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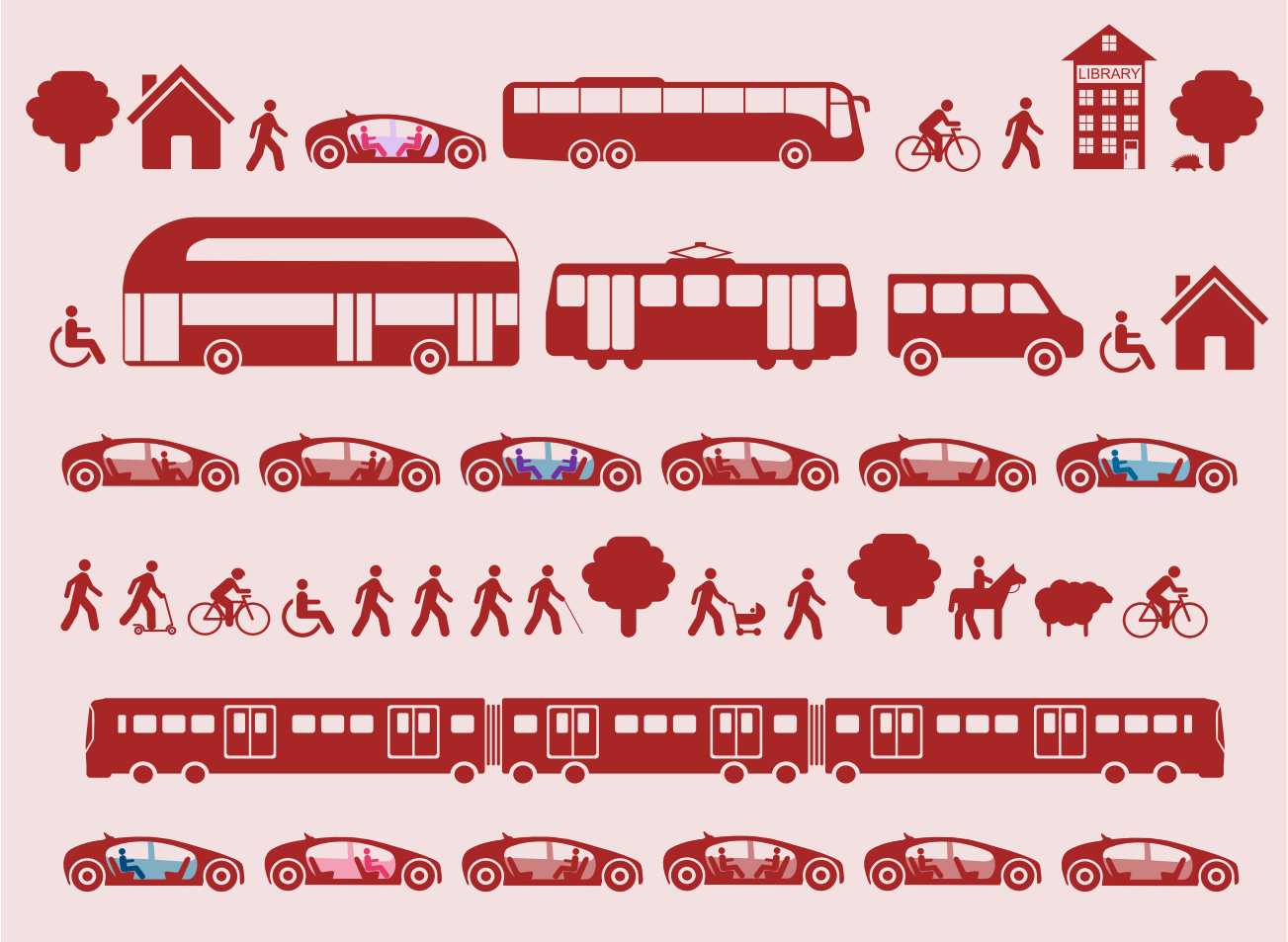
Automated Vehicles:

Summary of joint report



Summary of LC Report No 404 / SLC Report No 258
HC 1068 SG/2022/15
26 January 2022

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1. Introduction

1.1 On 26 January 2022, the Law Commission of England and Wales and the Scottish Law Commission published a joint report recommending new laws to regulate automated vehicles (AVs) in Great Britain.[1] This document summarises the main recommendations in that report.

1.2 By AVs, we refer to vehicles which can drive themselves without being controlled or monitored by an individual for at least part of a journey. They are sometimes also called autonomous vehicles or driverless cars.

1.3 Many driver support features are currently available to help a human driver by, for example, maintaining a safe distance from vehicles ahead. This report anticipates that, in future, these features will develop to a point where a vehicle will be able to drive itself, without a human paying attention to the road. For example, a car may be able to drive itself on a motorway, or a shuttle bus may be able to navigate a particular route.

1.4 This has profound legal consequences. A human driver can no longer be the principal focus of accountability for road safety. Instead, new systems of safety assurance are needed, both before and after vehicles are allowed to drive themselves on roads and other public places. We therefore recommend a new Automated Vehicle Act, setting out new regulatory regimes and new legal actors.

THE HISTORY OF THE PROJECT

1.5 We were asked to conduct this work by the UK Government's Centre for Connected and Autonomous Vehicles. Our terms of reference are set out in Appendix 2 to the main report.

1.6 The project has involved three rounds of consultation. Between November 2018 and December 2020, we published three consultation papers and received a total of 404 written responses. We have also held more than 350 meetings with interested parties. We are extremely grateful to all those who contributed to this project, giving us so much of their time and expertise to help us formulate our recommendations.

1.7 In addition to the consultation papers and report, we have also published analyses of the responses which we received, together with the individual responses themselves. An analysis of responses to Consultation Paper 3 is published alongside the final report and contains extensive quotations from consultees.

THE CONCEPTUAL LEAP TO SELF-DRIVING

1.8 The introduction of self-driving involves a conceptual leap. Technology to assist human drivers may be very advanced but still unable to deal with all situations.

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[1] Available online at: https://www.lawcom.gov.uk/project/automated-vehicles/ and https://www.scotlawcom.gov.uk/law-reform/law-reform-projects/joint-projects/automated-vehicles/.

Instead, it relies on the human behind the wheel to monitor the driving environment, and to respond to events. The driver is still fully responsible for the driving task.

1.9 However, once a feature is regarded as "self-driving", this changes. The human in the driving seat (if any) may relax and divert their attention, knowing that they are not responsible for anything that happens while the automated driving system (ADS) is engaged. The ADS itself monitors the driving environment and responds to events.

1.10 Consultees expressed a strong desire for a clear bright line between systems that require attention and those that do not – in order to minimise confusion between the two. They drew our attention to the "problem of passivity". A robust body of human factors research shows that people find it more difficult to monitor a task passively than to be actively engaged in it.[2] Once their eyes and minds wander away from the road, they have limited ability to respond appropriately to events. They should not be held accountable for failing to notice problems. The law therefore needs a clear-cut distinction setting out when the user is no longer responsible for the dynamic driving task.

1.11 We therefore recommend a new "authorisation" scheme to decide whether any given ADS feature is or is not self-driving as a matter of law. This will distinguish between good (possibly very good) driver assistance features and those which are safe enough to allow the vehicle to drive itself.

1.12 Once a vehicle is authorised as having "self-driving" ADS features, and a self-driving ADS feature is engaged, the system of legal accountability will change. In particular:

(1) The person in the driving seat will no longer be a driver but will become a "user-in-charge". They will have immunity from a wide range of offences related to the way the vehicle drives, ranging from dangerous or careless driving, to exceeding the speed limit or running a red light. However, the user-in-charge will retain other driver duties, such as arranging insurance and checking loads. They may be also be required to take over driving in response to a "transition demand", if the vehicle encounters a problem it cannot handle.

(2) The vehicle will be backed by an Authorised Self-Driving Entity (or ASDE). If the ADS feature causes the vehicle to drive in a way which would be criminal if performed by a human driver, this would be dealt with as a regulatory matter. The issue would be resolved between the in-use regulator and the ASDE. The emphasis would be on understanding what happened and applying that learning to improve future safety.

(3) Some ADS features may be authorised for use without a user-in-charge. We refer to these as "no user-in-charge" (NUIC) features. Here any occupants of the vehicle will simply be passengers. Responsibilities for overseeing the journey will be undertaken by an organisation, a licensed NUIC operator.

(4) For purposes of civil liability, the provisions of the Automated and Electric Vehicles Act 2018 will apply. Victims who suffer injury or damage will not need

[2] This is summarised in Consultation Paper 1, Appendix 3.

to prove that anyone was at fault. Instead, the insurer will compensate the victim directly.

