

# Public Electric Vehicle Charging Infrastructure Operating Guidelines (draft)

*Date this document was adopted*

*Council*

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**PARENT DOCUMENT:** Integrated Climate Strategy 2030

## PURPOSE

The City of Adelaide has been an early adopter and supporter of Electric Vehicle (EV) and associated technologies. The *Integrated Climate Strategy 2030* includes a priority to make public EV charging infrastructure available for all users, including micro-mobility, catalysing the uptake of EVs in Adelaide.

As the EV transition matures, the City of Adelaide (CoA) is no longer required to directly drive market change through the direct provision of EV charging infrastructure. The *Electric Vehicle Charging Infrastructure Transition Roadmap 2023* (the Roadmap) and the *Integrated Climate Strategy* set CoA's role as being to "use its influence and market power to strike a balance between market demand for accessible EV charging infrastructure and broader integrated transport and city outcomes". Accordingly, CoA will partner with the private sector to ensure sufficient charging infrastructure is available to city residents, workers, visitors and CoA as the market transitions to mass adoption of EVs.

This document has been established to guide the market-led rollout of public EV charging infrastructure at strategic locations on CoA-owned or operated land – including public realm (e.g. on-street) and commercial parking (e.g. UParks).

These Operating Guidelines provide a consistent approach and provisions for CoA to consider the installation, ownership, management, and removal of EV charging infrastructure on Council-owned and operated land by third parties. It does not pertain to public or private EV charging infrastructure on private land.

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## STATEMENT

- The City of Adelaide (CoA) will partner with the private sector to provide the community with a publicly accessible EV charging network through commercial arrangements.
- The *Integrated Climate Strategy 2030* highlights CoA's key actions and investment principles for supporting EV infrastructure in CoA.
- CoA's publicly accessible EV charging network is not intended to meet all charging needs for all visitors, residents, and businesses but to provide equitable charging opportunities. It aims to 'plug the gap' in infrastructure provided by private landholders as driving and refuelling patterns change by providing a combination of destination and on-street publicly accessible EV chargers that provide either 'top-up' or fast charge for EVs.

The City of Adelaide acknowledges the Kurna people as the Traditional Owners of the Country where the city of Adelaide is situated, and pays its respect to Elders past, present and emerging.

- These Guidelines only apply to the CoA-owned or operated land. In general, private landholders do not require approval from CoA to install charging infrastructure on privately owned property where it meets relevant Australian Standards for electrical works and safety. Exceptions may apply, for example for heritage listed buildings.

These Guidelines do not preclude CoA from considering EV charging infrastructure for a range of EV types, including:

- Private and commercial vehicles;
- Car share, for example by considering proposals from car share providers to upgrade existing spaces with EV charging infrastructure; and
- Electric micro-mobility, including e-bikes.

There is potential for EV charging infrastructure demands to change over time. The CoA will regularly review these Operating Guidelines with respect to:

- Industry best practices and emerging national standards to ensure that infrastructure on CoA owned and operated land is able to respond to developing technologies with agility and remain useful to as many users as possible; and
- The changing needs and demands for EV charging infrastructure on CoA land in relation to other potential uses of the space.

These Guidelines include:

- CoA roles and responsibilities
  - Planning and placement
  - Technical specifications
    - Compatibility and access
    - Charging levels and typologies
    - Operation
  - Design
    - Urban amenity
    - Advertising
    - Configuration, visibility, and identification
    - Safety
  - Parking controls and enforcement
  - Operating arrangements
    - Eligibility and approvals
    - Operating requirements
    - Monitoring
    - Pricing and revenue
    - Procurement process.
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## OPERATION

## CoA roles and responsibilities

<b>Park Lands and Sustainability:</b>	Strategic direction, guidelines review, procurement processes
<b>Infrastructure Delivery:</b>	Delivery and implementation of EV charging infrastructure in the public realm
<b>Commercial Parking:</b>	Delivery and implementation of EV charging infrastructure in commercial parking locations
<b>City Development:</b>	Development assessment
<b>Compliance:</b>	Parking inspectors and vandalism
<b>Infrastructure Assets:</b>	Monitoring performance and asset renewal
<b>Risk and Governance:</b>	Lease and permit agreement

Please refer Attachment C for further detail regarding the procurement process and responsibilities.

### Planning and placement

The City of Adelaide (CoA) will ensure that EV charging infrastructure installed on City of Adelaide-owned or operated land aligns with the *Integrated Climate Strategy 2030* (ICS) EV Infrastructure Investment Principles.

CoA will undertake formal procurement process for EV charging infrastructure in the public realm. Any proposals received outside of any formal procurement process will be noted and considered against the criteria outlined in these Guidelines and any existing Agreements, Permits, Leases and Licences in place.

From time-to-time, CoA will invite proposals responding to a procurement process from the market to supply, install, operate, maintain, and remove public EV charging infrastructure at locations approved by CoA. This process includes:

- CoA reviews the public charging network and identifies gaps in spatial coverage or locations of high utilisation of existing infrastructure;
- CoA uses its list of locations (e.g. streets, precincts, or parking facilities) that have been identified as priority locations for EV charging infrastructure (refer Attachment A);
- CoA invites proposals responding to a procurement process based on these locations, accompanied by:
  - A map or list of CoA-owned and operated land (sites) that fall within these locations; and

- Any applicable master plans or scheduled works which may impact implementation in the locations being considered.
- Operator(s) provide their proposal(s), including their proposed site(s) within the identified locations. Operator(s) demonstrate the appropriateness of the site(s) for the installation of EV charging infrastructure; and
- For infrastructure in the public realm, the CoA conducts public consultation as per the Community Consultation Policy and Local Government Act and ensures internal consultation and reference to other CoA strategies and policies.
- CoA issues Agreements with successful Operator(s).
- Permit, License and Lease will then be sought for each location identified under the Agreement subject to Development Approvals.
- Requests from individuals, groups or organisations without off-street parking seeking public electric vehicle charging infrastructure in additional locations (outside of identified locations in the Roadmap) should be made directly with selected Operator(s). Any proposal received by CoA from selected Operator(s) will be noted and considered against the criteria outlined in the Operating Guidelines and any existing Agreements.
- CoA will not consider requests from individuals, groups or wishing to use public land for private charging infrastructure.

