

Road Traffic and Roads Bill 2021 Position Paper

February 2022



Introduction

NCBI, Irish Wheelchair Association and Irish Guide Dogs for the Blind have prepared a position paper to support members of the Oireachtas to have an informed debate on the upcoming Road Traffic and Roads Bill 2021.

The three organisations recognise that the use of e-scooters is more prevalent in our communities and welcomes the introduction of legislation to cover both shared schemes and private use. However, it is abundantly clear that there are amendments required within the legislation to ensure the safety of disabled pedestrians and those with limited mobility.

NCBI, Irish Wheelchair Association and Irish Guide Dogs for the Blind are happy to meet with any member of the Oireachtas to discuss the points raised in this paper in more detail.

Concerns and Solutions

Keeping Footpaths Safe

Under no circumstances should e-scooters be permitted for usage on footpaths. The Road Traffic and Roads Bill 2021 must expressly prohibit the use of e-scooters on footpaths and include such usage as an offence.

At the time of publishing this report, NCBI research demonstrates that 77% of respondents had reported they had an incident with an e-scooter on a footpath.

Maximum speed limits for E-scooters

The legislation currently allows for a maximum speed limit of 25 kph and must be reduced to 12kph, with consideration given to lower speeds of 6 kph around certain areas such as schools.

The Irish Guide Dogs for the Blind recently conducted a survey with their Clients with 53% reporting a negative encounter, including close collision, with an e-scooter.

Alert Vehicular Acoustic System (AVAS)

A universal sound solution which has been subject to robust testing and efficacy research should be a requirement on all forms of micro mobility

(private and communal e-scooters (shared schemes), e-bikes etc.) to allow pedestrians to hear them approaching. This is essential for the safety of pedestrians who are blind or vision impaired. The EU regulation 540/2014 mandated all manufacturers to equip their new electric and hybrid vehicles with an Alert Vehicular Acoustic System (AVAS) by 1 July 2021. While this regulation does not cover e-scooters, it presents an opportunity for Ireland to take the lead on legislation in this area. In addition to AVAS, operators should offer e-scooters with bells which are easily accessible to the riders without having to move their hands from the handlebars.

Designated parking bays for E-Scooters

Free floating, lock to parking must be prohibited. Designated parking bays should be enclosed with high contrast and clear of the pedestrian accessway to prevent injuries for disabled pedestrians and those with limited mobility. These parking bays should have a detectable kerb (minimum height of 60mm) which separates walkways from parked e-scooters. Placement of designated parking bays must take into consideration the recommended circulation space of 2000mm when there is a raised kerb open to an adjoining carriageway. Where this pathway width is not possible, the pathway or approach route should remain unobstructed and have a clear minimum width of 1700mm with passing spaces for wheelchair users and 2000mm for Guide Dog users.

Positioning Technology and Computer Vision Technology

The technology supporting the positioning of e-scooters is growing rapidly. Recent developments have shown that the positioning of e-scooters is much more accurate using Computer Vision Technology than solely relying on older technology such as GPS. These technologies can play a pivotal role in minimising risk for pedestrians in where e-scooters are used but also in relation to appropriate parking infrastructure. It should be noted that while technological advances can enhance safety measures, they are insufficient on their own and must be coupled with effective safety regulations.

Insurance and licensing

Provision for insurance and at least a provisional license must be included within the legislation. The requirement to hold a Provisional License is aligned

with the provision that prevents supply of e-scooters to those under the age of 16 and would ensure that they have a thorough understanding of the rules of the road. It is also essential that e-scooters have accessible registration plates so that if they break the rules of the road, riders can be identified, and fined or prosecuted.

Minimum age requirement

The current Bill makes it an offence to supply an individual under the age of 16 with an e-scooter. It is essential that this provision is coupled with a minimum age requirement for the use of e-scooters. Any individual using an e-scooter should be at least 16 years old. This is an important provision for the safety of e-scooter users and other road users.

International Evidence

E-scooters have become more popular in many cities across the globe however, there is limited international evidence that detail learnings from their use. This is likely due to commercial sensitivities and competition.

