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**Federation of Historical Vehicle Clubs (FBHVC)**

**Response to Call for Evidence  
On Safe Use of Automated Lane Keeping Systems  
(ALKS)**

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## INTRODUCTION

### *The Federation*

The Federation of British Historic Vehicle Clubs (the Federation) represents over 500 member clubs with a total membership of a quarter of a million historic vehicle owners and enthusiasts. Interest in historic vehicles sustains economic activity worth £5.5 billion annually to the UK economy and supports the employment of nearly 35,000 people.

Vehicles owned by Federation members include historic vehicles of many kinds, including cars, motorcycles, buses, coaches, lorries, vans, utility vehicles, military vehicles, tractors and other agricultural vehicles and steam engines. Our members restore and preserve these vehicles for their historic interest, exhibit them at exhibitions, shows, community fetes, etc. and currently use the country's highways both in order to attend at those events, but also to participate in touring events and for general leisure purposes.

The Federation, both itself and through its membership, is thus the primary national repository of knowledge and expertise on the subject of historic vehicles in general.

The members of the Federation affiliated clubs possess a greater number and more extensive variety of historic vehicles, particularly those dating from before the Second World War, than in any other EU Member State. This reflects the different historical experiences of the UK, especially the absence of land war on its territory.

Historic vehicles do not form a part of the contemporary transportation structure of the nation. The primary purpose of their journey is seldom the transportation of either goods or people from one point to another but is rather the movement of the vehicle itself. Such use is largely an incidental part of their preservation, enjoyment and presentation to the public and to those having an interest in mobile heritage.

Responses to Government consultations are commented on and discussed by a delegated Committee of the FBHVC which has members representing the different types of vehicles encompassed by the Federation.

## Federation of British Historic Vehicle Clubs

The Federation considers that a number of its members within these organisations could be adversely affected by the proposals made in the Call for Evidence and by potential outcomes and wishes to advise Department for Transport of its concerns.

## ***The Proposals***

The Department for Transport (DfT) seeks views through a call for evidence (the Document) on proposals to allow the use of vehicles equipped with an Automated Lane Keeping System (ALKS) on UK roads.<sup>1</sup> The Document describes ALKS as a traffic jam chauffeur technology designed to control the lateral and longitudinal movement of the vehicle for an extended period without further driver command. At such times, the system is in primary control of the vehicle, and performs the driving task instead of the driver, at low speeds on motorways. The system requirements are set out in a new United Nations Economic Committee for Europe (UNECE) Regulation that was adopted on 24th June 2020 and is expected to come into force early in 2021.

The Document states that the scope of the regulation is limited to M1 category (light passenger) vehicles. ALKS technology is designed to keep the vehicle within its lane for extended periods without the need for further driver input on motorways at speeds up to 60 km/h (37 mph). It is therefore designed for situations of heavy, slow moving traffic on a motorway.

An ALKS is designed to enable the driver – for the first time ever in commercially available vehicles – to delegate the dynamic driving task to the vehicle under certain circumstances. The Document seeks to distinguish this from driver assistance systems where the driver must remain in control of the vehicle and remains responsible for the driving task all times. The Document goes on to state that this change in the role of the driver challenges existing law on the responsibilities of a driver. The DfT believes secondary legislative amendments and changes to the Highway Code are needed to ensure ALKS can be safely used as anticipated on GB roads. This call for evidence explores the specific implications of the ALKS Regulation on the role of the driver and the safe use of ALKS in the UK, within the context of the current UK legal framework.

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<sup>1</sup> Call for Evidence on Safe Use of Automated Lane Keeping Systems (ALKS) August 2020

The Document sets out the context within which decisions will need to be made on the safe use of ALKS and gives an overview of the requirements of the ALKS Regulation. It asks questions about the anticipated capability of ALKS, particularly in relation to its adherence to UK road traffic rules and the implications of coming to a stop in lane.

