

**Submission
No 81**

**INFRASTRUCTURE FOR ELECTRIC AND ALTERNATIVE ENERGY SOURCE
VEHICLES IN NSW**

Organisation: City of Sydney

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City of Sydney Submission to: NSW Legislative Assembly Committee on Transport and Infrastructure Inquiry: Infrastructure for electric and alternative energy source vehicles in NSW



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Cover Image: City of Sydney's first electric truck at Dawes Point. Photo: Jennifer Leahy / City of Sydney

1. Introduction

1.1. Purpose of this document

This document provides the City of Sydney's (the "City") submission to the NSW Legislative Assembly Committee on Transport and Infrastructure's Inquiry (the 'Inquiry') into infrastructure for electric and alternative energy source vehicles in NSW.

1.2. Terms of Reference

The City's submission provides input in response to the Inquiry's Terms of Reference:

That the Committee on Transport and Infrastructure inquire into and report on infrastructure for electric and alternative energy source vehicles in NSW, including:

- a) funding and location of electric vehicle chargers or infrastructure for other potential energy fuel sources
- b) the viability of alternative energy sources for freight, heavy vehicles and other licenced vehicles in regional communities
- c) use of existing infrastructure and measures to ensure a competitive market, including 'ring fencing' policies
- d) measures to ensure the transition of workers from affected industries and industry standards; and
- e) any other related matters.

1.3. Structure of the submission

The submission provides an overview of the City's key strategies as relevant to the terms of reference (Section 2). It summarises the City's key recommendations to the Inquiry (Section 3). It aligns relevant actions from the City's Electrification of Transport in the City Strategy and Action Plan (in green boxes) with the Inquiry's five Terms of Reference, providing a brief commentary along with the recommendations regarding NSW Government policies or programs (Section 4).

2. Strategic Context

This section outlines the City's key strategies and positions relating to net zero emissions for transport, as they inform the issue of electric vehicle charging infrastructure.

2.1. City of Sydney's target of net zero emissions by 2035

The City's target is to reduce emissions by 70 per cent from 2006 levels by 2030 and to have net zero emissions across our local area by 2035.

Our community supports action to reduce transport emissions.

As of June 2022, greenhouse gas emissions for our local government area were 41 per cent below our 2006 baseline.

As an organisation, our target is to cut emissions by 80 per cent from 2006 levels by June 2025, without offsets. We have been certified carbon neutral since 2011 and have active programs to electrify our transport fleet and properties. In 2020 we began using 100 per cent renewable electricity.

Our community strongly supports a city for walking and cycling with better public transport and fewer cars.

Pre-pandemic, transport emissions were around 20 per cent of total emissions and had been increasing as a share of total emissions as emissions were reduced in other sectors like the electricity grid. In urban centres, reducing driving is the best way to lower transport emissions.

Transformation to net zero emissions within our area by 2035 will require a significant shift in car use to walking, cycling and public transport, as well as the electrification of vehicle fleets (private, public and commercial) and greening of the electricity grid.

To achieve our net zero emissions by 2035 target, significant changes will be required to the transport system in our city: reducing and eliminating emissions at the point source; speeding up the shift from private cars to walking, cycling and public transport; transitioning public transport and private vehicle fleets to zero-emissions fuel sources and supporting off-street private and public charging for electric vehicles.

2.2. Integrated strategies and action plans for Net Zero Emissions

The City's strategies and action plans outline City-led and advocacy actions to achieve Net Zero emissions. These include:

- *Sustainable Sydney 2030–2050 Continuing the Vision* and related *Community Strategic Plan: Delivering Sustainable Sydney 2030-2050*
- Strategies and Action Plans – Continuing the Vision
 - *Access Strategy and Action Plan*

- *A City for Walking: Strategy and Action Plan*
- *Cycling Strategy and Action Plan*
- *Electrification of Transport in the City Strategy and Action Plan*

These provide a comprehensive and integrated approach to transport system decarbonisation, recognising the City of Sydney's often limited role in the direct provision of transport services, management of the road system and the provision of public and private electric vehicle charging. Some of the key targets and initiatives from some of these plans are outlined below.

