



**Kennedys' response to Automated Vehicles: Consultation Paper 2 on
Passenger Services and Public Transport (A joint Law Commission of
England and Wales and the Scottish Law Commission consultation paper)
February 2020**

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About Kennedys

“The firm has a deep understanding of the pressures on the client’s bottom-line and has developed a reputation for providing straightforward, pragmatic advice.”

Chambers and Partners

Kennedys is a global law firm with expertise in dispute resolution and advisory services. Founded in 1899, we have a rich history of delivering straightforward advice, even when the issues are complex.

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Our lawyers handle both contentious and non-contentious matters, and provide a range of specialist legal services, for many industry sectors including insurance and reinsurance, aviation, banking and finance, construction and engineering, healthcare, life sciences, marine, public sector, rail, real estate, retail, shipping and international trade, sport and leisure, transport and logistics and travel and tourism. But we have particular expertise in litigation and dispute resolution, especially in defending insurance and liability claims.

Our core principle is to help clients become less reliant on our lawyers, using us only when we add real value to an outcome, and we are doing this through the progressive development of client-focused technologies. We combine talent, specialist technology and commercial perspectives to create the best outcomes for every one of our clients.

Our niche focus on insurance and disputes permeates every part of our global network and allows us to always offer rich and diverse perspectives.

Our **Corporate and Public Affairs** team are experts in the political process and are skilled in identifying thought leadership opportunities on behalf of clients. They strive to offer market insights and intelligence around issues shaping today’s corporate landscape.

Proven results include published market research on driverless vehicles, which examined consumer acceptance of the technology and positioned us to successfully lobby Government to change the Automated and Electric Vehicles Bill. We care about helping our clients understand drivers of change and are committed to representing our clients’ interests in policy-led changes.

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Introduction

Kennedys supports the Law Commission's aim of ensuring that new passenger-only transport services - Highly Automated Road Passenger Services (HARPS) - are operated safely and are used to achieve the societal and environmental benefits that they offer.

There will of course be many challenges in implementing passenger-only transport services - not least ensuring passenger safety, accessibility for all, and data privacy to name a few. The approach taken to meet these challenges will ultimately determine consumer acceptance and the extent to which these new services will be successfully adopted. Achieving "a transport system that works better for disabled and older people" must underpin the regulatory framework and the importance of co-design and consultation with vulnerable users cannot be overstated.

We agree that the existing regulatory divisions between taxis, private hire and public service vehicles combined with the particular challenges that driverless passenger services will bring, call for a new regulatory regime for HARPS. This also presents a unique opportunity to simplify and codify operator licensing, and will assist in avoiding issues arising from 'regulatory shopping'.

Any new regulatory structure should be outcome focussed and provide flexibility to regulators to achieve those outcomes. That way, regulation will be better placed to keep pace with technology and not pose a barrier to innovation - a regulatory framework that can evolve and adapt as the technology develops is essential.

Certainty in respect of legal responsibility for insuring, keeping the vehicle roadworthy and installing safety critical updates is paramount.

Autonomous vehicles represent opportunities to unlock new capacity in urban transport systems by improving efficiency within the existing infrastructure, potentially reducing the need to invest billions in new metro or rail systems.

However, the potential infrastructure requirements and existing road space limitations in many areas, will also present unique challenges. We support the proposal for a single standardised national system of operator licensing (subject perhaps to some regional differences in the UK). If for example, segregation/additional lanes are required for the safe operation of these vehicles, this may prevent the benefits of HARPS being realised in rural communities where the benefits of such a transport service are clear. Limiting the

benefits of HARPS to urban and semi-urban areas, or on large motorways/trunk roads with the capacity for an additional lane.

Kennedys' research: consumer acceptance

Following active engagement with officials (government and peers), we have authored the first major piece of research into public attitudes on driverless vehicles - *Driverless vehicles: Innovation to revolutionise the way we transport modern societies*.

The insights gained confirm that, alongside the regulatory review, the views of a large cross-section of society in the UK must be monitored. Government-led education of the public is required to avoid the very real possibility that the public will take a negative view of autonomous vehicle technology, and thereby inhibit rollout and public uptake and trust.

As one of the largest studies on attitudes towards autonomous vehicles to date, our new report (published in July 2019) explores public support across the globe and insights from key industry leaders.

Our latest insights report, ['Autonomous vehicles - The future of transport: A brave new world?'](#), builds on the findings of our [previous report](#) in 2017 and covers the wider transport industry (road, rail, aviation and shipping), as well as the insurance and logistics industries. It contains both consumer and business sentiment towards autonomous vehicles from six survey markets: Australia, China, Hong Kong, Singapore, UK and US.

The world is on the cusp of a transport revolution: one in which machines will increasingly take control from humans. That shift raises fundamental concerns around public safety and where the liability rests when accidents occur. It also means a major shift in the amount of data that is collected by vehicles, and how that data is stored and used. Faced with these challenges, the views of end-users will be integral to deciding the scale and speed at which markets choose to adopt autonomous vehicle technology.

Response to questions

Chapter 3: Operator licensing - a single national system

A single national scheme

Consultation Question 1 (Paragraph 3.82)

Do you agree that Highly Automated Road Passenger Services (HARPS) should be subject to a single national system of operator licensing?

We believe it is entirely sensible for there to be a single standardised national system of operator licensing (subject to perhaps some regional differences in the UK as a whole - see below) that has a clear focus at its core, e.g. passenger protection. This also presents a unique opportunity to simplify and codify operator licensing, particularly in relation to HARPS used to carry passengers for reward - currently taxis, private hire vehicles and public service vehicles (PSVs).

There are potential issues with the application of the current and fragmented systems to HARPS, and a single national system will hopefully prevent operators inadvertently falling foul of licensing requirements. Further specifics as to which body or bodies will enforce the new licensing standards will need to be considered. Having a specific focus/purpose for the regulation, will facilitate the development of a system that advances as technology and user-patterns do. One approach would be to develop a principles-based regulatory regime that balances strict requirements with sufficient flexibility to accommodate innovative change and development.

