

# Automated Vehicles: Consultation Paper 3 – A regulatory framework for automated vehicles.

## Reed Mobility response

### CHAPTER 4: SELF-DRIVING AND HUMAN INTERVENTION

#### Consultation Question 1 (Paragraph 4.114)

18.1 We provisionally propose that:

- (1) a vehicle should not be classified as self-driving if, with the ADS engaged, the user-in-charge needs to monitor the driving environment, the vehicle or the way it drives;
- (2) it is nevertheless compatible with self-driving to require the user-in-charge to respond to a clear and timely transition demand which:
  - (a) cuts out any non-driving related screen use;
  - (b) provides clear visual, audio and haptic signals; and
  - (c) gives sufficient time to gain situational awareness;
- (3) to be classified as self-driving, the vehicle must be safe enough even if the human user does not intervene in response to any event except a clear and timely transition demand.

Do you agree?

#### *Reed Mobility response*

Agree. However, it feels like careful interpretation is needed for some of the terms in this proposition. In particular, effective 'visual, audio and haptic signals' must be established – as must the 'sufficient time to gain situational awareness', which may depend on many factors.

#### Consultation Question 2 (Paragraph 4.115)

18.2 We welcome views on whether self-driving features should be designed to ensure that they can be used by people with hearing loss.

#### *Reed Mobility response*

Yes, self-driving features should be designed to ensure they can be used by people with hearing loss. Though the condition must be reported to DVLA, people with hearing loss drive safely today and are no more likely to cause traffic incidents than those with no hearing disability. Not only would failing to do so seem ethically objectionable, there is an argument that ensuring multisensory stimuli work well for people with hearing loss can only be beneficial for those not affected by this condition.

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## CHAPTER 5: HOW SAFE IS SAFE ENOUGH?

### Consultation Question 3 (Paragraph 5.118)

18.3 We provisionally propose that the decision whether a vehicle is sufficiently safe to “safely drive itself” should be made by the Secretary of State, as informed by advice from a specialist regulator.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 4 (Paragraph 5.119)

18.4 We welcome observations on which of the following standards is most appropriate when assessing the safety of automated vehicles:

- (a) as safe as a competent and careful human driver;
- (b) as safe as a human driver who does not cause a fault accident;
- (c) overall, safer than the average human driver.

*Reed Mobility response*

My perception is that statement (c) is a minimum for the introduction of automated vehicles; but that achieving statement (a) is the most appropriate of the three. Careless driving is defined by a standard of driving below that of a competent and careful driver – so failing to achieve that standard could suggest that an AV is driving carelessly. Even though an automated vehicle may behave as safely as a competent and careful driver, we must be alert to the possibility that an automated vehicle may be liable to make mistakes that are entirely different to those made by careful and competent drivers and which may be hard to understand by the naïve observer; for example, when a particular combination of environmental and traffic conditions result in an automated vehicle behaving erratically (but that could be easily managed by a human driver).

### Consultation Question 5 (Paragraph 5.120)

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

*Reed Mobility response*

It seems there are (a minimum of) four steps to this task. Firstly, to ensure that an automated vehicle is designed and engineered with safety in mind according to its proposed operational design domain. Secondly, that comprehensive pre-deployment testing and trialling procedures have been undertaken to mitigate risk as far as is reasonably practical. This may include test track, simulation and real-world trialling, should include user experience testing as well as engineering assessments and should involve independent third-party testing to agreed acceptable standards of performance. Thirdly, ensure that the safety case and operational design domain (ODD) for the automated vehicles are tightly and comprehensively designed (with assurance that situations can be managed if / when the vehicle departs from the ODD). Finally, that there is suitable in-service safety monitoring, picking up incidents, near misses, infractions etc. and with suitable procedures for recalls or updates to correct any issues as they emerge (see also the answer to Question 55).

