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Transport for NSW

ESA Working Group – Electric Scooter Trial Recommendations Report

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Introduction

The NSW Government supports transforming personal mobility and boosting active transport. By 2056, two thirds of people in NSW will be living within 2km of an urban centre and devices such as electric scooters and other similar technologies have the potential to move people out of single occupant cars for first mile and last mile trips, freeing up capacity on the roads for people who need to travel further. The appeal of these devices is that they are faster and require less physical effort than walking or cycling and people can use them for longer trips and over more difficult terrain, even with a lower fitness level.

Thanks to the advancements and cost reductions in GPS and battery technologies, electric scooters have become increasingly affordable, catalysing the rapid global expansion of both commercial and individually owned electric scooters particularly with the introduction of rental services in the US in late 2017. Since early 2018, Transport for NSW (TfNSW) has been approached by several operators of shared electric scooter services, local councils and individuals to allow a trial of electric scooters in NSW.

Safely realising the potential benefit of electric scooters and other similar technologies requires a holistic approach that considers infrastructure, the road environment and people's behaviour while balancing the mobility needs of the community. TfNSW has established the Electric Scooter Advisory (ESA) Working Group, consisting of key community stakeholders, to consider these issues and provide guidance and recommendations relating to the consideration of electric scooter trials in NSW.

The purpose of this report is to provide an overview of the advice put forth by the ESA Working Group to Transport for NSW in consideration of an electric scooter trial in NSW.

Existing regulatory framework

Under *Motor Vehicle Standards Act 1989*, all motor vehicles imported or sold in the Australian market must meet minimum standards for safety as defined by the Australian Design Rules (ADRs), except in circumstances where an exemption has been granted by the Department of Infrastructure, Transport, Cities and Regional Development (DITCRD).

Electric scooters can be sold and imported in Australia under the Federal *Motor Vehicle Standards (Road Vehicles) Determination 2017*, which outlines classes of vehicles that are deemed not to be road motor vehicles for the purpose of the *Road Vehicle Standards Act 1989*. These are often referred to as 'non-road' vehicles. However, there are currently no safety standards that apply to electric scooters for use on the road and their use is subject to state or territory legislation.

In NSW, any vehicle with a motor is classed as a motor vehicle under the *Road Transport Act 2013* and must be registered for it to be used on NSW roads unless it is specifically exempt from registration. Motor vehicle drivers must also be appropriately licenced unless they are exempt. Motor vehicles which have been exempt from registration requirements include motorised wheelchairs, drive-on lawn mowers, golf carts, and power assisted pedal cycles within defined performance limitations. Such motor vehicles can be lawfully used subject to specific conditions, for example a motorised lawn mower can travel on a public road as long as the vehicle weighs no more than 250kg and is used solely for cutting grass.

The main purpose of vehicle registration is to ensure that a vehicle meets minimum safety standards and allow for the identification of a vehicle and its registered operator, who has a responsibility to ensure the vehicle is safe and compliant with these standards when used on NSW roads. Registered operators are also liable for certain offences such as parking offences and camera-detected offences. Under NSW road transport law it is a requirement for the registered operator to ensure a motor vehicle continues to comply with roadworthiness requirements through its lifecycle as well as having a compulsory third party insurance policy.

In NSW, electric scooters are motor vehicles but cannot be registered as there are no applicable safety standards, in this case the Australian Design Rules (ADRs) for them. They also have not been exempt from registration requirements and are therefore prohibited from being used on NSW roads and road related areas like footpaths and shared paths.

Additionally, under the NSW Road Rules 2014, electric scooters would be considered a motor bike, which is defined as a motor vehicle with two wheels. Unless exempted, electric scooter riders would be subject to specific licensing requirements and road rules applying to motor bike riders if they were allowed to be used on NSW roads.

Consequently, any trial or use of such devices on road or road related areas in NSW would require exemptions from existing licensing and registration requirements, certain road rules; and have appropriate insurance as CTP insurance is currently not available.

Electric Scooter Advisory Working Group

The Electric Scooter Advisory Working Group (ESA) was established in February 2019 to provide TfNSW guidance and recommendations around policy, regulatory and other relevant issues that may impact on road safety relating to proposals for electric scooter trials.

