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Productivity and Safety Team  
National Transport Commission  
Level 3, 600 Bourke Street  
Melbourne VIC 3000

Attn: Anthony Pepi

## **Submission**

### **Issues Paper: Barriers to the safe use of innovative vehicles and motorised mobility devices**

#### Summary – key points

- Allowing 'innovative vehicles' to travel at speeds greater than 10 km/h on the footpath would pose an injury risk to pedestrians and is likely to deter some people from walking, especially people who are older or have a disability.
- 'Innovative vehicles' pose substantial safety risks to users. There is no reason to believe that these risks would be reduced in allowing these vehicles on the footpath.
- 'Innovative vehicles,' especially those provided through a dockless hire scheme, are likely to be left at times in positions that block footpaths, with significant adverse impacts particularly on people reliant on mobility devices.
- The limited available evidence suggests e-scooters are more likely to be used as an alternative to sustainable transport modes, including active modes that provide important health benefits, rather than replacing vehicle trips. With that context, the perceived benefits of 'innovative vehicles' identified in the Issues Paper are more likely to actually be disbenefits.
- In the event that 'innovative vehicles' do replace motor vehicle trips, those trips will mostly be short trips, limiting the potential benefits. The increased safety risk to users may well outweigh any societal benefits arising from a reduction in vehicle use.
- Overall, 'innovative vehicles' are very likely to lead to substantially reduced health and fitness, both for users and non-users.
- Any changes regarding footpath use need to be well thought-through and comprehensive data should be collected to better inform the discussion and decisions.

- We should see these new technologies as an opportunity to re-design our streets, with new dedicated lanes for bikes and e-scooters, or low speed roads, not use footpaths as a 'too hard basket' to put them in.
- The two vehicle categories considered in the paper are significantly different. Mobility scooters have clear personal and wider benefits, innovative vehicles do not.
- Motorised mobility devices can increase a person's mobility, but this should not come at the expense of other footpath users. Therefore, we support their use on the footpath so long as the maximum speed is physically-limited to 10km/h.

## Recommendations

1. Prohibit the use of 'innovative vehicles' in any public space. Allow motorised mobility devices so long as they are physically-limited to a maximum speed of 10km/h.

OR

2. Consistently prohibit use of all 'innovative vehicles' on the footpath (allowing them on the road or other bicycle infrastructure). Allow motorised mobility devices on the footpath, so long as they are physically limited to a maximum speed of 10km/h.

OR

3. Ensure that all 'innovative vehicles' and motorised mobility devices are limited by design, not user action, to a maximum speed of 10 km/h.

Depending on which of these options is adopted, more detailed actions will need to be considered. For example, if 'innovative vehicles' are allowed on roads but prohibited on the footpath, Police should be resourced and motivated to enforce this prohibition. It may be appropriate to require providers of 'innovative vehicles' to fund education campaigns persuading drivers to accept 'innovative vehicles' on the road.

## Victoria Walks' approach

Victoria Walks' interest in the issues paper relates to the use of the footpath and pedestrian areas<sup>1</sup> by 'innovative vehicles' and motorised mobility devices.

Decisions on how the footpath is used must be made in the context of people already there, including people with limited mobility such as the elderly, frail and people using walking aids. Walking is available to nearly everyone and we strongly oppose any changes that may make it more difficult, unpleasant or unsafe to walk.

Any use of 'innovative vehicles' and motorised mobility devices on footpaths needs to meet the following criteria, which are used to frame the remainder of this submission:

- They increase people's mobility and not just transport choice.
- They provide clear overall benefits and align with government objectives.
- They do not pose a safety risk to other footpath users.
- They do not pose a safety risk to users themselves.
- They do not impede footpath operation.
- They are easy to use correctly and easily enforced.

These points are explained further in the following sections and lead us to the conclusion that a 10km/h speed limit should be implemented for any motorised vehicle using the footpath. Due to the various regulatory frameworks (national and state), we believe any vehicle which is permitted to be used on the footpath anywhere in Australia should have a physically-limited maximum speed capacity of 10km/h to avoid the user going above this speed, intentionally or unintentionally.

