

# e-Mobility Parking Plan

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# Background

## Overview

E-mobility devices, such as e-bikes and e-scooters, are widely used across Queensland. There are clear benefits to enabling e-mobility devices safe access to Queensland's transport network, by improving sustainability, reducing traffic and parking congestion and supporting multi-modal connections to rail and bus stations. However, the rapidly rising popularity of e-mobility has introduced challenges, including conflict over public spaces, such as roads and paths, and concerns regarding safety and amenity for riders and other road and path users.

Shared e-mobility devices, that are available for public hire through an app, are dockless and can be deployed and left in a range of public spaces. Shared e-mobility providers typically deploy devices across the network in a safe and organised manner. For example, devices that are parked in neat rows in areas that are unlikely to create a hazard or inhibit access for other path users. However, users often leave devices at the end of their trip in a way that creates an obstruction for other path users and creates safety and amenity risks. The consequences of these risks are greater for some members of the community, in particular people who have a mobility or vision impairment, and this has the potential to result in reduced accessibility and inclusion.

Accessibility for e-mobility users should not come at the cost of accessibility for other road and path users. Safe and equitable access to public space and transport is a fundamental right. This e-Mobility Parking Plan (this Plan) seeks to address this by setting out the tangible activities required to improve e-mobility parking and create more accessible and inclusive paths for all who use them.

## Personal Mobility Device Safety Action Plan

The Department of Transport and Main Roads (TMR) is currently progressing a range of initiatives aimed at improving the safety of Personal Mobility Devices (PMDs) in Queensland. PMDs are a subset of e-mobility and include e-scooters, e-skateboards, solowheels and Segways.

In June 2022, the Minister for Transport and Main Roads released the Personal Mobility Device Safety Action Plan. The action plan includes a range of safety focused actions for delivery over the short, medium and longer term. This was the outcome of significant stakeholder engagement, including with local governments, e-mobility users and industry, pedestrian and disability advocates, other road user groups, research and academia and the Queensland Police Service.

The Personal Mobility Device Safety Action Plan includes two actions focused on parking, the establishment of a specific parking working group (Action 5) and the investigation of solutions for improved parking, in partnership with the working group (Action 8).

TMR has established the parking working group (see section 1.4 below) who have agreed to expand their focus to investigate solutions for e-mobility parking, as opposed to PMDs specifically. This ensures that all e-mobility devices (for example, e-scooters and e-bikes) are considered equally in the development of solutions.

## Problem statement

E-mobility parking can be a problem for both private and shared devices, in cities, suburban and regional areas. However, the problem is most acute where:

- path availability and access is limited;
- there is a high density and variety of path users, including vulnerable path users, such as people with a mobility or vision impairment;
- there is a high density of shared e-mobility devices in use; and
- there is a lack of recognisable, safe and accessible parking locations near e-mobility users' destinations.

In such conditions, e-mobility users may struggle to find appropriate parking for their device or lack the knowledge to park the device safely so as not to impact other path users.

In Queensland, e-mobility parking problems are most frequently observed in inner and suburban environments, or near popular hubs, where high volumes of shared e-mobility devices can clutter and obstruct busy footpaths. These problem areas also often coincide with geofencing boundaries.

## e-Mobility Parking Working Group

TMR established the e-Mobility Parking Working Group (PWG) in May 2022. Reflective of the shared responsibility for e-Mobility parking the PWG includes representatives from disability advocacy organisations, shared e-mobility providers, path user associations and advocacy groups, and a range of local and state government representatives with expertise spanning policy, planning and accessibility.

Organisations represented on the PWG include:

- Department of Transport and Main Roads
- Brisbane City Council (BCC)
- City of Gold Coast
- Townsville City Council
- Bundaberg Regional Council
- Mackay Regional Council
- Fraser Coast Regional Council
- Local Government Association of Queensland
- Beam Mobility
- Neuron Mobility
- Bird
- Vision Australia
- Queenslanders with Disability Network
- Royal Automobile Club of Queensland
- Queensland Walks
- Bicycle Queensland

The initial role of the PWG is to develop solutions to address e-mobility parking issues. This Plan represents a collective agreement by the PWG to improving e-mobility parking in Queensland.

