
Waikato
REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato
June 2023
He aratohu punahiko
Guidelines for
EV charging stations
On council land in the Waikato region
#7388

# Rārangi kaupapa
# **Contents**


Te aronga
**Purpose** 3

Ngā whanonga arataki
**Guiding principles** 4

Te korahi
**Scope** 6

Ngā whakaaroaro
**Location and design considerations** 7

- **Site selection** 7
- **Site design** 8
- **Technology** 8
- **Standards and regulations** 9

Ngā whakaritenga rēti
**Leasing arrangements** 10

Ngā kupu whakamārama
**Glossary of terms** 11




# Te aronga
# **Purpose**

## The purpose of this document is to provide guidance to organisations that want to install electric vehicle supply equipment (EVSE) on public land in the Waikato region.

This allows a consistent approach and execution and ensures that providers are aware of the requirements and expectations of councils within the Waikato region. The guidelines outline the principles for planning EV charging infrastructure on public land and support the selection of the correct type of infrastructure in the right location.

These guidelines have been prepared with support from staff at the following organisations:

- Waikato Regional Council
- Hamilton City Council
- Waikato District Council
- Waipā District Council
- Matamata-Piako District Council
- Hauraki District Council
- Thames-Coromandel District Council
- South Waikato District Council
- Ōtorohanga District Council
- Waitomo District Council
- Taupō District Council
- Waka Kotahi NZ Transport Agency
- CoLab Solutions
- Te Waka
- Department of Conservation.



# Ngā whanonga arataki
# **Guiding principles**

The following principles have been fundamental for preparing this guideline. Proposals to locate EVSE on public land in Waikato region should align with these six principles:

1. **Complement collective and individual council transport network strategic intent and policies:**

- Have least impact on the competing priorities and established targets of a council, such as encouraging mode shift and equity of access for those with mobility impairments
- Not adversely impact the safety of transport network users
- Best help councils meet their obligations and objectives around climate change and lowering transport-related emissions
- Align with established collective regional and national aspirations, plans and standards.

2. **Prioritise community benefit and connection over commercial interest:**

- Best fit the needs of the local community, while supporting identified regional and national EV charging network priority areas
- Best compensate the community for commercial use of public space
- Attract EV users to areas that would benefit from social and economic rejuvenation
- Show consideration of equity of access and distribution across areas and between communities
- Proposal outcomes align with the four wellbeing pillars: economic, social, cultural and environmental wellbeing.

3. **Involve collaborative decision-making that considers the wider planning and operating environment:**

- Processes and decision-making are transparent and inclusive.
- Iwi, hapu and mana whenua interests are taken into consideration.
- Cross-sectoral entities are engaged early in the planning process to ensure an integrated planning process that meets collective outcomes.
- Neighbouring and other councils in the region are engaged early in planning processes, including consideration of inter-regional network linkages.
- Interested community groups or those who may be impacted by the infrastructure are engaged, including those with different mobility or access needs.
- Urban planning intent, policy and process are taken into consideration.


4. **Not disadvantage council in terms of cost, convenience, or restriction of future public land use opportunity:**

- Flexibility is maintained for returning the space to public use in the future if required.
- Network development provides the right balance of fast and slow chargers as identified by the council.
- Any partnerships are at a minimum cost-neutral or financially beneficial.
- Non-exclusive agreements with service providers are preferred.
- No land is restricted by contracts longer than five years without right for review opportunities to reassess land use opportunity.

5. **Ensure open and transparent sharing of information and data:**

- Partnerships offer open books policy in relation to usage data, trends and financial information.
- Data is collected and presented in a consistent manner across providers and councils.
- Councils are enabled to share EV usage data and information freely between each other.

6. **Promote convenient and consistent user experience:**

- Locations are convenient and appropriate for local EV driver needs and through traffic.
- Site and infrastructure design are safe, well-lit, accessible, and incorporate best practice universal design principles.
- Infrastructure provides charging services for the widest range of EV users.
- Charging software is easy to use and ideally interconnected with other relevant platforms.
- A consistent (ideally non-brand specific) set of customer payment options across providers is preferred.

# Te korahi
# **Scope**

This document applies to all publicly accessible charging stations on public land, whether installed by a council or third-party private operators. It provides the overriding direction for the provision of EVSE across the Waikato region for residents, businesses and visitors.

