Centre for Connected
& Autonomous Vehicles

Remote control parking and motorway assist: proposals for amending regulations and the Highway Code

Government Response

May 2018

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1. Introduction

What we consulted on

1.1 Automated vehicle and driver assistance technologies will profoundly change the way we travel, making road transport safer, smoother, and smarter. We are on the road to self-driving cars, where fully automated vehicles will transport people and goods to their destination without the need for a human driver.

1.2 Between December 2017 and January 2018, The Centre for Connected and Autonomous Vehicles (CCAV) consulted on enabling and clarifying the use of remote control parking (RCP); and sought clarification on the use of motorway assist systems. Both represent types of advanced driver assistance system (ADAS), which is sometimes referred to as Level 2, or partial automation, on the Society of Automotive Engineers levels of vehicle automation (see Annex B). ADAS supports but does not replace the driver; the driver must remain able to control their vehicle, and have situational awareness of both the road traffic environment, and the operation of the [advanced] driver assistance systems.

1.3 RCP allows the driver to carry out a parking manoeuvre from outside the vehicle by issuing a command from an external communication device. The device may either be one supplied with the vehicle, or through a manufacturer-endorsed application installed on a device such as a smartphone.

1.4 This enables the driver to get out of the vehicle and, using a device, command it to drive itself into, or out of, a parking space. While the control button on the device is activated, the vehicle will manoeuvre automatically at very low speed while monitoring its surroundings for pedestrians, other road users or any other hazards. If a person or hazard is detected, or if the remote control button is accidentally or intentionally deactivated, the vehicle will come to an immediate stop. Equally, to ensure that the driver can exert control at all times, the system will not function if the driver is outside a certain range (currently 6 metres).

1.5 Motorway assist systems, build on existing systems such as Adaptive Cruise Control (ACC), Advanced Emergency Braking System (AEBS) and Active Lane Keeping Assist (LKA) to take full control of the vehicle's position and speed while driving along a high-speed road, such as a motorway. The driver remains in overall control of the vehicle at all times.

1.6 The United Nations Economic Commission for Europe (UNECE) set international type approval standards, in the form of UN regulations, and where these have been adopted as part of the European Union whole type approval, a vehicle being sold in the UK must have been shown to comply with these standards. UNECE regulation 79 (as amended by the 02 series of amendments) enables the use of automatically commanded steering functions (ACSF) at speeds above 10kmph (6.2mph), and will facilitate both motorway assist and RCP systems. This came into force on 10 October 2017; the aim of the consultation was to ensure drivers could make use of the technology.

What we proposed

1.7 The consultation comprised two sections:

- The first section proposed an amendment to Regulation 110 of the Road Vehicles (Construction and Use) Regulations 1986 to clarify the use of hand-held mobile telephones and other hand-held communication devices in performing a remote control parking manoeuvre.
- The second section sought changes to rules within the Highway Code. We asked for views on these rule clarifications and amendments to facilitate the use of both remote control parking and motorway assist systems.

Responses received

1.8 A wide range of organisations and individuals responded to questions concerning the Government's proposals:

Total number of responses	**1,453**
Responses from **individuals**	1,406
Responses from **industry/organisations**	47
False responses[1] (and therefore discounted)	0

Of those organisations who responded:

Type of Organisation	**Number of Respondents**
Insurance Bodies	4
Haulage Services	5
Parking Associations	2
Road Safety Groups/Charities	4
Motoring Associations	2
Manufacturers / Designers	2
Automotive Membership Groups	2
Highways Association	1
Vehicle Inspector / Maintenance	2
Automotive Research Organisations	3
Driver / Motorcyclist Training Bodies	4
Motorcycling Groups	1
Cycling Groups	3
Disability Organisations	1
Vehicle Hire	1
Emergency Service	1
Local Authorities	2
Services Firms	1
Wholesaler	2

[1] False responses were those that claimed to be from organisations that had not in fact sent them. Following a verification process with the organisations in question we discounted these false responses.