A NEW TEST, NEW SAFETY ASSURANCE SCHEMES AND NEW LEGAL ACTORS

1.13 Given this change in legal accountability, the report recommends a statutory test for what is "self-driving". It introduces two new safety assurance schemes, to operate before and after vehicles are placed on the road. It also sets out three new legal actors:

(1) the user-in-charge - the human in the driving seat;

(2) the NUIC operator - the organisation that oversees vehicles without a user-in-charge); and

(3) the Authorised Self-Driving Entity (or ASDE). This is the manufacturer or developer that puts the vehicle forward for authorisation and takes responsibility for its actions.

1.14 The figure on the following page provides a brief overview of how these actors fit together.

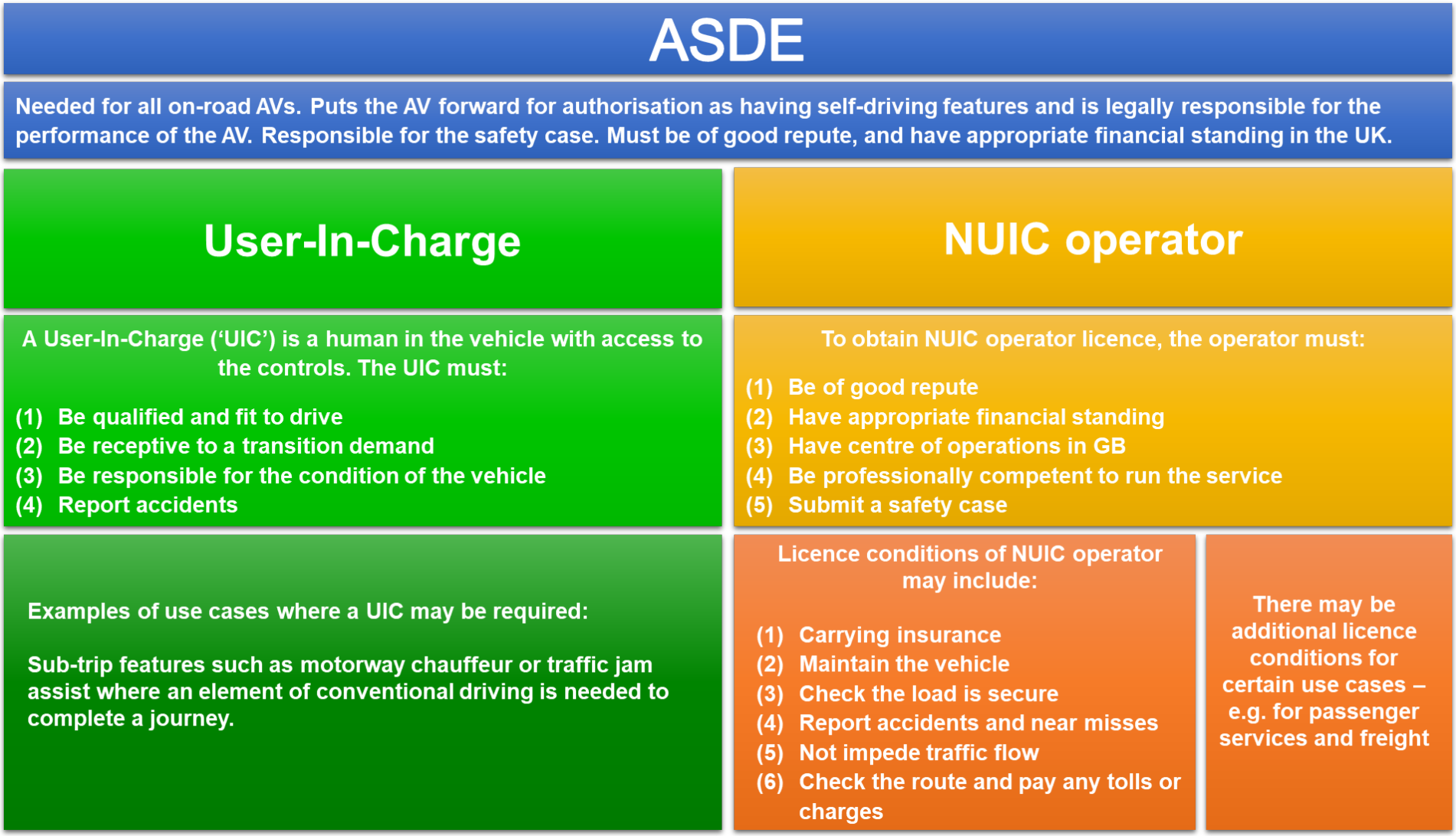

Figure 1.1 *Overview of the key legal actors.*

A NEW VOCABULARY

1.15 Like all new endeavours, driving automation has acquired its own specialist language. The Society of Automotive Engineers International (SAE) has pioneered common terms to discuss driving automation through its detailed taxonomy.[1] It is best known for establishing six "levels" of driving automation. While we do not tie our recommendations to an SAE level, we have drawn heavily on their work.

1.16 We use the following terms:

(1) The dynamic driving task (DDT) describes what is means to drive on a day-to-day level. It not only covers steering, accelerating and braking but also "object and event detection and response". Our recommendations draw a key distinction between offences that arise from the dynamic driving task and other "non-dynamic" offences.

(2) The operational design domain (ODD) sets out the conditions in which any automated driving system or feature is designed to function. They may relate, for example, to a place; a type of road (such as a motorway); a speed (such as under 60 km per hour); or weather (such as not in snow).

(3) An automated driving system (ADS) is defined by the SAE as the combination of software and hardware capable of performing the entire DDT. ADS refers to a system within a vehicle, not the vehicle itself.

(4) An "automated vehicle" (AV) refers to a vehicle equipped with an ADS which is able to conduct the entire dynamic driving task in one or more ODDs.

(5) An ADS feature is part of an ADS, which is designed to operate in a particular ODD. A single AV may have several ADS features. For example, it may have a motorway feature, allowing the AV to drive itself on the motorway with a user-in-charge. It may also have an automated valet parking feature, allowing it to park itself in some car parks without a user-in-charge.

"Self-driving"

1.17 We use the term "self-driving" to indicate a legal threshold. Once a vehicle has been authorised as having a "self-driving" ADS feature, and the feature is engaged, the human in the driving seat is no longer responsible for the dynamic driving task. It will be an offence to describe a feature as "self-driving" if it has not been authorised.[2]

"Road or other public place"

1.18 Our recommendations apply to the use of AVs on roads or other public places in Great Britain. The terms "road" and "other public place" are widely used in road traffic

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1 Society of Automotive Engineers International (SAE), *J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles* (April 2021) (SAE Taxonomy J3016).

2 The SAE do not use the term "self-driving". We use it because it can be given its own specific definition and does not carry other meanings in the SAE Taxonomy.

legislation and have been interpreted many times by the courts. Essentially, roads or other public places allow public access (sometimes implicitly). Access is not necessarily motorised access: road users include pedestrians, cyclists and horse riders.

1.19 Our recommendations do not apply to environments with restricted access, such as ports, quarries or private car parks with barriers. Here, the Health and Safety at Work etc Act 1974 and occupiers' liability appear to provide a sufficient legal framework. By contrast, places which allow public access are considerably more challenging for AVs and require new forms of regulation.

1.20 We have worked on the assumption that all road users who currently have access to roads will continue to do so. We do not propose that any existing road users should have their freedom to use the road restricted to make way for AVs.

2. Distinguishing driver assistance from self-driving

THE DEFINITION OF SELF-DRIVING

2.1 The Automated and Electric Vehicles Act 2018 has already introduced a definition of "self-driving" into law. Under section 1, the Secretary of State must prepare a list of all motor vehicles that are (in the Secretary of State's opinion) "designed or adapted to be capable, at least in some circumstances or situations, of safely driving themselves" and may be lawfully used on roads or other public places in Great Britain. "Driving itself" is then defined as "operating in a mode in which it is not being controlled, and does not need to be monitored, by an individual".[3]

2.2 This definition has been widely accepted and we agree with it. However, it uses two difficult terms: "safely" and "monitoring". The report considers what it means to "monitor" a vehicle in Chapter 3 and what is sufficiently safe in Chapter 4.

MONITORING AND RECEPTIVITY TO A TRANSITION DEMAND

2.3 In our view, for a vehicle to be self-driving it must be safe even if an individual is not monitoring the driving environment, the vehicle or the way that it drives. However, self-driving is compatible with clear and timely transition demands, issued by the ADS, requiring the individual to take control of the vehicle. An individual who is not monitoring the vehicle can be expected to remain "receptive" to a transition demand, provided that three criteria are met:

(1) *Clear, multi-sensory signals*. The transition demand should not just rely on visual and audio warnings. It should also include haptic signals (such as vibrations) so that it can be received by a hearing-impaired driver who is not looking at the console.

