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Submitted to **Law Commissions' consultation on Automated Vehicles: A Preliminary Consultation Paper**

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About you

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Tim Morton

What is the name of your organisation?

Enter the name of your organisation:

Transport Planning Society.

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Response on behalf of your organisation

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Chapter 3: Human factors

Consultation Question 1: Do you agree that:

Agree

Please share your views below::

Within the foreseeable future, it is wholly unlikely that any AV will be able to drive normal door-to-door journeys on the public highway network without a user-in-charge. All AV using the public highway will require a user-in-charge and we envisage that they will should be capable of being driven in four modes :

(A) manual mode, with the user-in-charge driving

(B) user-in-charge mode, where the user-in-charge does not drive but constantly monitors the driving environment and cannot undertake secondary tasks

(C) unsupervised user-in-charge mode where in the event of an unexpected relinquishment of ADS control, it is certain that the operating domain will permit the vehicle to be brought to a stand and the user-in-charge will then take control. The user-in-charge may undertake limited secondary tasks as explained in our response to Q7

(D) wholly unsupervised mode (ie where the user-in-charge can undertake secondary tasks) but this will occur only on exclusive highways or parts of highways specifically designed for use by AV's only.

Purpose designed AV may operate without a user-in-charge mode where the AV operates on exclusive, segregated infrastructure throughout its journey (eg the Heathrow Pods)

Agree

Please share your views below :

If the user-in-charge is constantly monitoring the driving environment (Mode B above), then they would be responsible for intervening if a risky situation develops, and would be responsible if they fail to do so. Within the operating domains defined in Modes C and D, the user-in-charge would not be designated a driver.

Other

Please share your views below :

This is a grey area. What happens if the user-in-charge fails to prevent an accident but could have done so had they been more attentive or made different decisions?

Consultation Question 2: We seek views on whether the label “user-in-charge” conveys its intended meaning.

Please share your views below::

Yes. There are alternatives (eg “person responsible”) but none seem better.

Consultation Question 3: We seek views on whether it should be a criminal offence for a user-in-charge who is subjectively aware of a risk of serious injury to fail to take reasonable steps to avert that risk.

Other

Please share your views below::

In principle, yes, but in practice it is very hard to see how a person’s subjective thoughts can be determined without doubt. Accidents are evident; thoughts are not.

Consultation Question 4: We seek views on how automated driving systems can operate safely and effectively in the absence of a user-in-charge.

Please share your views below :

As noted above, for the foreseeable future, only when using a segregated track for the whole or part of the journey concerned. An example might include manoeuvring and parking in a parking area for automated vehicles only, where the user-in-charge leaves the vehicle at entry to the facility and it is guided by the parking system to a free space.

Consultation Question 5: Do you agree that powers should be made available to approve automated vehicles as able to operate without a user-in-charge?

Disagree

Please expand on your answer: :

It is premature to consider the provision of such powers for operation in a mixed environment. Presumably such powers already exist to cover operation on a wholly segregated track (eg Heathrow Pods).

Consultation Question 6: Under what circumstances should a driver be permitted to undertake secondary activities when an automated driving system is engaged?

Please share your views below :

Only when operating in an environment designed for automated vehicles only (eg a reserved lane on a motorway). Automated systems will require to be proven for safe use in other environments before the user-in-charge can be permitted to undertake secondary tasks, and we think that is a long way off.

Consultation Question 7: Conditionally automated driving systems require a human driver to act as a fallback when the automated driving system is engaged. If such systems are authorised at an international level:

Other

Please expand on your answer below::

If this is needed, then the driver should remain constantly alert to all surrounding traffic and highway conditions and should not be permitted to undertake any secondary activities apart from, for example, those already permitted in cars (eg listening to an entertainment system, talking to passengers, monitoring in car information displays). This is Mode B in our response to Q1.

