

## **IHE Response to Law Commission consultation on autonomous vehicles**

**17 March 2021**

This is the official response of the Institute of Highway Engineers to the Law Commission's *Consultation Paper 3: A regulatory framework for automated vehicles*. Questions for which we have no comment are not included.

As from: IHE, Floor 4, Euston House, 24 Eversholt Street, London NW1 1DB

### **General comments**

Our main concern is the high dependence of the safety of AVs on the proposed regulator. We consider that this is an enormous task and that the problems that have affected regulation in other areas are likely to afflict AV regulation too. In particular, we worry that it will be significantly under-resourced. The paper does not address where its funding would come from. Neither funding it from general taxation, nor by a charge made on the registration or use of AVs, is likely to be popular.

A secondary concern is the lack of attention to civil enforcement in the document. This has become by far the dominant method of enforcement for parking, stopping, bus priority and zonal restrictions throughout Britain, and of moving traffic infringements in London and parts of Wales. It generates significant revenue for some authorities, which they use to help fund transport projects. The government's proposal to fully implement Part 6 of the Traffic Management Act in 2021 will extend this to the whole of England. Local authorities need a uniform way to deal with infringements under civil law, whether by AVs or not.

Similar issues apply to the more automated methods of criminal enforcement, such as for speeding or red light running. There needs to be a uniform method for dispatching 'notices to owner' regardless of the method of operation of the vehicle at the time, which will generally be unknown to the enforcement authority.

A third area of concern is the handling of less clear-cut traffic offences and how to decide whether or not an AV and its ADSE are to blame. Careless driving and driving without reasonable consideration for other road users, for example, are somewhat subjective and such charges often result in considerable argument in the Magistrates Court. Where would be the equivalent forum to decide whether or not an AV had committed such an infraction? Into this category we would also lump cases where an alleged road defect contributed to the infraction. For example, an AV cannot readily stay in its lane if the markings are worn and barely visible. A forum is therefore also needed at which an ADSE can argue that its systems are not to blame for what would otherwise be a clear-cut infraction.

**Consultation questions that we wished to respond to specifically follow.** Our responses are in black.

### Consultation Question 1.

*2.35 We provisionally propose that:*

*(1) a vehicle should not be classified as self-driving if, with the ADS engaged, the user-in-charge needs to monitor the driving environment, the vehicle or the way it drives;*

*(2) it is nevertheless compatible with self-driving to require the user-in-charge to respond to a clear and timely transition demand which:*

*(a) cuts out any non-driving related screen use;*

*(b) provides clear visual, audio and haptic signals; and*

*(c) gives sufficient time to gain situational awareness.*

*(3) to be classified as self-driving, the vehicle must be safe enough even if the human user does not intervene in response to any event except a clear and timely transition demand.*

*Do you agree?*

We agree with the above, but are concerned as to what evidence there will be as to whether a vehicle is in self-driving mode or not at any moment in time. This is necessary at the time for the police to decide what actions to take in the event of poor driving being observed or a collision, and subsequently to decide on the appropriate legal process to follow. What would the consequences be of an event that occurred close to the moment of transition into or out of self-driving?

### Consultation Question 3.

*2.65 We provisionally propose that the decision whether a vehicle is sufficiently safe to “safely drive itself” should be made by the Secretary of State, as informed by advice from a specialist regulator.*

*Do you agree?*

No. We consider that the Secretary of State could be under great pressure to approve matters before him on grounds other than safety, as has alleged to have occurred over the issue of ‘smart motorways’. Unless the regulator is extremely well-funded, it is unlikely to have the resources to give the SoS much definitive advice, and will probably be over-reliant on studies produced by manufacturers and the AV industry which may lack independence.

It depends also upon any caveats of conditions or types of road for which the vehicle can “safely drive itself” and whether the transition to manual driving is itself covered by the SoS’s assessment of the vehicle.

A further complication relates to whether any such approval covers also modified versions of the vehicle or its software, or whether they will need re-approval after each update. Even a small modification is likely to have some bearing on safety.

### Consultation Question 4.

*2.66 We welcome observations on which of the following standards is most appropriate when assessing the safety of automated vehicles:*

*(a) as safe as a competent and careful human driver;*

*(b) as safe as a human driver who does not cause a fault accident;*

*(c) overall, safer than the average human driver.*

The AV industry has promoted its technology as being much safer than a human driver and promising a big saving in road casualties, so they should be held to that. An average reduction in casualties (per km travelled on the same categories of road) of at least 75% should be required.