## Consultation Question 6 (Paragraph 5.121)

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

### *Reed Mobility response*

Bonnefon et al. (2020)<sup>1</sup> produced recommendations for the European Commission on the ethics of connected and automated vehicles based on fundamental ethical and legal principles (non-maleficence, beneficence, dignity, autonomy, responsibility, justice and solidarity). These principles highlight how automated vehicles should improve safety and enhance equality of access to mobility without infringing fundamental human rights. In specific recommendations, Bonnefon et al. (2020) described how automated vehicles should reduce physical harm to persons. Further, even if this benchmark is achieved, no individual category of road user (e.g., pedestrians, cyclists) should experience any increase in risk of harm compared to that caused by conventional driving. Bonnefon et al. (2020) also suggested that the behaviour of automated vehicles could redress inequalities in vulnerability across road users by reducing disparities in the ratio of harm to road exposure between different road users. These principles and recommendations provide guidance as to how regulators can fulfil their public sector equality duty in overseeing our approach to automated vehicles.

## CHAPTER 7: ASSESSING SAFETY PRE-DEPLOYMENT

### Consultation Question 7 (Paragraph 7.99)

18.7 We provisionally propose that:

- (1) safety assessment should use a variety of techniques;
- (2) manufacturers/developers should submit a safety case to regulators showing why they believe that the automated driving system is safe;
- (3) regulators should:
  - (a) provide guidelines for what is in the safety case;
  - (b) audit the safety case;
  - (c) prepare guidance for manufacturers and developers on preferred standards; and
  - (d) carry out at least some independent tests.

Do you agree?

### *Reed Mobility response*

Agree. If developers are leaning heavily on simulation evidence in making the case for the safety of their automated vehicles, they should be prepared to offer robust evidence as to the validity of those simulations in proving that their automated vehicles will operate safely in the real world.

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<sup>1</sup> Bonnefon, J-F., Černý, D., Danaher, J., Devillier, N., Johansson, V., Kovacikova, T., Martens, M., Mladenovic, M.N., Palade, P., Reed, N., Santoni De Sio, F., Tsinorema, S., Wachter, S., Zawieska, K. (2020) Ethics of Connected and Automated Vehicles Recommendations on road safety, privacy, fairness, explainability and responsibility. European Commission, doi:10.2777/035239.

### Consultation Question 8 (Paragraph 7.100)

18.8 We seek views on whether an approval authority that intends to use a scenario database as part of the testing procedure should consult road user groups on the range of scenarios to be included.

#### *Reed Mobility response*

This seems sensible. It would be important for there to be a wide range of suitable scenarios included in the test database to ensure that it was not possible for manufacturers to design their automated vehicles to meet the requirements of the test rather than achieving a the broader level of competence that the test scenarios are supposed to represent.

## CHAPTER 8: INITIAL APPROVALS AND CATEGORISATION – PROPOSALS

### Consultation Question 9 (Paragraph 8.17)

18.9 We provisionally propose that:

- (1) unauthorised automated driving systems should be prohibited; and
- (2) this should be subject to an exemption procedure by which the Secretary of State may authorise unauthorised systems to be used in tests and trials.

Do you agree?

#### *Reed Mobility response*

Agree, subject to a suitable safety case.

### Consultation Question 10 (Paragraph 8.25)

18.10 We provisionally propose that:

- (1) the Government should establish a domestic scheme to approve automated driving systems (ADSs) for use on roads in Great Britain (a “national ADS approval scheme”);
- (2) manufacturers should have a free choice to apply for approval under either the UNECE system of international type approvals or through the national scheme;
- (3) developers should be able to submit an ADS for national approval, even if they are not responsible for manufacturing the whole vehicle.

Do you agree?

#### *Reed Mobility response*

Agree. Presumably, the domestic scheme would be to enable rapid progress by organisations wishing to develop and operate their automated vehicles on roads in Great Britain and that seek to achieve a similarly streamlined approach to approval of their ADS. Care would therefore be needed to ensure that the domestic scheme was not seen as a ‘light touch’ that might place GB road users at greater risk when encountering vehicles operating an ADS approved by the domestic scheme.

