

# PARLIAMENTARY DEBATES

HOUSE OF COMMONS  
OFFICIAL REPORT  
GENERAL COMMITTEES

Public Bill Committee

## AUTOMATED AND ELECTRIC VEHICLES BILL

*Fifth Sitting*

*Tuesday 14 November 2017*

*(Morning)*

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CLAUSES 4 to 8 agreed to.  
Adjourned till this day at Two o'clock.

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**not later than**

**Saturday 18 November 2017**

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**The Committee consisted of the following Members:**

*Chairs:* † MR ADRIAN BAILEY, SIR EDWARD LEIGH

- |   |   |
|---|---|
| † Argar, Edward ( <i>Charnwood</i> ) (Con)                                  | † Mann, Scott ( <i>North Cornwall</i> ) (Con)           |
| † Brown, Alan ( <i>Kilmarnock and Loudoun</i> ) (SNP)                       | † Rodda, Matt ( <i>Reading East</i> ) (Lab)             |
| † Duffield, Rosie ( <i>Canterbury</i> ) (Lab)                               | † Stephenson, Andrew ( <i>Pendle</i> ) (Con)            |
| † Efford, Clive ( <i>Eltham</i> ) (Lab)                                     | † Stewart, Iain ( <i>Milton Keynes South</i> ) (Con)    |
| † Foxcroft, Vicky ( <i>Lewisham, Deptford</i> ) (Lab)                       | † Tracey, Craig ( <i>North Warwickshire</i> ) (Con)     |
| † Hayes, Mr John ( <i>Minister for Transport Legislation and Maritime</i> ) | † Turner, Karl ( <i>Kingston upon Hull East</i> ) (Lab) |
| † Jones, Graham P. ( <i>Hyndburn</i> ) (Lab)                                | † Western, Matt ( <i>Warwick and Leamington</i> ) (Lab) |
| † Kerr, Stephen ( <i>Stirling</i> ) (Con)                                   |   |
| † Knight, Sir Greg ( <i>East Yorkshire</i> ) (Con)                          | Farrah Bhatti, Mike Everett, <i>Committee Clerks</i>    |
| † Letwin, Sir Oliver ( <i>West Dorset</i> ) (Con)                           | † <b>attended the Committee</b>                         |

## Public Bill Committee

*Tuesday 14 November 2017*

*(Morning)*

[Mr ADRIAN BAILEY *in the Chair*]

### Automated and Electric Vehicles Bill

9.25 am

**The Chair:** I remind everyone to ensure that all electronic devices are turned off or switched to silent mode.

#### Clause 4

##### ACCIDENT RESULTING FROM UNAUTHORISED SOFTWARE ALTERATIONS OR FAILURE TO UPDATE SOFTWARE

**Alan Brown** (Kilmarnock and Loudoun) (SNP): I beg to move amendment 11, in clause 4, page 3, line 13, at end insert—

‘, provided that the vehicle manufacturer has made all reasonable efforts to—

- (a) notify the owner of a vehicle about the need for an update of the vehicle’s operating system
- (b) provide the relevant update of the vehicle’s operating system to the owner or insured person, and
- (c) arrange for the installation and update of the vehicle’s operating system.’

*This amendment would ensure the manufacturer has made every possible effort to inform the owner of the vehicle that a software update is needed before liability is passed to the owner.*

**The Chair:** With this it will be convenient to discuss the following:

Amendment 12, in clause 4, page 3, line 36, at end insert

‘(7) The Secretary of State must by regulations establish a system by which an automated vehicle may only be approved for driving itself on public roads if all application software is up to date.’

*This amendment would require the Government to introduce regulations to establish a system that requires automated vehicle software to be up to date in order for them to utilise automated functions on public roads.*

New clause 9—*Updates to software and operation of automated vehicles*—

‘The Secretary of State must bring forward regulations to require that automated vehicles cannot operate in automated mode on public roads unless the application software relating to the vehicle’s automated function is up to date.’

