

Introduction

Guide Dogs welcomes the development of automated vehicles, which have the potential to unlock a wide range of independent journeys for people with sight loss, who cannot drive.

As passengers in an automated passenger service, or as the owners of a remotely-operated vehicle without a user-in-charge, people with vision impairment could gain the ability to travel in a more natural and spontaneous way, without the need for extensive planning which characterises many trips at present. However, to realise this potential, these vehicles must be safe for people with sight loss to interact with as a pedestrian, and accessible when using them as a passenger.

We do have concerns about unintended consequences emerging as automated vehicles become a more significant part of the transport network. Without careful management of the transition, modal shift to automated passenger services could undermine the existing public transport network. This would reduce the availability of traditional services for those who are unwilling or unable to use these services, for instance because they do not have access to the appropriate technology.

Changes to the built environment needed to provide the infrastructure to sustain automated vehicles must take account of the needs of pedestrians, including people with sight loss. To take an example at the most basic level of infrastructure, a dramatic increase in vehicle charging stations will be required, a development which is already creating obstacles for people with sight loss on pavements.

5 - We welcome observations on how automated vehicles can be made as safe as reasonably practicable.

Recognising and responding appropriately to pedestrians is obviously an essential part of automated vehicle (AV) safety, which all developers

of AV will need to consider. However, responding appropriately to a pedestrian with sight loss may require different behaviour from a driving system than a pedestrian with sight. Recognising a pedestrian with sight loss may be difficult, particularly as not all use a mobility aid such as a cane or a guide dog. As people with sight loss will only be a minority of pedestrians encountered by an automated vehicle, this distinction may take a low priority when developing driving systems, who are likely to aim to develop behaviour that is appropriate for interacting with the majority of pedestrians. This risks overlooking the specific safety needs of people with sight loss.

We are not aware of whether this issue has been addressed in development of automated vehicles in California, where the vehicle code specifies that drivers must give way to pedestrians with sight loss using a cane or a guide dog¹, but are not obliged to give way to other pedestrians away from a recognised crossing. This would seem to require automated driving systems to be able to recognise whether a pedestrian is using these mobility aids.

We believe that this issue requires wider attention from developers of automated vehicle driving systems and future AV regulators.

6 - We welcome practical suggestions for how AV regulators can fulfil their public sector equality duty.

The best safeguard against unconscious bias in the development of AV systems which could disadvantage people with sight loss is involvement at an early stage in the process. We believe that AV regulators should look for meaningful involvement in the development process for AV systems from people with sight loss and other groups at particular risk from vehicles. The safety case presented to regulators should also include an assessment of how the operation of the system might affect groups with protected characteristics differently.

¹ California Vehicle Code, [Chapter 5. Pedestrians' Rights and Duties](#), "21963. A totally or partially blind pedestrian who is carrying a predominantly white cane (with or without a red tip), or using a guide dog, shall have the right-of-way, and the driver of any vehicle approaching this pedestrian, who fails to yield the right-of-way, or to take all reasonably necessary precautions to avoid injury to this blind pedestrian, is guilty of a misdemeanor, punishable by imprisonment in the county jail not exceeding six months, or by a fine of not less than five hundred dollars (\$500) nor more than one thousand dollars (\$1,000), or both. This section shall not preclude prosecution under any other applicable provision of law."

Once AVs have been deployed, market surveillance should monitor the safety performance of AVs for specific groups of pedestrians, such as people with sight loss, as well as looking at aggregate performance. As outlined in the consultation paper, existing statistics do not adequately capture road traffic accidents, let alone those that involve people with sight loss, so improvements would be needed to data collection to enable a proper assessment. A near miss or a minor injury can seriously affect the confidence of people with sight loss to go out independently. The low-impact and low-severity accidents which are least likely to be captured by existing data are therefore precisely those that could have a disproportionate impact on confidence for people with sight loss.

26 - We provisionally propose that the UK Government should establish a forum for collaboration on the application of road rules to self-driving vehicles. Do you agree?

