

Electric Vehicle (EV) Charging Targets and Micro-Mobility Update

Tuesday, 16 April 2024
Infrastructure and Public Works Committee

Strategic Alignment - Our Environment

Public

Program Contact:
Sarah Gilmour, Associate Director Park Lands, Policy & Sustainability

Approving Officer:
Ilia Houridis, Director City Shaping

EXECUTIVE SUMMARY

The purpose of this report is to present recommended inclusions in the Electric Vehicle (EV) Charging Infrastructure Roadmap (the EV Transition Roadmap) relating to:

- The setting of electric vehicle (EV) charging targets for the overall number of EV chargers to be provided within the city (**Attachment A**).
- Provision of e-bike charging and secure storage facilities within the city, and the development of approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles (**Attachment B**).

The report responds to a Council decision on 24 October 2023 that approved the Electric Vehicle (EV) Transition Roadmap and noted the directions from the EV Transition Roadmap would be incorporated into a consolidated Climate and Sustainability Strategy.

The draft Integrated Climate Strategy (draft Strategy) was endorsed by Council on 12 December 2023 for the purposes of public consultation. Public consultation on the draft Strategy closed on 15 March 2024 and a report will be presented to Council in May 2024. The draft Strategy includes a target to install an additional 100 public EV and bicycle chargers between 2022-2025 in collaboration with partners.

The Council decision on 24 October 2023, also requested that the Administration make inclusions to the EV Transition Roadmap for e-bike charging and secure storage facilities, and develop approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles, subject to consideration by the Infrastructure and Public Works Committee no later than July 2024.

The report outlines that based on current public charging EV rates, an initial short-term target is to increase the number of public EV charging bays by twenty-five (25), with a longer-term target to provide a network of up to 220 public EV chargers by 2030.

The report recommends improvements to bicycle networks and infrastructure in the City of Adelaide in relation to increased adoption of electric cargo bikes and small commercial electric delivery vehicles.

RECOMMENDATION

The following recommendation will be presented to Council on 23 April 2024 for consideration

THAT THE INFRASTRUCTURE AND PUBLIC WORKS COMMITTEE RECOMMENDS TO COUNCIL THAT COUNCIL

1. Approves the inclusions to the Electric Vehicle (EV) Charging Infrastructure Transition Roadmap contained in Attachment A to Item 7.7 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.

2. Approves the inclusions to the Electric Vehicle (EV) Charging Infrastructure Transition Roadmap contained in Attachment B to Item 7.7 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024.
 3. Notes the initial short-term EV charging infrastructure target is to increase the number of public EV charging bays by twenty-five (25), expanding to a network of up to 220 public EV chargers by 2030.
 4. Notes the revised EV charging infrastructure target contained in Attachment A Item 7.7 on the Agenda for the meeting of the Infrastructure and Public Works Committee held on 16 April 2024 will be used to update the target contained in the draft Integrated Climate Strategy 2030.
 5. Notes that improvements to bicycle networks and cycling infrastructure in the City of Adelaide for increased adoption of electric cargo bikes and small commercial electric delivery vehicles will be considered through the development of the Integrated Transport Strategy.
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IMPLICATIONS AND FINANCIALS

City of Adelaide 2024-2028 Strategic Plan	Strategic Alignment – Our Environment Lead as a low Carbon Emissions City
Policy	The EV Transition Roadmap is integrated as part of the draft Integrated Climate Strategy 2030.
Consultation	The EV Transition Roadmap is informed by engagement across the City of Adelaide, neighbouring local governments, State Government, industry, community representative groups and stakeholders.
Resource	Not as a result of this report
Risk / Legal / Legislative	To support access to on-street electric vehicle charging stations, the State Government legislation relating to electric vehicle parking bays was Gazetted on 30 November 2023 and came into operation on 30 March 2024.
Opportunities	The provision of public EV charging infrastructure aims to support residents in areas with constrained off-street charging options and provide destination charging that supports the city's economic competitiveness and appeal to visitors for shopping, employment, tourism, and enjoyment of the Adelaide Park Lands.
23/24 Budget Allocation	Funding is allocated in the Climate Change Adaptation Initiative Fund (CCAIF) for the financial year.
Proposed 24/25 Budget Allocation	Not as a result of this report
Life of Project, Service, Initiative or (Expectancy of) Asset	The EV Transition Roadmap has a three-year delivery focus from 2023/24 financial year to 2026/27 financial year.
23/24 Budget Reconsideration (if applicable)	Not as a result of this report
Ongoing Costs (eg maintenance cost)	The EV Transition Roadmap proposes a partnership model to expand EV charging infrastructure in the city to reduce upfront capital costs and ongoing maintenance of the charging network.
Other Funding Sources	The City of Adelaide will approach the Australian Renewable Energy Agency (ARENA) regarding funding opportunities aligned with the Roadmap.

