AusNet GridView

Identifying suitable electric vehicle (EV) charger locations

How to find a suitable EV charger location

Installing electric vehicle (EV) chargers in public spaces, such as roadside, service stations or council car parks, requires careful planning to be cost-effective, accessible and network compatible.

The AusNet GridView portal, a publicly accessible map of our electricity distribution network, is a valuable tool for identifying suitable locations.

This guide highlights key factors to consider and how GridView can support your planning.

Step 1: Choose the right type of EV charger

Charger type	Power output	Charging speed	Power requirements	Installation cost	Ideal locations	Typical dwell time
Level 2 (AC)	7.2–22 kW	25–100 km/hour	230–400V AC (single or three-phase)	Lower	Urban streets, community hubs	**1–3 hours**
Direct Current (DC) Fast Charger	50–350 kW	100–300 km in 15–60 mins	400–800V DC	Higher	Highways, service stations	**15–30 mins**

- Level 2 chargers offer faster EV charging than Level 1, which uses a standard 230V socket and often requires a dedicated circuit.
- DC chargers are high-powered EV chargers that use direct current for fast charging, typically operating between 400V and 1000V. They're usually connected directly to a 22kV high-voltage feeder via a dedicated distribution substation (transformer).

Step 2: Understand key connection cost factors

The following factors can impact how much it costs to connect an EV charger:

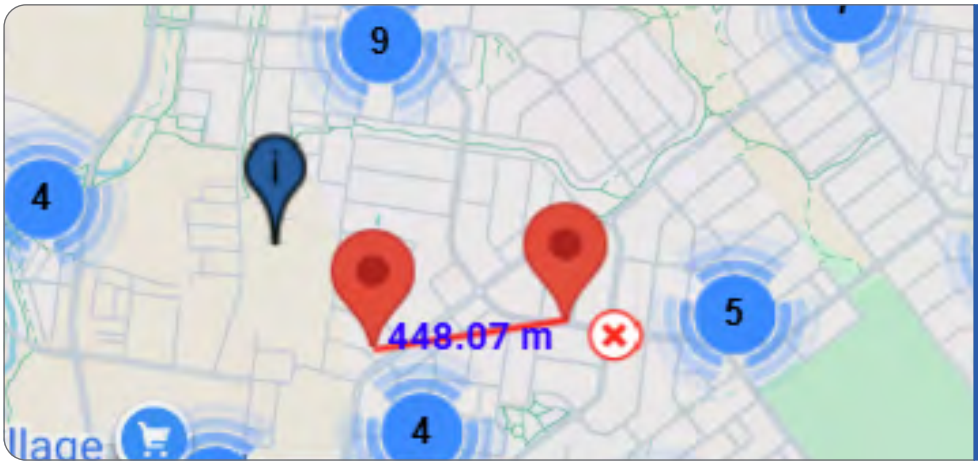
1. Proximity to distribution substation

Selecting a site closer to the distribution substation may help reduce connection and installation costs and could simplify the overall setup process.

- Shorter distances reduce trenching, cabling and restoration costs.
- Longer distances increase voltage drop and require larger conductors.

How GridView can help

Use the GridView measuring tool to measure the distance between the distribution substation to your preferred EV charging location.



Right click on the map to start the measurement tool. The distance between two points is shown above by the red line.

2. Conductor type and size

The type of conductor and cabling (underground or overhead) can significantly increase costs. Positioning the EV charging equipment close to the distribution substation may help reduce costs.

- Conductor types vary significantly across the network, ranging from multiple core underground cables to thin, steel above-ground conductors.
- Larger conductors are needed for longer distances or higher loads.
- Underground cabling (common in public areas) is more expensive than overhead lines.

The specification description provides information on conductor type.

How GridView can help

Click on LV lines/cables and HV feeders to see conductor specifications.

The specification description provides information on conductor type.