The Issues Paper "seeks to reach a complete and common understanding of the problem" however Victoria Walks believes that a significant range of disbenefits have not been considered, particularly for 'innovative vehicles'. These include safety risks to users and others, impacts on footpath operation, environmental impacts, health impacts and overall cost to society. Such costs could well outweigh any benefits.

Part of the Issues Paper's stated purpose is to understand "barriers that may inhibit the safe use of innovative vehicles". This statement assumes that 'innovative vehicles' will be operating on our streets and doesn't consider the key question of whether they should be permitted in the first place. Decisions should be made in the context of Vision Zero and what we want our cities to look like, rather than let new technologies define our safety and cities.

Notwithstanding these broader questions, the issues outlined suggest the need to rethink the design of public space given this emerging (or expanding) category of road user who move faster than pedestrians and so are not suited to the footpath, but slower than traffic and so are not ideally suited to most existing roads. If these technologies are to be accepted, then there is a greater need to develop dedicated infrastructure such as protected bicycle and 'innovative vehicle' lanes on main roads.

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<sup>1</sup> All references to 'footpath' in this letter include the footpath and pedestrian areas e.g. crossings, shared paths.

## Increasing people's mobility and not just transport choice

The Issues Paper states that “enabling people of all ages and abilities with the freedom to be mobile, independent and socially-included is a priority.” We strongly support this principle, but it does not follow that ‘innovative vehicles’ should be facilitated. The principle must also apply to people who do not use ‘innovative vehicles’ and motorised mobility devices.

Similarly, increasing the choice available to one group of people is problematic if it undermines the choices of others. In this case, if ‘innovative vehicles’ are permitted on the footpath, that may effectively reduce the choices available to others, particularly the walking dependent. It may even result in some of these people choosing to no longer go out at all.

Examples of the types of people most at risk of being affected by motorised vehicles on the footpath include:

- Older people, particularly those without a driver licence or who are hesitant to drive, that rely on walking for social and shopping purposes.
- People who are blind or have low vision.
- People who have a disability.
- Young children who need to have freedom of movement on footpaths. Under carer supervision, footpaths are important public spaces where they learn to move, play and interact.

Fast moving electric scooters and similar devices present comparable problems to cyclists

on footpaths. [Research](#) on footpath cycling was commissioned by Victoria Walks and found that footpath cycling is a particular concern for the most vulnerable pedestrians. Older people and people who are blind or have low vision often rely heavily on walking and accessing public transport to travel independently but feel extremely nervous sharing environments with cyclists. In one survey, approximately 40% of seniors identified cyclists on shared walking and cycling paths to be a factor which discouraged them from walking. Older people make up a [significant proportion](#) of the Australian population and this cohort is growing.

## Provide clear overall benefits and align with government objectives.

If new technologies do not provide clear overall benefits for society and are not safe to use, we do not see a reason to facilitate their adoption.

The Issues Paper outlines the perceived benefits of ‘innovative vehicles’. These perceived benefits are predicated on the assumption that ‘innovative vehicles’ will be used as an alternative to cars. While we are not aware of a lot of evidence on this question, the evidence we have seen suggests this is a largely incorrect assumption.

Portland, Oregon conducted user surveys as part of their [2018 electric scooter \(e-scooter\) pilot](#). They found that:

- the typical user is overwhelmingly young, wealthy, educated, white and male, without a disability
- the top response for purpose of using the e-scooter was “for fun/recreation” even on the third use, with nearly half (44%) of users replying they used the e-scooter “just for fun”.
- If the e-scooter had not been available:
  - 37% of people would have walked instead

- 19% would have driven a motor vehicle
- 15% would have taken a taxi/Uber/Lyft
- 10% would have taken public transport
- 9% would have ridden a bike (personal or shared)
- 8% would not have made the trip at all
- 1% would have been dropped off in a passenger vehicle

In summary therefore, e-scooters are more likely to be used as an alternative to sustainable transport modes, including active modes that provide important health benefits, rather than replacing vehicle trips.

With that context, the perceived benefits are more likely to actually be disbenefits. For example, a person who previously walked from the station now using an e-scooter results in an increase in environmental impact and cost, as well as a significant decrease in health benefits.