The PWG will also play an important ongoing role. Members are encouraged to bring e-mobility parking proposals to the PWG for consultation across a broad range of stakeholders and it is hoped that lessons learned from trials can be shared freely to create a community of practice. This will support a diversity of evolving trials as well as future efforts to standardise e-mobility parking across Queensland.

# Context

## Goal

This Plan sets out a clear approach for improving e-mobility parking in Queensland. The solutions proposed are designed to be simple to implement and comply with. While it is hoped that solutions can have general application, a specific focus has been placed on more problematic high density environments.

All designated parking solutions require adequate space, in the right areas, and may create unintended challenges and require compromise where there is conflict over the allocation of public space such as roads and paths.

Effective e-mobility parking solutions can make active transport such as e-mobility more attractive in both regional areas and cities and improve liveability. These outcomes, when codesigned with representatives and advocates from the disability community and other stakeholders, align to the visions of both the *Queensland Transport Strategy* and the *Accessibility and Inclusion Strategy*, by contributing to ensuring safe, efficient and integrated transport accessible to all.

## Delivery phases

While there are some innovative approaches emerging, within Australia and internationally, there is no single agreed or standardised approach to improving e-mobility parking. As such, improving e-mobility parking in Queensland requires a phased delivery approach. This will include:

- **Trial and discovery** – Spanning approximately 12 months, this phase will see an expansion of localised e-mobility parking trials and the development of communication and education materials in consultation with various user groups, including disability representatives. Trials may vary in scale and complexity and it is acknowledged that some local governments have already commenced relevant trials.
- **Standardisation** – Requiring a longer timeframe, this phase will see the development of standardised e-mobility parking signage, pavement markings and other parking infrastructure, progressive roll-out and retrofit of infrastructure, easy mechanisms for reporting unsafe parking, ongoing communication to and education of users as well as the consideration of regulatory solutions. Once standardised, solutions should be subject to regular review as technology develops and social and environmental factors evolve.

Initiatives within this Plan are set out within these two phases, with clear timeframes for delivery. Timeframes commence from the publication of this Plan.

## Shared responsibility

Responsibility for improving e-mobility parking in Queensland sits with a broad range of stakeholders. No one government or industry group can unilaterally solve the problem. Broadly speaking, responsibilities across sectors include:

- **Queensland Government** – Overall coordination, development of standards and guidelines, investigation of regulatory solutions, and broad communication activities.
- **Local governments** – Contractual arrangements with shared e-mobility providers, strategic planning, infrastructure delivery, and broad communication activities.
- **Shared e-mobility providers** – Direct education and behaviour incentivisation of users, provision of usage data, deployment of devices in an appropriate manner, quick response to known issues, and improved technology.
- **E-mobility riders** – Personal responsibility to park e-mobility devices appropriately.
- **Landowners** (including public and private entities) – Provision of parking infrastructure in appropriate areas. For example, private land or at existing public transport hubs.

The PWG includes representation from each of these sectors with the ability to positively influence improved e-mobility parking. As such, the development and delivery of this Plan is necessarily a shared responsibility of the PWG. Throughout this Plan the responsibility for each initiative is clearly identified. Where multiple organisations or sectors have a role to play, this is acknowledged.

# Solutions

## Designated e-mobility parking areas

Designated e-mobility parking areas (DEPAs), sometimes referred to as e-mobility parking hubs, are the most important solution for improving e-mobility parking in Queensland. The provision of adequate DEPAs will help to improve parking for both privately owned and shared e-mobility devices. While it is acknowledged that the consumer demand for shared e-mobility devices require dockless arrangements, there is still considerable scope to provide clearer guidance as to where devices should be deployed and where a user should leave a device at the end of their trip.

DEPAs should be designed and installed to improve the safety and amenity of relevant path and road environments and to ensure that they promote accessibility and inclusion of all users. This requires the co-design of DEPAs with involvement from a broad range of stakeholders, including people with mobility and visual impairments.