27 - We welcome views on:

- (1) the issues the forum should consider;**
- (2) the composition of the forum; and**
- (3) its processes for public engagement.**

We agree with the proposal for a road rules forum. We recommend that this forum includes representatives from groups who are at greater risk from vehicles or have specific needs, including people with sight loss.

Some of the issues highlighted in previous consultation papers raise specific safety concerns for people with sight loss, who are unlikely to be able to respond to a vehicle mounting a pavement or a vehicle moving slowly through a crowd in the same way as other pedestrians. There are also issues specific to people with sight loss that should be considered by this forum.

One issue is how far automated vehicles will observe rules to give way to pedestrians. There are existing rules in the Highway Code which require drivers to give way to pedestrians who are crossing the road. There are also proposals for additional rules requiring drivers to give

way to pedestrians who are preparing to cross the road. At formal crossings, these rules might be relatively easy for automated vehicles to apply. Slowing down or stopping when there are pedestrians waiting at a controlled crossing point is unlikely to add significant journey time. However, when a pedestrian is using a “courtesy” crossing or an unmarked crossing point, it is unclear how an automated vehicle would recognise that they are preparing to cross. In a “shared space” street with no level difference between the pavement and the road, when a pedestrian intends to cross may be even less clear. A human driver might be able to establish the intent of a pedestrian using visual cues and stop appropriately. Would an automated vehicle be obliged to do the same? The number of possible informal crossing points is much larger than formal crossings; would an automated vehicle be obliged to stop each time a pedestrian was potentially preparing to cross, or would vehicles stop only when a pedestrian had begun to cross?

This question assumes more significance for people with sight loss. Mobility training encourages people with sight loss to cross at controlled crossings to minimise risk, but inevitably there will be situations where such a crossing is not available. If you have a vision impairment, stepping out into the road in the expectation that a vehicle will stop is a much more dangerous option. People with sight loss are therefore much more reliant on drivers - or indeed automated driving systems - to give way.

There are proposals that automated vehicles might use signals to indicate their intent to pedestrians, but most of these suggest visual signals, which offer little benefit to people who cannot see them. If automated vehicles are to interact safely with pedestrians who have sight loss, this cannot rely on visual cues alone.

Another issue is how automated vehicles will approach rules on pavement parking. When parked cars block the pavement, this puts pedestrians at risk, particularly people with sight loss who may be forced into the road with traffic which they cannot see. Parking on the pavement is a traffic contravention in London, will shortly become one in Scotland² and the Welsh Government has announced plans to follow

² Transport (Scotland) Act 2019

suit³, but elsewhere it remains legal except where specifically prohibited by Traffic Regulation Order. The Department for Transport is currently considering the results of a consultation on options to manage pavement parking in England outside London.⁴ In all cases the Highway Code states that drivers should not park on the pavement.⁵ It is unclear how automated vehicles will observe these rules. The simplest option would be to follow the Highway Code and prohibit automated vehicles from parking on the pavement. This might however create issues in areas where pavement parking by drivers has become habitual. Another option would be to follow the law on pavement parking, but restrictions will operate in different ways across the UK.

In London and Scotland, streets where pavement parking is permitted would be clearly set out as exemptions to the default prohibition. This might include narrow residential streets where it is not possible to park on the carriageway without restricting the flow of traffic, but where no alternative provision for parking exists. Provided details of exemptions are available in an appropriate format, this could be made available to vehicle operators. In Wales however, enforcement against pavement parking is intended to operate largely by discretion, without formal exemptions for streets. While enforcement would in theory be possible on every street, as a matter of practice there would be streets where no enforcement would take place. This appears more difficult to translate into automated vehicle operation. Though the results of DfT's consultation have yet to be announced, this could follow either the London or the Wales model, or indeed introduce no new restrictions on pavement parking, leaving only the rule in the Highway Code.

Guide Dogs supports restricting pavement parking to areas determined by the local authority, as in London and shortly in Scotland. This would protect pedestrians, including those with sight loss, from the risks of navigating pavement parked cars. This would also provide clear rules for automated vehicles to follow, putting these vehicles on the same footing as human drivers.