By way of example, the regulations could implement a similar regime to that of the Financial Conduct Authority's Senior Manager and Certification Regime (SM&CR), in that the relevant principle may be 'passenger safety'. In so doing, HARPS operators would be required to identify a senior manager, ultimately responsible for the safety compliance of the HARPS vehicle(s), and to whom a sub-category of senior staff would report to in respect of the specific elements necessary to achieve that compliance. For example, an employee responsible for insurance, an employee responsible for software updates, an employee responsible for hardware updates/maintenance etc. All other employees should also be subject to consistent training and be aware of the regulatory reasons behind the company policies that they are required to adhere to.

In meeting its obligations to ensure passenger safety, the HARPS operator must be able to demonstrate that passenger safety (in particular, vulnerable passenger safety) is at the

heart of their strategy and vision from board level down. Further, the operator should be required to demonstrate that it has taken and will proactively take substantive action to ensure passenger safety. This way, regulation will be better placed to keep pace with technology and not pose a barrier to innovation. It should also ensure that all operators are subject to the same rules, and so will assist in avoiding any issues of ‘regulatory shopping’.

In addition, having a single national system will hopefully help to encourage HARPS being available to the entire country, as it will not depend on local authorities whose resources may vary significantly. A single national system will also avoid the very real possibility of different local authorities adopting different approaches to implementation and enforcement. It will also mean that passengers, particularly vulnerable passengers who may for example have limited access to the internet and/or technology, are not inadvertently excluded from a new form of transportation.

Consultation Question 2 (Paragraph 3.86)

Do you agree that there should be a national scheme of basic safety standards for operating a HARPS?

While we agree that a national scheme of basic safety standards is desirable, account needs to be taken of the need to apply different safety standards across different parts of the UK. In our response to Consultation Paper 1, on the particular aspect of how automated driving systems can operate safely and effectively in the absence of a user-in-charge, we commented that having listened to our clients who are involved with logistics and public transport, they are keen to ensure that such vehicles are segregated. That really only works in urban and semi-urban areas, or on large motorways/trunk roads with the capacity for an additional lane. The potential benefits to rural communities however are clear within this Consultation Paper. However, strict systems of lane and road segregation within rural (as opposed to urban and suburban) areas would be problematic or impossible.

To expand on this, in Scotland 98% of the land mass is rural, and 70% graded as “remote rural”. 17% of the population live rurally in areas which are also often significant and lucrative tourist destinations. There is a low proportion of A roads to motorways, and many of those are not dual carriageway. 68% of B roads and below are rural, and there are more than 2,500 miles of single track roads with passing places. Rural roads in Scotland

can be subject to sudden and extreme weather conditions which, even with driver operator vehicles, can lead to potentially devastating incidents in passenger transport vehicles.

Further information regarding what these safety standards would cover, what status they would have in law, clearly defined regional differences and how they would be enforced is required to be able to provide an informed response to this question. In general, safety guidance if it is clearly drafted will normally assist operators to comply with the law and the relevant standards, and will assist in identifying breaches of the standards for enforcement purposes. Difficulties can arise where guidance is not clear or unmanageable, or where the guidance creates a higher burden than the law itself requires.

Finally, these standards should extend to both the physical vehicle itself and the software used.

Chapter 4: Operator licensing - scope and content

Scope of the new scheme

Consultation Question 3 (Paragraph 4.33)

Do you agree that a HARPS operator licence should be required by any business which:

- (1) carries passengers for hire or reward;**
- (2) using highly automated vehicles;**
- (3) on a road;**
- (4) without a human driver or user-in-charge in the vehicle (or in line of sight of the vehicle)?**

A HARPS operator licence should be required. It is essential that there is a single national and unified system (subject to limited and clearly defined regional differences for say Scotland, Northern Ireland referred to above) imposing and regulating standards on businesses. It must cover maintenance, remote supervision and safeguarding. Without such a system, it is submitted that breaches may occur and will not be subject to proper tracking and sanction. As a result safety could be compromised.

We would go further and suggest the operator licensing ought not to be restricted just to use of HARPS on the road. For example, airport terminal to stand transfer buses would clearly benefit from automation, but the potential for injury and damage is significant.

We query whether the definition “carries passengers for hire or reward” might create some grey areas and may need further explanation/clarification - for example, if the HARPS is operated on private land would it need a licence?

Confining the HARPS operator licence to carrying passengers for hire or reward will cover a wide variety of business models (including peer to peer lending for example), and as set out in the Consultation Paper, is an established test with the advantage of familiarity and certainty.

A HARPS operator licence should be required due to the fact that operators of such vehicles will assume a more central role without a person in/near the vehicle. Certainty will be afforded by virtue of the fact that licences will be required for any model operating without a human driver/user-in-charge at any stage of the process.

Consultation Question 4 (Paragraph 4.34)

Is the concept of “carrying passengers for hire or reward” sufficiently clear?

See our earlier response at question 3 above.

Even now under the PSV licencing there are some instances where the criteria is unclear. Whilst “carrying passengers for hire or reward” is a very familiar term, which will also be well known within the industry, in the context of this wider regulatory application and this new and developing technology, it would be assisted by some clarity.

Guidance akin to that set out in the Consultation Paper would be useful in helping persons (individuals and companies) establish whether they are caught by the requirement to have a HARPS operator licence, which will provide certainty.

Exemptions

Consultation Question 5 (Paragraph 4.46)

We seek views on whether there should be exemptions for community or other services which would otherwise be within the scope of HARPS operator licensing.

Given the safety concerns, and the need to instil the utmost public confidence, there should be no exemptions from licensing and safety standards. If costs are prohibitive, grants should be made available to enable community based initiatives to take advantage of this new technology. Perhaps the methods of compliance could be, to an extent,

simplified for smaller and community based services. However, put simply, there would be a presumption that a HARPS operator licence is required, unless an application is made to 'opt out' and the criteria of carrying passengers for hire/reward is not met. That provides users and the public with the reassurance that, ordinarily, the rules and regulations shall apply.

We agree with the opinion set out in the Consultation Paper and consider it prudent for all operators of these services to apply for full licences. During the early stages of deploying these vehicles, the issues of consumer safety, roadworthiness, connectivity etc. are the same for all users, regardless of whether they benefit the community or are for profit.

However, as the use of HARPS develops and the initial issues are resolved, the regulation should be reviewed to consider whether exemptions similar to those contained in sections 19 and 22 of the Transport Act 1985, should be created.