Schools	1
Volunteer Organisations	1
Utility Suppliers	2

Stakeholder response

1.9 We received **overwhelmingly positive support** from feedback received from the consultation to make changes via secondary legislation to Regulation 110 of the Construction and Use regulations. This change will clarify and enable the legal use of remote control parking functions:

We are proposing 3 possible options for remote control parking, which is your preferred option:				
			Response Percent	**Response Total**
1	Change nothing		23.33%	339
2	Change regulation with use of statutory instrument (SI)		3.93%	57
3	**Change with use of SI and make appropriate changes to the Highway Code**		**72.74%**	1057
			answered	1453
			skipped	0

1.10 Stakeholders were given the option of only providing opinion on Regulation 110; a large proportion of these (between 319 - 321) chose to skip answering questions related to the Highway Code.

1.11 We also received **definitive support** (90%+) from both individuals and industry to make changes to the Highway Code to reflect this legislative change:

Rule 149

Do you agree with the textual amendments of the Highway Code to clarify rule 149 as related to use of driver assistance systems and distraction?				
			Response Percent	**Response Total**
1	Yes		**91.52%**	1036
2	No		8.48%	96
			answered	1132
			skipped	321

Rule 150

Do you agree with the textual amendments of the Highway Code to clarify rule 150 as related to use of driver assistance systems and distraction?			Response Percent	Response Total
1	Yes		95.66%	1081
2	No		4.34%	49
			answered	1130
			skipped	323

Rule 160

Do you agree with the textual amendments of the Highway Code to clarify rule 160 as relating to driving with both hands on the wheel?			Response Percent	Response Total
1	Yes		90.53%	1023
2	No		9.46%	107
			answered	1130
			skipped	323

Rule 239

Do you agree with the textual amendments of the Highway Code to clarify rule 239 as relating to parking technique?			Response Percent	Response Total
1	Yes		89.82%	1015
2	No		10.18%	115
			answered	1130
			skipped	323

Next steps

1.12 Based on the responses and support we received, we will **continue** with amending legislation via statutory instrument (SI) to clarify the use of remote control parking, and we will make the changes, which have been approved by the DVSA, to the Highway Code. In both cases, the procedure is for the amendments to the SI and the Highway Code to be laid in Parliament.

1.13 In respect to the SI, the department intends for these to come into force in June 2018. It is planned for the amendments to the Highway Code to be made in co-ordination with a wider series of Highway Code amendments in spring 2019.

1.14 Issues not related to RCP and motorway assist systems were also raised by those who responded to the consultation. A summary of these can be found in section 3 of this document.

1.15 We will also continue to regulate in a programme of reform, working closely with industry and other stakeholders to identify near to market driver assist and automated vehicle systems so that owners and drivers of vehicles can take advantage of innovative vehicle systems when they reach the market.

1.16 Based on stakeholders' support for this change to legislation, we will continue policy development in considering changes to facilitate the introduction of other driver assistance systems. As a part of this process, we will consider consulting again on further specific amendment proposals for those regulations and rules.

2. Government Decision

What we proposed in the consultation document

Driver assistance systems

2.1 The Government wants to ensure the safe and appropriate facilitation of assistive and automated driving technologies. Our aim is to maximise the social and economic benefits of these technologies without compromising safety, security or privacy. This aligns with the objectives set out in the Industrial Strategy White Paper in 2017[2].

2.2 As part of this work, Government is making regulatory changes to facilitate technologies which also assist the driver, which is what this consultation focused on. It is important to note that driver remain in control at all times when using driver assistance systems, as these systems are designed to augment and enhance a driver's driving ability.

Wording consistency

2.3 Having considered responses to proposed amendments to regulation 110, it was noted that the overwhelming proportion of stakeholders were content with the wording used in the draft provided in the consultation document. However, it was noted by several individual stakeholders including the Society of Motor Manufacturers and Traders (SMMT), that consistent language should be used within the amendment. This has been noted and agreed, and has been reflected within the final wording of the statutory instrument, replacing 'car' with 'motor vehicle' (see overleaf).

2.4 Wider points on language consistency and meaning, with helpful suggestions raised by stakeholders throughout the consultation process, have also been considered to great extent in this response. Changes have also been applied to the proposed Highway Code rules to both meet DVSA Highway Code criteria, and maximise the clarity of these rules concerning these technologies.

Construction and Use Regulations

2.5 In this section of the consultation, we provided a proposed change (shown in magenta), via statutory instrument, to regulation 110 of the Road Vehicles (Construction and Use Regulations 1986. This change provides that a person is not in contravention of the regulation when the mobile telephone or other hand-held device is being used to perform a remote control parking manoeuvre (subject to the mobile telephone or other device meeting the requirements of the regulations) by creating a new exemption to the offence.