2.2.1. Sustainable Sydney 2030-2050 Continuing the Vision

Transport targets arising from *Sustainable Sydney 2030-2050* are:

- By 2035, the local government area will achieve net zero emissions.
- By 2050, people will use public transport, walk or cycle to travel to and from work.
 - 9 out of 10 people working in the city centre.
 - 2 out of 3 people working in the rest of the Local Government Area.
- By 2030, every resident will be around a 10-minute walk to what they need for daily life.

2.2.2. Access Strategy and Action Plan

The City's *Access Strategy and Action Plan: Continuing the Vision*, adopted 2023, outlines how the City will manage access and effective transport to create a sustainable city with initiatives such as supporting walking and cycling, light rail, electric buses, traffic calming and reducing speed limits. Strategy E 'respond to the climate emergency and build resilience' outlines the City's approach to reducing carbon emissions from transport:

- E1 We will work to reduce emissions by supporting walking, cycling and public transport.
- E2 We will allocate more public street space to allow greening, primarily through new plantings to help people cope with increased heat.
- E3 We will work to speed up the electrification of transport systems, to help us achieve net-zero emissions by 2035. This includes a focus on supporting the NSW Government's commitment to make the transition to a zero-emissions bus fleet by 2030.

2.2.3. Electrification of Transport in the City: Strategy and Action Plan

The City's *Electrification of Transport in the City: Strategy and Action Plan*, adopted 2023, outlines the City's overall approach to achieving net zero emission transport by 2035 providing a hierarchy of walking and cycling, public and shared transport, while supporting electric vehicle charging options.

The Strategy and Action Plan focuses on electrifying fleets which affect the most on people in our area, such as commercial, public transport and point-to-point vehicles, to maximise emission reduction opportunities along with co-benefits such as reduced noise. The emissions impact of the often older, less clean service/delivery and public transport vehicles concentrates in our most economically valuable places, such as Sydney's global city centre.

The Strategy and Action Plan has four (4) key strategies, and 21 related actions including City-controlled actions, proposed collaborations with others including NSW Government, and direct advocacy to the Australian and NSW Governments. The four (4) key strategies are:

- Creating a city for walking, cycling and public transport, supported by electric vehicles, is the best way we can facilitate a reduction in transport related emissions.

- Government pricing and policy that prioritises electric vehicles over conventional internal combustion vehicles.
- A transition that focuses on high impact transport fleets, those fleet with the biggest emissions and impacts on people on our streets – buses, delivery vehicles, taxis and service vehicles.
- Charging options in ways that protect the public realm.

Section 4 of this Submission aligns the relevant actions from this Action Plan (in green boxes) against the Inquiry's five Terms of Reference, providing a brief commentary, and **Recommendations** regarding NSW Government policies or programs. Not all 21 actions are included.

3. Recommendations

The recommendations to the Inquiry are summarised here. These are expanded on in Section 4.

Recommendation 1: NSW Government to create a framework for market-driven scalable publicly accessible off-street EV charging solutions, with any future funding directed to achieving this (if required). This should address fast charging, existing service stations, commercial car parks and retail/shopping centre car parks.

Recommendation 2: NSW Government to support the development of an off-street fast charging network on the arterial road network across metropolitan Sydney.

Recommendation 3: NSW Government to provide funding to enable Greater Sydney bus depot and fleet electrification by 2030.

Recommendation 4: NSW Government to develop an electrification strategy for loading and servicing vehicle fleet transition, that includes off-street fast charging solutions, as part of a broader metropolitan freight, loading and servicing strategy and action plan.

Recommendation 5: NSW Government to continue to provide funding to local government to support charging infrastructure that enables electrification of local government vehicle fleets.

Recommendation 6: Point-to-Point Commission to develop an Action Plan for point to point vehicle fleet transition, including investigation of the option for charging facilities at all NSW airports.

Recommendation 7: NSW Government to establish a “best practice” pathway for strata apartment buildings to install EV charging infrastructure considering issues including technical feasibility, safety, and insurance and increase funding to council programs that reduce barriers to uptake of electric vehicle charging in strata apartment buildings.