Consultation Question 6 (Paragraph 4.54)

We seek views on whether there should be statutory provisions to enable the Secretary of State to exempt specified trials from the need for a HARPS operator licence (or to modify licence provisions for such trials).

It is accepted that vehicles need to be tested but any such exemptions should be used sparingly given the comments above and this seems reasonable where necessary/required. However, it makes sense that there should be statutory provisions enabling the Secretary of State to exempt specified trials from the need for a licence as this will encourage innovation and help developers fine-tune their HARPS operations. Provision should be made so that these trials should only be granted upon approval of a sufficiently detailed safety case, to ensure that the safety of consumers as well as their wider interests are not compromised.

Operator requirements

Consultation Question 7 (Paragraph 4.72):

Do you agree that applicants for a HARPS operator licence should show that they:

- (1) are of good repute;**
- (2) have appropriate financial standing;**

- (3) have suitable premises, including a stable establishment in Great Britain; and**
- (4) have a suitable transport manager to oversee operations?**

The current system which governs PSV licences is complex and has evolved in a piecemeal fashion over many years. It is likely to be difficult to establish such a system for HARPS, given the infancy of HARPS vehicles. If rigidly applied, it could be too onerous to obtain a HARPS licence. Flexibility is needed. Certainly, it is submitted that applicants must submit a strong safety case and demonstrate competence. The requirements will not and cannot necessarily resemble that required in a PSV context but there still needs to be a very strong focus on passenger safety (see above).

HARPS operators need to be able to demonstrate that they have consumers' interests at heart and have the requisite knowledge and financial capability to establish and maintain HARPS vehicles and/or software to ensure that services remain safe and fit for purpose. As suggested in our other responses, a similar regime to that of the SM&CR could be of benefit, particularly with regard to transport managers. Requiring transport managers to evidence their understanding of their role and responsibilities will provide further transparency and ensure senior members of staff remain accountable.

Consultation Question 8 (Paragraph 4.73)

How should a transport manager demonstrate professional competence in running an automated service?

In the absence of specific training courses and examinations for HARPS, and with no historic experience to point to (it being new) it will be difficult for transport managers to demonstrate competence specific to HARPS. However, there will be some overlap with the skills, experience and knowledge required by a 'traditional' transport manager. Therefore experience in that field will go towards demonstrating competence, together with an ability to demonstrate an awareness of the additional risks associated with HARPS, and an understanding of the relevant measures needed to control those risks. Guidance and best practice documents must be produced and provided to all stakeholders and potentially interested parties before any implementation.

A similar approach required by the SM&CR should be adopted whereby managers are required to prepare a safety case that demonstrates that due regard has been given to consumer needs, in particular those consumers who have vulnerable characteristics, and that evidences a clear line of responsibility for the management of the automated service.

Adequate arrangements for maintenance

Consultation Question 9 (Paragraph 4.89)

Do you agree that HARPS operators should:

- (1) be under a legal obligation to ensure roadworthiness; and**
- (2) demonstrate “adequate facilities or arrangements” for maintaining vehicles and operating systems “in a fit and serviceable condition”?**

We strongly agree. Safety is paramount, as is the need to keep all HARPS fully road worthy and technologically up to date at all times. This move towards upholding the most stringent safety standards should be supported and supplemented by industry guidance as is being suggested in the Consultation Paper.

New technology means new challenges, so operators will need to retain responsibility for their vehicles and systems. However, this legal obligation should be supplemented with guidance in recognition of the challenges involved in maintaining autonomous vehicles and their software, to enable operators to learn from experience and share best practice.

The Network and Information Systems Regulations 2018 (NIS) - An added layer of risk to HARPS.

In addition to the Data Protection Act / the General Data Protection Regulations (GDPR), it appears very likely that any HARPS providers will be subject to the guidelines set out in NIS. The basic principle of NIS is that it binds “operators of essential services” to regulators (competent authorities), and gives them notification obligations to these regulators. The purpose of this is to establish a common level of security for network and information systems that play a vital role in the economy.

It is foreseeable that the Department for Transport would be the competent authority for HARPS and there would be a range of sector specific technical guidance that would apply to HARPS operators.

In addition to technical guidance, NIS would put an obligation on HARPS providers to take appropriate measures to protect the security of data and information systems, and to take steps to minimise risks and maintain appropriate security. They would also need to notify national regulators of security incidents within 72 hours, and HARPS could be fined up to £17m in the most serious cases. This is in addition to any fines and penalties which could be implemented as a result of a breach of GDPR.

Criminal regulatory aspects

Given the potential harm that could be suffered by passengers if HARPS vehicles became compromised, it is likely that criminal regulation will need to evolve to create new offences to catch this type of danger/ disruption.

If route data and tracking data is compromised this could have serious implications on the safety and security of the UK's infrastructure. Currently there is not adequate criminal regulation to prosecute individuals who compromise such systems, this is also a problem that arises in respect of drone technology.

Other new regulations required?

It appears logical that the regulations produced alongside HARPS must identify the person or organisation responsible for updating, insuring and maintaining the vehicles and for guarding against cyber-attacks.

Consultation Question 10 (Paragraph 4.90)

Do you agree that legislation should be amended to clarify that HARPS operators are “users” for the purposes of insurance and roadworthiness offences?

Yes it seems sensible to bring HARPS in line with existing legislation. The more clarity and certainty provided, the better. It is not clear from the Consultation Paper which offences will be extended to include HARPS operators, but a review will need to be conducted to identify whether businesses (as opposed to individuals) are able to be prosecuted for the offences in question.

Compliance with the law

Consultation Question 11 (Paragraph 4.124)

Do you agree that HARPS operators should have a legal duty to:

- (1) insure vehicles;**
- (2) supervise vehicles;**
- (3) report accidents; and**
- (4) take reasonable steps to safeguard passengers from assault, abuse or harassment?**

(1) insure vehicles

Yes, we agree that HARPS operators should have a legal duty to insure the vehicles. Insurance, particularly in relation to cyber risks will be very important moving forwards. Legislation should specifically require insurance coverage to include potential connectivity issues and cyber security issues, as well as setting out what other areas of coverage are required.