3. Available network capacity

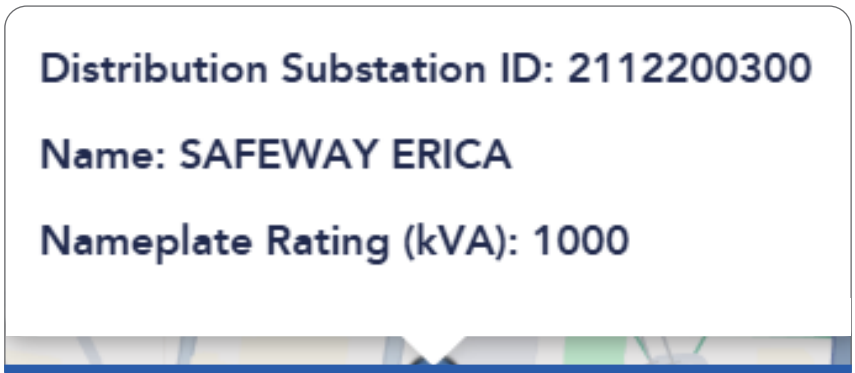
Where feasible, prioritise sites located near distribution substations that have sufficient spare capacity to accommodate the additional load from the EV charger.

If the local distribution substation is near capacity:

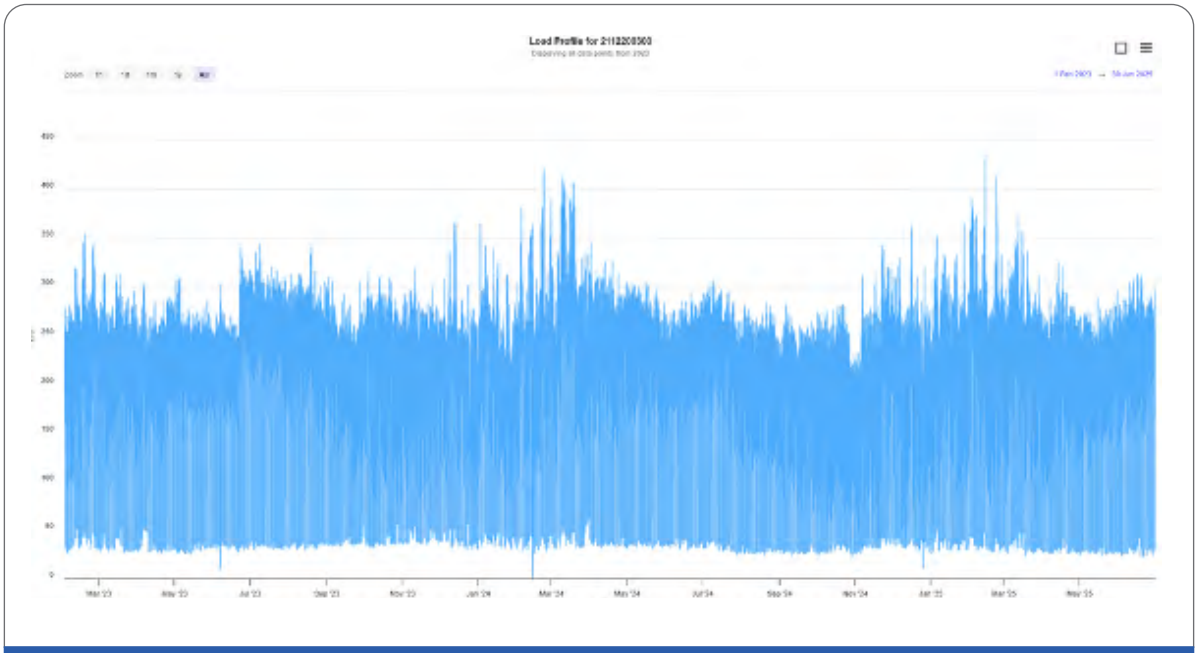
- Upgrades to the distribution substation and/or conductors may be needed.
- Smart charging systems may help manage demand.

