

Law Commission:

Automated Vehicles CP2

Comments provided by Five

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Q1.

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

We recognise the undesirable consequences arising from the existing, fragmented systems for licensing of passengers services in Great Britain, and described in the paper. For HARPS to be successful from the operator, passenger and city perspectives, it will be important to ensure that these or similar issues are not generated by the HARPS licensing framework.

In principle we agree that a single national system of operator licensing has the potential to develop and deliver a licensing framework that best meets the needs of the market. However there may be value in including (or making provision for) a mechanism that allows for more local scale experimentation or variation where there is a good basis for doing so, e.g. to pilot potential changes with a view to later rolling them out nationally. A mechanism of such kind need not necessarily be administered at the local level, in contrast with the current taxi and private hire regulatory frameworks.

Q2.

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

Agree.

Q3.

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)?**

Disagree. We recognise the overall intent of the proposals in the paper and think there are good arguments for the introduction of a HARPS operator licence. However we think the important

point is to ensure safety and efficiency of highly automated services on the road, and that it should be these considerations that guide the development of any HARPS operator licence. We do not necessarily think it would be beneficial for the proposed concept of HARPS operator licensing to be based upon the characteristics present in the current licensing structures, especially the problematic construct of 'hire and reward'.

The paper approaches the question of HARPS operator licensing from the conventional passenger transport licensing mindset which presumes an operator licence for commercial services, with private ownership dealt with differently. We suggest that any highly automated vehicle should be 'operated' by someone with an operator licence which for a highly automated vehicle owned for individual use might be a third party company. In this model, even for vehicles not owned for individual use, a business carrying passengers might itself choose to use a third party operator service.

Under the current licensing structure, the starting point is that an individual does not require an (operator's) licence to run a vehicle and so the licensing structure needs to distinguish as to when the way in which the use of a vehicle crosses from a social to a business context. The resulting licensing structures have proven complex and controversial, unable to properly adapt with technological advancement.

We suggest that the starting point for HARPS is arguably different - every autonomous vehicle should require a clearly identifiable company or person with operational responsibility for matters such as moving the vehicle from the roadside after it has achieved a minimal risk condition. The role of the legislation is then different - it is to distinguish who ought to hold the licence (if that is indeed necessary), not the when / where. Hence there is the opportunity to move away from the problematic 'hire or reward'.

Of course, there may be some circumstances where the nature of the conditions / qualifying criteria one might wish to impose associated with that licence is different, which is when a definition of this sort comes in. But we suggest that 'hire or reward' may not be the relevant factor but rather other factors such as the number of persons, or aspects of the ODD.

The important point is that the conditions required to be satisfied to be an operator do not inadvertently create inappropriate barriers to entry.

In respect of (4) it will be important to consider potential implications were a cap on licences to apply. This could raise the prospect of unintentionally favouring some 'simpler' and potentially faster-to-market models of HARPS in the market over others, with implications for the longer term development and growth of the HARPS market. For example, rather than focusing on the ability to serve broad geographies, HARPS operators could adopt models whereby only short, pre-prescribed routes are self-driven by the vehicle (for example to and from a local depot or local streets to a nearby housing estate, shopping centre or office complex), with the remainder of the trip being designated intentionally for the customer to drive manually.

Q4.

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

The paper highlights that a decisive position on those activities that constitute ‘hire or reward’ has not been reached for all of the current examples, even in the absence of automation. The concept is certainly not sufficiently well specified in its current form, but neither do we think that further clarification would be the correct approach for HARPS.

The case law that has grown up interpreting ‘hire or reward’ has been sensitive to the context in which that phrase is used in the legislation, and the purpose of that. HARPS is a new context and it would be of benefit not to have a term whose interpretation is hampered by the baggage of history and also limited by the need to keep its interpretation within appropriate limits, given its continuing use in non AV passenger licensing (while one can interpret terms differently in different legislation, the starting point is to try not to). **HARPS therefore presents an opportunity to use a more context appropriate and easier to interpret term.**

FiveAI’s recent experience running its StreetWise project trials in London surfaced some of the challenges associated with the concept of ‘hire or reward’. Although the company did not accept any payment for the trials, in order to run the trials without requiring a licence, we were advised not to permit trial participants to select their journey’s origin and destination (instead they were pre-programmed); and, not to offer a regular trial experience or at times of the day where it could substitute an existing mode of commuting.

In the event that there is to be a licensing distinction between the operation of HARPS and of other kinds of services, then it should be possible for a single entity to hold more than one type of licence, if it intends to operate a mixture of services. Ideally, such an arrangement would not impose restrictions on specific vehicles, i.e. an operator with a large (and perhaps, mixed) fleet would be able to manage the use of its vehicles dynamically and interchangeably between different types of licensed service, to reflect demand and customer profile.

Q5.

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.

We suggest that *any* highly automated vehicle should be ‘operated’ by a clearly identifiable company or individual with an operator licence. On that basis, we agree that exemptions should not apply.

