Department for Transport

Developing the Automated Vehicles Regulatory Framework

Call for Evidence

December 2025

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This publication is also available on our website at
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The Journey So Far

The Automated Vehicles (AV) Act 2024 marks a pivotal step in shaping the regulatory framework for self-driving vehicle technology in Great Britain (GB). This legislation establishes the legal foundation for the safe deployment and use of AVs on public roads, aiming to support innovation while prioritising public safety, transparency, and accountability. It builds on a four-year AV review by the Law Commission of England and Wales and the Scottish Law Commission (the Law Commissions).

The AV Act positions GB as a world-leader in self-driving technology regulation, unlocking the potential of an industry that is estimated to be worth up to £42 billion by 2035, creating 38,000 jobs[1], enhancing road safety, strengthening logistics and enabling mobility.

The AV Act expands safety regulations and enforcement powers beyond the Automated and Electric Vehicles Act 2018 (AEVA), ensuring vehicle safety and industry accountability.

Developing international regulations

The United Kingdom (UK) participates in the development of international regulations as part of their work with the United Nations Economic Commission for Europe (UNECE). The UNECE works to agree international regulations for vehicles, including Automated Driving Systems (ADS). UN regulations matter for AVs because they provide a harmonised legal and technical framework that ensures safety, interoperability, and international acceptance.

[1] Connected and automated mobility 2025: realising the benefits of self-driving vehicles - GOV.UK

Purpose of the Call for Evidence

This call for evidence seeks information that will help inform secondary legislation, guidance and policy development, ensuring the AV regulatory framework remains proportionate, forward-looking and responsive to emerging technologies.

The call for evidence is split into two main chapters, though questions relating to data and costs and benefits will be addressed across both chapters:

- Chapter 1: 'Getting AVs on the road' covers vehicle type approval, authorisation, operator licensing, user-in-charge and transition demands and insurance.

- Chapter 2: 'Once AVs are on the road' covers in-use regulation, incident investigation and cyber security.

At the end of the call for evidence, there are standalone sections on accessibility and environmental impacts.

We are keen to hear from a diverse range of respondents. This includes, though is not limited to, those working within the AV industry, including technology providers, original equipment manufacturers, parts suppliers, academics, road safety experts, road users, trade unions, first responders, those with accessibility needs, and anyone else with an interest in this area.

Background

What components make up the AV Act's safety framework?

Chapter 1: Getting AVs on the road

1. At the core of the AV Act's safety framework is the Statement of Safety Principles. The Statement will set out the safety standard to which AVs will be expected to comply. This will be considered by the authorisation authority (the Vehicle Certification Agency, VCA) and the in-use regulator when they carry out their functions and will inform an annual assessment of the overall performance of self-driving vehicles. A call for evidence on the Statement of Safety Principles closed in September 2025.

2. To be accepted onto the GB market, an AV must secure approval under the type approval regime. Type approval evaluates whether the vehicle meets all technical safety, environmental and other performance standards. Our type approval requirements for AVs will be closely linked to the outputs of the work being carried out by the UN to develop ADS regulations[2].

3. The authorisation process is separate from the GB type approval process. Authorisation will ensure that the vehicle can drive safely and legally on our roads without a driver. Legal responsibilities for the driving task will differ depending on whether the self-driving system is engaged. An Authorised Self-Driving Entity (ASDE) is a legal actor designated for each AV that has been granted authorisation to operate autonomously. The ASDE is responsible for ensuring that the vehicle meets relevant safety and regulatory requirements throughout its operational life.

4. The authorisation will specify if a feature that enables the vehicle to drive itself is a User-in-Charge (UIC) or a No-User-In-Charge (NUIC) feature. A UIC feature relies on an individual being in the vehicle and being able to exercise control over it, as it may require that an individual takes over control in certain circumstances. Whilst a NUIC feature is active, these vehicles may only carry passengers or have no humans on board at all. Both the approval and authorisation processes will be carried out by VCA.

[2] Automated Driving System (ADS) - Transport - Vehicle Regulations - UNECE Wiki

5. A licensed NUIC operator (NUICO) is required to oversee a journey during which a NUIC self-driving feature is engaged. Licensing is designed to ensure that a responsible operator keeps vehicles safe and has procedures in place during the journey.

6. Some organisations might be both an ASDE and NUICO and government is committed to designing an integrated scheme.

Chapter 2: Once AVs are on the road

7. In-use regulation will provide ongoing oversight to monitor that vehicles continue to meet the self-driving test, by driving themselves both safely and legally. As part of this regime, the AV Act made a new set of civil and regulatory sanctions available to government. These sanctions can be used if an ASDE or NUICO has failed to comply with its regulatory or licensing requirements, or if an authorised AV no longer meets the self-driving test or has committed a traffic infraction. They include compliance notices, redress notices and fines as well as variation, suspension or withdrawal of an authorisation or a licence. ASDEs and NUICOs may also be prosecuted if they mislead regulators about safety-relevant information or fail to comply with a statutory notice.

8. Independent no-blame statutory inspectors will undertake incident investigations involving AVs, like the existing UK accident investigation branches that cover air, rail and marine transport modes. This will allow for continuous improvement based on establishing the cause rather than seeking to assign blame.

How to respond

The consultation period began on 4 December 2025 and will run until 5 March 2026. Please ensure that your response reaches us before the closing date.

Please send consultation responses to:

Consultation Co-ordinator

Centre for Connected and Autonomous Vehicles

Department for Transport

3rd Floor, RTG, Zone 4

Great Minister House

London

SW1P 4DR

Email consultation@ccav.gov.uk

Smart Survey https://www.smartsurvey.co.uk/s/UDDXNR/

When responding, please state whether you are responding as an individual or representing the views of an organisation. If responding on behalf of a larger organisation, please make it clear who the organisation represents and, where applicable, how the views of members were assembled.

Freedom of Information

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations 2004.

If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

Data Protection

This call for evidence is seeking your views on the automated vehicles regulatory framework. Please do not provide personal information when answering the questions within this call for evidence.

Your personal data collected through this call for evidence is processed in line with our online forms, surveys and consultations privacy notice.

Public Sector Equality Duty

The Public Sector Equality Duty (PSED) (s. 149 of the Equality Act 2010) requires public authorities, in carrying out their functions, to have due regard to the need to achieve the objectives set out under s149 of the Equality Act 2010.

Equality impacts will be further explored as individual policies for the AV regulatory framework are developed.

We invite comment on how the AV regulatory framework could further achieve the objectives as set out under s149 of the Equality Act 2010 to:

- eliminate discrimination, harassment, victimisation, and any other conduct that is prohibited by or under the Equality Act 2010,
- advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it,
- foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

Audiences

We are keen to hear from a diverse range of respondents. This includes, though is not limited to, those working within the AV industry, including technology providers, original equipment manufacturers, parts suppliers, academics, road safety experts, road users, trade unions, first responders, those with accessibility needs, and anyone else with an interest in this area.

Territorial extent

The territorial extent of the call for evidence is GB-wide, and responses are invited from all parts of GB. We will work with the devolved governments to ensure that policy development takes account of devolved responsibilities across GB.

Impact Assessment

An Impact Assessment (IA) has not been prepared for this call for evidence response paper as the focus was to gather evidence, rather than consulting on a set of proposals. Responses received to the call for evidence will help to inform the production of an IA for any future policy proposals

Request another format

The easiest way to respond to the consultation is to use the online form – see https://www.smartsurvey.co.uk/s/UDDXNR/.

The online form allows you to save your progress if you don't want to complete your response in one go.

If you don’t want to use the online form, you can email consultation@ccav.gov.uk to request a Word copy of the response form.

Consultation principles

This consultation is being conducted in line with the government's consultation principles.

If you have any comments about the consultation process, contact:

Consultation Co-ordinator

Centre for connected and Autonomous Vehicles

Department for Transport

3rd Floor, RTG, Zone 4

Great Minister House

London

SW1P 4DR

Email consultation@ccav.gov.uk

Chapter 1: Getting AVs on the road

Type Approval

The vehicle type approval process demonstrates and certifies that vehicles comply with applicable regulatory requirements regarding their safety, security, and environmental performance before they are sold or registered in GB.

The requirements for type approval are set out in frameworks depending on vehicle category. Type approval in GB is mostly governed by assimilated EU law, based on three type approval framework regulations:

1. Regulation (EU) 2018/858 (motor vehicles and their trailers)

2. Regulation (EU) No 167/2013 (agricultural and forestry vehicles)

3. Regulation (EU) No 168/2013 (two- or three- wheel vehicles and quadricycles)

Section 91 of the AV Act gives the Secretary of State the power to amend type approval requirements to make them more suitable for self-driving vehicles. Ministers may also amend type approval requirements using powers in assimilated legislation and the Product Regulation and Metrology Act 2025.

Each framework contains the administrative and procedural provisions for type approval, as well as the applicable regulatory requirements across various technical subjects. These framework regulations are underpinned by other assimilated regulations, which set out more detailed standards for each vehicle category.

Most technical requirements applicable under the GB framework for motor vehicles and their trailers are set through internationally harmonised UN Regulations. These regulations are created and maintained by the UNECE World Forum for Harmonization of Vehicle Regulations (WP.29), a worldwide regulatory forum. WP.29 is currently creating new and amending existing requirements to enable deployment of AVs. For requirements not set by UN Regulations (i.e., those set in assimilated EU Regulations), we recognise that manufacturers are operating in a broader European market and the benefits of harmonisation. This government is also committed to meeting our obligations under the Windsor Framework, noting that EU approvals are required in Northern Ireland to avoid a

hard border between Northern Ireland and Ireland. As such, the government underlines its manifesto commitment to protect the UK internal market in all scenarios.

Together with the fact that the GB scheme was derived from EU regulations, it makes sense to consider the scope for harmonisation when updating the GB scheme. As a result, we continue to monitor regulatory activity in the EU and have an explicit presumption in favour of alignment in the GB scheme.

Regulation (EU) 2018/858 was amended by Statutory Instrument (SI) 2022 No. 1273 to create a GB Type Approval Scheme for vehicle categories M (passengers), N (goods) and O (trailers), and specifies the requirements for approval of such vehicles in relevant annexes. GB type approval has been needed for new motor vehicle models introduced to the market on or after 1 February 2024. Models first placed on the market before February 2024 were subject to a provisional GB type approval scheme (which recognises vehicles approved to EU requirements). These provisional approvals expire after 2 years at which point manufacturers will need to apply to VCA for approval under the new GB scheme. By February 2026, all new vehicles sold in GB should be approved to the latest GB type approval scheme.

In addition to unlimited series approval, for vehicles produced in limited volumes, there are two approval routes available:

- GB Medium Series Approval – based upon the requirements previously defined as EU small series type approval in retained legislation. These approvals are currently only available for some vehicle categories (M1 and N1) where less than 1500 units are produced each year.

- GB Small Series Approval – a continuation of what was previously known as the national small series type approval scheme. This is available for all vehicle categories, with production limits of 250 or 500 units, depending on category.

It is also possible to seek Individual Vehicle Approval, a UK National approval scheme for vehicles and trailers imported, assembled, or manufactured in very small numbers or as individual vehicles.

Regulations (EU) No 167/2013 (covering agricultural and forestry vehicles – category T) and No 168/2013 (covering two- or three- wheel vehicles and quadricycles – category L) have not yet been amended and it is not currently possible to gain a GB Type Approval to either regulation. Provisional schemes are in place for both regulations until 31 December 2027. For L category vehicles, it is possible to seek individual approvals under the domestic Motorcycle Single Vehicle Approval Scheme.

Question 1: Do you think that amendments are required to any of the vehicle type approval schemes to enable deployment of AVs?

If 'yes', please explain which approval schemes do you consider require amendment to enable deployment of AVs and why?

Question 2: What amendments do you consider are needed for the categories identified in the previous question, and why?

Expected self-driving vehicle use-cases, designs, and type approval requirements

The development of self-driving technology has the potential to enable a change in vehicle use-cases and designs from current norms. A "use case" refers to a specific situation or scenario in which a system, product, or technology is used to achieve a particular goal. Examples of new vehicle use-cases could include vehicles carrying only passengers and/or freight, on a pre-determined route or operating freely within a defined area; or vehicles capable of self-driving only for part of the journey which require a human driver to complete the journey.

To appropriately regulate self-driving vehicles, an understanding must first be gained of the use-cases and designs of self-driving vehicles that we expect to see in the near- (next five years) and long-term future. For example, if those vehicles will be used for last-mile delivery or designed to perform specific functions other than transport; and the characteristics of those vehicles - such as number of wheels/axles/seats/standing places, dimensions, masses, and speeds).

Question 3: In your view, what do you think will be the designs of self-driving vehicles deployed in the next 5 years?

Question 4: In your view, do you expect any designs to be specific to the UK, and why?

Question 5: In your view, what do you think will be the use-cases of self-driving vehicles deployed in the next 5 years in the UK?

Question 6: In your view, do you expect any use-cases to be specific to the UK, and why?

Authorisation

Authorisation of road vehicles for automated use

The AV Act introduces the ‘self-driving test’ which must be met, alongside other requirements, for a vehicle to be authorised for use in GB and to change the legal responsibility for the behaviour of the vehicle.

In assessing whether a vehicle meets the self-driving test, the Secretary of State must have particular regard to the Statement of Safety Principles, framed with a view to securing better road safety from the use of AVs.

An authorisation may apply to a single vehicle, several vehicles, or a vehicle type – i.e. a group of vehicles that shares common design characteristics, such as a specific model from one manufacturer.

The self-driving test

Section 1 of the AV Act sets out that a vehicle "satisfies the self-driving test" if -

(a) It is designed or adapted with the intention that a feature of the vehicle will allow it to travel autonomously, and

(b) It is capable of doing so, by means of that feature, safely and legally.

This test considers whether a 'feature' of the vehicle enables the vehicle to travel autonomously. To travel autonomously means the vehicle is not being controlled by an individual but by equipment of the vehicle, and neither the vehicle nor its surroundings are being monitored by an individual with a view to immediate intervention in driving.

Whether a vehicle satisfies the test is to be assessed by reference to the location and circumstances of that intended travel (and may differ in respect of different locations and circumstances).

Self-driving features

The self-driving test considers whether a 'feature' of the vehicle will allow the vehicle to travel autonomously. A self-driving feature refers to a specific operation that the vehicle can undertake, and vehicles may have more than one.

Under section 4 of the AV Act, for each feature that meets the self-driving test, the Secretary of State's authorisation must specify:

(a) whether the mode of operation of the feature is "user-in-charge" or "no-user-in-charge",

(b) how the feature is engaged and disengaged, and

(c) the locations and circumstances by reference to which (in the opinion of the Secretary of State) the vehicle satisfies the self-driving test by virtue of the feature.

Question 7: In your view, what types of evidence should form the basis of an authorisation application?

Question 8: In your view, what evidence gathered at the vehicle type approval stage, if any, should be used to support an authorisation decision?

Question 9: In your view, do you think geofencing or environmental mapping have a role in operational design domain (ODD) approval, and why?

Authorisation requirements

Section 5 of the AV Act gives the Secretary of State a regulation-making power to establish 'authorisation requirements' for self-driving vehicles generally, as well as the ability to impose conditions specific to individual authorisations.

The AV Act includes a general power to set authorisation requirements, which among other things may be used in the following four areas: requirements relating to a vehicle, to an authorised self-driving entity, to 'transition demands', and to the collection and sharing of information. These can be imposed as initial or ongoing requirements. Initial authorisation requirements must be met for the vehicle to be authorised in the first place, and ongoing authorisation requirements must continue to be met for the vehicle to remain authorised. Compliance will be monitored by the in-use regulatory scheme.