On the other hand, if the fallback will occur only in an operating domain where the ADS has brought the car to a safe halt, then the human driver could undertake any secondary activities which will permit quick control of the vehicle in such circumstances. There may be a need to move the vehicle under manual control as quickly as possible. This is Mode C in our response to Q1.

Please share your views below :

Presumably there would be an audible warning of an imminent stop but the driver should not be undertaking activities which require a relocation within the vehicle

to the control position, or activities from which it is not possible to immediately release hands and feet, or activities which impair eyesight or hearing. For example, changing clothes in the back seat would be a high risk.

Chapter 4: Regulating vehicle standards pre-placement

Consultation Question 8: Do you agree that:

Agree

Please explain your answer: :

Applying the scheme to both (1)a and (1)b, as well as (3) below, means that considerable expertise should be developed within a single body.

Agree

Please explain your answer: :

Agree

Please explain your answer::

See response to (1).

Consultation Question 9: Do you agree that every automated driving system (ADS) should be backed by an entity (ADSE) which takes responsibility for the safety of the system?

Agree

Please explain your answer: :

In principle, this seems sensible although issues will arise over the installation and maintenance of the system in a vehicle. It is difficult to see how the ADSE can accept full responsibility for its safety unless they also have control over its installation and maintenance, possibly through agreement with other parties.

Consultation Question 10: We seek views on how far should a new safety assurance system be based on accrediting the developers' own systems, and how far should it involve third party testing.

Please share your views below: :

The motor manufacturing industry currently has low credibility when it comes to vehicle testing so there will be public and political demands for third party involvement.

Consultation Question 11: We seek views on how the safety assurance scheme could best work with local agencies to ensure that it is sensitive to local conditions.

Please share your views below: :

We have not read the relevant Consultation Paper but it seems to us that any AV would need to be capable of being used (within its operational design domain) throughout the UK, if not Europe. For example, the ADS would have to be capable of recognising different road signs in different countries and adapting to different traffic rules (eg giving way on entry to roundabouts) in different countries. There would be a need to liaise with the traffic authorities in all countries where operation of a specific ADS system is permitted. It would nevertheless be an option, for example, to restrict ADS use to the country/countries where its use has been certified, with manual driving being required elsewhere.

Chapter 5: Regulating safety on the roads

Consultation Question 12: If there is to be a new safety assurance scheme to authorise automated driving systems before they are allowed onto the roads, should the agency also have responsibilities for safety of these systems following deployment?

Yes

Please explain your answer::

Especially in the early days of AV when feedback on actual performance will be vital to maintaining a proper safety regime.

(1) regulating consumer and marketing materials?, (2) market surveillance?, (3) roadworthiness tests?

Please explain your answer::

We like the idea of knowledge and experience in all these areas being vested in a single body, although we also see the possibility of the safety assurance body outsourcing some of these tasks subject to monitoring, quality assurance and oversight being retained.

Other

Please explain your answer: :

Not so sure. Advanced driver assistance systems are already becoming commonplace without issues arising (as far as we are aware) so there may not be a need for the agency to become involved. However, a clear line needs to be drawn between systems which the agency will be responsible for and those for which it will not.

Consultation Question 13: Is there a need to provide drivers with additional training on advanced driver assistance systems?

Other

Please explain your answer :

Again, not sure. We would hope that the systems will be sufficiently user-friendly that additional formal training will not be necessary, although dealers are likely to offer new purchasers a trial run and initial instruction. Drivers appear to have had little difficulty in adapting to other new driver assistance systems (eg automatic transmission, cruise control etc.)

Other

Please explain your answer::

If it is needed, it should be mandatory and not undertaken to suit the financial whims of insurance companies. If it is not absolutely needed, then it is reasonable for insurance companies, on a commercial basis, to offer an incentive if they wish.

Consultation Question 14: We seek views on how accidents involving driving automation should be investigated.

Please share your views below::

This will be particularly important during the early days of AV, either to give confidence in ADS or to quickly identify any systemic faults which need to be urgently addressed.