For community or similar transport services, or highly automated vehicles owned or used by private individuals, it should be possible for the operator role to be fulfilled by a third party. A valuable role for government then would be to encourage and / or incentivise third parties to take on this role, on suitable terms (e.g. as a condition of granting a HARPS operator licence,

govt might require commercial operators to support a certain percentage of social applications - this could be analogous to requirements placed on housing developers to provide a certain percentage of social housing in new developments).

Q6.

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).

Yes, this should be permitted. The exemption or modification of licence provisions should be accompanied by (consultation and subsequent) guidance on what constitutes a 'trial', so that the scope of permissible activities is not unduly constrained.

Q7.

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

(1) Are of good repute;

Agree

(2) Have appropriate financial standing;

We agree with the general thrust behind this proposal but think there are myriad complexities to consider.

We agree with the sentiment at para 4.63 which suggests that whatever financial standing provisions may apply, should be pragmatic and consider the overall context of the service. However a more fundamental point is perhaps that - at least initially - regulators are not likely to be in a knowledgeable position to assess whether or not a HARPS operator has sufficient funds and / or an adequate business case to ensure the long-term viability of the business, given the present uncertainties and unknowns when it comes to the expenditure necessary to operate services without human drivers. In some cases, the mere possession of a HARPS operator licence will in and of itself alter the view the market will have on the licence holding company - so the premise that the company needs to be already successful and profitable to obtain a licence provides a bias and does not level the playing field.

Financial standing requirements are likely to be prohibitive for community transport providers and other not-for-profit organisations if they themselves are required to hold a HARPS operator licence, but this could be addressed by permitting these organisations to use a third party HARPS operator.

When considering commercial services, the consequences and impact of a (financial) failure of a HARPS operator whose operations resemble today's private hire services may be considerably different from (for example) the failure of a HARPS operator whose operations resemble today's franchised bus services.

In the former, other operators may exist in the market, or be able to come to market expeditiously, depending on any licensing constraints that might apply. In the latter, the failure of the operator could in some cases lead to a gap in the provision of local transport services, perhaps in particular in rural areas or areas where there is deemed to be less commercial opportunity and where operators may have completed less preparatory work in order to be able to run a service. It might be appropriate to tailor any requirements that relate to financial standing, to reflect the risk exposure of the service's typical users.

(3) Have suitable premises, including a stable establishment in Great Britain; and

Agree, but only with specific qualifiers.

It should be possible for operators to demonstrate access to 'suitable premises' even if they do not own the land or facilities themselves, but can demonstrate access through a valid contractual agreement with a third party.

For operators of larger fleets (*threshold to be defined*), we suggest that it should **not** be necessary for the premises to have sufficient capacity to house the entire fleet of vehicles simultaneously. In particular for larger fleets, we anticipate that the vehicles will be in productive use (i.e. situated somewhere on public roads or in public places) for a majority of the time. In order to make more efficient use of land and not impose unnecessary costs on HARPS operators, we suggest that operators should have the capacity to house a proportion of their fleet at all times (again, precise parameters to be defined). Under these conditions, it should be possible for operators to access 'suitable premises' for the remainder of their fleet in emergency scenarios (for example if it becomes necessary to ground an entire fleet at short notice). In emergency situations, the definition of 'suitable premises' ought to allow for roadside parking or other suitable arrangements.

We suggest that 'suitable premises' should have adequate provision for each of the following. For some of these the desirable minimum provision will depend upon the nature of the HARPS operating model(s) and may relate directly to aspects of the Safety Management System we discuss in our response to part (4); while in other cases (for example, physical and electronic security) existing or new industry standards should apply.

- Charging infrastructure for the vehicles
- Remote supervision infrastructure for the fleet
- Data / networking infrastructure
- Physical, personnel and electronic security
- Regular cleaning facilities
- Facilities for basic maintenance and regular vehicle checks

(4) Have a suitable transport manager to oversee operations?

Disagree.

Initially at least, we expect that the concept of 'overseeing operations' may be markedly different across different HARPS operators, in particular when novel and important aspects such as remote supervision, are taken into account.

We can see that there would be a need for HARPS operators to demonstrate and evidence some of the general responsibilities which fall under the remit of a transport manager as outlined in the Senior Traffic Commissioner's *Statutory Document No 3*. For instance, maintaining vehicles on a regular basis, and keeping appropriate records, and to keep up to date on any changes to the standards or legislation.

However, many of a transport manager's general responsibilities would not apply, for HARPS. For example, recording and disclosing data on drivers' hours (to ensure and prove compliance with the legislation); and contributing to driver training and disciplinary processes. On the other hand, HARPS would give rise to new responsibilities, or responsibilities which take on a new form in the context of automated services. For example, overseeing any remote vehicle supervision.

Given the complexity of HARPS, we suggest that safe operation will have more in common with advanced transport systems such as rail and aviation, rather than local bus services and taxis. We should therefore avoid shoehorning HARPS operations into the model used to licence and operate buses and taxis when the technical complexity is likely to be closer to that encountered when operating a rail service. With that in mind, rather than a transport manager, it may make more sense to require the HARPS operator to have in place a Safety Management System ('SMS').

