

Consultation Paper 3

A regulatory framework for automated vehicles

OVERVIEW

1. This is a brief overview of the third consultation in our review of automated vehicles. It focuses on the definition of self-driving; a pre-deployment authorisation process; and how to assure safety in-use. It also covers what we mean by a user-in-charge and a fleet operator, and touches on criminal offences and access to data.
2. We highlight a selection of our provisional proposals. The full list of proposals is set out in the paper itself (316 pages) and in a full summary (54 pages), available on the websites given below. We seek views by **18 March 2021**.
3. Our aim is to publish a final report with recommendations for legislation by the end of 2021.

THE MEANING OF SELF-DRIVING

Why it matters

4. In 2021, vehicles equipped with Automated Lane Keeping Systems may be introduced onto UK motorways. These control speed and steer the vehicle in lane at up to 37 miles an hour. Their purpose is to allow drivers caught in motorway traffic jams to relax and take their eyes off the road. They offer the first practical context for debates over what it means for a vehicle to be self-driving.
5. A definition of self-driving is already set out in domestic law. Under the Automated and Electric Vehicles Act 2018, a vehicle is “driving itself” if it is “operating in a mode in which it is not being controlled, and does not need to be monitored, by an individual”. The Secretary of State is required to maintain a list of vehicles considered to be capable of safely driving themselves for at least part of a journey.
6. When the Act comes into force it will only affect civil claims. Under our proposals, the definition would have more far-reaching implications. While the vehicle is driving itself, the person in the driving seat would no longer be considered a driver, but a “user-in-charge”. The user-in-charge could undertake activities which drivers are not allowed to do, such as using the on-board infotainment screen to check messages or watch a film.
7. In our view, freedom from the need to monitor should go hand-in-hand with changes to criminal liability. One cannot tell people that that they need not pay attention to the driving task and then find them guilty of criminal offences for failing to pay attention.
8. Therefore, under our proposals, a user-in-charge could not be prosecuted for a range of driving offences, from exceeding the speed limit to causing death by dangerous driving. Instead, the issue would be a regulatory matter, to be resolved between the

safety assurance regulator and the entity responsible for the automated driving system (referred to as the Automated Driving System Entity or “ADSE”).

Human intervention in the absence of monitoring

9. The paper considers how far it is reasonable to rely on someone who is not monitoring the driving environment to take over in an emergency. A robust body of research shows that once a person has “switched off” from the driving task, they fail to notice problems. And when they return to driving, they may take a while to realise where they are and what is around them (referred to as gaining “situational awareness”).
10. We provisionally propose that the user-in-charge can be expected to respond to a clear “transition demand” that:
 - (1) cuts out any non-driving related screen-use;
 - (2) provides clear visual, audio and “haptic” signals (such as shaking or vibrating); and
 - (3) gives sufficient time to gain situational awareness.
11. However, we have grave reservations about suggestions that a person who is not driving should be expected to respond to external events in the absence of a clear and timely transition demand. We therefore provisionally propose that a vehicle should not be considered self-driving if a human user is required to notice and respond to other issues, such as a tyre blow-out, an emergency vehicle or changing weather. We seek views.

How safe is safe enough?

12. To be considered safe, the risks posed by self-driving vehicles must be acceptable to (and accepted by) the road-using public. People are often happy to tolerate risks which are familiar, voluntary or accompanied by a clear benefit. They are less accepting of risks which are new, strange or imposed on them.
13. There is no single measure of safety. The paper discusses several approaches to setting safety standards, each with strengths and weaknesses. The public may demand higher standards from automated vehicles than from human drivers. Furthermore, we suggest that it is insufficient for automated vehicles to be safer overall if additional risks fall on particular groups. It is particularly important that additional risks are not imposed on vulnerable road users or on the basis of race, sex, age, disability or other protected characteristics. Good quality data will also be needed to monitor comparative collision rates.
14. The question is political: is the vehicle (together with the processes surrounding it) safe enough to be acceptable to the British public? In our view the decision should be taken at domestic level, by the Secretary of State, informed by advice from a specialist regulator.