DISCUSSION

Background

1. At its meeting on 28 March 2023, Council requested a report on an Electric Vehicle (EV) Transition Roadmap (EV Transition Roadmap) for consideration as part of the 2024/25 budget process.
2. The EV Transition Roadmap was presented to the Infrastructure and Public Works Committee on 17 October 2023 ([Link 1](#)) and subsequently approved by Council at its meeting on 24 October 2023.
3. In approving the EV Transition Roadmap, the Council noted the directions from the EV Transition Roadmap would be incorporated into a consolidated Climate and Sustainability Strategy.
4. The draft Integrated Climate Strategy (draft Strategy) was endorsed by Council on 12 December 2023 for the purposes of public consultation. Public consultation on the draft Strategy closed on 15 March 2024 and will be presented to Council in May 2024.
 - 4.1. A key priority for Goal 1: A net zero city is that “public EV charging infrastructure is available for all users, including micro-mobility, catalysing the uptake of EVs in Adelaide”.
 - 4.2. The draft Strategy includes a target to install an additional 100 public EV and bicycle chargers between 2022-2025 in collaboration with partners.
 - 4.3. The City of Adelaide currently provides 78 charging bays comprised of:
 - 4.3.1. 72 EV charging bays in UPark facilities (42 of which have been installed since 2022).
 - 4.3.2. 6 EV charging bays on-street or in similar short-term parking locations.
5. The Council decision on 24 October 2023, also requested inclusions to the EV Transition Roadmap for e-bike charging and secure storage facilities, and the development of approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles.
6. The purpose of this report is to present recommended inclusions in the Electric Vehicle (EV) Charging Infrastructure Roadmap (the EV Transition Roadmap) relating to:
 - 6.1. The setting of electric vehicle (EV) charging targets for the overall number of EV chargers to be provided within the city (**Attachment A**).
 - 6.2. Provision of e-bike charging and secure storage facilities within the city, and the development of approaches that anticipate and facilitate the increased adoption of electric cargo bikes and small commercial electric delivery vehicles (**Attachment B**).

EV Charging Targets

7. At its meeting on 24 October 2023, Council requested that the Administration identify a target for the overall number of EV chargers to be provided within the city with the aim of ensuring the city’s existing parking offering remains a competitive and appealing destination and supporting residents who may have constrained charging options at their residences.
8. There is no widely accepted best practice approach to setting EV charging targets. Targets are highly varied throughout Australia, with not all cities committing to operate or specifically incentivise further EV charging infrastructure.
9. In developing a target, the review considered charger benchmarks across Australia and Europe together with an analysis of local charging patterns and growth projections.
10. The analysis suggests that a network of up to 220 EV chargers has the potential to fully meet charging demand to 2030 based on current public charging rates.
11. As trends, charging habits, and technology are still emerging, the analysis recommends a more targeted approach initially, focused on ensuring targeted coverage to priority on-street locations identified in the EV Transition Roadmap, followed by observation and a gradual increase to EV chargers across the network as demand increases.
12. An initial short-term target to increase the number of public EV charging bays by twenty-five (25) is recommended distributed across the on and off-street priority charging locations identified in the EV Transition Roadmap.
13. Of the recommended 25 public EV charging bays, eight were identified for priority off-street locations, and 17 on-street. The distribution of EV chargers will include appropriate pricing and time limits to manage access and sufficient vehicle turnover. Recommended locations include:
 - 13.1. Beaumont Avenue (two on-street chargers)

- 13.2. Carrington Street (two on-street chargers)
- 13.3. Park 27B (two destination chargers)
- 13.4. Hutt Street (four on-street chargers)
- 13.5. Par 3 Golf Course (two destination chargers)
- 13.6. Park 25 (two destination chargers)
- 13.7. Victoria Drive (two on-street chargers)
- 13.8. Melbourne Street (two on-street and two destination chargers)
- 13.9. O'Connell Street (one on-street charger)
- 13.10. Sturt Street (four on-street chargers).
- 14. Current usage data for chargers suggests that demand is relatively low at present within UParks, and much of the required capacity may already be met. Therefore, in the short term it is not recommended to increase the current number of EV charging bays of seventy-two (72) within UParks.
- 15. Destination and on-street charging bays should focus on fast chargers (22-150kW), which will add from 40km to 150km of range per hour of charging, depending on the vehicle. This is also in line with legislation changes relating to electric vehicle parking bays to only allow EVs to park in charging bays.
- 16. The EV parking bays will have a time limit of a maximum of 2 hours to charge, as they are intended for EVs to 'top up' their charge and not for extended stays to support fair and equitable access for all EV users. Non-EVs are not permitted to park in charging bays.