Recommendation 8: NSW Government to address the best options for low-impact electric micromobility charging in the public domain, and provide guidance and funding to Councils to support this.

Recommendation 9: NSW Government to develop a zero emissions strategy for long distance and regional heavy vehicles, including identifying the interface with metropolitan vehicle charging needs and opportunities.

Recommendation 10: NSW Government to ensure that electricity network providers such as Ausgrid only create electric vehicle charging on their assets when supported by the relevant local government.

4. Response to Terms of Reference

This section embeds and explains the City's recommendations (provided in Section 3) within the City's strategic context (provided in Section 2) and the structure of the Terms of Reference of this Inquiry.

4.1. TOR A: funding and location of electric vehicle chargers or infrastructure for other potential energy fuel sources

TOR A covers funding and location.

Funding.

The City's view is that the long-term primary funder of public electric vehicle charging should be the private sector.

Grants for commercial entities to establish new business models should be highly targeted and time-limited, and retain space for a market environment to develop.

For private charging facilities, government could provide initial support for demonstration projects or to remove barriers to uptake, but the primary provision for funding infrastructure should be borne by building owners.

Location.

The City's adopted position is that, in its area, the vast majority of public and private charging facilities should be located off-street, to minimise the impact on the public domain, and to provide charging where most people park their vehicles.

Most people will be able to charge off-street at their homes, at work, at a depot or at a publicly accessible off-street location.

There has been significant NSW Government support for introducing public electric vehicle charging across Sydney, especially targeting residential areas. The City's view is there should be an increased emphasis on faster, commercial, off-street public charging. This type of charging will be crucial in securing electric vehicle uptake in fleets such as delivery and servicing, car sharing and point-to-point along with private vehicles.

Key Priorities for NSW Government

With consideration of the funding and location of chargers for zero emission vehicles, key priorities for NSW Government are to:

1. Facilitate the provision of market-driven fast, off-street charging;
2. Facilitate the provision of fast charging solutions for commercial and fleet vehicles;
3. Develop solutions for charging in existing strata buildings;
4. Provide charging for e-micromobility options.

4.1.1. Facilitate the provision of market-driven fast, off-street charging.

Electrification of Transport in the City Strategy and Action Plan

Action 16 *Advocate that the NSW Government investigates appropriate and feasible market-driven options for scalable publicly accessible off-street charging*

Action 17 *Work with owners of publicly accessible car parking and servicing (including service stations, retail parking, public parking stations) to promote the opportunity to provide EV charging for public use.*

Action 20 *Work with private sector providers to trial paid on-street charging in residential areas with constrained private charging opportunities. This should be cost neutral to the City and avoid negative impacts on the public domain including footpaths and planting*

Action 21 *Investigate charging models for areas with constrained charging options. This is a contingency. The model should only supplement other public charging offers; be based on an evidenced need; community acceptance; be cost neutral to the City; be based on available or advanced technology; and avoid negative impacts on the public domain including footpaths and planting*

Over the last 2-3 years, the NSW Government has provided significant funding to businesses, councils and/or charge point operators, to increase the amount of public charging. This has included a limited number of dedicated off-street rapid charging stations, off-street destination chargers hosted by businesses, AC and DC on-street chargers in metropolitan areas, and a network of faster chargers on major routes across Sydney and NSW. The City supported a CPO application for low-impact pole-based chargers and welcomed their funding by the NSW Government.

The City makes the following high-level observations about these initiatives:

- Individual programs do not always align with local government strategies and actions, such as excluding multi-level council car parks from early rounds, or not supporting installation in council depots
 - A positive element of the more recent Kerbside Charging Grants has been to require concurrence from the relevant local government for charge point operator applications.
- There has been significant pressure on local government to support rapid rollout, for fear of “missing out”.
 - One NSW Government agency prepared very coarse assessments of “required number of chargers” for local government, which did not consider any local government evidence on this (e.g. the City’s extensive Technical Report which informed its Strategy and Action Plan) or the relationship of existing and likely future public off-street charging.
- There did not necessarily seem to be connection between different NSW Government programs, rather a “provide some of everything” approach to address mostly hypothetical range anxiety. One consequence could be Government support for some facilities inadvertently crowding out commercial opportunities for other off-street models.