### Consultation Question 11 (Paragraph 8.43)

18.11 We provisionally propose that:

- (1) an ADS approval scheme should be established through regulation under the Road Traffic Act 1988, without further legislative reform;
- (2) an ADS should be defined as a combination of software, hardware and sensors, which can be installed in a “type” of vehicle;
- (3) when an ADS is approved, the approval should be accompanied by specifications for: 307 (a) the type of vehicle in which it can be installed; and (b) how the ADS is installed within the vehicle;
- (4) where an ADS is installed in a pre-registered vehicle, an example vehicle should be submitted to the regulator for approval of the installation.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 12 (Paragraph 8.44)

18.12 We invite observations on the appeal process in regulation 19 of the Road Vehicles (Approval) Regulations 2020, including:

- (1) how it works in practice; and
- (2) how well it is suited to the proposed national ADS approval scheme.

*Reed Mobility response*

**Nothing to add.**

### Consultation Question 13 (Paragraph 8.71)

18.13 We provisionally propose that:

- (1) once an ADS has received type approval at either international or domestic level, an Automated Driving System Entity (ADSE) would need to submit the vehicle to the UK safety regulator for categorisation as able to safely drive itself;
- (2) the safety regulator should make a recommendation to the Secretary of State for how the vehicle should be classified;
- (3) it should be open to the safety regulator to recommend that an ADS-enabled vehicle is classified in one of three ways: as not self-driving but driver assistance; as self-driving only with a user-in-charge; or as self-driving without a user-in-charge;
- (4) the safety regulator should only recommend classification as self-driving (either with or without a user-in-charge) if it is satisfied that: (a) an ADSE is registered as taking responsibility for the system; (b) the ADSE was closely involved in assessing safety and creating the safety case; and (c) the ADSE has sufficient funds accessible to the regulator to respond to improvement notices, to pay fines and to organise a recall.

Do you agree?

*Reed Mobility response*

Agree. Further to point (4), the regulator may also want to be satisfied that the ADSE has suitable insurance in place to cover any incidents that are reasonably foreseeable within the operational design domain of the automated vehicle.

**Consultation Question 14 (Paragraph 8.77)**

18.14 We provisionally propose that a new legislative framework should provide regulation-making powers to specify: (a) who should assess whether a vehicle is capable of self-driving; (b) the procedure for doing so; and (c) criteria for doing so.

Do you agree?

*Reed Mobility response*

Agree.

**Consultation Question 15 (Paragraph 8.78)**

18.15 We seek views on whether the new legislation should include provisions for appeals against a categorisation decision. If so, should these be similar to those in regulation 19 of the Road Vehicles (Approval) Regulations 2020?

*Reed Mobility response*

Agree.

**Consultation Question 16 (Paragraph 8.83)**

18.16 We seek views on whether the regulator that classifies vehicles as self-driving should have power to allow their deployment in limited numbers, so as to gather further data on their safety in real world conditions.

*Reed Mobility response*

Agree. However, this should be subject to the regulator being satisfied that there are no practicable ways in which this data could be collected without operating the vehicles on public roads.

**CHAPTER 10: ASSURING SAFETY IN USE****Consultation Question 17 (Paragraph 10.82)**

18.17 We provisionally propose that legislation should establish a scheme to assure the safety of automated driving systems following deployment, giving scheme regulators enhanced responsibilities and powers.

Do you agree?

*Reed Mobility response*

Agree.

**Consultation Question 18 (Paragraph 10.83)**

18.18 We provisionally propose that the enhanced scheme should give regulators the following responsibilities and powers:

- (1) scheme regulators should be responsible for comparing the safety of automated and conventional vehicles using a range of measures;

(2) to do this the regulator should have power to collect information on: (a) leading measures (instances of bad driving which could have led to harm) and (b) lagging measures (outcomes which led to actual harm);

(3) regulators should have power to require an ADSE: (a) to update software where an update is needed to ensure safety and continued compliance with the law; (b) to keep maps up-to-date, where an AV relies on maps to ensure safety and compliance with the law; (c) to communicate information about an ADS to users in a clear and effective way, including where necessary through training.

Do you agree?

*Reed Mobility response*

Agree. It may be worth clarifying that the regulator would work in a way that would ensure that the IP of ADSE / CAV developer organisations was protected.

### Consultation Question 19 (Paragraph 10.84)

18.19 We welcome views on the following issues:

- (1) Should scheme regulators be empowered to approve software updates that apply only within the UK, without requiring the manufacturer to return to the original type approval authority?
- (2) Should the scheme should also deal with cybersecurity?
- (3) Are other powers needed? (Note that data is discussed in Chapter 17.)