(2) *Sufficient time to gain situational awareness*. There is as yet no clear evidence for how long people need to get back into the driving task. Reviews suggest 10 seconds may be adequate for such a transition period, but the time needed depends on many factors.[4] The ASDE will need to explain why the time chosen is sufficient, and the regulator will need to evaluate that claim.

(3) *Mitigation against the risk of injury or damage if the user fails to take over*. Again, what is sufficient will need to be assessed by the regulator. As a minimum, we would expect the ADS to bring the vehicle to a controlled stop in lane.

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3 Automated and Electric Vehicles Act 2018, s 8(1)(a).

4 N Kinnear and others, "Safe performance of other activities in conditionally automated vehicles", TRL, published as Appendix A to Department for Transport, *Safe Use of Automated Lane Keeping System (ALKS): Summary of Reponses and Next Steps* (April 2021).

Responding to events in the absence of a transition demand

2.4 We do not think that a user-in-charge should be expected to respond to events in the absence of a transition demand. In Consultation Paper 3 we noted suggestions that users should respond to a variety of events, even if no transition demand has been issued. For example, the SAE taxonomy suggests that a user should respond to "evident failures" such as a tyre blowout. German legislation states that a user should respond to "obvious circumstances" while French legislation requires users to respond to emergency vehicles.

2.5 In our view, all these exceptions require too much from a user who has been told that they do not need to pay attention to the driving task. When faced with a tyre blow-out, even fully-engaged drivers often fail to remedy the situation. Exceptions for emergency vehicles require users to hear sirens, even if they are not looking at the road. However, this may not be possible if the user has a hearing impairment or if they are listening to loud music.

2.6 The report concludes that, for an ADS feature to be considered self-driving, it must be safe enough even if the human user does not intervene in response to any event except a transition demand that meets our criteria. This does not mean that the ADS feature must be able to deal with absolutely everything. Some events, such as a meteor strike or a plane landing on the motorway, are so unlikely that they do not need to be considered.

2.7 However, in the early stages of automated driving, there may be many relatively common events which the ADS cannot handle, from floods to emergency vehicles. In these cases, the ADS will need to recognise that it is outside its ODD. It should either issue a transition demand or reach a safe stop.

Writing the test for self-driving into law

2.8 We recommend that the new Act should set out a test which a vehicle must satisfy before being authorised as having a self-driving ADS feature. For a feature to be self-driving, the authorisation authority must be satisfied that it can control the vehicle so as to drive safely and legally, even if an individual is not monitoring the driving environment, the vehicle or the way that it drives.

2.9 A clear and timely transition demand that meets our criteria would pass that test, but a feature that requires users to respond to other events in the external environment would not.

Other activities while a self-driving feature is engaged

2.10 If the human in the driving seat is no longer responsible for the driving task, it follows that they should be allowed to engage in non-driving related activities. We recommend that the Highway Code provides guidance on what users may (and may not) do.

2.11 Initially, we recommend a cautious approach to two activities: screen use and sleeping. Users-in-charge should only be allowed to use a screen for non-driving activities if the screen cuts out at the start of a transition demand. For hand-held devices, users-in-charge should be subject to the same rules as drivers. Furthermore, they should not be allowed to sleep.

SETTING A SAFETY STANDARD

Consultees' views

2.12 In Consultation Paper 3, we asked what it means for a vehicle to be sufficiently safe to drive itself. In response, respondents agreed that AVs should be safer than human drivers - but thereafter opinions divided. Some consultees argued that AVs need only be a little bit safer ("a positive risk balance"). Allowing vehicles on the road when they are only 5% to 10% safer than human drivers would not only save lives initially: it would also allow for substantial safety improvements over time, as the technology improves.[5]

2.13 Others argued that AVs would need to be substantially safer than human drivers to gain public acceptance. They made three arguments:

(1) The public do not simply accept deaths and serious injuries caused by bad human drivers. Instead there is a strong desire to criminalise such behaviour. The public are unlikely to accept an AV that acted in the same way as a bad human driver who caused death by dangerous driving.

(2) There are questions over the appropriate comparator. For example, if an AV is providing a bus service, the comparison should be with other buses - which are much safer than motor vehicles as a whole. If AVs are driven on motorways, the comparison should be with motorway driving (which is safer mile for mile than other roads). ABI/Thatcham said the benchmark should be with cars with advanced driver assistance; including older cars in the comparison would "represent a step backwards in overall safety".

(3) There are issues of risk distribution. Even if AVs reduce casualties overall, they should not disadvantage some groups. We received many responses from those representing vulnerable road users, including pedestrians, cyclists, motorcyclists and horse riders. They emphasised that AVs must be trained to be safe around all current road users: existing groups should not be subject to greater risks than they are now. Particular care is needed to ensure that risks are not increased for groups defined by legally protected characteristics (such as disability, age, race or sex).

Recommendation

2.14 Ultimately, the decision over how safe an AV should be while driving itself depends on whether the remaining risks are acceptable to the public. This is essentially a political question, best taken by the UK Government. We recommend that the new Act should require the Secretary of State for Transport to publish a safety standard against which the safety of automated driving can be measured. The safety standard will set the performance expectations before deployment and enable a comparison with human driving while they are in-use.

2.15 In the course of this study, no-one argued that the social or economic benefits of AVs are worth an increase in road injuries. A positive risk balance was seen as the minimum acceptable standard: overall, automated driving should cause fewer deaths

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5 N Kalra and D Groves, *The Enemy of Good: Estimating the Cost of Waiting for Nearly Perfect AVs* (2017) p ix, https://www.rand.org/content/dam/rand/pubs/research_reports/RR2100/RR2150/RAND_RR2150.pdf.

and injuries than human drivers. In our view, the comparison should be with British drivers, rather than with drivers worldwide or in another country.

2.16 However, ministers may decide to set a more demanding standard. The responses to our consultation highlight the regulatory choices involved. One possibility would be to demand a percentage improvement on human drivers: consultees variously suggested a 5% to 75% improvement, or that AVs should be required to drive more safely over time. Another possibility would be to set a more demanding comparator.

2.17 We consider it important that AVs do not cause greater risks to particular groups of road users. Furthermore, the Secretary of State, as a public authority, is subject to the public sector equality duty.[6] We would expect the published standard to reflect this duty.

2.18 Whatever the standard set, it needs to be measurable. This will not be easy. It will require specialist, dedicated expertise over a period of time. We recommend that the in-use regulator should be given a statutory responsibility to collect and assess data against the standard.

2.19 In our view, the process of setting a standard and measuring against it is essential for public acceptance. When deaths and injuries occur, it will be important to reassure the public that AVs are nevertheless safer than human drivers, and to have the evidence to support this claim. And if vehicles were to fail to meet the standard, then it would be important to take regulatory action as soon as possible.

PREVENTING MISLEADING MARKETING

2.20 The distinction between driver assistance and self-driving is crucial. Yet many drivers are currently confused about where the boundary lies. This can be dangerous. This problem is aggravated if marketing gives drivers the misleading impression that they do not need to monitor the road while driving - even though the technology is not good enough to be self-driving.

2.21 In Chapter 7, we make recommendations to prevent misleading marketing. We recommend that it should be a criminal offence to engage in a commercial practice which:

(1) uses certain terms ("self-drive", "self-driving", "drive itself", "driverless" and "automated vehicle") in connection with driving automation technology that is:

(a) not authorised under our recommended scheme; and

(b) designed for use on roads or in public places; or

(2) is likely to confuse drivers into thinking that an unauthorised vehicle does not need to be monitored when used on a public road or place.

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6 Equality Act 2010, s 149. Public authorities must, in exercising functions, have due regard to eliminating discrimination and advancing equality of opportunity for persons with protected characteristics.

3. Safety assurance

3.1 We recommend two new regulatory schemes to ensure AV safety. The first will consider vehicles pre-deployment, before they are allowed on the road. The second will consider safety while they are in use.

PRE-DEPLOYMENT SAFETY

Approval

3.2 At present a combination of national and international vehicle approval decides whether vehicles can be placed on the market. As with all road vehicles, an AV will be required to receive approval before it can be registered. Typically, this involves obtaining separate approvals for systems and components followed by whole vehicle approval. Approval can be given to a "type" of vehicle so that it can be produced in either a small or an unlimited series. The UK also operates a scheme to approve individual vehicles.