Please share your views below: :

The Police should retain their existing powers and responsibilities and the AIB would operate at a higher, overarching level.

Consultation Question 15:

Other

Please explain your answer: :

Unless AV's are linked to central computers, it is not clear how the agency will know how many miles are driven in automatic mode, and therefore what the overall accident rate is in this mode. Our view is that if accidents are properly investigated and remedial actions taken where necessary, comparisons with human drivers will not be needed. However, if the overall accident rate rises as AV are introduced, then the agency should undertake research to see whether AV's are a contributory factor.

No, do not monitor advanced driver assistance system accident rates

Please share your views below: :

We do not think there is an issue here and therefore no real need to investigate. Again, where a system can be switched on and off, it will be impossible to know how many miles have been driven with it activated.

Consultation Question 16:

Please share your views below: :

As noted above, unless all use of ADS is recorded, stored and retrieved (possibly during an MoT?) there would seem to be no means of knowing how many vehicle-miles are driven by AV's in automatic mode and how many in manual mode. It would be straightforward to determine whether an accident occurred in automatic mode or not, but without knowing the total miles driven in each mode, it would be impossible to calculate accident rates.

In any event, such rates could be misleading. It is quite possible that an accident occurring when a vehicle is being driven in automatic mode may not be due to the mode of driving, but the statistics would undoubtedly be used to falsely demonstrate the safety or otherwise of AV.

Please share your views below::

If AV vehicle safety is to be monitored in depth, there should be an obligation to report all damage-only accidents occurring under ADS (as well as those involving an injury). However, in practice this is likely to happen only when an insurance claim is made and that data can presumably be gathered from the insurance companies without an additional reporting requirement.

Chapter 6: Civil liability

Consultation Question 17: We seek views on whether there is a need for further guidance or clarification on Part 1 of Automated and Electric Vehicles Act 2018 in the following areas:

Other

Please explain your answer: :

Sections 3(1) and 6(3) cross-refer to sections of other Statutes and without further reading it is not clear what the intended consequence should be. And what happens if these other statutes are amended or repealed? We feel that the AEV Act should be amended so that it is freestanding and independent of changes to other legislation.

Other

Please explain your answer::

No comment

Please share your views below :

No comment

Consultation Question 18: Is there a need to review the way in which product liability under the Consumer Protection Act 1987 applies to defective software installed into automated vehicles?

Other

Please explain your answer below :

No Comment

Consultation Question 19: Do any other issues concerned with the law of product or retailer liability need to be addressed to ensure the safe deployment of driving automation?

Please share your views below :

No comment

Chapter 7: Criminal liability

Consultation Question 20: We seek views on whether regulation 107 of the Road Vehicles (Construction and Use) Regulations 1986 should be amended, to exempt vehicles which are controlled by an authorised automated driving system.

Yes, amend regulation 107 in this way

Please explain your answer::

It would need to be amended (or a new regulation introduced) to apply to vehicles operating in a domain where a user-in-charge is not required. Has this already been done for the Heathrow pods or are they not covered by the C&U Regulations as they do not operate on a public highway?

Consultation Question 21: Do other offences need amendment because they are incompatible with automated driving?

Yes

Please explain your answer::

Yes, for AV operating under Modes C & D (in our answer to Q1). For example, speaking on a mobile phone should not be an offence for a user-in-charge if the vehicle is operating in modes C or D.

Consultation Question 22: Do you agree that where a vehicle is:

Other

Please explain your answer: :

In the case of a vehicle capable of operating without an active user-in-charge in its permitted operating domain, yes. But where there is a user-in-charge, wholly aware of the driving environment at all times, the issue is more complicated and it is more difficult to see where responsibility will lie. For example, the user-in-charge may decide that a small amount of speeding is safe and acceptable in appropriate circumstances and allow the ADS to continue driving the vehicle. However, if a "notice of intended prosecution" is then issued, is it the fault of the ADS for applying too high a speed in the first place or of the user-in-charge for not taking corrective action?