Authorisation requirements relating to the vehicle

Authorisation requirements of this sort may relate to:

- the vehicle's ability to recognise and enforce its own safe operating parameters, such as its maximum operating life
- how the vehicle's ADS should behave – such as the need to obey speed limits and traffic rules
- the vehicle's ability to recognise when it is within or outside its ADS's ODD – for example, prevailing weather or road type
- the vehicle's ability to recognise passenger numbers or cargo volume, for example to prevent overloading
- provisions for the vehicle's capabilities around storing, protecting, and sharing of information. This could include setting requirements for information about the vehicle to be provided to owners, users-in-charge, and registered keepers; and
- other factors – such as cyber security requirements.

Question 10: In your view, are there any specific authorisation requirements relating to the vehicle that should, or should not, be included, and why?

Authorisation requirements relating to the authorised self-driving entity

Section 6 of the AV Act requires every AV used on GB roads to be backed by a suitable company or individual taking responsibility for how the vehicle drives. This is the 'authorised self-driving entity', or 'ASDE'.

The Secretary of State must impose authorisation requirements designating an ASDE. The ASDE is under a general responsibility to ensure its self-driving vehicles continue to satisfy the self-driving test by virtue of its authorised automation features on an ongoing basis throughout the lifetime of the AV.

An ASDE should be of good repute, good financial standing; and competent to discharge their duties.

Good repute is a well-established concept in public service vehicle and goods vehicle regulation. It is clear, for example, that a person is not of good repute if they have unspent convictions for serious or relevant offences.

For financial standing, the objective is to determine that the ASDE has sufficient financial resources to:

- update the software throughout the life of the vehicle, including relevant cyber security updates,
- respond to in-use regulation demands; and
- if necessary, satisfy penalties and redress orders.

However, financial standing requirements can be flexible and proportionate to the scale of the deployment. For example, rather than proving cash reserves, an ASDE might be able to demonstrate access to sufficient resource in different ways, for example in the form of a bank or building society balance, and/or an overdraft facility, and/or insurance in place.

Every ASDE will also have to prove continuous professional competence. One approach might be to require the ASDE to submit a documented safety management system, defining individual roles with clear responsibilities and competence requirements for each.

Types of evidence that may contribute to the assessment might include:

Good repute:

- whether they, or any associated senior persons, have ever been convicted of a relevant criminal offence
- whether references from individuals or organisations can attest to their character
- whether they have ever been subject to disciplinary actions by a professional or regulatory body.

Financial standing:

- whether they or their business has ever been declared bankrupt or insolvent (including dates and relevant details)
- whether there are any outstanding debts, claims or judgements against them
- whether they can provide evidence of financial stability, such as audited accounts or credit ratings and sufficient funds or assets to address any issues.

Professional competence:

- whether they have complied with all relevant regulatory and licensing requirements in their field
- whether they have undergone any assessments or verifications of good repute by other regulatory bodies

Question 11: In your view, what should be considered when assessing whether an ASDE is of good repute?

Question 12: In your view, what should be considered when assessing whether an ASDE is of good financial standing?

Question 13: In your view, what should be considered when assessing whether an ASDE is capable of competently discharging authorisation requirements?

Question 14: In your view, are there any other specific authorisation requirements relating to the ASDE that should, or should not, be included, and why?

Authorisation requirements relating to the collection and sharing of information

Sections 5 and 12 of the AV Act give the Secretary of State powers to set authorisation and operator licensing requirements respectively.

The safety assurance and regulation of AVs will rely on information provided by ASDEs. Authorisation requirements and operator licensing regulations may therefore include requirements as to the collection and sharing of information. Sharing information refers to sharing with the Secretary of State or other public authorities, and with private businesses. For example, information may have to be shared with insurers to enable insurance claims to be properly resolved.

The collection and management of information must occur in a way that protects people's privacy while enabling effective regulation of automated vehicle use. Sharing requirements must specify the purpose for which the information is to be shared: sharing for an unauthorised purpose is a criminal offence under section 42(4) of the AV Act. This is designed to restrict improper sharing or use of data for purposes other than those intended. To the extent that the data includes personal data, data subjects may have to be informed of the purposes for which their data can be processed.

Register of authorisations

Under section 10 of the AV Act, the government will be required to keep a public register of self-driving vehicle authorisations, recording the identity of the relevant ASDE.

An authorisation takes effect when it is entered in the register. The Secretary of State may impose authorisation requirements designed to reduce the likelihood of a vehicle being used in a way that is no longer in accordance with its authorisation or as a result of a variation, suspension or withdrawal.

The register must be amended to reflect any relevant authorisation measure, including:

- the variation, suspension or withdrawal of an automated vehicle authorisation,
- the reversal of a variation,
- the lifting of a suspension, or

- the restoration of a withdrawn authorisation.

This public register is intended to provide a transparent and accurate register of self-driving vehicle authorisations. The ability to access the register online may improve levels of trust in the safety of AVs operating on the road.

Question 15: In your view, what, if any, additional information should be captured on the register of authorisations?

Question 16: How might you expect to use the information available within the register of authorisations?

Authorisation procedure

Section 11 of the AV Act gives the Secretary of State the power to make regulations about the procedure for granting an authorisation, as well as for varying, suspending or withdrawing an authorisation where this is done with the agreement of the ASDE.

The regulations about the authorisation procedure may set out:

- the form and content of an application for authorisation
- the fees payable for an application for authorisation; and by whom such an application may be made
- the examination of vehicles
- the notification of decisions; and
- reviews and appeals against decisions.

It will be important for the authorisation procedure to be proportionate so that it does not limit market competition, while ensuring the process is comprehensive and rigorous so the vehicles are deployed safely, securely and reliably.

Question 17: In your view, what should be considered when developing the authorisation procedure?

Question 18: In your view, are there lessons from other regulated areas that should inform the authorisation regime, and why?

Throughout the life of an automated vehicle, an ASDE may seek to expand an authorised ODD and/or the features of the ADS and may need to perform software updates, for example in response to real-world learnings. We need a process so that government can assure that those changes continue to meet authorisation conditions.

Question 19: In your view, what processes should be in place to ensure that authorised vehicles continue to meet the legal safety standard over time?

Question 20: In your view, how should changes to software or functionality be managed from an authorisation perspective, and when should reauthorisation be required?

Costs and Benefits from Authorisation

Some in society are likely to benefit from new legislation, while others may see increased costs. These costs and benefits could affect businesses, households, government, and wider society. Responses to the following question will be considered when conducting appraisal of policy options for authorisation legislation.

Question 21: What, if any, costs do you think should be taken into consideration when assessing the impact of authorisation standards?

Question 22: What, if any, benefits do you think should be taken into consideration when assessing the impact of authorisation standards?

User-in-Charge and Transition Demands

Role of the user-in-charge

The AV Act created a new legal entity, the ‘user-in-charge' (UIC). If a self-driving feature requires a responsible human inside the vehicle, that human is the driver while the feature is disengaged, and becomes a UIC when the self-driving feature is engaged. The UIC will not be responsible for the way the self-driving vehicle drives when the feature is engaged.

Section 46 of the AV Act contains the legal definition of the UIC. Under section 46, an individual is the UIC of a vehicle if—

(a) the vehicle is an authorised automated vehicle with an authorised user-in-charge feature,

(b) that feature is engaged, and

(c) the individual is in, and in position to exercise control of, the vehicle, but is not controlling it.

When a UIC feature is engaged, the UIC must be qualified and fit to drive, and in a position to exercise control. The UIC retains responsibilities not associated with dynamically controlling the vehicle and may be called on to take over driving if the ADS issues a transition demand – and may have to drive for part of the journey to reach their destination.

A UIC must be awake, remain in the driving seat, and be able to take up the driving task within the required transition period (the time given for the UIC to regain situational awareness before retaking dynamic driving control). UICs must meet other requirements imposed on drivers under the Road Traffic Act 1988, such as:

- holding an appropriate driving licence for the vehicle in question (section 87)

- not being disqualified (section 103)
- not being over the limit for alcohol (section 5) or drugs (section 5A).

The UIC is not required to keep their eyes on the road and so will be able to use a built-in vehicle infotainment screen to perform other activities – since it will switch off automatically if a transition demand is issued. Mobile phone use remains prohibited. The AV Act allows amendments or clarifications to be made to legislation about the activities a UIC is permitted to undertake in the future, through the power to amend existing legislation in section 50, this is in addition to powers already available in the Road Traffic Act 1988. This will allow flexibility if the developments in technology and research suggests it is safe.

We want to understand views on whether there are non-driving activities that a UIC should be permitted to do, which a driver cannot.

Question 23: In your view, should any existing prohibitions on non-driving related activity by a UIC be disapplied?

If 'yes', what activities and why?

If 'no', why not?

Question 24: What evidence, if any, can you supply on the ability of a driver to safely resume control after disengagement from driving tasks? No personal information should be provided as part of the evidence.

Question 25: In your view, should there be specific training for a UIC?

Question 26: What, if any, knowledge and skills outcomes should the training provide?

Question 27: In your view, how frequently should UICs undertake training or tests of their ability?

User-in-charge not liable for manner of driving

Where a vehicle has been authorised for use as self-driving, it has been deemed capable of safely and lawfully driving itself without the need for human monitoring of the vehicle or its surroundings with a view to immediate intervention.

Where an authorised automated feature is engaged, an individual may claim an immunity from certain offences arising from the way the vehicle is driven in two scenarios:

- where the individual was the UIC of the vehicle at the time of the act that would constitute the offence, and
- where the act that would constitute the offence results from something done by the vehicle when the individual was its UIC, and the vehicle hands back control to the individual in circumstances where careful and competent driving could not have avoided the offence being committed.

The way in which the vehicle is driven includes, for example, the use of its signals and driving, but does not include, for example, the condition or qualifications of the driver.

Exceptions from immunity

There are four specific situations where the UIC's immunity from manner-of-driving offences does not apply:

1. *After the transition period has ended*. If a vehicle properly requests that a UIC should take back control, via a transition demand, the UIC becomes responsible for the driving behaviour of the vehicle after the transition period, including any consequences if the UIC does not resume control. There is a limited exception to this where the act that constitutes the offence results from the vehicle not dealing safely with a situation where the UIC failed to assume control by the end of the transition period.

2. *Offences arising from the position in which the AV is parked or otherwise stopped or is left stationary*, where the UIC has voluntarily left the vehicle while it is in that position.

3. *Offences arising from the vehicle entering or remaining on a particular road or other area without a required tolls or charge being paid*, like the congestion charge in London or the M6 Toll.

4. *At the time of:*

   a. the act done by the vehicle while the individual was its UIC that would constitute the offence, or

   b. the thing done by the vehicle which resulted in that act after control was handed back to the UIC,

   (i) the vehicle's user-in-charge feature was engaged other than its authorised locations and circumstances, and

   (ii) the UIC, or another person to the knowledge of the UIC has caused that to be so, by deliberately interfering with the vehicle's equipment.

Section 51(4) and (5) of the AV Act provide that immunity, and the exceptions to it described above, are available where the vehicle's authorisation has been varied, suspended or withdrawn, the UIC did not know or could not reasonably be expected to know this to be the case. Also, where the UIC used the vehicle in accordance with the authorisation requirements before the authorisation was varied, suspended or withdrawn.

Question 28: How should a UIC be informed of any changes to the vehicle's authorisation?

Costs and Benefits from user-in-charge regulation

Some in society are likely to benefit from new legislation, while others may see increased costs. These costs and benefits could affect businesses, households, government and

wider society. Responses to the following question will be considered when conducting appraisal of policy options for UIC legislation.

Question 29: In your view what, if any, costs do you think should be taken into consideration when assessing the impact of UIC regulation?

Question 30: In your view what, if any, benefits do you think should be taken into consideration when assessing the impact of UIC regulation?

Transition Demands

A transition demand is a time-bound demand for the UIC to take control of the vehicle when a self-driving vehicle needs to transfer back control. Sufficient time must be given for the UIC to regain situational awareness before retaking dynamic driving control: this is the 'transition period'.

Authorisation requirements relating to transition demands

Authorisation requirements must be imposed to ensure that the transition demand is safe. Section 7(3) specifies that authorisation requirements must secure, so far as reasonably practicable, that the transition demand will be capable of being perceived by anyone who might legally be a UIC of the vehicle, having particular regard to UICs with disabilities.

Authorisation requirements must also be imposed in relation to the transition period so:

- the transition period is long enough for the UIC to prepare to assume, and assume, control of the vehicle
- the vehicle will continue to travel autonomously, safely and legally during the transition period
- at the end of the transition period, the vehicle must make a further communication to alert the UIC that the transition period has ended; and
- the vehicle deals safely with a situation where the UIC does not assume control by the end of the transition period.

Global context for transition demands

In international law and standards, a transition demand duration is not fixed by a single global legislation but is instead guided by technical standards—most notably the UNECE Regulation No. 157 (R157) on Automated Lane Keeping Systems (ALKS).

Under UNECE R157, a transition demand must allow a minimum of 10 seconds for the human in the vehicle to respond and take control. During this time, the system must provide clear visual and audible warnings.

If the driver does not respond within this window, the vehicle must initiate a Minimal Risk Manoeuvre (MRM)—bringing itself to a safe stop.

This 10-second rule has become a de facto international benchmark, influencing regulations in jurisdictions that align with UNECE standards, including the UK, EU, Japan, and others.

However, the AV Act does not prescribe a specific duration, instead leaving it to be set domestically through secondary legislation and technical standards, likely aligned with or informed by international norms such as UNECE R157. The draft UNECE regulation on ADS also does not specifying a minimum transition period, leaving that to the manufacturer to justify in their safety case.

Safe introduction of transition demands

Safety throughout any transition will be paramount – evidence is sought to inform policy development in several areas related to transition arrangements as below.

Question 31: In your view, should there be a stated value expected for a transition period duration akin to UNECE Regulation No. 157?

Question 32: In your view, what should the minimum value be, and why?

Question 33: In your view, should different scenarios require different transition demand protocols, and why?

Question 34: In your view, should the nature of a transition demand vary depending on the user-in-charge and why?

Question 35: In your view, should standards be established for transition demand interfaces across different vehicle makes and models, and why?

No-User-in-Charge Operator Licensing

The AV Act grants the government the power to make provision for the licensing of persons as no-user-in-charge operators (NUICOs). NUICOs will be responsible for overseeing journeys by vehicles with an authorised NUIC feature when, at any point, that feature is engaged or there is no individual in the vehicle who is exercising control.

NUIC journeys could be undertaken by a range of vehicles for a range of purposes. For example, automated light and heavy goods vehicles may be used to make deliveries and automated cars, shuttles and buses may be used to carry passengers. Vehicles with NUIC features may have other functions such as sweeping roads, acting as mobile traffic signs, or providing automated valet parking.

The licensing scheme will give NUICOs responsibility for detecting and responding to problems arising during NUIC journeys, imposing requirements in connection with those journeys and the vehicles that undertake them. Potential problems include, but are not limited to, the maintenance needs of the vehicle, limitations of the ADS issues faced by passengers, issues with vehicle loads, and emergency situations which may necessitate interaction with the public or authorities.

Discharging this responsibility will require the NUICO to monitor the status of NUIC vehicles and their journeys. NUICOs might – depending on the nature of their operation – also need to be able to dispatch support vehicles, remotely assist passengers or the public or the authorities, remotely assist the ADS or, potentially, and to a limited extent, drive the vehicle using a remote operator.

The licensing scheme will also seek to ensure that the NUICO is capable of competently discharging any requirements imposed on it for this purpose, and that it is of good repute and good financial standing.