3.3 Following the UK's departure from the EU, Great Britain acquired more control over the way vehicles are approved. We recommend that manufacturers who wish to include an ADS in their vehicles should have a choice. They may obtain systems approval at international level, in accordance with a UNECE regulation, from any UNECE approval authority.[7] Alternatively, they can apply for domestic approval under a new domestic AV technical approval scheme. In either case, the whole vehicle will need to receive the new GB whole vehicle approval that has replaced EU whole vehicle approval for most motor vehicles.[8]

Authorisation

3.4 Once a vehicle has been approved, it may be placed on the market, but it is not authorised to drive itself. We recommend that, before a vehicle is regarded as self-driving, it should undergo a new "authorisation" stage. This is needed to distinguish between driver assistance and self-driving for legal purposes.

3.5 Under our recommendations, the authorisation authority must be satisfied that each specified ADS feature can control the vehicle so as to drive safely and legally, even if an individual is not monitoring the driving environment, the vehicle or the way that it drives. The authorisation authority must also decide whether the ASDE has sufficient skill and financial resources to keep the vehicle up-to-date and compliant with traffic laws in Great Britain and to deal with any problems that arise.

3.6 Once the authorisation authority is satisfied that all is in order, it will do three things. First, it will authorise the vehicle as a whole as equipped with ADS features that are capable of self-driving. Secondly, it will specify each ADS feature within the vehicle,

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7 UNECE stands for United Nations Economic Commission for Europe. It is a United Nations body which administers an international agreement governing the approval of motor vehicles in 56 countries.

8 For further discussion, see Chapter 5 paras 5.3 to 5.8 and 5.26 to 5.34.

describe its operational design domain and prescribe whether it can be used with or without a user-in-charge. Thirdly, it will register an entity as the ASDE.

3.7 The legislation will not name a specific organisation as the authorisation authority. As is common with road traffic legislation, the regulatory powers will be exercised, and duties performed, in the name of the Secretary of State for Transport and allocated to an appropriate Department for Transport agency. However, we would envisage that initially the authorisation authority would be the Vehicle Certification Agency (VCA), which currently grants GB type approval.

3.8 This two-stage process of approval and authorisation is set out in the following figure:

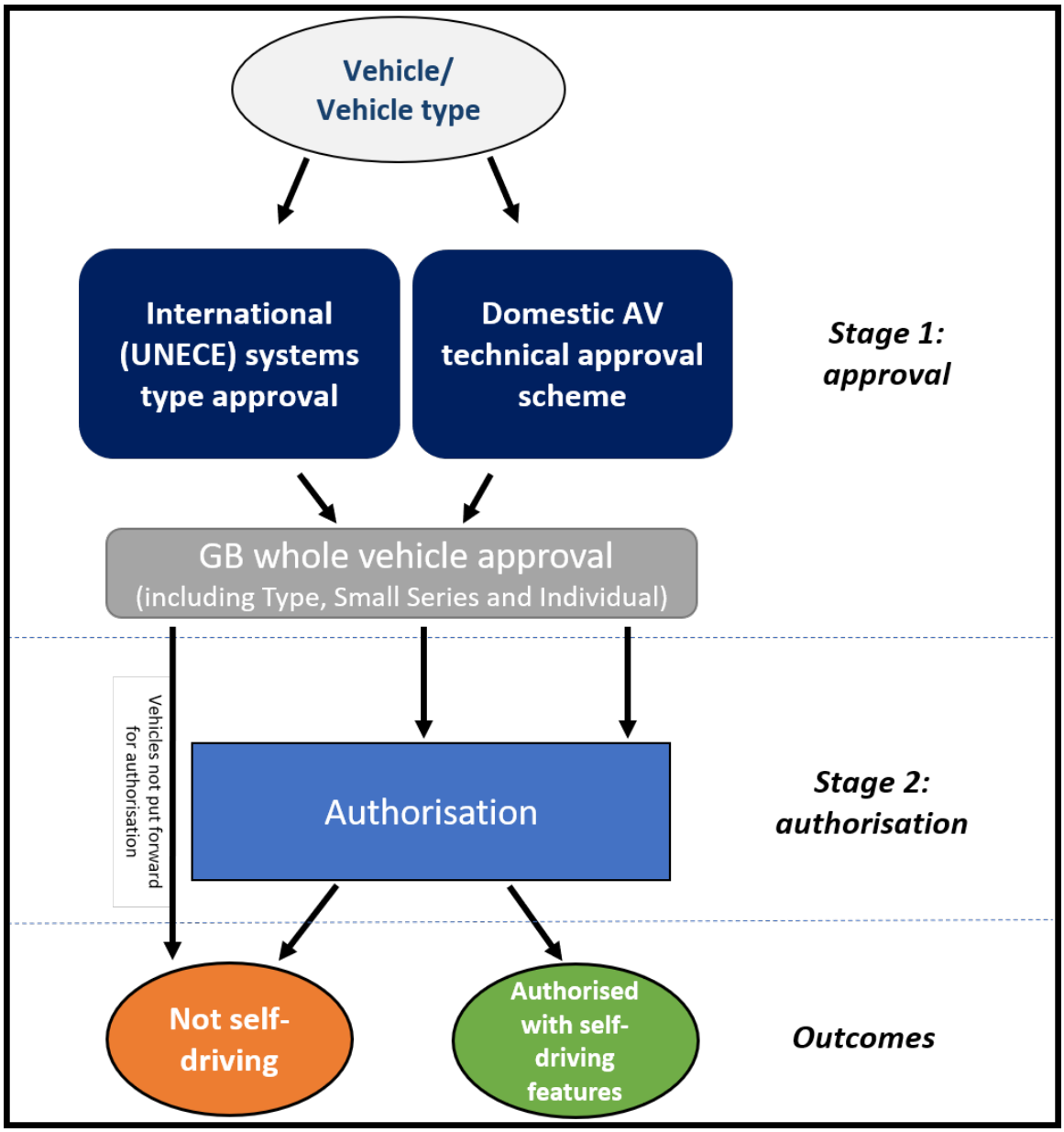

Figure 3.1 *The two-stage process. Vehicles or vehicle types must first go through the approval stage - which may be at international or domestic level. The vehicle or vehicle type will then need to obtain GB whole vehicle approval via the GB Type, small series or individual vehicle approval schemes. To be authorised with self-driving features the vehicle/ vehicle type would then need to undergo the second authorisation stage.*

THE AUTHORISED SELF-DRIVING ENTITY (ASDE)

3.9 An ASDE is the vehicle manufacturer or software developer who puts an AV forward for authorisation. Our proposals provide some flexibility over the identity of the ASDE: it may be a vehicle manufacturer, or a software developer, or a partnership between the two. However, the ASDE must show that it was closely involved in assessing the safety of the vehicle. It must also be of good repute and have sufficient funds to respond to regulatory action (including organising a recall).

3.10 The onus will be on the ASDE to show that the vehicle meets the tests for authorisation. As a minimum, the ASDE would be expected to present evidence of approval, a safety case and an equality impact assessment.

Presenting a safety case

3.11 Safety cases are now a common tool in high-risk industries, such as nuclear, oil and gas. In brief, a safety case is a document, or a set of documents, which present a clear, comprehensive and defensible argument for the safety of a given system in a given context.

3.12 The regulator would set the levels of safety that AVs must achieve, in line with the Secretary of State's published safety standard. This would include, for example, the requirement not to increase risks for vulnerable road users. The regulator may also require that technical standards form part of the safety case. However, the applicant would be afforded flexibility in the evidence it provides and the mix of tests it performs to gather the evidence. The safety case would be scrutinised by the regulator, who would be free to subject the vehicle to further tests, if required.

3.13 We recommend that the safety case is signed by a "nominated person", who occupies a senior position within the ASDE. The nominated person would be subject to a duty of candour (discussed below): they could face criminal sanctions if they fail to exercise due diligence to ensure that the information is correct and complete.

Equality impact statement

3.14 There are several ways in which AVs could have an unequal impact on the basis of protected characteristics. There may, for example, have been insufficient scenario testing for how the AV responds to wheelchairs; or the AV may not be able to recognise a sufficiently wide range of pedestrians. To assist the authorisation authority in fulfilling its equality duty,[9] we recommend that the ASDE should submit an equality impact assessment. This should show how it has taken account of the needs of vehicle users and others using the road, to ensure that people are not treated unequally on the basis of protected characteristics.

The ASDE's duties

3.15 We recommend that an ASDE be required to undertake a range of ongoing duties as a condition of authorisation. Duties relating to safety include:

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[9] See para 2.17 above.

(1) ensuring the vehicle continues to drive safely and in accordance with road rules;

(2) making relevant updates where necessary and/or mandated by the in-use regulator, including updates to ensure compliance with road rules;

(3) informing users and operators about the vehicle's self-driving features and the limitations of those features.

3.16 Duties relating to disclosure include:

(1) ensuring relevant vehicle data is accessible to insurers and users so that civil claims can be decided justly and fairly.

(2) disclosing data requested by regulators and co-operating with the road collision investigation unit.