Consultation Question 23: Do you agree that, rather than being considered to be a driver, a user-in-charge should be subject to specific criminal offences? (These offences might include, for example, the requirement to take reasonable steps to avoid an accident, where the user-in-charge is subjectively aware of the risk of serious injury (as discussed at paragraphs 3.47 to 3.57)).

Please share your views below::

In principle, yes, but as already noted, we see it as difficult, if not impossible, to determine without doubt the user's subjective awareness of risk immediately prior to the accident.

Consultation Question 24: Do you agree that:

Agree

Please explain your answer below: :

Agree

Please explain your answer below: :

Yes – so that a body of understanding can be established within the regulatory body. This would not exempt the Police from their normal investigations and procedures.

Agree

Please explain your answer below: :

Agree

Please explain your answer below::

Yes and they should also require lessons learned to be shared with the industry as a whole.

Consultation Question 25: Do you agree that where a vehicle is listed as only safe to drive itself with a user-in-charge, it should be a criminal offence for the person able to operate the controls (“the user-in-charge”):

(1) not to hold a driving licence for the vehicle;; (2) to be disqualified from driving;; (3) to have eyesight which fails to comply with the prescribed requirements for driving;; (4) to hold a licence where the application included a declaration regarding a disability which the user knew to be false;; (5) to be unfit to drive through drink or drugs; or, (6) to have alcohol levels over the prescribed limits?

Please tick all relevant boxes above and explain your answers below: :

In other words, the user-in-charge must meet ALL the usual requirements for a driver of any motorised vehicle. As noted at the outset, we believe that a user-in-charge will be required at all times for the foreseeable future except in exceptional circumstances where the whole journey is completed on purpose-provided and wholly segregated infrastructure (eg the Heathrow Pods)

There is also the question of the user-in-charge undertaking secondary activities (see Q7).

Consultation Question 26: Where a vehicle is listed as only safe to drive itself with a user-in-charge, should it be a criminal offence to be carried in the vehicle if there is no person able to operate the controls?

Yes

Please explain your answer below: :

It should but it is not clear who the charge would be levied at : the owner of vehicle, the passengers, a passenger purporting to be the user-in-charge but unqualified to do so? It follows that it should be a criminal offence for a user-in-charge not to be nominated or for anyone (knowing who it is) to fail to disclose to an authorised official who that person is. There are grey areas associated with this. What happens if it is subsequently disputed who was nominated as the user-in-charge and what happens if the user-in-charge changes during the journey, during a period when the vehicle is operating in unsupervised mode?

Consultation Question 27: Do you agree that legislation should be amended to clarify that users-in-charge:

Agree

Please explain your choice: :

Not just prohibited places but from anywhere where it is obstructive or otherwise unwise to stop. However, this should not necessarily be a criminal offence. If the ADS stops the vehicle on, say, a double yellow line and the user does not move it, then this seems no different from a normal civil parking offence and should be dealt with accordingly.

The legislation should also be amended to require the user-in-charge to be responsible for payment of any toll charges automatically incurred on a journey (ie where tolls are charged automatically without the vehicle needing to stop, such as the London congestion charge). Or should that responsibility remain with the owner of the vehicle?

Consultation Question 28: We seek views on whether the offences of driving in a prohibited place should be extended to those who set the controls and thus require an automated vehicle to undertake the route.

Please share your views::

Does “those who set the controls” refer to users-in-charge activating an ADS or does it refer to the supplier of the ADS? We believe it should apply to the supplier of the ADS although, again, this could be a grey area. If the user-in-charge notices the vehicle, say, passing through “No Entry” signs but fails to take any action, is the user then negligent?

This goes back to our previous point that the user-in-charge should be aware of the whole driving environment at all times unless using a segregated highway system or a segregated part of a highway system, for the exclusive use of AV and exclusively designed for their use.

