

A BEGINNING ROADMAP FOR SUCCESSFUL EV CHARGING STATION DEPLOYMENT



With the rising popularity of EVs and millions of dollars in government funding, there's never been a better time for commercial real estate owners and investors to add a new revenue stream and increase the value of their properties through Level 3 EV charging.

However, several regulatory procedures must be navigated before a charging station can become a reality. To avoid costly mistakes and keep your project on track, here are some of the steps and questions you will need to consider as you prepare to deploy a DC fast charging station.



What Types of Properties Make Sense for EV Charging?

There are many kinds of properties that could benefit financially from EV charging and provide a needed public service, including:


- Shopping Centers and Malls
- Hotels and Resorts

IS YOUR EV CHARGING ENTERPRISE READY TO SCALE UP?

- Office Buildings or Corporate Campuses
- Car Dealerships
- Sport Arenas/Entertainment Centers
- Convention Centers
- Colleges and Universities
- Parking Facilities
- Medical Centers
- Gas Stations and Convenience Stores
- Tax-payer funded highways, municipal transit, etc.

EV Charging Station Regulations

Obtaining the right permits ensures that your EV charging station complies with all relevant laws and regulations, reducing the risk of legal issues. Which permits you need will depend on local ordinances but generally include:



Zoning Permits ensure the proposed location for a charging station aligns with land-use requirements. Different zoning designations may have specific allowances or restrictions regarding commercial, industrial or mixed-use areas.

Zoning regulations typically include setback requirements or the minimum distance a structure must be set from property lines,

streets or other structures. Other provisions regarding the number and placement of charging stations as well as EV charging signage, size restrictions, and content, may also be part of the zoning permit process.

Electrical Permits are essential to ensure safe charging station installation and operation. EV charging stations must comply with local, regional, and national electric codes, such

as the National Electric Code (NEC) of the U.S. These permit applications will typically require documentation including:

- Load calculations to ensure the existing electrical infrastructure can accommodate additional power demands from the charging station
- Detailed specifications for wiring and conduit installations including the size, type and routing of wiring
- Technical documentation including schematics, wiring diagrams and equipment specifications
- Voltage and amperage ratings
- Grounding and bonding
- Specifications for circuit protection devices, such as circuit breakers or fuses and emergency shut-off systems
- Inspections at various points of the installation process

To navigate the permitting process effectively, it is important to work with electricians who have been certified to install electric vehicle supply equipment.

Building Permits often require structural engineering approval to ensure the installation of EV charging equipment meets safety standards. This will include compliance with fire safety regulations to ensure the charging station is designed in a way that minimizes fire hazards and meets fire safety codes. You will also need to make sure the charging station complies with accessibility standards, such as the Americans with Disabilities Act.

Once the permits are approved and you have site plan approval, you can proceed with installation.

If you plan to build a public charging station through the [National Electric Vehicle Infrastructure \(NEVI\) Formula Program](#), you will need to submit these plans for review.

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As the electric vehicle market continues to grow, seizing the opportunity to deploy Level 3 EV charging stations offers a promising route for revenue and property value enhancement.

Navigating the regulatory landscape, securing the necessary permits, and adhering to safety standards are critical steps in the deployment process. By strategically selecting suitable properties, adhering to regulations, and meticulously overseeing the deployment and commissioning process, real estate owners and investors can contribute to the accessibility of EV charging stations while reaping the benefits of this expanding market.

The EV Charging Station Deployment and Commissioning Process

To ensure the charging station is installed correctly, functions properly and meets safety and performance standards, you will need to complete the following steps:

- Final inspection of building and electrical codes
- Equipment testing to verify the charging cable and connectors are functioning and that the charging station can sufficiently charge an EV battery
- Verify that the charging system can provide real-time data and process payments
- Provide training for those who will operate and maintain the charging station, including directions for troubleshooting common issues and performing routine maintenance
- Establish a system to monitor the charging station periodically to verify performance

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