*Reed Mobility response*

It may be helpful to ensure the scheme regulations permit developers / manufacturers with to update software without needing to seek approval for the whole vehicle (unless essential to do so).

### Consultation Question 20 (Paragraph 10.100)

18.20 Should the authority administering the scheme to assure safety while automated vehicles are in use be kept separate from type approval authorities (as is already the case)? Alternatively, should both functions be combined in a single body?

*Reed Mobility response*

No strong views. Either way, there needs to be close liaison between the two types of approval as they are likely to converge gradually over time.

### Consultation Question 21 (Paragraph 10.101)

18.21 What formal mechanisms could be used to ensure that the regulator administering the scheme is open to external views (such as duties to consult or an advisory committee)?

*Reed Mobility response*

It feels like an advisory committee supported by easy-to-use feedback loops that enable the public and other organisations to provide comments and criticisms of any aspect of regulation would be appropriate.

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## CHAPTER 11: INVESTIGATING TRAFFIC INFRACTIONS AND COLLISIONS

### Consultation Question 22 (Paragraph 11.24)

18.22 We provisionally propose that a statutory scheme to assure AVs in-use should:

- (1) investigate safety-related traffic infractions (such as exceeding the speed limit; running red lights; or careless or dangerous driving);
- (2) investigate other traffic infractions, including those subject to penalty charge notices;
- (3) if fault lies with the ADSE, apply a flexible range of regulatory sanctions.

Do you agree?

*Reed Mobility response*

Agree. Items (1) and (2) may depend on appropriate sharing of AV data – and recognition that sharing of such data may be in the greater interest of AV safety.

### Consultation Question 23 (Paragraph 11.53)

18.23 We provisionally propose that the regulator which assures the safety of AVs in-use should have powers to impose the following sanctions on ADSEs:

- (1) informal and formal warnings;
- (2) fines;
- (3) redress orders;
- (4) compliance orders;
- (5) suspension of authorisation;
- (6) withdrawal of authorisation; and
- (7) recommendation of attendance at a restorative conference.

Do you agree?

*Reed Mobility response*

Agree – with the caveat the sanctions should work in such a way that ADSEs are not discouraged from coming forward to share data in the wider interests of AV safety.

### Consultation Question 24 (Paragraph 11.54)

18.24 We provisionally propose that the legislation should provide the regulator with discretion over:

- (1) the amount of any monetary penalty; and
- (2) the steps which should be taken to prevent re-occurrence of a breach.

Do you agree?

*Reed Mobility response*

Agree.

### Consultation Question 25 (Paragraph 11.69)

18.25 We provisionally propose that a specialist incident investigation unit should be established:

- (1) to analyse data on collisions involving automated vehicles;
- (2) to investigate the most serious, complex or high-profile collisions; and
- (3) to make recommendations to improve safety without allocating blame.

Do you agree?

*Reed Mobility response*

Agree. TRL's work on the RAIDS programme (<https://trl.co.uk/projects/road-accident-in-depth-study--raids->) and project work on the safety of automated vehicles makes them well placed to support the development of such a unit.

### Consultation Question 26 (Paragraph 11.82)

18.26 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?

*Reed Mobility response*

Agree. This could be broadened to an 'AV behavioural safety' forum to encompass not only road rule compliance but also interactions with other road users (especially vulnerable road users), any emerging issues related to safety during transitions between automated modes and any behavioural issues associated with the emergence of new business models for AVs. Unless it has a separate forum of its own, this group could also cover issues associated with interactions between disabled users / travellers and AVs. For example, how an AV alerts a blind user to its presence, how wheelchair users be safely secured in a robotaxi etc.

### Consultation Question 27 (Paragraph 11.83)

18.27 We welcome views on:

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

*Reed Mobility response*

Some of the headline issues are described in my answer to Q26. The forum should not only be reactive to emerging issues but also develop guidance on user / societal expectations of AV safety and behaviours to help manufacturers develop systems that meet those requirements. Potential participants should include AV manufacturers, technology developers, AV operators, transport human factors experts (e.g., University of Leeds ITS, University of Nottingham, University of Southampton, TRL), driving behaviour experts (e.g., IAM Roadsmart, RoSPA), road law experts (e.g., police, Burges Salmon, Pinsent Masons).