*This new clause would require the Government to introduce regulations that require automated vehicles to be up to date in order for them to utilise automated functions on public roads.*

**Alan Brown:** It is a pleasure to serve under your chairmanship again, Mr Bailey. I note that you wisely ducked out just before I spoke yesterday in Westminster Hall, right enough—no such luck this morning.

Clause 4 is all about liabilities associated with operational software for automated vehicles. Amendments 11 and 12 aim to strengthen the clause and amendment 11 aims to clarify the responsibilities of the vehicle manufacturer. In turn, that may even assist the vehicle manufacturer

with regards to clause 4(1)(b), which refers to whether a person ought to reasonably know about safety-critical software updates being required. We are using the right terminology, and it is hoped that the law meets its intended purpose both of ensuring that people are insured and of clarifying where liabilities are limited for insurance companies.

If the Bill sets out how important it is that safety-critical software is updated, it follows that duties are placed on the manufacturers to take all reasonable steps to ensure that that happens. Therefore, as with smartphones, the manufacturer must notify the owner of the need for upgrades but, unlike smartphones, it needs to be much more than a simple notification. Steps need to be undertaken to ensure that the vehicle owner is aware of the need for upgrades and to make arrangements for them to happen. There could be a series of warnings through the software, or written letters and correspondence. Given the sophistication of the software, and its interactive nature, in that it tries to talk to software on other servers, perhaps even some form of remote immobilisation could be considered. If those steps are followed, any evidence of the deliberate overriding of adaptations undertaken by the owner will fall within the insurance liability limitations outlined in clause 4.

Amendment 12 follows on from that, requiring the Government to introduce regulations to establish a system that requires automated vehicle software to be up to date in order to utilise automated functions on public roads. It might be argued that the amendment is not required, that it simply dots the i’s and crosses the t’s, but given that that function of the software is the brain of the vehicle, it is absolutely incumbent on the Government to ensure that there is a system for explicitly determining that the software is safe, and able to be used.

I suggest that new clause 9 serves the same function as amendment 12. I am therefore supportive of it in principle, but there is a logic in amendments 11 and 12 being put in with clause 4, to tighten it up.

**Craig Tracey** (North Warwickshire) (Con): I want to make a brief contribution. I mentioned in a previous sitting that I chair the all-party parliamentary group on insurance and financial services. We have looked into this area in some detail and I think it is fair to say that across the industry there is a lot of support for the Bill, which is good news. The industry is appreciative of the fact that the Bill is moving forward at pace, and of the Minister’s approach to that. However, we think there is a definite opportunity to tighten the wording in clause 4(1)(b), as there seems to be scope for conflict between different parties in two areas.

First, regarding the phrase

“insured person knows, or ought reasonably to know, are safety-critical”,

one of the consequences is that there might be a legitimate reason for software not being installed: a vehicle might be on a journey, there might be no signal or someone might have to use a vehicle in an emergency. The wording is open to interpretation and one of the consequences of that could be delays in paying out claims.

My second point is whether a safety-critical update was contributory either in whole or in part to an accident. Without tightening up the wording, there could be delays in the settling of claims, potential higher claims

costs, and more data—data was raised quite a bit in the evidence sessions—being required to settle claims and to establish cause. Again, a knock-on effect is that the full potential of cost savings on insurance might not be fully recognised because of the cost involved in deciding on liability.

With those two points in mind it seems sensible to shift the onus from the insured person for the safety-critical update directly on to the manufacturer in all cases. We know the technology is there. It is available either to not enable the vehicle to start if a safety-critical update is not put in place or—this is probably more reasonable—to not enable a vehicle to access the automated mode unless all safety-critical software issues are up to date. Those are just a couple of points that I wanted to raise with the Minister which perhaps he will consider when he responds to the amendments.

**Iain Stewart** (Milton Keynes South) (Con): Following on from the points that my hon. Friend just raised, will the Minister clarify a couple of points regarding the phrase in clause 4(1)(b), which states:

“the insured person knows, or ought reasonably to know”?

