



accidents don't have to happen

Safe use rules for automated vehicles (AVs)

RoSPA's response to Department for Transport's consultation

May 2021



Response to Department for Transport's consultation: Safe use rules for automated vehicles (AVs)

Introduction

This is the response of The Royal Society for the Prevention of Accidents (RoSPA) to the Department for Transport's consultation on safe use rules for automated vehicles (AVs). It has been produced following consultation with RoSPA's National Road Safety Committee. We have no objection to our response being reproduced or attributed.

The consultation proposes amending The Highway Code to create rules on the safe use of automated vehicles on Great Britain's motorways. This consultation was an outcome requirement of the August 2020 call for evidence on ensuring safe use of Automated Lane Keeping Systems. RoSPA's response to this consultation can be accessed [here](#).



Response to Department for Transport's consultation: Safe use rules for automated vehicles (AVs)

Your details

What is your name?

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What is your email address?

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Are you responding as an individual, or on behalf of an organisation?

On behalf of an organisation.

Your organisation's name is?

The Royal Society for the Prevention of Accidents (RoSPA)

Your organisation's work is?

Another area (accident prevention).

Your organisation is in:

England, Wales and Scotland.



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Amendments to The Highway Code – a new section for automated vehicles

Automated vehicles no longer require the driver to pay attention to the vehicle or the road when in automated mode, except to resume control in response to a transition demand in a timely manner. This shift in driver responsibilities needs to be clear and requires more than amendments to individual rules.

The Department therefore propose the addition of a new section to The Highway Code, clearly articulating expectations for users of automated vehicles. This section will bring together the relevant rules for AVs. This approach will ensure drivers understand what they can and cannot do in an automated vehicle, including the need to resume control when requested by the vehicle.

The proposed new section is as follows:

“Automated vehicles can perform all the tasks involved in driving, in at least some situations. They differ from vehicles fitted with assisted driving features (like cruise control and lane-keeping assistance), which carry out some tasks, but where the driver is still responsible for driving. If you are driving a vehicle with assisted driving features, you **MUST** stay in control of the vehicle.

Automated vehicles are vehicles that are listed by the Secretary of State for Transport. While an automated vehicle is driving itself, you are not responsible for how it drives, and you do not need to pay attention to the road. But you must follow the manufacturer's instructions about when it is appropriate to engage the self-driving function.

If the vehicle is designed to require you to resume driving after being prompted to, while the vehicle is driving itself, you **MUST** remain in a position to be able to take control. For example, you should not move out of the driving seat. You should not be so distracted that you cannot take back control when prompted by the vehicle.

You are still responsible for the vehicle being in a roadworthy condition, having a current MOT test certificate if applicable, and being taxed and insured.”

These proposed changes to The Highway Code have the following legal basis:

Section 3, Road Traffic Act 1988.

Section 1, Automated and Electric Vehicles Act 2018.

Regulation 104, The Road Vehicles (Construction and Use) Regulations 1986

We ask whether respondents are satisfied that the proposed wording achieves the outcomes articulated for The Highway Code? And if not, why?

RoSPA response

RoSPA believes that the introduction of automation to the mass market must be performed in a way that is safe, clear on driver responsibilities and supportive of innovation. The information in the Highway Code will play a vital



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role in educating road users about the capabilities and limitations of early automated driving technologies, such as Automated Lane Keeping System (ALKS). RoSPA agrees with the need for the new section, should it be determined that the driver will not be responsible for how the vehicle operates while it is driving itself. The proposed text clarifies the expected role of the driver of an automated driving system when it is driving itself.

It is important to ensure that drivers understand their responsibilities and are clear in how to use the new technology safely. The proposed section makes clear that drivers must always be ready to respond to a transition demand and that performing other activities could hamper the driver's ability to do so. This is an important reminder as drivers may not pay much attention to the operation of the vehicle if they believe that the technology will perform the task flawlessly and stop them being involved in a collision no matter what.

The proposed text states 'you should not be so distracted that you cannot take back control when prompted by the vehicle.' We believe that clarification is required on what activities would increase risk and compromise safety. Although the driver availability function of ALKS will continue to monitor that the driver remains in the driving seat and does not fall asleep, it is unclear whether any other tasks may constitute unacceptable risk. Tasks that drivers may choose to perform include engaging with a mobile phone, reading books, magazines and newspapers, using a laptop or tablet or applying cosmetics¹. RoSPA would consider that until there is Level 5 full automation where the vehicle performs the lateral and longitudinal dynamic driving task in all situations without any input required from a human driver, engaging in any of the above activities would be unacceptable and could compromise the safety of the vehicle occupants and other road users. If it is decided that performing other activities will be permitted, RoSPA would expect to see clear evidence to show that these tasks will not affect the driver's ability to respond to a transition demand and that the driver has the capability to continue operating the vehicle safely.