Membership of the Working Group consisted of key stakeholders including road safety experts, regulators, enforcement, responders, compensation providers and community advocacy groups, namely;

- Transport for NSW
- NSW Police
- NSW Ambulance
- State Insurance Regulatory Authority
- Pedestrian Council of Australia
- Guide Dogs NSW
- NRMA
- Youthsafe
- Bicycle NSW
- Office of Local Government
- Council of the Ageing NSW

Throughout the process of developing recommendations, the ESA Working Group also engaged with local government and industry representatives in addition to conducting desktop studies on the learnings arising from trials in other jurisdictions, including:

- Inner West Council
- Waverley Council
- Randwick Council
- Northern Beaches Council
- City of Parramatta Council
- Bayside Council
- City of Sydney Council
- Canterbury-Bankstown Council
- Liverpool City Council
- Lime
- Bird
- Beam
- Bolt
- Ride App
- Bicycles Online
- Frog
- Uber/Jump
- Neuron Mobility
- Dav City
- Go Flamingo
- Localift

The Working Group's process to develop recommendations can be summarised by Figure 1.



Figure 1. ESA Working Group recommendations development process

Context and Desktop Studies

At the time of finalising the Working Group's recommendations in December 2019, desktop studies from trials in other jurisdictions had been inconclusive on whether electric scooters effectively address the transport outcome of reducing last mile commute in cars.

Additionally, throughout the recommendation development process, the Working Group observed an increasing number of reports on the adverse impacts of electric scooters in other jurisdictions¹ particularly around electric scooter safety and parking management. Cities, such as Paris² and Singapore³, who had initially allowed the roll out of e-scooters relatively freely, were responding by introducing tighter restrictions to the operating domain of electric scooters, suggesting that safety concerns had not been sufficiently addressed through the technological advancements of the scooters.

In consideration of a trial of electric scooters in NSW, the ESA Working Group explored the following issues in depth, consulting with local councils and industry experts as it became necessary:

- Operating domain
- Device performance requirements
- Safety of operators and other road users — for both scooters in use and parked
- Compliance and enforcement
- Insurance implications
- Data collection requirements
- Communication requirements

ESA Working Group Outcomes

Electric scooters and other similar technologies may have the potential to transform personal mobility, facilitating first and last mile journeys and freeing up capacity from our congested roads. Rapid innovations in technology will make it difficult to manage and enforce how each and every type of mobility device is used. If they are permitted, space will inevitably need to be shared and it will be TfNSW's responsibility to define the appropriate ways to do so effectively.

Currently in NSW, there is also limited legislation to control businesses deploying shared devices on public land or roads. A separate consultation process and significant legislative change would be required to achieve any higher level of control over the use of public land for deploying shared assets like shared electric scooter services. Other jurisdictions for example a permit system; requiring the implementation of a complex and costly enforcement regime where local governments, other government land managers and road authorities would all have a role to play.

¹ Hawkins, A.J. (2019). *Electric scooter use results in 20 injuries per 100,000 trips, CDC finds*. [online] The Verge. Available at: <https://www.theverge.com/2019/5/2/18526813/scooter-electric-injury-austin-cdc-study-head-helmet> [Accessed 2 Mar. 2020].

² Crellin, F. (2019). *Paris clamps down on electric scooters as law of the jungle rules*. Reuters. [online] 24 Jun. Available at: <https://www.reuters.com/article/us-france-paris-scooters/paris-clamps-down-on-electric-scooters-as-law-of-the-jungle-rules-idUSKCN1TP1ZV> [Accessed 2 Mar. 2020].

³ Westcott, B. (2019). *Singapore joins France in banning e-scooters on sidewalks*. [online] CNN. Available at: <https://edition.cnn.com/travel/article/singapore-e-scooter-ban-intl-hnk/index.html> [Accessed 3 Feb. 2020]

As it stands, local governments would largely be unable to regulate the deployment of shared electric scooters beyond a trial aside from the ability to impound devices under the *Impounding Act 1993*; however this Act is currently under comprehensive review through to mid-2020. TfNSW is also only currently able to regulate their deployment through a Ministerial exemption order and any future regulatory changes would need to consider the future regulatory environment that these services should operate under.