This section of the call for evidence seeks information that may support the design of the administration of the NUICO licensing scheme, including requirements for remote operations. Previous evidence has been gathered from the Law Commission of England and Wales and Scottish Law Commission's 2022 joint report on Automated Vehicles as well as the Law Commission of England and Wales's 2023 Advice to Government on Remote Driving. As such, the following sections will focus on areas in which we need additional evidence.

Good repute and good financial standing

Those applying for a NUICO licence must demonstrate that they are of good repute and good financial standing, to ensure licence holders are trustworthy and have sufficient resources to maintain their vehicles and operations. It will be important for these requirements to be proportionate, so as not to discourage new entrants, without compromising on the public's interest that the vehicles are deployed safely, securely and reliably.

Several indicators could be used to assess whether an applicant is of good repute, such as whether they – or associated persons – have been convicted of a relevant criminal offence, whether they have been subject to disciplinary action by a professional or regulatory body, whether they have misled regulators anywhere in the world or failed to comply with their directions, or whether references can attest to their good character.

Question 36: In your view, what should be considered when assessing whether a NUICO licence applicant is of good repute?

Other indicators could be used to assess whether an applicant is of good financial standing, including whether they or their business have ever been declared bankrupt or insolvent, whether they have any debts or claims or judgments against them, whether they have enough money to comply with regulators' demands, and whether they can provide evidence of financial stability like audited accounts or credit ratings.

Question 37: In your view, what should be considered when assessing whether a NUICO licence applicant is of good financial standing?

Overseeing NUIC vehicles and journeys

NUICOs will be responsible for overseeing no-user-in-charge journeys and the vehicles that undertake them. The responsibility to oversee NUIC journeys could include monitoring

their vehicles' locations, projected journeys, occupancies and loads, and holding general responsibility for their being operated safely. This may also include elements of remote assistance to the ADS, or limited remote driving, both of which are considered separately in later sections.

Question 38: In your view, what capabilities should NUICOs generally possess to be able to adequately detect problems arising during NUIC journeys?

Question 39: In your view, what capabilities, if any, other than remotely assisting the ADS and driving the vehicle, should NUICOs generally possess to be able to adequately respond to problems arising during NUIC journeys?

NUICO considerations for passenger vehicles

Some NUICOs may carry passengers through automated bus-like services, shuttle services or with private-hire-like or taxi-like services. These deployments could be regulated by existing public service vehicle (PSV), private hire vehicle (PHV) or taxi licensing schemes, or the forthcoming Automated Passenger Services (APS) permitting scheme. The automation of passenger services may introduce challenges, for example in relation to detecting passengers' problems and the provision of passenger assistance, not covered by these schemes.

Question 40: If you may seek to operate NUIC passenger-carrying vehicles in the future, what kind of service and types of vehicles would you be most likely to operate?

Question 41: In your view, what requirements, if any, should be put in place for NUIC vehicles which carry passengers in addition to the requirements in existing schemes?

Question 42: In your view, how should operators and authorities seek to prevent and respond to crimes committed within a NUIC passenger vehicle, e.g. taking illegal drugs or sexual assault? No personal information should be provided as part of the evidence.

NUICO considerations for goods vehicles

NUICOs may also deliver goods using a range of vehicles. This includes heavy goods vehicles (HGVs) which are regulated by an existing operator licensing scheme as well as light goods vehicles (LGVs). NUICO licensing will supplement the existing HGV scheme as well as cover a wider range of goods delivery vehicles, including those which may also carry passengers.

Question 43: If you may seek to operate NUIC goods vehicles in the future, what kind of service and types of vehicles would you be most likely to operate?

Question 44: If you may seek to operate NUIC goods vehicles over 3.5 tonnes in the future, is it likely you will operate both NUIC goods vehicles and manually driven HGVs?

Many, but not all, of the areas regulated by the HGV operator licensing scheme could or will be covered by the NUIC operator licensing scheme, such as the good repute and financial standing of the operator and having satisfactory arrangements for maintaining vehicles in a fit and serviceable condition and for ensuring vehicles are not overloaded.

Question 45: What requirements, if any, of the existing HGV operator licensing scheme should be disapplied, replaced or amended for HGVs operating under a NUIC operator's licence?

Remote assistance to the automated driving system

Remote automated driving system (ADS) assistance, in which an agent based in a remote operations centre provides help to the ADS, is likely to be useful for some operators in responding to problems arising during NUIC journeys. While assistance tasks, such as identifying objects or suggesting trajectories, vary widely in the responsibilities they place on the agent, they should not be safety critical, and the ADS should retain final responsibility for how the vehicle drives. When considering these questions, please factor in the diversity of remote ADS assistance tasks.

Question 46: If you may seek to operate NUIC vehicles in the future, what remote ADS assistance tasks, if any, are you likely to incorporate into early deployments?

Question 47: In your view, how often and in which circumstances would it be appropriate for operators to use remote ADS assistance?

Question 48: In your view, how often, and in which circumstances, would it not be appropriate for operators to use remote ADS assistance?

Question 49: What, if any, training, health or skills assessments, qualifications, and vetting should remote ADS assistants undertake or meet to be deemed fit for their role?

Question 50: In your view, what requirements, if any, should be mandated with respect to the working hours and conditions of remote ADS assistants?

Question 51: In your view, what factors, if any, should determine how many NUIC vehicles a remote ADS assistant should be allowed to support simultaneously?

Remote driving as part of a NUIC journey

Remote driving, in which a driver based in a remote operations centre performs all or part of the driving task, up to and including exercising control actions such as steering and braking, could be regulated under the AV Act where it is part of a journey in which at any point either a no-user-in-charge feature is engaged, or there is no individual in the vehicle who is exercising control over it, and it supports or is ancillary to a no-user-in-charge feature. While there are several ways in which remote driving may be of use to some NUICOs, remote driving introduces risks in relation to cyber security, communications resilience and latency, and the situational awareness of the driver, which regulators would seek to ensure are mitigated.

Question 52: If you may seek to operate NUIC vehicles in the future, how likely are you to look to incorporate remote driving, if at all, into early deployments and in what form?

Remote driving may be useful, at low speeds, for recovering vehicles when a NUIC journey cannot be completed. For example, where an ADS develops a fault, remote driving could be used to safely position the vehicle on the side of the road until it can be collected.

Question 53: In your view, under what circumstances, if any, should remote driving be permissible for the purpose of vehicle recovery when a NUIC journey cannot be completed by the ADS?

Remote driving may also be useful, at low speeds, to support the safe completion of a NUIC journey in situations where remote assistance to the ADS is unsuitable or insufficient, potentially with passengers or goods on board. For example, the ADS may encounter unusual circumstances which it is incapable of navigating even with advice from a remote assistant, a remote driver may take control for a short period of time until the ADS is able to continue.

Question 54: In your view, under what circumstances, if any, and considering the possible presence of passengers or goods, should remote driving be permissible for the purpose of responding to problems during NUIC journeys?

Remote driving may also be useful for routinely completing segments of NUIC journeys which are outside of the ODD of the ADS. For example, the no-user-in-charge feature of a planned freight service that is capable of operating on motorways and A-roads, which constitute the majority of the NUIC journey, but requires a remote driver to drive a shorter distance on smaller public roads between each logistics hub and the motorway.

Question 55: Under what circumstances, if any, and considering the possible presence of passengers or goods, should remote driving be permissible for the purpose of routinely completing elements of NUIC journeys outside the ODD of the ADS, and why?

Remote driving places additional demands on drivers in comparison to conventional driving. As with all drivers, remote drivers would be at minimum required to hold a valid driving licence for the vehicle they are driving. Remote drivers are also likely to be expected to undertake health and background checks.

Question 56: What, if any, training, skills, safeguarding and health assessments, qualifications and vetting should remote drivers undertake or meet to be deemed fit for their role?

Question 57: What requirements, if any, should be mandated with respect to the working hours and conditions of remote drivers?

Remote driving control systems may not be subject to the same approval mechanisms as in-vehicle control systems are and, as such, there may need to be additional processes to assess this hardware.

Question 58: In your view, what considerations, if any, should be made with respect to assessing remote driving hardware and software within a remote operations centre?

Operator responsibilities and third-party suppliers

While NUICOs will retain the ultimate legal and regulatory responsibility for overseeing NUIC journeys and meeting any licensing conditions, it is anticipated that some operators may seek to contract out functions including, but not limited to, vehicle maintenance, data management, or even remote operations.

Question 59: In your view, which restrictions or mandatory conditions, if any, should be placed on NUICOs with respect to their contracting out of functions to third-party suppliers?

Costs and Benefits from NUICO Regulation

Some in society are likely to benefit from new legislation, while others may see increased costs. These costs and benefits could affect businesses, households, government and wider society. Responses to the following question will be considered when conducting appraisal of policy options for NUICO legislation.

Question 60: What, if any, costs do you think should be taken into consideration when assessing the impact of NUICO regulation?

Question 61: What, if any, benefits do you think should be taken into consideration when assessing the impact of NUICO regulation?

Insurance

As with conventional vehicles, AVs must be insured to legally drive on our roads.

For a vehicle with UIC features, the insurance policy will need to cover both the human driver (for when self-driving features are not engaged) and driving by the ADS. The registered keeper will be responsible for ensuring appropriate insurance is in place.

For a vehicle with NUIC features, we expect that the motor insurance policy will include cover for the automated vehicle's driving. Responsibility for ensuring appropriate insurance is in place will depend on:

- the ownership of the vehicle; and
- the conditions in the NUIC Operator's licence.

For example:

- if the vehicle is owned as part of a fleet, the NUIC Operator is likely to be responsible for all the non-driving related tasks, (e.g. ensuring that appropriate insurance is in place); and

- if the vehicle is privately owned, the NUIC Operator may be responsible for some non-driving related tasks (e.g. managing breakdowns). However, in this case, the owner may retain responsibilities around insurance and keeping the vehicle roadworthy.

In addition to the insurance policy covering the AV's driving, the insurance policy may also need to cover any remote human intervention where that might need to happen as part of the journey.

For incidents caused by uninsured drivers, the Motor Insurers' Bureau (MIB) acts as the insurer of last resort, ensuring that victims still have recourse to compensation. The government are working with the MIB to ensure that victims of collisions with uninsured AVs have a route to compensation.

Insurer's liabilities

Normally, compulsory motor insurance will only cover the insured driver against their liability to others. For example, if they injure or kill another person or cause damage to property.

Motor insurance for AVs will be different. The requirements are set out in section 2 of AEVA 2018. Broadly, this sets out that:

- for insured AVs, the insurer will be liable for compensating victims if the AV caused the incident whilst driving itself. Unlike for compulsory insurance for conventional vehicles, this liability may also cover injuries for the person in the vehicle who might otherwise have been the driver.

This is made more complex if the actions of the injured person contributed to the incident. For example, if the vehicle's owner did not install software updates, or if the vehicle is unsafely loaded. In this case, this could count as contributory negligence, which might limit the insurers' liability. We expect this will be determined on a case-by-case basis by the courts.

Insurer's Recovery of Damages

Whilst the insurer will be the one who pays any compensation to victims, AEVA 2018 gives insurers the right to recover their damages from other liable parties. For example, from parties such as the following persons if they are found to be responsible because of their negligent acts or omissions:

- the driver of another vehicle (through their insurer), if they were found at fault; and

- the "vehicle producer" under product liability law, as set out under common law and the Consumer Protection Act 1987.

Handling Motor Insurance Claims

Currently, insurers rely heavily on evidence from insured drivers to process claims. The evidence used to process claims for incidents involving AVs will likely look very different. For example, whilst the vehicle is driving itself, the passengers may not be monitoring the road and may be able to provide less information as witnesses. There may also be instances where NUIC vehicles may be travelling without anyone in the vehicle, such as when an automated taxi service is driving to pick up a passenger.

Unlike some, although not all, conventional vehicles, AVs are also expected to generate large amounts of data during system operation. It is anticipated that this data, and the information that can be drawn from this, will be a key enabler of safety assurance, including the investigation of incidents.

Requirements for Data Storage and Access

Recommendation 73 of the Law Commissions' report on Automated Vehicles stated that the authorisation authority (as part of a new self-driving vehicle safety framework) should require the collection and storage of data to support the processing of insurance claims.

They considered that at a minimum this should capture the date, time and location when:

- the self-driving feature is activated or deactivated
- a transition demand is issued; and
- a collision is detected.

In delivery of this recommendation, the UK has been actively engaged in the development of a guidance document from the UNECE on Data Storage Systems for Automated Driving (DSSAD)[3]. These guidelines will form the basis for data storage requirements within the UNECE's ADS Regulation.

The DSSAD guidelines are establishing what data should be stored during an occurrence when the ADS is engaged and driving the automated vehicle. The data points that must be captured relate to the state of the ADS, intended actions of the ADS, and the resulting dynamics of the vehicle.

A version of DSSAD had already been defined in UNECE regulation 157 on Automated Lane Keeping. This helped form a benchmark to which the ADS Regulation's DSSAD guidelines were drafted.

The guidelines will still require occurrences of more routine elements of ADS operation to be recorded as time-stamp data, which will be a simple text-string. This is to collect relevant information whilst minimising the data storage burden.

This data will be recorded as timestamps by the ADS while active and will likely include:

[3] GRVA-22-23e.pdf

- when an AV starts and stops driving itself
- if applicable: if a human uses the brakes, accelerates and/or steers the vehicle whilst it is driving itself
- when an AV starts and ends an emergency manoeuvre to avoid or mitigate a collision; and
- when the vehicle detects a collision.

However, if a specific safety critical event occurs, such as a collision, additional data must also be stored (in the guidelines these are called time-series data). This is likely to include:

- sensor data
- vehicle dynamics; and
- requested demand from the ADS for acceleration, braking and steering.

This is additional to the data that is required to be recorded by an Event Data Recorder (EDR), which many vehicles have today. This EDR data is specifically focused on supporting incident analysis and reconstruction. Data is therefore captured for a short period before, during and after an incident. This data includes:

- the vehicle's speed
- acceleration/deceleration
- braking; and
- whether an airbag is deployed.

The government accepted the Law Commissions' recommendations in the Connected and Automated Mobility 2025 Command Paper published in August 2022[4]. Depending on the outcome of these negotiations at UNECE, additional requirements may need to be created to implement the recommendations. These are discussed in further detail in this section.

Data Access for Insurance Investigations

The government is exploring options to enable the sharing of vehicle data that is necessary for the fair and accurate investigation of insurance claims.

For example, insurers will require data on whether the ADS was active at the time of the collision to determine liabilities where the driving behaviour of the vehicle is alleged to have caused the collision. The outcome differs depending on what the data shows:

[4] https://assets.publishing.service.gov.uk/media/62ff438c8fa8f504cdec92df/cam-2025-realising-benefits-self-driving-vehicles.pdf

- **The ADS was active and therefore may have caused the incident:** in this case, the insurer would pay out if the vehicle caused the incident but may choose to recover damages from the ASDE or vehicle manufacturer. The driver, who was not in control at the time, if injured, has a right to claim personal injury compensation from the insurer.

- **The ADS was inactive and therefore the driver may have caused an incident:** in this case, the policyholder will claim against their insurance policy, paying an excess and losing any no claims discounts if they have them. The driver will be ineligible to claim for personal injury under conventional motor insurance policies, unless an additional personal injury product has been included.

Government has been working closely with representatives of industry and insurance companies to understand the policy issues. These discussions have sought to develop proposed requirements for:

- what data should be recorded and when

- when this data should be shared

- how quickly the data should be shared; and

- what format the data should be recorded and shared in.