DEPAs can be both physical (for example, using signs, markings and pavement decals or other infrastructure such as racks) and virtual (for example, supported by geofencing and in-app information). They can also be located in a range of environments, depending on specific local factors. DEPAs should be located clear of and out of the path of travel of people using the footpath. Consideration should be given to adjacent private land (where business owners may mutually benefit from the presence of a DEPA) or in a safe on-road facility (for example, in the place of a car parking space).

There should be a sufficient number of DEPAs to accommodate likely demand and these should be located in areas where e-mobility trips are known to commonly start and finish (for example, informed by shared e-mobility trip data, or at destinations along planned movement corridors). Whether physical or virtual, technology can play an important role in supporting DEPAs. Geofencing, camera positioning algorithms and QR codes are known examples of systems that support enhanced localisation of e-mobility devices. In turn, this enables greater use of incentives for parking within a DEPA or disincentives for not parking within a DEPA.

The design and installation of appropriate DEPAs is also an important enabler to other solutions within this Plan, including communication and regulation. DEPAs require adequate space, in the right areas, and it is acknowledged that some compromise is likely where there is conflict over the allocation of public space such as roads and paths.

### Trial and discovery

The actions proposed below are a non-exhaustive list of initiatives that could be trialled. The intent of this Plan is not to make all of these actions mandatory but to provide high-level solutions that can be adapted to local contexts.

Action	Responsibility	Timeframe
Investigate examples of best practice e-mobility parking nationally and internationally and report back to the PWG.	Local governments Shared e-mobility providers	3 months
Develop a simple set of criteria for selecting DEPA trial locations and guidance for what to consider when installing a DEPA. <i>Note: draft criteria and guidance is included at Appendix A to this plan.</i>	TMR	3 months
Commence trial of DEPAs at selected Brisbane busway stations.	TMR BCC	3 months
Provide insights from shared e-mobility trip data to local governments and other relevant planning agencies to support the identification of DEPA locations.	Shared e-mobility providers	Ongoing
Initiate and expand e-mobility parking trials to: <ul style="list-style-type: none"> <li>See a greater number of DEPAs installed in locations with a high volume of shared e-mobility devices.</li> <li>Engage with owners of land adjacent to high-volume paths to trial the installation of DEPAs on private land.</li> <li>Trial the resumption of a small number of on-road parking</li> </ul>	Local governments Shared e-mobility providers	Ongoing

Action	Responsibility	Timeframe
<p>spaces to install DEPAs with appropriate protection from passing traffic.</p> <ul style="list-style-type: none"> <li>• Trial the use of racks within DEPAs to prevent e-mobility devices easily falling and creating a hazard to path or road users.</li> <li>• Trial DEPAs for privately owned e-mobility devices in appropriate locations.</li> <li>• Share the lessons learned with the PWG.</li> </ul>		
Publish an overview of e-mobility parking trials online.	TMR	Ongoing
Expand use of geofenced no parking and restricted parking areas in key problem locations. Consideration be given to geofencing to allow through movement for e-mobility devices but to discourage parking where there is insufficient clear pedestrian space.	Shared e-mobility providers	Ongoing
Trial of a range of innovative technology solutions to support more accurate localisation of e-mobility devices within DEPAs and share lessons learned with the PWG.	Shared e-mobility providers	Ongoing
Conduct academic research into trials to determine the impacts of parking solutions for the transport system and related infrastructure.	TMR BCC	12 months

## Standardisation

Action	Responsibility	Timeframe
Adoption of lessons learned from trials of incentives and technology supporting improved use of DEPAs.	Shared e-mobility providers	1 – 2 years
Develop standardised signs and markings to designate DEPAs on roads and paths (for example, within the Manual of Uniform Traffic Control Devices).	TMR	2 years
Update of Public Transport Infrastructure Manual to provide guidance for the installation of DEPAs at public transport hubs.	TMR	2 years
Progressive rollout and retrofit of DEPAs in line with agreed guidelines.	Local governments	2+ years

## Reporting poor parking

The PWG has identified challenges with easily reporting instances of poor e-mobility parking (for example, when a device is found blocking a path or fallen over in a way that creates an obstruction or hazard). Most shared e-mobility providers have a mechanism for reporting poor e-mobility parking, including via an app or web form. However, there is no standardised approach.