The City believes that there is sufficient public charging available to enable the NSW Government to shift emphasis - to creating the environment for transition to a more traditional market model of charging provision, which needs to be scalable as all fleets transition to electric vehicles as quickly as possible.

The City’s adopted Strategy and Action Plan recognise that providing on-street refuelling (‘charging facilities’) for one type of private vehicle is not equitable, especially considering the current affordability and availability issues of those vehicles and the space constraints of urban streets. Most vehicles refuel now at publicly accessible off-street service stations, not on public streets.

The infrastructure requirements, impacts and costs are unlikely to make publicly accessible on-street charging feasible or scalable in our area. A key initiative should be the creation of bespoke

“service station” style facilities for fast charging, especially for high use fleets (see key priority 2). The City notes that there is limited provision of electric vehicle charging in inner city service stations to date, and also the success of some major fossil fuel corporations (and service station operators) in securing funding for electric vehicle charging facilities not on their land.

One consideration will be identifying locations where there is both suitable land, and sufficient electricity network capacity. The role of Ausgrid in managing the grid to enable these types of commercial activities in locations where they make sense is discussed further in Section 4.3.

Recommendation 1: NSW Government to create a framework for market-driven scalable publicly accessible off-street EV charging solutions, with any future funding directed to achieving this (if required). This should address fast charging, existing service stations, commercial car parks and retail/shopping centre car parks.

Recommendation 2: NSW Government to support the development of an off-street fast charging network on the arterial road network across metropolitan Sydney.

4.1.2. Facilitate the provision of fast charging solutions to accelerate electrification of commercial and fleet vehicles

Bus fleets

Electrification of Transport in the City Strategy and Action Plan

Action 9 *Advocate that the NSW Government accelerates the electrification of the bus fleet serving the City of Sydney, prioritised by depot and corridor, to reduce noise, localised pollution and carbon emissions by 2030.*

Electric bus operation in busy city centres and along important village high street corridor brings significant amenity benefit such as reduced noise, as well reducing transport emissions. The City notes the complexity of managing the transition of the bus fleet, noting the likely constraints for charging at some depots, and that this has led to the initial timeframes for full-fleet conversion to blow out (in Greater Sydney) to 2035. Nevertheless, the City seeks acceleration of this important fleet transition.

Recommendation 3: NSW Government to provide funding to enable Greater Sydney bus depot and fleet electrification by 2030.

Delivery fleets

Electrification of Transport in the City Strategy and Action Plan

Action 10 *Advocate that the NSW Government accelerates the transition of service and delivery vehicle fleets to electric vehicles, including the use of e-bikes and other micromobility modes.*

The economic and social activities in Sydney’s city centre create significant emissions from the loading and servicing fleet. Road freight is expected to grow substantially (77 per cent between 2020 and 2050).

Many low-cost low-profit operations may struggle to transition to lower emissions vehicles, so government should consider vehicle incentives to support this.

A low emissions zone could help promote larger fleets' uptake of electric vehicles.

There is an opportunity, in conjunction with shared and public loading facilities (hubs), to facilitate micromobility fleet options for last mile delivery. An example of this is the courier hub on Goulburn Street, The City in partnership with Transport for NSW provides a courier hub at the Goulburn Street car park, where deliveries can be transferred from a van to a bike or walked to the final destination. This hub has been successful, however, more hubs are needed in dense urban areas.

The service and delivery fleet will benefit from the provision of a metropolitan network of fast public off-street charging (see Recommendation 2 as well). This is relevant to many fleets, including car share, and point-to-point (see Recommendation 6 as well).

Recommendation 4: NSW Government to develop an electrification strategy for loading and servicing vehicle fleet transition, that includes off-street fast charging solutions, as part of a broader metropolitan freight, loading and servicing strategy and action plan.