In doing so, we are clear on the need for a proportionate approach. This must balance:

- the need to ensure the insurance market works effectively to fairly compensate victims

- the need to instil public trust and consumer confidence in self-driving vehicle insurance products

- the protection of data subject rights under the data protection legislation and privacy rights; and

- concerns that this may include some commercially sensitive data, which may be considered intellectual property of system developers.

Discussions around these data points with insurers and manufacturers are ongoing.

Mandating Data Disclosure to Insurers

Recommendation 74 of the Law Commissions' joint report[5] on Automated Vehicles recommended that government impose a duty on those controlling AV data to disclose data to insurers, where it is necessary to decide claims fairly and accurately.

[5] Automated vehicles – Law Commission

The AV Act did not impose this duty but instead allowed for authorisation requirements and operator licensing to include requirements as to the collection and sharing of information with private businesses including insurers.

The government accepts this recommendation and will consider mandating the sharing of AV data to insurers where necessary. If this approach is adopted, industry have indicated they would expect further guidance from government on how to address issues of consent by the user-in-charge or data owner.

Without a duty imposed by government, it is expected that agreements would need to be established between respective data controllers, insurers and their customers. The policyholder agreeing certain conditions as part of their insurance policy could form part of this.

Location Data

The DSSAD requirements within the UNECE's draft ADS regulation include a requirement for location data for each timestamp.

Insurers have consistently called for the provision of location data for AVs and were a prominent stakeholder in ensuring that the Law Commissions included this in their report[6] under recommendation 73.

It may also be needed should disputes arise around a vehicle's ODD.

Insurers further argue that location data is already a legal requirement for AVs in Germany.

Beyond the use of location data by the insurance industry, the Geospatial Commission has published a report which points to the other ways that location data can help deliver the safe rollout of self-driving vehicles. "Finding The Way Forward: Location data to enable connected and automated mobility" was published in October 2023.[7]

Requirements for Data Retention

The DSSAD guidelines at UNECE currently do not require the storage of these data points for a specified duration.

Recommendation 73 of the Law Commissions joint report[8] on Automated Vehicles proposed that the necessary data is retained for 39 months, reflecting the three-year statute of limitations period for bringing a legal claim for personal injury, plus an additional three months to enable data to be retrieved and processed to respond to the claim. Specifically, the Law Commissions recommended that the vehicle must record and store location data for detected collisions and for the activation and deactivation of the ADS.

It is possible within our new domestic regime to set a requirement for these data points to be stored for this longer period. The long-term retention of this data does carry trade-offs

[6] Automated vehicles – Law Commission
[7] https://assets.publishing.service.gov.uk/media/652e3ac6d86b1b00143a50a4/2023-10-17_Finding_The_Way_Forward.pdf
[8] Automated vehicles – Law Commission

in terms of costs to the data holder for storage and maintaining data security. Data storage also has implications for energy consumption and carbon emissions.

The government is considering mandating that this data is retained by the data controller for a period of 39 months. As mentioned in “Requirements for Data Storage and Access”, DSSAD timestamps can be stored as a simple text-string to minimise data storage burdens.

Our expectation is that any requirement should be solely for those data points necessary to fairly and accurately investigate insurance claims. We therefore expect to set out our proposal for these requirements as part of a later public consultation.

New Types of Insurance

In addition to motor insurance, we envisage that regulated bodies (ASDEs and NUICOs) will take on business insurance products to address their liabilities, e.g. risks to their operations, public and employer liability, etc. For such products, the regulated bodies will have contractual arrangements with their insurers.

It is possible that appropriate insurance cover could form part the regulator’s assessment of whether an ASDE or NUICO are of good financial standing.

Question 62: In your view, how can insurance play a role in ensuring that good financial standing of regulated bodies is met?

Question 63: What, if any, instances where insurance products are used to ensure good financial standing can you supply?

In seeking to understand the relationship between insurance and financial standing, government is seeking evidence of where insurance has covered other risks in the automotive industry. Product recalls might be an area which can be used as a point of comparison for potential financial risks to ASDEs.

Question 64: Taking into consideration available insurance for product recalls in the automotive industry, what sort of premiums are charged for what sort of coverage?

Insurance for AVs with NUIC features is likely to be sought by the NUICO under multi-vehicle fleet policies. These insurance policies may also need to cover any remote human intervention where that might need to happen as part of the journey.

Question 65: In your view, is there a need for new kinds of fleet management insurance products for NUICOs?

If 'yes', what type of products and/or coverage?

If 'no', how do you see existing insurance products working to cover remote operations?

Within and beyond road transport, there are several other forms of automation across different transport modes that may have a more mature insurance market.

Question 66: What, if any, learnings from other insurance models could be applied to any new types of insurance for AVs, and why?

The Use of Automated Vehicle Data by Insurers

Government recognises the need for prompt payment of compensation to victims of road traffic collisions.

Beyond determining liabilities for incidents involving AVs, insurers have also shown an interest in gaining access to more vehicle data which they see value in operationally. The proposed use includes but is not limited to:

1. Determination of proximate causes of incidents, for example where the driving behaviour of a self-driving vehicle has caused an incident between other vehicles.

2. Risk modelling and pricing of insurance policies.

Although manufacturers have been generally supportive of sharing vehicle data with insurers to enable them to determine liabilities, they have been clear that the amount of data disclosed must be proportionate to the purpose of disclosure and subsequent data processing.

We are keen to gather further evidence to support decision making on whether government should require the sharing of vehicle data that goes beyond determining the liabilities for an incident directly involving an AV.

Question 67: In your view, what risks and opportunities are there for data controllers such as ADSEs and NUICOs in sharing this data with insurance companies?

We anticipate that there may be privacy and data protection issues if government does require the sharing of this data, especially if it includes data that identifies the location and driving behaviour of users of AVs which are alleged to be indirectly involved in a collision. We are interested in gathering evidence on the extent to which any associated risks can be managed.

Question 68: If insurers request vehicle data that goes beyond determining liabilities of incidents where an AV is directly involved in a collision, how could privacy and data protection requirements be managed?

Costs and benefits of insurance regulation around AVs

Some in society are likely to benefit from new legislation, while others may see increased costs. These costs and benefits could affect businesses, households, government and wider society. Responses to the following question will be considered when conducting appraisal of policy options for insurance legislation.

Question 69: What, if any, costs do you think should be taken into consideration when assessing the impact of regulating the insurance of AVs?

Question 70: What, if any, benefits do you think should be taken into consideration when assessing the impact of regulating the insurance of AVs?

Learning from other jurisdictions

Although GB's legal framework for insurance, and for AVs, is unique, government is interested in hearing from respondents about how other jurisdictions approach insuring AVs.

Question 71: What examples, if any, do you have of AV insurance being done well, and why?

Chapter 2: Once AVs are on the road

In-Use Regulatory Scheme

The In-Use Regulatory Scheme (IURS) will be used to protect the public by promoting the continued safe and legal operation of AVs on our roads.

The IURS will apply to AVs throughout their lifetime, allowing for vehicles to continue to be verified against authorisation and operator licensing requirements.

Specifically, the in-use regulator will:

- consider whether AVs continue to comply with the conditions and requirements placed on them through the authorisation process
- consider whether requirements placed on an ASDE through the authorisation process are being met
- consider whether NUIC operator licensing requirements are being met
- identify and investigate “relevant” incidents that demonstrate a vehicle may not be operating safely and legally; and
- where necessary, take action to ensure the continued safety of AVs through the use of civil and regulatory sanctions[9].

The IURS processes may also support the Secretary of State’s monitoring duty under section 38 of the AV Act.

In practice, it is envisaged that the in-use regulator will not be a single entity. The Driver and Vehicle Standards Agency (DVSA) and VCA are likely to take on many of the key responsibilities for the IURS, who will act on behalf of the Secretary of State. The development of the IURS will involve close working with a wide range of stakeholders,

[9] Civil sanctions are non-criminal penalties for failures to comply with regulations, such as compliance notices or fines. Regulatory sanctions are measures imposed by regulatory bodies, such as the IURS, to enforce compliance with regulations. They include measures such as the power to suspend or withdraw a license or authorisation.

including industry, regulators in different countries and first responders including police, ambulance and fire services.

Whilst the IURS will play a crucial role in ensuring AVs remain safe throughout their use, it will not be solely responsible for the overall safety of AVs. The IURS will work closely with ASDEs, NUIC operators and other stakeholders of the safety framework such as the no blame incident inspectors to ensure safety is maintained throughout all stages of AV development and deployment.

Compliance with authorisation and licensing requirements

One of the responsibilities of the IURS is to ensure that authorised AVs and regulated bodies continue to satisfy their authorisation requirements and conditions, as well as any licence conditions.

- Section 5 of the AV Act grants the power to apply requirements for a vehicle to be authorised as self-driving, and to attach conditions to an individual authorisation.
- Section 6 of the AV Act requires the Secretary of State to impose authorisation requirements that ensure authorised AVs has a designated ASDE, as well as authorisation requirements on ASDEs themselves.
- Section 12 of the AV Act grants the power to make regulations to establish a licensing scheme for NUIC operators.
- Section 13 of the AV Act sets out that conditions can be attached to individual operator licenses.

As part of its remit, the IURS will monitor whether specific authorisation and licencing requirements are being complied with. This will encompass a wide variety of areas that allow the IURS to remain confident that a regulated body is maintaining their authorisation requirements and licence conditions, introduced in Chapter 1.

Defining traffic infractions and relevant incidents

Section 39 of the AV Act requires procedures to be put in place to identify and investigate the cause of relevant incidents. A relevant incident under section 39 is broadly defined as:

- occurring on a road or another public place
- involving an authorised AV; and
- giving a reason for looking into whether the enforcement powers should be exercised due to the incident.

A relevant incident, or the allegation of one, is likely to be one of two types of events:

3. Traffic infractions, such as speeding, driving through a red traffic light or not following a traffic officer's direction. Section 44 of the AV Act sets out that an AV would have committed a traffic infraction if:

    - the automated feature is engaged, and
    - the vehicle does anything that would be considered an offence or attract a penalty charge if a human driver was in control of the vehicle

1. Incidents involving AVs, such as collisions with another road user, collisions with infrastructure such as a railway bridge or other harm caused to passengers or property (e.g. passengers seriously injured from falling over inside a bus, or a vehicle fire).

Collecting data to support identification of incidents or infractions

The IURS will need to utilise a range of information to identify whether an incident or infraction has taken place. The scope and sources of information it will use may vary depending on the nature of the incident or infraction.

The AV Act provides a range of statutory powers that enable the IURS to collect information to identify whether an incident or infraction has taken place. These include through authorisation requirements and conditions, and through NUIC operator licensing.

- Section 14 of the AV Act sets out that authorisation and operator licensing regulations may require the collection and sharing of information for a specified purpose. These reasons can be varied. For example, specific anonymised data could be required to enable the reporting of general safety statistics under section 38 of the AV Act. The sharing of information can also extend to private businesses. An example of this is discussed in Chapter 1's subsection on insurance.

- Section 40 of the AV Act grants the power to require the police or highway or traffic authorities to share information on traffic infractions or relevant incidents. This reflects that the police and/or highway or traffic authorities will be first on scene for incidents and the first to know about traffic infractions.

- Section 42 of the AV Act enables the Secretary of State to make regulations allowing information obtained under various powers to be shared by the recipient with others for specified purposes.

There may also be a range of information held by third parties which the IURS may also wish to utilise. The IURS may consider identifying possible incidents through other sources, such as:

- data from cameras,
- notifications from the owner of a vehicle,
- notifications or complaints from members of the public.

Data requirements from UNECE regulation

There are also requirements in UNECE draft regulation that require regular in-service monitoring and reporting (ISMR) of an ADS vehicle. This regulation is still being negotiated, with content, submission processes and timelines yet to be confirmed. These reports are currently planned to be submitted to type approval authorities, which in the UK would be the VCA.

We are working to streamline the process across different bodies, and this work will include the final version of the UNECE regulation once agreed.

The regulation sets out three types of reports that may be required if specific “occurrences” or “safety relevant events” occur:

- initial notifications,
- short-term reports; and
- periodic reports.

The UNECE regulation sets out requirements for manufacturers to provide reporting in an agreed format and template. The report should include supporting data, including any data processing applied, by means of an agreed data exchange mechanism. Data is submitted to the relevant approval authority.

The UNECE has also developed guidance for what data points must be captured by an AV, which will be reinforced by national regulations. These data points include elements such as the time the ADS was activated and deactivated, which will be captured on the DSSAD. This can play a role in insurance investigations, as explained earlier in this document under “Handling Motor Insurance Claims”. If an AV is involved in an incident, additional data points are required to support the investigation into the incident, captured via the EDR.

Identifying relevant incidents and traffic infractions

The IURS must be able to identify when an incident, including collisions, or infraction with an AV has occurred. This is the first step in determining whether an investigation is necessary to determine whether an authorised AV is operating safely on our roads.

Where an AV is a UIC vehicle, the UIC will be required to report any incidents to the police (in line with Road Traffic Act 1988).

Where an AV is a NUIC vehicle, the licensed NUIC operator would be expected to notify the IURS where an incident occurs.

In addition to establishing new mechanisms for reporting, we expect the IURS will also work with organisations and processes that are already in place for conventional vehicles.

Traffic infractions

We anticipate that regulated bodies will be expected to provide details of traffic infractions as part of their regular reporting required by authorisation. A traffic infraction can include the vehicle stopping on a pedestrian crossing. or passengers under 14 years old not wearing seat belts.

Additionally, the IURS may seek details of infractions from external sources, such as the police or local highway or traffic authorities.

Question 72: In your view, how might a regulated body determine if an AV has committed a traffic infraction?

Submitting information regarding traffic infractions and incidents

Information about incidents or infractions may be held by several different parties. This includes, but is not limited to, authorities such as the police that deal with these events on a day-to-day basis, or regulated bodies such as the ASDE or NUIC Operator. The owner and/or UIC of the vehicle will also be both a source of and the recipient of information. With the wide variety of parties required to report, the submission of that information must be standardised to ensure the efficacy and efficiency of the IURS.

Question 73: In your view, what should be taken into consideration in the submission of standardised information to the IUR, and why?

Investigating traffic infractions & relevant incidents

Not every incident or infraction will warrant an investigation by the IURS and not every investigation will result in sanctions. We intend that the IURS will take a proportionate approach, considering the level of harm and the future safety risk posed. Our expectation is that ASDEs and NUIC operators will work collaboratively to support these investigations. To support this, we expect that ASDEs and NUIC operators will nominate a senior person responsible for ensuring that full and accurate information about safety is provided to the Secretary of State, including for use by the IURS.

The AV Act provides several powers to support the IURS access the necessary information to undertake these investigations. This includes:

- Section 16 of the AV Act, which details the investigative purposes for which notices can be issued (with reference to the domestic purposes and the international purpose).

- Section 17 of the AV Act, which grants the power to issue an information notice to a regulated body, requiring the provision of specified information.

- Section 18 of the AV Act, which grants the power to issue an interview notice to a regulated body, requiring attendance of an individual to answer questions to support the IURS investigations.

- Section 20 of the AV Act, which establishes offences related to failing to comply with information or interview notices. This is intended to create accountability, act as a deterrent, and encourage full compliance with information and interview notices.

Investigative bodies already undertake investigations with regards to non-self-driving vehicles. We are interested to understand what additional resources, equipment and skills would be needed for investigations into AVs.

Question 74: In your view, do you think that any specialist elements, including knowledge, would be needed during an investigation into a relevant incident or traffic infraction by the IURS?

If 'yes', what specialist elements, including knowledge, do you think the IURS need to undertake an investigation into a traffic infraction committed by an AV, or a relevant incident involving an AV?

Question 75: What records, if any, should be retained regarding the maintenance and repair history of AVs?

