

INSTALLING YOUR OWN: FLEET CHARGING

Planning for charging infrastructure is crucial to electric vehicle adoption, there are three main types of electric vehicle charging: Level 1, Level 2 and Level 3.

Level 1 Charging: "Trickle Charging"

Very low power charging using a standard outlet. May be suitable for vehicles with limited travel profiles.

*Vehicle charging times at each level are highly dependent on charger power rating, vehicle charging capacity, and vehicle state of charge.



Level 2 Charging: "Routine Charging"

The standard for routine fleet vehicle charging. Fully charges overnight for all light-duty or medium-, heavy-duty with smaller batteries or limited travel profiles.



DC Fast Charging: "Fast Charging"

A High-powered but costly option, needed for high-use fleets. Quickly charges all light-, medium-, and heavy-duty vehicles with smaller batteries or limited travel; overnight for vehicles with larger batteries.



INCENTIVES FOR FLEETS

July 2023

Utility Make-Ready Programs may significantly impact installation costs. All Investor-Owned Utilities (PSE&G, ACE, JCP&L, ORU) in New Jersey will soon offer incentive programs for commercial installation of make-ready infrastructure for fleets.

NJ EDA: NJ ZIP to assist in the purchase of electric medium- or heavy-duty fleet vehicles.

NJ DEP: It Pay\$ To Plug In Program to assist in the replacement of older diesel powered vehicles.

NJ BPU: Medium- and Heavy-Duty Electric Vehicle Charging Program to provide incentives to fleet operators to install DC Fast Charging stations.

Contact the NJ ZIP Help Desk for additional technical assistance



CALL/
TEXT 732-790-0663

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nzip-help@ejb.rutgers.edu



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ELECTRIC FLEET CONSIDERATIONS

Before purchasing an electric vehicle, consider your driving habits, charging infrastructure accessibility, financial feasibility, environmental impact, and long-term maintenance costs. You can ask yourself the following questions:

Selecting a charger

Understand how your vehicle is used

- How is the fleet vehicle used?
- What is the daily driving range of the fleet vehicle?
- How often are the fleet vehicles used?
- Is the operation schedule predictable on a day-to-day and year-round basis?
- What is the average and longest distance that the vehicle will travel at one time?
- Is there a predictable block of time that the vehicle can charge?

Details of charging station

- Which charging station vendor will you use?
- How many chargers/plugs will you need?
- What power charging stations do you need?
- What information do you want to track? (Charger use, time of use, cost per charge, who uses chargers)
- What are the software requirements of the vendor, and what type of data do you need to report?

Charging station operations

- How will drivers be trained for operating and charging electric vehicles?
- How will drivers be trained to handle an EV in the event of a fire safely?
- Who will handle the charging of vehicles? (Will each driver plug in the vehicle, or will one person be designated to plug-in vehicles?)
- Who will access the software, and who will manage users?



Charger location

- How many parking spaces are needed for your charging stations and electric vehicles?
- Where will charging stations be located, and what is the available power at the location?

Future-proofing

- How many vehicles are there in the entire fleet and how many electric vehicles are being procured now?
- What will future charging needs be as your fleet electrifies and how can you best prepare now?
- Does it make sense to future-proof and install make ready infrastructure in preparation for a fully electric fleet?

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ALTERNATIVE FLEET CHARGING OPTIONS

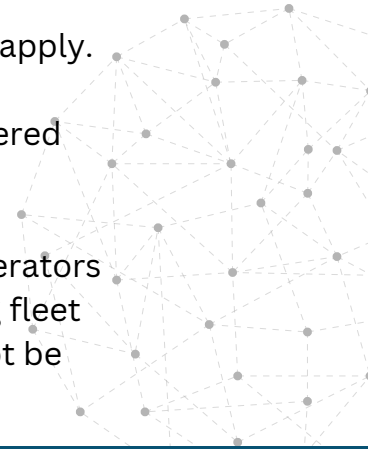
While the preferred fleet charging method is to install and own, fleet operators should review the considerations below to understand if these options make sense for your fleet. These alternatives may be a supplement or a replacement to installing your own fleet chargers.

Public Charging

Public L2 or DC Fast Chargers (DCFC) work for fleets that can't always charge in a designated depot

CONSIDERATIONS

- Upfront costs are low, but there are additional subscription and usage fees apply. Weigh these against the long-term costs of installing your infrastructure.
- Power levels at public locations vary, and there are currently few high-powered (>150 kW) stations in New Jersey. Reliance on public charging could lead to downtimes that impact fleet operations and schedules.
- Public charging stations are often unreliable and sparsely located. Fleet operators should understand where public charging is available and operational along fleet routes. Fleet operators should also understand that public chargers may not be readily available and may be used by another driver at any given time.



Charging-As-A-Service

Charging-as-a-service is an emerging model for charging electric fleets. Charging-as-a-service companies build, manage, and maintain charging infrastructure leased to electric fleet operators. Interested fleet operators should work with providers to establish opportunities for charging-as-a-service in New Jersey.

CONSIDERATIONS

- Upfront costs are low, but leasing parking spaces and charging infrastructure reoccurring costs.
- These models are currently in operation in places like California, but are still being built out in New Jersey.

Mobile Charging

Mobile chargers are emerging models that offer a flexible and portable charging that may be a good alternative solution for your fleet.

CONSIDERATIONS

- There are operational complications with mobile chargers that must be considered (including: where will the mobile battery charge, where it will be stored, and how long it will take to provide adequate range).

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