Law Commission
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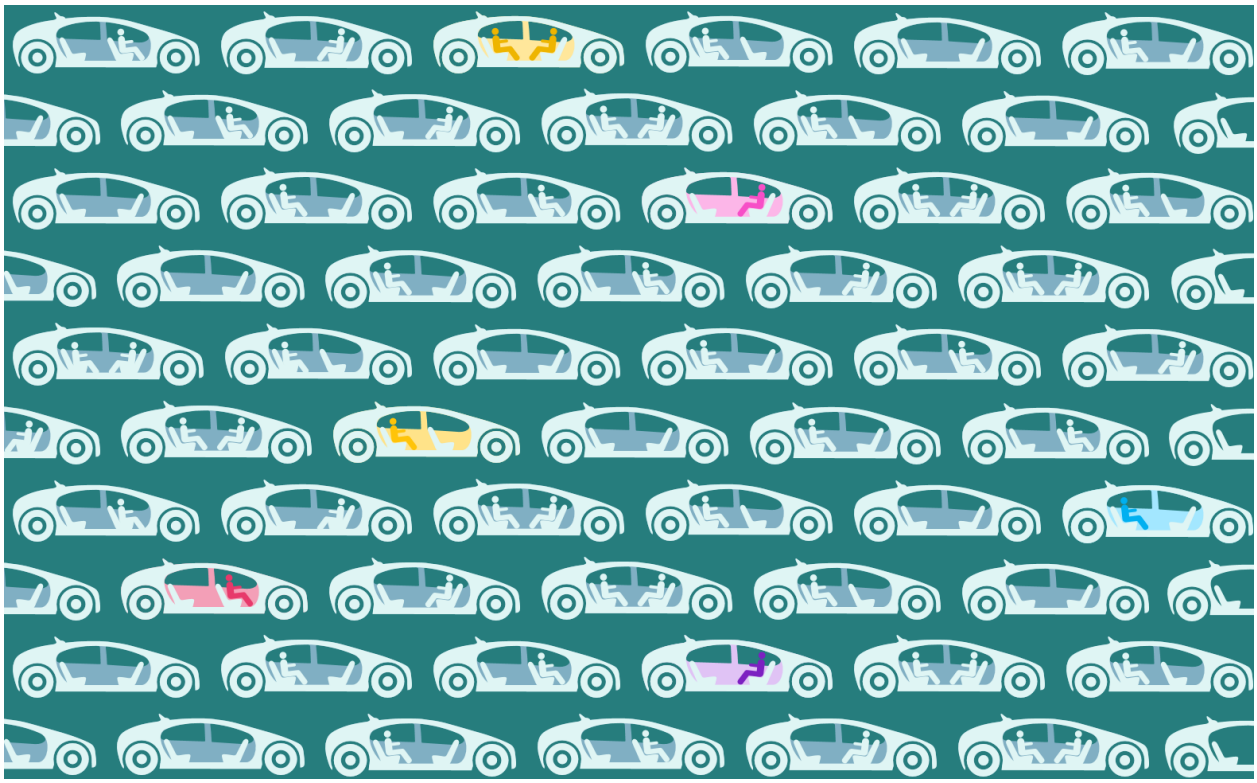
Automated Vehicles:

Summary of the Analysis of Responses to the Preliminary Consultation Paper



Summary of the Analysis of Responses to LCCP No 240/SLCDP No 166
19 June 2019

This publication is available at https://www.lawcom.gov.uk/project/automated-vehicles/ and https://www.scotlawcom.gov.uk/publications/.

Introduction

1.1 The Law Commission of England and Wales and the Scottish Law Commission are conducting a three-year review to prepare the legal framework for self-driving vehicles.

1.2 In November 2018, we published our first consultation paper, which looked at issues of safety assurance and civil and criminal liability.[1] We received 178 responses from a wide range of consultees. We are very grateful to all those who responded, and for the detailed and thoughtful comments we received.

1.3 We are now publishing a 190-page analysis of the responses, together with the full responses.[2] We will rely on this material as we develop our thinking.

THIS DOCUMENT

1.4 We are keen to share our analysis and the responses with all those interested in automated vehicles, so that people can see the range of views expressed on each issue.

1.5 It is difficult to do justice to the responses in a short document. Here we focus on a few key issues, which show either a developing consensus or strong public concerns. For responses on other questions, readers are referred to the full analysis.