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

2.6 Following consultation, we have made some changes to the proposed wording. These are highlighted in teal, to indicate the changes incorporated into the final draft.

Mobile Phones

(5) A person does not contravene a provision of this regulation if, at the time of the alleged contravention—

(a) he is using the telephone or other device to call the police, fire, ambulance or other emergency service on 112 or 999;

(b) he is acting in response to a genuine emergency; and

(c) it is unsafe or impracticable for him to cease driving in order to make the call (or, in the case of an alleged contravention of paragraph (3)(b), for the provisional licence holder to cease driving while the call was being made).

(5A) A person does not contravene a provision of this regulation if, at the time of the alleged contravention—

(a) that ~~the~~ person is using the ~~hand-held~~ mobile telephone or other ~~hand-held~~ device only to perform a remote controlled parking function of the motor vehicle; and

(b) ~~the~~ that mobile telephone or other ~~hand-held~~ device only enables the ~~car~~ motor vehicle to move ~~if~~ where the following conditions are satisfied—

(i) there is continuous activation of the ~~device's~~ remote control application of the telephone or device by the driver;

(ii) the signal between the motor vehicle and the telephone or the motor vehicle and the device, as appropriate, is maintained; and

(iii) the distance between the motor vehicle and the telephone or the motor vehicle and the device, as appropriate, is not more than 6 metres.

The Highway Code

2.7 We also provided four proposed changes (shown in magenta) to the Highway Code for Rules 149, 150, 160 and 239 to inform consumers on how to use remote control parking and motorway assist systems.

2.8 We received many helpful and insightful responses to how this wording should look to best inform consumers in the most straightforward way possible. Finalised revised text to the four Highway Code rules consulted on can be found in teal.

2.9 Rule 149: the wording within this Rule will be altered to reflect the safe use of an app or device.

The Highway Code Rule 149

You **MUST** exercise proper control of your vehicle at all times. You **MUST NOT** use a hand-held mobile phone, or similar device, when driving or when supervising a learner driver, except to call 999 or 112 in a genuine emergency when it is unsafe or impractical to stop. Never use a hand-held microphone when driving. Using hands-free equipment is also likely to distract your attention from the road. It is far safer not to use any telephone while you are driving or riding - find a safe place to stop first or use the voicemail facility and listen to messages later.

~~You can park your vehicle via remote control, using a legally compliant parking application or device in an appropriate way which does not endanger others.~~

You may park your vehicle using a handheld remote control app or device. The app or device **MUST** be legal, and you should not put other people in danger when you use it.

(Laws: **Road Traffic Act 1988 sects 2 & 3**, & **Construction and Use Regulations 104** & **110)**

2.10 Rule 150: this rule will reinforce the responsibility of the driver when using a driver assistance system to make clear that the system has not assumed control.

The Highway Code Rule 150

There is a danger of driver distraction being caused by in-vehicle systems such as satellite navigation systems, congestion warning systems, PCs, multi-media, etc. You **MUST** exercise proper control of your vehicle at all times. Do not rely on driver assistance systems such as motorway assist, lane departure warnings, or remote control parking. They are available to assist but you should not reduce your concentration levels. Do not be distracted by maps or screen-based information (such as navigation or vehicle management systems) while driving or riding. If necessary find a safe place to stop.

~~If you are using advanced driver assistance systems, like motorway assist, or a remote control parking application or device, then you as the driver are still responsible for the vehicle and **MUST** exercise full control over these systems at all times.~~

As the driver, you are still responsible for the vehicle if you use a driver assistance system (like motorway assist). This is also the case if you use a handheld remote control parking app or device. You **MUST** have full control over these systems at all times.

(Laws: **Road Traffic Act 1988 sects 2 & 3**, & **Construction and Use Regulations 104** & **110**.)

2.11 Rule 160: as this rule states '*drive with both hands on the wheel where possible'*, it has made it challenging to clarify the position for those using in-the-loop motorway assist and remote control or automated parking[3]. The revised wording will advise to make sure these systems are used in line with manufacturer's instructions.