Data requirements

3.17 Following a collision, it will be important to know if the ADS was engaged. We therefore recommend that the authorisation authority must be satisfied that the vehicle can record and store the necessary data. Specifically, the vehicle must record and store location data for detected collisions and for the activation and deactivation of the ADS.

3.18 AV data raises considerable privacy concerns. The ASDEs should therefore present regulators with details of how data will be recorded, stored, accessed and protected. The regulator should only authorise a system as self-driving if these systems comply with data protection law.

IN-USE SAFETY ASSURANCE

3.19 On-going safety assurance is crucial. With changes to road rules and the driving environment, and updates to available software and technology, AVs will require continuous regulatory oversight throughout their lifetime.

3.20 We recommend that legislation creates an in-use safety regulator, with a new set of statutory powers and responsibilities. Its objective will be to ensure the continuing safety and legal compliance of self-driving vehicles while they are in-use by learning from mistakes and preventing their re-occurrence. To this end it will:

(1) evaluate the safety of automated driving compared with conventional driving;

(2) investigate road traffic infractions; and

(3) ensure that ASDEs provide information to users, clearly and effectively.

3.21 These responsibilities will be supported by powers to apply regulatory sanctions, including informal and formal warnings, compliances orders, civil penalties and (in extreme cases) suspension or withdrawal of authorisation.

3.22 Again, the legislation will not name a specific organisation to be the in-use regulator. Its powers and duties will be exercised in the name of the Secretary of State for Transport. However, initially the regulator could be the Driver and Vehicle Standards Agency (DVSA), which (among other things) is currently responsible for market surveillance and vehicle recalls.

Comparing automated and conventional driving

3.23 The in-use regulator will be under a statutory duty is to measure the safety of automated driving against the Secretary of State's safety standard. To this end, it will collect relevant data about both automated and conventional driving, analyse this data and publish its findings. The in-use regulator will have a responsibility to consider all risks associated with automated driving, including problems that might occur following take over, or if users wrongly think that the ADS is engaged while it is not.

3.24 We also hope that the in-use regulator will become a world-class source of expertise on the measurement of automated driving safety, commissioning research on a range of possible measures.

Investigating traffic infractions

3.25 By "traffic infraction" we mean any driving behaviour that would attract prosecution or civil penalty if brought about by a human driver.

3.26 In Consultation Paper 1, we discussed the process for investigating incidents, using speeding as an example. A speed camera detects a vehicle driving at 37 miles an hour in a 30 mile an hour area and the police serve a notice of intended prosecution on the registered keeper. We proposed that if a vehicle was driving itself at the time, the registered keeper should tell the police that the ADS was engaged. If the problem appeared to lie with the software, the police would submit the issue to the in-use regulator. The in-use regulator would investigate and resolve the issue, using a range of regulatory sanctions. This received widespread agreement.

3.27 We wish to allow flexibility over how the in-use regulator will receive cases. However, in practice, we think that most infractions will be brought to light by the police, local authorities, or insurers. Once it is established that the ADS was engaged at the time of any infraction, the in-use regulator will become involved.

3.28 Penalties will not be automatic. The ASDE would not be given a £130 fine for stopping in a box junction in the way that a human driver would. Once it is established that the infraction has been committed, and that the ADS was engaged at the time, the in-use regulator will communicate with the ASDE to establish how and why this happened. In the light of these discussions the regulator should apply an appropriate sanction. The regulator will need to follow a fair process, which gives the ASDE an opportunity to challenge both the finding that there has been a contravention and the sanction.

Communicating with users

3.29 We do not know how difficult users will find it to adapt to AVs. We hope that ADS feature will be designed to be as intuitive as possible. At this stage, we are not recommending mandatory additional training. However, users need to understand their responsibilities and liability in relation to the driving task. The in-use regulator

should therefore ensure that ASDEs communicate information about what the user must and must not do in a clear and effective way.

A FORUM TO COLLABORATE ON ROAD RULES

3.30 The transition from analogue road rules designed for human drivers to a set of digital road rules fit for purpose to guide the behaviour of automated driving systems is challenging. We recommend that the Government establishes a forum to consider how road rules and other traffic laws might be adapted for automated driving. This would allow developers, regulators, road user groups and other experts to discuss issues of concern. The forum should not have power to change road rules itself. Instead it should make recommendations to the UK Government, the Scottish or Welsh Governments or local government.

COLLISION INVESTIGATION

3.31 In our view, serious, complex and high-profile collisions involving AVs should be investigated by a specialist, independent investigator. The emphasis should be on learning lessons rather than allocating fault.

3.32 The report notes current initiatives led by the RAC Foundation to establish the feasibility of a Road Collision Investigation Branch. If a RCIB is established, we think it should also have responsibility for investigating collisions involving AVs. This would avoid duplication: as many stakeholders indicated, collisions involving AVs are likely to involve conventional vehicles as well.

4. Two new roles: users-in-charge and NUIC operators

THE USER-IN-CHARGE

4.1 The user-in-charge can be thought of as a human in the driving seat while a vehicle is driving itself. We recommend that every vehicle driving itself should have a user-in-charge, unless the ADS feature is specifically authorised for use without one.

The definition of a user-in-charge

4.2 The concept of a user-in-charge applies where a vehicle is authorised as having a self-driving ADS feature which requires a user-in-charge. Under our recommendations, the user-in-charge would be defined as:

(1) *an individual*: that is, a human or "natural person", rather than an organisation;

(2) *who is in the vehicle:* not standing nearby or in a remote operations centre;

(3) *in position to operate the driving controls:* for current vehicle design, in the driving seat;

(4) *while an ADS feature requiring a user-in-charge is engaged.* An ADS feature is engaged when it is switched on and remains so until the individual takes control of the vehicle, the transition period ends or it switches off at the end of a journey.

Fit and qualified to drive

4.3 The user-in-charge must be qualified and fit to drive, as they may be called on to take over driving if the ADS issues a transition demand. Like a driver, they must hold a valid driving licence and (for example) must not be under the influence of drink or drugs. It would also be a criminal offence to act as a user-in-charge while unfit or unqualified, or to cause or permit another person to do so.

4.4 We have also considered the situation where no-one is in the driving seat. For example, several (possibly drunk) people might all sit in the passenger seats. We recommend that it should be an offence for a person to be carried in a vehicle if they know or ought to know that the vehicle does not have a user-in-charge and that one is required.

Dynamic and non-dynamic offences

4.5 While the ADS feature is engaged, the user-in-charge is not responsible for the dynamic driving task. They do not control the vehicle through steering, accelerating or braking, and do not need to monitor the driving environment. The user-in-charge would have an immunity for all offences which arise from dynamic driving. The only exceptions would be where the user-in-charge took steps to override or alter the

system so as to engage the ADS when it was not designed to function, or deliberately interfered with the functioning of the ADS.

4.6 However, a user-in-charge will retain other "non-dynamic" driver responsibilities. They must (for example) insure the vehicle and check that any load is secure before they set off. During a journey they must ensure that any children in the vehicle are wearing seatbelts or other restraints. Following an accident, they should exchange insurance details and report the matter to the police in accordance with section 170 of the Road Traffic Act 1988. They are also required to pay any tolls and charges and check that the vehicle is legally parked before they leave it.

4.7 In Chapter 8, we discuss how to draw the dynamic/non-dynamic distinction in legislation and how to communicate it.

Criminal liability following handover

4.8 Following a completed handover, either voluntary or in response to a transition demand, the user-in-charge would become a driver. They would be subject to all of the ordinary responsibilities of a driver.

4.9 However, we do not think that an individual should be penalised for an offence that was brought about by the ADS and which a competent and careful driver could not reasonably prevent. We illustrate this problem with an example:

> While in self-driving mode, an automated vehicle turns into a one-way street in the wrong direction. The user-in-charge takes over but is unable to avoid a collision. Alternatively, no collision takes place, but in the moment the user-in-charge takes over, they are driving in the wrong direction and may be guilty of an offence on that basis.

4.10 We recommend that the driver should have a specific defence to any driving offence committed in the period immediately following a handover. The defence should apply where their driving did not fall below the standard reasonably expected of a competent and careful driver in the circumstances.

Failing to respond to a transition demand

4.11 As explained, a transition demand is an alert issued by an ADS to a user-in-charge to take over driving, which ends following a "transition period". It is possible that a user-in-charge may fail to respond to a transition demand in time. If this occurs, a vehicle will be programmed to mitigate the risk, but it may not be completely safe: initially, AVs are likely to come to a gradual stop in lane.

4.12 Thus, safety requires users-in-charge to respond to transition demands. We recommend that, at the end of the transition demand period, the user-in-charge's immunity from dynamic driving offences should cease. The user-in-charge would then become criminally liable for anything that the vehicle does. For example, if the vehicle comes to stop in lane on a motorway, a user-in-charge would be liable for stopping

unnecessarily in an active motorway lane.[10] This may also constitute driving without due care and attention or, possibly, dangerous driving.