The Automated and Electric Vehicles Act 2018 (AEVA) sets out provisions to ensure that victims of a collision involving an automated vehicle receive quick and easy access to compensation. It includes a definition of an 'Automated Vehicle' for the purposes of insurance. This call for evidence sets out the Government's initial assessment of the ability of ALKS to meet this definition and seeks further information on aspects of the definition and the relevant requirements in the ALKS Regulation.

Issues of driver responsibility are also considered, especially whether there are any dynamic driving task responsibilities on the driver when the ALKS is engaged, beyond responding to a transition demand. This is an important aspect to address when we turn to consider whether the driver should be permitted to undertake other activities when the ALKS is engaged, for example using a vehicle's infotainment system.

Finally, the Document explores the potential to safely support the use of ALKS vehicles at speeds higher than those specified in the ALKS Regulation.

## **Background**

The Federation notes that the Document follows on from previous consultations and Government responses on automated vehicles technology<sup>2</sup>. The first consultation in the Pathway series noted at footnote 2, forecast some of the issues both technical and legal outlined in the current consultation and, whilst indicating that UK law did not bar automated systems operating a vehicle, proposed a Code of Practice for organisations seeking to undertake trials and clarification of liability issues. It also strongly emphasised the requirement for safety.

*"Safety is of paramount importance. The Government will consider whether a higher standard of "driving" should be demanded of vehicles operating in an automated mode than would be expected of a conventional driver. Government will also consider how the existing regulatory framework may be developed to ensure automated vehicle technologies are protected from possible cyber threats."*

It is against that paramount requirement that the Federation expresses its concerns set out below. For example, whilst indicating an aspiration for ALKS operations by "normal drivers" on the public motorway network in the very near future, the Document provides no evidence or background statistics on any trials held under the Code of Practice to date. To be asking respondents to provide, for example, their confidence level on the operation of the "transition demand" without any information on trials conducted to inform the debate is unsatisfactory. Specifically in asking the question: *Do you think the driver should be allowed to perform other activities when ALKS is activated if they must only be ready to respond to a transition demand, with particular reference to any implications for road safety? If not, why?*, it surely would have been helpful to have sight of data from trials on driver distraction to reference what the safety implications are, even though such trials must have been conducted.

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<sup>2</sup> *The Pathway to Driverless Cars February 2015; The Pathway to Driverless Cars Proposals to support advanced driver assistance systems and automated vehicle technologies 2016; The Pathway to Driverless Cars Consultation on proposals to support Advanced Driver Assistance Systems and Automated Vehicles Government Response 2017*

The Federation notes and accepts that at some stage its membership will have to share the highways with automated vehicles and remains neutral on the overall policy intent on the introduction of automated vehicles on UK roads. However it does have certain specific concerns with the ALKS concept as set out in the Document. The Federation welcomes the Government's paramount focus on safety, and indeed the concerns raised by the Federation in this response are all safety related.

This response will focus on the two main areas where the Federation has concerns, one technical and the other legal but both safety related. The concerns arise from the fact that historic vehicles will always have a driver at the controls, will never be using automated systems and therefore will always be the victims of any malfunction or incorrect use of ALKS. Not all the questions in the consultation are responded to, only those relevant to the issues of specific concern to the Federation.

## TECHNICAL SAFETY CONCERNS

**Q How will manufacturers ensure that ALKS vehicles deployed in Great Britain are able to recognise signage located above the road that may be unique to Great Britain?**

### SENSOR LIMITATIONS

The Federation appreciates that great progress has been made in sensors and software technology in motor vehicles. However, it also notes that the question above has arisen because limitations in ALKS equipment sensor capabilities have been highlighted at paragraph 3.34 of the Document. Whilst the limitation relating to the ability of the equipment to “look” upwards to signage on gantries is not the specific concern of the Federation, it does raise doubts about sensing capabilities in general. If those sensors and the related software cannot cope with such a routine event, the Federation is concerned that the equipment may have other limitations which could pose a risk to historic vehicles.