A proper SMS would show which persons are responsible across the organisational hierarchy and also how the HARPS operator manages the many operational safety requirements that are hinted at by the 'transport manager' role (for instance, operational safety of the service; roadworthiness of the vehicles; handling emergency situations and disruption to the fleet; and so on and so forth). This approach would ensure that HARPS operators develop the required safety culture and that satisfying the relevant requirements does not become a reductive, box-ticking exercise. Great Britain has had much historical success with getting operators to implement SMS in other transport industries and subsequently checking conformity.

On a final note, some of the requirements that apply to PSV Transport Managers may not be appropriate for HARPS. For example, restrictions on the number of operators (for PSV, 4) that a transport manager may act for, and on the number of vehicles (50 or fewer) for which they may be responsible.

Q8.

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

It is important to understand the intended purpose of a transport manager, which we interpret is to ensure that certain practices are adhered to. As per our response to Q7, a Safety Management System would be a more appropriate way of demonstrating that essential activities required for safe transport service operation are undertaken.

HARPS operators should be encouraged to develop a Safety Management System with appropriate individual(s) able to demonstrate its effectiveness (and with the head of the HARPS operator ultimately being responsible). The SMS should be subject to auditing to check for conformity with whatever standards are put in place.

Q9.

Do you agree that HARPS operators should:

(1) Be under a legal obligation to ensure roadworthiness; and

Agree.

(2) Demonstrate “adequate facilities or arrangements” for maintaining vehicles and operating systems “in a fit and serviceable condition”?

Agree, but it should be possible to demonstrate this through outsourcing if appropriate (e.g. in instances where a HARPS operator might be a very small business, or perhaps an individual).

Q10.

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

Agree in most cases. More flexibility might be helpful in the case of a private individual owning a highly automated vehicle and using a third party as the HARPS operator.

Q11.

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

(1) Insure vehicles;

Agree

(2) Supervise vehicles;

Agree. Supervision duties could be expanded upon to mitigate some of the potential risks unique or more prevalent to HARPS. For example, passengers in any unstaffed HARPS vehicles should be able to notify the operator if there is an unexpected event; operators should implement appropriate supervision mechanisms to ensure that unusual disruptions to journeys are detected swiftly to enable a prompt response.

(3) Report accidents; and

Agree, although thought should be given as the appropriate mechanisms for reporting; the format of the information to be provided; and whether any obligations should also be placed on the passengers in a vehicle.

By its nature we can expect that HARPS may include journeys made with empty vehicles, or vehicles in which none of the occupants are routinely observing the environment around the vehicle (perhaps because they are engaged in other activities, or it is not even possible to see out of the vehicle). Additionally, HARPS vehicles may interact with other HARPS vehicles for which these things are also true. Therefore capturing information about accidents may necessarily need to become a more automated procedure than is the case for non-automated passenger transport services, as there may be less possibility to rely on eyewitness accounts as well as a regulatory imperative to understand the precise behaviour of the automated driving system(s) involved. It might be appropriate for reporting duties to be introduced via mandatory reporting to insurers, exploiting data from the vehicle's on-board telematics.

(4) Take reasonable steps to safeguard passengers from assault, abuse or harassment?

Agree. But we note that the definition of what constitutes 'reasonable steps' shall be important here. A judicious operator may determine that this means not driving in certain areas or on certain streets, or declining to carry specific individuals, etc. Depending on the requirements of any licensing conditions, this could lead to situations in which a legal duty to take reasonable steps as outlined is in direct conflict with other legal duties concerned with discriminatory behaviour.

Q12.

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 have already expressed views in relation to reporting incidents and collecting and sharing safety related data, as part of our response to CP1. Any analyses of events occurring within the context of overall miles travelled should be conducted with caution and care should be taken not to draw erroneous conclusions. So, while we tend to agree that HARPS operators should be subject to additional duties to document and report untoward events - and think that in some instances this could also provide HARPS operators with some protection from false claims encountered by other forms of transport - we do not think that relating those events to miles travelled is particularly useful or advisable.

Q13.

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

We tend to agree, subject to the detailed feedback we have provided in response to the related questions.

Q14.

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?**

Here, the proposal at (1) appears to be pragmatic in the context of HARPS operators who have direct relationships with their passengers, but the proposal at (2) perhaps heavy handed unless it can be shown that an operator is deliberately acting in contempt of the spirit of any guidance.