Our expectation and intention are for the IURS to resolve any investigations through collaborative engagement and the use of investigative powers listed above. However, if it is necessary, the AV Act also provides several enforcement powers, including powers to enter and search an ASDE and/or NUICO's premises, and to seize items. There are also powers to stop, test, seize and detain vehicles.

- Section 28 of the AV Act gives a justice of the peace the power to grant a warrant to enter and search premises used by a regulated body, and
- Section 29 of the AV Act sets out the powers exercisable under a warrant granted under section 28.
- Section 30 of the AV Act establishes an offence of impeding the execution of a warrant to enter and search premises and seize items.
- Section 31 of the AV Act sets out requirements for the seizure of items under warrant.
- Section 58 of the AV Act provides authorised officers (constables in uniform and examiners appointed under section 66A of the RTA) with powers to seize and detain self-driving vehicles.

We intend to use the information gathered through this call for evidence to support us in making further regulations in relation to these powers.

Seizure and handling of things related to an investigation

Section 29 provides a power to, among other things, seize and remove any document, equipment, or other item or material on the premises of an ASDE or NUIC operator. This power is only exercisable under a warrant issued under section 28. Section 31 of the AV

Act details what must be done by a person exercising the power of seizure and removal under section 29, and what may be done with the “thing” seized.

During the seizure of anything including vehicles, the IURS must have processes in place so they can retrieve the evidence needed without damage or corruption to the data or physical device.

Question 76: In your view, what specialist knowledge or handling, if any, will be necessary in order to preserve evidence, and why?

If 'yes', what specialist knowledge do you think may be needed to preserve evidence, and why? Do not provide any personal information relating to yourself or another identifiable person.

Section 31 allows for regulations to be made about how the seized thing is to be dealt with. Such regulations may authorise the retention or use of the thing seized or purposes other than the investigative purposes.

For example, the items or information seized can be useful in training, such as allowing fire crews to practice interactions with an AV or enabling the development of internal systems to optimise databases to increase efficiency of reporting. These secondary uses allow the IURS to continue to support the safety of AVs.

Question 77: Beyond the primary purpose of supporting an investigation what, if any, other purposes do you think a thing seized could be retained and used for?

Data relevant to investigations may be stored in a variety of diverse locations, including on computers, on company servers, on third party cloud storage or on vehicles. There may be challenges to data access, including proprietary software, encryption keys.

Question 78: What challenges, if any, are you aware of regarding access to data relevant to investigations?

Section 31 enables the delivery of things seized, including to someone who is not the owner, and the destruction of seized things.

Question 79: In what circumstances, if any, would you consider it acceptable that the thing seized is delivered to someone other than the owner?

Question 80: Beyond those already used for electric and hybrid vehicles, what other considerations, if any, do you think should be implemented during the destruction of an AV?

Storage and disposal of seized things

Section 58 provides a power to seize and detain road vehicles. It does not require a warrant but may only be exercised by an authorised officer in certain circumstances including the prevention of an offence.

Section 58 of the AV Act allows for regulations to be made about what is to happen after a vehicle has been seized and detained. Such regulations must ensure that the vehicle is properly stored, and the owner has a reasonable opportunity to find out the vehicle has been detained and recover it. This might include an AV with connected capability.

Question 81: What considerations, if any, in addition to those for conventional vehicles do you think are appropriate for the storage of a seized AV?

Please note that while most AVs are expected to have an electric powertrain (where the motor is partially/fully powered from onboard batteries), the associated storage requirements are not in scope for this question.

If there is anything not claimed by the owner, then section 58 provides for the disposal of the vehicle. While the AV Act does not define disposal, we believe that disposal could include the sale or donation of the seized vehicle once no longer required and has not been claimed.

Question 82: In your view, what are the circumstances in which a seized AV should be sold rather than disposed of?

Question 83: In your view what, if any, considerations are there in how an AV should be appropriately disposed of compared to a conventional vehicle?

Sanctions

Following an investigation, the IURS may issue a sanction to the responsible ASDE or NUIC operator. The IURS will have a range of sanctions available for use, which will enable it to be fair and proportionate in how it responds to incidents. Issuing sanctions will allow the IURS to ensure that the safety of AVs is upheld by:

- ensuring that ASDEs and NUIC operators continue to comply with their authorisation and operator licensing requirements
- ensuring that ASDEs and NUIC operators take actions to fix any issues identified during an investigation into an incident or traffic infraction
- ensuring that any lessons learned during an investigation are fed back to ASDEs and NUIC operators to prevent a similar issue occurring again in the future; and
- ensuring that ASDEs and NUIC operators are held accountable for the behaviour of their vehicles, and for any failures to comply with regulatory requirements.

To achieve this, the IURS will take a flexible approach, considering each incident or infraction on a case-by-case basis and, if necessary, applying sanctions in whichever way is most appropriate to ensure vehicle safety is upheld going forward.

This is different to the current regulation of human drivers of conventional vehicles, which focuses on the strict criminal enforcement of road traffic rules.

The adoption of this approach was recommended by the Law Commissions. They advised that allowing the IURS to apply a flexible range of non-criminal sanctions would allow for a more proportionate, effective and speedy response to incidents and infractions. Only using criminal sanctions, on the other hand, can be expensive, take a long time to enforce, and may give uncertain outcomes[10].

Several other regulators, such as the Competition and Markets Authority, Health and Safety Executive and Office of Road and Rail, take a similar approach to applying sanctions. We are currently engaging with these regulators to identify learnings which can be applied in the development of the IURS. When answering the following question, please highlight any other regulators in other sectors or jurisdictions which you think we should learn from in developing the IURS.

Question 84: What information can you provide, if any, of existing sanctions regimes in other areas which take a similar, flexible approach to applying non-criminal sanctions?

What sanctions are available?

If appropriate, the IURS will first seek to resolve any issues identified during an investigation through informal means, such as advice, warnings and discussions with ASDEs and NUIC operators. If informal means are deemed insufficient, or have failed to address the issue, then the IURS will issue a sanction.

The AV Act sets out the range of sanctions which the IURS will have available. These fall into two categories: regulatory sanctions and civil sanctions.

Regulatory sanctions are measures imposed by regulatory bodies, such as the IURS, to enforce compliance with regulations, set out in section 8 of the AV Act. These are:

- the power to vary, suspend or withdraw an automated vehicle authorisation.

Civil sanctions are non-criminal penalties for failures to comply with regulations. They are set out in chapter 5 of the AV Act. These are:

- the power to issue compliance notices (section 34)
- the power to issue redress notices (section 35)
- the power to issue monetary penalty notices (section 36)

The full list of civil and regulatory sanctions is set out in the table below.

[10] For further information on the application of sanctions: Regulatory Justice: Making Sanctions Effective and Law Commission consultation paper on criminal liability in regulatory contexts - Lexology

Table of civil and regulatory sanctions

AV Act section	Sanction	Description
Section 8	Power to vary, suspend or withdraw	Allows for: • an AV's authorisation conditions to be varied, • an AV's authorisation to be temporarily suspended; or, • an AV's authorisation to be withdrawn altogether.
Section 34	Compliance notice	Requires an ASDE or NUIC operator to take specific actions to ensure that: • they are compliant with all regulatory requirements going forward; and/or, • that any authorised AVs they are responsible for do not commit a similar traffic infraction again in the future.
Section 35	Redress notice	Requires an ASDE or NUIC operator to take specific actions to rectify, mitigate or compensate for any loss, damage, inconvenience or annoyance caused to other road users.
Section 36	Monetary penalty notice	Requires an ASDE or NUIC operator to pay a specified monetary penalty by a specified time.

Criminal sanctions

As they are not criminal sanctions, the regulatory and civil sanctions available to the IURS cannot result in criminal prosecution or imprisonment. However, the AV Act does create some offences for which criminal action may be taken against an ASDE or NUIC operator following an investigation into an incident or traffic infraction.

Section 20 makes it an offence to:

- fail to provide information requested by an information notice
- provide false or misleading information in response to an information or interview notice
- fail to comply with an information or interview notice, and

- destroy, suppress or alter any information with the intention of preventing information being provided in response to an information or interview notice.

Section 24 makes it an offence for someone who is, or is who is seeking to become, an ASDE or NUIC operator to:

- provide false or misleading information about the safety of AVs (that is either required by a notice or provided voluntarily); or

- failing to provide information about the safety of AVs as required by an information notice or regulatory requirement.

Section 24 also makes it an offence for anyone to destroy, suppress or alter information with the intention of preventing the provision of accurate information.

Section 25 allows for an offence under section 24 to be aggravated if false or withheld information, or information that was intentionally destroyed, suppressed or altered, would have:

- revealed a heightened risk of a vehicle with an authorised automated feature being involved in a specific kind of dangerous incident; and

- a vehicle with that authorised automated feature engaged was involved in an incident of that kind which resulted in an individual being killed or seriously injured.

If an ASDE or NUIC operator is found guilty of these offences, they would be liable to receive a criminal sanction, such as an unlimited fine. Under sections 26 and 27 of the AV Act, nominated individuals and senior managers within ASDEs and NUIC operators could also be personally liable to receive a criminal sanction, such as a prison sentence, if the organisation is found guilty of the offences above (and, in the case of the senior manager, if they consented or connived to commit the offence). The issuing of these criminal sanctions will be the responsibility of the courts, not the IURS.

When might the IURS issue a sanction?

The AV Act sets out the broad conditions in which each sanction can be applied.

Regulatory sanctions can be issued with or without the agreement of the responsible ASDE. They may be issued without an ASDE's agreement if:

- they have failed to comply with an authorisation requirement

- the AV has committed a traffic infraction; or

- the AV no longer satisfies the self-driving test.

An authorisation may also be temporarily varied or suspended without an ASDE's agreement to allow for an investigation into whether one of the above circumstances has occurred.

The conditions in which each civil sanction can be issued vary slightly depending on the sanction. Further detail is set out in each relevant section of the AV Act.

Broadly speaking, civil sanctions can be issued to:

- an ASDE or NUIC operator that has failed to comply with a regulatory requirement (such as an authorisation or operator licensing requirement)
- an ASDE or NUIC operator that has failed to comply with an existing sanction notice; or
- an ASDE if an authorised automated vehicle has committed a traffic infraction.

The IURS will consider each incident or infraction on a case-by-case basis to deciding which sanction to apply.

What level of sanction might be appropriate?

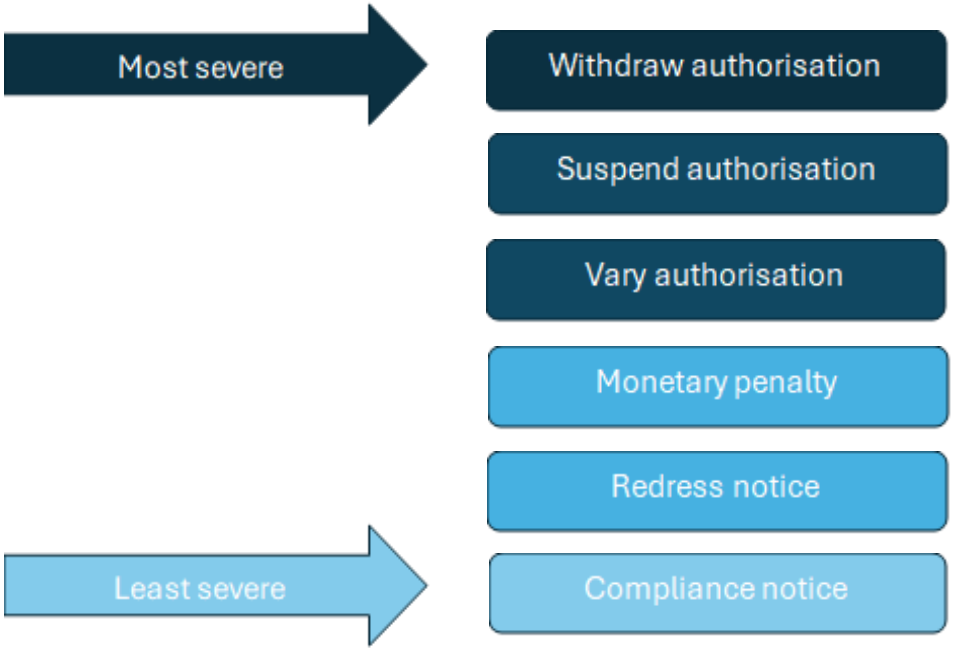
When deciding which sanction would be most appropriate, the IURS will consider all relevant factors regarding the incident or infraction, including:

- the severity of the incident or infraction
- what caused the incident to occur
- whether the same incident has occurred before
- whether the regulated body in question has previously failed to comply with regulatory requirements.

The IURS will also consider the severity of the potential sanctions it has available when deciding which to apply.

For example, for a minor incident the IURS may issue a compliance notice instead of a monetary penalty, as a compliance notice is a less severe sanction than a monetary penalty. Conversely, for a serious incident the IURS may issue a monetary penalty or suspend the vehicle's authorisation, rather than just issue a compliance notice.

Graphic displaying the civil and regulatory sanctions established in the AV Act 2024 ranging from least severe to most severe



Question 85: In your view, what factors relating to an incident or traffic infraction would warrant the IURS to:

- **issue a regulatory sanction under the AV Act, as opposed to a civil sanction?**
- **vary an automated vehicle's authorisation conditions, rather than suspending the authorisation altogether?**
- **issue a monetary penalty notice instead of a compliance notice?**

Wider considerations

Throughout the process of investigating an incident and issuing a sanction, the IURS will aim to maintain regular and open dialogue with ASDEs and NUIC operators. Where necessary, dialogue will also be achieved through the use of requests for information and notices of intent.

The IURS will do so with the intention of establishing a learning culture amongst ASDEs and NUIC operators. Under this learning culture, ASDEs, NUIC operators and the IURS will work together to ensure the safety of AVs is continually upheld, and that any learnings gained through investigations are regularly fed back to the relevant ASDE and/or NUIC operator to prevent issues reoccurring.

As we work to develop the IURS, we will be learning from the experience of regulators in other sectors who have successfully established a learning culture amongst the organisations they regulate. This is in addition to ensuring the IURS follows the principles set out in section 21 and section 22 of the Legislative and Regulatory Reform Act 2006 and the Regulator's Code.

Monetary Penalties

Section 36 of the AV Act grants the power to issue monetary penalty notices. Monetary penalty notices can be issued:

- to an ASDE or NUIC operator if they have failed to comply with a regulatory requirement
- to an ASDE or NUIC operator if they have failed to comply with an existing interview, information, compliance or redress notice
- to an ASDE if an authorised automated vehicle has committed a traffic infraction while the ASDE was responsible for it, unless it appears that the traffic infraction was caused wholly by a failure of a NUIC operator to comply with a requirement under NUIC operator licensing regulations.

Section 36 of the AV Act also requires the Secretary of State to make regulations setting a maximum limit for monetary penalties.

The requirement to set a maximum limit for monetary penalties was recommended by the Law Commissions. They argued that the setting of a maximum limit will ensure that monetary penalties are applied consistently and proportionately across all ASDEs and NUIC operators.

The setting of a maximum penalty limit will also help to ensure ASDEs and NUIC operators comply with regulatory requirements by making clear the potential costs of failing to do so. Similarly, having a clear maximum penalty limit will help to support the AV industry in its business and financial planning by removing uncertainty around the potential penalties they may face.

There are several approaches that could be taken in setting a maximum monetary penalty limit.

One is to set the maximum limit as a percentage of the regulated body's turnover. For example, the Gas Act 1986 sets a maximum penalty of 10% of the regulated person's turnover (how turnover is defined for the purposes of the Gas Act 1986 is set out in a separate Order from 2002). Section 36(10) of the AV Act allows the regulations setting a maximum penalty limit to define what counts as turnover, and how turnover is to be calculated or assessed.

