

# Multi Unit Dwelling Electric Vehicle Charging (EV) Toolkit

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[dep.nj.gov/drivegreen](https://dep.nj.gov/drivegreen)

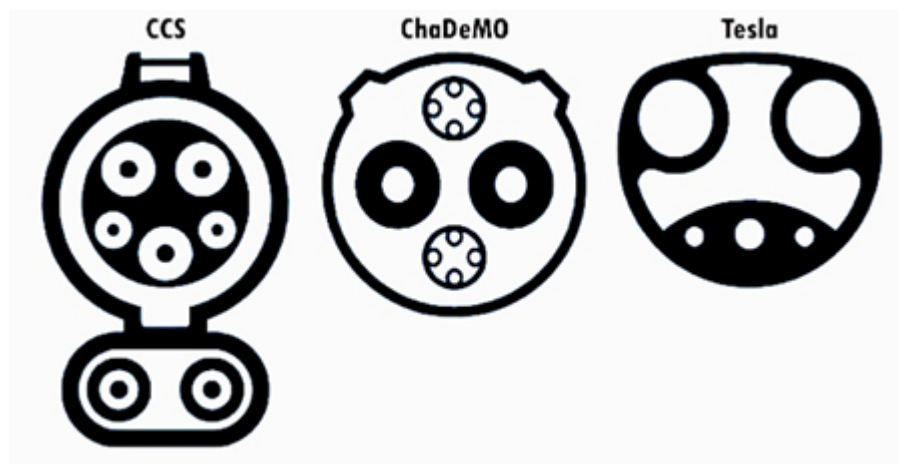


**BEV:** Battery Electric Vehicles (BEVs) operate exclusively on electricity stored in batteries and only have an electric motor (e.g., Nissan LEAF, Ford Focus EV, Tesla Models, Chevy Bolt, etc.).

**Direct Current Fast Charging (DCFC):** Requires a 480V/3-Phase Alternating Current (AC) electricity connection (with the DCFC equipment converting AC to DC) and is the fastest charging EVSE type which is especially useful for applications such as highway charging. Note that this high-speed charging comes at a high cost for the equipment and the investment in electrical supply.

**Electrical Connectors for DCFC:** Unlike Level 1 and 2 charging, there are currently three different types of DCFC connectors (plugs) in use in the United States: CHAdeMO, SAE Combined Charging System (CCS), and Tesla.

- CHAdeMO is used by Japanese automakers Nissan and Mitsubishi. Older Kia, Honda, and Hyundai models also use CHAdeMO.
- All other automakers in the U.S market, except Tesla, use the CCS connector. Except for Tesla stations, many new DCFC stations come equipped with both CCS and CHAdeMO plugs.
- The proprietary Tesla connector can currently only be used by Tesla vehicles, but Tesla announced in July 2021 that it would eventually allow its charging network to be used by other EVs.





**Electric Vehicle (EV):** Any vehicle that is licensed and registered for operation on public and private highways, roads, and streets; and operates either partially or exclusively using an electric motor powered by an externally charged on-board battery.

**Electric Vehicle Energy Management System (EVEMS):** A means used to control electric vehicle supply equipment loads through the process of connecting, disconnecting, increasing, or reducing electric power to the loads and consisting of any of the following: a monitor(s), communications equipment, a controller(s), a timer(s), and other applicable device(s).

**Electric Vehicle Supply/Service Equipment or (EVSE):** The equipment, including the cables, cords, conductors, connectors, couplers, enclosures, attachment plugs, power outlets, power electronics, transformer, switchgear, switches and controls, network interfaces, point of sale equipment, and associated apparatus designed and used for the purpose of transferring energy from the electric supply system to a plug-in electric vehicle. "EVSE" may deliver either alternating current or, consistent with fast charging equipment standards, direct current electricity. "EVSE" is synonymous with "electric vehicle charging station".

**Level 1 (L1):** Charging requires 120V with 1-Phase AC (equivalent to powering a space heater). While this charging method has a relative slow charging rate, adding 3 - 5 miles of range per hour of charge, there are still opportunities for L1 use such as workplace or home charging, where vehicles may be parking for many hours. This is somewhat dependent on how far the vehicle is typically driven. Level 1 may be particularly appropriate for plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs) with small batteries, workplace charging for employees, as well as long-term parking at airports, transit lots and shared community parking.

**Level 2 (L2):** Charging requires 208V or 240V with 1-Phase AC (outlet equivalent to an electric range or electric dryer). Level 2 charging provides charging at a rate of 12-30 miles of range per hour of charge. Many people find L2 charging provides the best solution for at home or at work charging. Level 2 charging may also be appropriate for other locations where people park vehicles for several hours at a time (e.g., fleet vehicles, retail establishments, destination locations, etc.).