I am concerned that the phrase “ought reasonably to know” is a little woolly. I am not a lawyer or an expert in parliamentary drafting. It may be that the phrase is a well-used one that the courts can easily interpret, but in the context of the new software I am a little uncertain as to what “ought reasonably to know” actually means. I can envisage a number of scenarios in which the driver may have had an alert from the manufacturer that says, “We need to install version 1.whatever of the software.” He gets the update at a quarter to nine in the morning. He is rushing out of the house, late for a meeting, and says, “I’ll do that later on,” and then the car he is driving is unsafe at that point. I am simply not clear where the onus lies and when that person should install the software. Perhaps the Minister will clarify that point when he responds to this group of amendments, or he may wish to reflect on it and consider the matter further on Report. It is an area I have concerns about and we ought to get the drafting absolutely right.

**Karl Turner** (Kingston upon Hull East) (Lab): It is a pleasure to recommence the discussion of the Bill under your chairmanship, Mr Bailey.

New clause 9, tabled in my name, states:

“The Secretary of State must bring forward regulations to require that automated vehicles cannot operate in automated mode on public roads unless the application software relating to the vehicle’s automated function is up to date.”

The new clause would require the Government to introduce regulations that require automated vehicles to be up to date in order for them to utilise automated functions on public roads. Under the current drafting, people would be able to drive their automated vehicles on the roads without having the latest up-to-date software, which could lead to safety risks. The new clause would ensure that the Government introduce regulations that require automated vehicles to be up to date in order for the automated function to be used. If a vehicle had a serious mechanical fault that could endanger the driver and others, we would not allow it on our roads. An automated vehicle would similarly present an increased safety risk if its operating system was not updated.

Most people with a smartphone or computer are likely to have software that prevents it from being used until it is updated. I am not struck by any reason why a similar mechanism could not be included in automated vehicles. By preventing an un-updated vehicle from being used, we would achieve safer roads and cheaper insurance.

**Graham P. Jones** (Hyndburn) (Lab): My hon. Friend is making a powerful point. This applies most critically to GPS, where there may be changes to roads or whatever. The automated vehicle would need to know where it is going and whether there had been some ad hoc intervention in the road layout that meant that the GPS was inaccurate. Clearly, there would need to be an update. Does he share my view that updates should be regular and frequent, because they are part of the safety process?

**Karl Turner**: My hon. Friend makes a valid point when he talks about GPS systems. Without the new clause, people would be able to take un-updated vehicles on our roads, without being absolutely sure that they are safe. A primary benefit of AVs is that they reduce the likelihood of human error. However, one of the few areas in which the scope for human error remains—the responsibility for ensuring that software is updated—would not be addressed, even though it would not be difficult to do so. I cannot find any reason why it is not possible to legislate for this. The new clause addresses that obvious issue and I trust that the Government will consider it carefully.

**The Minister for Transport Legislation and Maritime (Mr John Hayes)**: We continue with dedication our diligent perusal of these matters and our scrutiny of this Bill. I am grateful to the Committee for its continuing determination to get this right. When we first met, we said that this was an important and challenging piece of legislation because we debate it in rapidly altering circumstances. The technology is moving on apace and we are trying to tread a path between creating sufficient certainty to allow insurers to develop the products they will need as the technology comes on stream and predicting a future which, by its nature, is unpredictable. That is the path we tread. It is important to emphasise in that spirit, in relation to this clause and these amendments, that the Bill is a first step. It does not solve all the problems or answer all the questions. It is a modest Bill, though an important one, in those terms.

It is doubtless true that as this technology unfolds more work will need to be done. We are on the cusp of an important—indeed, one might say revolutionary—change in what we drive and how we drive it, but it is not for this Committee, Government or Minister to predict quite what that might look like in decades to come. The modest character of the Bill needs to inform all our scrutiny. We are not aiming to solve all the problems here. We are aiming to take a measured first step towards solving those problems and meeting those challenges.

However, it is right that we debate the issue of how motorists understand and update their systems so that they can use their automated vehicles safely, as the shadow Minister, the mover of the amendment, the hon. Member for Kilmarnock and Loudoun (Alan Brown), and other contributors have said. A core part of that is to ensure that the regulatory framework is in place which compels manufacturers to bring to market systems that make this process as simple and effective as possible.