This question appears to presume that a HARPS operator would always maintain a direct business-to-customer relationship with its passengers, but it is not clear how these proposals might apply in the case of B2B commercial arrangements. We expect to see MaaS grow in availability, adoption and sophistication, and note that parallel action by local authorities to reduce or curb use of individually-owned vehicles may accelerate the uptake of MaaS.¹

A proliferation of Mobility-as-a-Service and supporting regulation relating to ticketing and fares, may lead to new business-to-business arrangements whereby HARPS operators wholesale capacity on their vehicles to MaaS providers or aggregators, with the availability of capacity and the cost to the MaaS provider / aggregator potentially varying dynamically according to market conditions (this may be analogous to, for instance, services such as lastminute.com, which retail available hotel room capacity at varying prices and sometimes on the basis of a customer booking a guaranteed room but not knowing the brand of hotel). In particular, where capacity on a HARPS vehicle forms part of a multi-modal trip overseen by a single MaaS provider or aggregator, that provider / aggregator might even choose to 'package' the HARPS part of the journey at a loss, if the remainder of the journey will be sufficiently profitable (this might be analogous to 'loss leaders' in a supermarket). Thus it might be both difficult for an operator to provide clear and comparable pricing information, and in any case less relevant to the end customer.

Under a MaaS model it may be more useful to the consumer to understand which MaaS suppliers are likely to offer best value for their typical journey behaviours over a period of time, and not on a per-trip basis. It might be useful to develop some standard representative travel profiles against which MaaS suppliers provide guideline or indicative price information.

Q15.

Who should administer the system of HARPS operator licensing?

Of principal importance is that the organisation(s) charged with the administration of HARPS operator licensing has the experience to understand the range and complexity of the issues

¹ E.g. Bristol to ban privately owned diesel cars from central zone during daytime, see <https://www.bbc.co.uk/news/uk-england-bristol-50292596>; York to ban private cars from city centre, see <https://www.bbc.co.uk/news/uk-england-york-north-yorkshire-50957470>; Birmingham consulting on a ban on 'through trips' by private cars, see <https://www.birmingham.gov.uk/transportplan>.

under consideration and to balance these issues within a context that enables continuous learning and market development.

While the Office of the Traffic Commissioner may appear to be an existing body with suitable governance arrangements, it does not have experience of anticipatory, flexible regulation for innovative services and has traditionally adopted a highly conservative, strongly compliance- and enforcement-led approach. These characteristics may not promote the best interests of HARPS operators and customers and therefore we suggest that a new body may be appropriate.

Q16.

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

Related public policy objectives designed to minimise unnecessary vehicle miles may mean that mixed use of vehicles (i.e. passengers and freight) is beneficial and care should be taken so that it is not prohibited or made more difficult, under the regulations. As for passenger transport services, there are numerous existing regulations governing the transport of freight. It would be prudent to review these separately to understand the extent to which the regulations enable or preclude mixed services, while continuing to provide appropriate protections where necessary (for example in relation to the carriage of dangerous goods).

Q17.

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?

While we tend to agree, it is difficult to suggest for how long the appropriate initial period for exclusive use should be before the distinction applies and whether a simple transposition of the existing rental / leasing discrimination, is most suitable.

It is not clear how this proposal would be approached in the event that an initial agreement is made for a period of over six months, but is then terminated (legally, using the provisions in the contract) by either party before the full six months has passed.

Q18.

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;

Agree.

(2) Keeping the vehicle roadworthy;

Agree, but it should be possible to transfer this responsibility to an approved third party. Additionally, it might also be beneficial to permit some models of joint responsibility. For example, if it possible to delineate between aspects of ‘non-AV roadworthiness’ and aspects of

'AV road worthiness' then a private individual could retain responsibility for the former while the latter becomes the responsibility of an approved third party. This may also be desirable from an administrative perspective as the third party may have the appropriate knowledge and skills to maintain the AV aspects of the system, but may not have regular physical access to the vehicle in order to oversee any non-AV aspects.

(3) Installing safety-critical updates;

Agree, but it should be possible to transfer this responsibility to an approved third party.

(4) Reporting accidents; and

Agree, but as per our response to 11(3), thought should be given as to the appropriate mechanisms.

(5) Removing the vehicle if it causes an obstruction or is left in a prohibited place?

Agree, but it should be possible to transfer this responsibility to an approved third party, either on a permanent basis, a 'per trip' basis, or case-by-case basis.

Q19.

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

Agree, but as implied in 5.36, it should be possible for the registered keeper to be either a clearly identified person or company.

Q20.

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.

In principle this makes sense and we would therefore tend to agree. It might be judicious to require supporting checks and balances as part of the leasing procedure itself, i.e. the leasing person or organisation should take reasonable steps to satisfy themselves that the lessee has made appropriate arrangements, before the contract can be confirmed.

(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?

Agree, see response to part (1).

Q21.

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?

Agree in principle, but it should be possible for a registered keeper to apply for exemption from such responsibilities on a temporary basis in respect of any vehicle(s) which are demonstrably

not in day-to-day use. The concept might perhaps be similar to the existing Statutory Off-Road Notification (SORN).

Q22.

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.

Under some p2p business models there may be something which could be legally considered an 'initial contract' which is over six months and therefore outside the proposed scope of HARPS - even if the initial period merely covers numerous short trips.

Q23.

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.