To support the planning and placement of EV charging infrastructure, priority locations and charger quantities have been identified in the *Electric Vehicle Charging Infrastructure Transition Roadmap 2023* (the Roadmap). These have been identified based on balancing likely demand for EV charging across relevant user types, charging infrastructure typologies, as well as urban amenity. The Roadmap's priority locations include both public realm and commercial parking locations.

CoA may consider other locations for EV charging infrastructure. If other locations are to be included, these should be selected with consideration of:

- Alignment with other CoA strategies, including the *Integrated Transport Strategy* and *On Street Parking Policy*;
- Expected demand, including whether there are under-utilised EV chargers nearby that may fulfill projected needs; and
- Other placement guidelines governing public realm integration, configuration, and safety.

Within the locations selected by CoA, sites for EV charging infrastructure should be located:

- Where it can be demonstrated that the infrastructure would be useful to a high number of potential users. For example, serving multiple land uses, a high number of visitors, or being able to provide for residents in a way that does not privatise public space;
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- Off-street where possible to minimise impacts on urban amenity, public and active transport, and other potential use cases of valuable and contested public space (e.g. on-street dining or urban greening);
- Where there is spare electrical grid capacity to avoid lengthy delays and costs brought on by electrical infrastructure upgrades;
- Where public parking already exists;
- Where there is sufficient space to accommodate charging infrastructure; and
- In locations that are safe and accessible. This includes consideration of lighting (if lighting is not provided with the infrastructure) and passive surveillance to enable comfortable usage by a wide user demographic at all times of the day.

Sites for EV charging infrastructure should not be located:

- In close proximity to existing off-street locations that can fulfil EV charging demands (e.g. UParks);
- Where charging infrastructure or charge cables may encroach on or cross pedestrian or cycling access;
- Where charging infrastructure would replace or directly impact other desired uses of the space, including greenery, on-street dining, bike parking, or public transport infrastructure;
- Where parking controls prohibit parking part of the time, i.e. timed bike lanes or loading zones;
- Where public access is limited.

## **Technical specifications**

### ***Compatibility and access***

CoA is seeking EV charging infrastructure that provides universal access. There should be no exclusive use of EV charging infrastructure for particular vehicles, user groups or any other exclusionary particulars.

Public EV charging infrastructure:

- Shall use interoperable connector types that reflect present and likely future EV charging needs. This should include CCS Type 2 connectors for DC Fast Chargers, and Type 2 for AC chargers.
- EV charging infrastructure that does not require users to provide their own charging cable is generally preferred (refer Attachment B);
- Should allow payment via credit and debit card without the user requiring a smart phone, and ideally provide alternative methods such as through smart phone applications; and
- At a minimum shall include clear instructions on how to use the charger, including how to initiate and pay for the service.

### ***Charging levels and typologies***

CoA seeks to support a mixture of Level 2 and Level 3 public chargers (detailed in Table 1). The speed and type of EV charging infrastructure required should be based on the

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expected user type, desired linger time, desired parking turnover rate, and the physical size of the required infrastructure relative to its proposed installation context.

Table 1: EV charger categories and associated locations

Charger level	Typical power	Typical charging speed	Physical size	Use cases	Suitable locations	Typical plug types
<b>Level 2</b>	7 – 22 kW Alternating Current (AC)	Up to 40 km of range per hour 2 – 6 hours for full charge	Small - Medium	Medium-term parking, including all-day or overnight parking	On-street, particularly in lower-turnover areas Off-street (including UParks)	Type 2
<b>Level 3 (Fast / Ultra Fast)</b>	25 – 350 kW Direct Current (DC)	Up to 150 km of range per hour 10 – 45 minutes for full charge	Medium - Large	Short-term parking locations for 'top-up'	Off-street On-street, in higher-turnover areas (provided sufficient space exists).	Combined Charging System (CCS2) CHAdeMO

**Operation**

EV charging infrastructure should have the capability to be operational at all times of the day and night, in all weather conditions.

Smart EV charging infrastructure incorporating demand management, advanced safety features, and bidirectional capabilities is preferred.

If charging is paused or slowed in response to demands on the electrical grid, it should be carefully managed (including through clear communication) so as not to undermine user experience.

The use of renewable energy should be prioritised, for example through price signals or green power agreements.

Consideration should be given to price structures and strategies that discourage overstay.

**Design**

In addition to providing charging, EV charging infrastructure and bays should be well integrated into the overall function, amenity and character of their site. Attachment B contains a high-level guideline for physical size and appearance in different contexts.

**Urban amenity**

Public EV charging infrastructure (particularly public realm e.g. on-street) has the potential to detract from urban amenity if not carefully managed. When evaluating proposals from Operator(s), CoA will consider the following desired outcomes:

- Use of public space is minimised and the infrastructure does not create an obstruction or hazard to pedestrians or cyclists (refer to *Encroachment Policy* and *Objects on Public Footpaths Policy*);
- Appearance of the charging equipment aligns with the character of the immediate area, with particular consideration for heritage and historic areas;
- Public EV charging infrastructure should not clutter the public realm either physically or visually; larger chargers such as typical Level 2 and Level 3 chargers may not be suitable for some locations such as residential streets.
- Any lighting included as part of the EV charging infrastructure does not produce unnecessary glare or discomfort to nearby residents (refer *Local Nuisance and Litter Control Act 2016* and *Environment Protection Act 1993*);
- EV charging infrastructure does not produce excessive noise that could cause discomfort to nearby residents (refer *Local Nuisance and Litter Control Act 2016* and *Environment Protection Act 1993*);
- EV charging infrastructure should not be placed where there are likely to be substantial infrastructure changes within 5 years;
- EV charging infrastructure should be removable or upgradeable with minimal surrounding impact;
- Crime Prevention through Environmental Design (CPTED) principles are applied; and
- The potential for public realm e.g. on-street EV charging infrastructure to be located on a parklet may be considered to minimise impacts on footpaths, or providing benefits to more people by enhancing street environments.

