Costs for EV Workplace Charging Stations

The cost of installing EV charging stations at workplaces (referred to as electric vehicle supply equipment, or EVSE) varies greatly depending on the parking structure, local permitting process, existing electrical service, potential need for a transformer upgrade, and desired EVSE capabilities. Trenching through existing concrete to install the necessary conduit for the stations can be particularly expensive; site design for the EV charging stations should take this into consideration and examine the distance the parking spot with the EV charging station will be from the existing electrical supply box. Additionally, compliance with the requirements under the Americans with Disabilities Act should be considered early on in the process as well. The costs of EVSE installation are substantially lower if the EVSE is installed with new construction, or at a time when the parking lot is being surfaced or re-surfaced.

In general, a networked Level 2 EVSE will cost around $3000 in hardware, with the installation cost of a similar magnitude. Ongoing costs such as electricity, network charges, and maintenance are additional. A non-networked Level 1 EVSE tends to cost around $600, with installation costs around $600-$900. However, as noted, there is a large amount of variation in these costs.

The following references describe EVSE costs in more detail.

- Chris Nelder and Emily Rogers, *Reducing EV Charging Infrastructure Costs*, Rocky Mountain Institute, 2019, [https://rmi.org/ev-charging-costs](https://rmi.org/ev-charging-costs).
  - This survey draws upon “literature, publicly available information on utility procurements, and two dozen original interviews...conducted under nondisclosure agreements with utilities, hardware providers, software providers, operators of charging networks, transit agencies, states, laboratories, contractors, and consultancies.” It breaks out costs by components and notes that the greatest opportunity for cost reduction lies in “soft costs.”

  - Although focused on DCFC, the white paper’s estimate that ongoing operations costs (such as electricity, network charges, and maintenance) are roughly equal to both equipment (hardware) and development (installation) costs may be of some relevance for Level 2 charging systems as well.

  - This analysis notes the cost of installing a mix of Level 1 and Level 2 charging at commercial properties such as multifamily housing and office buildings. For a 60-space office building in California, with an open parking lot of 14,000 square feet, providing 4 L2 chargers and 24 L1 chargers would carry an estimated cost of $1,166 per charger port for new construction and $3,232 for retrofit.

This data is updated continually. As of March 2021, it showed the median total project cost of installed L2 chargers to be $8,794, and the median unit cost (hardware) to be $3,460. Note that this includes public level 2 chargers which may incur additional costs that workplace chargers do not.


- This study estimates the hardware cost as $596 per charger for non-networked L1 systems, and $2,793 for networked L2 systems. It estimates that the average L2 installation cost is about $3000 per charger outside of California (varying by number of chargers per site), with workplaces about 10% below this level and public systems 11% above. It estimates L1 installation costs at $600 (for just the 120V outlet) to $900 (for outlet and EVSE) for apartment buildings.

**About Plug In America**

Plug In America is the nation’s leading independent consumer voice for accelerating the use of plug-in electric vehicles in the United States to consumers, policymakers, auto manufacturers and others. Formed as a non-profit in 2008, Plug In America provides practical, objective information collected from our coalition of plug-in vehicle drivers, through public outreach and education, policy work and a range of technical advisory services. Our expertise represents the world’s deepest pool of experience of driving and living with plug-in vehicles. We drive electric. You can too.

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