As the paper suggests, in some cases and at least initially, the ongoing costs of owning, updating and maintaining a specific automated vehicle could be imponderable. It may be more appropriate to place the focus on consumers being provided with transparent, easily comparable information where it exists (or at least to set this as an aim for the industry, in the fullness of time), with areas of uncertainty highlighted accordingly, so that consumers can weigh up the potential extent of their future financial exposure.

Q24.

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.

Regulation should focus not just on the vehicles themselves, but also on the infrastructure adjustments and requirements that would support the delivery of HARPS, in particular as services that can integrate with the public transport network. In many (but not all) cases these may relate to infrastructure that is owned, controlled and / or maintained by local authorities.

For example, regulation should (if found necessary) ensure and prioritise the availability of kerbside access for picking up and dropping off passengers to maximise highly accessible connections with other transport modes [or other features]; the provision of sheltered, well lit and serviced seating areas and facilities in waiting areas; traffic management activities that prioritise shared HARPS vehicles over single occupancy vehicles, etc.

While existing accessibility provisions on existing public transport might be 'hard won', they do not necessarily demonstrate best practice; rather, they are the best way of adapting vehicles that were typically designed without any thought given to people with disabilities. Further, the

provisions were developed in the context of (i) the expectation of a human driver on board the vehicle, with the requisite responsibilities enshrined in the regulations and (ii) much more limited maturity and ubiquity of consumer technology than is observed today.

Thus, there is scope for new vehicles to be designed with accessibility baked-in from the outset rather than added afterwards. There are certainly principles within the existing regulations that should persist for HARPS but there is an opportunity here to create far more accessible provisions than exist currently, and merely 'copy-pasting' existing regulations could stifle innovation. Therefore, we do not support a basic extension of existing PSV regulations to cover HARPS.

Particularly with (ii) in mind, it should be permissible for a HARPS operator to demonstrate an equivalent or better capability to the PSVAR requirements using novel approaches, for instance the use of handheld (by the passenger) device to 'request a stop', in place of fixed bell-push infrastructure inside the vehicle. Striking a pragmatic balance between rigid elements of any requirements that require 'baking in' to a vehicle's design and assembly versus any elements that may be delivered more flexibly, will encourage greater innovation for the benefit of both passengers and the industry, and should lead to greater accessibility as an outcome.

Should guidance be developed it would also be valuable to consider aspects of broader *usability* not just accessibility - e.g. availability and positioning of space for storage of luggage / shopping / pets (including eg. guide dogs), space for pushchairs etc.

Q25.

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?

In principle, we agree that the protections that apply under section 29 of the Act should continue to apply to HARPS, as far as is reasonably practicable. For HARPS that resemble existing, 'conventional' transportation services, (e.g. an unshared taxi or private hire service, or a regular, fixed-route bus service) an extension of the existing Act may be appropriate.

However, we note that enabling novel business models to proliferate may mean that a basic extension of the existing Act to also apply to operators of HARPS, may not be the best approach to achieve this. As an example we are not clear how an operator might balance a legal duty to carry an assistance dog, with other passenger preferences as part of a smaller, shared vehicle which may be making a one-off journey and not travelling as part of a regular and predictable service. As the Act places a legal requirement to carry an assistance dog, would it allow sufficient flexibility to manage the request according to an overall fleet of vehicles and their occupants or could this be seen as refusing a ride, if the first available vehicle does not have a sympathetic existing passenger profile?

Under a demand-responsive model, we suggest that different vehicles could meet different passenger requirements as long as there is fairness with regard to fares and target journey times (i.e. a person with a disability should not pay more or wait longer on average to access the same HARPS as a person without the same requirements).

Q26.

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 journey. For example, should provision be made for:

(1) Ensuring passengers can board and alight vehicles?

As a starting point it may be helpful to distinguish between services which expect to operate with some form of on-board assistant (who may be able to perform these and other activities to the same, or higher, standard than a conventional driver would), and services that operate without a person(s) trained and able to carry out such functions.

For services that do not operate with any form of on-board assistance, guidance or regulations could be issued to help ensure that they are developed with accessibility provisions in mind. At a minimum these could require (for instance) some means by which a prospective passenger may notify the HARPS operator of any special requirements or requests they have (such as the need for a ramp, to board and alight the vehicle in a wheelchair), in advance of travelling. The operator might then be required to take reasonable steps to provide appropriate assistance, but this could extend to providing an alternative service (such as a conventional taxi)

Since HARPS relates to a *service*, it would be preferable for any regulations or guidance to focus on the delivery of the service and the service level, rather than the specific characteristics or features of the vehicle. The consultation paper gives a possible proposal of vehicles having the same physical layout in order to improve familiarity and confidence for blind people when boarding and alighting the vehicle. However, we think that prescribing a fixed set of physical characteristics for HARPS would in most cases be liable to heavily restrict the nature of services that can develop in the market.

On the other hand, standards which relate to aspects such as minimum levels of contrast between different colours or materials to designate different features and instructions, heights of buttons and length of beeps (where used) may be less likely to inhibit innovation and more acceptable, especially if it possible to adjust the relevant features easily and at low cost.