### **Advertising**

The use of advertising as a revenue stream generated from EV charging infrastructure will require further consideration by the CoA. While advertising has the potential to reduce costs of delivering EV charging infrastructure, and is a common commercial model applied by infrastructure providers, there are risks, including impacts to existing public realm advertising, existing contracts, and proliferation of digital advertising panels. These risks may vary between EV charging infrastructure in the public realm (e.g. roads) and in commercial parking facilities.

If advertising on EV charging infrastructure is proposed, the CoA will evaluate the proposal based on merit, evaluating all advantages and disadvantages.

Advertising on EV charging infrastructure will not be considered for Adelaide Park Lands, including Adelaide Park Lands Roads, due to exclusions under the *Adelaide Park Lands Act 2005* and the *Adelaide Park Lands Community Land Management Plan*.

### **Configuration, visibility, and identification**

The EV charging bay and infrastructure should be easily accessible for users, clearly identified, and consider the following design measures:

- Accessible EV charging bays should be considered where possible;
  - All aspects of EV charging infrastructure and bays shall be designed and constructed in accordance with relevant Australian standards, current industry best practices, and CoA design requirements;
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- All EV charging bay pavements shall be constructed to CoA's specifications (refer *Infrastructure Design Guidelines*) including sealing, kerb and guttering, and kerb ramps, where upgrades are required by CoA;
- EV charging bay signage and pavement marking requirements are included in the *Parking controls and enforcement* section of these Guidelines;
- The location of the EV charging infrastructure should consider parking bay layout and vehicle orientation to cater for EV models with front, rear, or side charging points, without requiring vehicles to undertake illegal manoeuvring to fit into the parking bay;
- Adequate lighting should be provided for the safety and security of users, to aid in the identification of the EV charging bay, and clearly show any instructions or controls; and
- The inclusion of clear wayfinding signage should be provided to create visual awareness, access and understanding.

### **Safety**

EV charging infrastructure must include consideration for the safety of equipment users, as well as pedestrians, cyclists, and other road users. The Operator(s) shall be responsible for compliance with relevant installation legislation and safety standards. Further considerations include:

- EV charging infrastructure and bays shall be located such that they do not create a road safety hazard;
  - EV charging infrastructure and bays are to be designed in compliance with relevant Australian Standards, Department for Infrastructure and Transport (DIT) requirements, and CoA specifications;
  - The location of the EV charging infrastructure in relation to the charging bay shall not result in charging cables posing a hazard for pedestrians, cyclists, or other road users;
  - EV charging infrastructure shall include safety features including:
    - Cables are secured and locked at the charging point during charging;
    - Charging does not start if the EV charging infrastructure cannot verify a safe connection to the vehicle;
    - Charging is automatically stopped once the EV is fully charged; and
    - Isolation with an in-built electrical safety device in the event of an electrical fault.
  - EV charging infrastructure is to be designed and installed:
    - Following latest recommendations and requirements from the Metropolitan Fire Service (MFS), National Council for Fire and Emergency Services (AFAC), and Australian Building Codes Board; and
    - In consultation with the MFS to ensure that fire safety considerations are identified and risks mitigated; and
    - With advice from a specialist fire engineer in the case of EV charging infrastructure in buildings; and
    - Ideally with reference to latest global best-practice for EV charging infrastructure fire safety.
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- EV charging infrastructure shall require a plan to be put in place through collaboration with the Metropolitan Fire Service to ensure emergency access in the event of a fire or other incident; and
- EV charging bays and infrastructure should be placed with consideration of passive surveillance. EV charging infrastructure should be preferred in locations covered by the city's CCTV network.

### ***Parking controls and enforcement***

It is CoA's intent for EV charging bays are to be used predominantly for actively charging EVs only, and that other parking restrictions would still apply as per other applicable CoA parking policies, including the *On-Street Parking Policy*.

### ***EV charging bays in the public realm***

Parking controls and enforcement for EV charging bays in the public realm shall be the responsibility of CoA (refer to the *On Street Parking Policy*).

EV charging bays in the public realm should use standardised parking control signage and marking per the Australian Road Rules and the Department for Infrastructure and Transport Pavement Marking Manual.

Overstay fees (an additional charge applied to a charging session when a user's electric vehicle completes charging and remains connected to the charging station) may be considered.

### ***EV charging bays in commercial parking***

EV charging bays in commercial parking locations should include clear signage stating any requirements for using the parking space. Parking controls, enforcement and idle fees may be considered.

### **Operating arrangements**

CoA intends to enter public-private partnerships with an Operator(s) through an Agreement(s) to provide EV charging infrastructure on CoA-owned or operated land. Agreement(s) will provide for the use of CoA land and provision of the Services in the proposed location(s).

Existing CoA owned and operated EV charging infrastructure will, at end-of-life or by business case, be removed and where appropriate may be replaced by a public-private partnership as per these Operating Guidelines.

### ***Eligibility and approvals***

- Operator(s) shall be required to obtain authorisation from CoA for the installation, maintenance, operation and removal of EV charging infrastructure on a public road, footpath, community land or other CoA-owned and or operated land.
- Where an EV charging station is proposed on a public road, pursuant to Section 221 and Section 222 of the *Local Government Act 1999 (SA)* (the LG Act), an Operator is required to obtain authorisation from CoA for the installation, maintenance, operation and removal of an EV charging station on a public road or footpath in the form of a Permit.