4.13 Failing to respond to a transition demand would not of itself amount to a criminal offence. If the vehicle is able to park itself safely and legally at the side of the road, no offence will have been committed. Our intention is to adopt a flexible approach that depends on the consequences.

Medical emergencies

4.14 Consultees were concerned about what would happen if a user-in-charge is unable to respond to a transition demand because they have suffered a medical emergency, such as a heart attack or stroke. The report explains that the current law on medical emergencies while driving is unsatisfactory. The Law Commission for England and Wales has been asked to conduct work to address the issue, not only for AVs but more generally.

4.15 In Scotland, general reform is unlikely. We therefore recommend a specific defence to driving offences in Scotland where the accused is required to resume driving and cannot do so because of a sudden medical condition. The defence would apply where the accused did not cause the condition and could not reasonably anticipate it.

THE NUIC OPERATOR

4.16 Some features will be authorised for use without a user-in-charge. We refer to these as "No User-In-Charge" (NUIC) features. We recommend that when a NUIC feature is engaged on a road or other public place, the vehicle is overseen by a licensed NUIC operator. This is an organisation rather than an individual.

4.17 It would be a criminal offence to use a vehicle on a road or other public place without a driver or user-in-charge, unless:

(1) the vehicle is equipped with an ADS feature authorised for use without a user in charge and

(2) arrangements are in place for it to be overseen by a licensed NUIC operator.

"Oversight" duties

4.18 While a NUIC feature is engaged, the operator will be required to have "oversight" of the vehicle. This does not mean that they need to monitor the driving environment. However, NUIC operator staff will be expected to respond to alerts from the vehicle if it encounters a problem it cannot deal with, breaks down or is involved in a collision.

4.19 It is not absolutely essential that this is done remotely through screens. It is possible that staff might be physically present in a limited area, such as a car park. However, we anticipate that, in the great majority of cases, a NUIC operator will employ staff in a remote operations centre.

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[10] In England and Wales, the Motorways Traffic (England and Wales) Regulations 1982, reg 7. In Scotland, the Road Traffic Regulation Act 1984, s 17(4) as read with the Motorways Traffic (Scotland) Regulations 1995, reg 6(1).

4.20 In Chapter 9, we discuss some of the challenges in providing oversight remotely. There is a need to ensure suitable connectivity and cyber-security. Staff also need the right equipment to understand what is going on. It may be difficult to judge distance from video feeds onto flat screens, which can also lead to a decreased sense of urgency and empathy. Although information can be provided in different ways, there is a risk of information overload, especially when the operator is overseeing multiple vehicles. In other contexts, remote operators also report boredom, inattention and motion sickness. There is considerable work to be done in understanding how to design equipment and systems of work that overcome these challenges.

4.21 The task also involves considerable communication skills. Following a collision, for example, staff need to manage the situation, communicating with passengers, the emergency services and other road users - who may be angry, distressed or in shock.

4.22 Little information is currently available about the required ratio of staff to vehicles in a remote operating centre. One of the perceived advantages of automated driving is that it will reduce the staff required to run a service. However, external circumstances may cause many vehicles to require assistance at once: in 2021, these included flash floods, queues at petrol stations and protestors on motorways. NUIC operators will need to provide sufficient staff to cover times of peak demand, not simply average demand.

Other NUIC operator duties

4.23 The report discusses other NUIC operator responsibilities, such as insuring and maintaining the vehicle; checking that the load is safe and secure; and paying tolls and charges.

4.24 The responsibilities will not be identical in all cases; those of a NUIC operator running a freight service will be different from those attaching to an operator providing “automated valet parking” to private cars in a public carpark. To provide flexibility, we recommend that when granting a licence, the regulator should specify the responsibilities which fall on the NUIC operator in the terms of the licence.

Obtaining a NUIC operator licence

4.25 To obtain a licence, a NUIC operator will need to show that it is of good repute, has appropriate financial standing, conducts its operation within Great Britain, and is professionally competent to run the service.

4.26 It will then submit a safety case to show how it will operate vehicles safely without a user-in-charge or driver. It will need to demonstrate how it will maintain connectivity; provide suitable equipment; train and supervise staff; and combat problems of boredom and inattention.

4.27 Initially, we anticipate that an ASDE may wish to operate its own vehicles. We have therefore designed a system where the ASDE and NUIC operator roles can be combined without undue bureaucratic duplication. We recommend that where the ASDE and NUIC operator are the same entity, the entity may submit a single safety case to be assessed by the authorisation authority.

4.28 It will also be possible for the NUIC operator to be separate from the ASDE. If so, the ASDE will need to set out what is required for the safe operation of its vehicles, and the NUIC operator will need to show how it meets the operational requirements.[11]

4.29 Initially, we anticipate that all NUIC licences will be granted by the authorisation authority. However, the legislation would be sufficiently flexible for another agency to take on the task. In the longer term, we see advantages to integrating NUIC operator licensing with other licensing schemes, such as those applying to public service and heavy goods vehicles.

Enforcing the terms of a NUIC operator licence

4.30 Under our recommended scheme, a breach of the licence conditions will be enforced through a system of regulatory sanctions by the in-use regulator. We would expect the police, vehicle examiners and the public to bring complaints to the attention of the regulator, who would then investigate.

4.31 If the regulator established that the licence conditions had been broken, it would then have a broad range of sanctions available to it. These would mirror the sanctions against ASDEs, and include civil penalties, redress orders, compliance orders and (in the most serious cases) suspension or withdrawal of authorisation.

NUIC PASSENGER SERVICES

4.32 At present, road passenger services, such as taxis, private hire, public service vehicles (PSVs) and buses, are subject to additional layers of regulation. These regulations are aimed at protecting passengers and integrating services within the broader transport network. They also impose accessibility requirements on service providers.

4.33 Where passenger services are provided in AVs with a user-in-charge, these additional layers of regulation continue to be fit for purpose. However, the current law is predicated on having a responsible person in the vehicle. Where AV passenger services are provided without a user-in-charge, the applicability of current law is uncertain. This leads to two risks. First, a determined operator might exploit legal gaps to run an entirely unlicensed service. Secondly, some operators may be deterred from running passenger services, fearing that these require licences they cannot obtain.

The need for more evidence

4.34 There is much that is not known about how to provide safe and accessible passenger services in the absence of a human driver.[12] In Chapter 10 of the report, we discuss safeguarding passengers from assault and abuse by other passengers, accessibility, boarding buses and controlling congestion.

4.35 At present, older and disabled people are particularly dependent on taxis and private hire and have much to gain if services can be made more affordable. However, many users currently rely on a human driver. An older person with mobility problems may

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11 This document would be subject to the duty of candour described at para 5.1 below.

12 For a detailed discussion of this issue, see Consultation Paper 2, Chapter 6.

rely on a driver to accompany them from their door and help them into the vehicle. An anxious person may rely on a human driver for reassurance.

A new procedure to grant interim passenger permits

4.36 We recommend a new procedure to issue "interim passenger permits". This would allow initial services to be provided in order to collect evidence about how to meet these challenges, before designing a permanent regulatory scheme.

4.37 Taxi, private hire and bus regulation are devolved to the Scottish Parliament and to the Senedd. While we recommend similar legislative provisions for England, Scotland and Wales, discretionary decisions about how those provisions should be applied should be made by ministers in the relevant government.

4.38 We recommend that the Secretary of State for Transport, the Scottish Ministers and the Welsh Ministers should have powers to grant interim permits to providers of passenger services using NUIC vehicles. Permit-holders would not be subject to any obligations imposed by taxi, private hire and PSV legislation provided they abide by the conditions of the permit.

Criteria for issuing interim passenger permits

4.39 Interim passenger permits would be available whenever a service is designed to run without a driver or user-in-charge. We would expect that in most cases the service will use vehicles already authorised as having self-driving NUIC features. However, we think it would be helpful to allow for the possibility that interim passenger permits could be used to carry passengers during trials, before authorisation has been obtained. Under those circumstances, a safety driver would be required.

4.40 In our view, the permit should be available whether or not passengers are charged fares. This approach maximises the amount of "real world" data to be collected (including data on price points and how to deal with fare evaders). It also enables longer, commercially viable service provision while gathering data.

4.41 It is important that the interim permit procedure is not used to undermine local decision making. Therefore, if the service resembles a taxi or private hire service, the local licensing authority would need to give consent. Where the service resembles a bus service in an area covered by a bus franchising scheme, consent would be needed from the local transport authority. There should also be consultation with the relevant highway authorities and emergency services.