Public engagement by the forum should be through publication of and consultation on its vision for AV behavioural safety (updated annually), regular communication of activities through formal (e.g., quarterly reports) and informal (e.g., Twitter) mechanisms and accessible means for the public to provide feedback (website, email etc.).

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## CHAPTER 12: THE USER-IN-CHARGE

### Consultation Question 28 (Paragraph 12.24)

18.28 We provisionally propose that that the user-in-charge:

- (1) should be defined as an individual in position to operate the controls of a vehicle while an ADS is engaged and who is either in the vehicle or in direct sight of the vehicle; and
- (2) is not a driver while the ADS is engaged, and would not be liable for any criminal offence or civil penalty (such as a parking ticket) which arises out of dynamic driving.

Do you agree?

*Reed Mobility response*

Agree. I think this is a useful term that captures the role of a vehicle occupant at the controls of a vehicle but who cannot be held responsible for any offences resulting from the performance of the dynamic driving task by an ADS.

### Consultation Question 29 (Paragraph 12.37)

18.29 We provisionally propose that following the end of the transition demand period:

- (1) the user-in-charge should re-acquire the legal obligations of a driver, whether or not they have taken control of the vehicle; and
- (2) if, following a failure to respond to a transition demand, the vehicle stops in a manner which constitutes a criminal offence, the user-in-charge should be considered a driver and should therefore be liable for that offence.

Do you agree?

*Reed Mobility response*

- (1) Agree (assuming that the vehicle has appropriate mechanisms to alert the driver to the transition demand and the vehicle has driver monitoring systems to detect whether it is safe to complete the transition back to driver control before initiation of a minimum risk manoeuvre becomes necessary).
- (2) Agree.

### Consultation Question 30 (Paragraph 12.45)

18.30 We seek views on whether a person with a provisional licence should be allowed to act as a user-in-charge, if accompanied by an approved driving instructor in a vehicle with dual controls.

*Reed Mobility response*

I see no reason why this should not be permitted provided the instructor guides safe use of the ADS – and this might be helpful in training the learner in safe use of automated technologies. However, an instructor sitting with a trainee driver whilst the vehicle drives seems like an inefficient use of training time (unless the instructor can, for example, use the behaviour of the CAV to teach the student principles of hazard detection).

### Consultation Question 31 (Paragraph 12.53)

18.31 We provisionally propose that legislation should create new offences of:

- (1) using an automated vehicle as an unfit or unqualified user-in-charge; and
- (2) causing or permitting the use of an automated vehicle by an unfit or unqualified user-in-charge.

Do you agree?

*Reed Mobility response*

Agree – though the penalties should probably be the same as for a driver caught driving when unqualified or in an unfit state.

#### Consultation Question 32 (Paragraph 12.59)

18.32 We provisionally propose that persons carried without a user-in-charge should be guilty of a criminal offence.

Do you agree?

*Reed Mobility response*

Agree.

#### Consultation Question 33 (Paragraph 12.60)

18.33 We seek views on whether the new proposed offence of being carried without a user-in-charge should only apply if the person:

- (1) knew that the vehicle did not have a user-in-charge; and
- (2) knew or ought to have known that a user-in-charge was required.

*Reed Mobility response*

Agree.

#### Consultation Question 34 (Paragraph 12.66)

18.34 We provisionally propose that a user-in-charge who takes over control of the vehicle:

- (1) should be considered a driver; but
- (2) should have a specific defence to a criminal offence if, given the actions of the ADS, a competent and careful driver could not have avoided the offence.

Do you agree? If not, we welcome views on alternative legal tests.

*Reed Mobility response*

(1) Agree.

(2) Agree – although I can imagine emergency situations where a human driver takes over control and acts in a such a way as to cause a collision that might have otherwise been avoided had the ADS been allowed to complete the manoeuvre<sup>2</sup>.