# Ngā whakaaroaro
# **Location and design considerations**

Councils in the Waikato region aim to facilitate the provision of EVSE on public sites in an efficient, inclusive and accessible manner. A proposal for EVSE may be considered suitable where it demonstrates consistency with the matters in this section.

## Site selection

The proposal should contribute to the wider regional EVSE and charging station network by considering:

- The number, type and capacity of EVSE facilities required to best support the transition to low-emissions transport, for example, large EV hubs on key arterial routes (journey charging), single chargers at community facilities in small towns, slow chargers at visitor destinations (destination charging), or temporary 'pop up' charging hubs for seasonal destinations
- Regional and local council priorities and community outcomes in relation to the development of the charging station network, for example, to draw those en route to somewhere else into rural towns, temporary support during tourist high seasons or shifting car drivers to more sustainable choices
- Whether the proposed site has reasonable connection to the wider transport network
- The general transport network use characteristics i.e. current and future use, seasonal differences including at summer destinations, and where relevant, urban or rural considerations
- The needs and wants of the local community and EV owner community
- Current and anticipated growth in EV ownership[1]
- EV user behaviour such as when and where people are choosing to charge, how (AC/DC, filling or 'sipping') and why[2]
- What neighbouring councils and other agencies or stakeholders are doing to support sensible overall EVSE and charging station network design.

The proposal must consider site-specific characteristics as follows:

- Whether there is physical space for EVSE (new space or within existing parking space)
- Assets or constraints preventing or complicating delivery e.g. gas/electricity/water pipelines, trees
- Land or property designations that would complicate delivery e.g. scenic, reserve, town belt and use restrictions in these areas
- Amenities or facilities at the site, such as public toilets, sites of interest, shops, cafes
- Cultural or historical significance and proposed engagement with the relevant community
- Other users potentially impacted by the proposed location such as business owners, recreational groups, residents, and proposed engagement or consultation with the relevant community
- Major works scheduled for or recently completed at the site and any future proofing incorporated such as additional cabling or capacity for cabling.

1 Waka Kotahi data for EV ownership by postcode. Council population growth projections may support anticipating EV ownership growth.

2 Electric Vehicle Charging Survey | EECA

## Site design

The EVSE, charging station and its operation should not adversely impact on the amenity or safety of surrounding development or access to and enjoyment of the public domain. Once a site has been chosen, site design should consider the following:

- The suitability of the site to accommodate EVSE if there are not already established car parks
- Existing power connections or the ability to install new connections
- Power capacity and load management, including when connecting into an existing connection on the site (e.g. a council facility, such as a library)
- The best location for EVSE on the site to minimise:
  - disruption to pedestrians or cyclists and associated infrastructure such as footpaths and cycleways
  - impact on existing parking infrastructure and the overall layout and operability of the site
  - temptation for non-EVs to park in EV sites out of convenience
  - obstruction of shared spaces required for wheelchair use (for both EV and any non-EV parking nearby)
  - damage to EVSE from vehicles
- The best location for EVSE on the site to facilitate:
  - use by a number of EVs at the same time
  - an increase in the number of chargers or capacity in the future
  - safe entry and exit to the EV parking bays through appropriate design
- The ability for vehicles with a front, back or side charging port to park wholly within a parking bay to charge without obstructing the travel lane or road corridor
- The safety and convenience of the charging station with regard to adequate lighting, cellphone coverage, signage and vehicle access.

## Technology

All EVSE and charging stations in the Waikato region must:

- Complement EV user and overall EVSE network design needs
- Be interoperable and have the ability to charge all types of EVs i.e. not brand specific or of a charging capacity that would exclude some EVs
- Be built to universal design standards[3]
- Provide a consistent and convenient experience for users including charging software and universal payment system options
- Be adaptable for different user groups or purposes e.g. subsidised parking
- Connect and contribute to open and transparent local and national network visibility and data
- Be able to be upgraded to meet new industry standards or requirements (or utilise new technology if demonstrated to be suitable).