- CoA cannot provide an Operator(s) with a Permit for a public road or footpath for more than five (5) years. After that five (5) year period, a further permit would need to be sought to continue to operate through a procurement process. CoA cannot guarantee that commercial Operator(s) will continue beyond the first five (5) years.
- If the preferred Operator(s) cannot comply with a maximum of five (5) year tenure for public road and footpaths, CoA may choose to consider alternative Agreement arrangement.
- Where an EV charging station is proposed on Community Land, pursuant to Section 200 and Section 202 of the LG Act, an Operator is required to obtain authorisation from CoA for the installation, maintenance, operation and removal in the form of a Lease or License Agreement.
- Most land which is owned and operated by CoA, except roads, is classified as Community Land under Section 193 of the LG Act. Community Land Management Plans (CLMP) ensure CoA meets all requirements under the LG Act including details of any lease or licence over the land. As such any proposed location, except roads, will be required amendments to the associated CLMP.
- Licence / lease over Community Land have a maximum term of five (5) years without public consultation and in line with the permitted use specified in the CLMP. With public consultation, any length up to 42 years. More than ten (10) years require ministerial consent for Adelaide Park Lands leases/licences.
- CoA owned and operated land that has been revoked from the classification of Community Land pursuant to Section 192 of the LG Act, an Operator is required to obtain authorisation from CoA for the installation, maintenance, operation and removal in the form of a Lease or License Agreement(s).
- Development Approval may also be required under the *Planning, Development and Infrastructure Act 2016 (SA)* prior to installing any EV charging stations, and a Permit, Lease and or License does not guarantee development consent or approval.
- Operators should have experience in commissioning, operating, maintaining and removing EV charging infrastructure in urban environments.
- There may be provision to increase the supply of charging stations as demand increases over the term of the Agreement, subject to approval from CoA.
- Any Agreement entered into with an Operator(s) shall be non-exclusive unless otherwise agreed.

### **Operating requirements**

CoA should ensure that a partnership Agreement with Operator(s) includes consideration of:

- Installation
  - Regular inspections and maintenance
  - Customer support
  - Regular reporting of usage data to CoA
  - Up-to-date open-access data about charging stations, availability and utilisation
  - Data protection and cyber security
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- Insurances
- Provisions or arrangements for CoA-owned vehicles to use the EV charging infrastructure at some locations
- Removal and sustainable disposal at end-of-life.

### **Monitoring**

CoA aims to monitor and evaluate the performance, issues, complaints, demand and supply of charging infrastructure that operates within CoA's areas. Key performance measures shall consider:

- Safety, including complaints and injury (users and non-users). The analysis may be undertaken by collecting data from the Operator(s), emergency services, the State Government, medical institutions, and other input provided to CoA.
- Usage data including:
  - Average energy delivered and number of unique vehicles per day
  - Average charge duration
  - Average charging space occupation
  - Data relating to the types of vehicles (makes and models) making use of the charging service, and the origin (home postcode) of users would also be of interest in determining usage patterns.
- Impact on the transport network due to technology shift (from combustion vehicles to EVs) and carbon dioxide equivalent emissions saved (CO<sub>2</sub>e emissions from reduced combustion vehicle trips).

### **Pricing and revenue**

- Pricing models should encourage charging during periods of low electrical demand (for example during off-peak or shoulder periods) to help manage potential grid stress as EV uptake increases.
- Overstay (or 'idle') fees may be adopted by an Operator to help ensure that EV charging bays are used for their intended purpose. Overstay fees shall only be adopted if approved by CoA. Overstay fees should not be excessive, and should be aligned with the intended use of the parking space.
- Usage fees and charges shall be easy to understand, and displayed clearly to users.
- If advertising is to be used as a funding or revenue source, it should be evaluated as per the *Advertising* section of this document. A proportion of revenue will be paid to CoA by the Operator(s).
- Lease, Licence and or Permit fees for Operator(s) will be required and will be set out by the CoA *Fees and Charges* schedule.

### **Procurement process**

CoA shall undertake a procurement process (refer to *Procurement Policy*) to engage an Operator(s) for the installation and operation of EV chargers on CoA-owned and or operated land. This will include but is not limited to:

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- CoA releases a procurement process for proposals for the installation of public charging infrastructure in accordance with priority locations identified by CoA (refer Attachment A).
- Operator(s) submit proposals including:
  - Their adherence to the brief
  - Preferred site selection and installation processes
  - Proposed commercial model, including demonstration of long term viability
  - Technical competence to effectively install and operate and decommission EV charging infrastructure
  - Application of Ecologically Sustainable Development (ESD) principles – preference will be given to Operators who offer charging from 100% renewable and certified sources of electricity
  - EV charging infrastructure technical details – preference will be given to Operators with connected and smart chargers to allow the most efficient energy use for both consumers and the Operator
  - Public health and safety - Operators should outline through the procurement process what measures will be put in place to ensure the safe operation of EV charging stations during charging, particularly in relation to trip hazards (over cords etc.) and possible electrical hazards. The details of risk mitigation of hazards (not identified in this Guideline) that the Operator has identified should also be included.
  - Value adds, improvements and innovations – for example, compatibility with personal or shared micro-mobility (including e-bikes or e-scooters), parklets, civic information, co-branding, or parking bay occupancy sensors.
- CoA selects a preferred Operator(s) and enters into an Agreement with the preferred Operator(s). The successful Operator(s) will negotiate with CoA regarding approved locations throughout the city for EV charging stations.
- Community consultation and relevant stakeholders in relation to specific sites selected before progressing with the location within an Agreement and associated Leases, Licences and/or Permits.

Operator(s) construct, commission, operate, maintain, decommission and remove EV charging infrastructure.

Refer to Attachment C for procurement process maps and responsibilities.