Consultation Question 29: Do you agree that legislation should be amended to state that the user-in-charge is responsible for:

(1) duties following an accident;; (2) complying with the directions of a police or traffic officer; and, (3) ensuring that children wear appropriate restraints?

Please tick any relevant boxes above and explain your answers below::

After an accident, yes.

However, if in a vehicle authorised to move under unsupervised AV, the user may not see the police or traffic officer giving directions. This adds further weight to our view that AV’s operating under unsupervised ADS should be restricted to their own, exclusive segregated highway system. In that event, an officer giving direction would display a sign that the AV would recognise (eg a stop sign) rather than seeking to direct traffic manually.

Consultation Question 30: In the absence of a user-in-charge, we welcome views on how the following duties might be complied with:

Please share your views below: :

One again, we reiterate our view that vehicles operating without a user-in-charge would be restricted to using their own segregated highway system and there

would be specially trained personnel available to deal with accidents. The whole premise of AV's is that when operating in their own exclusive environment, they should not have accidents but of course, one never knows.

Children should not be allowed to use AV's without a user-in-charge except under adult supervision, and it would be the responsibility of the supervising adult to enforce wearing of safety restraints. It is not clear what age limit should apply to children in this context. Should it be the minimum age for a driving licence or would a lower age be appropriate? Is there a minimum age limit for unaccompanied travel on the Heathrow Pods?

Consultation Question 31: We seek views on whether there is a need to reform the law in these areas as part of this review.

Please share your views :

No further comment

Consultation Question 32: We seek views on whether there should be a new offence of causing death or serious injury by wrongful interference with vehicles, roads or traffic equipment, contrary to section 22A of the Road Traffic Act 1988, where the chain of causation involves an automated vehicle.

Other

Please explain your answer :

If an AV is involved in wrongful interference with vehicles, roads or traffic equipment, then presumably the user-in-charge/ADSE would be liable, as would be the case today with the driver. The allocation of liability would depend on the operational mode (see Q1) of the vehicle at the time. If the wrongful interference is caused by a vehicle fault unrelated to the ADSE, that is another matter.

In passing, this raises a bigger issue in terms of the responsibilities of highway authorities and contractors or utilities working on the highway, and the effect of changes to the highway or traffic equipment on AV operation.

Some AV may be programmed in advance with full details of the road layout they will encounter (eg the Heathrow Pods) and any changes to highway layouts, whether temporary or permanent, would have to be notified in advance to the ADS software suppliers. However, on the public highway, this seems a process full of risk or potential omission and makes no allowance for short-term emergency alterations to the road layout. We therefore presume that this mode of AV operation will not occur except on road systems exclusively designed for it.

We assume that the more common mode of operation on the general highway will be for the AV sensors to identify and interpret road signs and markings as they proceed, although they may be pre-programmed with information about the general highway network and routes, for example. Highway authorities and contractors working on the highway make many changes to road layouts, signing and markings during the normal course of their work but the reliance of AV on such items adds an extra level of responsibility. Firstly, use of any non-standard signs, even in an emergency, has to be ruled out. Secondly, with the best will in the world, errors (ie deviation from the prescribed standard) can appear in signs and markings. These may be obvious to the normal driver but could be subject to misinterpretation by an ADS.

Where any changes are to be made to road layout, signing or markings, we recommend that :

- an area around the works is defined in advance where ADS is automatically switched off (with the user taking charge at the area boundary)
- once the works are complete, all layouts, signs and marking are tested with an ADS vehicle under close supervision to ensure that that they are correctly identified and understood
- then the area is reopened to ADS use

For extensive roadworks, this could involve an ADS shutdown for many weeks or months. Although we do not recommend it, it would probably be possible for the user to specify whether the selected route should avoid ADS shutdown areas, although that could add considerably to journey time and distance (and potentially congestion on the routes chosen). We prefer that the user takes charge when travelling through the ADS shutdown area.

