

interested party that HCD must consult with for standards associated with EV charging infrastructure.

- 2) Requires CBSC to convene a workshop every triennial rulemaking cycle on EV charging infrastructure standards. The workshop shall include:
 - a) CBSC, the Department of Housing and Community Development (HCD), the Division of the State Architect, the State Air Resources Board, the State Energy Resources Conservation and Development Commission, and other relevant stakeholders.
 - b) Projected demand for EV charging infrastructure
 - c) The statewide assessment of the EV charging infrastructure, electric load forecasts, and statewide transportation electrification goals prepared by the CEC.
 - d) A cost effective proposed standard, if the CEC recommends a standard. Provides that a cost-effectiveness determination shall consider factors including, but not limited to, the impact on housing costs, the total statewide costs and benefits of the standard over its lifetime, the economic impact on California businesses, and any alternative approaches.
- 3) Specifies that the future electrification needs of buildings to include anticipated future vehicle charging standards.

COMMENTS:

- 1) *Author's Statement.* "Although the California Energy Commission (CEC) is the state's EV charging expert, it has no formal role in recommending EV charging standards for multifamily buildings, commercial buildings, or retrofits. The CEC already develops the building codes for energy efficiency considered for adoption by the Building Standards Commission, including electric vehicle charging for single-family homes. This bill empowers the CEC to use their expertise to develop necessary and cost-effective EV charging standards for all buildings prior to final BSC adoption."
- 2) *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 Commission¹, in order to achieve this goal, California will require a total of 1.2 million EV chargers to support the transition.

- 3) *Where are we in achieving our goals?* According to the CEC², 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.
- 4) *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 understand how to 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.³
- 5) *Balancing Costs.* The Federal Department of Energy estimates the cost to be \$1,000-\$20,000 for a level 2 charger, a charger that can charge a battery electric vehicle overnight.⁴ The cost ranges vary wildly depending on the output and amount of work needed for the infrastructure (conduits, site improvements, upgrading electrical service, etc.), and the higher end numbers would be for complete retrofits and construction. Thus, ensuring that the cost of the infrastructure would not render publically beneficial projects infeasible is important.
- 6) *The California Energy Commission.* The CEC has a number of programs related to EV charging infrastructure. They also assess needs, report findings,

¹ Alexander, Matt, Noel Crisostomo, Wendell Krell, Jeffrey Lu, and Raja Ramesh. May 2021. *Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030 – Revised Staff Report*. California Energy Commission. Publication Number: CEC-600-2021-001-REV.

² California Energy Commission. *Vehicle Population in California dashboard*. <https://www.energy.ca.gov/data-reports/energy-insights/zero-emission-vehicle-and-infrastructure-statistics/vehicle-population>

³ Chakraborty, Debapriya, David S. Bunch, Bingzheng Xu, Gil Tal, David Brownstone (2021) Brief: Exposure to Electric Vehicle Technology at Home and Work Can Fuel Market Growth. Institute of Transportation Studies, University of California, Davis, Brief UCD-ITS-RR-21-70

⁴ U.S. Department of Energy: Energy Efficiency & Renewable Energy. *Alternative Fuels Data Center, Charging Plug-In Electric Vehicles at Home*. https://afdc.energy.gov/fuels/electricity_charging_home.html

and map chargers for EV adoption. It is understandable to include the CEC in EV charging infrastructure planning.

- 7) *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.
- 8) *Keeping the EV charging bills straight.* SB 1482 (Allen, 2022) was recently passed out of this committee. It requires HCD to propose mandatory standards for level 2 charging in new multifamily dwellings. AB 1738 (Boerner-Horvath, 2022) requires HCD to propose standards to level 2 charging in retrofitted multifamily dwellings, hotels, motels, and non-residential buildings. This bill requires CBSC to convene a workshop of EV charging infrastructure standards, include the CEC in proposing standards, and anticipate future EV needs in electrification of buildings.
- 9) *Double Referral.* This bill is also referred to the Senate Energy, Utilities, and Communications Committee.

RELATED LEGISLATION:

AB 1738 (Boerner-Horvath, 2022) — requires HCD to propose standards to level 2 charging in retrofitted multifamily dwellings, hotels, motels, and non-residential buildings. *This bill is in the Senate Housing Committee and will be heard today.*

SB 1482 (Allen, 2022) — requires HCD to propose mandatory building standards for Level 2 EV charging in multifamily dwellings. *This bill passed out of the Senate and is now in the Assembly.*

AB 965 (Levine, 2021) — requires 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. *This 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. *This 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. *This 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

POSITIONS: (Communicated to the committee before noon on Wednesday, June 8, 2022.)

SUPPORT:

350 Sacramento
350 Silicon Valley
California Electric Transportation Coalition
California Environmental Voters
California Solar & Storage Association
California Travel Association
Elders Climate Action, NorCal and SoCal Chapters
Electric Vehicle Charging Association

OPPOSITION:

Building Owners and Managers Association of California
California Apartment Association
California Building Industry Association
California Building Officials
California Business Properties Association
Institute of Real Estate Management (IREM)
International Council of Shopping Centers
NAIOP of California

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