Another approach is to set the maximum limit as a strict figure. For example, the Wireless Telegraphy Act 2006 sets a maximum penalty limit of £2 million for a single breach of information requirements imposed on users of wireless telegraphy apparatus.

A third potential approach is to set the maximum limit as either a percentage of turnover or a strict figure, whichever is higher for the given ASDE or NUIC operator. For example, the Data Protection Act 2018 sets a maximum penalty limit of either £17.5 million or 4% of total annual worldwide turnover in the preceding financial year, whichever is higher.

Government is currently exploring which of the above approaches would be best for setting a maximum monetary penalty limit under the AV Act. As part of this, consideration

may also need to be given to how turnover should be calculated when setting a maximum penalty limit. For example, the maximum penalty limit could either refer to an organisation's total annual worldwide turnover, or just their total annual turnover in the UK.

Question 86: In your view, should a regulated body's turnover be taken into account when setting the maximum limit for monetary penalties?

If 'no', why not?

If 'yes', how should turnover be calculated and why? No personal information should be provided as part of the evidence.

Question 87: In your view, at what amount would it be appropriate to set a strict limit for monetary penalties, and why?

- **Up to £10m**
- **£10m up to £15m**
- **£15m up to £20m**
- **£20m up to £25m**
- **Greater than £25m**

In some cases, a monetary penalty notice may be issued to an ASDE or NUIC operator due to an ongoing failure to comply with a regulatory requirement or an existing interview, information, compliance or redress notice. If this is the case, the monetary penalty notice can specify an additional sum which will be added to the penalty every day until the failure is addressed, or until an earlier specific date given in the notice.

For example, if an ASDE has continually failed to comply with a compliance notice, they may be issued a monetary penalty notice which will have an additional penalty sum added to it every day until they comply with the compliance notice.

As a result, the AV Act also requires the Secretary of State to pass regulations setting the maximum sum which can be added to a penalty each day for continuous failures. This could also be defined as a strict figure, or as a percentage of turnover. If set as a percentage of turnover, this would be defined in the same way as is done when setting the maximum monetary penalty limit.

Question 88: In your view, should a regulated body's turnover be taken into account when setting a limit for additional daily penalties that may be imposed if the failure is a continuous one, and why? No personal information should be provided as part of the evidence.

Question 89: In your view, at what amount would it be appropriate to set a strict limit for additional daily penalties that may be imposed if the failure is a continuous one and why?

Maximum monetary penalty limits for automated passenger services

Part 5 of the AV Act introduced a new, targeted permitting scheme for vehicles that are designed or adapted to drive themselves. The scheme can further be used for trials with the aim of developing vehicles that are so designed or adapted and so could include trials with a safety driver where this aim is met.

If an Automated Passenger Services (APS) permit application is successful, pre-existing taxi, private hire, and passenger service vehicles (PSV) legislation will be disapplied. Permit holders will not be subject to the obligations imposed by current taxi, private hire vehicle (PHV) or Public Service Vehicle (PSV) legislation for a specified duration which will be indicated, provided the permit holder abides by any conditions and reporting obligations placed on them.

The permit conditions may specify:

- the areas in which the service may be provided,
- the vehicles in which the service may be provided,
- the period for which the permit is valid, and
- any conditions which the APS service will need to satisfy.

The APS SI provided for the following enforcement provisions: variation, suspension, withdrawal.

Schedule 6, Paragraph 2 of the AV Act grants the power to issue a monetary penalty notice to an APS permit holder if they have committed an infringement of the permit scheme or have failed to comply with a compliance notice.

The same provision requires the Secretary of State to make regulations setting a maximum limit for the monetary penalties which may be issued. As with the powers under section 36 of the AV Act, these could either be set as a percentage of the permit holder's turnover, as a strict figure, or as whichever of these figures is higher.

Question 90: In your view, should a permit holder's turnover be considered when setting a maximum monetary penalty limit for APS?

- **If 'yes', how, in your view, should turnover be calculated and why? If this differs from the way you think turnover should be calculated for penalties under section 36 of the AV Act, explain why. No personal information should be provided as part of the evidence.**

Question 91: In your view, at what amount would it be appropriate to set a strict limit for monetary penalties for permit violations, and why?

- **Up to £20,000**
- **£20,000 up to £50,000**

- **£50,000 up to £125,000**
- **£125,000 up to £500,000**
- **£500,000 up to £1,000,000**
- **Greater than £1,000,000**
- **Other**

If the failure to which the monetary penalty notice relates is an ongoing one, the monetary penalty notice can provide for a specified sum to be added to the penalty each day until the failure is resolved, or until a specific date. This could be defined as a strict figure, or as a percentage of turnover. If set as a percentage of turnover, this would be defined in the same way as is done when setting the maximum monetary penalty limit.

Question 92: In your view, should a permit holder's turnover be taken into account when setting a limit for additional daily penalties that may be imposed if the failure is a continuous one? No personal information should be provided as part of the evidence.

Question 93: In your view, at what amount would it be appropriate to set a strict limit for additional daily penalties that may be imposed if the failure is a continuous one, and why?

Costs and Benefits from In-Use Regulatory Scheme

Some in society are likely to benefit from new legislation, while others may see increased costs. These costs and benefits could affect businesses, households, government and wider society. Responses to the following question will be considered when conducting appraisal of policy options around the IURS, which ensures that ASDEs continue to meet their authorisation requirements, and that NUICOs continue to meet their license requirements.

Question 94: What, if any, costs do you think should be taken into consideration when assessing the impact of the IURS?

Question 95: What, if any, benefits do you think should be taken into consideration when assessing the impact of the IURS?

Working with first responders

There are three main categories of first responders that will interact with AVs: police, ambulance and fire and rescue services, alongside a wide variety of other services, including traffic officers that will interact with AVs during the commission of their duties.

First responders will be some of the first groups that will be required to be informed and trained on the interactions between themselves and AVs. AVs will encounter first responders driving on blue lights and will need to react appropriately and in a manner

expected by the first responders and other road users at the scene. This is to ensure the safety of all road users and to avoid delays to the emergency services.

The police will both directly interact with AVs and indirectly affect them. Direct interactions include directing traffic and pulling a vehicle over, along with dealing with incident scenes. However, they will also support the IURS during investigations, working together to improve road safety for all road users. They are a key stakeholder in the deployment of AVs on our roads. Ambulance and fire and rescue services will also directly interact with AVs during blue light driving and at incident scenes.

These direct interactions give reason to why section 57 of the AV Act allows those people who have the authority to direct a human driver to stop, to have the same powers to direct an AV. That person may, for example direct an AV to stop by means of an appropriate communication with the equipment of the vehicle. This could be through the use of blue lights and / or sirens to indicate a vehicle should give way to an emergency vehicle. Alternatively, it could be an officer holding their hand out to stop a vehicle approaching an incident scene. A communication is deemed "appropriate" if it is a communication that equipment of the vehicle could reasonably be expected to receive and react to.

Question 96: In your view, what methods could be deemed an 'appropriate communication' between enforcement officers and AVs, and why?

An area of interaction between AVs and first responders will be at the scene of an incident, even if no AV is involved with the incident itself. For example, directing traffic around an incident scene. First responders will need to be able to:

- make a vehicle safe and secure if it was involved in an incident,
- move stationary AVs from restrictive positions, e.g. in front of a fire engine; and
- secure an AV to preserve evidence if a crime has been committed inside the vehicle.

One consideration of AVs is the lack of a human on board other than the passengers. For example, on buses, bus drivers play an important role in the safety of their passengers. Without that additional person, there is the potential for a small minority to take advantage of the situation by committing a crime in the vehicle. This question has been explored in the NUICO considerations for passenger vehicle.

Incident Investigation

Incident investigation by statutory inspectors

Part 3, Chapter 2 of the AV Act, under the heading "Investigation of incidents by statutory inspectors", allows for the creation of an incident investigation function within government.

This incident investigation function will be used to investigate incidents involving AVs in GB to determine their causes and circumstances. These investigations will be conducted by statutory inspectors, acting independently of government. The regulations we are developing will ensure that inspectors have appropriate investigatory independence and powers to investigate these incidents effectively.

The aim of the incident investigation function will be to establish the cause and thereby prevent future incidents by:

- promoting a safety-focused culture
- improving safety awareness; and
- sharing knowledge across the AV ecosystem.

These investigations will focus on learning from incidents to improve safety, not assigning blame or liability.

The inspectors will not issue sanctions. Instead, they will make non-binding recommendations to inform and shape the ongoing safe development and deployment of AVs. This could include recommendations on AV design, operational protocols, technical standards, safety frameworks, and regulatory changes.

By fostering a proactive safety focused approach, the inspectors will address systemic issues across the self-driving vehicle safety framework (e.g. pre- and post-deployment processes). The aim is to protect the public by preventing incidents happening again. This will be achieved by:

- promoting safety learning through issuing safety recommendations and publishing reports that identify, improve the understanding of, and reduce the risk of harm from AVs
- ensuring accountability by shifting the focus from individual culpability to system level learning and improvement
- fostering a safety-focused culture throughout the lifecycle of an AV through a “just culture” and open reporting to contribute to an overall safer system
- building public trust by undertaking independent, open and transparent investigations that lead to a deeper understanding of systemic issues and enable more effective preventative measures to be implemented.

The AV Act includes further regulation making powers (i.e. delegated powers) for the incident investigation function that broadly fall into the following categories:

- functions of a statutory inspector – section 60, section 68, section 72 and section 75
- powers of a statutory inspector – sections 62 to 65, and section 70
- application to police officers – section 67 and section 71
- protection and management of evidence – section 73 and section 74
- crown application – section 96.

This call for evidence does not ask questions or seek evidence on each of these regulation making powers. This is because safety investigation is a well-established international practice, meaning that feedback on some areas of the Incident Investigation policy will be best sought at consultation stage (e.g. on the practicalities of operationalisation). However, for consistency, the questions asked in this call for evidence will remain in line with the categories outlined above. These are the same categories that were used in the Delegated Powers Memorandum and Policy Scoping Notes during the passage of the AV Act.

Incident investigation within safety regulations

Role within the AV safety framework

Within the self-driving vehicle safety framework, there are two distinct investigatory regulatory functions – the incident investigation function and the IURS. It is important to draw the distinction between these two functions.

The purpose of the IURS is to monitor and enforce regulatory standards to ensure AVs operate safely and legally on our roads. The IURS will primarily look at how and why an AV has committed a traffic infraction or being involved in an incident, and whether it is appropriate to issue sanctions. The IURS will also consider whether an ASDE or NUICO continues to comply with its regulatory or licensing requirements.

As these two functions have different purposes, there will be significant degree of operational independence between them. For example, there will be a data-sharing firewall that does not allow the IURS to request and obtain evidence from the incident investigation function, as this would contravene the fundamental policy intent set out in the AV Act. Furthermore, we expect that the IURS and the incident investigation function will each collect their own evidence (i.e. physical material, data and information) for their different statutory purposes. However, in the collection of this evidence, we expect the incident investigation function to ensure that undue regulatory burdens are not placed on any individuals or organisations. For example, this means avoiding duplication of data requests if this can be collected from another regulatory function (e.g. the authorisation authority or IURS).

Safety investigation across transport frameworks

More broadly, the incident investigation function can be likened to that of the existing UK transport accident investigation branches (AIBs). This includes the:

- Air Accident Investigation Branch (AAIB)
- Marine Accident Investigation Branch (MAIB); and
- Rail Accident Investigation Branch (RAIB).

These AIBs all operate as independent units within the structure of DfT.

The existing AIBs investigate accidents and incidents within their specific mode of transport to improve safety and prevent future occurrences both in the UK and internationally[11].

The AIBs have similar UK legislation, with a basis of compliance with international treaties: the International Civil Aviation Organization Annex 13 principles and International Maritime Organisation's Casualty Investigation Code. These treaties have been further refined in line with the maturing of safety-critical industries.

In line with this best practice approach, the AV incident investigation function will be modelled on these principles and the existing UK transport AIBs.

Safety investigation across wider safety-critical frameworks

Other examples of safety investigation capabilities in the UK include:

- the Defence Accident Investigation Branch (DAIB), which investigates accidents, serious incidents and near misses across the UK's defence services; and

- the Health Services Safety Investigation Body (HSSIB), which investigate patient safety concerns across England to improve National Health Service care at a national level[12].

While their purposes are slightly different from traditional transport-focused AIBs, they are founded on the common principles of safety investigation.

Question 97: In your view, what opportunities, if any, are there for the statutory inspectors to learn from other safety critical industries?

The purpose of a statutory inspector

The role of an inspector

Sections 60 and 61 of the AV Act make clear the role and purpose of a statutory inspector for AVs. Specifically, section 61 defines the purpose of these inspectors, which is to:

- identify, improve the understanding of, and reduce the risks of harm arising from the use of AVs on roads in GB without apportioning blame or liability on any person in relation to a particular incident.

This means that the functions of these inspectors will be to conduct safety investigations into incidents involving at least one AV.

The AV Act provides these statutory inspectors (who will be civil servants appointed by the Secretary of State) with several legal powers. It is important for them to have clarity on how to use these powers. so, for example, an inspector must understand the parameters

[11] Note that the Air Accident Investigation Branch also investigates spaceflight accidents.

[12] As set out by the Dash review (officially titled "Review of patient safety across the health and care landscape"), it is planned that HSSIB will become a discrete entity within the Care Quality Commission (CQC). It is expected that the policy intent of conducting safety investigations will remain the same.

set so they can gather critical evidence (including physical items, data and information) and provide independent non-binding recommendations to those best placed to implement positive change.

While these powers are necessary to enable the inspectors to thoroughly investigate relevant incidents, sections 60 and 61 place a purpose limitation on how these powers can be used (i.e. providing clarity on how these powers should be exercised). Section 60(3) of the AV Act allows further regulations to be made about how an inspector should exercise their functions in line with this purpose.

Question 98: In your view, what opportunities and challenges are there to encourage data and information sharing across regulated bodies, regulators and other stakeholders (e.g. the police) to foster a no-blame safety culture?

Question 99: In your view, should there be any limitations placed on an inspector's role and powers considering other safety-critical industries in the UK and internationally, and why?

Further to this, oversight and accountability are essential components of any statutory framework that confers investigatory powers onto individuals. It may be important to ensure that there is appropriate external scrutiny of how these powers are used in practice. For example, His Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS) independently assesses the effectiveness and efficiency of police forces and fire and rescue services. Oversight mechanisms could help maintain public trust, reinforce the no-blame safety culture, and ensure that inspectors remain focused on their statutory purpose.

Question 100: In your view, should there be an oversight function to review the actions and decisions of the statutory inspectors to ensure that they are using their powers appropriately, and why?

Relevant incidents

Section 62 of the AV Act sets out what types of incidents fall within the scope of a “relevant incident”; these are incidents that an inspector can investigate. A relevant incident is defined as:

- occurring on a road in GB,
- an authorised AV being on that road,
- causing (or having the potential to cause) damage to a person or property.

A relevant incident could include, but may not be limited to:

1. A collision with another vehicle (e.g. a conventional vehicle or another AV), pedestrian or cyclist.
2. A collision with road infrastructure (e.g. bridges), street furniture (e.g. signage), or property (e.g. a driveway wall).

3. An unsafe system operation or manoeuvre (e.g. a sensor misread).

4. A near miss or multiple near miss scenarios on a system wide scale; and

5. Other harm caused to passengers or property not because of a collision (e.g. whiplash or a vehicle fire).

The inspectors may also seek to identify recurring patterns or safety issues through data and/or information analysis (e.g. thematic analysis of certain types of incidents).