Early observation from pilots in other jurisdictions has suggested that riders of electric scooters prefer to utilise cycling infrastructure when available, however, in absence of the infrastructure will choose to ride on footpaths⁴. Additionally, National Cycling Participation Survey 2019 has identified a series of government actions to encourage bicycle riding, such as more cycling lanes, better connections between cycling paths and bicycle parking. It is expected that similar infrastructure support is likely to be required for the uptake of electric scooters and other similar devices in NSW.

Operators of shared electric scooters have shown hesitation towards self-enforcement of trial conditions, particularly with regards to rider behaviour, due to the competitive nature of the industry, while also citing limitations in technological capabilities. As such, the enforcement of trial conditions would lean heavily on local police and their resources.

For any electric scooter trial, 'off the shelf' insurance products would likely need to be amended to ensure there is no coverage or benefits gap between an operators' insurance policies and that compensation which would be available to a person if injured or killed by a registered vehicle (that is, via the NSW CTP scheme). Given the highly specialised nature of such a product, oversight from the State Insurance Regulatory Authority (SIRA) would likely be required. Standardisation of appropriate insurance products could be considered beyond a trial.

The trial recommendations have been developed by the ESA Working Group in absence of Australian Design Rules for electric scooters. However, the group has highlighted that prior to any trial there must be further investigation in establishing evidence based vehicle specification baselines to ensure sufficient capabilities in areas such as visibility, speedometer accuracy, braking and manoeuvrability within the prescribed trial operating domain.

In addition to developing recommendations for both Operating and Trial Location requirements, the ESA Working Group has also defined what success would look like for an electric scooter trial.

The Working Group also conducted analysis on a trial involving privately owned electric scooters. The outcome of this analysis is detailed in the section "Private e-scooter use" below.

Recommendations for Electric Scooter Trial Conditions

In the absence of Australian Design Rules and safety standards that apply to electric scooters, the ESA Working Group has provided the recommendations specifically for an electric scooter trial in NSW based on the constraints of exempting existing legislation and the following assumptions:

- That the trial would be limited to electric scooter shared services (not privately owned scooters)

⁴ Portland Bureau of Transportation. (2018). *2018 E-scooter Findings Report*, [online] Available at: <https://www.portlandoregon.gov/transportation/article/709719> [Accessed 3 Feb. 2020]

- That the performance capacity of the electric scooters would be greater than 10km/h
- That any trial would be independently evaluated

These recommendations should be treated only as guidance for a trial; being used to inform any future change to policy. There also remains significant investigation required around vehicle design and performance including size, weight, manoeuvrability, speed and power capabilities, and the resultant kinetic energy and safety risk.

The Operating Requirements and Trial Location Criteria below have been extracted from the Recommendations for Trial Conditions detailed in Appendix 1.

Operating requirements

Parameter	Trial Requirement
Trial duration	6 months with consideration for an additional 6 months
Licensing	Users must have a drivers' licence valid in NSW (minimum Provisional); age restriction in line with licensing (min. 17)
Identification	Each scooter must have a clearly visible unique identifier
Passengers	Passengers are not permitted
Helmet use	Riders must wear an approved bicycle helmet
Maximum power output	300 watts
Maximum speed	Capable of up to a maximum of 20km/h on roads or bike lanes/paths and only allowed to travel at a maximum of 10km/h on shared paths
Use on roads	<ul style="list-style-type: none"> • Must not be used on roads with: <ul style="list-style-type: none"> - Speed limit greater than 50km/h - Multiple lanes in direction of travel • Must be ridden as near as practicable to the left hand side of the road
Use on footpath	<ul style="list-style-type: none"> • Not permitted
Use in bike lanes/bike paths	<ul style="list-style-type: none"> • Permitted (preferred over shared paths)
Use on shared paths and zones	<ul style="list-style-type: none"> • Permitted • Max. speed of 10km/h • Must give way to pedestrians • Keep left
Parking	Scooters are to be parked in 'bays' as defined by Council
Operator density	Min. 2 competitive Operators in each trial area
Geofencing system	Trial boundaries, no-go zones, slow speed zones
Use at night	<ul style="list-style-type: none"> • Scooter use will be prohibited at night (between sunset and sunrise)