## EV Charging Station Comparison

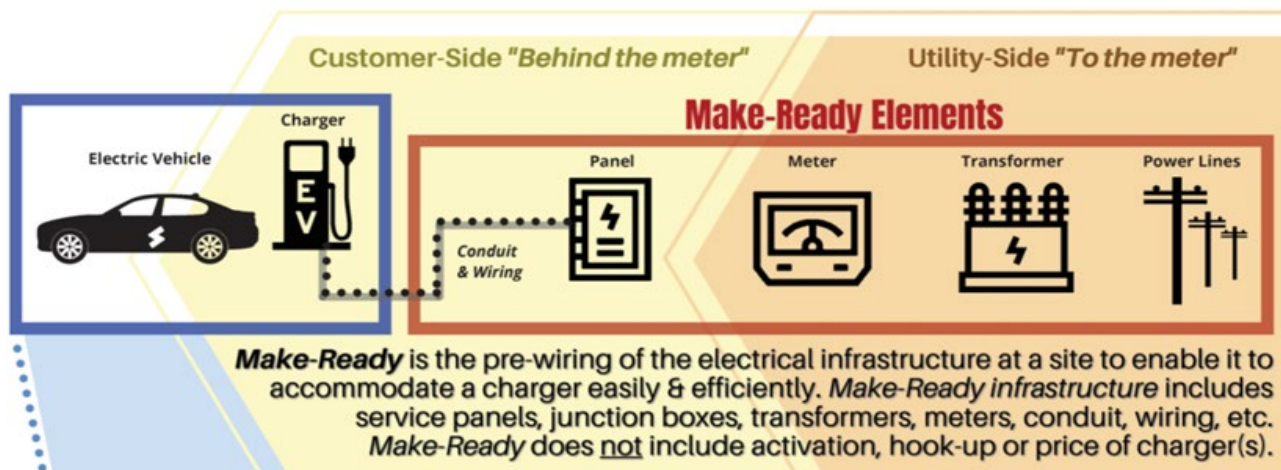


	AC Level 1	AC Level 2	DC Fast Charger
<b>Voltage</b>	120V 1-Phase AC	208V or 240V 1-Phase AC	480V 3-Phase AC
<b>Suitable for Installation</b>	Single-family Multi-family	Single-family, Multi-family, Commercial, Municipal/Private Fleet	Municipal/Private Fleet Public Metro Areas
<b>Amps</b>	12-16 Amps	12-90 Amps (Typical 32 Amps)	<125 Amps (Typical 60 Amps)
<b>Charging Loads</b>	1.4 - 1.9 kW	2.5 - 19.2 kW (Typical 7 kW)	<90 kW (Typical 50 kW)
<b>Charge Duration</b>	3-5 miles of range per hour	10-20 miles of range per hour	80% charge in 20-30 minutes
<b>Best for</b>	6+ hour or overnight charge	2-6 hour dwell times	High turn over
<b>Station Hardware Cost</b>	\$500 - \$1,000 per port	\$600 - \$5,000 per port	\$7,000 - \$50,000 per port





**Make-Ready:** Means the pre-wiring of electrical infrastructure at a parking space, or set of parking spaces, to facilitate easy and cost-efficient future installation of Electric Vehicle Supply Equipment or Electric Vehicle Service Equipment, including, but not limited to, Level Two EVSE and direct current fast chargers. Make Ready includes expenses related to service panels, junction boxes, conduit, wiring, and other components necessary to make a particular location able to accommodate Electric Vehicle Supply Equipment or Electric Vehicle Service Equipment on a “plug and play” basis. “Make-Ready” is synonymous with the term “charger ready,” as used in P.L.2019, c.362 (C.48:25-1 et al.).



**Multi-Unit Dwelling (MUD)** refers to multi-family residences, including apartments, condominiums, and townhouses. There must be a minimum of 5 units.

**PEV:** A Plug-in Electric Vehicle (PEV) is a general term for any car that runs at least partially on battery power and is recharged by plugging in to the electricity grid. There are two different types of PEVs to choose from: pure battery electric and plug-in hybrid electric vehicles.

**PHEV:** Plug-in Hybrid Electric Vehicles (PHEVs) combines two propulsion systems in one vehicle; an electric motor that is battery-powered and can be plugged in and recharged, and an engine refueled with gasoline (e.g., Chevy Volt, Toyota Prius Plug-in, Ford C Max and Fusion Energi, etc.)





**Port:** One charging station connection to one vehicle, capable of supplying the full rated power of the charging station. In the case of Level 2 charging stations, a port is one SAE J1772 connector. In the case of DCFC stations, one port may include both a CHAdeMO and CCS connector if only one connector can be used at a time. In all cases, if a charging station has multiple connectors but reduces the power to each connector when multiple vehicles are plugged in, then this counts as only one port.

**Private EVSE:** Means EVSE that has restricted access to specific users (e.g., single and two-family homes, executive parking, fleet parking with no access to the general public).

**Publicly accessible EVSE:** Means EVSE that is publicly available (e.g., park & ride, public parking lots and garages, on-street parking, shopping center parking, non-reserved parking in multi-family parking lots, etc.).

**SAE J1772 or J1772** is a North American standard connector for plugging into EVs, established by the SAE International. The standard includes physical, electrical, communication, and performance requirements. The J1772 connector is used for both Level 1 and Level 2 charging.

**SAE J1772 CCS or “combo connector”** is the protocol standard that adds pins to the J1772 connector to allow DC fast charging. This connector is most commonly supported by North American and European EVs equipped for fast charging.





### 1. Conduct a Survey

Involve residents in the decision-making process. A survey or poll is a great way to determine how many people in your multi-family community are considering buying, or already own, plug-in electric vehicles (PEVs).

### 2. Explore Your Options

Learn what your charging options are, including:

- What types of plug-in vehicles are on the market
- What charging technologies are available
- The costs involved
- Business models for providing EV charging

### 3. List Community Needs and Challenges

Every multi-family development has community-specific needs and potential challenges, which can include:

- Existing rules in the covenants, conditions, and restrictions ("CC&Rs")
- Which parking spaces can accommodate EV charging units and whether those are assigned, deeded, or unassigned
- State and local regulations
- Available electrical power

### 4. Determine the Scope of the Project

- Estimated number of charging stations and parking spaces needed
- Charging station equipment preferences
- Will the EV chargers be networked or not?
- Ideal location where charging stations will be installed
- Will they be indoors or outdoors?