Agreements between local governments and shared e-mobility providers should provide that e-mobility providers are required to address known or reported instances of poor parking within a certain timeframe (for example, defined service level response times). Shared e-mobility providers also utilise technology to identify and respond to issues (for example, tilt sensors are able to indicate where a device has fallen over). Despite this, public reporting is still a critical input to identify instances of poor parking and support the timely resolution of issues so that path and road users are not inconvenienced or disadvantaged.

There would be benefit in greater standardisation of reporting mechanisms as well as ensuring that community members have easy access to details about how to report instances of poor e-mobility parking.

## Trial and discovery

Action	Responsibility	Timeframe
Shared e-mobility providers to ensure details about how to report instances of poor parking are easily available to members of the public. Consideration to be given to: <ul style="list-style-type: none"> <li>Including contact and identification details on the e-mobility devices themselves.</li> <li>Offering a range of customer response channels, including providing an all-hours phone number for members of the community that might not have access to app or web-based reporting mechanisms.</li> </ul>	Shared e-mobility providers	Ongoing
Information about how to report unsafe parking to shared e-mobility providers included on relevant government websites.	Local governments	3 months
Provide shared e-mobility device users meaningful and timely feedback about parking behaviours through, for example, analysis of end of trip photos.	Shared e-mobility providers	6 months

## Standardisation

Action	Responsibility	Timeframe
Investigate options for a standardised reporting mechanism for all shared e-mobility devices.	TMR Local governments	1 year



## Communication and education

Communication and education are critical to improving e-mobility parking in Queensland. E-mobility users are often unaware of how to park their devices appropriately and in a way that does not create issues for other path and road users. For example, users may intuitively leave their devices close to or leant against the wall of a building at the edge of a footpath unaware that this creates an obstruction for vision impaired people who use canes and rely on building and pavement lines to help navigate paths.

Shared e-mobility providers already provide in-app information to users about how to park appropriately and have recently rolled out a range of information online about safe parking practices. While this is extremely valuable, more is needed to ensure users understand how to park appropriately and the consequences of failing to do so, in particular for vulnerable path users. As noted above, the increased availability of easily recognisable DEPAs will also support clear communication on this issue.

Opportunities for additional communication and education include social media, web content, training events and stakeholder communications. Communications and education should highlight the impact of poorly parked e-mobility devices on people who are blind or who have low vision, people with mobility impairments and other people with disabilities.

### Trial and discovery

Action	Responsibility	Timeframe
Develop consistent messaging to users about how to appropriately park e-mobility devices and the rationale for safe parking. Specific consideration to be given to how to ensure people with a mobility or vision impairment are not disadvantaged by e-mobility parking on paths.	PWG	3 – 6 months
Review and update existing communications to align with agreed messaging.	PWG	3 – 6 months
Consideration be given to engaging with local media to promote safe parking messaging, alongside ad-hoc social media posts (outside of a focused communication campaign)	TMR Local governments Shared e-mobility providers	3 – 6 months
Promote awareness of parking reporting mechanisms within communications channels for path user advocacy groups	PWG	6 – 12 months

### Standardisation

Action	Responsibility	Timeframe
Investigate a focused communication campaign targeted at improving e-mobility parking.	TMR	6 – 12 months

## Regulation

There are three main regulatory levers with the potential to influence improved e-mobility parking. These are:

- **Queensland Road Rules (QRRs)** – which includes rules that govern the parking of motor vehicles such as cars and motorbikes
- **Agreements between local governments and shared e-mobility providers** – which can establish deployment conditions and performance requirements.
- **Other legislation that governs use of public space** – for example, public transport infrastructure such as railway stations, ferry terminals and busways.