As per our response to the consultation on safe use of ALKS, we still have concerns about the potential for drivers to become significantly distracted by external devices, such as mobile phones or tablet computers, when automated vehicle technologies, such as ALKS is engaged. In 2019, there were 2,563 road traffic collisions where 'distraction in vehicle' was cited as the contributory factor, with 65 of these being fatal. The THINK! campaign encourages drivers to put their phone away before driving so they will not be tempted to use it, making the glove compartment the phone compartment. RoSPA believes that this practice should still be encouraged, and advice on this would be a useful addition to the new section. Evidence suggests that using a handheld device increases the time taken for the driver to respond to a transition demand².

¹ Kinnear et al. (2020) 'Safe performance of other activities in conditionally automated vehicles: Automated Lane Keeping System'

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/978409/safe-performance-of-other-activities-in-conditionally-automated-vehicles.pdf

Date accessed: 12/05/2021.

² Lin et al (2020) cited in Kinnear et al. (2020) 'Safe performance of other activities in conditionally automated vehicles: Automated Lane Keeping System'

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/978409/safe-performance-of-other-activities-in-conditionally-automated-vehicles.pdf



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Disengagement from the driving task could impair a drivers' availability to safely resume control where the automated system reaches a functional limit and issues a transition demand. At the point of the system issuing a transition demand, the driver must already be prepared to re-engage while ceasing to engage with any other task being undertaken that is not allowed for drivers of conventional vehicles³.

If there is justification to use a device part way through a journey, when control of the vehicle passes back to the driver, particularly where a transition demand is unexpected, RoSPA is concerned that there could be temptation for drivers to continue interacting with the device, particularly if they had not completed the task they were undertaking, such as sending an email or a text message. Evidence suggests that when a takeover command is initiated, drivers use all the time available to them before taking full control, sometimes to complete the non-driving related task they were engaged with⁴.

Research on near-crash emergency scenarios (e.g. broken-down vehicle in lane) suggest that non-related driving tasks, particularly visually engaging ones, impact negatively on performance of takeover and collision avoidance. Tasks that allow the driver to occasionally glance at the road appear to offer the advantage of maintaining some level of situational awareness that more visually engaging tasks (e.g. watching a film) do not⁵.

There is no clear evidence or direct summary of tasks that can, and cannot, be safely performed while a vehicle is operating in conditional automation⁶.

Date accessed: 12/05/2021.

³ Kinnear et al. (2020) 'Safe performance of other activities in conditionally automated vehicles: Automated Lane Keeping System'

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⁴ Kinnear et al. (2020) 'Safe performance of other activities in conditionally automated vehicles: Automated Lane Keeping System'

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Date accessed: 12/05/2021.

⁵ Kinnear et al. (2020) 'Safe performance of other activities in conditionally automated vehicles: Automated Lane Keeping System'

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⁶ Kinnear et al. (2020) 'Safe performance of other activities in conditionally automated vehicles: Automated Lane Keeping System'

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Assessment of impacts from changes to The Highway Code

Officials have considered the potential impacts of these changes. The changes simply clarify the expected role of the driver of an automated driving system when it is driving itself (for drivers, other road users and enforcing officers), so no impacts are foreseen. In the case of incidents, there will be a need to determine if the vehicle was driving itself to decide the appropriate actions.

Do you have concerns about the impacts of the proposed changes to The Highway Code? Why?

RoSPA response

Educating road users about the use of automated technology and changes to the Highway Code will be vital. Although those learning to drive or ride will need to study the Highway Code to pass their test, we are aware that some road users will not have refreshed their knowledge of the Highway Code since they passed their test, and that many users of the road may not hold a full or any licence.

RoSPA welcomes the announcement by the Department for Transport that wording in the Highway Code will be incorporated into future driver training and that driver education and public awareness initiatives on the use of ALKS are being considered. RoSPA strongly recommends that training include the requirements for engaging ALKS, how to perform the process, the role and responsibilities of the driver during operation and the procedure of handing back control to the driver. As automated technology is ultimately designed to allow the driver to disengage from the driving task and places requirements on drivers that are likely to be new to them, users will need to fully understand how to perform any functions safely and how to override the system if required.

RoSPA has no further comments to make on the consultation process, other than to thank the Department for the opportunity to comment. We have no objection to our response being reproduced or attributed.