How GridView can help

To see if a local distribution substation has capacity for the EV charger connection, find the closest distribution substation to the preferred EV charging location and view the substation's load profile. Compare this with the nameplate rating to see if there is capacity.



Distribution substation, SAFEWAY ERICA, has a nameplate rating of 1000kVA.



Load profile for distribution substation, SAFEWAY ERICA shows the maximum load (electricity drawn from the grid) is just over 400kVA, indicating that there may be capacity to connect an EV charger or chargers with a combined power rating of 400kVA or greater.

4. Site layout and installation complexity

Site characteristics can significantly influence both connection and installation costs.

- Consider trenching through asphalt or landscaped areas.
- Install safety features like bollards and be compliant with accessibility standards.
- Integrate with existing infrastructure, such as lighting or signage.

How GridView can help

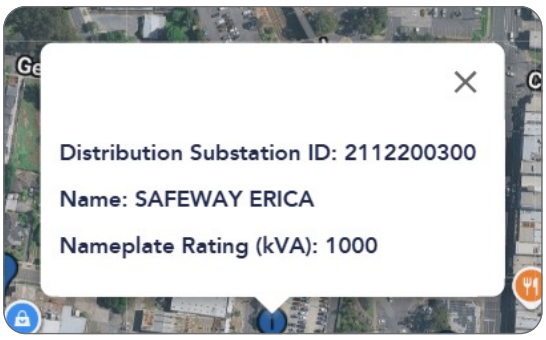
Use GridView's satellite view as an initial tool to evaluate site characteristics.

5. Charger type and power needs

Level 2 chargers require moderate power and are suitable for most public locations.

Direct current (DC) fast chargers need:

- dedicated transformers connected to the feeder
- harmonic mitigation equipment (harmonics are unwanted voltage or current waveforms that distort the ideal regular, wave-like pattern of electricity).

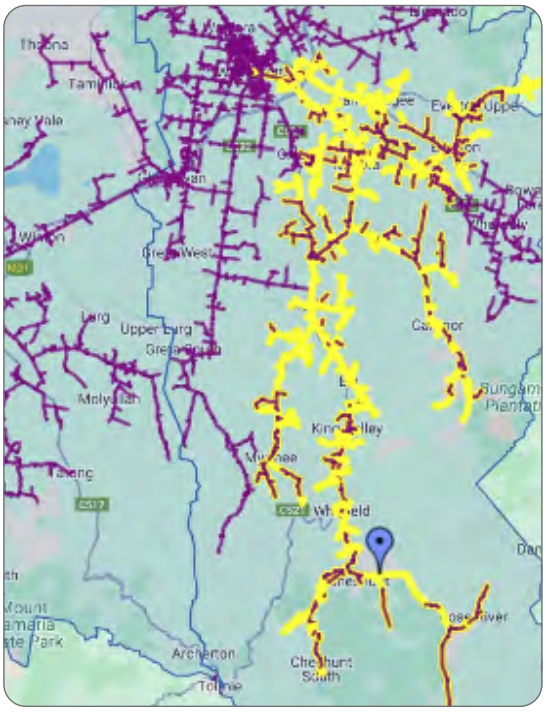


6. Local network configuration

- Phase balancing is critical when installing multiple chargers.
- Neutral current management is important for clusters of single-phase chargers.

How GridView can help

Find the closest feeder, then type the feeder name in the search bar to see its configuration in relation to other feeders in the area.



7. Regulatory and DNSP requirements

To apply for an EV charger connection point on our network, visit our **Portal**.

DNSPs, like AusNet, require:

- connection application
- compliance with Service and Installation Rules (SIRs)
- metering and protection upgrades.

GridView is for general advice only and does not reflect actual outcome of connection application completed by AusNet.

Want to know more?

Download our other factsheets at:
ausnet.com.au/gridview

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For free unlimited access to our network map, visit: **gridview.ausnetservices.com.au**