There are a number of potential cyber risks posed by the implementation of HARPS, some of the key risks are:

A “traditional” breach of personal data

It is unlikely that HARPS will process significant amounts of additional personal data when compared to ordinary public transport operators (who, for example, already use smart ticketing platforms and could track location data). However, more automation means more general commercially sensitive data being processed by operators. This will include increased route data, efficiency data, and bespoke artificial intelligence/machine learning data produced by the autonomous vehicle which may be valuable. All of this creates a cyber security risk to HARPS and puts them at risk of a disruptive attack. However, weighed against that, and with suitable security measures in place, largely anonymised usage data will very much help to improve customer service.

Malware/ransomware attacks

Driverless vehicles will be the target of malware attacks, and with a public transport network of automated vehicles the potential for disruption from malicious software is significantly increased. The key risk is the fact that a ‘threat actor’ could potentially bring down an entire network of vehicles in the event that they are connected. This a particular risk if there is only one HARPS operator, and would put them under a significant exposure.

There are also other types of malware attacks that could target specific aspects of the automated vehicles, such as electronic readings on tyre pressure or fuel levels as well as global positioning software (GPS). There is also the risk of interference with specialist ‘decision making’ technology which is likely to become more prevalent in the future (i.e. the vehicle’s software calculating the most appropriate manoeuvre in the circumstances).

Connection risks

Autonomous public transportation would require a number of connection points through which hackers could gain entry into ecosystems, customer information logs and databases,

or even penetrate manufacturers' back-end systems. Cyber threat actors could also exploit vulnerabilities in a third-party vendor's systems (which is something we see regularly).

Historically, security has been an afterthought in the design phase for vehicles and their components. Accordingly, manufacturers will need to implement end-point security by design. The GDPR provides that organisations should 'bake in' data protection into business practices from the design phase forward, but there is no obligation for this to be implemented within the vehicles themselves (vehicles would not necessarily be classed as being part of the organisations systems). Implementing security by design will help avoid the networks becoming an easy target for hackers exploiting vulnerabilities using cellular networks, Wi-Fi, and physical connection.

State-sponsored attacks

There is technology that has the capability to block Wi-Fi and other communications channels such as GPS. This has recently been the subject of an alleged State-sponsored attack. This type of attack could potentially halt a HARPS public transport network in a large city.

Manipulation of safety-critical systems

There is the potential for hackers to take control of safety-critical aspects of a vehicle's operation; for example, by compromising the cruise control system to manipulate the steering and braking systems.

Possible downturn of consumer confidence in the technology

If the public perceive HARPS to have systematic cyber related risks, which could pose a threat to their safety, then use of the transport is at risk of being lower than conventional methods of transport.

We have been given an indication that mandatory insurance will be extended to the insurance of driverless vehicles in the Automated and Electric Vehicles Act 2018. However, what is not dealt with is the position in respect of a large scale driverless network (such as a driverless network operated by Transport for Greater Manchester for example). It is unclear who will pick up specific risks and the Automated and Electric Vehicles Act 2018 allows insurers to exclude risks such as:

- Where the accident was caused wholly due to the person's negligence in allowing the automated vehicle to begin driving itself when it was not appropriate to do so;

- Software alterations that were not allowed by the insurance policy; or
- A failure to install safety-critical software.

This raises the question of who picks up the bill where liability is excluded, and how organisations will be able to mitigate these risks. By allowing such exclusions it may make it more difficult for customers to obtain compensation in the event of an accident.

There is also the question of what type of insurance policy we are talking about here - a cyber policy (which is likely to be inadequate as this is unlikely to include cover for personal injury or death), a motor policy (which may not provide the relevant breach response cover that a cyber policy would provide), or a specialist combination of the two. The latter is the most likely and it remains to be seen how this develops. There is also the issue of whether such policies would include a war exclusion.

(2) Supervision of vehicles

Yes we agree that HARPS operators should have a legal duty to supervise vehicles. It is also important that there is suitable training and guidance for ‘remote supervisors’ and that they are in turn also adequately supervised/supported and monitored in their role given their level of responsibility and their ability to give instructions to the vehicle remotely.

(3) Reporting of accidents

The reporting of accidents should be a legal obligation, as should the reporting of non-untoward events data. The collection of such data from such an early stage, the quality and detail of which is consistent on a national level, will enable innovation and assist regulation in being pre-emptive rather than simply reactionary. This could lead to reduced costs further down the line.

However, if data regarding users of HARPS vehicles is collected in addition to data regarding events, appropriate provision should be made to implement strict data protections, particularly where data relates to vulnerable consumers.

(4) Safeguarding passengers

In respect of taking reasonable steps to safeguard passengers, we agree that a general duty should be imposed, as the means of safeguarding passengers is likely to evolve as the use of HARPS vehicles increases. However, we would suggest that in this initial stage it should be a requirement that appropriately checked stewards are used so as to ensure that vulnerable/disabled users are not negatively impacted.

The answer to Question 11(4) is more difficult, as there is *currently* no duty on the provider of public transport to prevent assault, abuse or harassment other than from those under their control. Additionally, the Automated and Electric Vehicles Act 2018 will in most circumstances cater for liabilities to passengers in HARPS vehicles when driving in autonomous mode. However, it is foreseeable that the absence of someone in a position of some authority on a public transport HARPS vehicle may increase the risk of issues between passengers (although the statistics for crime on London's DLR don't necessarily support this). Perhaps some regulation to ensure that all HARPS are fitted with CCTV and other passenger safety measures would be in order. We agree with the Consultation Paper that most public reaction to CCTV is positive and this would work well, at least in the first phase, with a steward being present (see above) on larger public transport HARPS vehicles. We believe a steward would have more authority and be in a stronger position to avoid passenger-to-passenger dangers when CCTV is also present.

Consultation Question 12 (Paragraph 4.125)

Do you agree that HARPS operators should be subject to additional duties to report untoward events, together with background information about miles travelled (to put these events in context)?

We agree. In relation to reporting requirements, the government may consider it necessary to develop similar reporting regulations as exist in health and safety - the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR regulations) for certain events involving HARPS. It is an offence not to report certain events under the RIDDOR regulations. A similar framework could be introduced for HARPS so that the regulator can ensure as far as possible that it is receiving accurate and timely data/information. This will also enable proper tracking of such HARPS vehicles.