Where you install charging stations depends on parking space allocation and ownership models (i.e., deeded, assigned or common area). Determine if you will install a charging unit for a particular resident/unit owner or if residents will





share access in a common area. Evaluate the physical layout and distances from parking areas to electrical panels. Locating the equipment as close to the electrical supply as possible will minimize installation costs.

### 5. Get Quotes and Pick Your Vendor

EV Charging station funding programs that are managed by New Jersey state agencies, including NJDEP and The New Jersey Board of Public Utilities (BPU), require grantees to utilize a Network Service Provider that can satisfy certain requirements. The Network Service Providers on this [list](#) have already demonstrated to NJDEP that they can meet the data reporting requirements. Additional Network Service Providers may also be able to meet the Program's requirements and will be reviewed by NJDEP upon request.

### 6. On-site Evaluation Coordination

The charging company you choose will visit the site to go over the scope of the project and answer any questions. As part of the evaluation, they should calculate power loads, determine whether existing electric panels need to be upgraded or replaced, and whether your utility company needs to upgrade electric service or install new electric meters. They should also coordinate with your utility company for project design, review, and any needed on-site visits.

### 7. Apply for Rebates and Incentives

There are many different [incentives](#) to help make the transition easier. New Jersey has numerous funding opportunities for multi-unit dwellings that are funded through the Department of Environmental Protection, the Board of Public Utilities, and local utility companies.

- **NJDEP: [It Pay\\$ to Plug In](#)** provides grants to offset the cost of purchasing electric vehicle charging stations. Eligible projects include apartments, condominiums, and townhouses with a minimum of five units. Funding is available on a first come first-serve basis, but applications are accepted on a rolling basis all year long.
- **NJBPU:** Eligible projects include apartments, condominiums, and townhouses with a minimum of five units. Additional funding is available







for a charging station located within an Overburdened Community. A detailed comparison of the NJDEP and NJBPU incentives can be found on the NJDEP Drive Green [website](#).

- Check with your **electric utility company** to see what funding opportunities are available for your community. Find a detailed comparison of the incentive programs [here](#).
  - **PSE&G** Find information [here](#).
  - **Atlantic City Electric** Find information [here](#).
  - **JCP&L** Find information [here](#).
  - **Rockland Electric Co.** Find Information [here](#).

## 8. Installation

Once the quote is approved, the EV company should handle all the details of installing your new EV charging stations, including:

- Ordering your charging stations
- Obtaining any necessary permits
- Working with your utility service provider
- Scheduling installation
- Coordinating the project
- Arranging for any required inspections by your utility company and city
- Assisting with signage (You will want your residents to know you're providing EV charging for them)





### 9. Submit Documentation

If you applied for grants, make sure you maintain all records and receipts to ensure financial reimbursement.

### 10. Communicate Your Charging News!

Let your residents know that you have new plug-in electric vehicle charging stations available for their use, and the details around use such as access, billing, and charger locations. They will be glad you're offering EV charging to them!





Date: \_\_\_\_\_

Dear Current Resident/Tenant:

A group of fellow residents here at \_\_\_\_\_ are interested in  
(Property Name)  
plug-in electric vehicles (PEVs) and would like to work with the  
(HOA/Property Owner/Management)  
to have charging stations installed for current and future electric vehicle  
drivers to use. As part of this process, we would like to get input on your current  
and future plans for driving and charging a PEV. This will help us establish a  
proposal for PEV charging in our community. This survey should take less than 5  
minutes to complete.

Plug-in electric vehicles include all electric battery electric vehicles (BEV) and  
plug-in hybrid electric vehicles (PHEV). Please submit this completed survey to:

Name: \_\_\_\_\_

By Email: \_\_\_\_\_

By Mail: \_\_\_\_\_

Due Date: \_\_\_\_\_

Thank you for supporting our efforts to evaluate current and future plug-in  
electric vehicle needs of our residents. For detailed information about  
available PEVs, incentives and charging, go to [Drive Green](http://www.pluginamerica.org/) and  
<http://www.pluginamerica.org/>.





## Definitions:

**BEV:** Battery Electric Vehicles (BEVs) operate exclusively on electricity stored in batteries and only has an electric motor (e.g., Nissan LEAF, Ford Focus EV, Tesla Models, Chevy Bolt, etc.).

**PEV:** A Plug-in Electric Vehicle (PEV) is a general term for any car that runs at least partially on battery power and is recharged by plugging in to the electricity grid. There are two different types of PEVs to choose from: pure battery electric and plug-in hybrid electric vehicles.

**PHEV:** Plug-in Hybrid Electric Vehicles (PHEVs) combines two propulsion systems in one vehicle; an electric motor that is battery-powered and can be plugged in and recharged, and an engine refueled with gasoline. (e.g., Chevy Volt, Toyota Prius Plug-in, Ford C Max and Fusion Energi, etc.)

### 1. Do you currently own or lease a plug-in electric vehicle (PEV)? (Select One Only)

- ☐ YES, I own or lease at least one PEV. [\[Skip to Question 5.\]](#)

*If "YES", please specify vehicle year, make, and model:*

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- ☐ NO, I do not own any PEVs.

