by the Governor.*

AB 1239 (Holden, 2017) would have required HCD and CBSC to Research, develop, and propose building standards for electric vehicle parking spaces for existing parking structures located adjacent to, or associated with, multifamily dwellings and nonresidential buildings. *The bill was vetoed by the Governor.*

AB 1092 (Levine, Chapter 410, Statutes of 2013) required HCD and CBSC to adopt, approve, codify, and publish mandatory building standards for installation of future electric vehicle charging infrastructure for parking spaces in multifamily dwellings and nonresidential development.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

According to the Senate Appropriations Committee:

- HCD estimates annual costs of approximately \$198,000 and 1.0 PY of staff for fiscal years 2023-24 and 2024-25 to research, develop, and propose for adoption building standards and associated regulatory documents for EV charging in existing multifamily dwellings, hotels, and motels, including engagement with stakeholders and coordination with other state agencies. Ongoing costs to review and potentially update the standards in each triennial code adoption cycle are expected to be absorbable. (General Fund)
- HCD additionally estimates one-time contracting costs of approximately \$200,000 to conduct a study of the existing conditions related to EV charging and determine whether existing infrastructure can support the increased demand. (General Fund)
- The CBSC estimates staff costs of \$236,000 annually for three years (2023-24 through 2025-26, limited term Associate Architect position) for workload to research, develop, and propose for adoption a mandatory building standard for EV charging infrastructure for parking spaces for existing nonresidential development. BSC would incur additional minor and likely absorbable costs (approximately 0.25 PY of staff time) to review those standards every triennial code adoption cycle. CBSC also estimates one-time costs of approximately

\$50,000 in 2023-24 to reconfigure office space. (Building Standards Administration Revolving Fund)

- Costs for the California Air Resources Board and the State Energy Resources Conservation and Development Commission to consult with CBSC and HCD are expected to be absorbable.

SUPPORT: (Verified 8/11/22)

350 Sacramento

350 Silicon Valley

California Environmental Voters

CivicWell

Cruise

Edison International and Affiliates, including Southern California Edison

Elders Climate Action, NorCal and SoCal Chapters

The Climate Reality Project: Silicon Valley

OPPOSITION: (Verified 8/11/22)

Affordable Housing Management Association-Northern California and Hawaii

Affordable Housing Management Association-Pacific Southwest

Apartment Association of Orange County

California Association of Realtors

East Bay Rental Housing Association

ARGUMENTS IN SUPPORT: According to the author, “Transitioning the transportation sector to zero-emission technology is critical to achieving California’s public health protection goals, minimizing air pollution exposure, and mitigating climate change impacts. As passenger vehicles alone account for more than 28 percent of California’s statewide greenhouse gas emissions, deployment of light-duty ZEVs is essential. To support this transition, more electric vehicle charging stations are needed. Installation of EV charging stations is most cost-effective when it is concurrent with retrofits, additions, or alterations to parking spaces or the electric supply for an existing building. AB 1738 seeks to close the projected EV charging gap of approximately 975,000 Level 2 EV charging stations by 2025.”

ARGUMENTS IN OPPOSITION: Opposition believes that it not wise to place restrictions to building standards in statute and that because the building standards are becoming more stringent with each update, there is no need for legislative

action. They admit that one area that needs addressing is how to align EV charging with electrification of our building stock.

ASSEMBLY FLOOR: 46-21, 5/26/22

AYES: Arambula, Bauer-Kahan, Bennett, Bloom, Boerner Horvath, Mia Bonta, Bryan, Calderon, Carrillo, Cervantes, Cooley, Daly, Mike Fong, Friedman, Cristina Garcia, Eduardo Garcia, Gipson, Grayson, Haney, Holden, Irwin, Jones-Sawyer, Kalra, Lee, Levine, Low, Maienschein, McCarty, Medina, Mullin, Muratsuchi, Nazarian, Quirk, Quirk-Silva, Reyes, Luz Rivas, Robert Rivas, Santiago, Stone, Ting, Villapudua, Ward, Akilah Weber, Wicks, Wood, Rendon

NOES: Bigelow, Chen, Choi, Cooper, Cunningham, Megan Dahle, Davies, Flora, Fong, Gallagher, Kiley, Lackey, Mathis, Nguyen, Patterson, Salas, Seyarto, Smith, Valladares, Voepel, Waldron

NO VOTE RECORDED: Aguiar-Curry, Berman, Gabriel, Gray, Mayes, O'Donnell, Petrie-Norris, Ramos, Rodriguez, Blanca Rubio, Wilson

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