³ <https://gov.wales/welsh-government-response-recommendations-made-pavement-parking-task-force-report-html>

⁴ <https://www.gov.uk/government/consultations/managing-pavement-parking/pavement-parking-options-for-change>

⁵ Highway Code Rule 244

42 - We welcome views on how accessibility standards for Highly Automated Road Passenger Services (HARPS) might be developed.

We provisionally propose that:

- (1) an accessibility advisory panel should be formed to include:
 - (a) the Equalities and Human Rights Commission; and
 - (b) representative groups for disabled and older persons;
- (2) the Secretary of State should be obliged to consult with the accessibility advisory panel prior to setting any national minimum standards on HARPS;
- (3) there should be a duty to periodically re-consult the accessibility advisory panel at set intervals to ensure requirements keep pace with developing evidence of technical feasibility and changing needs.

Do you agree?

We welcome views on what the set interval for periodically re-consulting the accessibility advisory panel should be.

We agree with the proposal for an accessibility advisory panel, and for a duty to re-consult periodically. It is difficult to specify a set interval for re-consultation without greater understanding of the pace of change in the development of HARPS. We strongly agree that standards for HARPS should be national; the patchwork of different licensing requirements from each district council for taxis and PHVs has proved clearly inadequate to safeguard passengers.

In 2020, working with the Law Commission, we ran a focus group with people with sight loss to identify accessibility issues that should be considered when developing standards for HARPS. Participants identified a range of issues, including the accessibility of the technology used to summon a passenger service, preventing discrimination by staff or other passengers, the accessibility of interacting with the vehicle during the journey, and ensuring passengers can make their way to and from the vehicle at either end of a journey.

For people with sight loss using passenger services, both identifying and reaching a vehicle at the start of a journey, and leaving it and making their way to their destination at the end of a journey can be difficult, even with a human driver to assist. Automated passenger

vehicles should be able to make their location clear to passengers with sight loss when making a pickup, perhaps with an audible signal. They should also be equipped to provide clear directions to get a passenger from the vehicle to their destination.

During the journey, there may be instances where a passenger may need to give further input to the automated driving system or remote operator. For instance, if a vehicle is delayed or diverted, the passenger may be asked whether they wish to continue with their journey or stop at an alternative destination. This information must be presented in an accessible format which does not require the visual cues of a map or sight of the situation outside the vehicle to respond to.

One advantage of automated services could be to eliminate the risk of discrimination against assistance dog owners by human taxi and minicab drivers. Although refusing to carry a passenger accompanied by their assistance dog is a criminal offence, Guide Dogs research found that 42% of assistance dog owners reported they had been refused service because of their dog over a twelve-month period.⁶

However, this benefit would not be realised if assistance dog owners ran the risk of being refused by passenger-facing staff, if a vehicle is manned by a non-driving staff member, or other passengers in the case of a ride-share. Legal requirements to carry assistance dog owners and requirements for disability equality training should be updated to reflect the nature of new passenger services.

Focus group participants were particularly concerned at the prospect of automated services increasing provision for ride-sharing, which is at present a small element of the private hire market. Many people with sight loss would avoid ride-sharing because of the higher safety risks they face from the behaviour of other passengers, especially in the context of a much smaller vehicle than a bus or railway carriage. People with vision impairment would be unable to take advantage of lower fares for ride-sharing without clear responsibilities on the part of the operator to safeguard passengers.

⁶Guide Dogs, [Hail Storm](#), 2016

In the event of a crash, passengers with sight loss may be unaware of the state of the vehicle and unable to evacuate without assistance. In this situation, either the vehicle or the remote operator should be equipped to provide further guidance. This issue is also relevant to people with sight loss who want to own their own remotely-operated vehicle with no user-in-charge. The impact on insurance is unclear - would people with sight loss pay a premium because they are unable to evacuate, and would this be compatible with duties under the Equality Act?

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