While the QRRs are an effective tool in regulating the parking of motor vehicles, there are challenges associated with regulating e-mobility parking in the same way. Enforcement of motor vehicle parking assumes that once a vehicle is parked by a driver, it is very unlikely to have been moved. Motor vehicles are also registered and so it is possible to identify a responsible person for an unattended vehicle. When an enforcement officer comes across an illegally parked motor vehicle they are able to issue an infringement to the registered operator of that vehicle, who is well placed to identify the offending driver (if not themselves).

By contrast, e-mobility devices are often lightweight and easily moved after they have been parked by a user. These devices are also not registered and so it is not always possible to identify a responsible person for an unattended device. Efficient enforcement of e-mobility parking is therefore much more challenging. An enforcement officer would need to witness a user parking illegally and intercept them before they left the scene, or the device was subsequently moved by another person. Further work is required to understand if changes to the QRRs could support improved e-mobility parking.

Agreements between local governments and shared e-mobility providers may be a more effective regulatory instrument to improve e-mobility parking. Consideration should be given to updating these agreements based on the results of e-mobility parking trials.

## Trial and discovery

Action	Responsibility	Timeframe
Review and update agreements between local governments and shared e-mobility providers to trial: <ul style="list-style-type: none"> <li>• Different conditions (for example, a requirement that users must end their trip in a DEPA, users must provide photographic evidence of compliant parking)</li> <li>• Defined service level response times for poor parking rectification.</li> <li>• Geofenced preferred parking and no-parking zones</li> <li>• Different incentives and/or disincentives to encourage users to leave e-mobility devices in DEPAs at the end of their trip, including enforcement mechanisms for repeated non-compliant user behaviour (such as parking in no-parking zones)</li> <li>• Community awareness-raising and education activities for safe e-mobility device riding and parking.</li> </ul>	Local governments Shared e-mobility providers	6 – 12 months

## Standardisation

Action	Responsibility	Timeframe
Investigate whether changes to the QRRs would support improved e-mobility parking.	TMR	1 year
Identify and address any regulatory barriers for e-mobility device parking at public transport infrastructure.	TMR	1 – 2 years

# Document review

Review period <i>(from publication)</i>	List of key amendments	Date
6 months		
1 year		
2 years		

# Appendix A – Draft DEPA guidelines to support trials

These draft guidelines are included as an illustrative example of the types of issues to be considered when deploying a DEPA within the trial and discovery phase. It is intended that these will be reviewed and amended regularly throughout the trial and discovery phase based on the lessons learned from e-mobility parking trials.

## Criteria to determine if a DEPA is required

DEPAs should be provided where one or more of the following conditions exists:

- there is high pedestrian traffic,
- e-mobility demand exceeds the natural capacity of the verge to accommodate compliant parking of devices, or
- e-mobility parking otherwise affects the safe use and amenity of the verge by pedestrians

## Considerations when installing a DEPA

The following guidelines aim to improve the consistency of DEPAs during the trial and discovery phase and improve recognisability by e-mobility device users.

DEPAs should be:

- Strategically placed based on usage data, where available, with appropriate density for the environment.
- Correspond to geo-fenced preferred parking locations in shared e-mobility provider apps.

DEPAs should be located:

- Where minimum acceptable clear pedestrian space can be maintained without impeding accessibility shorelines (2.4m in CBD areas; 1.8m otherwise).
- Where possible, along the kerbside.
- Where available, in the path furniture zone, alongside existing street furniture or trees that provide a natural barrier to path user through movements.
  - *If located adjacent to bus shelters, DEPAs should be located on the opposite direction of travel.*
- Away from path corners, crossings and kerb ramps.
- Away from building access such as stairs and ramps.
- Away from TGSIs (Tactile Ground Surface Indicators) and audio tactile push buttons at road crossings.

DEPA pavement decals or painted pavement markings should:

- Clearly delineate the DEPA borders.
- Be durable and visible.
- Be non-slip.
- Use consistent e-mobility symbols.
- Not overlap or obscure TGSIs.

DEPA signage should:

- Be visible from a distance.
- Use consistent e-mobility symbols.
- Be appropriately sized for path environment.