4.42 Where consent is needed, we envisage that the service provider would approach the local authority to discuss how the service would run. The provider would submit an application to the relevant minister having already obtained the consent of a local authority.

The need for co-design

4.43 Every service provided under an interim passenger permit should aim to improve understanding of accessibility issues. As a condition of the permit, the service provider should collect information about how to make services accessible for older and disabled passengers.

4.44 To ensure that accessibility is entrenched into NUIC passenger services, we recommend that a new statutory accessibility advisory panel is established. Before a permit is granted, the panel would assess the application. The panel would need to be satisfied that the service is likely to add to knowledge about how to provide automated services for older and disabled passengers and that its design process involves people with disabilities.

4.45 Initially, the main work of the panel will be advising on trials. As trials develop, the panel will prepare guidance on best practice. Finally, the panel will advise on national standards for all automated passenger services.

Obligations on the NUIC service provider

4.46 The primary aim of an interim passenger permit is to gather information about how to regulate services in the future, particularly as regards safeguarding and accessibility. We therefore recommend that each year, the permit holder should publish a report, highlighting how the service safeguarded passengers and met the needs of older and disabled passengers.

4.47 The permit may be made subject to conditions. The conditions could, for example, restrict services to a particular number of vehicles, a specified area or even a specified time of day. For bus services, conditions could include requirements that service details are notified to the Traffic Commissioners and that the service participates in ticketing schemes.

4.48 The figure on the following page summarises how interim passenger permits will work.

The longer term

4.49 There are two main approaches to redesigning passenger regulation in the longer term. The first is to design a passenger licensing scheme specifically for automated vehicles. The second is to amend existing taxi, private hire and PSV legislation to bring NUIC services unequivocally within the existing schemes. Experience gathered from interim passenger permits will contribute the necessary evidence to decide which option is preferable.

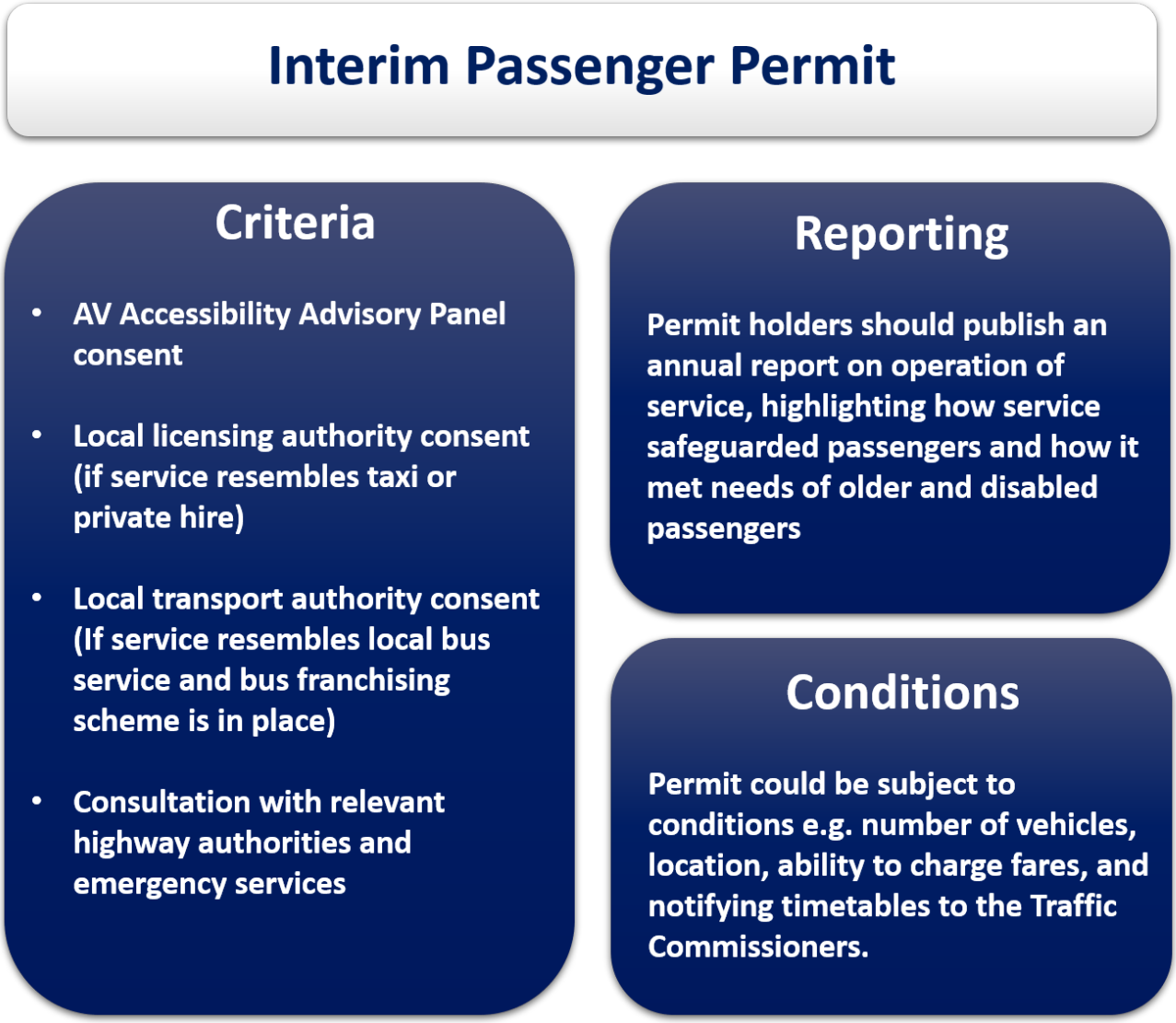

Figure 4.1 *Overview of the interim passenger permits requirements.*

5. The duty of candour

5.1 Our aim is to promote a no-blame safety culture that learns from mistakes. We see this as best achieved through the system of regulatory sanctions, rather than by replicating the criminal sanctions applying to human drivers.

5.2 However, safety assurance will rely heavily on information provided by the ASDE and NUIC operator to the regulator, both in their safety cases and in subsequent discussions. The process would be undermined by any lack of candour. We therefore recommend specific criminal offences where misrepresentations and non-disclosure by ASDEs and NUIC operators have implications for safety.

LIABILITY OF THE COMPANY

5.3 We recommend that the duty of candour should arise where an ASDE puts forward a vehicle for authorisation, or a NUIC operator applies for a licence, or either organisation responds to requests from the regulator. In these circumstances, it should be a criminal offence 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 vehicle.

5.4 The ASDE or NUIC operator would have a “due diligence” defence if it could show that it took reasonable precautions and exercised all due diligence to prevent the wrongdoing.

LIABILITY OF SENIOR MANAGERS

5.5 In our view, senior managers should also face prosecution for breaches of the duty of candour in some circumstance. This will focus the minds of senior managers on implementing a safety-first culture, operating on the basis of openness and transparency.

5.6 In Consultation Paper 3, we suggested following the model used in section 37 of the Health and Safety at Work etc Act 1974. This applies to “any director, manager, secretary or other similar officer of the body corporate”, together with any person “purporting to act in such a capacity”. These senior figures are liable for offences committed with their “consent or connivance” or “attributable to their neglect”.

5.7 Consultees agreed that there should be criminal liability for senior staff. However, several developers raised concerns about our proposed definition of “senior manager”. They thought it could penalise directors with little involvement in the safety case, while failing to apply to the employees most responsible for assessing safety. We were told that the person with the greatest technical knowledge about safety

issues may not necessarily be a director or senior manager but a technical lead or engineering specialist.

5.8 We have adapted our recommendations in the light of these concerns. We now define a senior manager as a person who plays a significant role in:

(1) the making of decisions about how the ASDE/NUIC operator is managed or organised, or

(1) the management of the safety assurance process.

5.9 Most senior managers would only face prosecution if the offence took place with their "consent or connivance". In other words, the prosecution would need to prove that they knew about the wrongdoing or turned a blind eye to it. It would not be sufficient to show mere "neglect".

Liability of the nominated person

5.10 A different rule would apply to the "nominated person" who signs the safety case. The nominated person would be required to take active steps to ensure that the information submitted to the regulator is correct and complete. We think this is necessary to promote public acceptance.

5.11 We have considered where the burden of proof should lie in establishing the nominated person's failure to take precautions. One possibility is to require the prosecution to show beyond reasonable doubt that the offence was attributable to their neglect. The other possibility is to require the nominated person to establish a due diligence defence: that is, to show on the balance of probabilities that they took reasonable precautions and exercised all due diligence to prevent the wrongdoing.