Highway Code Rule 160

Once moving, you should:

- keep to the left, unless road signs or markings indicate otherwise. The exceptions are when you want to overtake, turn right or pass parked vehicles or pedestrians in the road
- keep well to the left on right-hand bends. This will improve your view of the road and help avoid the risk of colliding with traffic approaching from the opposite direction
- drive with both hands on the wheel where possible. This will help you to remain in full control of the vehicle at all times. You may use driver assistance systems ~~if used in accordance with the manufacturer's or developer's instructions.~~ while you are driving. Make sure you use any system according to the manufacturer's instructions.
- be aware of other road users, especially cycles and motorcycles who may be filtering through the traffic. These are more difficult to see than larger vehicles and their riders are particularly vulnerable. Give them plenty of room, especially if you are driving a long vehicle or towing a trailer
- select a lower gear before you reach a long downhill slope. This will help to control your speed
- when towing, remember the extra length will affect overtaking and manoeuvering. The extra weight will also affect the braking and acceleration.

(Laws: **General Rules**)

[3] The Northern Ireland equivalent is Rule 160 of the Highway Code For Northern Ireland

2.12 Rule 239: the revised wording will make the driver's obligations clearer when using a remote communications device, and reinforces the safe use of the technology.

Highway Code Rule 239

Use off-street parking areas, or bays marked out with white lines on the road as parking places, wherever possible.

If you have to stop on the roadside:

- do not park facing against the traffic flow
- stop as close as you can to the side
- do not stop too close to a vehicle displaying a Blue Badge: remember, the occupant may need more room to get in or out
- you **MUST** switch off the engine, headlights and fog lights
- you **MUST** apply the handbrake before leaving the vehicle
- you **MUST** ensure you do not hit anyone when you open your door. Check for cyclists or other traffic
- it is safer for your passengers (especially children) to get out of the vehicle on the side next to the kerb
- put all valuables out of sight and make sure your vehicle is secure
- lock your vehicle.

~~If you are using a handheld device to carry out a parking manoeuvre, then you must ensure that it is safe to do so before beginning the manoeuvre, and should try to carry out the manoeuvre in the shortest, safest route possible. When parking, as the driver you MUST remain in control of the vehicle at all times; you must not use the device for other functions or in such a way that would cause danger to other road users. You should act in accordance with the manufacturer's or developer's instructions.~~

Before using a handheld device to help you to park, you **MUST** make sure it is safe to do so. Then, you should move the vehicle into the parking space in the safest way, and by the shortest route possible.

When you use a handheld device to help you to park, you **MUST** remain in control of the vehicle at all times. Do not use the handheld device for anything else while you are using it to help you park, and do not put anyone in danger. Use the handheld device according to the manufacturer's instructions.

(Laws: **Construction and Use Regulations 98**, **105**, **107**,and **110, Road Vehicle Lighting Regulations reg 27** & **Road Traffic Act 1988 sect 42**)

3. Common themes raised in the consultation process

Suggestions made by stakeholders to the consultation

3.1 The consultation document sought views from both individual and industry stakeholders on the proposed amendments to our regulatory framework and Highway Code. Whilst the overwhelming majority of stakeholders advocated changing both regulation 110 and the Highway Code, there were also some common themes, issues and suggestions raised by various stakeholders.

3.2 This section addresses the more recurring issues and comments regarding the consultation proposals, seeking to answer or clarify statements or queries.

Confusion between automated vehicles and driver assistance systems

3.3 Several respondents to ***Remote control parking and motorway assist: proposals for amending regulations and the Highway Code*** focused on the importance of the distinction between driver assistance systems and automated vehicle technology in the role of the driver. However, there was also some apparent confusion in how the technology is utilised, with stakeholders outlining their concern over vehicles that are capable of driving themselves, or automated vehicles (AVs).

3.4 Whilst some stakeholders may have legitimate reservations over AVs, this consultation does not cover them, only remote control parking and motorway assist; technologies that may assist drivers in carrying out the driving function when used in a safe manner. However, these reservations will be taken into consideration as part of our ongoing regulatory programme into AVs.

Driver education

3.5 Many stakeholder responses highlighted the importance of making a clear distinction between AVs (in which the driver can be ‘out of the loop’) and ADAS (where the driver remains ‘in the loop’) to ensure that motorists are clear about what their responsibilities are when using this technology, and that they must retain full attention when using any driver assistance systems.