3 NZ does not currently have universal design standards for EVSE. Please refer to PAS 1899:2022 Electric vehicles – Accessible charging – Specification (UK)

## Standards and regulations

All EVSE and charging stations must comply with all New Zealand legislation, regulations and standards including but not limited to:

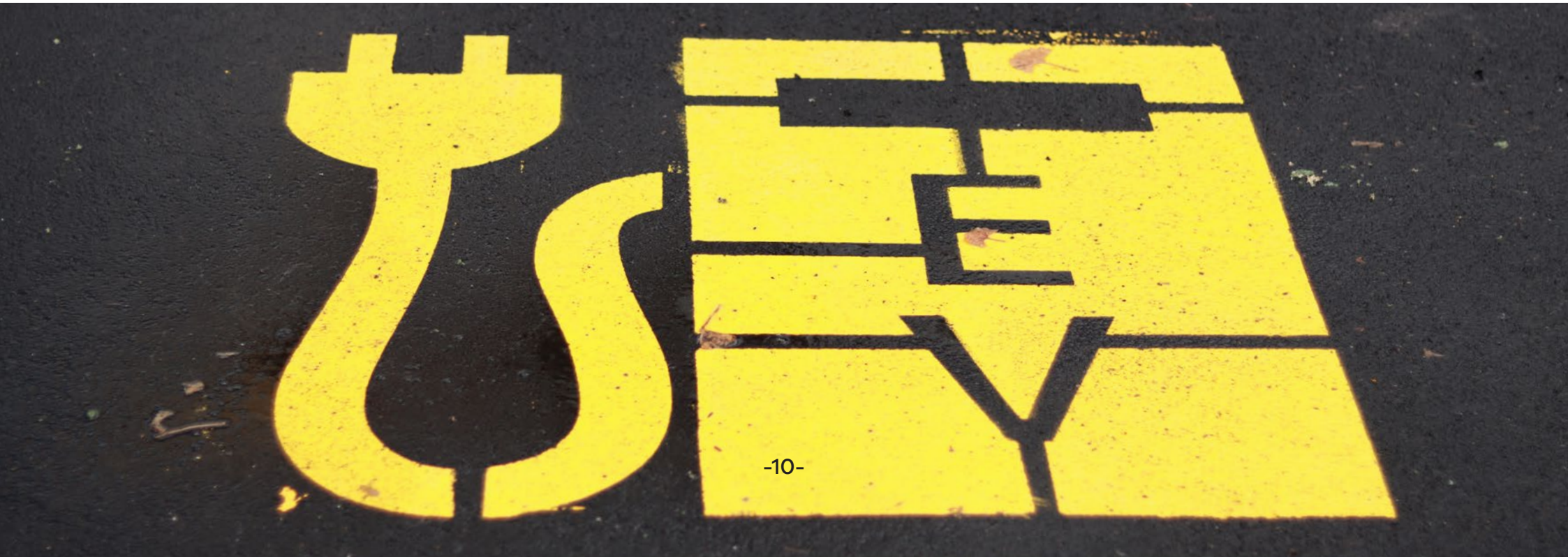
- Resource Management Act 1991
- Local Government Act 2002
- Government Roading Powers Act 1989
- Electricity Act 1992
- Land Transport Rule: Traffic Control Devices 2004
- SNZ PAS 6010:2021 Electric vehicle (EV) chargers for commercial applications
- Local bylaws
- District plans.

Additionally, all EVSE and charging stations must be consistent with:

- National Emissions Reduction Plan
- national guidance for public electric vehicle charging infrastructure
- regional and local future transport network strategies
- district EV charging policies.

# Ngā whakaritenga rēti
# **Leasing arrangements**

- EVSE on public land will be subject to licensing /leasing arrangements with the relevant council.
- Licence or lease terms will be in accordance with the relevant council policy.
- Councils reserve the right to require appropriate remuneration for use of public land for the purposes of EVSE. This may be in the form of a lease or licence fee, apportionment of user fees or other. This will be determined on a case-by-case basis as part of any lease or licence fee or other agreement.