In the event that e-scooters do replace vehicle trips, those trips will mostly be short trips, limiting the potential benefits. There is no prospect, for example, of 'innovative vehicles' having any appreciable impact on freeway congestion or congestion within the CBD. The increased safety risk to users may well outweigh any societal benefits arising from a reduction in vehicle use.

Our specific responses to the perceived benefits are shown in Table 1.

Table 1: Supposed benefits of 'innovative vehicles' and our response

Outlined benefit	Victoria Walks response
<p><b>Increased independence and social inclusion</b></p>	<p>The 'innovative vehicles' set out are not suitable for people who are currently unable to walk as they generally require good balance, dexterity and reaction times.</p> <p>Electric share scooters require the use of an app, immediately ruling out anyone without access to a smartphone or reluctant to use technology.</p> <p>The majority of users are likely to be people who already have the widest mobility choices.</p>
<p><b>An alternative to the motor vehicle for greater mobility choice</b></p>	<p>Incorrectly assumes the 'innovative vehicle' will be used in place of a car.</p>
<p><b>Environmental benefits such as reduced pollution, greenhouse gas emissions, reduced noise, and reduced use of resources</b></p>	<p>Incorrectly assumes the 'innovative vehicle' will be used in place of a car.</p> <p>If a person changes from walking, cycling or public transport, there will in fact be disbenefits that accrue e.g. increased environmental impacts.</p>
<p><b>Direct cost savings to users because of reduced spending on petrol, tolls and vehicle maintenance and reduced capital costs such as vehicles and garaging, compared with motor vehicles</b></p>	<p>Assumes the 'innovative vehicle' will be used in place of a car.</p> <p>If a person changes from walking, there will in fact be increased cost.</p>
<p><b>Health and fitness benefits from the physical exercise associated with some types of innovative vehicles.</b></p>	<p>Incorrectly assumes the 'innovative vehicle' will be used in place of a car. Also assumes that physical exercise will be a benefit. Most of the 'innovative vehicles' discussed require little effort and provide negligible physical activity benefits.</p> <p>In the circumstance people change from walking, there will in fact be significant disbenefits that accrue e.g. less exercise.</p> <p>When considered overall, it is highly likely that vehicles such as e-scooters will result in substantially reduced physical activity by users.</p> <p>In addition, if allowed at speed on the footpath, 'innovative vehicles' are almost certain to deter walking by at least some non-users, as discussed further below.</p> <p>Overall therefore, there is no evidential basis for this perceived benefit. In fact, 'innovative vehicles' are very likely to lead to substantially reduced health and fitness benefits.</p>

As a result, we do not believe there are clear benefits to permitting e-scooters on the footpath however they do have clear disbenefits, including posing a safety risk to users and others.

Even if 'innovative vehicles' were physically limited to 10km/h, they do not support government objectives to encourage more active lifestyles as users are more likely to change from active modes of travel (e.g. walking) rather than sedentary (e.g. driving a car).

Irrespective of where on the street they are, if 'innovative vehicles' are less safe overall then it will be society who pay the extra costs incurred by their use through for example the health system and lost productivity. Individuals will also suffer the costs associated with injury and possibly death. Reductions in road safety for society do not align with the Vision Zero approach adopted at both national and state/territory levels throughout Australia.

Victoria Walks agrees with the stated benefits of motorised mobility devices, designed to provide mobility for disabled people who find it difficult or impossible to walk. Motorised mobility device users generally have greater mobility needs and fewer travel options. Therefore, allowing them to continue operating at a maximum speed of 10km/h on the footpath is likely to provide social inclusion and mobility for the user without significantly impacting other footpath users.

### Safety risk to other footpath users

The Australian road safety community understands that increased speed and mass result in increased energy and hence usually injury in the event of a crash.

#### Speed

The current footpath speed limit of 10km/h for motorised wheelchairs in Victoria is already approximately twice the walking speed of an able and agile pedestrian (approximately 4 km/h<sup>2</sup>). The use of vehicles on the footpath with the potential to travel significantly faster than walking speed is likely to put people off walking, especially the walking dependent e.g. elderly people and people who are blind or have low vision.

The Council on the Ageing, Vision Australia and Victoria Walks all strongly oppose any increase in the speed limit on the footpath.