3.6 The Government agrees that it is vital that motorists are fully aware of their responsibilities when in any form of automated vehicle or driver assistance technology. Safe use of new vehicle technologies is a priority for Government in facilitating its introduction on UK roads, and policy development will specifically consider the differences in the role of the driver between ADAS and AVs.

3.7 We also recognise that driver education has an important role to play in ensuring motorists know how to safely use innovative new vehicle technology.

Encouraging mobile phone use in vehicles

3.8 As regulation 110 specifically deals with remote communications devices and providing an exemption allowing to their use in specific situations, a legitimate concern raised was the possibility that consumers may be encouraged to use mobile phones when driving.

3.9 The Department holds a longstanding view that it is illegal to hold a mobile telephone or hand-held device while driving or riding a motorcycle; the police have the power to stop drivers if they think they are not in control of the vehicle due to distraction. Drivers must instead have hands-free access, such as using a Bluetooth headset, or a built-in/fixed sat nav, and the device must not block the view of the road and traffic ahead.

3.10 This amendment to regulation 110 introduces a specific use case exemption to the current offence. The Department considers the use of a mobile telephone or other hand-held interactive device, whilst driving, and use of a mobile telephone or device as a means to control the vehicle when carrying out a defined function, as completely separate use cases. We have been clear in the distinction between these, setting out the specific use case in legislation and highlighting that drivers may use the ADAS technology only in accordance with the manufacturer's or developer's instructions.

Cybersecurity and data

3.11 A prevalent concern over the use of any remote control technology, especially technologies that control the longitudinal movements of vehicles, was over would-be hackers that could remotely target vehicles to access personal data, steal cars that use keyless entry, or even take control of technology for malicious reasons.

3.12 The Government is committed to working with stakeholders, including with security agencies, manufacturers and engineers developing smart vehicles, to address these concerns. In August 2017, the UK published the *Principles of cyber security for connected and automated vehicles*; providing rigorous security guidance for the automotive sector to ensure cyber security is properly considered at every level. Further information on this guidance can be found on GOV.UK[4].

3.13 The Government also recognises that it is important to establish an appropriate framework for the transmission, storage and processing of data from such technologically advanced vehicles. We are developing evidence around the complex issues associated with data protection and governance to inform policy, in addition to participating in the relevant international fora such as the EU Collaborative ITS Platform and at the UNECE.

Driver ability degradation and driving tests

3.14 One of the strongest concerns raised over remote control parking was regarding driving skill degradation or ‘deskilling’, stemming from overreliance of a system by regularly handing part of the driving function to the vehicle. This was reinforced by highlighting that introduction of this technology also should not ‘water down’ the driving test and that drivers should still be able to park manually.

3.15 The Government recognises the importance of maintaining the driver’s ability to drive; the technology discussed within this consultation is very much focused on

[4] https://www.gov.uk/government/publications/principles-of-cyber-security-for-connected-and-automated-vehicles

supporting the driver in their driving function. Drivers must be able to drive safely in different road and traffic conditions, and demonstrate knowledge of the Highway Code when driving in order to pass the driving test.

3.16 Changes to the driving test are designed to make sure new drivers have the skills they will need to help them through a lifetime of safe driving. The driving test was last amended in December 2017 to test how drivers follow directions from a sat nav. It also increased the independent driving part of the test to 20 minutes, changed the possible reversing manoeuvres, and now requires the driver to answer a vehicle safety question whilst driving.

Vulnerable road users

3.17 Several individual stakeholders, along with Road Safety groups, responded to the consultation to note that the needs of vulnerable road users need to be taken into account when introducing new vehicle technology. One of the key reasons for pursuing this change to the regulatory framework is the benefits associated with the technologies in question for vulnerable road users.

3.18 As highlighted within the consultation document, remote control parking could potentially assist in how vehicles are utilised and parked. This technology should also provide benefit for drivers with mobility impairments, enabling and empowering users to park in confidence where once it may have been challenging to do so. Being able to park a vehicle via a remote control may provide greater ability to see the space the vehicle is moving into, reducing the risk of coming into contact with vulnerable road users, especially small children.

3.19 The Government is fully committed to creating a safe environment for all road users. Everyone has a part to play, from central and local Government, service providers, the police and road users themselves and all road users have a duty to use the road network in a safe and responsible manner.