### 2. On a scale of 1 to 5 with 1 being "Not At All," and 5 being "Very Likely," how likely are you to purchase or lease a PEV for your next vehicle? (Select One Only)

[\[If you selected 1, 2 or Don't Know, skip to Question 9.\]](#)

### 3. When do you think you would buy or lease a PEV? (Select One Only)

- ☐ Within the next year  
☐ 1-2 years  
☐ 3-5 years  
☐ 5+ years





**4. What type of EV would you most likely lease or purchase? (Select One Only)**

- ☐ **Battery Electric Vehicle** BEV: All electric with ~100-300+ miles electric range
- ☐ **Plug-in Hybrid Electric Vehicle** PHEV: ~10-40+ miles all electric range and 300+ miles additional gas/hybrid range
- ☐ **Don't Know**

**5. Approximately how many miles do you drive round trip between home and work?**

(Don't commute for work? Check here\_\_\_\_ and enter average daily miles for routine daily events -then skip to Question 8)

Enter number of miles only: \_\_\_\_\_ miles

**6. Do you typically park for a full-work day where you work (e.g., 8 hours)? (Select One Only)**

- ☐ YES, I typically park a full workday at work
- ☐ NO, I do not typically park a full workday at work (in and out during day)
- ☐ N/A (vanpool, etc.)

**7. Do you have access to electric vehicle charging at work (e.g., wall outlet/120V or 240V charging equipment)? (Select One Only)**

- ☐ Yes
- ☐ No
- ☐ Sometimes
- ☐ Don't Know







**8. Based on your daily commute and your ability or inability to recharge at work and other places, which of the following charging options would you prefer installed in your community: (Select One Only)**

- ☐ **Level 1 (120 V) charging only** (Most charge at 4-6 miles of range/hour of charge; Lower installation cost, slower electricity use and less load on circuit – can use a regular household plug to connect)
- ☐ **Level 2 (240 V) charging only** (Most charge at 16-24 miles of range/hr. of charge – Higher hardware/installation costs, faster electricity uses and higher load on a circuit – usually requires electrician for installation of heavy-duty dryer plug or hard wire to 208/240V)
- ☐ **Either would work for me** (i.e., long park time, lower daily driving, smaller battery)
- ☐ **No idea/Don't know**

**9. Are you interested in receiving information updates about installing electric vehicle charging equipment in your community?**

- ☐ YES, please add me to the charging update distribution list for my community. My email is:  
\_\_\_\_\_
- ☐ NO, thanks.

Thank you!

Send form comments/suggestions to:





A **mandatory** [Model Statewide Electric Vehicle \(EV\) Ordinance](#) became effective on September 1, 2021, which requires new multi-unit dwellings with five or more units, and new parking lots or garages to have electric vehicle charging stations and/or the electrical infrastructure needed to accommodate an electric vehicle charging station.

This ordinance was published by the Department of Community Affairs (DCA) and written with support from the Department of Environmental Protection (DEP) and Board of Public Utilities (BPU), to comply with the [P.L. 2021, c. 171](#), which Governor Phil Murphy signed into law on July 9, 2021.

In New Jersey, the transportation sector accounts for 42% of the state's net greenhouse gas (GHG) emissions, making it the largest GHG source in the state. Reducing these emissions by electrifying cars and trucks is a critical part of the State's strategy to mitigate climate change.

## Overview of Statewide EV Ordinance

**EV Parking Spaces Required for New Parking Areas** — EV charging stations and [make-ready](#) (Including some EV spaces that are accessible for people with disabilities) are required in new multiple dwellings with five or more units of dwelling space, and new parking lots or garages as a condition of preliminary site plan approval (requirements are based on how many parking spaces are approved as part of the site plan application).

As a condition of preliminary site plan approval, permit applications involving **new multiple unit dwellings with more than five units** must comply with the following:

- Immediately: 15% of parking spaces shall be make-ready and 1/3 of those shall have [EVSE](#) installed.
- Within 3 years: install EVSE in an additional 1/3 of the original 15%
- Within 6 years: install EVSE in the final 1/3 of the original 15%.
- Overall, at least 5% of EVSE must be accessible for people with [disabilities](#).





Applications involving a **new garage or parking lot** not covered above shall comply with the following:

- Install at least one Make-Ready parking space if there will be 50 or fewer off-street parking spaces.
- Install at least two Make-Ready parking spaces if there will be 51 to 75 off-street parking spaces.
- Install at least three Make-Ready parking spaces if there will be 76 to 100 off-street parking spaces.
- Install at least four Make-Ready parking spaces, at least one of which shall be accessible for people with disabilities if there will be 101 to 150 off-street parking spaces.
- Install at least 4% of the total parking spaces as Make-Ready parking spaces, at least five percent of which shall be accessible for people with disabilities if there will be more than 150 off-street parking spaces.

Number Of Parking Spaces	Number Of Make-Ready or EV Charging Stations Required
$\leq 50$	1
51-75	2
76-100	3
101-150	4
> 150	4%

**Accessory Uses in Zoning** — EVSE and make-ready parking space will be permitted accessory uses in all zoning and use districts, whether the EVSE or make-ready parking spaces are included with a site plan application for a new development or being added to an already existing building or development. This will streamline the permitting process for EV charging stations and ensure that municipalities are consistently evaluating and approving applications for such.





**Minimum Parking Mandates** — EVSE and make-ready parking spaces will count toward minimum parking mandates and earn a two for one credit for the EV parking, up to 10% of the total required parking. The ideal public charging location is:

- As close to electric service as possible while also being convenient to other activities at the site. Trenching to accommodate underground wires from the electric supply to the EVSE can add significantly to the construction costs for installation.
- Planned with safety in mind (e.g., cords and wires should not cross pedestrian walkways creating tripping hazards, location should consider nearby potential hazard areas, etc.).