NEXT STEPS

1.6 We intend to publish a second consultation paper later this year which will consider automated vehicles used to provide passenger services. We will consider their role within and alongside the public transport network. In 2020, our aim is to provide a third consultation paper which will draw on responses to both papers to formulate more detailed proposals on the way forward. This will lead to a final report with recommendations on all issues in 2021.

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1 The first consultation paper and a summary of that paper are available at https://www.lawcom.gov.uk/project/automated-vehicles/.

2 Available at https://www.lawcom.gov.uk/project/automated-vehicles/. We use quotes from consultees to illustrate the range of arguments put.

The human in the loop

THE USER-IN-CHARGE

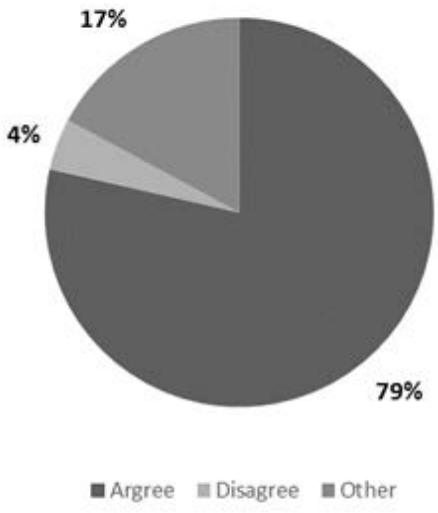
2.1 In the consultation paper we proposed a new role of "user-in-charge", who would not be a driver while an automated driving system (ADS) is engaged. However, the user-in-charge would be qualified and fit to drive. Their role would be to take over from a Level 4 system either:

(1) in planned circumstances; or

(2) in unplanned circumstances after the vehicle had come to a safe stop.

2.2 Most consultees (79%) agreed with the proposal.

Do you agree that all vehicles which "drive themselves" within the meaning of the Automated Vehicles Act 2018 should have a user-in-charge in a position to operate the controls, unless the vehicle is specifically authorised as able to function safely without one?



2.3 We are encouraged by the support shown for the concept of a "user-in-charge". However, many consultees asked how the concept would apply to remote operators. We accept that we need to provide greater clarity on this issue.

2.4 Our present thinking is that the label is best confined to users in the vehicle or in direct line of sight of the vehicle (as with remote parking). This is not to say that remote supervision is undesirable - simply that it raises different issues.

2.5 In our next consultation paper in Autumn 2019, we will consider services where all those carried in the vehicle are purely passengers. We will look in depth at the role of licensed fleet operators and vehicle supervisors working in remote control centres.

HANDOVERS

2.6 Handovers between machine and human are a matter of acute public concern. Consultees pointed out how quickly passive humans become distracted and how far distracted drivers lack the situational awareness to drive effectively. They also highlighted widespread consumer misunderstanding about the difference between advanced driver assistance and automated driving.

2.7 Questions relating to handover are complex, and we will need to return to this subject. We appreciate consultees' concerns that unplanned emergency handovers by "eyes off" users are inherently dangerous and should not be encouraged. We will take this concern seriously in formulating further proposals.

CONDITIONAL AUTOMATION

2.8 Issues around conditional automation (SAE Level 3)[3] proved particularly controversial. A bare majority of consultees (52%) thought that there should be no relaxation of the laws against distracted driving for systems which relied on human intervention to be safe.

2.9 Manufacturers supported permitting some activities other than driving. For example, the Society of Motor Manufacturers and Traders argued that when a Level 3 system is safely engaged the user should be permitted to undertake other activities as prescribed by the manufacturer. Often this would be limited to activities taking place through the on-board integrated communication display.

2.10 Other consultees asked for a clear line between vehicles which can safely drive themselves and those which cannot. Many consultees expressed the view that if an automated driving system cannot achieve a minimal risk condition, it should be treated as driving assistance: the human in the driving seat should retain the full responsibilities of a driver and be subject to the same driver distraction laws.

2.11 It would be premature to decide whether Level 3 users should be given exemptions from driver distraction laws before we know how they operate. We note, however, consultees' strong desire to err on the side of safety. Even if a "Level 3" system is approved at international level, altering driver distraction laws will be a matter for the UK Government. We would expect the Government to take a cautious approach.

[3] Where a "fallback-ready user" may be required to resume control in unplanned circumstances while the vehicle is on the move.