The reporting of such additional information will be key in fostering innovation and ensuring that the regulation of HARPS is flexible, pre-emptive and keeps up with the pace of technology as it advances.

Consultation Question 13 (Paragraph 4.128)

Do you agree that the legislation should set out broad duties, with a power to issue statutory guidance to supplement these obligations?

It is agreed that statutory guidance needs to be flexible and able to adapt, particularly where rapidly advancing technology is concerned. It is important, however, that HARPS are not introduced on the basis of very broad duties which are subject to wide interpretation and give the public limited confidence in the vehicles and how they are operated.

In general terms, the broader the duty the more likely parties will become engaged in lengthy and costly litigation. There needs to be clarity in the applicable duties before HARPS are put into operation on UK roads.

However, we believe that an outcomes-based approach to regulations-drafting through a combination of a consideration of duties and provision of effective guidance to stakeholders will achieve better results for consumers (specifically vulnerable consumers) because it avoids the unintended creation of unnecessary barriers as a consequence of regulation.

Price information

Consultation Question 14 (Paragraph 4.133)

We invite views on whether the HARPS operator licensing agency should have powers to ensure that operators provide price information about their services.

In particular, should the agency have powers to:

- (1) issue guidance about how to provide clear and comparable price information, and/or**
- (2) withdraw the licence of an operator who failed to give price information?**

In relation to part (1) of this question, an obligation to provide consumers with accurate price information would be a useful addition, but care must be taken not to interfere with commercial competition.

If fares are not going to be regulated then pricing needs to be fair. To ensure fairness, operators need to be transparent about their pricing practices and the simplest way to do this is to provide pricing information and provide or at least enable price comparisons.

Price transparency is particularly important in relation to vulnerable customers because regulation must ensure that those people are not priced out of using HARPS vehicles and/or otherwise disadvantaged as a result of their vulnerable characteristics.

Who should administer the system?

Consultation Question 15 (Paragraph 4.138)

Who should administer the system of HARPS operator licensing?

As explored throughout our response to the preliminary consultation, the system ought to be overseen and monitored centrally, perhaps by the Traffic Commissioner, in order to provide a degree of control and insight over this new area, as well as avoiding inconsistent approaches seen in the current licensing scheme for taxis and private hire vehicles. Powers will need to be given to local authorities to ensure that the licences granted match local needs and uses, discussed elsewhere in this response. However, a central authority needs to ensure a completely consistent approach here at a local level.

Freight transport

Consultation Question 16 (Paragraph 4.140)

We welcome observations on how far our provisional proposals may be relevant to transport of freight.

A great deal of what is proposed in relation to passenger vehicles applies equally to freight. Freight operators (operating the equivalent of HARPS for the transportation of goods) ought to be subject to the same or similar licensing obligations as HARPS operators.

It will however, be necessary to give careful consideration to the separate regulations that apply to the transportation of cargo. For example, the requirements under the Good distribution practice (GDP) in relation to pharmaceutical products, ensure that the quality and integrity of medicines is maintained throughout the supply chain. This includes ensuring storage of medicines in the right conditions at all times, including during transportation. In the absence of a driver, consideration will need to be given to how freight operators will be able to evidence the uninterrupted provenance of the products that are being transported.

The security of high value cargo is also an important consideration, with many freight forwarders adopting the requirements and standards for cargo security set by the Transported Asset Protection Association (TAPA). Driver training is central to compliance with those standards, with an emphasis on dealing with incident response (including hijacking). It seems likely that the absence of a driver would prevent freight forwarders from being TAPA compliant, which may be a contractual condition.

In the absence of a driver, the vehicles are also more vulnerable to such incidents. A simple review of a promotional safety video will demonstrate to a thief just how easy it is to stop an autonomous vehicle. If these trucks react to obstacles and danger in a predictable manner, thieves will work this out pretty quickly. Furthermore, if trucks use an algorithm to calculate the most efficient route, a thief using the same algorithm can track the route and plan an attack far more effectively. Thus, a drive to increase efficiency and reduce costs could expose the loads to substantial risk. This is an important matter that will also need to be addressed.

With regard to the supervision of vehicles, freight forwarders currently use control towers and geo-fencing to remotely monitor vehicles (a TAPA requirement). This could provide a useful reference in the context of the proposal for HARPS operators to have a legal duty to adequately supervise vehicles (in order to respond appropriately to collisions or breakdowns). Experience gained in the freight industry may assist in identifying particular vulnerabilities and areas for improvement in current supervision methods. It may also assist in understanding whether the same system of regulation (in terms of the remote supervision) would work for HARPS and driverless freight vehicles alike.

Another consideration in relation to freight transport is the issue of stowaways and illegal immigration. If there is no driver, the vehicle will have fewer stops - and that is the point at which vehicles are most vulnerable to access. Furthermore, there have been suspicions of driver collusion in some instances. However, if vehicles are required to refuel at vulnerable points or if they are required to queue outside ports or customs check points (as is currently the case), the absence of a driver may increase the vulnerability of the vehicle to access by stowaways. The Border Force Agency imposes considerable obligations on freight transport companies with regard to driver training and the checks to be undertaken by drivers following such stops. If illegal immigrants are found within a vehicle or a trailer, the driver and the freight operator face considerable fines if they cannot demonstrate that proper systems, training and checks were in place. Although the tractor units may be automated, the industry will not have the resources to update trailers and they will remain vulnerable to access. The current system (which places much

reliance on a driver) will need to be reviewed. The Border Force Agency is unlikely to have the resources to take on such responsibilities itself.

A number of international conventions govern the international carriage of goods. The conventions which govern the carriage of goods by air (Warsaw and Montreal) were drafted at the beginning of the 20th century; the CMR - which governs road carriage - is based on rail freight conventions which predate the CMR's introduction in 1956. CMR consignment notes (until recently only in paper form) are used to provide information about the goods and the parties transporting and receiving those goods. Whilst electronic CMR notes are now being used, flaws in this system are being identified (cyber tampering etc) and without the possibility of a physical CMR note - as there is no driver present - these would need to be addressed.

The comments above (response to question 2) in respect of rural roads are perhaps even more of a factor with freight transport.