The footpath speed limit should be based on the comfort and safety of people walking on the footpath, not increased simply to accommodate the use of new technologies.

Although there are examples of people moving above 10km/h on the footpath (e.g. joggers), these users can more easily respond to a situation or stop than vehicle users and are less likely to cause injury to others in the event of a collision.

In considering the existing footpath context, it is important not to take cycling on footpaths as an acceptable precedent for vehicles on footpaths. While a number of Australian jurisdictions allow adult cycling on footpaths, we are not aware of any substantive evidential basis that led to those decisions. Indeed, the most recent Australasian jurisdiction to thoroughly consider cycling on footpaths – New Zealand – decided against allowing adult footpath cycling.<sup>3</sup> We note that despite Western and South Australia allowing adult footpath cycling in recent years, the majority of Australians still live in jurisdictions where adult cycling on the footpath is not generally permitted.

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<sup>2</sup> Austroads 2017, *Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings*, Ed 3.1, AGTM06-17, Austroads, Sydney, NSW.

<sup>3</sup> Ward, Jeanette and Hamish Mackie (2016) *Footpath Cycling Rule Options Research*, New Zealand Transport Agency.



It is notable also that bicycles require human energy to build momentum. Powered devices are likely to result in higher speeds, on average, compared to bicycles.

For mobility scooters, we acknowledge the issues outlined by Assistive Technology Suppliers Australasia (ASTA) related to differences in standards between Australia and some other parts of the world. However, dramatic claims that Australian manufacturing would collapse and mobility devices would not be available to Australians need to be treated with caution. We support improved accessibility, but not at the expense of others.

### Injuries

Users of 'innovative vehicles' and motorised mobility scooters are themselves vulnerable road users, but depending on their size and speed can cause significant injury to other people, particularly walkers whom tend to be lighter, slower and have less protection.

The Issues Paper notes that Queensland allow 'innovative vehicles' to use footpaths so long as they travel below 25 km/h and have a maximum unladen weight of 60 kg. However, we are not aware of any evidential basis to support the Queensland decision. There is a huge difference in the mass and speed of such a user compared to person walking, putting unprotected pedestrians at risk.

While there is limited direct evidence on the impact of emerging technologies on walkers, the Monash University Accident Research Centre recently studied the [Impact of electric/hybrid vehicles and bicycles on pedestrians who are blind or have low vision](#). The research confirmed that people with vision impairment are already experiencing significant problems with these vehicles.

*"The study has identified that a significant proportion of respondents indicated having experienced collisions or near-collisions with both electric / hybrid vehicles and cyclists."*

Victoria Walks has commissioned relevant research that includes:

- [Falls in the street](#). Typically overlooked in the road safety debate, this research found that trips and falls in the street send even more pedestrians to hospital each year than collisions with cars. While collisions with vehicles result in about 1,600 pedestrian casualties in Victoria each year, pedestrian falls account for an average of 1,680 hospital admissions and 3,545 emergency department presentations. Interaction with fast moving vehicles on the footpath has the potential to cause pedestrians to fall in attempting to avoid a collision.
- [Safer Road Design for Older Pedestrians](#) found that vehicles colliding with pedestrians on footpaths, footpath driveways or at entrances to car parks, comprise at least 16% of all older pedestrian crashes, and 23% for those 85 and older.

We expect that if a larger variety of fast vehicles are permitted on the footpath, it will only increase the existing barriers to walking for those who are more likely to be walking dependent.

We are aware of at least one person who has been killed after being hit by an innovative vehicle<sup>4</sup>. The crash occurred in Spain in 2018 when a woman was hit by an electric scooter carrying two people travelling at nearly 30km/h. She was 90-years-old and out for a stroll with her walker in a pedestrian area.

As noted in the Issues Paper, the Singaporean government requires registration of e-scooters due to users behaving with disregard for the law and other people, sometimes even themselves. There is no reason to believe this reckless behavior would be limited to Singapore.

Our understanding is that in the United States, e-scooters are prohibited on the sidewalk.