Fabric bodied historic car

First of all historic vehicles, as a proportion of their time on a motorway, are more likely to be using the inside lane compared to modern traffic. These vehicles are often of a radically different shape (front and rear) to modern vehicles and may be made of materials quite different to those of modern vehicles. For example cars of the 1920s and 1930s often have bodies made out of fabric and wood which may not reflect light in the same way as a metal bodied car nor perhaps be “seen” by sensors operating at certain frequencies.

In addition, if lighting is a significant factor for sensors or associated software, the rear lighting in particular of many historic vehicles will be quite different in terms of shape, quality and size to that of modern vehicles. If flashing indicators are a requirement to be identified by sensors or software, are they able to “see” the trafficators used by historic vehicles?



Noting from the submission of the respected Thatcham Research organisation<sup>3</sup> that their own researches show that current sensors may not identify road debris or temporary signage also, the Federation would wish to be assured that before ALKS can be deployed as intended, the sensors are, as an absolute minimum, completely capable of safely and accurately identifying historic vehicles front and rear so as to avoid them being subject to risk.

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<sup>3</sup> *Thatcham Research press release 23 October 2020*

**Q Subject to the outcome of this call for evidence and subsequent consultation, would you have concerns about a scenario where any vehicle approved to the ALKS regulation would be automatically considered to be an automated vehicle under AEVA?**

The Federation notes the following extract from the definition of automated vehicles in the AEVA:

*"(a) are in the Secretary of State's opinion designed or adapted to be capable, in at least some circumstances or situations, of safely driving themselves,*

Again the primary requirement is safety and the important caveat is "*in at least some circumstances or situations*". The concept proposed in the document is the sharing of busy motorways by ALKS equipped vehicles and those not so equipped, where the options open to the former are more limited than the latter. The Federation does not regard the sensor limitations identified in the Document and the inability to respond to an unexpected situation other than issuing a transition demand or stopping as provably as safe as a reasonably competent driver. In particular the Federation doubts that the system proposed could currently meet paragraphs 1, 2 and 4 of the required ALKS Monitoring Test criteria set out in the Document:

*The Monitoring Test is as follows:*

*An individual does not need to monitor the vehicle if the vehicle can safely achieve the following without human monitoring:*

- 1 Comply with relevant road traffic rules;*
- 2 Avoid collisions which a competent and careful driver could avoid;*
- 3 Treat other road users with reasonable consideration;*
- 4 Avoid putting itself in a position where it would be the cause of a collision;*
- 5 Recognise when it is operating outside of its operational design domain.*

In particular the inability of the automated system to steer or manoeuvre would make it hard to fulfil paragraph 2. Thus, contrary to what is asserted in the Document, the Federation considers that ALKS could not be regarded as anything other than Assisted Driving Technology (ADT) as the driver must be alert and ready to take control at all times. The consequences for the aspiration to allow the driver to be permitted to perform other activities are discussed in the next section below.

**Q Do you think the driver should be allowed to perform other activities when ALKS is activated if they must only be ready to respond to a transition demand, with particular reference to any implications for road safety? If not, why?.**

**A No**

The Federation refers again to the limitations in sensor technology mentioned above. The Federation also notes that the only options available to ALKS in the event of an unexpected event are issuing a transition demand and then stopping in lane if the driver fails to take back control.

The Federation considers that, if the sensor limitations are not mitigated or removed and/or manoeuvre options made available, then contrary to what is asserted in the Document, ALKS should not be regarded as anything other than Assisted Driving Technology (ADT) in which case the driver **MUST NOT** be allowed to perform other activities. It has to be assumed that if a driver is permitted to perform other activities, they will. It is also the case that those activities will include using media devices which have been demonstrated to be so absorbing and distracting that it is normally prohibited by law. Given the potential dangers arising from the aforementioned limitations, the proposed transition time is inadequate to allow for a distracted driver to assess and respond to the alert.<sup>4</sup> The driver must therefore remain alert at all times ready to take back control. In addition since the system will not allow changing lanes or other manoeuvres, coming to an unexpected halt in lane is a potentially hazardous occurrence for vehicles behind including many vehicles whose stopping capabilities were engineered to earlier standards and may be more modest than modern vehicles.