Council fleets

Electrification of Transport in the City Strategy and Action Plan

Action 8 *Advocate to the State and Federal Government that grants to encourage fleet electrification include local government depots to facilitate and encourage local governments to transition their fleets.*

Council depots are often relatively old, and costly to upgrade. Upgrades are needed to support councils electrifying their operational fleet. The City welcomed more recent NSW Government funding opportunities for depot or other council facility upgrades.

Recommendation 5: NSW Government to continue to provide funding to local government to support charging infrastructure that enables electrification of local government vehicle fleets.

Point-to-point fleets

Electrification of Transport in the City Strategy and Action Plan

Action 12 *Advocate that the NSW Government accelerates the uptake of zero emission vehicles by point-to-point operators, including taxis.*

Point-to-point fleet transition is crucial, due to the concentration of emissions in densely populated areas, and also the potential for fleet vehicles to create a market for second hand electric vehicles. The Point-to-Point Commission should lead the transition.

Fast charging solutions are likely to be required. These should be provided by the market, and are likely to be more feasible if they include a variety of driver amenities (food, rest, bathrooms etc) and vehicle services (car wash etc).

One option is for bespoke facilities at all NSW airports, which remain a major source of patronage (24/7 at Western Sydney International Airport). Facilities could cater for all of taxi, rideshare and hire car fleets. This could be an opportunity for collaboration between all three levels of government, a market provider and fleet providers.

Recommendation 6: Point-to-Point Commission to develop an Action Plan for point to point vehicle fleet transition, including investigation of the option for charging facilities at all NSW airports.

Car share fleets

Electrification of Transport in the City Strategy and Action Plan

Action 11 *Work with car share to develop a model to electrify their fleet by 2030. This includes changes confirmed via periodic policy review and that are cost neutral to the City.*

The City aims for the car share fleet in its area to be zero emissions by 2030, and has mandated that it must be zero emissions by 2035. Integrating charging into business operations will be pivotal to this. With no formal depot for this fleet (it is parked on-street when not in use), fast charging solutions are likely to optimise electric vehicle deployment and customer use. See Recommendation 1.

4.1.3. Develop solutions for charging in existing strata buildings

Electrification of Transport in the City Strategy and Action Plan

Action 14 *Work with governments, industry, peak bodies and strata communities to support electrification of buildings and upgrades to enable onsite electric vehicle charging.*

Action 15 *Fund electric vehicle charging feasibility assessments as part of net zero plans and energy audits in Green Building Grants and provide guidance on electric vehicle charging through our energy action plans in the Smart Green Apartments program.*

Given the preference for most electric vehicle owners to charge where they currently park, either at home or work, the NSW and Australian Governments need to enable electric vehicle charging in apartment buildings. The City has the highest proportion of people living in apartments in NSW but notes that NSW Government planning reforms will increase the proportions of apartment dwellers across NSW. The City has planning controls for EV-ready new buildings, but this does not address the significant stock of existing apartments, many governed by strata.

There is no firm consensus on what “best practice” for strata apartment buildings to install EV charging infrastructure looks like, considering issues including technical feasibility, safety, and insurance.

The City has undertaken extensive research that highlighted the complexities of strata governance and noted that while there is opportunity for significant emissions reduction with increased uptake of EV charging and electrification of apartment buildings, there are significant barriers, including:

- Owners’ corporations reluctance: Resistance to taking on perceived risks and new infrastructure costs.
- Uptake of electric vehicles is still low
- Limited space: Carpark layouts can restrict space for essential backbone infrastructure.
- What if not every resident can get a charger? What if not everyone wants an EV/charger?
- Safety and insurance concerns: Rising concerns about EV battery fires, amplified by recent incidents involving poor quality scooters and e-bikes.
- Potential limits of electrical capacity in the building or unit, and uncertainty on what these may be and how they can be determined.
- High upfront costs: Many older buildings have outdated electrical wiring, requiring expensive upgrades to replace infrastructure and meter boards.
- Complex approvals: Strata managed buildings face complicated decision-making processes for approving EV charging installations.