Regulating safety

A NEW SAFETY ASSURANCE SCHEME

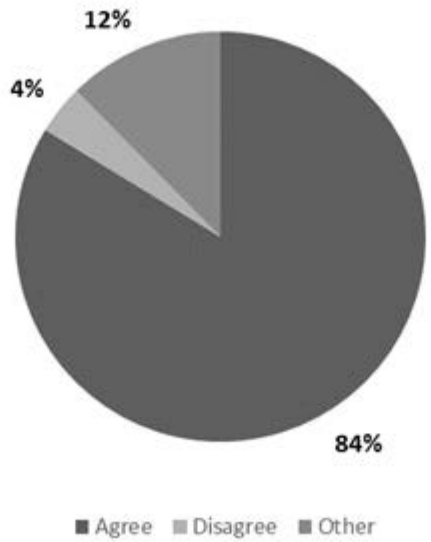
3.1 In the Consultation Paper we made proposals to:

(1) establish a safety assurance scheme to complement the current system of international type approval. This would apply to automated driving systems (ADS) which are installed as modifications or manufactured in small series; and

(2) prohibit unauthorised ADS.

3.2 These proposals received widespread agreement. A large majority thought that a new scheme was needed to ensure safety, increase public confidence and fill gaps in the current type approval process. It was also suggested that establishing a new scheme would enable the UK to gain expertise to contribute to international regulation. However, several respondents (including manufacturers) stressed that a new safety assurance scheme should not replace international standards or duplicate the work of existing agencies.

Do you agree that, a new safety assurance scheme should be established to authorise automated driving systems which are installed:
(a) as modifications to registered vehicles; or
(b) in vehicles manufactured in limited numbers (a "small series")?



3.3 Almost everyone (90%) agreed that unauthorised systems should be prohibited.

SAFETY ON THE ROADS

3.4 The safety assurance scheme's task is not simply to ensure that the initial system is safe. Most respondents thought that the scheme should also have responsibilities after deployment, when vehicles are being used on UK roads. Responses raised the following issues:

(1) *Software updates*: consultees raised the need for guidance about when and how software updates would be approved.

(2) *Continuing roadworthiness*: As consultees described, automated driving presents new challenges in this area, with less scope for human checks and a greater need for automated "self-diagnosis". The safety assurance scheme will need to consider the effectiveness of these diagnostic systems. If safety critical components require replacement at defined intervals, thought will need to be given to how these intervals are set and communicated to owners and operators.

(3) *Information and training*: many consultees saw this as an essential part of marketing a safe product, with the onus on the developer to explain what these needs are and how these will be provided. The safety assurance scheme should audit the developers' approach.

NEXT STEPS

3.5 Establishing a safety assurance scheme is integral to our proposals for the commercial deployment of highly automated driving systems. Without an assurance scheme, it will be difficult to prohibit unauthorised systems, to implement the Automated and Electric Vehicles Act 2018 or to change the legal responsibilities of a driver.

3.6 We encourage the Government to take immediate steps to consider:

(1) *The institutional arrangements for such a scheme.* Many stakeholders expressed a preference for using existing agencies (such as the DVSA or VCA) to run the scheme rather than setting up an entirely new agency. The Law Commissions do not express a view on this; we leave these decisions to the Government.

(2) *The issues a safety assurance scheme would need to cover*. These go beyond the initial safety of the vehicle itself to include driver training, software updates, continuing roadworthiness and the management of data.

(3) *Testing methods*. Most consultees advocate a mix of methods, such as audited self-certification, simulation, track tests and road tests. Only one respondent felt that self-certification alone would provide adequate assurance. Others pointed to the "dieselgate" scandal as evidence that the industry could not be trusted to police itself.

3.7 This work will be needed in preparation for establishing a statutory framework for safety assurance.

INVESTIGATING ACCIDENTS

3.8 Many road user groups favoured a new Investigation Branch to look at the causes of road collisions rather than allocate blame. Some police respondents indicated their willingness to work with a new specialist organisation of this sort. However, several consultees were concerned that any new investigation branch would merely duplicate work already done by the police.

3.9 In the long term, investigating accidents caused by automated driving will be less about prosecution and more about learning for the future. In the shorter term, there is a need to provide the police with specialist help, both to investigate individual accidents and to analyse patterns of cases to identify root causes.

3.10 Thought needs to be given to what data the safety assurance scheme will need to monitor the safety of automated driving (including a comparison of injury rates between automated and human driving). One possibility would be to prescribe new reporting requirements in the statute establishing the safety assurance scheme.