A report published by CNIB¹ in November 2021 which organised in partnership with the Alliance for the Equality of Blind Canadians (AEBC) and Canadian Council for the Blind (CCB) ran an extensive pilot scheme into the safety of e-scooters. The Report contained an initial recommendation that the “overwhelming consensus” is that the pilot scheme should not continue into the third year as the “safety hazards” posed by e-scooters for disabled pedestrians. However, if the project were to continue the report gave specific recommendations including:

- The requirement for e-scooters to “emit a constant noise to warn pedestrians of their approach.” It is acknowledged that the noise “must be consistent across all e-scooters, distinct from other sounds, and loud enough to be heard over traffic”.
- The requirement for e-scooters to have “an intermittent noise while parked to alert pedestrians to their presence”.
- The requirement for rigorous testing of “any technology solutions designed to curb e-scooter misuse”.

¹ [CNIB Ottawa E-scooter Report \(2021\).docx \(live.com\)](#)

- The requirement for e-scooters to be parked in designated parking areas, and/or docking stations “outlined using tactile markings and not within the pedestrian clearway”.

Coupled with the recommendations that relate to the concerns highlighted within the paper above, additional recommendations were made in relation to enforcement and reporting. The report recommends the city of Ottawa:

- introduce penalties “which will serve to discourage unsafe practices such as excessive speed or careless abandonment of e-scooters”.
- should ensure enforcement of rules relating to e-scooter usage through ensuring “infrastructure...for officers to patrol the e-scooter zones, consistently enforce safe riding and parking practices, and remove abandoned e-scooters when found”.
- ensure information for reporting an e-scooter offence is available in accessible formats such as “large print, tactile lettering, as well as braille”.
- require e-scooters to have “a scannable QR code, displayed prominently, and marked tactilely, that allows pedestrians to report abandoned e-scooters through a website”.

There is growing evidence to demonstrate the dangers posed to e-scooter riders and pedestrians due to injuries sustained by or while using e-scooters. Research by The Collaborative Science Centre for Road Safety states that there have been 97 fatalities worldwide related to the use of e-scooters since 2016. In 2016 and 2017, there was 1 fatality each year. From 2018 – 2021, 95 people died due to the use of e-scooters either as riders, pedestrians or bicyclists.² Research published in the Irish Medical Journal conducted by Grace et al. demonstrates the impact of e-scooter injuries for individuals that presented to Connolly Hospital, Dublin between October 2019 and November 2020. The sample size was limited with 22 patients identified during that timeframe with e-scooter related injuries. This research concludes that “e-scooter trauma results in a high rate of complex orthopaedic injuries, many of which require

² [Understanding micromobility safety behavior and standardizing safety metrics for transportation system integration : CSCRS \(unc.edu\)](#)

surgical intervention”. 68% of those involved in this study sustained at least one fracture, while one third of those surveyed required surgical procedures.³

Research conducted by Shah et al. investigated the factors involved in e-scooter accidents and bicycle accidents in Nashville, Texas. The study demonstrates that riding an e-scooter on a footpath is the main risk factor for a collision with a car. They found that more than 60% of crashes between e-scooter riders and cars took place when e-scooters were travelling on footpaths. However, they argue that both e-scooter and bicycle accidents reflect poorly designed infrastructure that should be addressed through appropriate policy development.⁴ These demonstrate the requirement for suitable infrastructure to provide safe spaces for the use of e-scooters.

Research conducted by UTAC, a leading crash test provider, on behalf of Guide Dogs UK demonstrates the impact of collisions between e-scooters and pedestrians. UTAC simulated a crash involving an e-scooter and its rider, colliding with a pedestrian at 15.5 mph. This showed the initial impact could cause moderate injury, such as lacerations or major bruising. If the pedestrian hit their head on the floor as a result of the collision, the injuries sustained were highly likely to be fatal. In addition, UTAC simulated an accident involving a pedestrian the same size and weight as a three-year-old child. Upon impact, the child travelled more than 21 feet (more than 6 times it’s body length).⁵

An article published in Chronicles of Health Impact Assessment by Comer et al. in October 2020⁶ based on a survey of both e-scooter riders and non-riders in Indiana concludes that e-scooters may “pose a threat to the health and safety of the people who ride them, to people on the sidewalk, and people in their cars”.

The results of the study state that e-scooter riders are “engaging in unsafe behaviours and are being harmed on e-scooters”. One potential reason for the danger posed by e-scooter usage is that only 2.5% of riders always or sometimes wear a helmet.