[Mr John Hayes]

This is certainly not the place for that legislative process to occur. It is not the purpose of the Bill. The requirement for systems to update forms part of an international set of standards, which I mentioned earlier. Vehicle safety and technology is subject to international standards. Those standards are well established in respect of the vehicles we all typically drive, but they are emerging standards in respect of autonomous vehicles. Much work has been done by this Government and others to ensure that those standards are fit for purpose. They will form the basis of a new type of approval process. We are familiar with the existing means by which these things are assured. That will develop over time, as the type of approval process emerges as a result of the work that is being done. Until that type of approval process is fit for purpose, these vehicles will simply not be sold or driven on our roads. In addition to our domestic non-insurance regulatory programme, it is vital that we are mindful of those further developments.

Robust standards will be in place before the vehicles arrive to market. There is, therefore, a risk in acting unilaterally. I understand why people are suggesting that we might; it is a perfectly reasonable response to the debate and the Bill, and it is useful that we are airing these subjects here. However, we would not want to try to anticipate the development of those standards without a clear understanding of the ultimate design standards to which these vehicles will be held, as we would risk creating barriers to the use of this technology and inhibiting further research and development—indeed, possibly inhibiting the development of the insurers' products that the Bill is all about. We are continuing to take part in the international negotiation shaping the standards, and developing domestic road traffic laws and guidance. We do not accept new clause 9 and the amendments to clause 4 that would compel us to act without a settled knowledge of how these systems will ultimately be configured.

Let me deal, however, with some specifics. A series of points have been made on these matters during our scrutiny. I have written to the Committee, as Members will know, dealing with some of the questions that were previously raised. I do not think that this is an appropriate point to go through those letters because they do not directly relate to the subject at hand, but there will be a chance—I think at clause 7—to revisit some of the issues that were dealt with when we looked at clause 1. I simply put that on the record, in case people were wondering why I was not immediately addressing some of the things that were raised by my right hon. Friend the Member for West Dorset and others in earlier parts of the scrutiny.

In respect of the issues raised by my hon. Friend the Member for Milton Keynes South, I am looking for the guidance that I might have received from another place—*[Interruption.]* Ah, here we are; it has winged its way to me. In the end, the courts will interpret the facts. If a person knew that they needed to update the software and failed to do so—that is, knowingly took a view that they did not need to update their software, rather as if someone knowingly drove a vehicle that was mechanically unsound—a judgment will of course be made about their responsibilities and whether they should have used

the vehicle. If someone is negligent in respect of their vehicle's fitness to be driven, clearly the courts will have to take a view about their responsibilities.

**Iain Stewart** *rose*—

**Mr Hayes:** I can see that my hon. Friend is satisfied, but not entirely.

**Iain Stewart:** I agree that we cannot anticipate exactly what form the technology will take, or the form of the updates. My right hon. Friend mentioned that further regulations would be issued before these vehicles went on the road. Would those regulations include a clearer definition of the obligations on the driver regarding when they must install any updates to the software?

**Mr Hayes:** I will come back to that, because in a way it relates to the point made by my hon. Friend the Member for North Warwickshire. We anticipate that the majority of software updates will be delivered automatically over the air, as it were, so we would expect software to be updated over time in that way that my hon. Friend the Member for Milton Keynes South suggests. I am mindful of the work that my hon. Friend the Member for North Warwickshire has done on this—we have discussed it outside the Committee.

9.45 am

**Graham P. Jones:** Will the Minister give way?

**Mr Hayes:** I will in a second.

In the end, the clause aims to protect insurers from a negligent person who intentionally fails to update their vehicle. For the sake of clarity, I offer the parallel of someone who fails to ensure that a vehicle they drive now is safe—who fails to take the proper precautions or make the proper arrangements to ensure that their vehicle can be safely driven when they go out in it. So it will be with autonomous vehicles and the software that relates to them. That is the purpose of the clause, but I am not entirely convinced by the advice that I have had on it yet. The civil servants in the room—I know I am not supposed to acknowledge them—will have a shiver going down their spine. I want to reflect more on it. I think we are right and I am sure what I have said is right, but I may have more to say on it. I am happy to reflect on it and come back to my hon. Friend the Member for North Warwickshire if there is more to be said.