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<sup>2</sup> Hesse, T., Schieben, A., Heesen, M., Dziennus, M., Griesche, S., & Köster, F. (2013). Interaction design for automation initiated steering maneuvers for collision avoidance. Test track study showed that collisions were avoided more frequently when the driver of an automated vehicle was decoupled from automated steering than when the steering wheel was always connected to the steering actions of the front wheels.

### Consultation Question 35 (Paragraph 12.94)

18.35 We provisionally propose that the user-in-charge should be liable for criminal offences which do not arise from the dynamic driving task, including those related to:

- (1) insurance;
- (2) maintaining the vehicle in a roadworthy condition (including installing safety critical software updates);
- (3) parking;
- (4) duties following accidents to provide information and report accidents to the police; and
- (5) ensuring child passengers wear seatbelts.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 36 (Paragraph 12.95)

18.36 We provisionally propose that the legislation should include a regulation-making power to clarify those roadworthiness failings which are (and those which are not) the responsibility of the user-in-charge.

Do you agree?

*Reed Mobility response*

**Agree – although, ideally, the automated vehicle should have self-diagnostic systems that help the user-in-charge to understand whether any roadworthiness issues need to be addressed (especially if these impact upon automated operation).**

## CHAPTER 13: REMOTE OPERATION: NO USER-IN-CHARGE VEHICLES

### Consultation Question 37 (Paragraph 13.67)

18.37 We provisionally propose that:

- (1) where an individual is exercising latitudinal and longitudinal control (steering and braking) over a vehicle remotely, that should not be regarded as a form of “self-driving”; and
- (2) where lateral and longitudinal control are exercised by an ADS, all other forms of remote operation should be regulated as “self-driving”.

Do you agree?

18.38 We welcome views on whether the current definition of when a vehicle “drives itself” under the Automated and Electric Vehicles Act 2018 should be amended to deal with some forms of remote operation which may involve a degree of “monitoring”.

*Reed Mobility response*

**(1) and (2): Agree**

**If a vehicle requires a remote operator to remain alert and attentive to the actions and status of the vehicle at all times, this does not seem to fit the definition of a vehicle that drives itself.**

If the vehicle occasionally requires monitoring for specific actions (e.g., negotiating unforeseen roadworks) and has the ability to achieve a minimal risk condition at all times, then it should be considered as self-driving.

### Consultation Question 38 (Paragraph 13.86)

18.39 We provisionally propose that:

- (1) the regulation of self-driving vehicles should distinguish between an Automated Driving System Entity (which vouches for the design of the system) and an operator (responsible for the operation of individual vehicles);
- (2) all vehicles authorised for use on roads or other public places with no user-in-charge should either:
  - (a) be operated by a licensed operator; or
  - (b) be covered by a contract with a licensed operator for supervision and maintenance services;
- (3) it should be a criminal offence to use a NUIC vehicle on a road or other public place unless it is operated by a licensed operator or is covered by a contract with a licensed operator for supervision and maintenance services.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 39 (Paragraph 13.92)

18.40 We welcome views on whether NUIC operators should be required to demonstrate professional competence through a safety management system, as set out in a safety case.

*Reed Mobility response*

**Agree.**

### Consultation Question 40 (Paragraph 13.108)

18.41 We provisionally propose that, irrespective of the nature of the vehicle, a licensed operator should be under a duty to:

- (1) supervise the vehicle;
- (2) maintain the vehicle;
- (3) insure the vehicle;
- (4) install safety-critical updates and maintain cybersecurity; and
- (5) report accidents and untoward events (as defined by the regulator).

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 41 (Paragraph 13.109)

18.42 We provisionally propose that legislation should include a regulation-making power by which some or all of these duties could be transferred to the registered keeper or owner, if it was shown that it was appropriate to do so.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 42 (Paragraph 13.116)

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

18.44 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.