Micro-Mobility, E-Bike and Cargo Bike Analysis

- 17. The Council's decision sought to identify mechanisms through which the Council can anticipate increased micro-mobility, e-bike and cargo bike uptake.
- 18. E-bikes have a role to play in mode shift and electric vehicle transition, as globally e-bikes are contributing to a greater reduction in oil consumption than other types of EVs.
- 19. The review highlights a range of factors that influence demand for e-bike and cargo bike adoption, including:
 - 19.1. Network safety
 - 19.2. Comfort and effort
 - 19.3. Limited availability of secure, convenient and covered storage
 - 19.4. Cost
 - 19.5. Varying e-bike range and charging standards vary with different connectors, voltage and power requirements.
- 20. The analysis suggests that providing a safe and well-connected cycling network and infrastructure is among the highest-impact ways to increase cycling uptake in the City of Adelaide. This includes, providing physical separation from cars, reducing vehicle speed limits (e.g. 30km/h), restricting vehicle traffic, quality paths and lighting are mechanisms that can increase network safety.
- 21. Charging infrastructure was not prominent in research as a barrier or enabler to cargo bike adoption.
- 22. Charging an e-bike requires significantly lower power requirements compared to electric vehicles, with most e-bike batteries being detachable, making it easier for the user to charge in a smaller space such as an office, apartment, or locker.
- 23. The Council can influence the uptake of e-bikes and cargo bikes within the city, including:
 - 23.1. Providing safe cycling infrastructure and network
 - 23.2. Improving secure parking throughout the city
 - 23.3. Encouraging businesses and strata corporations to install e-bike charging for their employees, residents, or visitors
 - 23.4. Implementing incentives for e-bikes
 - 23.5. Providing charging facilities as demand dictates.
- 24. Case studies from Adelaide and Europe / United Kingdom demonstrate the increased interest in cargo bikes (including electric cargo bikes) and large secure parking facilities such as UPark and on-street bike lockers could facilitate increased adoption.

25. The analysis recommends the following options for increasing e-bike and cargo bike use in the city:
 - 25.1. Use of a Prioritisation Framework to identify short-term e-bike charging pilot projects where bike parking demand is already high, and secure bike parking facilities already exist.
 - 25.2. Working with residents and businesses to identify and understand the demands for secure on-street parking, and where this could potentially be trialed.
 - 25.3. Integrated transport planning to consider where cycling infrastructure can be upgraded to encourage more people onto e-bikes.

Next steps

26. Pending a decision by Council, the EV charging targets, priority EV charging locations, and possible pilot projects for e-bikes and cargo bikes, will be incorporated into the draft Integrated Climate Strategy 2030.
27. The below actions have commenced in the current 2023/24 financial year to enact the Council decision on 24 October 2024:
 - 27.1. Facilitate the deployment of EV charging infrastructure with the City of Adelaide by establishing a clear framework for the rollout of EV chargers at strategic locations.
 - 27.2. Enable the market-led provision of on-street EV chargers in select locations that support the transition to EVs and minimise impacts on the public realm.
 - 27.3. Work with private sector providers to trial on-street charging in residential areas with limited private off-street charging and constrained charging options.
28. Improvements to bicycle networks and cycling infrastructure in the City of Adelaide for increased adoption of electric cargo bikes and small commercial electric delivery vehicles will be considered through the development of the Integrated Transport Strategy in 2024/25.

DATA AND SUPPORTING INFORMATION

Link 1 – [Infrastructure and Public Works Committee, Tuesday 17 October 2023](#)

ATTACHMENTS

Attachment A – Electric Vehicle Infrastructure Charging Roadmap - Amendment A: EV Charging Targets and

Attachment B – Electric Vehicle Infrastructure Charging Roadmap - Amendment B: Micro-Mobility, E-Bike and Cargo Bike Analysis.

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