Chapter 5: Privately-owned passenger-only vehicles

Setting a boundary between HARPS and private leasing

Consultation Question 17 (Paragraph 5.12)

Do you agree that those making “passenger-only” vehicles available to the public should be licensed as HARPS operators unless the arrangement provides a vehicle for exclusive use for an initial period of at least six months?

We agree.

Regulation needs to anticipate private ownership trends and be clear as to what kinds of private ownership arrangements will attract certain responsibilities. Focusing on the initial period will encourage adoption of passenger-only autonomous vehicles and will not suddenly inadvertently penalise people with onerous responsibilities. Those consumers who would arguably have a greater desire for and/or need to have private use of autonomous vehicles, including consumers with disabilities, would be able to renew existing arrangements without suddenly becoming subject to onerous responsibilities.

Allocating responsibility for a privately-owned passenger-only vehicle: placing responsibilities on keepers

Consultation Question 18 (Paragraph 5.40)

Do you agree that where a passenger-only vehicle is not operated as a HARPS, the person who keeps the vehicle should be responsible for:

- (1) insuring the vehicle;**
- (2) keeping the vehicle roadworthy;**
- (3) installing safety-critical updates;**
- (4) reporting accidents; and**
- (5) removing the vehicle if it causes an obstruction or is left in a prohibited place?**

The short answer is yes. However, at the time of purchase of the vehicle, the vehicle manufacturer or original equipment manufacturer (OEM) will have to provide adequate warnings to the vehicle owner, via the owner's manual and potentially verbally too, with written evidence via a signed document of the following:

- (a) the vehicle owner is responsible for the ongoing obligation to install safety-critical updates; and
- (b) the potential consequences in respect of passenger safety should the vehicle owner fail to do (a).

It would be very helpful (and avoid confusion and potential accident) if, as with other forms of autonomous vehicle, HARPS vehicles all have the same basic and consistent iconography and user interfaces. Top-down governmental guidance is urgently needed on this.

It will also be necessary to explore how often the vehicle owner must check whether there are any safety-critical updates due, and/or whether there is an obligation on the manufacturer to provide reminders to the vehicle owner to check for such updates, or whether over the air updates can be automatically provided.

Unfortunately, the Autonomous and Electric Vehicles Act 2018 currently places the onus to check to ensure safety-critical software is installed, entirely on the user of the vehicle. This is plainly unrealistic when it is the OEM or manufacturer who sets up the cloud-based systems over which all software updates, including safety critical ones, are uploaded to the vehicle (or even the fleet) in question.

Consultation Question 19 (Paragraph 5.41)

Do you agree that there should be a statutory presumption that the registered keeper is the person who keeps the vehicle?

We agree because the registered keeper can be easily identified from the register, providing certainty and clarity, but the fact that this is a rebuttable presumption affords flexibility to those situations where the name on the register is incorrect or where there is no valid registry entry.

Consultation Question 20 (Paragraph 5.42)

We seek views on whether:

(1) a lessor should be responsible for the obligations listed in Question 18 unless they inform the lessee that the duties have been transferred.

(2) a lessor who is registered as the keeper of a passenger-only vehicle should only be able to transfer the obligations to a lessee who is not a HARPS operator if the duties are clearly explained to the lessee and the lessee signs a statement accepting responsibility?

The obligations are quite rightly onerous, and accordingly they should only be transferred to a private individual with clear agreement between the parties. While a number of these obligations do not go beyond what applies to a non-autonomous vehicle, the need to install all updates timeously may prove onerous. See our responses above.

While it is understandable that leasing companies would want to devolve these responsibilities to the lessee, careful consideration must be given as to whether these responsibilities can actually be undertaken by a lessee, even if the duties are explained to the lessee and the lessee signs a statement accepting responsibility.

It is easy to say that responsibility can be transferred; but the following questions need to be considered in determining whether it is practically possible:

- Will there be affordable insurance cover available to consumers?
- Will consumers have access to road safety critical updates/other updates?
- Will consumers have the means of implementing road safety critical updates/other updates to keep the vehicle roadworthy?

- Will consumers be aware of the limited means available to them in satisfying these obligations? For example, a consumer would not be able to go to a mechanic for an update to its vehicle's operating software system - would consumers be aware of this?

Consumers may agree to a transfer of these obligations ignorant of the limitations they will face in being able to satisfy them. They may even assume that because they are able to lease an autonomous vehicle in the first place, the supporting technological resources are more prevalent/widespread than they actually are.

These concerns are probably mostly relevant to the initial stages of leasing out autonomous vehicles, however they could prevent later widespread adoption of such vehicles if it is perceived that it is too onerous to lease an autonomous vehicle.

Will consumers require technical help?

Consultation Question 21 (Paragraph 5.47)

Do you agree that for passenger-only vehicles which are not operated as HARPS, the legislation should include a regulation-making power to require registered keepers to have in place a contract for supervision and maintenance services with a licensed provider?

We agree. Whilst any regulation that is seen as anti-competitive is to be discouraged, the nature of the technology being used renders such legislation appropriate in these circumstances. Again, current legislation falls far short on this.

There should be provision in the legislation for a regulation-making power to require registered keepers to have such a contract in place. However, such power should not be exercised/regulation enacted until there are safeguards in place to ensure that consumers, particularly vulnerable consumers to whom private ownership of an automated vehicle may be particularly desirable, will not be taken advantage of through high supervision and maintenance fees. In the initial stages in particular, the market of supervision and maintenance services providers will be relatively small; it is important that the initial lack of competition does not allow those providers that do exist to charge high fees that would adversely affect consumers.

Peer-to-peer lending

Consultation Question 22 (Paragraph 5.53)

We welcome views on whether peer-to-peer lending and group arrangements relating to passenger-only vehicles might create any loopholes in our proposed system of regulation.

This is outside our area of expertise and knowledge.

Protecting consumers from high ongoing costs

Consultation Question 23 (Paragraph 5.60)

We seek views on whether the safety assurance agency proposed in Consultation Paper 1 should be under a duty to ensure that consumers are given the information they need to take informed decisions about the ongoing costs of owning automated vehicles.

Yes. Consumers must be able to make an informed decision about whether they can afford the ongoing costs of privately owning an automated vehicle, especially as the software requirements and updates will be as much a part of these vehicles as the physical body/engine etc. Consumers may not be aware of a) the ongoing maintenance and costs associated with autonomous vehicles, but also b) the limited number of service providers who will be able to offer the required updates, at least in the initial stages, and the effect that that will have on cost.