Civil liability

THE AUTOMATED AND ELECTRIC VEHICLES ACT 2018

4.1 This Act requires insurers to pay compensation to victims where automated vehicles cause damage. We asked whether clarification was needed in relation to the following aspects:

(1) On **contributory negligence**, views were split. Although many consultees thought that the issue could be expressed in a simpler way, most insurers thought that the intent was sufficiently clear. There was therefore no pressing need for reform.

(2) On **causation**, most insurers wanted further guidance, while many legal groups thought the issue could be left to the courts.

4.2 Following consultation, we tend to view these aspects of the 2018 Act as "good enough for now", though they could usefully be reviewed in light of practical experience.

NOTIFYING ACCIDENTS

4.3 The most difficult issue concerned how to retain data in the event of an accident, so that insurers would have the data they needed to respond to claims.

4.4 Most respondents expected automatic reporting of collisions, as occurs with eCall. However, insurers expressed concern about the minority of cases where automatic reporting did not take place. They thought it would be difficult to defend claims in the absence of retained data, allowing fraudsters to make allegations months (or even years) after the event.

4.5 We asked if claimants should be required to notify the police or insurer within a set period so that data could be preserved. The issue was highly controversial. Many lawyers thought that it was wrong to change limitation periods just for automated vehicles, given the many reasons why victims might fail to report incidents.

4.6 We appreciate concerns about fraudulent claims where relevant data to defend the claim are unavailable. However, we do not wish to curtail limitation periods at this stage. Rather, the public should be encouraged to report incidents involving automated vehicles as quickly as possible. In the case of late claims, the courts will need to weigh the available evidence.

4.7 Developers wanted greater standardisation on the minimum data set which needs to be retained in the event of an accident. We see this is an issue which could usefully be considered by the proposed safety assurance scheme.

PURE SOFTWARE AND PRODUCT LIABILITY

4.8 We asked if there was a need to review the way that product liability law applies to "pure" software, sold separately from any physical product. This is relevant to "over the air" software updates which add driving automation features.

4.9 Most respondents (61%) thought that there was a need for such a review. However, we accept the strong representations that this should be done generally, not simply for automated vehicles. We hope that the Government will consider this issue in the light of the forthcoming report of the European Commission's Expert Group on Liability and New Technologies.[4]

[4] http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3592.

Criminal liability

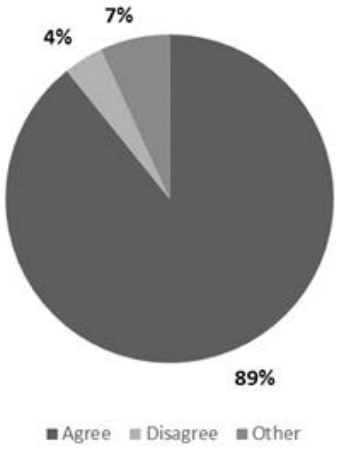
REPLACING CRIMINAL OFFENCES WITH REGULATORY SANCTIONS

5.1 The consultation paper considered offences which arise directly from the driving task. Our central proposal was that users-in-charge would need to be qualified and fit to drive but would not be liable for breaches of driving rules "committed" while the automated driving system (ADS) was engaged. Instead, if the problem appears to lie with the ADS, the police should refer the matter to a regulatory authority, such as the agency responsible for the safety assurance scheme.

5.2 Each ADS would need to be backed by a self-selected entity which we referred to as the Automated Driving System Entity or "ADSE". The authority would be able to apply a range of regulatory sanctions to the ADSE, including improvement notices, fines or withdrawal of approval.

5.3 There was widespread agreement with this approach. Two-thirds of consultees agreed that a user-in-charge of a highly automated vehicle should not be considered to be "driving" while the ADS was engaged, while 89% of respondents agreed that a regulatory authority should be able to apply a range of sanctions to the ADSE.

Where the ADS has acted in a way which would be a criminal offence if done by a human driver, should the regulatory authority be able to apply a range of regulatory sanctions to the ADSE?



5.4 Many consultees stressed the need to apply sanctions proportionately, to deal with patterns of incidents, not single occurrences. They emphasised a co-operative approach, allowing developers the chance to put things right. Others were concerned that the sanctions should be a sufficient deterrent. Cycling UK, for example, emphasised that the threat of suspension must be real, despite "the huge inconvenience it might cause".