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### OTHER USEFUL DOCUMENTS

#### Related CoA documents

- Electric Vehicle Charging Infrastructure Transition Roadmap 2023
- On Street Parking Policy
- Integrated Climate Strategy 2030
- Strategic Plan 2024-2028
- Community Land Management Plan – Adelaide Park Lands (October 2023)
- Community Land Management Plan – Community Open Space
- Community Land Management Plan – Off-Street Car Parking Facilities

- Community Land Management Plan – UParks
- Community Land Management Plan – Gawler Place Car Park and Rundle Arcade
- Transport Strategy
- Community Consultation Policy
- Encroachment Policy
- Objects on Footpath Operating Guidelines
- Procurement Policy
- Infrastructure Design Guidelines

#### **Related external documents**

- Australian Standard AS 2890
- Department for Infrastructure and Transport Pavement Marking Manual
- Australian Building Code Advisory Notice: Electric vehicles in buildings

#### **Relevant legislation**

- Australian Road Rules under Road Traffic Act 1961 (Commonwealth)
- Code of Technical Requirements Department for Infrastructure and Transport (SA)
- Private Parking Areas Act 1986 (SA)
- Disability Discrimination Act 1992 (Commonwealth)
- Local Government Act 1999 (SA)
- Planning, Development and Infrastructure Act 2016 (SA)
- Local Nuisance and Litter Control Act 2016 (SA)
- Environmental Protection Act 1992 (SA)

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## **GLOSSARY**

Throughout this document, the below terms have been used and are defined as:

**Electric Vehicle (EV):** In this policy, an EV is an electric-powered vehicle as defined by section 203B of the Australian Road Rules.

**EV charging bay:** An on-street or off-street parking space that is intended to be used for EV charging.

**EV charging infrastructure:** A charging station and any ancillary infrastructure (such as electrical connections, transformers, or charging cables) required to deliver power to an EV. EV charging infrastructure may serve one or more EV charging bay.

**Micro-mobility:** Small, lightweight vehicles including bikes, e-bikes, or e-scooters.

**Kilowatts (kW):** A measure of electrical power. Higher numbers represent higher power and faster charging.

**AC and DC charging:** AC (alternating current) and DC (direct current) refer to how power is delivered to the vehicle. AC accounts for most EV charging, but fast and ultra-fast chargers tend to utilise DC (often delivered through a separate plug) to deliver more power to vehicles.

**CHAdEMO:** CHAdEMO is a plug type that can be found at some DC charging stations, and can be installed as a second socket on vehicles to provide high power to the vehicle.

**Type 2:** Type 2 is a standard plug type that can deliver up to 43 kW of power.

**Combined Charging System (CCS2):** CCS2 is a standard plug type, which is a combination of a Type 2 plug with DC to allow fast charging up to 350 kW.

**Overstay:** When an EV is plugged into a charger but is not charging. Also commonly known as 'idling'.

**Public Realm Parking:** City of Adelaide owned or operated parking facilities that exist in the public realm, including on-street parking, or surface parking (e.g. in the Adelaide Park Lands).

**Commercial Parking:** City of Adelaide owned or operated parking facilities that require payment to enter the facility (i.e. UPark locations).

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**ADMINISTRATIVE**

As part of the Council's commitment to deliver the City of Adelaide Strategic Plan, services to the community and the provision of transparent information, all policy documents are reviewed as per legislative requirements or when there is no such provision a risk assessment approach is taken to guide the review timeframe.

This Policy document will be reviewed every **5** years unless legislative or operational change occurs beforehand. The next review is required in **2029**.

**Review history:**

Trim Reference	Authorising Body	Date/ Decision ID	Description of Edits
n/a	-	-	<i>Draft created</i>

**Contact:**

For further information contact the Sustainability Program.