It is important to note that an AV does not have to be presumed to be at fault for an inspector to investigate it.

The definition of a relevant incident is important as it ensures clarity and consistency in the scope of investigations. This will allow the inspectors to focus on those incidents that provide the most meaningful insights for improving the safety of AVs throughout their lifecycle. Equally, there is enough flexibility within the definition for the inspectors to adapt as AV technology, wider safety ecosystem and marketplace evolve over time.

Section 62(2)(d) of the AV Act notes that further regulations could be made to exclude certain incidents from the definition of "relevant incident" and thus from the scope of an inspector's powers. For example, the regulations could provide for the exclusion of terror related incidents.

Question 101: What safety themes, if any, can be learnt from international deployments of AVs, or AV pilots in GB?

Question 102: In your view, how can lessons learned from investigations into relevant incidents be used to improve:

- **the pre-deployment processes (e.g. approval and authorisation)?**

- **the general in-use safety of AVs to prevent future incidents?**

Functions of a statutory inspector

The main functions of an inspector will be to:

- investigate relevant incidents,

- report to the Secretary of State on findings; and

- issue non-binding recommendations to those best placed to implement positive change.

These recommendations could be to government (e.g. DfT), other responsible authorities (e.g., police) and/or industry (e.g., vehicle manufacturers).

As safety investigation is a long-standing practice, we anticipate that an inspector's role investigating AV incidents will look like:

- analysing reports of recent incidents involving AVs to identify relevant cases
- obtaining, reviewing and examining evidence. This could include physical material (e.g. an AV) and digital data and/or other information (e.g. sensor logs and camera footage). They may also visit the scene (e.g. to develop a reconstruction of events or examine other factors, such as road conditions)
- liaising with a variety of relevant stakeholders or interested parties (e.g. police, manufacturers, insurers, technical experts, and witnesses)
- working across the different regulatory functions within the safety framework to develop deliverable and actionable recommendations, which may include directly working with those who may receive a recommendation; and
- developing accessible safety-focused materials to be publicly published.

An inspector may also be required to respond to an ongoing incident in real time (e.g. attending the live scene of an incident or supporting another investigatory body at another type of incident involving an AV).

While the role of an inspector will remain constant (i.e. in line with the general purpose set out across sections 60 and 61 of the AV Act), we expect that there will need to be an element of flexibility in how they exercise their functions. we expect that there will need to be an element of flexibility in how they exercise their functions.

This will be important as the AV marketplace and safety ecosystem develops over time. For example, section 72(2) of the AV Act allows for further regulations to be made that covers different functions that an inspector may find useful in the future. This could include:

- publishing safety critical information relating to an investigation (e.g. like the "safety digests" published by the MAIB),
- supporting other investigatory bodies and people (e.g. such as one of the existing UK transport AIBs), and
- carrying out other functions considered to contribute to their overall purpose of reducing the risk of harm (e.g. publishing lifesaving and time critical information that otherwise could not be published).

Question 103: In your view, are there any specialist skills and/or expertise needed by someone to carry out the proposed functions of a statutory inspector for AVs, and why?

Question 104: What considerations, if any, should a statutory inspector take into account to ensure that their findings lead to actionable recommendations, and why?

Question 105: In your view, how should reports and recommendations be developed to ensure transparency and ease of understanding by the public?

Question 106: In your view, should the approach to findings being communicated to the public differ at all in the early stages of AV deployments?

If 'yes', how should it differ in approach?

Powers of a statutory inspector

Investigating road traffic incidents is complex, especially from a no-blame and safety focused perspective[13]. This is because there is a range of activities that an inspector is going to need to undertake throughout, including:

- collecting and managing evidence (e.g. physical items, data and information)
- conducting interviews with witnesses, first responders and other relevant individuals or organisations
- coordinating and collaborating with other investigatory bodies (e.g. police and highways authorities) and other stakeholders (e.g. vehicle manufacturers); and
- working with technical experts (e.g. engineers, data analysts or a Police Forensic Collision Investigator[14]).

At the core of each of these activities is collaboration across stakeholders. An inspector is going to need to establish strong relationships, open communication channels and trust to investigate effectively.

To ensure positive outcomes and enable inspectors to achieve their primary purpose, they must also be supported by appropriate powers. This is because an inspector needs the legal foundation to address non-cooperation in circumstances where they face investigatory challenges.

Sections 63, 64 and 65 of the AV Act provide an inspector with the necessary powers to investigate incidents involving AVs effectively. These powers generally allow inspectors to:

- require access to evidence (including access to premises); and
- manage the scene of an incident (under the power to direct traffic).

Stakeholders may collaborate in allowing inspectors access to premises and information under these provisions, and inspectors will only use their powers as a last resort to compel evidence in situations where collaboration is not forthcoming. For example, when an inspector cannot access the evidence through other means (e.g. accessing physical material held by the police or vehicle data held by a vehicle manufacturer outside the UK).

[13] There are five stages of safety investigation that we expect an inspector to follow. This includes: 1) securing the scene (regardless of whether this is in real time), 2) gathering evidence, 3) taking witness and other statements, 4) analysing the evidence, and 5) developing and implementing recommendations.

[14] Police Forensic Collision Investigators use science and engineering to investigate the causes of road traffic and vehicle related incidents.

Scenarios where an inspector may actively use their powers outside of a collaborative environment include, but may not be limited to:

- Scenario 1 – a specific incident of concern which has not been investigated by another investigatory body (e.g. the police or the IURS), meaning there is no body of evidence for the inspector to access. In this scenario, the inspector may decide to use their powers to begin collecting an evidence base.

- Scenario 2 – an inspector is partway through an investigation into a relevant incident and an individual in possession of critical evidence is refusing to cooperate. In this case, the inspector may use their power to compel the disclosure of this evidence as it is essential for their investigation.

- Scenario 3 – an inspector identifies that technical expertise is required to analyse an aspect of AV technology. In this situation, an inspector may use their power to appoint a specific individual to assist in an investigation where they hold a particular skill or expertise.

- Scenario 4 – while attending a live scene of an incident [15], an inspector identifies a hazard that poses a risk to those working at the scene and the public. In this scenario, the inspector could use their power to direct traffic to maintain safety and support other investigatory bodies (e.g. National Highways).

Question 107: When specialist technical AV expertise is not available from within the incident investigation function, are there any:

- **operational considerations that should be made before appointing an expert to assist in an investigation?**

- **commercial considerations that should be made before appointing an expert to assist in an investigation?**

- **other considerations that should be made before appointing an expert to assist in an investigation?**

Protection and management of evidence and information

There is a clear precedent set by the existing UK transport AIBs that protects sensitive personal information and physical material from wider disclosure. This applies not only to the most sensitive personal information but also can include physical material to ensure it is not used unnecessarily outside of an investigation.

This precedent extends beyond the UK and is core to the principles of safety investigation internationally. The incident investigation function and the inspectors will follow and uphold this way of working and precedent.

[15] The Strategic Road Network (SRN) in England comprises of the country's motorways, major A roads and is managed by National Highways. The SRN is a crucial part of the national transport system, connecting major cities, ports, airports, and other key locations.

However, the way in which an inspector should retain or destroy information and physical material collected during their investigation may change over time. This is particularly important as the AV marketplace and other guidance or policies around managing evidence develop. For example, this could include:

- the amount of time evidence must be kept
- setting a time limit for when evidence must be returned or destroyed (e.g. data or information from digital systems); and
- the circumstances in which evidence may be admissible to the courts, including the right to appeal periods.

To ensure investigations are fair, transparent, and effective, it is necessary for inspectors to have clear standard operating procedures that define how they manage and protect evidence.

It is also equally important to ensure that those taking part in an investigation (e.g. a victim, witness or supporting investigatory body) are confident that their contributions are appropriately preserved, which includes its safe management, return or destruction.

Question 108: In your view, should there be any limitations placed on the type of physical material, data and/or information a statutory inspector can retain following an investigation to protect personal or commercial interests?

If 'yes', what limitations?

Question 109: What mechanisms, if any, could be used to ensure that evidence is made available to a statutory inspector when it is held outside of the UK?

Question 110: What, if any, specific guidelines or standards should be established for the examination and retention of evidence related to AVs (i.e. physical items, data or information) obtained during an investigation?

Question 111: What specific purposes, if any, could be considered for the disclosure of evidence obtained by a statutory inspector to ensure that sensitive data and information is managed appropriately?

Question 112: In your view, should there be any guidance or specific regulations created to govern the use, retention and destruction of physical evidence, and why?

Cost and Benefits of Incident Investigation Regulation

Some in society are likely to benefit from new regulation, while others may see increased costs. These costs and benefits could affect businesses, households, government and wider society. Responses to the following question will be considered when conducting appraisal of policy options around the Incident Investigation policy. Note that this is a distinct regulatory scheme than the IURS.

Question 113: What, if any, costs do you think should be taken into consideration when assessing the impact of incident investigation regulation?

Question 114: What, if any, benefits do you think should be taken into consideration when assessing the impact of incident investigation regulation?

AV Cyber Security

Security is a key component of safety, and cyber security is therefore at the heart of the government's priorities for the roll out of self-driving vehicles. It is probable that introducing additional connectivity to vehicle systems will increase their exposure to cyber-attacks. The AV Act enables obligations to be placed on those responsible for self-driving vehicles to maintain vehicles and ensure there are appropriate cyber security controls in place throughout their service life. This extends to the security of the operation centre and includes cyber, personnel and physical security.

The UK's work at the UN to help develop the international regulations on cyber security and software updates will provide the foundation for these requirements. The Department for Transport (the department) co-chairs the UNECE group that developed two new international regulations related to connected and AVs – one on cyber security and one on software updating (UN Regulations 155 and 156 respectively).

The Cyber Security Regulation (R155) sets out requirements to mitigate potential threats through vehicle and system design, to monitor emerging threats and vulnerabilities, and to respond to cyber-attacks. The Regulation on software updating (R156) ensures that software updates that a manufacturer deploys, including those related to cyber security, are performed in a controlled, safe and auditable manner. Manufacturers are already beginning to comply with these regulations globally and the department has been consulting on making them mandatory for unlimited and medium series approvals for all new cars, vans and trucks in Great Britain.

R155 and R156 employ a very different approach to conventional vehicle regulations. They are process focused, which means they require manufacturers to document and demonstrate their respective management systems for assessment during the lifetime of the vehicle, as well as the assessor conducting interviews with relevant personnel. The approach is systematic and risk-based and defines organisational processes, responsibilities and governance to mitigate risks associated with cyber threats to vehicles and protect them from cyber-attacks. Some of the cyber security and software updating risks posed by AVs are different to conventional vehicles.

Question 115: In your view, are there any aspects specific to AVs that are not addressed by R155 and R156, and why?

Under type approval, where a vehicle is built in multiple stages cyber security must be considered at each stage and there should be a relationship between those stages. However, as cyber security and safety are continually evolving and constantly requiring changes, the current multistage approach with dual cyber security responsibility may not work for AVs.

Question 116: In your view, how should the relationships between parties such as vehicle manufacturers, ADS suppliers and NUICOs be managed to support the cyber security duties under the AV Act?

Security for remote operations

Remote operating capabilities present new or heightened cyber security risks, primarily due to the availability of a real or near real-time two-way connection between the NUICO and the vehicle. Having a remote driving capability increases the possibility that a hostile agent could remotely take control of and drive the vehicle.

While relevant cyber security standards and regulations such as R155 will cover the cyber security of vehicles with self-driving capabilities, NUICOs themselves will not be directly subject to this regulation, as it is concerned only with vehicle type approval and does not extend to the operating centre.

Moreover, the security of the vehicles will be contingent on adopting a holistic approach to security beyond purely cyber security. This includes the physical security of control-related components or systems and personnel security related to those with privileged access to these.

Question 117: What aspects of security in these areas should be considered when issuing a NUICO licence? Evidence is sought on the following areas, including systems that have been added to and those adapted/used to enable remote operations:

1. **On-vehicle control systems**
2. **Perception systems**
3. **Communications systems including data transmission and encryption**
4. **Workstation and workplace**
5. **Physical access**
6. **Personnel requirements**

NUICOs will be responsible for detecting and responding to problems during journeys and on the NUICO infrastructure supporting remote operations. This includes cyber security-related incidents.

Question 118: What capabilities, if any, should NUICOs have in order to detect and respond to cyber security-related incidents?

In-use regulation and cyber security

The AV Act establishes several new powers to identify, investigate and take appropriate enforcement action in response to relevant incidents involving an AV. This includes cyber security-related incidents.

Question 119: In your view, how and when should cyber security-related incidents be reported? No personal information should be provided as part of the evidence.

Question 120: In the event of a cyber security-related incident, what information should be provided in the report? No personal information should be provided as part of the evidence.

Accessibility

The APS permitting scheme consultation[16] was launched on 21 July 2025. The scheme is intended to provide a clear legal route to deploying passenger services with no human driver, providing certainty for operators to enter the GB market and provide commercial services. Chapter 3 of the consultation considers accessibility, noting the Government's broader commitment to support safe and inclusive travel and how APS could support these objectives. This chapter posed two questions relating to information pertaining to the safeguarding of passengers and how the service could meet the needs of older and disabled people.

The department intends to establish an Automated Passenger Services Accessibility Advisory Panel. One of its early responsibilities will be to help guide reporting expectations for the statutory reporting condition attached to all APS permits.

The call for evidence on the Statement of Safety Principles[17], which closed on 1 September, noted that we expect AVs will achieve an overall improvement in road safety if they deliver a level of safety equivalent to careful and competent human drivers. We believe this should not come at the expense to safety of any groups of road users and should comply with the rules in the Highway Code, including the hierarchy of road users.

To support the development of an equality and fairness safety principle, the call for evidence sought evidence on assessing the safety impacts on different groups of road users and how this can be monitored.

In support of wider policy development, evidence was also sought on the safety impact AVs will have on groups with protected characteristics.

Question 121: In your view, are there any wider considerations regarding accessibility that should be taken into account in the deployment of AVs?

Environmental Impacts of Automated Vehicles

Further research is required into the overall environmental impact of AVs. Environmental impacts might include carbon and air quality emissions, resource use, energy requirements, biodiversity, waste and water quality. With respect to carbon emissions, there are several counteracting factors. Emissions could be reduced through mechanisms such as improved driving efficiency and increased vehicle sharing, while they could also rise due to factors like greater total mileage, or the energy demands of digital infrastructure.

[16] Automated passenger services (APS) permitting scheme consultation - GOV.UK
[17] Automated vehicles: statement of safety principles - GOV.UK

Question 122: In your view, which environmental mechanisms are more important for understanding the overall environmental impact of AVs, and why?

Question 123: What evidence, if any, can you supply on how AV production—particularly in the UK—will affect the environment, including carbon and other emissions?

Question 124: In your view, how can these factors be developed or managed to minimise environmental impacts?

Question 125: In your view, how should AVs and their components be handled at end-of-life to reduce environmental harm?

What will happen next

We will publish a summary of responses and the government response on the homepage for this call for evidence. Paper copies will be available on request.

If you have questions about this call for evidence, please contact:

Consultation Co-ordinator

Centre for connected and Autonomous Vehicles

Department for Transport

3rd Floor, RTG, Zone 4

Great Minister House

London

SW1P 4DR

Email consultation@ccav.gov.uk

Annex A: Full list of consultation questions

These questions are listed here to give you an overview of what we are asking.

See the Ways to respond section of the GOV.UK home page for this consultation for an online response form and other ways to respond.

Question 1: Do you think that amendments are required to any of the vehicle type approval schemes to enable deployment of AVs?