**Electrical Upgrades and Expansions** — Depending on the size of the EVSE project (e.g., DC fast charger platform for multiple vehicles), the site could require additional circuits and electrical capacity. In addition, towns should consider futureproofing by building in enough electrical capacity for EVSE expansion. These additions will be less costly if done during initial construction than during modifications later. Developers should work directly with their local electric utility provider to identify electric infrastructure and capacity needs.

**Electrical Demand** — Planning for EVSE installations should include reviewing the electrical demand of meters being considered for the project. This means looking at what else is connected to the electric meter to which you are considering connecting EVSE. If EVSE is connected to a meter that already draws a lot of electricity during the prime usage times for the EVSE, the demand fee for that meter will go up, and this can be very costly. Demand charges are additional fees that utilities charge non-residential or commercial customers for maintaining constant supply of electricity.

For information regarding utility and state funded EVSE and charging incentives, click [here](#).





## EV Charging Station Comparison



	AC Level 1	AC Level 2	DC Fast Charger
<b>Voltage</b>	120V 1-Phase AC	208V or 240V 1-Phase AC	480V 3-Phase AC
<b>Suitable for Installation</b>	Single-family Multi-family Commercial	Single-family Multi-family Commercial Municipal/Private Fleet	Municipal/Private Fleet  Public Metro Areas
<b>Amps</b>	12-16 Amps	12-90 Amps (Typical 32 Amps)	<125 Amps (Typical 60 Amps)
<b>Charging loads</b>	1.4 - 1.9 kW	2.5 - 19.2 kW (Typical 7 kW)	<90 kW (Typical 50 kW)
<b>Charge time for vehicle</b>	3-5 miles of range per hour	10-20 miles of range per hour	80% charge in 20-30 minutes
<b>Best for</b>	6+ hour or overnight charge	2-6-hour dwell times	High turn over
<b>Station hardware cost</b>	\$500 - \$1,000 per port	\$600 - \$5,000 per port	\$7,000 - \$50,000 per port

*Adapted from NYSERDA*







## Resources

- [Best Management Practices to Ensure Your Town is EV Ready \(nj.gov\)](https://www.nj.gov/dca/divisions/codes/resources/bestmanagementpractices/)
- [Construction Permit Application Packet and Related Forms.](https://www.nj.gov/dca/divisions/codes/resources/constructionpermitforms.html)  
(<https://www.nj.gov/dca/divisions/codes/resources/constructionpermitforms.html>) Information from NJDCA on the electrical code forms, [Construction Permit Application \(UCC F-100\)](#) and the [Electrical Subcode Technical Section \(UCC F-120\)](#) to file with the local jurisdiction.
- [Electric Vehicle Charging Stations – Installation and Permit Requirements.](https://www.state.nj.us/dca/divisions/codes/publications/pdf_ccc/ccc_2011_spring.pdf)  
([https://www.state.nj.us/dca/divisions/codes/publications/pdf\\_ccc/ccc\\_2011\\_spring.pdf](https://www.state.nj.us/dca/divisions/codes/publications/pdf_ccc/ccc_2011_spring.pdf)) Guidance on EV charging station installation and permit requirements for local code enforcement officials was published by NJDCA in the Spring 2011 “Construction Code Communicator”.

## Questions?

Contact: Maria Connolly at [Maria.Connolly@dca.nj.gov](mailto:Maria.Connolly@dca.nj.gov)





## Benefits of Installing EV Charging Stations at Your Multi-Unit Dwelling

Today, electrification is the most technologically feasible and affordable method of decarbonizing the transportation sector. However, the inability to reliably charge electric vehicles (EVs) inhibit many individuals from purchasing or leasing EVs, thus impairing decarbonization and EV adoption goals.

Access to home charging is a significant determining factor for whether someone will purchase or lease an EV. Lack of charging access, including the ability to use a 120-volt plug, is particularly acute for **multi-unit dwelling (MUD)** (also known as multi-family dwelling) residents, who are more likely to lack dedicated parking, and are also unable to control charging access and/or potentially afford charging infrastructure investments.

By the year 2030, EV sales will make up between 25-30% of the market. EV market analyses have shown that multi-unit dwellers, especially renters, are going to be a significant segment of market growth after 2025 and that we cannot meet our transportation decarbonization goals without accommodating this key market segment.

### Attract and Retain EV Owners as Tenants

- Most EV drivers charge at home because it's convenient and vehicles spend a lot of time parked there. Once you make charging available, tenants with electric vehicles will have good reason to stay.
- According to research conducted by ChargePoint (an electric vehicle charging network), between 5-10% of apartment dwellers plan to purchase an electric vehicle in the next three to five years. In areas with higher densities of electric vehicles, it's closer to 10-20%.

### Add to Your List of “Amenities” Offered to Residents

- As more and more consumers purchase electric vehicles (EVs), demand will increase for residences that can accommodate these zero emission





vehicles, particularly **in the northeastern United States where nearly 1/3 of all residents live in multi-unit dwellings**, often without a dedicated parking space.

## Demonstrate Your Commitment to a More Sustainable Community

- Lower your building's carbon footprint
- Earn points towards a [LEED](#) certification
- Attract like-minded tenants to the community
- Improve neighborhood air quality with reduced vehicle emissions

## Help NJ Reduce the Impacts of Climate Change

- Transportation accounts for 37% of NJ's net greenhouse gas emissions, making it the largest emissions source in the state.
- Electrification of the transportation sector is one of the most cost-effective ways of meeting New Jersey's carbon emissions reduction target.
- A NJ law passed in 2019 established State goals for the use of plug-in EVs recommending 15% of all multi-unit dwellings have Level 1, Level 2, and/or fast charging installed, or charger ready parking spaces, by December 31, 2025.
- Be a leader for the clean transportation movement within MUD communities across the state.