*Reed Mobility response*

**Agree – this is an excellent idea. Meetings of this group every six months feels like it would be the right frequency. Assuming you are adopting a broad definition of disability, the only other group that I could think of that might add further value to the discussion would be children / parents / schools – on the assumption that HARPS may in future provide transportation for families and for school journeys.**

### Consultation Question 43 (Paragraph 13.133)

18.45 We welcome views on who should administer the operator licensing scheme.

*Reed Mobility response*

**No response.**

## CHAPTER 14: CRIMINAL OFFENCES BY ADSES AND THEIR SENIOR MANAGERS

### Consultation Question 44 (Paragraph 14.107)

18.46 We provisionally propose that:

- (1) it should be a criminal offence for an ADSE to omit safety-relevant information or include misleading information when putting a vehicle forward for classification as self-driving or responding to information requests from the regulator;

- (2) the offence should apply to senior managers (where it was attributable to the manager's consent, connivance or neglect);
- (3) the offence should not apply to more junior employees;
- (4) the offence should carry a higher sentence if it is associated with a death or serious injury;
- (5) the offence should be prosecuted in England and Wales by either the regulator or the Crown Prosecution Service and in Scotland by the Procurator Fiscal.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 45 (Paragraph 14.108)

18.47 We seek views on the following proposed offences.

Offence A: non-disclosure and misleading information in the safety case

When putting forward a vehicle for classification as self-driving, it would be a criminal offence for the ADSE to

- (1) fail to provide information to the regulator; or
- (2) provide information to the regulator that is false or misleading in a material particular where that information is relevant to the evaluation of the safety of the ADS or the vehicle. The ADSE would have a defence if it could show that it took reasonable precautions and exercised all due diligence to prevent the wrongdoing. The penalty would be an unlimited fine.

Offence B: non-disclosure and misleading information in responding to requests

When a regulator requests specific information from an ADSE (whether before or after deployment), it would be a criminal offence for the ADSE to:

- (1) fail to provide information to the regulator; or
- (2) provide information to the regulator that is false or misleading in a material particular where that information is relevant to the evaluation of the safety of the ADS or the vehicle. The ADSE would have a defence if it could show that it took reasonable precautions and exercised all due diligence to prevent the wrongdoing. The penalty would be an unlimited fine.

Offence C: offences by senior management

Where offence A and/or offence B committed by a body corporate is proved—

- (1) to have been committed with the consent or connivance of an officer of the body corporate; or
- (2) to be attributable to neglect on the part of an officer of the body corporate, then that officer is guilty of the offence. An officer includes any director, manager, secretary or other similar officer or any person who was purporting to act in any such capacity. We see this as equivalent to offences under the Human Medicines

Regulations 2012 and General Product Safety Regulations 2005, which carry a penalty of a fine and/or a maximum two years' imprisonment.

Offence D: aggravated offences in the event of death or serious injury following non-disclosure or provision of misleading information to the AV safety regulator

Where a corporation or person commits Offences A to C, that offence is aggravated where the misrepresentation or non-disclosure:

(1) related to an increased risk of a type of adverse incident; and

(2) an adverse incident of that type occurred; and

(3) the adverse incident caused a death or serious injury. We see this as equivalent to the offence of causing death by dangerous driving, which carries a penalty of an unlimited fine and/or a maximum of 14 years' imprisonment.

*Reed Mobility response*

**This approach seems reasonable.**

### Consultation Question 46 (Paragraph 14.109)

18.48 We welcome views on whether an ADSE should be under a duty to present information in a clear and accessible form, in which safety-critical information is indexed and signposted.

*Reed Mobility response*

**Yes. Much regulation exists in the automotive sector about the clarity of safety critical information (e.g., airbag warning stickers – UN ECE Regulation 94) so I would imagine that this may be regulated elsewhere.**

## CHAPTER 15: NEW WRONGFUL INTERFERENCE OFFENCES

### Consultation Question 47 (Paragraph 15.10)

18.49 We provisionally propose that legislative amendment should clarify that the tampering offence in section 25 of the Road Traffic Act 1988 applies to anything that is physically part of a vehicle and any software installed within it.

Do you agree?

*Reed Mobility response*

**Agree.**

### Consultation Question 48 (Paragraph 15.11)

18.50 We welcome views on whether the tampering offence should apply to external infrastructure required for the operation of the AV.

*Reed Mobility response*

**Agree.**

### Consultation Question 49 (Paragraph 15.53)

18.51 We provisionally propose that there should be an aggravated offence of wrongfully interfering with an AV, the road, or traffic equipment contrary to section 22A of the Road Traffic Act 1988, where the interference results in an AV causing death or serious injury, in:

(1) England and Wales; and

(2) Scotland.