3.20 The Highway Code also contains an entire section entitled *"road users requiring extra care"* which aims to educate and remind drivers of the needs of more vulnerable road users such as cyclists[5]. Our approach to regulation for ADAS is focused on the safe introduction of new vehicle technologies – regulating only for the next wave of tried and tested technology that is about to come to market.

Cycling and AVs

3.21 Several stakeholders, including the cycling stakeholder bodies, want the importance of safer positioning for cyclists to be promoted, so all road users understand the importance of cyclists avoiding the area where doors could open into. Many have advocated the 'Dutch reach' to be incorporated into the Highway Code in response to this consultation.

3.22 This car door opening approach, where drivers open doors using their far, rather than near hand, allows the driver look behind them whilst opening their car door. This technique can help drivers spot upcoming cyclists or other road users; the technique also limits how far their door can open in the process, meaning that less of an obstruction by the car door is created.

[5] https://www.gov.uk/road-users-requiring-extra-care-204-to-225

3.23 The Government is determined to make cycling and walking safer, while encouraging more people to take up cycling at all ages as part of a green revolution in transport. It should be noted that there is currently a live call for evidence for a cycling safety review. Announced on the 9 March 2018, this call for evidence focuses on stakeholders interested in improving safety of cyclists and pedestrians to provide evidence, drawing on experience from the UK or other countries, that can be used to shape future policy decisions. This call for evidence forms part of the wider consultation on road safety issues of the Cycle Safety Review, announced in September 2017.

Automated valet parking and other AV technologies

3.24 Parkopedia highlighted that whilst they supported the regulatory amendment, they were concerned that other technologies such as automated valet parking were not considered in the consultation. The Government recognises the potential benefits from valet parking, considered to be an automated vehicle technology where the vehicle may park itself without the need for a human driver. These suggestions will be incorporated into our wider regulatory programme of reform for automated vehicles.

Further regulation of AV technologies

3.25 There are other areas of vehicle technology regulation, rightly identified by stakeholders, that have been highlighted in response to this consultation. We have made it clear we are currently undertaking a package of regulatory reforms, which this consultation forms part of, to develop a regulatory framework to support the deployment of automated vehicles in the United Kingdom.

3.26 The Industrial Strategy 2017 announced that the Law Commission for England and Wales, working with the Scottish Law Commission, would undertake at the request of the Department for Transport, a three year project that reviews the regulatory framework for road-based automated vehicles, with a view to enable their safe deployment. The project launched in March 2018, and is currently in the ‘initiation’ stage; the Law Commissions aim to publish a scoping paper for consultation before the end of 2018.