If 'yes', please explain which approval schemes do you consider require amendment to enable deployment of AVs and why?

Question 2: What amendments do you consider are needed for the categories identified in the previous question, and why?

Question 3: In your view, what do you think will be the designs of self-driving vehicles deployed in the next 5 years?

Question 4: In your view, do you expect any designs to be specific to the UK, and why?

Question 5: In your view, what do you think will be the use-cases of self-driving vehicles deployed in the next 5 years in the UK?

Question 6: In your view, do you expect any use-cases to be specific to the UK, and why?

Question 7: In your view, what types of evidence should form the basis of an authorisation application?

Question 8: In your view, what evidence gathered at the vehicle type approval stage, if any, should be used to support an authorisation decision?

Question 9: In your view, do you think geofencing or environmental mapping have a role in operational design domain (ODD) approval, and why?

Question 10: In your view, are there any specific authorisation requirements relating to the vehicle that should, or should not, be included, and why?

Question 11: In your view, what should be considered when assessing whether an ASDE is of good repute?

Question 12: In your view, what should be considered when assessing whether an ASDE is of good financial standing?

Question 13: In your view, what should be considered when assessing whether an ASDE is capable of competently discharging authorisation requirements?

Question 14: In your view, are there any other specific authorisation requirements relating to the ASDE that should, or should not, be included, and why?

Question 15: In your view, what, if any, additional information should be captured on the register of authorisations?

Question 16: How might you expect to use the information available within the register of authorisations?

Question 17: In your view, what should be considered when developing the authorisation procedure?

Question 18: In your view, are there lessons from other regulated areas that should inform the authorisation regime, and why?

Question 19: In your view, what processes should be in place to ensure that authorised vehicles continue to meet the legal safety standard over time?

Question 20: In your view, how should changes to software or functionality be managed from an authorisation perspective, and when should reauthorisation be required?

Question 21: What, if any, costs do you think should be taken into consideration when assessing the impact of authorisation standards?

Question 22: What, if any, benefits do you think should be taken into consideration when assessing the impact of authorisation standards?

Question 23: In your view, should any existing prohibitions on non-driving related activity by a UIC be disapplied?

If 'yes', what activities and why?

If 'no', why not?

Question 24: What evidence, if any, can you supply on the ability of a driver to safely resume control after disengagement from driving tasks? No personal information should be provided as part of the evidence.

Question 25: In your view, should there be specific training for a UIC?

Question 26: What, if any, knowledge and skills outcomes should the training provide?

Question 27: In your view, how frequently should UICs undertake training or tests of their ability?

Question 28: How should a UIC be informed of any changes to the vehicle's authorisation?

Question 29: In your view what, if any, costs do you think should be taken into consideration when assessing the impact of UIC regulation?

Question 30: In your view what, if any, benefits do you think should be taken into consideration when assessing the impact of UIC regulation?

Question 31: In your view, should there be a stated value expected for a transition period duration akin to UNECE Regulation No. 157?

Question 32: In your view, what should the minimum value be, and why?

Question 33: In your view, should different scenarios require different transition demand protocols, and why?

Question 34: In your view, should the nature of a transition demand vary depending on the user-in-charge and why?

Question 35: In your view, should standards be established for transition demand interfaces across different vehicle makes and models, and why?

Question 36: In your view, what should be considered when assessing whether a NUICO licence applicant is of good repute?

Question 37: In your view, what should be considered when assessing whether a NUICO licence applicant is of good financial standing?

Question 38: In your view, what capabilities should NUICOs generally possess to be able to adequately detect problems arising during NUIC journeys?

Question 39: In your view, what capabilities, if any, other than remotely assisting the ADS and driving the vehicle, should NUICOs generally possess to be able to adequately respond to problems arising during NUIC journeys?

Question 40: If you may seek to operate NUIC passenger-carrying vehicles in the future, what kind of service and types of vehicles would you be most likely to operate?

Question 41: In your view, what requirements, if any, should be put in place for NUIC vehicles which carry passengers in addition to the requirements in existing schemes?

Question 42: In your view, how should operators and authorities seek to prevent and respond to crimes committed within a NUIC passenger vehicle, e.g. taking illegal drugs or sexual assault? No personal information should be provided as part of the evidence.

Question 43: If you may seek to operate NUIC goods vehicles in the future, what kind of service and types of vehicles would you be most likely to operate?

Question 44: If you may seek to operate NUIC goods vehicles over 3.5 tonnes in the future, is it likely you will operate both NUIC goods vehicles and manually driven HGVs?

Question 45: What requirements, if any, of the existing HGV operator licensing scheme should be disapplied, replaced or amended for HGVs operating under a NUIC operator's licence?

Question 46: If you may seek to operate NUIC vehicles in the future, what remote ADS assistance tasks, if any, are you likely to incorporate into early deployments?

Question 47: In your view, how often and in which circumstances would it be appropriate for operators to use remote ADS assistance?

Question 48: In your view, how often, and in which circumstances, would it not be appropriate for operators to use remote ADS assistance?

Question 49: What, if any, training, health or skills assessments, qualifications, and vetting should remote ADS assistants undertake or meet to be deemed fit for their role?

Question 50: In your view, what requirements, if any, should be mandated with respect to the working hours and conditions of remote ADS assistants?

Question 51: In your view, what factors, if any, should determine how many NUIC vehicles a remote ADS assistant should be allowed to support simultaneously?

Question 52: If you may seek to operate NUIC vehicles in the future, how likely are you to look to incorporate remote driving, if at all, into early deployments and in what form?

Question 53: In your view, under what circumstances, if any, should remote driving be permissible for the purpose of vehicle recovery when a NUIC journey cannot be completed by the ADS?

Question 54: In your view, under what circumstances, if any, and considering the possible presence of passengers or goods, should remote driving be permissible for the purpose of responding to problems during NUIC journeys?

Question 55: Under what circumstances, if any, and considering the possible presence of passengers or goods, should remote driving be permissible for the purpose of routinely completing elements of NUIC journeys outside the ODD of the ADS, and why?

Question 56: What, if any, training, skills, safeguarding and health assessments, qualifications and vetting should remote drivers undertake or meet to be deemed fit for their role?

Question 57: What requirements, if any, should be mandated with respect to the working hours and conditions of remote drivers?

Question 58: In your view, what considerations, if any, should be made with respect to assessing remote driving hardware and software within a remote operations centre?

Question 59: In your view, which restrictions or mandatory conditions, if any, should be placed on NUICOs with respect to their contracting out of functions to third-party suppliers?

Question 60: What, if any, costs do you think should be taken into consideration when assessing the impact of NUICO regulation?

Question 61: What, if any, benefits do you think should be taken into consideration when assessing the impact of NUICO regulation?

Question 62: In your view, how can insurance play a role in ensuring that good financial standing of regulated bodies is met?

Question 63: What, if any, instances where insurance products are used to ensure good financial standing can you supply?

Question 64: Taking into consideration available insurance for product recalls in the automotive industry, what sort of premiums are charged for what sort of coverage?

Question 65: In your view, is there a need for new kinds of fleet management insurance products for NUICOs?

If 'yes', what type of products and/or coverage?

If 'no', how do you see existing insurance products working to cover remote operations?

Question 66: What, if any, learnings from other insurance models could be applied to any new types of insurance for AVs, and why?

Question 67: In your view, what risks and opportunities are there for data controllers such as ADSEs and NUICOs in sharing this data with insurance companies?

Question 68: If insurers request vehicle data that goes beyond determining liabilities of incidents where an AV is directly involved in a collision, how could privacy and data protection requirements be managed?

Question 69: What, if any, costs do you think should be taken into consideration when assessing the impact of regulating the insurance of AVs?

Question 70: What, if any, benefits do you think should be taken into consideration when assessing the impact of regulating the insurance of AVs?

Question 71: What examples, if any, do you have of AV insurance being done well, and why?

Question 72: In your view, how might a regulated body determine if an AV has committed a traffic infraction?

Question 73: In your view, what should be taken into consideration in the submission of standardised information to the IUR, and why?

Question 74: In your view, do you think that any specialist elements, including knowledge, would be needed during an investigation into a relevant incident or traffic infraction by the IURS?

If 'yes', what specialist elements, including knowledge, do you think the IURS need to undertake an investigation into a traffic infraction committed by an AV, or a relevant incident involving an AV?

Question 75: What records, if any, should be retained regarding the maintenance and repair history of AVs?

Question 76: In your view, what specialist knowledge or handling, if any, will be necessary in order to preserve evidence, and why?

If 'yes', what specialist knowledge do you think may be needed to preserve evidence, and why? Do not provide any personal information relating to yourself or another identifiable person.

Question 77: Beyond the primary purpose of supporting an investigation what, if any, other purposes do you think a thing seized could be retained and used for?

Question 78: What challenges, if any, are you aware of regarding access to data relevant to investigations?

Question 79: In what circumstances, if any, would you consider it acceptable that the thing seized is delivered to someone other than the owner?

Question 80: Beyond those already used for electric and hybrid vehicles, what other considerations, if any, do you think should be implemented during the destruction of an AV?

Question 81: What considerations, if any, in addition to those for conventional vehicles do you think are appropriate for the storage of a seized AV?

Question 82: In your view, what are the circumstances in which a seized AV should be sold rather than disposed of?

Question 83: In your view what, if any, considerations are there in how an AV should be appropriately disposed of compared to a conventional vehicle?

Question 84: What information can you provide, if any, of existing sanctions regimes in other areas which take a similar, flexible approach to applying non-criminal sanctions?

Question 85: In your view, what factors relating to an incident or traffic infraction would warrant the IURS to:

- **issue a regulatory sanction under the AV Act, as opposed to a civil sanction?**
- **vary an automated vehicle's authorisation conditions, rather than suspending the authorisation altogether?**
- **issue a monetary penalty notice instead of a compliance notice?**

Question 86: In your view, should a regulated body's turnover be taken into account when setting the maximum limit for monetary penalties?

If 'no', why not?

If 'yes', how should turnover be calculated and why? No personal information should be provided as part of the evidence.

Question 87: In your view, at what amount would it be appropriate to set a strict limit for monetary penalties, and why?

- **Up to £10m**
- **£10m up to £15m**
- **£15m up to £20m**
- **£20m up to £25m**
- **Greater than £25m**

Question 88: In your view, should a regulated body's turnover be taken into account when setting a limit for additional daily penalties that may be imposed if the failure is a continuous one, and why? No personal information should be provided as part of the evidence.

Question 89: In your view, at what amount would it be appropriate to set a strict limit for additional daily penalties that may be imposed if the failure is a continuous one and why?

Question 90: In your view, should a permit holder's turnover be considered when setting a maximum monetary penalty limit for APS?

- **If 'yes', how, in your view, should turnover be calculated and why? If this differs from the way you think turnover should be calculated for penalties under section 36 of the AV Act, explain why. No personal information should be provided as part of the evidence.**

Question 91: In your view, at what amount would it be appropriate to set a strict limit for monetary penalties for permit violations, and why?

- **Up to £20,000**
- **£20,000 up to £50,000**
- **£50,000 up to £125,000**
- **£125,000 up to £500,000**
- **£500,000 up to £1,000,000**
- **Greater than £1,000,000**
- **Other**

Question 92: In your view, should a permit holder's turnover be taken into account when setting a limit for additional daily penalties that may be imposed if the failure is a continuous one? No personal information should be provided as part of the evidence.

Question 93: In your view, at what amount would it be appropriate to set a strict limit for additional daily penalties that may be imposed if the failure is a continuous one, and why?

Question 94: What, if any, costs do you think should be taken into consideration when assessing the impact of the IURS?

Question 95: What, if any, benefits do you think should be taken into consideration when assessing the impact of the IURS?

Question 96: In your view, what methods could be deemed an 'appropriate communication' between enforcement officers and AVs, and why?

Question 97: In your view, what opportunities, if any, are there for the statutory inspectors to learn from other safety critical industries?

Question 98: In your views, what opportunities and challenges are there to encourage data and information sharing across regulated bodies, regulators and other stakeholders (e.g. the police) to foster a no-blame safety culture?

Question 99: In your view, should there be any limitations placed on an inspector's role and powers considering other safety-critical industries in the UK and internationally, and why?

Question 100: In your view, should there be an oversight function to review the actions and decisions of the statutory inspectors to ensure that they are using their powers appropriately, and why?

Question 101: What safety themes, if any, can be learnt from international deployments of AVs, or AV pilots in GB?

Question 102: In your view, how can lessons learned from investigations into relevant incidents be used to improve:

- **the pre-deployment processes (e.g. approval and authorisation)?**
- **the general in-use safety of AVs to prevent future incidents?**

Question 103: In your view, are there any specialist skills and/or expertise needed by someone to carry out the proposed functions of a statutory inspector for AVs, and why?

Question 104: What considerations, if any, should a statutory inspector take into account to ensure that their findings lead to actionable recommendations, and why?

Question 105: In your view, how should reports and recommendations be developed to ensure transparency and ease of understanding by the public?

Question 106: In your view, should the approach to findings being communicated to the public differ at all in the early stages of AV deployments?

If 'yes', how should it differ in approach?

Question 107: When specialist technical AV expertise is not available from within the incident investigation function, are there any:

- **operational considerations that should be made before appointing an expert to assist in an investigation?**
- **commercial considerations that should be made before appointing an expert to assist in an investigation?**
- **other considerations that should be made before appointing an expert to assist in an investigation?**

Question 108: In your view, should there be any limitations placed on the type of physical material, data and/or information a statutory inspector can retain following an investigation to protect personal or commercial interests?

If 'yes', what limitations?

Question 109: What mechanisms, if any, could be used to ensure that evidence is made available to a statutory inspector when it is held outside of the UK?

Question 110: What, if any, specific guidelines or standards should be established for the examination and retention of evidence related to AVs (i.e. physical items, data or information) obtained during an investigation?

Question 111: What specific purposes, if any, could be considered for the disclosure of evidence obtained by a statutory inspector to ensure that sensitive data and information is managed appropriately?

Question 112: In your view, should there be any guidance or specific regulations created to govern the use, retention and destruction of physical evidence, and why?

Question 113: What, if any, costs do you think should be taken into consideration when assessing the impact of incident investigation regulation?

Question 114: What, if any, benefits do you think should be taken into consideration when assessing the impact of incident investigation regulation?

Question 115: In your view, are there any aspects specific to AVs that are not addressed by R155 and R156, and why?

Question 116: In your view, how should the relationships between parties such as vehicle manufacturers, ADS suppliers and NUICOs be managed to support the cyber security duties under the AV Act?

Question 117: What aspects of security in these areas should be considered when issuing a NUICO licence? Evidence is sought on the following areas, including systems that have been added to and those adapted/used to enable remote operations:

7. **On-vehicle control systems**
8. **Perception systems**
9. **Communications systems including data transmission and encryption**
10. **Workstation and workplace**
11. **Physical access**
12. **Personnel requirements**

Question 118: What capabilities, if any, should NUICOs have in order to detect and respond to cyber security-related incidents?

Question 119: In your view, how and when should cyber security-related incidents be reported? No personal information should be provided as part of the evidence.

Question 120: In the event of a cyber security-related incident, what information should be provided in the report? No personal information should be provided as part of the evidence.

Question 121: In your view, are there any wider considerations regarding accessibility that should be taken into account in the deployment of AVs?

Question 122: In your view, which environmental mechanisms are more important for understanding the overall environmental impact of AVs, and why?

Question 123: What evidence, if any, can you supply on how AV production—particularly in the UK—will affect the environment, including carbon and other emissions?

Question 124: In your view, how can these factors be developed or managed to minimise environmental impacts?

Question 125: In your view, how should AVs and their components be handled at end-of-life to reduce environmental harm?