Do you agree?

*Reed Mobility response*

**Agree.**

#### Consultation Question 50 (Paragraph 15.55)

18.52 We provisionally propose that the appropriate mental element for the aggravated offence is intent to interfere with a vehicle, the road or traffic equipment.

Do you agree?

*Reed Mobility response*

**Agree.**

#### Consultation Question 51 (Paragraph 15.62)

18.53 We seek views on whether an approved work defence for repair or maintenance operations authorised by a vehicle manufacturer or Automated Driving System Entity is desirable.

*Reed Mobility response*

**No response.**

### CHAPTER 16: CIVIL LIABILITY

#### Consultation Question 52 (Paragraph 16.24)

18.54 We provisionally propose that the way the Automated and Electric Vehicles Act 2018 deals with contributory negligence and causation is:

(1) adequate at this stage; and

(2) should be reviewed by the UK Government in the light of practical experience.

Do you agree?

*Reed Mobility response*

**Agree.**

#### Consultation Question 53 (Paragraph 16.32)

18.55 We provisionally propose that measures should be put in place to compensate the victims of accidents caused by uninsured AVs.

Do you agree?

*Reed Mobility response*

**Agree.**

#### Consultation Question 54 (Paragraph 16.47)

18.56 We provisionally propose that:

(1) product liability law should be reviewed to take account of the challenges of emerging technologies;

(2) any review should cover product liability as a whole, rather than be confined to automated vehicles; it should not, therefore, form part of this project on automated vehicles.

Do you agree?

*Reed Mobility response*

Agree.

## CHAPTER 17: ACCESS TO DATA

### Consultation Question 55 (Paragraph 17.65)

18.57 We provisionally propose that:

- (1) for a vehicle to be classified as self-driving, it needs to record the location as well as the time at which the ADS is activated and deactivated;
- (2) the Government should work within the UNECE to ensure data storage systems for automated driving record these data; and
- (3) any national system to approve an ADS should require these data to be collected, subject to safeguards.

Do you agree?

*Reed Mobility response*

Agree. However, to build trust in the performance of automated vehicles and to support objective determination of liability, a vehicle should record (or have access to) much more data about how the ADS was operating. In particular, it should be possible to access information about:

- vehicle location (including applicable lane restrictions, speed limits etc.);
- how the vehicle was being driven (velocity (3 axes), acceleration (3 axes), automation mode, ODD status etc.);
- what objects the vehicle had detected;
- how those objects had been classified (pedestrian, vehicle, cyclist etc.);
- what predictions were being made about the movement of those objects;
- how those predictions affected the planned trajectory of the vehicle;
- what desired control inputs should be implemented as a result;

Although they need not be collected explicitly for every drive, it should be possible for an AV operator to derive these data for any drive. More information on data collection for AVs in use is available in work led by Reed Mobility for BSI (in press).

### Consultation Question 56 (Paragraph 17.71)

18.58 We provisionally propose that legislation should impose a duty on those controlling AV data to disclose data to insurers, where the data is necessary to decide claims fairly and accurately.

Do you agree?

*Reed Mobility response*

Agree. As discussed in our response to question 55, there is work to be done to agree a set of standard data to be collected continuously by AV operators. In the event of an incident, further depth may be required to include, for example, video / lidar data etc.

**Consultation Question 57 (Paragraph 17.81)**

18.59 We provisionally propose that:

- (1) initially, DSSAD data from self-driving vehicles should be stored for three years; and
- (2) the issue should be reviewed in the light of experience.

Do you agree?

*Reed Mobility response*

Agree.

**Consultation Question 58 (Paragraph 17.95)**

18.60 We provisionally propose that:

- (1) when an ADSE applies for categorisation of its vehicle types as self-driving, it should present the regulator with details on how data will be recorded, stored, accessed and protected;
- (2) the regulator should only categorise a system as self-driving if it is satisfied that that the ADSE has systems to abide by its obligations under the GDPR.

Do you agree?

*Reed Mobility response*

Agree.