(2) Requiring reassurance when there is disruption and accessible information?

It may be helpful to develop regulation or guidance to cover some form of minimum provision, for instance the ability for any passenger to easily contact / communicate with a HARPS remote supervisor. This could be analogous to existing 'call points' for assistance on parts of the public transport network.

Again, we suggest that there should be some means by which a prospective passenger may notify the HARPS operator of any special requirements or requests they have in advance of travelling. While this could relate to specific accessibility requirements, it could also cover individual communication preferences (for instance some passengers may want to be informed of any deviation from a planned route, while others may not be concerned, so long as the overall journey time and destination remain unchanged).

(3) Expansion of support at designated points of departure and arrival?

There may be a distinction here between designated points of departure and arrival that coincide and / or integrate with existing transport hubs or other places or facilities of interest (for example, shopping centres, sports stadiums, hospitals, university campuses and so on), and those which do not (for example a passenger's home, or the kerbside of a residential street). Places or facilities of interest may be well positioned to offer support using existing staff at the venue. It might be appropriate to consider regulation to compel this, if in such cases this type of support does not develop organically or as the result of commercial arrangements. However these sorts of venues are often considerate of accessibility issues and it may be that any existing provisions can be readily expanded to support HARPS passengers with additional requirements.

Q27.

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

The range and variety of different conditions recognised by the law (and which could potentially be extended in the future) may well make it challenging for a HARPS operator to commit to any broad accessibility provisions from the outset, because it will take time and experience to understand the specific requirements each condition presents, and how they might best be catered for under a HARPS model.

With that in mind, it might be better to set an ambition based around some broad categorisation of different levels / types of accessibility provision that could be made available and some sort of trajectory / plans to aim to improve the breadth and depth of provision in the market over time and as operators and passengers collectively gain a better sense of the actual real world issues.

Where the accessibility provisions of a specific HARP service are less comprehensive, perhaps the right balance might be that prospective passengers are advised or expected to travel accompanied with a person who is able to provide the appropriate support. Where the provisions are more comprehensive, the passenger might be able to travel independently / unaccompanied.

Guidance for operators might be helpful here, perhaps developed using the principles of co-design - involving DPTAC and its key stakeholders - described in the consultation paper.

Q28.

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.

While we agree that HARPS should endeavour to be accessible to a wide range of potential passengers, there are several reasons why we would tend to disagree that operators should be subject to data reporting requirements.

Under some models of use these data may not be readily available to operators, placing practical limitations on the extent of possible reporting. For example, if a HARPS operator sells capacity on their fleet to a MaaS platform or aggregator, the relevant data may reside with the MaaS provider but not the HARPS operator.

Passengers may not wish to share this information with operators and should not be prevented from travelling in such an event. We also note that in other sectors (e.g. finance, healthcare) there are active efforts to explore creation of digital twins or personas - a deliberately designed mechanism to allow individuals to protect their personal data when participating in digital transactions.

Another way to address this would be to adapt other, existing methods of data collection (e.g. the DfT's National Travel Survey, and research conducted by organisations such as Transport Focus), to collect relevant information or data that can act as a suitable proxy for the specific areas of interest.

Q29.

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

The consultation paper summarises well the range of shortcomings with the current process. There would certainly be value in addressing the issues examined in general terms and not necessarily specifically in readiness for HARPS. However in areas where TROs are heavily used, it is likely to be difficult for an operator to deploy HARPS at any meaningful scale and in compliance with the relevant rules or restrictions if the current TRO process is not made more cost effective, much faster to implement (including at or approaching real time especially for temporary TROs), and with mandatory map-based elements (unless there is a good reason why map-based descriptions are not achievable). Codifying these requirements in the legislation may be the best way to ensure timely delivery, and consistency between local authorities. It would be beneficial to adopt a co-design process that includes potential HARPS operators and automated driving system developers, as part of existing and ongoing projects to examine and reform the TRO process.

Q30.

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

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

Disagree.

The paper describes the purposes for which functions under the Act (including imposing parking charges) may be used. In the context of imposing parking charges, the existing purposes outlined in para 7.47 appear to be sufficiently broad and it is not clear that amendments to take account of a wider range of considerations would be necessary when considering the potential impact of HARPS.

The specific concern implied by the paper is that the RTRA is not a fiscal measure and that there is no specific provision to authorise a council to *raise* income. However, not all schemes that do raise an income - including some of those which generate a surplus - have been found to be unlawful in case-law. The basis for the concern centres around a presumption that there may be a net loss of parking income as a result of deployment of HARPS² because HARPS vehicles will - in contrast to individually owned vehicles - spend more of their time in active use, and less time parked. However elsewhere the paper acknowledges that in many cases the basis of existing charges mean that a parking space allocated for resident's parking generates far less income than the same parking space allocated for on-street parking.

For example, in the borough of Westminster a person making use of temporary on-street parking between the hours of 9am - 5pm on weekdays would pay more for parking within three weeks than a resident does for their annual permit. This disparity is even more stark in some parts of the nearby Royal Borough of Kensington and Chelsea.