5.12 On balance, we have reached the conclusion that the nominated person should be required to establish a due diligence defence. This acknowledges the information asymmetry between the prosecution and nominated person. The safety of AVs is dependent on the openness and honesty of the ASDE or NUIC operator in sharing information with the regulator. This offence is intended to ensure personal responsibility for creating a culture of transparency.

AGGRAVATED OFFENCES FOR DEATH OR SERIOUS INJURY

5.13 There are currently eight "aggravated" offences of causing death or serious injury by driving. These include, for example, causing death by dangerous driving and causing serious injury by driving while disqualified. Here the underlying behaviour is already criminal, but it is treated more seriously because of the result.

5.14 These offences will not be committed when a vehicle is driving itself. We do not think it is right to prosecute an ASDE for the behaviour of the vehicle simply because a human driver would be prosecuted in similar circumstances. However, if a lack of candour by the ASDE or NUIC operator leads to a death or serious injury, there is a moral case for liability. The public will want to see the consequences reflected in both the charge and the sentence.

Causation

5.15 In practice, it may be difficult to show a direct causal relationship between the wrong (the misrepresentation or non-disclosure) and the harm (the death or injury). The wrong may be committed many years before the harm, in a quite different setting.

5.16 We did not wish to be over-inclusive: if, for example, an ASDE suppressed poor test results about how its technology performed at night, it would be wrong to hold the ASDE responsible for a death during the day. However, it would be too narrow to require that the suppressed test result dealt with exactly the same scenario as the one that caused the death. Take an example where two scenario tests (involving a cyclist and a pedestrian) indicated a problem with the way that the vehicle's sensors performed at night. If this information were suppressed, the aggravated offence should apply if, as a result of the concealed problem, the vehicle struck a tree during the night and the vehicle occupants died.

5.17 We therefore recommend a three-part test. Where a corporation or senior manager commits one of the offences we have outlined, that offence should be 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.

6. Other amendments

WRONGFUL INTERFERENCE

6.1 The potential for interference with AVs is a matter of great public concern. Interference could range from computer hacking, to standing in front of an AV to obstruct its movement, to spray-painting the vehicle's sensors.

6.2 Most conceivable forms of interference are already criminal offences. It is already a crime, for example, to obstruct the highway or damage a vehicle. As far as hacking is concerned, the Computer Misuse Act 1990 criminalises unauthorised access to a computer,[13] which becomes a more serious offence if it creates a significant risk of death, serious injury or serious disruption to transport facilities.[14]

6.3 Therefore, the report recommends only relatively minor amendments to existing law.

Tampering with the mechanism

6.4 In England, Scotland, and Wales, it is an offence to tamper with a vehicle's "brake or other part of its mechanism" under section 25 of the road Traffic Act 1988. "Mechanism" is currently not defined, and it is not completely clear whether it includes sensors and software. We recommend that section 25 of the Road Traffic Act 1988 be amended to apply to anything that is physically part of an AV, including sensors and any software installed within it.

England and Wales: unauthorised vehicle-taking

6.5 In England and Wales, it is an offence under section 12 of the Theft Act 1968 to take a conveyance without consent.

6.6 "Conveyance" refers to anything constructed for the carriage of a person, including any motor vehicle with a driving seat. However, the offence does not apply to a conveyance constructed for use "only under the control of a person not carried in or on it". This presents two problems in the AV context: some AVs may not carry people at all; and some AVs can only be controlled from outside the vehicle.

6.7 This means that some forms of unauthorised vehicle taking may not be covered. An example would be where a group of people picked up an automated pizza delivery vehicle and put it in a ludicrous place, such as the top of a bus shelter, where it could no longer function. Under the current law, this would not appear to be a criminal offence.

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13 Computer Misuse Act 1990, s 1.

14 Under Computer Misuse Act 1990, s 3ZA(7), an unauthorised act in relation to a computer creating a risk of serious damage to human welfare by disruption of facilities for transport is punishable by a maximum sentence of life imprisonment.

6.8 To ensure application of the offence to all AVs, we recommend extending section 12 to cover any motor vehicle, even those without driving seats.

6.9 The problem does not arise in Scotland, where the equivalent Scottish offence of taking a vehicle and driving away without consent applies to all motor vehicles.[15] In addition such conduct is covered by the common law offence of theft.

England and Wales: an aggravated offence of causing danger to road users

6.10 In England and Wales, section 22A of the Road Traffic Act 1988 creates a broad offence of causing danger to road users. It applies where a person "intentionally and without lawful authority or reasonable cause" interferes with roads, vehicles or traffic equipment in a way which is obviously dangerous to a reasonable person.

6.11 In our view, this offence is broad enough to cover most forms of dangerous interference. However, we think that more is needed where the interference results in a death or serious injury. Under the current law, where interference results in a death, the defendant might be charged with unlawful act manslaughter. However, the use of unlawful act manslaughter in these circumstances has been criticised. The offence of gross negligence manslaughter would be available but has uncertain boundaries, which might be further blurred if case law is adapted to AVs.

6.12 We therefore recommend that in England and Wales it should be an aggravated offence to wrongfully interfere 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.

6.13 Section 22A does not extend to Scotland. Instead, the behaviour is covered by the Scots common law offence of culpable and reckless conduct. If culpable and reckless conduct causes death, such conduct could be prosecuted as culpable homicide. We do not recommend any changes to these offences.

CIVIL LIABILITY

6.14 The Automated and Electric Vehicles Act 2018 (AEV Act) introduced new legislative provisions to smooth the path to compensation for those injured by automated vehicles. Broadly speaking, each listed AV must carry insurance binding an insurer to pay compensation for any damage caused by a vehicle while it is driving itself.

6.15 Considerable support was shown for the principles behind the AEV Act. Our view is that, by and large, the Act is "good enough for now". Any substantive reform should only be done in the light of practical experience. In Chapter 13, we make relatively minor recommendations for reform.

Listing and authorisation

6.16 Section 1 of the AEV Act provides for a listing process for AVs which is different from the authorisation process recommended in the report. Once our reforms are introduced, a separate listing process will no longer be necessary. We recommend

[15] Road Traffic Act 1988, s 178.

that section 1 is amended to replace the listing procedure with the authorisation procedure.

Secondary claims under the Consumer Protection Act 1987

6.17 Under the AEV Act, insurers may bring a secondary claim against anyone else liable to the injured party. One possibility is that the insurer may bring a claim against the vehicle producer under product liability law, as set in the Consumer Protection Act 1987 (the 1987 Act). However, there are difficulties about how the 1987 Act applies to new technology.

6.18 Product liability law is likely to play only a limited role in the regulation of self-driving. A review of product liability law is not essential for the successful introduction of self-driving. However, a general review of the law is desirable more widely. We urge the UK Government to review the way that product liability applies to new technologies generally, not just for automated vehicles.

Uninsured vehicles

6.19 Liability under section 2 of the AEV Act only arises where the vehicle is insured "at the time of the accident" or is exempt from compulsory motor insurance. For accidents involving uninsured conventional vehicles, the Motor Insurers' Bureau steps in as insurer of last resort. However, this arrangement does not apply to AEV Act claims.

6.20 It would be unfair to treat the victims of uninsured AVs less favourably than the victims of other uninsured vehicles. We recommend that the UK Government puts measures in place to provide compensation to the victims of uninsured AVs.

Data retention

6.21 In the context of AVs, insurers will need to rely on vehicle-generated data to assess claims. It will be necessary to store basic data to show that the AV was present at the alleged location and whether the ADS was engaged at the time.

6.22 In Consultation Paper 3, we provisionally proposed that the data should be stored for three years to reflect the standard limitation period for bringing legal claims. The issue proved controversial. While half of consultees agreed with the proposal, others were split between those who thought three years was too long and those who thought it was too short.

6.23 We continue to think that three years is broadly correct. However, we accept the argument put forward by consultees that claims often arrive on or shortly before the day the three-year limitation expires. In these cases, time will be needed for the insurer to request the data and for the ASDE to find and preserve it. We therefore recommend that data be stored for three years, plus three months for data to be requested and provided (39 months in all).

Data sharing

6.24 Finally, we recommend that the new Act 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. This will simplify the process for the ASDE, as it will provide a clear

legal basis for data sharing. It will also allay fears that ASDEs might force customers to take out insurance with their own nominated insurer by refusing to release data to others.

NEXT STEPS

6.25 The automated vehicles report has been laid before Parliament and the Scottish Parliament. The UK, Scottish and Welsh Governments will decide whether to accept our recommendations and introduce legislation to bring them into effect.

6.26 Details of the review, background papers, impact assessment and all the responses received throughout are available on the websites given below:

Law Commission: https://www.lawcom.gov.uk/project/automated-vehicles/ and

Scottish Law Commission: https://www.scotlawcom.gov.uk/law-reform/law-reform-projects/joint-projects/automated-vehicles/

26 January 2022