SAFETY ASSURANCE BEFORE DEPLOYMENT

15. Currently, all models of motor vehicles must receive regulatory approval before they can be put on the market. Until recently, the system was based on three levels of decision making: the United Nations Economic Commission for Europe (UNECE); the European Union; and nation states. Since 1 January 2021, Great Britain follows UNECE vehicle standards and sets national standards but is no longer bound to follow EU law. This means that Great Britain now has more scope to set its own standards.
16. We provisionally propose separate processes for:
 - (1) approving an automated driving system (ADS) to be placed on the market; and
 - (2) categorising a vehicle as self-driving.
17. To place an ADS onto the market, manufacturers would have a choice. They could either:
 - (1) apply for ADS type approval at international (UNECE) level; or
 - (2) apply under the national ADS approval scheme for GB-only type approval.
18. ADS approval would not, of itself, decide whether a vehicle could safely drive itself without being monitored by an individual. That would be a second, separate stage of the process. If the vehicle was found not to be sufficiently safe without human monitoring, the ADS could still be used as driver assistance. If the vehicle were considered to be self-driving, it would then be categorised in one of two ways: for use only with a user-in-charge; or as able to operate without a user-in-charge.
19. The manufacturer or developer who puts the vehicle forward for categorisation will need to register as the ADSE. The ADSE will then be subject to regulatory sanctions if things go wrong. It will need to show that it has sufficient financial resources to update software, pay fines and (if necessary) organise a recall.

SAFETY IN USE

20. Given how often the road environment changes, we cannot expect a vehicle to be approved once and then remain safe throughout its life. Self-driving vehicles will need to be monitored while they are in-use, on an ongoing basis.

An enhanced in-use safety assurance scheme

21. The current law on product safety allows the UK Government to establish a basic scheme, with powers to issue recall notices; suspend or prohibit the supply of ADSs; and require warnings about how they are used. However, this would not deal with all the challenges of assuring that automated vehicles are safe and law-abiding.
22. We provisionally propose an enhanced legislative scheme, giving regulators additional statutory responsibilities and powers. These should include, for example, new powers to compel software and map updates; to regulate the way that safety-critical information is communicated to users; and to collect safety data.

Dealing with breaches of traffic rules

23. At present, drivers who break the law are subject to criminal and civil penalties. Although automated vehicles should be considerably more law-abiding, breaches of traffic rules may still occur.
24. When we consulted on this issue in 2018, there was widespread agreement that if an offence appears to have been caused by an ADS, the police should refer the matter to a regulator for investigation. The regulator should apply a range of regulatory sanctions to the ADSE, including improvement notices, fines and (if necessary) withdrawal of authorisation.
25. The fines would not be the same as those faced by a human driver. For example, an ADSE would not necessarily face a £130 fine if a self-driving vehicle wrongly enters a box junction. Instead, it may be issued with an improvement notice to fix the problem, followed by a much larger fine if the problem persists.
26. We consider a wide range of possible sanctions, including the use of restorative conferences. The regulator could recommend (for example) that following a serious injury, senior managers from the ADSE should meet the victim to discuss why the incident happened and what steps were being taken to ensure that it never happened again.

A new specialist investigation unit

27. The UK has specialised branches to investigate the causes of aviation, rail and maritime incidents, but does not have a specialist road investigation branch.
28. We provisionally propose that a specialist incident investigation unit should be established, to analyse data on collisions involving automated vehicles; to investigate the most serious, complex or high-profile collisions; and to recommend safety improvements. This should promote a culture of safety that works towards improvements without allocating blame.

THE USER-IN-CHARGE

29. We define a user-in-charge as an individual in a position to operate the controls of a vehicle while an ADS is engaged. Normally, the user-in-charge will be in the vehicle. However, we have extended the concept to cover someone in direct sight of the vehicle, so as to include automated parking and summons features.
30. The main role of the user-in-charge is to take over driving, either following a transition demand or through conscious choice. A user-in-charge therefore needs to be qualified and fit to drive. However, while the ADS is engaged, they would not be a driver and would not be liable for any criminal offence or civil penalty for the way the vehicle drives. They would, however, be subject to other driver responsibilities, such as carrying insurance and reporting accidents.
31. When the user-in-charge takes over driving, they will reacquire the full legal obligations of a driver. Furthermore, if the user-in-charge fails to take over control following a transition demand, they would be subject to the responsibilities of a driver and their immunity from criminal and civil penalties would cease.

