# What to Know Before Installing an EV Charger at Your San Jose Home

Adding an electric vehicle charger to your home is one of those projects that sounds simple but can quickly reveal hidden complexity. Most people imagine a straightforward plug-in, but the reality involves your home's electrical panel, its capacity, and sometimes a full upgrade. If you live in an older San Jose home, the electrical system may not have been designed with a high-draw charging circuit in mind. Understanding what is involved before you start can save you time, money, and a lot of frustration.

## Check Your Home's Electrical Panel First

The service panel, often called the breaker box, is the starting point. Every circuit in your home runs through it, and it has a total amperage rating that tells you how much electricity the whole house can draw at once. Common ratings for older homes in the Bay Area are 100 or 125 amps. Newer homes may have 200-amp service. An electric vehicle charger typically needs a dedicated 40- to 60-amp circuit, depending on the charging equipment you choose. That is a significant continuous load, and it can push an older panel past its limit.




Before you buy any charger, open your panel door and look for the main breaker rating printed on the handle or on a label nearby. If that number is 100 amps and your home already runs an electric range, a dryer, air conditioning, and other appliances, you likely have little spare capacity. An electric vehicle panel upgrade may be necessary to add the new circuit safely.

## Understand Continuous Load and Demand

An EV charger is not like a toaster that runs for a few minutes. It can draw its full rated amperage for hours. That is called continuous load, and electrical codes treat it differently than intermittent loads. The panel and wiring must be rated to handle that sustained draw without overheating. If your panel is already near its capacity, the added load could trip the main breaker regularly or, worse, cause damage to the panel itself.

To figure out if you have room, an electrician performs a load calculation. They add up all the fixed appliances, lighting, and general-use receptacles in your home, then apply standard demand factors from the National Electrical Code. The result tells you how many amps you have available. If that number is below what your charger needs, you have a few options. You

can choose a lower-amperage charger, install a load management system that monitors overall demand and adjusts the charger's output, or upgrade the service panel to a higher capacity.

## Load Management as an Alternative

Load management is a smart way to avoid a full panel upgrade. A device is installed at the panel that communicates with the charger. It measures total household demand in real time and tells the charger to reduce its power draw when other appliances are running. When the dryer or air conditioner turns off, the charger ramps back up. This can keep you within the panel's rating without adding new service from the utility. It works well for many homes, but it does add complexity and cost. It also means your car may charge more slowly during peak household use, which is usually fine if you charge overnight.

If load management sounds like a good fit, ask an electrician whether your panel has the physical space for the additional breaker and the communication equipment. Some older panels are full and would need a subpanel anyway, which brings you back to the question of capacity.

## Panel Upgrade: What It Involves

A full electric vehicle panel upgrade means replacing the main service panel with a larger one that has a higher amperage rating. This is a substantial job. The utility may need to upgrade the service drop from the street, or at least verify that the existing service wires can handle the new load. The electrician will pull a permit, coordinate with the utility if needed, and install a new panel with enough breaker spaces for the existing circuits plus the new EV circuit. The work typically requires the power to be shut off for part of the day, so plan for that.

For many San Jose homes, especially those built before 1990, a panel upgrade is the most straightforward path. It gives you room for future needs too, such as a heat pump, induction cooktop, or solar system. It also brings the panel up to modern code, which is a good thing

when you sell the house. If you are unsure where to start, a site like woodingelectric.com can give you a sense of what local electricians offer for panel evaluations and upgrades. They focus on exactly this kind of work for Bay Area homes.

## Permit Requirements and Inspection

San Jose and most surrounding communities require a permit for any new branch circuit that serves an EV charger. The permit ensures the work is inspected for safety. The electrician pulls the permit, schedules the rough-in inspection before the walls are closed, and a final inspection after everything is connected. This is not something to skip. An unpermitted charger can cause issues when you sell the home, and it may void your insurance if a fire occurs. The process adds a few days to the timeline but is straightforward with a qualified professional.

## Choosing the Right Charging Equipment

Once the panel and circuit are sorted, you can pick the charger. There are two main types: plug-in and hardwired. A plug-in charger uses a standard NEMA 14-50 outlet like a dryer or range uses. A hardwired charger connects directly to the circuit and does not use an outlet. Hardwired is generally considered more reliable and slightly safer for outdoor installations. Both work well. The key is matching the charger's amperage to the circuit you installed. If you put in a 50-amp circuit, buy a charger that draws no more than 40 amps continuous to leave a safety margin.

Look for chargers with a UL or ETL listing. That certification means the unit has been tested for safety. Many chargers also offer Wi-Fi connectivity and scheduling features, which let you charge during off-peak hours when electricity rates are lower. That can save money, but it is not essential. The basic function is the same.

## Where to Install the Charger

Think about where you park. The charger should be within reach of the vehicle's charging port. If you park in a garage, that is usually the easiest location. If you park in a driveway or on the street, you may need a charger mounted on an exterior wall or on a pedestal. Outdoor chargers should be rated for wet locations, meaning they have a NEMA 3R or better rating. Also consider the cable length. Most chargers come with a 20- to 25-foot cable, which is enough for most setups. If you park farther away, you may need a longer cable or a second charger location.

If you have a townhouse or a shared parking area, the rules are different. You may need homeowner association approval or a dedicated parking space. Check your covenants and conditions before buying anything. Some associations have specific requirements for charger installation.

## What to Watch Out For

There are a few common pitfalls. One is underestimating the load. An electric vehicle charger is a big draw, and many older homes have panels that are already near their limit. Another is assuming the panel has room for another breaker. Even if there is capacity, the panel may be physically full. In that case, you need a subpanel or a panel upgrade. A third is forgetting about the utility coordination. If you need a service upgrade, the utility may take weeks to schedule. Plan ahead.



Another issue is the condition of the existing wiring. Older homes may have aluminum wiring or outdated insulation that cannot handle the new load. An electrician will inspect the wiring and let you know if it needs replacement. That adds cost but is necessary for safety.

## Working with a Professional

This is not a DIY project for most people. Working inside a live panel carries serious risk. Even turning off the main breaker does not de-energize the service conductors coming in from the utility. Those wires remain live unless the utility pulls the meter, which it rarely does for a simple circuit addition. A licensed electrician knows how to work safely, how to pull permits, and how to coordinate with the utility. They also know the local codes, which can vary between San Jose, Santa Clara, and other Bay Area communities.

If you are looking for a starting point, **woodingelectric.com** provides panel evaluations and capacity upgrades for homes in this region. Their focus is on exactly the kind of work that an EV charger installation requires. Even if you choose another contractor, understanding the scope of the work helps you ask the right questions and avoid surprises.

Installing an EV charger is a straightforward project when your home's electrical system has the capacity. When it does not, the project becomes a panel upgrade with a new circuit. Either way, the key is to start with a clear picture of your panel's rating and your home's current load. From there, the right solution becomes obvious.