#### Consultation Question 5.

*2.67 We welcome observations on how automated vehicles can be made as safe as reasonably practicable.*

Very extensive testing will be needed, over several years to cover as wide as possible a range of weather conditions and to include enough of the rare random circumstances that lead to road collisions.

#### Consultation Question 16.

*3.41 We seek views on whether the regulator that classifies vehicles as self-driving should have power to allow their deployment in limited numbers, so as to gather further data on their safety in real world conditions.*

Yes, we are firmly of the view that this will be necessary and that there will need to be a period of a year or more before sufficient data has been gathered, given the rare random nature of road collisions.

#### Consultation Question 17.

*4.22 We provisionally propose that legislation should establish a scheme to assure the safety of automated driving systems following deployment, giving scheme regulators enhanced responsibilities and powers.*

*Do you agree?*

Yes, subject to our general concerns about the resourcing and independence of the regulators.

#### Consultation Question 18.

*4.23 We provisionally propose that the enhanced scheme should give regulators the following responsibilities and powers:*

*(1) scheme regulators should be responsible for comparing the safety of automated and conventional vehicles using a range of measures;*

*(2) to do this the regulator should have power to collect information on:*

*(a) leading measures (instances of bad driving which could have led to harm) and*

*(b) lagging measures (outcomes which led to actual harm);*

*(3) regulators should have power to require an ADSE:*

*(a) to update software where an update is needed to ensure safety and continued compliance with the law;*

*(b) to keep maps up-to-date, where an AV relies on maps to ensure safety and compliance with the law;*

*(c) to communicate information about an ADS to users in a clear and effective way, including where necessary through training.*

*Do you agree?*

Yes, but we are unclear about how regulators could possibly obtain the information in point 2. Would the police or any other authority have a duty to report these 'measures' or would the regulator have a resource equivalent to all the traffic policing currently undertaken in the UK to observe and collect this for themselves?

### Consultation Question 19.

*4.24 We welcome views on the following issues:*

*(1) Should scheme regulators be empowered to approve software updates that apply only within the UK, without requiring the manufacturer to return to the original type approval authority?*

*(2) Should the scheme should also deal with cybersecurity?*

*(3) Are other powers needed?*

Yes.

### Consultation Question 22.

*4.38 We provisionally propose that a statutory scheme to assure AVs in-use should:*

*(1) investigate safety-related traffic infractions (such as exceeding the speed limit; running red lights; or careless or dangerous driving);*

*(2) investigate other traffic infractions, including those subject to penalty charge notices;*

*(3) if fault lies with the ADSE, apply a flexible range of regulatory sanctions.*

*Do you agree?*

Yes, but only if by *investigate* you mean process and act upon reports from other agencies, such as local authorities and the police. Otherwise, it would be an impossibly large task, particularly if it covers non-safety-related infractions, such as driving in a bus lane or blocking a box junction. See our answer to Question 18 that questions the impossibly large cost and resource this would otherwise require.

We are unclear how local authorities and others processing potential penalties would vary their processes, as they are unlikely to know whether a particular infraction was by and AV in its self-driving mode or not. They would doubtless be aggrieved if a significant proportion of observed infractions were by AVs and did not attract a penalty.

### Consultation Question 25.

*4.48 We provisionally propose that a specialist collision investigation unit should be established:*

*(1) to analyse data on collisions involving automated vehicles;*

*(2) to investigate the most serious, complex or high-profile collisions; and*

*(3) to make recommendations to improve safety without allocating blame.*

*Do you agree?*

No. It would be wasteful during the long transition period between manually driven and AVs to have two separate investigation agencies: the police for manually driven vehicles and a separate unit focussing on AVs. Many collisions will be between manually driven and AVs, so without police involvement it is difficult to see how any necessary prosecution of the human driver would occur. The police have the expertise to investigate individual accidents and to follow up with any resulting processes, including identifying unregistered and uninsured vehicles and dealing with other crimes that may be encountered at the same time. A separate unit could not investigate successfully without the power to take witness

statements (under caution if necessary), so would need to be in effect a police force anyway. The police will clearly need a much higher level of resource to cover this function, and it may need to be a central unit covering several (or all) police forces, but it should remain under the control of chief constables.