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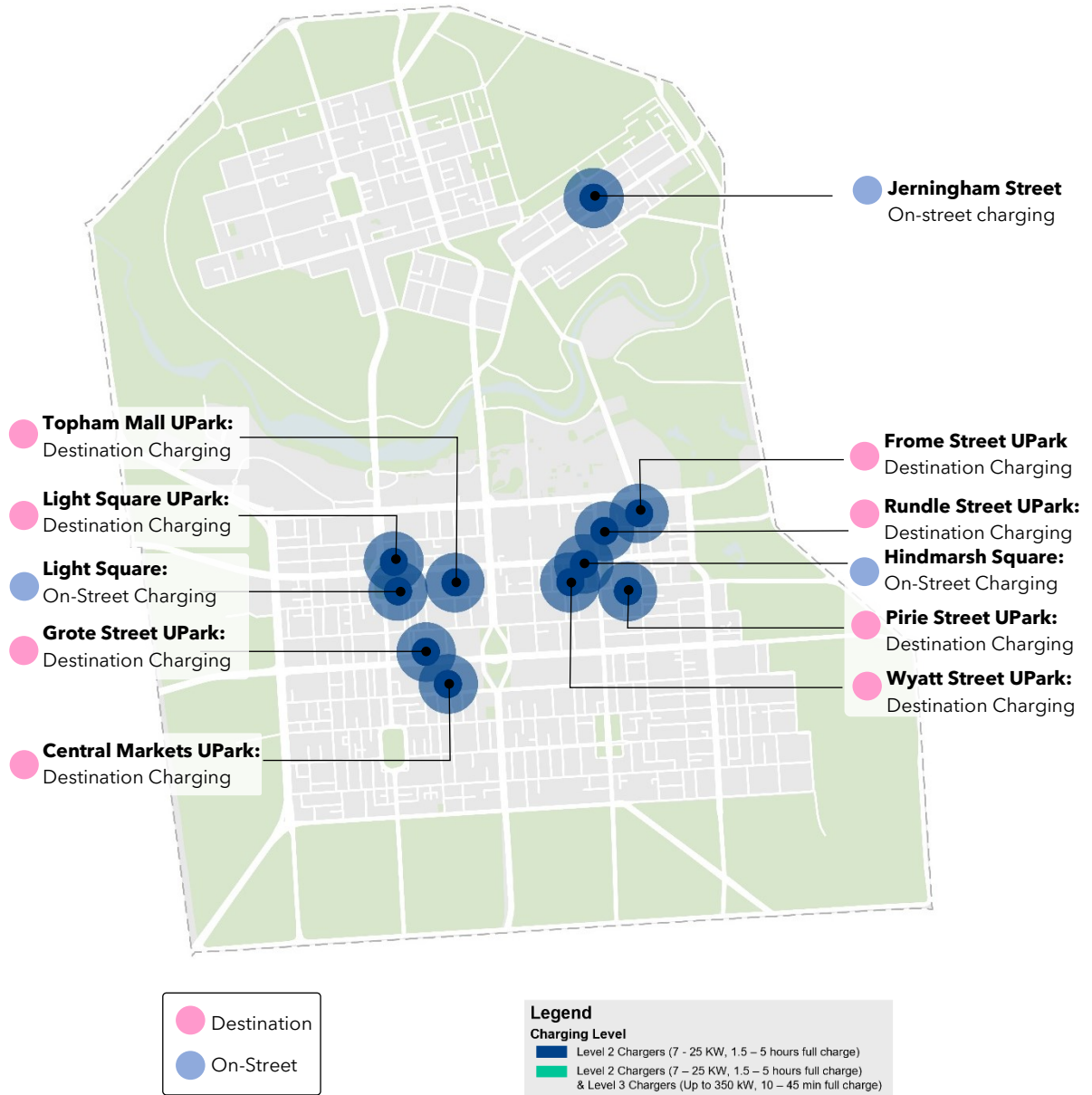
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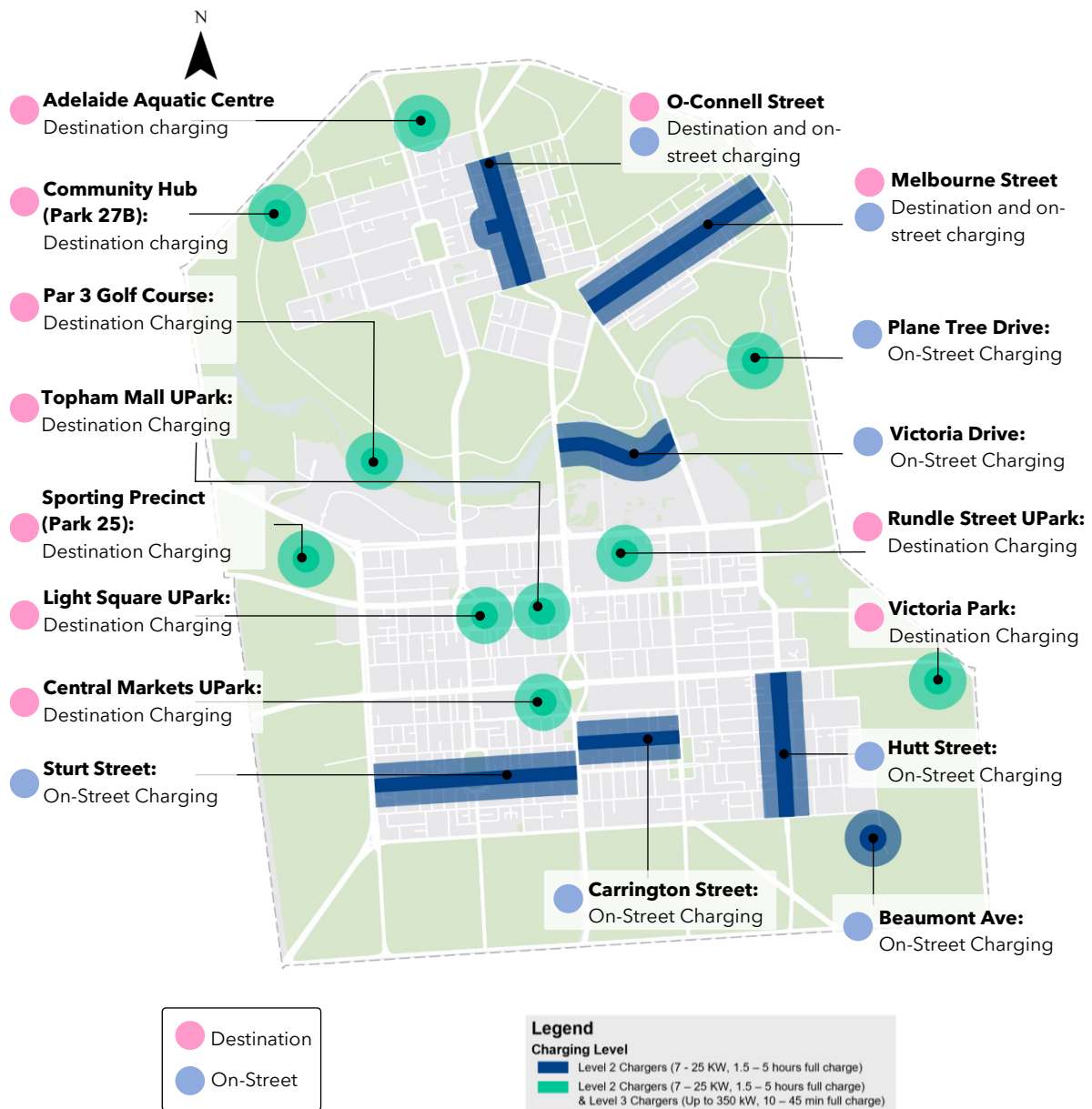
### Attachment A: Priority public EV charging locations

City of Adelaide owned or operated locations with public EV charging infrastructure





**Electric Vehicle Charging Infrastructure Transition Roadmap priority locations**



## Attachment B: Public Realm EV Charging Infrastructure Design

### **Visual appearance**

CoA's existing *Infrastructure Design Guidelines* contain visual appearance guidelines for some urban elements and street furniture, but do not specify requirements for EV charging infrastructure. Where possible, EV charging infrastructure in the public realm should be designed such that industrial design language, colour palettes and material finishes complement the area in which they are located.