REMOTE OPERATION: THE NEED FOR LICENSED FLEET OPERATORS

32. Some automated vehicles will not need a human to drive at any stage to complete a trip. The vehicle will be able to travel without anyone in it. Alternatively, any people in the vehicle will merely be passengers, with no responsibility for the vehicle or how it drives. We call these “no user-in-charge” vehicles or NUICs.
33. At present, it appears that NUICs will require some level of supervision from a remote operation centre. Yet remote operation of vehicles is a step into the unknown, with little public information about how it will work.
34. The paper explores several challenges, including connectivity; how to maintain situational awareness through a screen with no sense of motion; and how to combat boredom, distraction and inattention. At this stage, we do not know how many vehicles can be supervised at once, what information should be displayed or what hours remote assistants might work. However, any legislation should be sufficiently flexible to deal with these issues.
35. We provisionally propose that every NUIC should have a licensed fleet operator. All licensed operators would need to comply with basic “Tier 1 duties”. They would need to maintain and insure vehicles, install safety-critical updates and report accidents. They would also need to run their remote operations centres safely and take action if their vehicles are causing a danger or obstruction.
36. Additional “Tier 2 duties” would apply to specific classes of business. In our second consultation we developed the concept of Highly Automated Road Passenger Services (HARPS). HARPS operators would be subject to Tier 2 duties on safeguarding, price information and accessibility (crucial to delivering the benefits of automation to older and disabled persons). Meanwhile, freight services would be subject to other “Tier 2” duties, such as loading requirements.

ADSE CRIMINAL OFFENCES

37. Generally, we wish to encourage a no-blame safety culture. The emphasis should be on resolving issues through regulatory action and learning for the future. However, criminal offences are appropriate for serious wrongdoing. As the regulatory system depends crucially on the ADSE’s safety case (during both the approval and categorisation process), the system would be particularly vulnerable to dishonesty in how safety-relevant information is presented.
38. We provisionally propose new offences where an ADSE omits relevant information or includes misleading information in its safety case, or in responding to the regulator’s requests for information. Where the conduct leads to death or serious injury, the offence would carry higher penalties. Senior managers would also be guilty if the offence was committed with their consent or connivance or was attributable to their neglect.

WRONGFUL INTERFERENCE

39. There is great public concern that people could interfere with automated vehicles, making them dangerous. In our first consultation, we concluded that most wrongful

actions were already criminal offences, from sophisticated computer hacking to spray painting sensors. However, we think that some amendments may be helpful.

40. In England and Wales, section 22A of the Road Traffic Act 1988 makes it an offence to interfere with a vehicle, road or traffic equipment in a way which is obviously dangerous. We provisionally propose an aggravated offence where a breach of section 22A causes death or serious injury and the chain of causation involves an automated vehicle. This would deter dangerous behaviour such as interfering with white lines or road signs.
41. Furthermore, both section 22A and the proposed aggravated offence should be extended to Scotland.

ACCESS TO DATA

42. Most issues of data protection and privacy are outside our terms of reference. However, in some cases access to data is integral to our proposals.
43. We are particularly concerned that under current UNECE initiatives, automated vehicles will not record location data. In our view, location data is required to investigate traffic incidents and to establish criminal and civil liability. We urge the Government to work within the UNECE to ensure that locations are recorded by data storage systems for automated driving. Without location data, vehicles should not be classified as self-driving.
44. We appreciate that collecting location data raises significant privacy concerns. There is a danger that the data might be used inappropriately for commercial practices, such as microtargeting of advertisements, or fall into the wrong hands. We provisionally propose that an ADSE should include a section on data protection in its safety case. This should spell out in detail how data will be recorded, stored and accessed.

For further information and details of how to respond see:

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/>

January 2021