**Craig Tracey:** I appreciate that the Minister will look into it. He mentioned that the clause will protect the insurers, but the insurers of the insured person will still be footing the bill. By passing the onus for safety critical updates to the manufacturer, that could be taken away from the insurance industry.

**Mr Hayes:** With laser-like precision, my hon. Friend has focused on exactly the reason why I want to reflect on it. I thought that that was what he might say and that was what he meant when he first spoke. Although the response I offered him goes a fair way towards what he was seeking, I need to clarify that additional consideration for him. In the end, that will bring us back to the point close to the heart of all insurance considerations: how we discern liability and negligence. I want to be more precise about the second point that he raised, but I do

not yet feel confident to do that. I will now give way to my old friend—the veteran of many Committees with me.

**Graham P. Jones:** I am grateful for the Minister's warm words. To return to the issue of GPS mapping updates, people expect the road network to be updated on vehicles, but the scenario is completely different for manual operation compared with automated operation. I hope the Minister is aware that most of the operated maps sit in the private sector. That is not an issue if the car is manually operated because the driver always has discretion as he sees the road in front of him, but that is not the case in automated mode. We have to think about our highways workers or our police force who may be intervening in the road network.

When we talk about updates, serious consideration needs to be given to GPS maps in automated mode. Who is responsible for them? Who owns them? Who will update them? How will we ensure that we have road safety? Updates are vital, but GPS mapping is particularly vital. The Minister needs to take a good look at that and how it will be integrated into the insurance industry and into the Bill and the regulations to protect our people working on the roads.

**Mr Hayes:** As I say, the hon. Gentleman is a veteran of many Committees. We have rarely crossed swords, but we have certainly waved swords at each other from time to time. He makes a sound point which is precisely why we would need to address a range of those issues in further regulation. At this juncture, I do not think we can think about adding that to the Bill. I know he did not say we should, but he did say that we should think about those matters and look at how they relate to this Bill subsequently. He is absolutely right.

At the risk of opening up a new avenue for discussion—I hesitate to do that because I know we want to make reasonably rapid progress today—the hon. Gentleman might also have raised the issue of the interface between the driver and the road, and the technology on the road. As we move towards smarter roads, there will be an increasingly close relationship between the information received in the car from outside, as well as the information that is at hand within the vehicle. That is another area where there will be a connection to automated vehicles. We are already seeing the regular use of gantries across roads that provide information. The interaction between that information, the car, and the information that is available locally will, over time, become an increasing feature of driving.

This is another area in which regulation will—in exactly the way the hon. Gentleman described—need to address how that works for automated vehicles. The assurance I give him and others is that we recognise these challenges, we anticipate further work, we know that work is ongoing and it will be set out, both in the formation of international standards for a type-approval process that I mentioned, and in the regulation we will introduce that matches that development.

**Clive Efford (Eltham) (Lab):** I would like to take the Minister back to his comment that this Bill was designed to protect insurers against drivers who fail, or refuse, to upgrade the software on their vehicles. I think that what he really meant to say was that the Bill is here to protect the consumer, and that unless the consumer is acting wilfully and refuses to upgrade the car, they cannot be

held responsible, and the insurers cannot use this Bill to wiggle out of their responsibilities and paying whatever they are responsible for. The Minister is aware is that his comments, which go on record in this Committee, could be used to interpret an intent behind the legislation, so how we describe things is important.

**Mr Hayes:** The hon. Gentleman implies that those things are mutual exclusive. Of course, if someone intentionally—deliberately—goes about the business of not updating their vehicle, that creates a responsibility and a liability. That has ramifications of the kind that I described for insurers, but it also has the wider ramifications that he described. I do not think we are in different places on that.