This may also have to apply during an emergency as the outcome may be, for example, that vehicles have to cross lines and markings that would normally be prohibited. We see this as problematic and there will be a responsibility on the first responder to declare an ADS shutdown area.

A central coordinating body (possibly little more than a computer) would require to be set up to deal with ADS shutdowns and ensure that full details are communicated immediately to all ADS equipped vehicles.

Vehicle manufacturers have suggested that if an ADS vehicle gets stuck in an unfamiliar situation, they would view the scene through CCTV and then instruct the ADS accordingly. We believe this would be unworkable in the dense and congested road network in the UK and would require a team of unimaginable size to instruct every ADS user affected by anything out of the normal. Hence we propose the use of ADS shutdown zones, preferably implemented in advance of any abnormal situation or in an emergency, as quickly as possible.

Consultation Question 33: We seek views on whether the Law Commissions should review the possibility of one or more new corporate offences, where wrongs by a developer of automated driving systems result in death or serious injury.

Other

Please explain your answer::

No comment

Chapter 8: Interfering with automated vehicles

Consultation Question 34: We seek views on whether the criminal law is adequate to deter interference with automated vehicles. In particular:

Other

Please explain your answer: :

We raise one matter for consideration. Obstructing sight of a road sign (eg by a tall vehicle parked in front of it, or merely travelling in front of an ADS vehicle) could have adverse consequences for an ADS. This cannot be a criminal offence but some thought may have to be given as to how to mitigate the consequences.

Other

Please explain your answer: :

No comment

Consultation Question 35: Under section 25 of the Road Traffic Act 1988, it is an offence to tamper with a vehicle's brakes "or other mechanism" without lawful authority or reasonable cause. Is it necessary to clarify that "other mechanism" includes sensors?

Other

Please explain your answer: :

Tampering with sensors or ADS software should be offences and if the Act is not clear, then it should be amended.

Consultation Question 36: In England and Wales, section 12 of the Theft Act 1968 covers "joyriding" or taking a conveyance without authority, but does not apply to vehicles which cannot carry a person. This contrasts with the law in Scotland, where the offence of taking and driving away without consent applies to any motor vehicle. Should section 12 of the Theft Act 1968 be extended to any motor vehicle, even those without driving seats?

No

Please explain your answer::

For the foreseeable future, we believe all AV used on the public highway will have to be capable of carrying at least a user-in-charge, so it is hard to see that the Act would not refer to them. In the longer term, it is possible that there will be AV which do not carry persons (eg used for freight) and in that event, Section 12 should be extended.

Consultation Question 37: In England and Wales, section 22A(1) of the Road Traffic Act 1988 covers a broad range of interference with vehicles or traffic signs in a way which is obviously dangerous. In Scotland, section 100 of the Roads (Scotland) Act 1984 covers depositing anything on a road, or inscribing or affixing something on a traffic sign. However, it does not cover interfering with other vehicles or moving traffic signs, even if this would raise safety concerns. Should section 22A of the Road Traffic Act 1988 be extended to Scotland?

Yes

Please explain your answer::

It seems sensible

Chapter 9: "Machine Factors" - Adapting road rules for artificial intelligence decision-making

Consultation Question 38: We seek views on how regulators can best collaborate with developers to create road rules which are sufficiently determinate to be formulated in digital code.

Please share your views: :

The basic road rules are determinate but the challenge will be in replacing current judgement by determinate rules. That will be challenging, not least because judgement is variable from one driver to the next, and from one circumstance to the next. We are not sure that it is worth doing.

We believe that the user-in-charge will require to remain responsible for such judgements when operating in Modes A and B as defined in our response to Q1. In Mode C, judgement will be replaced by the ADS bringing the vehicle to a stop when it cannot decide what to do. Operation in Mode D implies a specialised driving environment designed to ensure that judgement is not needed and where a formulaic set of rules will suffice.