### **Cable provision**

In general, EV chargers provide a better user experience when they do not require users to provide their own charging cable, as not all users will own the required cable for a specific charger. Cables should be provided where there is sufficient space to do so without creating clutter. In more constrained areas, such as residential streets (where smaller charging infrastructure is preferred, and the charger is more likely to be used by a smaller pool of repeat customers), it may be appropriate to not provide cables.

### **Physical size**

EV charging infrastructure placed in the public realm (particularly on-street in residential and local areas) should generally be designed such that it is as small and unobtrusive as possible. Embedded or bollard-sized chargers are ideal in this regard. However, selection of appropriately sized EV charging infrastructure will depend on:

- Required charging speeds (e.g. technology limitations dictate that faster chargers tend to be larger)
- The ability to consolidate infrastructure (e.g. overall use of public space may be minimised by selecting one larger charger able to service multiple vehicles concurrently over two or more smaller chargers)
- The availability and regulatory approval of the technology in Australia in a form that is suitable for public use in line with these Operating Guidelines.

The table below provides high-level guidance on the range of forms that EV charging infrastructure may take, and the situations in which it may be appropriate. The exact dimensions of EV charging infrastructure vary considerably, and this table is intended to provide only general guidance for how EV charging infrastructure may be considered in a range of urban contexts.

**Extra-Large**



**Urban realm impact**



**Speed**

100+ kW  
(500+ km/h)

**Availability**

Implemented in  
South Australia.

**On-street (local/residential)**

Not suitable for constrained street environments, particularly residential and local streets.

**Commercial parking (off-street)**

Potentially suitable in locations where it does not create obstruction or high visual impact.

**On-street (unconstrained)**

Generally not suitable unless physical and visual impact can be managed with complementary design features.

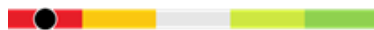
**Adelaide Park Lands**

Potentially suitable in locations where it does not create obstruction or high visual impact.

**Advertising**



**Urban realm impact**



**Speed**

20 – 60 kW  
(100-320 km/h)

**Availability**

Implemented in  
South Australia.

**On-street (local/residential)**

Not suitable for local and residential streets.

**Commercial parking (off-street)**

Potentially suitable. Requires further consideration in line with the *Public Electric Vehicle Charging Infrastructure Operating Guidelines*.

**On-street (unconstrained)**

Requires further consideration in line with the *Public Electric Vehicle Charging Infrastructure Operating Guidelines*.

**Adelaide Park Lands**

Not suitable due to restrictions on advertising under the *Adelaide Park Lands Act 2005*.

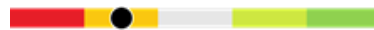
Top image: [Volta Charging](#)

Bottom image: [Semaphore Mainstreet Association](#)

**Large**



**Urban realm impact**



**Speed**

20 - 75 kW  
(100-400km/h)

**Availability**

Implemented in  
Adelaide CBD.

**On-street (local/residential)**

May be suitable, but smaller chargers are preferred for residential areas and locations with high pedestrian activity.

**Commercial parking (off-street)**

May be suitable if sufficient space exists.

**On-street (unconstrained)**

May be implemented in the public realm if it can be demonstrated that:

- Visual impacts and obstruction will be negated, and
- A charger of this size is aligned with the intended speed and typology for the location, and
- The charger minimises overall use of public space by serving multiple vehicles simultaneously.

**Adelaide Park Lands**

Suitable for Adelaide Park Lands locations, particularly if a charging cable is provided, it does not create obstruction or high visual impact and sufficient space exists.

**Medium**



**Urban realm impact**



**Speed**

20 - 50 kW  
(100-250km/h)

**Availability**

Implemented in  
South Australia.

**On-street (local/residential)**

Smaller chargers are preferred unless a charger of this size can better balance charging speed and overall public space use.

**Commercial parking (off-street)**

May be suitable if sufficient space exists.

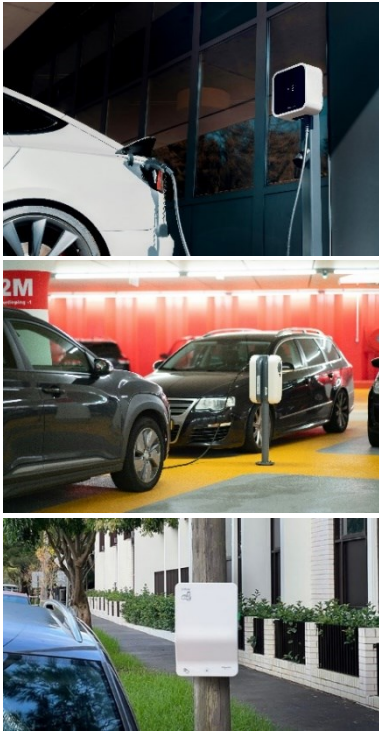
**On-street (unconstrained)**

May be implemented in the public realm if visual impacts and obstruction are minimal, and the charger allows infrastructure to be consolidated (for example as an alternative to two or more smaller chargers).

**Adelaide Park Lands**

Suitable for Adelaide Park Lands locations, particularly if a charging cable is provided, it does not create obstruction or high visual impact and sufficient space exists.

**Small (wall-mounted or free-standing)**



Bottom image: [Intellihub](#)

**Urban realm impact**



**Speed**

5 - 25 kW  
(25-130km/h)

**Availability**

Implemented in South Australia.

**On-street (local/residential)**

Ideal for constrained environments, such as local and residential streets, particularly if the charger can be safely mounted to existing kerbside infrastructure (such as a light pole). This category is highly variable in terms of visual design and 'bulk'. Design should minimise visual impact and align with the local character.

**Commercial parking (off-street)**

Ideal for commercial parking locations (e.g. wall-mounted).

**On-street (unconstrained)**

For unconstrained locations, it may be preferable to select a larger charger capable of serving multiple vehicles simultaneously and providing a charging cable.