## Overview of Statewide EV Ordinance

The statewide EV ordinance was designed to streamline the permitting process for EV charging stations and ensure that municipalities are consistently evaluating and approving applications for such. **The statewide EV ordinance addresses key land use, installation, and parking requirements for EVSE and Make-Ready parking spaces, including:**

- **Accessory Uses in Zoning**— Designate EVSE and Make-Ready parking space as permitted accessory uses in all zoning and use districts, whether the EVSE or Make-Ready parking spaces are included with a site plan





application for a new development or being added to an already existing building or development.

## Financial Incentives

A comprehensive list of statewide financial incentives for electric vehicles and electric vehicle charging stations can be found [here](#).

## Utility funded programs

Regulated utilities in New Jersey are required by the New Jersey Board of Public Utilities (NJBPU) to have programs to help fund the Make-Ready infrastructure for publicly accessible chargers. Make-Ready infrastructure is defined as the work on the utility side of the meter, known as pole to meter (PTM) and on the customer side of the meter, known as behind the meter (BTM). Each utility has proposed its own program to help incentivize the installation of Make-Ready infrastructure for residential, public, workplace, and multi-unit dwelling charging.

Check with your electric utility company to see what funding opportunities are available for your community. Find a detailed comparison of the incentive programs [here](#).

- **PSE&G** — Find program information [here](#).
- **Atlantic City Electric** — Find information [here](#).
- **JCP&L** — Find information [here](#).
- **Rockland Electric Co.** — Find Information [here](#).

## Homeowner Association (HOA) EV Charging Law

On October 19, 2020, Governor Murphy signed into [law](#) P.L 2020, c.108, which establishes standards regarding electric vehicle ("EV") charging stations in all New Jersey common interest communities. This comprehensive legislation **prohibits community associations from unreasonably restricting EV charging infrastructure** and establishes standards to encourage associations to allow for the installation, use, and upkeep of EV charging stations by owners. This





legislation went into effect immediately on the date it was signed by the Governor.

## What Are “Right to Charge” Laws?

“Right to charge” laws provide residents at multi-unit dwellings (and other properties) with the right to install a charging station for the individual’s use provided that certain conditions are met (e.g., the individual assumes responsibility for all associated costs).

“Right to charge” laws **do not** require homeowner associations or rental property building owners/managers to pay for charging for an individual’s use or to install charging as an amenity for multiple owners. Additionally, these laws can address other concerns, such as:

- Who pays for the electricity?
- Where can it be installed?
- Will it impact the number of parking spaces available?
- Who is liable for damages?

## Benefits of Charging at Home

- Overnight charging offers unparalleled convenience.
- Charging at home is generally less expensive than paying for public charging.
- Time-of-Use (TOU) rates, which incentivize charging overnight, can further reduce already low re-fueling costs.
- Overnight charging is ideal for the grid.
- People are more likely to purchase electric cars when they can charge at home.

## Resources

- [P.L. 2021, c. 168](#) encourages municipalities to identify appropriate locations for the development of publicly available infrastructure for







fueling or charging zero-emission vehicles when adopting redevelopment plans.

- [P.L. 2020, c. 108](#) concerns the installation of EVSE in common interest communities. Specifically, the law: Prohibits common interest communities from adopting rules that prohibit or unreasonably restrict the installation or use of EVSE in the designated parking space of a unit owner.
- [P.L. 2020, c. 80](#) requires a developer to offer to install, or to provide for the installation of, an electric vehicle charging station into a dwelling unit when a prospective owner enters negotiations with the developer to purchase a dwelling unit.

## Questions?



Contact: [DriveGreen@njdep.gov](mailto:DriveGreen@njdep.gov)



# INCENTIVE COMPARISON: Electric Vehicle Charging Stations at Multi-Unit Dwellings



Applicants are not permitted to combine funding or incentives from DEP's It Pay\$ to Plug In Program and BPU's Multi-Unit Dwelling (MUD) Electric Vehicle (EV) Program for the same charging station.

Program	 <u>It Pay\$ to Plug In</u>	 <u>Multi-Unit Dwelling Electric Vehicle Program</u>
Eligibility	Apartments, condominiums, and townhouses with a minimum of five units.	Apartments, condominiums, townhouses, or similar locations with mixed residential types (e.g., combination of condominiums & townhouses) that feature a minimum of five units and have dedicated off-street parking
Incentive	<p>Up to \$8,000 for a dual-port, networked Level 2 charging station. Applicants can also receive up to \$4,000 per port for single-port, networked Level 2 charging stations (minimum of 2 ports required) or for up to \$750 per port for Level 1 charging stations (minimum of 5 ports required).</p> <p>Maximum of 20 ports per location.</p> <p>Must include an SAE J1772 connector.</p>	<p>\$4,000 for a dual-port, networked Level 2 charging station, up to the cost of the charger. If located in an Overburdened Municipality<sup>1</sup>, the incentive is \$6,000, up to the cost of the charger.</p> <p>Maximum of 6 charging stations per applicant; do not need to apply for entire allotment at once.</p> <p>Must include a standard port available for use by all EVs.</p>
Eligible Costs	Purchase of charging station(s) and associated delivery and activation fees, warranty, network subscription, maintenance contract, and leasing agreement (if applicable)	Purchase of the networked charging station(s). Delivery, activation, warranty, network subscription and maintenance are not covered.
Prequalified Vendors	<a href="#">Prequalified Network Service Provider list</a>	Chosen equipment must have network capability with one of the state's pre-certified network providers, which can be found at the following link: <a href="#">Home - Drive Green - Air Quality, Energy and Sustainability (AQES)   Department of Environmental Protection (nj.gov)</a>
Form of incentive	Reimbursement: applicants should not purchase or install equipment before a grant has been executed. Completed projects are not eligible.	Reimbursement: applicants should not purchase an EV charging station (a refundable order is permitted) or undertake construction (breaking ground on the site) until the Grant Agreement is finalized.
Timing	First-come, first-served	First-come, first-served
Term	Until funds are exhausted	Applications accepted until 5 p.m. on 6/2/2023 or until funds are exhausted