Let me turn briefly to the comments made by the shadow Minister. Again, I can see why he makes that point, but as he knows, we will shortly discuss clause 5, which gives the right of recovery against the person actually responsible for the incident, whoever that responsible person is. We can probably deal with the matter he raises when we debate clause 5, rather than adding to this clause in the way he suggests. His intent is entirely understandable but I do not think this is the best place to make the amendment that he proposes. With that, and my commitment to take further the point that my hon. Friend the Member for North Warwickshire raised, and the more general commitment I have made, reflecting my original remarks about the ambitions of the Bill, the limits on those ambitions, and the development of further regulation, I do hope that the hon. Member for Kilmarnock and Loudoun and others will see fit not to press their amendments.

**Alan Brown:** I have listened to the Minister and to the comments that have been made. Amendment 11 is still about putting additional responsibilities on the manufacturer, which seems to accord with some of the comments made by the hon. Member for North Warwickshire. The Minister agreed to take on board those comments, but I felt he was a little dismissive of amendment 11. I would like to press amendment 11 to a vote, but I will not press amendment 12.

*Question put, That the amendment be made.*

*The Committee divided: Ayes 8, Noes 9.*

#### Division No. 2]

#### AYES

Brown, Alan	Jones, Graham P.
Duffield, Rosie	Rodda, Matt
Efford, Clive	Turner, Karl
Foxcroft, Vicky	Western, Matt

#### NOES

Argar, Edward	Mann, Scott
Hayes, rh Mr John	Stephenson, Andrew
Kerr, Stephen	Stewart, Iain
Knight, rh Sir Greg	Tracey, Craig
Letwin, rh Sir Oliver	

*Question accordingly negatived.*

**Karl Turner:** Mr Bailey, when can we vote on new clause 9?

**The Chair:** That is voted on separately at the end.

*Clause 4 ordered to stand part of the Bill.*

**Clause 5**

RIGHT OF INSURER ETC TO CLAIM AGAINST PERSON  
RESPONSIBLE FOR ACCIDENT

*Question put*, That the clause stand part of the Bill.

**Mr Hayes:** Clause 5 gives insurers the right of recovery against the person actually responsible for the incident to the same extent that the person is liable to the victim. The person actually responsible for the incident could be, for example, the manufacturer. This clause also defines when and how the amount of the person's liability is settled and when their right of action accrues. It sets out the arrangements and limits on the amounts they recover. This clause will therefore ensure that the insurers are able to recover from those responsible, to the extent that the victim will be able to do so. This will facilitate the effective functioning of clause 2, which imposes initial liability on the insurer or owner of the automated vehicle in respect of an accident.

Subsection (3) requires the insurer, if they recover more than they initially paid out to the victim, to pay the difference to the victim, and subsection (4) ensures the person responsible for the incident is not required to pay the insurer if they have already paid the injured party.

**Sir Greg Knight** (East Yorkshire) (Con): Will the Minister give way?

**Mr Hayes:** I had finished, but I give way.

**Sir Greg Knight:** I am most obliged to my right hon. Friend. I am intrigued by subsection (2)(c), which refers to the amount of a claim as settled when it is established "by an enforceable agreement." In this context, can he give the Committee an example of an unenforceable agreement?

**Mr Hayes:** That is a wonderful intervention, which I cannot answer now, but I will answer later. How's that?

10 am

**Clive Efford:** When the Minister sums up at the end of the debate, will he say how he envisages this provision working in practice? An accident occurs, and an injured party is making a claim; the aim of this Bill is to ensure that people are paid out speedily, but the clause describes a process that could be long and drawn out. How does that protect the consumer? Who pays in the first instance? As we have already heard in several debates around this Bill, we are adding more people who could have liability. Because of software upgrades, we are now including the manufacturers—the people who actually design the software. There is no requirement in the Bill for those writing the software to have their own insurance, should their software fail, so where do they come into this process? How do we ensure speedy pay-outs to the consumer when we have an increasingly complex network of people who may have liability in the aftermath of an accident? This clause seems to set out a labyrinth of different permutations that could arise in terms of liability, and that could take some time to resolve. Could the Minister say what is in the Department's mind and how this will speed matters up?