Consultation Question 39: We seek views on whether a highly automated vehicle should be programmed so as to allow it to mount the pavement if necessary:

Please tick any box that you think applies and explain your reasoning below::

This seems a highly contentious area and seems to be one in which only a user-in-charge can weigh up the pro's and con's, and make a reasonable decision. This is in line with our view that an AV operating in a mixed environment should have a user-in-charge fully aware of the driving environment at all times and instantly ready to take over if an emergency arises.

Consultation Question 40: We seek views on whether it would be acceptable for a highly automated vehicle to be programmed never to mount the pavement.

Please share your views :

See our response to Q39.

Consultation Question 41: We seek views on whether there are any circumstances in which an automated driving system should be permitted to exceed the speed limit within current accepted tolerances.

Please share your views :

This would be very difficult to program. Again, we suggest that the ADS should alert the user-in-charge to the desirability of exceeding the speed limit but leave the user to make the decision and, if exceeding the speed limit is desirable, either take control or permit the ADS to do so. On segregated AV-only track, there should be no need for the speed limit to be exceeded.

Consultation Question 42: We seek views on whether it would ever be acceptable for a highly automated vehicle to be programmed to “edge through” pedestrians, so that a pedestrian who does not move faces some chance of being injured. If so, what could be done to ensure that this is done only in appropriate circumstances?

Please share your views:

Once again, we suggest that the user-in-charge should be required to take control in such circumstances.

Consultation Question 43: To reduce the risk of bias in the behaviours of automated driving systems, should there be audits of datasets used to train automated driving systems?

Other

Please explain your answer :

Possibly, but it is not clear what would be done with the audit results. Some fundamental work needs to be done to specify what biases (if any) are permissible and then ensure that these are not exceeded.

Consultation Question 44: We seek views on whether there should be a requirement for developers to publish their ethics policies (including any value allocated to human lives)?

Other

Please explain your answer :

This is a complex area. We believe it will be preferable to publicly specify the “ethics” policies to be adopted and certify that they are implemented, rather than leave individual developers to decide for themselves. Developers could be free to add additional ethics considerations provided they do not conflict with the national specification.

Defining an ethics policy will not be easy and we are concerned that left to their own devices, developers will come up with a form of words to describe their ethics policies which may not be definitive and which will be subject to interpretation. The statement would probably be primarily designed to persuade purchasers that they can drive with a clear conscience.

Consultation Question 45: What other information should be made available?

Please share your views :

The limitations of the system need to be made clear so that drivers are in no doubt about the degree of risk they will encounter in different situations. There should be clear guidelines on circumstances in which the system should not be used (eg poor visibility, absence of road markings, traffic signals not working).

Consultation Question 46: Is there any other issue within our terms of reference which we should be considering in the course of this review?

Please alert us to any other issues that we should consider :

We have nothing to add to comments already made in that respect, although we would like to add some more general comments.

Firstly, we found your review to be refreshingly frank about the issues likely to be involved with the supply and use of AV, and giving an insight far removed from the hype put out by vehicle manufacturers. We share almost all your concerns about things which might happen, but which tend to be overlooked in announcements by manufacturers.

We believe that in a mixed environment, having an alert user-in-charge ready to take over at any time will be essential, at least for the foreseeable future. We believe that fully autonomous vehicles not requiring any supervision and leaving the user free to undertake secondary tasks, will be safe and satisfactory only in an exclusive, segregated highway environment specially designed for them.

In the first instance, we see fully AV's being limited, perhaps, to a single lane of a motorway or perhaps purpose-designed parking areas. In time we might see other roads being built and designed for their use, perhaps within new developments.

On a wider issue, we are concerned that there has been no independent research into the effect of AV's on the amount of vehicle use, the impact on public transport use, and therefore on harmful emissions. We appreciate that this is not a legal matter although once the outcomes are forecast, they may impinge on the regulations covering AV use.