<sup>1</sup> Overburdened Municipality is defined by BPU in [I/M/O New Jersey Clean Energy Program Fiscal Year 2022 Community Energy Planning, BPU Docket No. Q021091113, Order dated October 6, 2021](#)



Incentive Programs are updated periodically, and information may differ from what is shown. For current details please visit the individual program websites.

July 2022



## Frequently Asked Questions

Updated 2/9/24

It is important to recognize that there is no one-size-fits-all solution when installing EV charging infrastructure at a multi-unit dwelling (MUD). Each installation will vary depending on the number of charging stations to be installed, parking layout, building design, ownership model, etc. This document addresses some common questions and provides additional resources to guide your EV charging project.

### Who Will Pay for the Electricity Used?

You can decide, depending on the charging equipment you select and the operating costs you incur. Here are some options:

- Pay for the cost of electricity as an amenity
- Choose a networked charging station that monitors electricity consumption and bills users according to a price you set
- Charge EV owners a monthly fee for access to the charger. This solution has the added benefit of not requiring a new meter or networked equipment

### Are There Different Ways to Set the Price of Charging?

Yes! Pricing for charging services is typically set to incentivize charging behavior in addition to serving as a means to generate supplemental direct revenue. Prices can be set in several ways:

- Per Hour/Time-Based Fee
- Flat Fee Per Session
- Per Unit of Energy (usually kilowatt-hour [kWh])
- Time-of-Use ("TOU") Price
- Minimum and/or a Maximum Price Per Session
- Length-of-Stay Price
- Combination Approach
- Driver Group Price

### Who Can Use the Chargers?

- You can decide, depending on your parking area and choice of charging equipment. If the parking area is only available to tenants, it's



easy to limit charging to those who live in your building, regardless of what type of charger you choose

- If the parking area is not limited just to tenants:
  - Non-networked stations (whether Level 1 or Level 2) could be accessible to anyone who pulls up and plugs in their car
  - A networked station can be set up to only provide access to people who live in your building (via a special code) or to those who pay to charge

## My Property Has Assigned Parking. Can I Still Install EV Charging?

Yes! Here are some options:

- Convert some “visitor” or unassigned parking spaces to charging spots
- Install charging ports for each assigned spot or in between spots to allow sharing
- Swap/reassign parking spots among residents
- Install chargers as a shared community resource
- Upgrade existing electrical infrastructure so tenants or condo owners can easily choose to install their own charging port or use their own Level 1 charging cable
- Arrange for use of nearby business chargers during “off” evening hours

Whatever you decide to do, make sure the solution is **scalable** to meet all future charging needs. If you are not installing chargers right away, make sure that upgraded electrical capacity will be ready to meet the additional load in the future.

Current and future EV driving residents and residents will expect electric charging to be available where they live. The nature of transportation is evolving, therefore fueling methods have also begun to change. Real estate owners, property managers, and HOAs will need to play an active role in providing the necessary infrastructure to support the evolution of driving and mobility in New Jersey and across the U.S.

## Additional Resources

### Case Studies and White Papers

- Baldwin, S., Myers, A., & O’Boyle, M. (2020). *Increasing electric vehicle charging access at multi-unit dwellings: Workshop summary report*. Energy Innovation: Policy and Technology.  
<https://energyinnovation.org/publication/increasing-electric-vehicle-charging-access-at-multi-unit-dwellings-workshop-summary-report/>





- *Case Study: Increasing EV Charging Access at Multi-Unit Dwellings.* (2018). Smart Columbus. <https://smart.columbus.gov/playbook-assets/electric-vehicle-charging/case-study--increasing-ev-charging-access-at-multi-unit-dwellings>
- *EV Charging at Multi-Family Dwellings: Drivers, Barriers, and Solutions* (2021) <https://atlaspolicy.com/wp-content/uploads/2021/01/EV-Charging-at-Multi-Family-Dwellings.pdf>
- Ge, Yanbo, Christina Simeone, Andrew Duvall, and Eric Wood. 2021. *There's No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure.* Golden, CO: National Renewable Energy Laboratory. NREL/TP-5400-81065. <https://www.nrel.gov/docs/fy22osti/81065.pdf>.
- Jamieson, W., Wood, K., Gibson, G., & Owens, R. (2022). *Technological Barriers to Electric Vehicle Charging at Multi-Unit Dwellings in the U.S.* [Review of *Technological Barriers to Electric Vehicle Charging at Multi-Unit Dwellings in the U.S.*]. In Forth. Forth. <https://forthmobility.org/reports-studies-papers>

## EV Planning and Guidance

- [Charge Up Your Town: Best Management Practices to Ensure Your Town is EV Ready](#) A guidance document intended to help municipal staff and their communities understand the context for the statewide EV ordinance, and the considerations relevant to municipalities as they take steps to support the state goals of increasing access to electric vehicle charging infrastructure.
- [Compliance and Best Practices Guidelines for Accessible EV charger Installation](#) are available for entities that receive funding from It Pay\$ to Plug In, NJDEP's grant program for electric vehicle charging infrastructure.
- [Construction Permit Application Packet and Related Forms](#) Information from NJDCA on the electrical code forms, [Construction Permit Application \(UCC F-100\)](#) and the [Electrical Subcode Technical Section \(UCC F-120\)](#) to file with the local jurisdiction.
- [Electric Vehicle Charging Stations – Installation and Permit Requirements](#) Guidance on EV charging station installation and permit requirements for local code enforcement officials was published by NJDCA in the Spring 2011 "Construction Code Communicator".
- [NJTPA's Alternative Fuel Vehicle Readiness Guide](#) encourages municipalities and businesses to think about planning and policy considerations that will help jump-start EV infrastructure development.