We anticipate that greater adoption of connected and automated mobility; broader Mobility-as-a-Service offerings; and changes in consumer habits, will change the current nature and patterns of demand for kerbside access including long-stay parking, short-stay parking, and pick-up and drop-off. Since many urban transport authorities have existing strategic transport plans which prioritise active transport, public transport and modes of shared mobility, we expect local authorities' parking strategies to develop accordingly, leading to an organic redesignation of resident's parking spaces to balance the interests of different stakeholders and modes including HARPS, cycling, micromobility and freight. As a result we anticipate more granularity and variety of charging when it comes to parking provisions, using the permitted purposes.

² Para 7.38 states 'One important use of the funds may be to compensate for loss of parking income that may arise as HARPS are deployed'.

On the basis of the case law examples described at paras 7.50 - 7.55 we anticipate that such an approach would be deemed valid, even though the likelihood is that it would generate income far in excess of a resident's annual permit.

Q31.

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

We do not support proposals for road pricing schemes that would apply specifically and only to HARPS (see also our response to Q32). Where road pricing schemes are in use, the appropriate balance between road pricing and parking charges is likely to be very context specific and will depend upon both the overall availability and contested nature of both parking and road capacity. Local authorities should develop future parking strategies designed to encourage use of shared mobility, and convenient and widespread connectivity of such services with mass transit. The aim should be to ensure sufficient availability of parking to avoid vehicles circulating because they are unable to access a temporary parking space between journeys (as opposed to circulating because the cost of parking exceeds the cost of any road pricing that might apply).

Q32.

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

Disagree.

The possibility of road pricing for HARPS can only be considered a suitable intervention where there exists a concrete roadmap to extend the same set of rules to other vehicles using the roads network, so that HARPS has a level playing field to emerge as a credible and viable alternative to individually owned vehicles. Schemes designed to address perceived or real negative externalities of road traffic should apply to all road vehicles across the overall network and should not be artificially biased or skewed towards one particular category. Their discrimination should not be on the attribution of category of road vehicle / service, but on the attribution of the vehicle's overall impact; it would reduce public value to facilitate the possibility that a HARPS vehicle with a high average occupancy whose passengers would otherwise have chosen to make the same journeys as single occupancy journeys in individually owned vehicles, should be subject to additional pricing that those same journeys in single-occupancy individually owned vehicles, would not.

It is also probable that this type of highly directed road pricing would disproportionately disincentivise the use of HARPS in precisely those contexts where it would be most desirable to

encourage behavioural change and adoption of HARPS, i.e. on busy roads during times of high volumes of (single occupancy, individually owned vehicle) journeys. Moreover this approach would be in direct conflict with the deliberate shift in accounting principles observed in other industries and sectors (for instance in the consideration of the damage created by carbon emissions), where efforts are focused on understanding the *whole system* impact of individual activities, and developing policies and regulations within that context.

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.**

While we do not support the idea that schemes should be established specifically for HARPS, should any such schemes be established then the funds raised to encourage behavioural change away from individual vehicle ownership and use, to mobility as a service, by cross-subsidising MaaS trips and improving and enhancing supporting infrastructure.

An early example comes from the Empresa Municipal de Transportes de Madrid ('EMT Madrid'), a company wholly owned by the City Council of Madrid and which is responsible for planning public transport in the city. EMT has developed a MaaS platform which incorporates public transportation and private transport. Private operators pay a trip-based commission for each journey they make, and profits generated by the platform are planned to be used to subsidise MaaS journeys for the city's residents, in the first instance focusing on days when air pollution in the city is at high levels.

A further acceptable use of the funds may be to invest in public electric charging infrastructure.

Q33.

Do you agree that the agency that licences 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?

In general, we tend to agree with the principle of limiting vehicle numbers in the early stages of deployment in order to gather real world feedback about safe system performance. However, we are less supportive of the suggestion that the number of vehicles should be limited within a given operational design domain, for two reasons: (i) we think that limiting by ODD could be somewhat arbitrary, and it would be better to adopt a risk-based approach to limiting the number of vehicles; and (ii) we think there would be some undesirable practical challenges to enforcing the concept of licences limited by ODD. We discuss each of these in turn, below.

(i) adopting a risk-based approach

Limiting by ODD seems arbitrary unless the limits are banded in some way. There should be some assessment of overall risk level, and how each additional vehicle magnifies the risk, given the expected increase in exposure. A handful of vehicles operating in a 'high risk' ODD vs the same number operating in a 'low risk' ODD are not going to be equivalent. Exposure based on mileage is also not a good indicator of maturity and safety as such exposure may have substantial variation in the types of higher risk events that are encountered per mile. This approach could be better tied to the safety case requirements to risk assess the proposed operation and set limits that fit with an assessment of maintaining a tolerable level of risk. This needs to be considered in the context of any minimum fleet size needed to gather a sufficient level of feedback to demonstrate safety.