**Adelaide Park Lands**

Suitable for Adelaide Park Lands locations, particularly if a charging cable is provided.

**Bollard**



Top left: Michael Coghlan

Top right: Peter Robinett (edited)

Bottom: Mario Duran-Ortiz (edited)

**Urban realm impact**



**Speed**

5 - 10 kW  
(25-50km/h)

**Availability**

Limited in Australia.

**On-street (local/residential)**

In general, this typology is preferred for on-street locations, particularly in residential areas. Materials and finishes that align with the character of the local area should be preferred.

**Commercial parking (off-street)**

May be suitable for commercial parking locations, however cost premium and reduced speed relative to typical small charger installation likely to make this typology commercially infeasible.

**On-street (unconstrained)**

May be suitable, particularly if a charging cable can be provided (outside residential areas), and sufficient speed is achieved.

**Adelaide Park Lands**

May be suitable for Adelaide Park Lands locations, particularly if a charging cable can be provided.

**Embedded**



Top image: [Anthony Weinberg](#)

Bottom image: [Wandsworth Council](#)

**Urban realm impact**



**Speed**

5 - 10 kW  
(25-50km/h)

**Availability**

Trials underway  
interstate.

**On-street (local/residential)**

A preferred option for on-street locations, particularly residential, where the charger can be embedded in a light pole or other existing kerbside infrastructure and there is little visual impact.

Not to be used if the location could create a trip hazard or obstruction when in use (e.g. where a cable may need to cross a footpath)

**Commercial parking (off-street)**

Ideal for commercial parking locations – e.g. attached to a wall.

**On-street (unconstrained)**

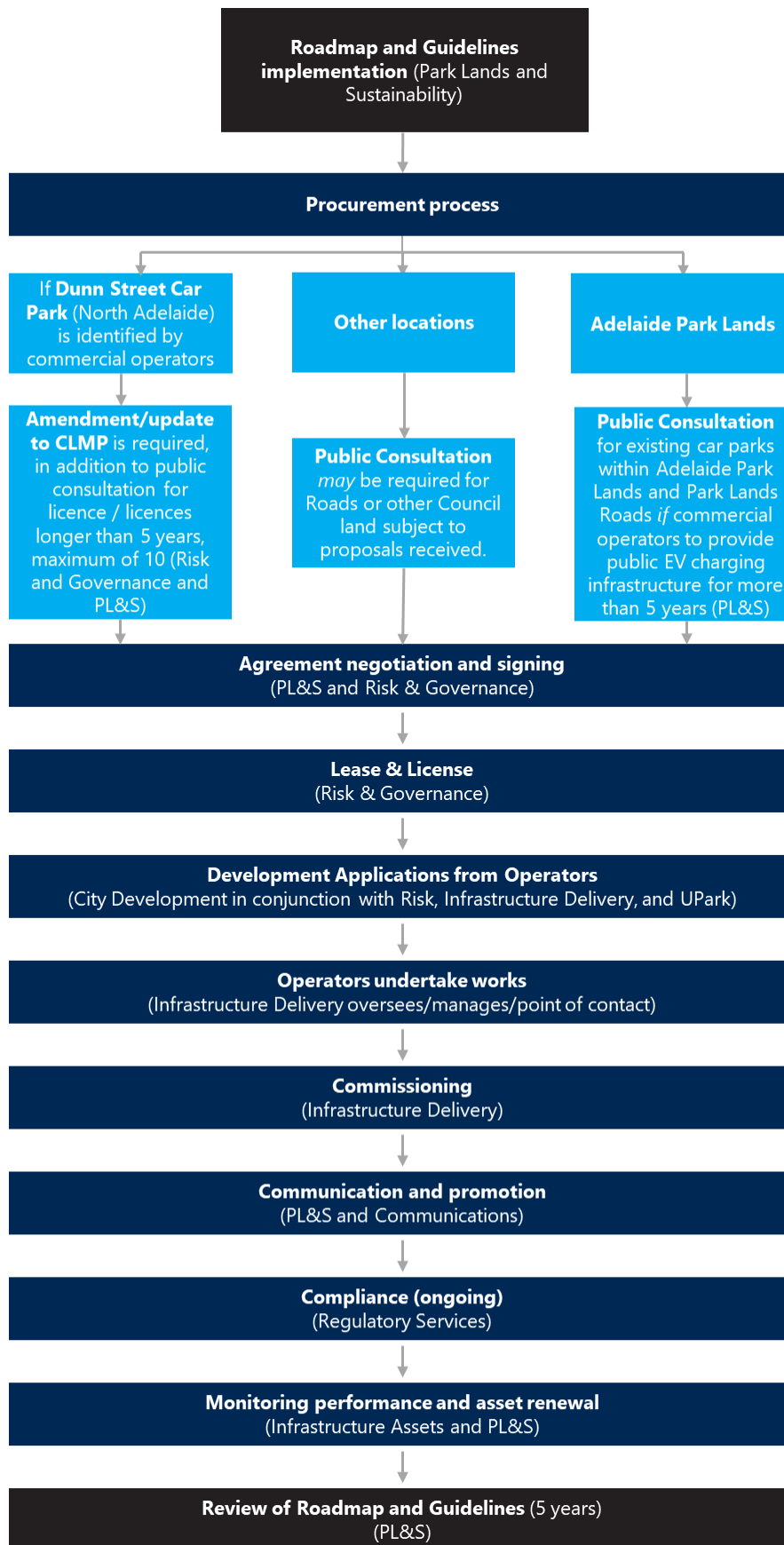
May be suitable, particularly if a charging cable can be provided, and sufficient speed achieved.

**Adelaide Park Lands**

May be suitable for Adelaide Park Lands locations, particularly if a charging cable can be provided, but other charging options may be more cost-effective where space is sufficient.

## Attachment C: Procurement Process Maps

### Public Realm Parking (including on-street)



Commercial Parking (including UPark facilities)