## Financial Solutions

- Regulated utilities in New Jersey are required by the New Jersey Board of Public Utilities (NJBPU) to have programs to help fund the Make-Ready infrastructure for publicly accessible chargers. Each utility has proposed its own program to help incentivize the installation of make-ready infrastructure for residential, public, workplace, and multi-unit dwelling charging. Check with your electric utility company to see what funding opportunities are available for your community.
  - Find a detailed comparison of the incentive programs [here](#).
- Government incentive programs can significantly reduce the cost of installing EV charging stations. New Jersey has multiple incentives available for MUDs, [here](#).
  - [NJDEP It Pay\\$ to Plug In funding for EVSE](#): NJDEP offers rebates for charging stations through the It Pay\$ to Plug In program. Reimbursement for charging port types is as follows:
    - \$750 for level 1
    - \$4,000 level 2
    - \$200,000 for DC Fast Chargers, with a 2-port minimum per grant
  - Additionally, this grant program allows **lease/as-a-service** products where the charging service provider retains ownership of the charging installation and the building manager pays monthly fees can relieve building managers of a substantial amount of work such as site planning, billing, and operations and maintenance.

## Legislation

- [P.L. 2021, c. 171](#) Established the Statewide Ordinance requiring that EVSE and Make-Ready parking spaces be designated as a permitted accessory use in all zoning or use districts and establishes associated installation and parking requirements related to EVSE in New Jersey's municipalities.
- [P.L. 2021, c. 168](#) encourages municipalities to identify appropriate locations for the development of publicly available infrastructure for fueling or charging zero-emission vehicles when adopting redevelopment plans.
- [P.L. 2020, c. 108](#) concerns the installation of EVSE in common interest communities. Specifically, the law: Prohibits common interest communities from adopting rules that prohibit or unreasonably restrict the installation or use of EVSE in the designated parking space of a unit owner.





- [P.L. 2020, c. 80](#) requires a developer to offer to install, or to provide for the installation of, an electric vehicle charging station into a dwelling unit when a prospective owner enters negotiations with the developer to purchase a dwelling unit.
- [P.L. 2019, c. 362](#) (The EV law) Established aggressive goals for a robust publicly accessible charging network by 2025, including 400 Direct Current Fast Chargers (DCFCs) at 200 locations along major highways and throughout New Jersey's communities, and 1,000 publicly accessible Level 2 chargers. Additional goals from the law include increasing deployment of EVSE at multi-family residences and hotels. While most people charge overnight at home or during the day at their place of work, developing a robust public charging network throughout the state will help alleviate "range anxiety" and encourage EV purchases.
- [The Statewide EV Ordinance](#) was designed to ensure that municipalities are requiring installation of EVSE and Make-Ready parking spaces in a manner consistent with the law, and to provide an ordinance that can be easily used by every municipality with no or minimal amendments. The ordinance is **mandatory** and addresses key land use, installation, and parking requirements for EVSE and Make-Ready parking spaces, including Accessory Uses in Zoning, Minimum Parking Mandates and EV Parking Space Requirements for New Parking Areas.

## Miscellaneous

- [Alternative Fuels Data Center: Electric Vehicle Charging for Multifamily Housing \(energy.gov\)](#)
- [Get Equipped - \(pluginamerica.org\)](#)
- [MUTCD - Regulatory Signs for Electric Vehicle Charging and Parking Facilities Memorandum - FHWA MUTCD \(dot.gov\)](#)
- [VCI-MUD\\_MUDChargingEmpowermentToolkitforResidents\\_Final\\_Mar23.pdf](#)
- [Forth – Multifamily Housing Charging](#)

## Still have questions?

Contact [DriveGreen@dep.nj.gov](mailto:DriveGreen@dep.nj.gov)





# Electric Vehicle Charging Station Consideration Matrix



Criterion	Level 1 Basic Charger	Level 2 Basic Charger	Level 2 Networked (Smart) Charger	DC Fast Charger
Sites with security or vandalism concerns	Fair	Good	Good	Fair
Power-constrained sites	Good	Fair	Good	Poor
Shared or Visitor parking spaces	Poor	Fair	Good	Excellent
Dedicated parking spaces	Good	Good	Good	Unsuitable
Charging duration for vehicle	3-5 miles of range per hour	10-20 miles of range per hour	10-20 miles of range per hour	< 1 hour
Maximum EVs Supported per charger (assuming appropriate parking access)	1	1 to 2	2 to 6	Up to 50
Supports Fee Collection	No	No	Yes	Yes
Installation and operation costs per charger	Moderate	Moderate	High	Very High

The EV Charging Station Consideration Matrix is a tool for multi-unit dwelling property management, owners, and HOAs to use as guidance in the consideration and selection of appropriate EV charging stations for their property.