Insurance	Operators are responsible for AUD\$20m public liability insurance, insurance for personal injury and third party injury that is equivalent to the policy and benefit structure as compared to CTP insurance, and third party property insurance.
Enforcement	<ul style="list-style-type: none"> • Non-compliant riders will be subject to penalty infringement notices for breaching applicable road transport law exemptions; penalties to reflect light vehicle penalties where feasible. • Operators must legally own scooters and have business registered in NSW for Police to request personally identifiable data
Data	Operators must provide de-identified trial data, dashboards and operating reports as requested by TfNSW; MaaS data specifications

Trial Location criteria

Parameter	Trial Location Criteria
Parking bays	Must be able to support sufficient scooter parking bays without overwhelming existing infrastructure
Shared paths	Must meet NSW Road Rules 2014 signage requirements and Austroads design requirements verified by the local council
Roads	<ul style="list-style-type: none"> • Must not have gaps in the network that forces riders to break trial requirements • Free from light-rail tracks • Upgraded stormwater grates
Bike lanes/bike paths	Ideal environment to operate; location should have a complete network with minimal use on shared paths and roads
Geography	<ul style="list-style-type: none"> • Steep hills can be geo-fenced to prevent usage • Councils can direct Operators to remove scooters from known high risk areas outside of operating hours e.g. near waterfronts
Parking Monitoring	<ul style="list-style-type: none"> • Operators will have on-ground teams to respond to complaints and scooter 're-balancing' but Councils would be required to conduct adhoc monitoring of parking and issue appropriate notices • Councils will have powers to impound scooters that are not removed within the agreed timeframes
Community consultation	<ul style="list-style-type: none"> • Required to be part of a communications plan and conducted prior to a trial
Transport outcomes	<ul style="list-style-type: none"> • Within ~2.5km of a transit hub or destinations (home/work/universities)

Measures of Success

<u>Category</u>	<u>Measure of Success</u>
Safety (rider)	Scooters have at least a comparable if not better level of safety with other active transport modes
Safety (pedestrians and other road users)	Scooters are not adversely affecting peoples feeling of safety and willingness to walk
Suitability of operating domain	Electric scooters are able to operate safely within the trial operating domain
Replacement of car trips	Scooters are replacing trips undertaken in cars

Customer satisfaction	Customers are satisfied with scooter service
Community satisfaction	There is a high level of acceptance for scooters and enjoyment of public spaces is not adversely impacted
Enforcement and Penalties	Enforcement and penalties can effectively deter unsafe behaviour
Enforcement and Penalties	Users are complying with trial conditions
Operator behaviour	Operators are complying with trial conditions
Insurance functionality	Personal injury insurance should possess an equivalent policy and benefit structure as compared to CTP insurance
Environment	Environment and amenity are not adversely impacted

Private e-Scooter use

The ESA Working Group has conducted an analysis on a trial involving privately owned electric scooters in Figure 2.

It is in the Working Group's view that the potential benefits of conducting a privately owned electric scooter trial is greatly outweighed by the increased amount of challenges. As such, it has not been recommended that an initial trial include privately owned electric scooters at this time.

PROs	CONs
Potentially less risky rider behaviour; e.g. doubling up, greater helmet use	Greater administration efforts required to acquire any data and build the case for electric scooters
No vandalism	Difficulty in imposing registration and insurance
Fewer parking issues	Cannot geofence trial boundaries or prevent riding beyond trial zones
Rides are focussed on transport rather than joyrides	Difficult to implement riding curfews
	Lack of connectivity for users on dedicated cycling infrastructure
	Compliance relies solely on police and council
	Greater complexity in regulatory exemption
	Enforcement of vehicle standards difficult – particularly with maximum power and speed requirements
	Registration/number plate requirements would increase complexity in the current legislative environment