



Washington

## Green Transportation Program

*Moving forward with Washington's public fleets*

### Mobile Charging

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#### What is mobile charging?

Mobile charging refers to the practice of delivering electric vehicle (EV) charging services through portable or transportable systems, rather than relying solely on stationary charging infrastructure.

Mobile solutions can range from battery-equipped trailers and charging trucks to modular charging units that can be deployed on-demand. As EV adoption expands—particularly in rural areas, disaster zones, or among commercial fleets with variable routes—mobile charging offers a flexible and scalable approach to bridging infrastructure gaps. It enables charging access in locations where permanent stations may be impractical, under construction, or economically unfeasible, making it a critical tool for supporting equitable and resilient transportation electrification.

#### What should I consider when choosing a portable EV charger?

When selecting a portable EV charger, several important factors come into play that impact convenience, safety, and compatibility.<sup>1</sup>

- **Charging speed:** Fast charging can be a major advantage, but it comes with tradeoffs, including higher cost and greater power demands. Consider how quickly you need to recharge versus what's realistic for your electrical setup and budget.
- **Portability:** A truly portable charger should be easy to carry and store. Look for models that are lightweight and compact but still deliver reliable power output.
- **Vehicle compatibility:** Not every charger fits every EV. Make sure the connector type and power specs match your vehicle to avoid any frustrating mismatches.
- **Durability & weather resistance:** If you'll be charging in varied environments, choose a unit built to endure. Weather-resistant and rugged models ensure functionality in rain, dust, and other rough conditions.
- **Safety features:** Look for built-in protections like temperature regulation, overvoltage shutoff, and short-circuit prevention. These features help safeguard both you and your vehicle.
- **Installation needs:** Level 1 chargers plug into standard outlets, but Level 2 options require 240 Volt access—often requiring a dedicated outlet or minor home upgrades. A quick check with an electrician can help ensure safe, code-compliant use.
- **Vehicle Type:** Consider the type of vehicle. Mobile charging will be much different for a consumer EV versus a bus or medium- or heavy-duty EV. Learn more about consumer EV mobile charging here: [4 Best Portable Electric Car Chargers](#).



*SparkCharge potable EV charger. Source: [InsideEVs](#)*

## How expensive is mobile charging?

Costs vary, but these ranges include hardware but not necessarily transport, operation, or setup:

- Mobile DC fast chargers: \$40,000 to \$100,000+.<sup>2</sup>
- EV ARC (solar-powered, off-grid): ~\$65,000 to \$150,000, depending on options.
- Portable battery-based chargers: \$20,000 to \$60,000.<sup>3</sup>

## Comparing charger specs

So far, [ChargePodX](#) and [Mcharging](#) products are the most impressive.

Company	kW	Charging Level	AC Input	Charger Weight	Charging Speed	Additional*
ChargePodX	30	2.5	208 V to 240 V	120 lbs	80 mph	30% fed rebate
ChargePodX	90	3	480 V	250 lbs	260 mph	30% fed rebate
Heliox	50	n/a	n/a	n/a	~ 35 mph	n/a
MCharging	30/60/90	n/a	n/a	209 kg	n/a	90 kW - up to 930 miles of range
VoltStack	30	2	n/a	n/a	80 kWh - 3.5 hours	n/a
Heliox	60 to 180	3	480 V	n/a	2 to 3 hours for most buses, trucks	n/a

*Table 1 Comparison of EV charger specifications*

\* Please contact charging companies directly for charger prices in your area.

## What are mobile Charging Services?

Mobile charging services are essentially on-demand EV charging providers that deliver power to EVs wherever they are using battery-equipped vans, trailers, or even tow trucks. Think of them as the EV equivalent of AAA's gas delivery service. These solutions are especially useful when:

- A vehicle is stranded with low battery and can't reach a charging station.
- A fleet depot doesn't yet have permanent charging infrastructure.
- A school district or company wants to test EVs before committing to full infrastructure build-out.
- There's a need to scale temporarily, such as for an event, new bus rollout, or remote route.

## Who operates these services?

Here are a few key players:

- [Squatch Unplugged](#) (WA): Offers emergency EV charging via portable units across Western Washington. Targets drivers in remote or underserved areas and could be tapped for fleet pilot support or emergency redundancy.

- **SparkCharge** (nationwide): SparkCharge offers portable, high-powered, battery-based EV chargers that can deliver 80 to 125 kW without the need for installation or grid connection. Their mobile units are used for fleet support, roadside assistance, and charging in areas lacking infrastructure. While most active in California and the Northeast, SparkCharge’s model is well-suited for pilot programs in Washington’s rural and underserved areas. Their “Roadie” and “BoostEV” platform allows you to summon portable EV charging from an app. It is already being used in urban fleet operations, including delivery vans and taxis.
- **AAA Mobile Charging**: A few regional AAA chapters, including AAA Washington, have begun offering mobile EV charging trucks as part of their roadside services. This service provides a safety net for early adopters in the EV space.
- **Heliox**: Heliox is a global provider of fast DC charging solutions for electric fleets, including buses, trucks, and heavy-duty vehicles. Their mobile chargers are compact, plug-and-play units (40–50 kW) designed for flexible deployment without permanent infrastructure. Most notably, Heliox has provided the charging infrastructure for King County Metro’s new electric bus fleet.

### ***Are these services viable for electric school buses (ESBs) or other large fleets?***

Yes, but with caveats. Mobile charging units:

- Are not a replacement for long-term depot-based infrastructure.
- Serve as a transitional tool—especially helpful for districts just getting started with ESBs.
- Can be used to pilot ESB deployment without waiting for major electrical upgrades.
- Provide backup support if buses can't make it back to base for charging because they serve rural routes and remote stops or have long dwell times.

### **Conclusions**

For a bus or truck fleet, owning mobile charging stations is a much more attractive option than paying for mobile charging services. Services like Squatch Unplugged and SparkCharge offer a convenient and flexible solution, particularly valuable during pilot phases or emergency situations. While services like these may charge recurring fees and have limited scheduling windows, they provide a turnkey option that reduces upfront costs and removes the burden of managing charging logistics, making them an attractive choice for short-term or transitional needs.

In contrast, owning your own mobile charging units, such as battery trailers or portable Level 2/Level 3 chargers, enables fleet operators to deploy charging where and when it’s needed, without relying on external providers. This can be especially beneficial for:

- Route coverage in rural or temporary locations.
- Back-up power during grid outages.
- Phased infrastructure build-outs where permanent depot chargers are still under development.
- Seasonal or event-based fleet expansions.

Given the wide range of needs among customers seeking temporary or mobile EV charging—whether for fleet operations, rural access, emergency response, or public events—solutions must be adaptable and user-configurable. Modular, trailer-mounted systems that allow end users to scale capacity and deployment based on their specific context are well-positioned to become the dominant approach in this emerging market. Companies like SparkCharge exemplify this direction, offering flexible, high-powered charging platforms that require no fixed infrastructure. As demand grows for

reliable, mobile charging, the ability to tailor solutions to diverse use cases will be a key driver of adoption and long-term success.

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<sup>1</sup> [Power on the Go: Guide to Portable EV Chargers](#)

<sup>2</sup> [Heliox | 60 kW EV Charger for Bus, Truck & Car](#)

<sup>3</sup> [Roadie Portable | Portable EV Charging Station](#)



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