5.5 The great majority of consultees (86%) supported the idea that each ADS should be backed by an ADSE. However, consultees asked for more details about what sort of organisation an ADSE would be. We think in most cases the ADSE will be the developer or manufacturer, though it might be a partnership between the two. Consultees asked whether the ADSE would need to meet minimum capital or carry insurance to deal with possible recalls. We will consider these issues in our 2020 consultation.

CORPORATE CRIMINAL OFFENCES

5.6 We asked whether the Law Commissions should review the law on corporate offences where wrongs by an ADS developer resulted in death or serious injury. Most consultees (84%) argued for a review. They pointed to flaws in the law of corporate manslaughter: that it does not apply to non-fatal injuries, and is difficult to use against large companies, where senior managers are far removed from decision-making. That said, a review was opposed by four manufacturers and developers, who did not see why an automated driving system was different from any other potentially dangerous product.

5.7 We agree that this project should include a review of the law in this area. This should look beyond manslaughter and culpable homicide offences to include the Health and Safety at Work Act 1974 and General Product Safety Regulations 2005. However, we note the concerns of developers and manufacturers about stifling innovation and have not yet reached any view about the outcome.

Adapting road rules

APPLYING "ANALOGUE" RULES TO MACHINE DRIVING

6.1 Driving rules have been developed to be interpreted and applied by human drivers. In Chapter 9 of the Consultation Paper we considered the challenges of taking these "analogue" legal rules and developing them into a more precise "digital highway code" to govern the actions of highly automated vehicles. We asked how regulators and developers can best collaborate in this area.

6.2 We then raised three "sample questions" about whether automated vehicles should ever mount the pavement, exceed the speed limit or "edge through" pedestrians. Our aim was to use these examples to address broader questions about when automated vehicles should be allowed (or required) to depart from road rules.

6.3 All three issues proved controversial:

(1) *Mounting the pavement*: A small majority (56%) thought that this would be acceptable in order to allow emergency vehicles to pass, while 52% thought it would be acceptable in order to avoid an accident. However, many arguments were put that mounting the pavement at speed should never be permitted.

(2) *Exceeding speed limits*. Here views were split. While RAC members[5] and other motorists generally supported exceeding the speed limit within accepted tolerances in some circumstances, many safety groups put forward a strong view that speeding was never acceptable.

(3) *Edging through pedestrians*: A majority of respondents thought it would never be acceptable to edge through pedestrians in a way that introduced any chance of injury. However, a few respondents thought that without some small but credible threat it would be difficult for automated vehicles to make progress.

6.4 On a more general level, many respondents emphasised the need to encourage active travel, such as walking and cycling. There was concern that automated vehicles should not make streets less accessible to non-motorised users. There was also concern that automated vehicles should improve the lives of people with disabilities, rather than introducing new threats into the environment.

PROMOTING COLLABORATION

6.5 A digital highway code that sets precise rules for every instance is not possible. It is impossible to predict all future scenarios in advance and an expectation that regulators should do this would place an impossible burden on them. In the same way, it is not desirable nor realistic to ask developers to deterministically prescribe the behaviour of automated driving systems in advance for every scenario.

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5 We are grateful to the RAC for polling over 2000 members specifically for this project.

6.6 However, it is possible to provide a more structured dialogue between developers and regulators, which allows developers to raise issues of concern. Even if regulators cannot provide detailed rules, they can set out broad principles for developers to follow. They can also ensure good information conduits with developers, so that systems can adapt to the many new initiatives in this area.

6.7 We encourage government to consider the feasibility of establishing a forum for collaboration on the application of road rules to self-driving vehicles. Areas where work could be usefully undertaken include:

(1) Guidance on interpreting indeterminate terms in legislation and in the Highway Code.[6]

(2) Identifying possible additions to the Highway Code to resolve conflicts between two automated vehicles.[7]

6.8 A potential model would be to follow Singapore's approach by setting up a working group. This brings together a panel of developers and regulators, chaired by a respected independent expert. We will consider the legal status of such a group in our 2020 consultation.

[6] Examples include Highway Code rules 144 to 158 that you must not drive dangerously, drive without due care and attention, drive without reasonable consideration of other road users, and Rules 204 to 225 relating to "road users requiring extra care".

[7] At present, many conflicts are resolved through human communication. For example, when it is not clear who has priority because traffic lights have broken down, humans indicate or gesture to each other.