The City provides a limited amount of Green Building Grants to support feasibility assessments of residential electrification including EV charging, and energy action plans.

Recommendation 7: NSW Government to establish a “best practice” pathway for strata apartment buildings to install EV charging infrastructure considering issues including technical feasibility, safety, and insurance and increase funding to council programs that reduce barriers to uptake of electric vehicle charging in strata apartment buildings.

4.1.4. Support charging for e-micromobility options

Electrification of Transport in the City Strategy and Action Plan

Action 7 Advocate that subsidies for electric vehicles (including for charging) proposed by the Australian and NSW Governments reflect the City's fleet transition hierarchy (i.e. e-bikes and other micromobility and public transport first then commercial, and finally private vehicles).

The NSW Government is currently exploring options for regulating electric micro-mobility, to maximise its benefits for individuals and the community. This is likely to include private as well as share devices. Recharging options will be imperative for this model.

Recommendation 8: NSW Government to address the best options for low-impact electric micromobility charging in the public domain, and provide guidance and funding to Councils to support this.

4.2. TOR B: the viability of alternative energy sources for freight, heavy vehicles and other licenced vehicles in regional communities

The City does not have specific insights but notes the lack of firm consensus on the potential for fuels such as hydrogen for agricultural, construction and maintenance, and freight vehicles.

Resolution of this is required to enable the regional/metropolitan network interface to develop. If long distance intermodal freight vehicles adopt hydrogen, this is likely to have a major market and planning/land requirement in the metropolitan area, especially on key freight corridors, in industrial areas and around ports, airports and intermodal terminals. This will also complicate the development of market opportunities for different fleets.

Similarly, if the likely technology is battery electric vehicles, then this needs to be considered in the development of metropolitan market driven public charging facilities – such as battery swap in/out facilities noting the potential footprint of such a facility for long distance trucks including B-doubles and triples.

Recommendation 9: NSW Government to develop a zero emissions strategy for long distance and regional heavy vehicles, including identifying the interface with metropolitan vehicle charging needs and opportunities.

4.3. TOR C: use of existing infrastructure and measures to ensure a competitive market, including 'ring fencing' policies

Section 4.1 of this document outlined the initial benefits and potential risk of saturating metropolitan markets with lower voltage on-street charging, before the ideal pathway to a mature market with

differentiated products for different fleet and user groups is clear. Recommendation 8 addresses this.

The City has worked with Ausgrid and EVX, a pole based charge point operator, to conduct a limited trial of low-impact public on-street charging. The rationale for this approach is outlined in our adopted *Electrification of Transport in the City Strategy and Action Plan*. This includes a series of chargers funded by the Kerbside Charging Grants, following the City's concurrence with the EVX grant application.

The City's roles in this trial have been:

- Scope the trial
- Influence CPO proposals and grant applications
- Engage with the community about proposals
- Dedicate relevant parking spaces for electric vehicle charging only.

The trial is generally supported by the community.

The City is aware of potential proposals for Ausgrid and charge point operators to utilise infrastructure agency powers to install charging units on Ausgrid poles, without any role for local government. The City does not support this approach. It is likely to undermine community support for the incremental approach to providing on-street charging, creating unsustainable pressure for councils to dedicate nearby spaces for charging.

The City has similar concerns about charging facilities using Ausgrid kiosks, as these generally appear to be an advertising-funded business model, rather than a significant contribution to providing efficient charging for residents, businesses or visitors.

Fast charging in shopping centres and other large retail centres can drive broader uptake. Ausgrid can assist this by working with large retail centres to undertake the required infrastructure changes. See also Recommendation 1. Ausgrid could consider taking more of a "manage the grid to get electrons to where commercial charging is going to make sense" approach, as opposed to "facilitate charging wherever there are available electrons today".

Recommendation 10: NSW Government to ensure that electricity network providers such as Ausgrid only create electric vehicle charging on their assets when supported by the relevant local government.

4.4. TOR D: measures to ensure the transition of workers from affected industries and industry standards; and TOR E: any other related matters.

The City has no input on these Terms of Reference.