Chapter 6: Accessibility

What we want to achieve

Consultation Question 24 (Paragraph 6.11)

We seek views on how regulation can best promote the accessibility of Highly Automated Road Passenger Services (HARPS)? In particular, we seek views on the key benefits and concerns that regulation should address.

Given the aim of improving access to affordable transport for all passengers, there is no reason why the Equality Act 2010 should not be extended as proposed.

The key benefit could be accessibility for all. The concerns the regulation should address are whether there will be unintended consequences and whether these can be addressed by making reasonable adjustments having regard to cost, resources, effectiveness and feasibility, to cater for all. There will need to be consultation / co-design.

As we have seen with financial services and the FCA, there is a concern that technology will exclude vulnerable passengers by failing to take their needs into consideration from the very beginning and on an ongoing basis.

Regulation should require HARPS operators to evidence that they have taken vulnerable passengers' needs into consideration, particularly when utilising them in a PSV capacity. There should be a clear and transparent line of responsibility so that the people responsible for ensuring that HARPS are and remain accessible, are held accountable.

Regulation can also ensure that data is collected and held securely and used to ensure that vulnerable passengers' needs continue to be met. For example, if details such as the type of disability a passenger has are captured, HARPS can use that to ensure that assistance is automatically deployed, both pre-emptively (e.g. deploying a ramp) and responsively (e.g. if a passenger is in need of medical attention because of their condition, the emergency services can be directed straight to the passenger as soon as an incident has been detected).

Regulation must also ensure that the use of such sensitive data is adequately protected and is not used to the detriment of any passengers, but particularly those with vulnerable characteristics. By the same token, care should be taken to ensure that passengers who are uncomfortable with sharing their data, especially with regard to their age and/or disability are not excluded from utilising HARPS and/or from receiving additional support or assistance.

Core obligations under equality legislation

Consultation Question 25 (Paragraph 6.31)

We provisionally propose that the protections against discrimination and duties to make reasonable adjustments that apply to land transport service providers under section 29 of the Equality Act 2010 should be extended to operators of HARPS. Do you agree?

Yes - we agree that the operators of HARPS should have a duty to make reasonable adjustments.

Again, given the aim of improving access to affordable transport for all passengers, there is no reason why the Equality Act 2010 should not be extended as proposed.

Extending Part 3 and specifically section 29 of the Equality Act 2010 to HARPS would be a positive step, although taking into account users' diverse needs through co-design and consultation should hopefully ensure compliance by operators of HARPS.

Specific accessibility outcomes

Consultation Question 26 (Paragraph 6.106)

We seek views on how regulation could address the challenges posed by the absence of a driver, and the crucial role drivers play in order to deliver safe and accessible journeys. For example, should provision be made for:

- (1) Ensuring passengers can board and alight vehicles?**
- (2) Requiring reassurance when there is disruption and accessible information?**
- (3) Expansion of support at designated points of departure and arrival?**

Vehicles will have to be fully accessible (for example Docklands Light Railway has no drivers and many stations are unstaffed). Remote supervision may not be sufficient in ensuring wheelchair spaces and priority seating is made available.

Passenger information, both visual and aural will be required to provide assurance where there is disruption or otherwise, not just for those with impairments, but the general public.

As per our response to Consultation Paper 1 (question 4), if autonomous vehicles are segregated, then the roadside infrastructures can be expanded for accessibility at designated points of departure and arrival. However, we have already noted a significant divergence on this between local authorities, fleets, logistics and public transport companies on the one hand (who are broadly in favour of better segregation of traffic in urban centres and more assistive street furniture etc.) and private hire and private motor manufacturers (who are developing autonomous vehicles which do not rely on traffic segregation or any extra or unusual street furniture). With the latter, there is also no impetus to develop communication between vehicles produced by different manufacturers. With the former there is an appetite for vehicles to 'talk' to each other and street furniture in urban areas and trunk routes.

However, this question also highlights just one of the difficulties posed by the absence of a user-in-charge. In our response to the Consultation Paper 1 we proposed that the default position must be that all vehicles captured by the definition of ‘automated vehicles’ within the Automated and Electric Vehicles Act 2018 should have a user-in-charge. While regulation would be welcomed, it is difficult to see how this might address this fundamental issue if one of the aims is to improve overall accessibility to public transport.

Regulation could require the collection of specific data at the ticketing stage to ensure that the HARPS vehicles can appropriately respond to passenger requirements. For example, data could be collected via an Oyster card type form of ticketing; passengers could provide details as to their age and/or disability when applying for their ticket/Oyster type card. In doing so, when they ‘tap in’, the HARPS vehicle could identify from the card what kind of disability the user may have and automatically deploy assistance in response, for example, a ramp for a wheelchair user or a sound-alert for a blind/partially sighted user.

Regulations could require (in the initial stages at least) a non-digital form of support to be available throughout the journey. Passengers, especially those that are vulnerable, must be able to trust in the technology getting them to their end destination to the same extent that they would trust a bus driver or train guard to. This could be achieved by providing a human guard who not only provides familiarity and security, but who can encourage passengers to use the technology available to them by demonstrating it in real-time. Passengers could also be reassured by announcements, voice-activated artificial intelligence or by interactive maps that can assist them in planning an alternative route in the event of disruption.

For HARPS vehicles, expansion of support at points of departure and arrival could help to reassure passengers, especially in the initial stages. This could be via human physical presence, artificial intelligence chat-bot facilities, interactive maps to plan alternative routes, announcements etc. However, we note again the divergence between the two subsets of autonomous vehicle technology and the two interest groups we have flagged above.

Developing national minimum accessibility standards for HARPS

Consultation Question 27 (Paragraph 6.109)

We seek views on whether national minimum standards of accessibility for HARPS should be developed and what such standards should cover.