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<sup>4</sup> Thatcham Research press release 23 October 2020: *"The sensors contained within today's Assisted Driving technology can only interpret up to around 120 metres. At motorway speeds, that distance allows only 4 seconds to take back control and avoid an incident."*

The Federation notes that the Consultation has not referenced problematic issues over transition demands in the commercial aviation sector evidenced by three high profile fatal accidents.<sup>5</sup> Whilst the factors vary in each accident and two are still subject to further investigation, all three involved sensor problems followed by transition from automated flight control to manual control. During this process there was confusion and delay in appreciation, recognition and responding appropriately which contributed to the disastrous outcomes. These accidents and other incidents involving transition from automated to manual control have all involved highly trained professionals whose skills are regularly tested in simulators and who were monitoring the automated systems before sensor problems arose.

Noting in the Consultation that the Government is unsure and still seeking evidence on driver education and training on ALKS, the Federation has concerns about anything that would diminish the driver's attention to ensure the vehicle is driven safely and without risking the safety of other road users.

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<sup>5</sup> Air France Flight 447 1 June 2009; Lion Air Flight 610 29 October 2018 B737 Max; Ethiopian Airlines Flight 332 B737 Max 10 March 2019

## LEGAL CONCERNS

**Q Do you agree that the Highway Code should be changed so that drivers of ALKS must be alert to a transition demand? If not, why?**

**A Yes**

**Q Do you think that amending the Highway Code is sufficient to communicate to drivers their responsibility? Why?**

**A No**

The Federation refers again to the limitations of the ALKS systems set out in the Document, that identified by Thatcham and referenced previously, and those raised as potentially significant for historic vehicles earlier in this response.

The Document concedes that since ALKS can operate only within certain parameters, it will request the driver to take over the driving task – a so called 'transition demand' - if any one of the following events occurs:

- *it can no longer perform the dynamic driving task (DDT);*
- *any of the conditions for activation [listed above] are no longer met;*
- *it detects that it is leaving its 'operational design domain' (ODD);*  
*or*
- *it detects a severe vehicle or ALKS failure.*

The Federation restates again that given the additional technical limitations identified in the Document and in this response earlier, these shortcomings make the current ALKS system more akin to ADT than a fully automated one in which case the current requirement for driver attention is required. However if ALKS is proceeded with notwithstanding its current limitations, the driver clearly must be alert and ready to take over at all times and a change to the Highway Code would be a minimum requirement.

However, the safety considerations related to the current limitations of the system make the need for driver intervention so important that the maximum incentivisation of the driver to intervene must be in place. The Document indicates that should the driver fail to take back control and the vehicle come to stop on the motorway for no lawful reason, the only potential offence faced by the driver would be under Motorway Regulations.<sup>6</sup> However should the driver's failure result in a serious accident, such a regulatory offence and associated minor penalty would be woefully inadequate to meet the public opprobrium likely to arise. A change to the Road Traffic Act is therefore necessary to make failure to take back control when demanded a specific offence akin to careless driving with increased penalties where death or serious injury results.

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<sup>6</sup> Regulation 7 of the Motorway Traffic (England & Wales) Regulations 1982, and Regulation 6 of the Motorway Traffic (Scotland) Regulations 1995

## Conclusion

As was made clear at the opening of this response, the Federation appreciates that at some stage its members will have to share the roads with automated vehicles. However it considers it justified to intervene in any proposal to make this happen to ensure that there is no diminution in the safety of all road users.

The fact that historic vehicles are not (and will not for many years) be equipped with automated technology means they are not in a position to adapt or adjust to sharing the roads with those that are. Therefore the onus must be on those introducing any new technology to ensure it does not risk the safety of historic vehicle road users. For the reasons stated above the Federation is not convinced that the **current** ALKS proposals produce the required level of assurance for its member clubs.

26 October 2020