(ii) practical challenges to enforcement

Consideration would need to be given as to how to this concept of licences limited by ODD would be translated into the real world and therefore enforced in practice, both in general and in particular in the context of the boundary between one ODD which might not be subject to limits and another which is, especially as a single journey could transition through one to another.

CP2 defines the operational design domain as:

'The domain within which an automated driving system can drive itself. It may be limited by geography, time, type of road, weather or in some other way.'

For example, the weather during a journey might change from 'already demonstrably safe and no longer subject to vehicle limits' to 'awaiting fuller evidence to show that this weather is also safe for the ADS', while all other aspects of the ODD remain unchanged.

In the early phases of market development this might seem relatively easy to manage - but with larger scale deployments this is likely to become increasingly complex to monitor and enforce in practice, and risks undermining customer experience.

Rather than anchoring any 'initial period' to a fixed duration of time, it might be more appropriate for the initial period to last for as long as it takes the HARPS operator to evidence safety, which could be highly dependent on the precise location, frequency and conditions of their operational activities. To prevent this period becoming open-ended (or enabling developers who are unable to provide the necessary evidence of safety to continue operations), there could be a maximum duration, extendable only by agreement and with good cause. (We presume that there would exist a mechanism to remove a licence with immediate effect, where there is cause.)

Q34.

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

Agree that there should be no powers to impose quantity restrictions.

As discussed at length in the paper, local transport authorities already have wide ranging powers (principally, traffic management, parking charges and road pricing) available to them to preventatively address relevant issues of concern, although we emphasise that we support the use of road pricing only when it does not discriminate against HARPS vs individually owned, privately used vehicles. In contrast with some existing models of human driven passenger services, HARP services are likely to take some time to scale in the market. If this is the case then it would also allow the opportunity for slower, thoughtful and intelligent measures to be developed and used, to find the right longer term balance.

We also share the Law Commission's concerns that the measurement and interpretation of the concept of 'unmet demand' used in the taxi market is 'conceptually flawed', and believe that the concept of 'overprovision' used in the private hire market, may be similarly unscientific. Therefore we should seek to avoid the same or similar concepts applying to HARPS.

Q35.

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?**

Disagree.

While we acknowledge section 2(1) of the Transport Act 1985 which defines a bus service as 'a service, using one or more public service vehicles, for the carriage of passengers by road at separate fares', aside the existing legal basis it is not clear to us that making HARPS in larger vehicles subject to bus regulation, will encourage services that best meet the needs of customers, grow the HARPS market in the shorter term, and is best suited to enabling its continuing development in the longer run.

While there are some benefits to designated bus services (for example, access to bus lanes and bus stops, and in some cases Selective Vehicle Priority at traffic lights), our own investigation of the bus regulations as part of the StreetWise project served to reinforce that the existing regulations are overly complex and largely inflexible even in cases where the objective and intent has been the opposite. Attempting to extrapolate the existing regulations further for HARPS would be ill advisable.

It may be more appropriate to consider an approach whereby HARPS is formally subject to bus regulation only when the service is fulfilling a contractual agreement with a local transport authority and the regulatory framework that shall apply is made clear at the time of tender (see also our response to Q37). When that is not the case, a new regulatory framework may be more appropriate, regardless of size of vehicle and structure of fares. Even in this case, though, it

would almost certainly be better to think of HARPS independent of existing bus regulations to avoid services being burdened with mistakes of the past.

Q36.

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.

The principal issue with this proposal is that existing bus regulations are not compatible with the operation of truly flexible, innovative services. These regulations already harm and inhibit the development of services that could benefit both passengers and operators in the current market, absent automation. Persisting with the same regulations when highly automated vehicles are available will compound and multiply the difficulties encountered by would-be transport operators.

While the above comments refer to the regulations themselves, the existing procedures that exist to administer the regulations are similarly egregious. The over-reliance on non-digital, paper-based processes introduces delays into the procedure. Mandatory consultation and appeal procedures also act to effectively prohibit some forms of demand-responsive service where the need for the service is immediate and could not knowingly have been foreseen days or weeks in advance.

Therefore, unless and until the shortcomings of the existing bus regulations are addressed, we do not support the proposal to extend them to larger vehicle HARPS. We note also that DfT will shortly publish its call for evidence as part of the future mobility regulatory review, which will include examination of flexible bus services and which we anticipate will shine a light on the multitude of problems that exist within the current regulations.

Q37.

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?**

This could be a possible compromise in light of the issues previously identified, but as stated in our response to Q35, it would almost certainly be better to think of HARPS independent of existing bus regulations.

Q38.

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.

For HARPS to form part of Mobility as a Service offerings and encourage use of mass transit there should be a degree of collaboration and information sharing, but it may be just as important for this to take place between transport authorities and operators as between individual operators alone. There may be some areas where transport authorities can ensure that ticketing and fares structures encourage multi-modal journeys that promote the use of mass transit alongside HARPS, for instance enabling differential pricing to be possible for the 'same' HARPS journey where one connects with mass transit as part of a multi-modal trip, and the other does not.