Yes there should be national minimum standards of accessibility and guidance and these should include:-

- Vehicle layout as this will reassure vulnerable passengers and assist those with certain disabilities, for example those who are blind/partially sighted or are wheelchair users.
- Booking/ticketing system - this should be straightforward and clear and not purely app-based so as to ensure that vulnerable passengers are not digitally excluded.
- The types of assistance available to passengers should be consistent so that passengers are confident in their journey regardless of their disability requirements (e.g. information should be available online and via telephone etc.). Accessible passenger information should be readily available - and assistance with obtaining tickets/fares.
- Aural and visual information.

Enforcement mechanisms and feedback loops

Consultation Question 28 (Paragraph 6.124)

We seek views on whether operators of HARPS should have data reporting requirements regarding usage by older and disabled people, and what type of data may be required.

We consider that there should be a data reporting requirement. Disabled people have wide-ranging impairments and different barriers for use on public transport and it will assist in improving awareness for HARPS operators. The type of data should include:

- Vehicle usage
- Issues identified that have not already been addressed by operators
- Performance
- Complaints from users.

Data collected from passengers, particularly those who are vulnerable, will be important in ensuring that HARPS remain inclusive and fit for purpose as technology advances. In financial services, the FCA has expressed concern that the use of ‘big data’ could mean that vulnerable consumers could be excluded from certain products or priced out of markets.

However, in the context of HARPS as a PSV, the availability of such granular data could assist those vulnerable passengers. For example, data could be collected via an Oyster card type form of ticketing; passengers could provide details as to their age and/or disability when applying for, say an Oyster type card to use these HARPS, so that when they tap in, the HARPS vehicle is informed that a vulnerable passenger is about to board and where. The HARPS vehicle could also identify from the card what type of disability the user may have and automatically deploy assistance in response, for example, a ramp for a wheelchair user or a sound-alert for a blind/partially sighted user.

This data could be collected and used to identify when vulnerable users are most likely to use HARPS, where they are most likely to travel to and from, and even what carriage they are most likely to use. This type of data could assist in developing improved carriage layouts, or providing additional assistance at specific times.

However, it will also be important to ensure that those passengers who are uncomfortable sharing their data are not inadvertently disadvantaged. A passenger who does not wish to disclose their disability or age should still be able to obtain support, for example, by voice activation or pressing a button.

Chapter 7: Regulatory tools to control congestion and cruising

Traffic regulation orders

Consultation Question 29 (Paragraph 7.23)

We seek views on whether the law on traffic regulation orders needs specific changes to respond to the challenges of HARPS.

This is outside our area of expertise and knowledge.

Regulating use of the kerbside

Consultation Question 30 (Paragraph 7.59)

We welcome views on possible barriers to adapting existing parking provisions and charges to deal with the introduction of HARPS.

This is outside our area of expertise and knowledge.

In particular, should section 122 of the Road Traffic Regulation Act 1984 be amended to expressly allow traffic authorities to take account of a wider range of considerations when setting parking charges for HARPS vehicles?

This is outside our area of expertise and knowledge.

Road pricing

Consultation Question 31 (Paragraph 7.86)

We seek views on the appropriate balance between road pricing and parking charges to ensure the successful deployment of HARPS.

The balance is difficult to achieve, whether in respect of parking or road pricing. This is, however, an opportunity to promote energy efficient and non-polluting vehicles. The UK has a target to reduce greenhouse gas emissions to net zero by 2050, 2045 in Scotland. There is scope to restrict the licensing of HARPS to zero or low emissions vehicles only. Exemptions for non-polluting vehicles are more likely to encourage take up, and less likely to lead to opposition.

Consultation Question 32 (Paragraph 7.87)

Should transport authorities have new statutory powers to establish road pricing schemes specifically for HARPS?

If so, we welcome views on:

- (1) the procedure for establishing such schemes;**
- (2) the permitted purposes of such schemes; and**
- (3) what limits should be placed on how the funds are used.**

This is outside our area of expertise and knowledge.

Quantity restrictions

Consultation Question 33 (Paragraph 7.97)

Do you agree that the agency that licenses HARPS operators should have flexible powers to limit the number of vehicles any given operator can use within a given operational design domain for an initial period?

If so, how long should the period be?

Yes. It is agreed that the number of vehicles should be limited, particularly given the concerns over congestion. It is not appropriate to set a time limit for this initial period as the level of vehicle congestion will need to be monitored. Regulation can be made for the agency to review at the end of a specific period.

Consultation Question 34 (Paragraph 7.120)

Do you agree that there should be no powers to impose quantity restrictions on the total number of HARPS operating in a given area?

No. As noted above, there are concerns over congestion. This is a new concept and nobody can be sure how popular it is likely to be. As a result, the number of licenses needs to be kept under close scrutiny and review, centrally, at least for an initial period. The benefit of centralising the system, but with local input, should ensure that limits are applied consistently with specific reference to local needs and concerns.

Chapter 8: Integrating HARPS with public transport

The current system of bus regulation: HARPS as mass transit

Consultation Question 35 (Paragraph 8.92)

Do you agree that a HARPS vehicle should only be subject to bus regulation:

- (1) if it can transport more than eight passengers at a time and charges separate fares;**
and
- (2) does not fall within an exemption applying to group arrangements, school buses, rail replacement bus services, excursions or community groups?**

We see no reason for a HARPS vehicle not to be subject to bus regulations if it meets the same necessary criteria as a non-HARPS bus. It is however imperative that no clarity of regulation is lost by submitting a HARPS vehicle to two separate regimes.

Consultation Question 36 (Paragraph 8.94)

We welcome views on whether any particular issues would arise from applying bus regulation to any HARPS which transports more than eight passengers, charges separate fares and does not fall within a specific exemption.

As above, there is a risk that subjecting such HARPS vehicles to multiple regimes will lead to a loss of clarity in relation to the obligations imposed. There is a further risk of conflict between competing regulations. Care must therefore be taken to ensure that the regulations must work in tandem.

Consultation Question 37 (Paragraph 8.95)

We welcome views on whether a HARPS should only be treated as a local bus service if it:

- (1) runs a route with at least two fixed points; and/or**
- (2) runs with some degree of regularity?**

Agreed, subject to the above points.

Encouraging use of mass transit: Mobility as a Service

Consultation Question 38 (Paragraph 8.109)

We seek views on a new statutory scheme by which a transport authority that provides facilities for HARPS could place requirements on operators to participate in joint marketing, ticketing and information platforms.

This is outside our area of expertise and knowledge.