### Consultation Question 26.

*4.53 We provisionally propose that the UK Government should establish a forum for collaboration on the application of road rules to self-driving vehicles.*

*Do you agree?*

Yes. This is an extremely complex topic and would need to be split into multiple stands. Road rules comprise a relatively small number of mandatory requirements, plus a plethora of matters concerned with safe and courteous driving, a small sample of which are alluded to in the driving theory test. The mandatory requirements can be sub-divided into (a) those that apply across the whole road network at all times, (b) those that apply under particular circumstances (nature of the road, weather, presence of other road users, etc.) and those that apply locally by virtue of a traffic order or by regulatory or other signing.

### Consultation Question 27.

*4.54 We welcome views on:*

*(1) the issues the forum should consider;*

*(2) the composition of the forum; and*

*(3) its processes for public engagement.*

The forum would need to enumerate and separate the many different types of road rules. To answer this question fully would require a separate lengthy paper. Many currently mandatory requirements only work with discretion applied by the prosecuting authority, as there are almost always rare circumstances where it is in the public interest to disregard them. Holding up traffic behind (particularly a blue light emergency vehicle behind) is a case in point. The requirement to give way at a priority junction is often not possible to fully observe at peak times.

The forum should include representative from all organisations involved in traffic engineering and road safety, including professional bodies, such as the Institute of Highway Engineers, as they are a more representative of practicing engineers dealing with current issues, than local authority umbrella bodies that can be dominated by chief officers.

### Consultation Question 35.

*5.32 We provisionally propose that the user-in-charge should be liable for criminal offences which do not arise from the dynamic driving task, including those related to:*

*(1) insurance;*

*(2) maintaining the vehicle in a roadworthy condition (including installing safety critical software updates);*

*(3) parking;*

*(4) duties following accidents to provide information and report accidents to the police; and*

*(5) ensuring child passengers wear seatbelts.*

*Do you agree?*

Yes, but with the following provisos.

Point (2) could be problematic if the ADSE advises that software updates will be installed automatically (as is likely to be the case). Where this function is provided (and the user-in-charge does not disengage it), it is clearly not their fault if a necessary update does not occur for any reason.

In item (3) above, “parking”, is normally a civil, not a criminal matter. In any case, it should be replaced by “unauthorised stopping” to cover cases where the AV had been instructed to stop to set-down or pick up a passenger or to load goods where this is not permitted. The term “parking” normally refers to leaving a vehicle stationary for a longer period.

We take this question to relate to human instructions to an AV, such as choosing where to park. If having identified a suitable space, the AV is instructed to ‘self-park’, then clearly any subsequent collision whilst it is doing so is likely to be the fault of the software and thus the ADSE.

The issue concerning whether a human has instructed the AV to do something illegal is much wider than this. A common example concerns the route chosen. If an AV drives through a ‘bus only’ street, is that always the fault of the AV software, or might the user-in-charge have programmed it to follow that route and therefore be liable for the fine? If there are exceptions to the ‘bus only’ restriction (such as ‘for access’), the AV has got to allow itself to be programmed to go down that route, as only the user-in-charge can determine whether the exception applies in that instance. If then the vehicle passes all the way through without attempting to access any premises, then the only person to penalise is surely the user-in-charge.

### Consultation Question 36.

*5.33 We provisionally propose that the legislation should include a regulation-making power to clarify those roadworthiness failings which are (and those which are not) the responsibility of the user-in-charge.*

*Do you agree?*

Yes

### Consultation Question 55.

*10.17 We provisionally propose that:*

*(1) for a vehicle to be classified as self-driving, it needs to record the location as well as the time at which the ADS is activated and deactivated;*

*(2) the Government should work within the UNECE to ensure data storage systems for automated driving record these data; and*

*(3) any national system to approve an ADS should require these data to be collected, subject to safeguards.*

*Do you agree?*

Yes, you make a good case for this in the examples you give.

## Consultation Question 56.

*10.19 We provisionally propose that legislation should impose a duty on those controlling AV data to disclose data to insurers, where the data is necessary to decide claims fairly and accurately.*

*Do you agree?*

Yes, but also to individual litigants, local authorities and others involved with civil enforcement. This will have implications for GDPR and the Data Protection Act 2018 (GDPR), as those controlling the data will need to ensure they are compliant and can implement the various rights that data users have.