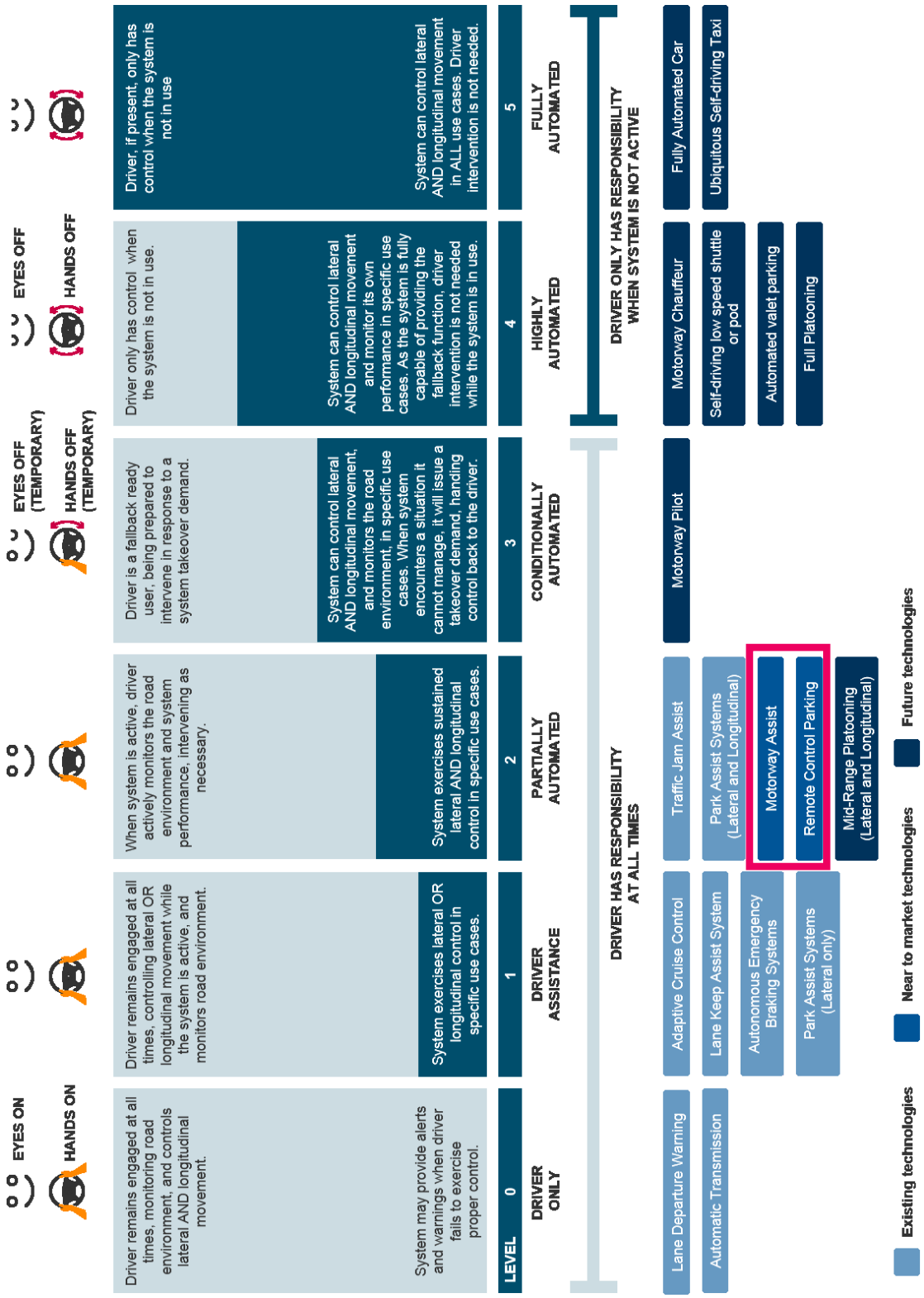
3.27 As part of this project, the Law Commission will consider the changes necessary to provide a robust and future-proof legal framework supporting the deployment of automated vehicles.

3.28 The review does not aim to determine whether increased automation in driving is positive or not. The Law Commissions’ task is simply to propose a legal framework which can remain effective in light of new vehicles that may no longer require a human driver at all times. The Law Commissions’ work will play a critical role in our wider regulatory programme, and be part of a national conversation on this important future technology.

Annex A: List of responding stakeholder organisations

APEX	London Ambulance Service
Arrival Ltd	Microlink PC (UK) Ltd
Automobile Association	MotorAid Ltd
Aviva	National Grid
Barrett Timber	Parkopedia Ltd
British Motorcyclist's Foundation	Paul Dodd Technical Services
British Parking Association	Portsmouth City Council
Chase Plant Hire	Powys Association of Voluntary Organisations
CMS Highland	RAC Foundation
Cog Training	RAC Motoring Services
Cycling UK	RoSPA
Cycling UK Merseyside	Severn Trent Water
Drive with Emma	SMMT
DWLL (Dee Winzar Logistics Limited)	South Yorkshire Safer Roads Partnership
Esure	Tesla
Federation of British Historic Vehicles Clubs	Thatcham Research
GEM Motoring Assist	The Motor Schools Association of Great Britain
Highways England	Tolworth Girls School & 6th Form
Hydroklear Services Ltd	Transport for London (TfL)
IAM RoadSmart	Transport Systems Catapult
JBT Distribution Ltd	Uckfield Logistics Training Services
JK Safety Ltd	Vernon Land Transport LTD
KS Coles Limited	WelHatCycling
Logistic Planning Svcs Ltd	

Annex B: Levels of vehicle automation[6]



[6] This infographic is adapted from the Society of Automotive Engineers J3016 Standard "Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems" (http://standards.sae.org/j3016_201609/). Although SAE J3016 defines a useful means of understanding the different "levels" of vehicle automation, they are not formally recognised by the UK, or the UN bodies responsible for vehicle construction regulations and international road traffic rules