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<sup>4</sup> See media reports e.g. [https://elpais.com/elpais/2018/11/29/inenglish/1543479513\\_583351.html](https://elpais.com/elpais/2018/11/29/inenglish/1543479513_583351.html)



## Safety risk to themselves

While it is not an area we have extensively researched, even a cursory reading of international media reports indicates ‘innovative vehicles’ pose risks to users themselves.

When Lime launched in Auckland and Christchurch just under [150 compensation claims](#) were lodged in the first month for injuries caused by electric scooters.

Exacerbating factors include:

- Areas which are not designed for their use. Due to small wheels, scooters are more sensitive to uneven surfaces than bikes.
- Poor maintenance of vehicles. There are reports of e-scooter fleets being [poorly maintained](#), if at all, and manufacturers feeling pressured to [cut corners](#). Reports<sup>5</sup> of Lime scooters braking during use have resulted in their being removed from Switzerland and a requirement to rectify the issue immediately from Auckland Transport.

It is critical to understand that there is no reason to believe that users would be safer on the footpath than on the road. The closest equivalent for which there is Australian data regarding vehicles on the footpath is bicycle riders using the footpath. The [Footpath Cycling Discussion Paper](#) prepared by MRCagney investigated the use of the footpath by cyclists. It found that “footpath cycling is accompanied by a distinct set of safety risks for cyclists, particularly associated with visibility between motor vehicles and cyclists at intersections and driveways.” Importantly, footpaths are not designed for vehicles – most are narrow, often in poor condition, with overhanging trees and high fences blocking views of vehicles coming out of driveways. The report describes Australian research that estimated the crash rate for cyclists on the footpath was 5.6 times that of cyclists on the road.

One of the stated purposes of the Issues Paper is to review regulation which “may inhibit the safe use of innovative vehicles”. However, the paper does not identify any safety benefits related to ‘innovative vehicles’. It does outline the limited understanding we have of the associated safety risks. If ‘innovative vehicles’ are inherently unsafe, then the question should be asked why they would be permitted at all.

## Do not impede footpath operation

The footpath has two important functions:

- Movement. It provides a space for pedestrians to travel between places.
- Place. It provides a space where people can stop to rest, chat, think, take in their surroundings, etc.

Treatment of the footpath as ‘underutilised’ or ‘available’ space does not recognise these purposes. Hire schemes for shared vehicles usually require footpath space to store the vehicles. Overseas and local experience suggests hire schemes will be focused on the CBD where footpath space is already at a premium. The business model requires that vehicles are easily accessible, which means lots need to be available. This can result in a significant impact on footpath operation as well as a reduction in public space. It also allows a private company to use public space for carrying on a business. Will they be required to pay for that usage?

Especially when ‘innovative vehicles’ are part of a dockless hire scheme, there is the risk that the vehicles are left in the middle of the footpath. This can create a trip hazard, block access for

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<sup>5</sup> See media reports e.g. <https://www.abc.net.au/news/2019-02-21/auckland-transport-threatens-remove-lime-scooter-brake-fault/10835128>

people with prams and wheelchairs and reduce space for other users. The obstacles created by discarded devices can be a critical impediment to people with limited mobility, because their location is unpredictable. In other words, a disabled person can be aware of the fixed hazards and obstacles in their neighbourhood, and plan a trip accordingly, only to find that their path is blocked by an 'innovative vehicle.'

San Francisco [banned e-scooter](#) operators without a permit in June 2018 after scooters were left blocking footpaths. There are reports<sup>6</sup> of disability rights groups and individuals in the US who are suing the government and e-scooter operators for violations of disability and state laws because of abandoned e-scooters creating hazards on the footpath.

### Easy to use correctly and easily enforced

If the footpath speed limit is 10km/h, but a vehicle is capable of higher speeds, the user is likely to travel at higher speeds either intentionally or unintentionally. Inbuilt inhibitors which limit speed based on location rely on technology which is not currently sufficiently accurate for determining whether a vehicle is on the road or adjacent footpath. As such, we would only support the use of vehicles on the footpath which are physically incapable of travelling over 10km/h.

Yours sincerely,



Dr Ben Rossiter  
**Executive Officer**

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<sup>6</sup> See media reports e.g. <https://arstechnica.com/tech-policy/2019/01/e-scooter-startups-city-of-san-diego-sued-by-local-disabled-plaintiffs/>