# Ngā kupu whakamārama
# **Glossary of terms**

| Term | Definition |
|---|---|
| AC charging | AC charging supplies AC power from the grid to the vehicle. The vehicle's on-board system converts the AC power to DC and it is then stored in the battery. AC charging is generally slower than DC charging. |
| Charging point | Any location where EVSE is permanently located and an EV can be plugged in and charged. |
| Charging station | A site or location with one or more charging points that safely supplies electrical energy for the purposes of charging EVs. |
| DC charging | DC charging converts AC power to DC. DC power is then passed to the vehicle and stored in the battery. DC charging is generally faster than AC charging. |
| Destination | A place that people will make a special trip to visit e.g. a beach or park. |
| Destination charging | Destination charging typically uses slow chargers designed to support all-day or part-day parking. It is likely to have a low daily turnover but have multiple charging points within an individual location. Usually found in on-street and off-street parking areas, parking buildings, park-and-ride car parks and retail car parks. It is sometimes called electrified parking. |
| e-bikes | Electric powered bicycles |
| Electric Vehicle Supply Equipment (EVSE) | The conductors including the phase, neutral and protective earth conductors, the EV couplers, attachment plugs and all other accessory devices, socket outlets, safety function devices, or apparatus installed specifically for the purpose of delivering electrical energy to an EV and allowing communication between them if required.<br><br>EVSE includes wall box (Mode 3) charging stations, Mode 2 in-cable control and protection devices (IC-CPDs), supply leads, EV adaptors, and socket outlets that are specifically intended to supply electricity to an EV.<br><br>EVSE includes discrete components, such as contactors and current controllers, installed for the purpose of controlling such an installation, such as in a switchboard or other place. |
| Electrified parking | See destination charging. |
| En-route charging | See journey charging. |
| e-moto | Electric powered mopeds and electric powered motorcycles. |
| e-scooter | Electric powered scooters |

| | |
|---|---|
| EV / electric vehicle | A vehicle with an electric motor powered by a battery charged by connecting to an external source of electricity. This includes battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) as well as e-moto, and e-bikes. |
| EVRoam | EVRoam is a live database of New Zealand's electric car charging infrastructure. Managed by Waka Kotahi, it collects real-time information from all safe and monitored public charge points around New Zealand and freely distributes it. |
| Fast charging | Typically describes AC charging systems that have been enhanced to enable faster AC charging suitable for destination charging. |
| Fast (rapid) charging | Typically describes DC charging systems and is the fastest charging option currently available in New Zealand. |
| Interoperable/ interoperability | Able to exchange and make use of information, for example through a universal payment system and universally accepted physical connectors. |
| Journey charging | Journey charging typically requires high powered DC chargers in high visibility, high demand, high turnover areas with 24-hour access. They are designed for short stopping periods and are likely at service stations, along rural roads and on urban main streets. |
| Micro-mobility | Micro-mobility refers to a range of small, lightweight vehicles operating at speeds typically below 25km/h and driven by users personally. Micro-mobility devices include bicycles, e-bikes, electric scooters, electric skateboards, shared bicycle fleets, and electric, pedal-assisted bicycles. |

| | |
|---|---|
| Road Corridor | Has the same meaning as 'road' in section 315 of the Local Government Act 1974.<br><br>Explanatory note 1: the meaning of road in the Local Government Act 1974 is:<br>road means the whole of any land which is within a district, and which—<br><br>a. immediately before the commencement of this Part was a road or street or public highway; or<br>b. immediately before the inclusion of any area in the district was a public highway within that area; or<br>c. is laid out by the council as a road or street after the commencement of this Part; or<br>d. is vested in the council for the purpose of a road as shown on a deposited survey plan; or<br>e. is vested in the council as a road or street pursuant to any other enactment; —<br><br>and includes—<br><br>a. except where elsewhere provided in this Part, any access way or service lane which before the commencement of this Part was under the control of any council or is laid out or constructed by or vested in any council as an access way or service lane or is declared by the Minister of Works and Development as an access way or service lane after the commencement of this Part or is declared by the Minister of Lands as an access way or service lane on or after 1 April 1988:<br>b. every square or place intended for use of the public generally, and every bridge, culvert, drain, ford, gate, building, or other thing belonging thereto or lying upon the line or within the limits thereof; —<br><br>but, except as provided in the Public Works Act 1981 or in any regulations under that Act, does not include a motorway within the meaning of that Act or the Government Roading Powers Act 1989.<br><br>Explanatory note 2: the road includes the airspace above the road and the subsoil under the road. |
| Slow charging | Typically describes AC power supply that may take up to eight hours to fully charge an EV. Slow charge infrastructure is suitable for electrified parking or overnight facilities. |
| Universal design | Universal design is about making buildings and facilities accessible to all people of all abilities at any stage of life. It generally includes people who use wheelchairs or other mobility aids, people with impaired vision and people who are elderly or very young. In relation to EV charging, NZ does not currently have universal design standards. It is recommended that providers refer to PAS 1899:2022 Electric vehicles – Accessible charging – Specification (UK). |
| Universal payment system | A payment system allowing electric vehicle owners to pay for electricity used charging a vehicle using one application (app) across different charging networks. |