³ [An-Analysis-of-E-Scooter-Related-Trauma.pdf \(imj.ie\)](#)

⁴ [Comparison of motor vehicle-involved e-scooter and bicycle crashes using standardized crash typology - ScienceDirect](#)

⁵ [New study shows the danger of e-scooters | Guide Dogs](#)

⁶ [View of Electric Scooters \(e-scooters\): Assessing the Threat to Public Health and Safety in Setting Policies: Assessing e-scooter policies \(iupui.edu\)](#)

Finally, this research demonstrates that understanding and knowledge of regulation and safe use practices for e-scooters rider “is lacking and needs attention”. Research by Sikka et al, 2019 that “riding e-scooters on the sidewalk can result in pedestrian injury”. One of the key findings of this research shows that only “47% of e-scooter riders believe that riding an e-scooter on the sidewalk poses a threat to the health and safety of people walking on the sidewalk, whereas the vast majority of non-riders (72%) believe riding e-scooters on the sidewalk poses a threat to pedestrian health and safety”. One suggested action to combat the lack of understanding posed by using e-scooters on footpaths, according to Comer et al., “may be to encourage e-scooter riders and align related e-scooter policies, toward using scooters in bike lanes, rather than ride on the sidewalk or in the street”.

There are technical and policy papers published relating to the use and benefits of Acoustic Vehicle Alerting System (AVAS) in electric cars and buses available. A Transport for London paper which recognised the benefits of using AVAS in buses, highlights a concern about the increased risk of collisions between vulnerable road users and quiet buses. However, this paper also highlighted the various technical considerations and environmental factors that must be factored into planning for AVAS⁷. A United Nations Agreement Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations details the technical specifications related to the use of AVAS on quiet road transport vehicles⁸. This document clearly demonstrates the level of detail required for specifying the use of AVAS and supports the call in our paper for a universal sound solution that is robustly tested based on important technical and environmental factors.

A FERSI paper, published in September 2020⁹, demonstrates the variety of regulations relating to minimum age requirements across Europe.

- Switzerland - it is legal to ride an e-scooter from 14 years old if they are in the possession of a moped license but from 16 years old no license is required.

⁷ [TRL Report \(tfl.gov.uk\)](https://www.tfl.gov.uk)

⁸ [R138r1e.pdf \(unece.org\)](https://www.unece.org)

⁹ [FERSI-report-scooter-survey.pdf](https://www.fersi.org)

- Denmark - an e-scooter rider must be 15 years old, but younger drivers are allowed to use the e-scooter when under the supervision of an adult and in playground areas.
- Italy - the age restriction is 18 years old or younger when having a moped license.
- Portugal -the age restriction is 16 years old.
- Finland - there is no legal age restriction, but private e-scooter companies apply an age limit of 18.
- Spain - there is no age restriction at the national level either, but local authorities can set their own age restriction such as in Madrid where the minimum age requirement is 15 years old.

There are a variety of news articles outlining different speed limit requirements in other European countries. In Italy, speed limits of 6 kph are in place for pedestrian areas, however higher speed limits of 20 kph are allowed in cycle lanes and 30 kph on public roads but the rider must wear reflective safety clothing on a public road¹⁰. Finland has introduced reduced speed limits of 15 kph between 00:00 and 05:00 in all areas¹¹. In Paris, a 10 kph speed limit has been introduced following “a series of accidents involving pedestrians”¹².

Conclusion

Internationally, there has been roll backs and bans introduced as a result of injuries to the public caused by e-scooters. These include regulation banning the use of e-scooters on footpaths, setting boundaries on the times that e-scooters can be used and making it an offence to ride while intoxicated. Ireland has an opportunity to lead the way in the introduction of legislation that has the safety of all road users and pedestrians at its core.

The measures outlined above are the baseline requirements that must be included within the Road Traffic and Roads Bill 2021. We would also recommend that additional engagement with technical experts in the fields of micro mobility and access in the environment take place to ensure all appropriate matters are considered prior to finalising this legislation.

¹⁰ [Guide To Electric Scooter Laws in Europe- FuturaRide](#)

¹¹ [Minister Harakka met for the second time with representatives of electric scooter companies – nocturnal restrictions expand - Ministry of Transport and Communications \(lvm.fi\)](#)

¹² [Paris introduces a speed limit for electric scooters - electrive.com](#)

NCBI, Irish Wheelchair Association and Irish Guide Dogs for the Blind are willing to engage with all members of the Oireachtas to discuss our proposals in more detail.