**Mr Hayes:** I would not want to accuse the hon. Gentleman of misunderstanding, so I will perhaps say that I did not make it sufficiently clear in my opening remarks. For it is better to blame oneself than other people. The purpose of the clause is to supplement clause 2, in that it will ensure that victims do not potentially have to pursue major manufacturers through the courts. This is to avoid both the unreasonableness of having to do that and the delays suggested by the hon. Gentleman. It is designed to protect the consumer. At the end of the day, the consumer is our principal concern, as he said in an earlier intervention.

We want the system to operate in a way that is as quick, straightforward and comprehensible as possible for the consumer. That is actually what the clause does, by supplementing clause 2. The business of the relationship between the insurer and the manufacturer will be going on behind the scenes. The consumer will not need to know about that, and will get a speedy and satisfactory resolution of the event in the way that they do now. If there was a difference at all, that is where it lies.

**Karl Turner:** I have listened carefully to what the Minister says and he makes a very salient point. We do not have any objection to the clause.

**Mr Hayes:** Before we move on, my right hon. Friend the Member for East Yorkshire raised the issue of enforceable agreements, and I did promise—with your indulgence, Mr Bailey—to respond, in my normal spirit. I am told that the agreement must be legally binding and therefore enforceable in court. Whether that satisfies my right hon. Friend, I do not know, but that is all I have to say, so he is not going to get any more out of me.

*Question put and agreed to.*

*Clause 5 accordingly ordered to stand part of the Bill.*

**Clause 6**

APPLICATION OF ENACTMENTS

*Question put*, That the clause stand part of the Bill.

**Mr Hayes:** Briefly, clause 6 ensures that the new system of liability being created by the Bill preserves and is joined up with various forms of liability in other parts of legislation, and is straightforward in that respect. In creating a new form of liability in the Bill, that is vital. Where those liabilities exist in other legislation, they should remain unaffected. For example, the Fatal Accidents Act 1976 provides for a victim's dependents to be able to recover damages in spite of the victim's death, if the death was caused by "wrongful act, neglect or default".

That type of liability has been preserved and linked to the Bill's system of liability so that the provisions of the 1976 Act are brought to bear. Not doing that would create gaps and risk leaving victims and their dependents with incomplete cover.

*Question put and agreed to.*

*Clause 6 accordingly ordered to stand part of the Bill.*



### Clause 7

#### INTERPRETATION

**Karl Turner:** I beg to move amendment 14, in clause 7, page 5, line 15, at end insert—

- “(c) an automated vehicle may be listed, under section 1, as being capable of driving itself “safely” if the vehicle is designed and manufactured to be—
- (i) capable of driving itself in a manner unlikely to cause damage to the automated vehicle or another vehicle, or injury to a person, on the road or surrounding area, and
  - (ii) protected from hacking risks that the manufacturer knew, or ought reasonably to have known, are likely to cause damage to the automated vehicle or another vehicle, or injury to a person, on the road or surrounding area (see section (Cyber security and hacking of automated vehicles)).”

*This amendment would define what is meant by an automated vehicle being capable of driving itself “safely”.*

**The Chair:** With this it will be convenient to discuss the following:

New clause 18—*Cyber Security and hacking of automated vehicles*—

“The Secretary of State must, within 12 months of this Act receiving Royal Assent, consult with such persons as the Secretary of State considers appropriate on what steps will be required for the effective cyber security of automated vehicles listed under section 1 to protect those vehicles against accidents caused by hacking.”

*This new clause would require the Secretary of State to report within 12 months what steps would be required to protect automated vehicles from accidents caused by hacking.*

**Karl Turner:** Clause 7 sets out when a car is deemed to be driving itself, or in automated mode, but there is no mention of what happens if the vehicle is designed or manufactured in a faulty way or is hacked due to a failure by the manufacturer to install adequate protective software.

How would our amendment improve the Bill? While we all welcome the opportunities that the new technology will bring, we also have to recognise that it will bring risk. A lot of those risks will be around the software used, and they therefore may be harder to pick up than in a conventional vehicle. We all know the risks of hacking in computer systems. We have had experience in this House relatively recently of a cyber-attack—a hacking event—on Members’ emails. That experience is commonplace in workplaces across the country. When hacking and cyber-crime can result in serious consequences, we need to be extremely cautious.

We have the opportunity to put safeguards into the Bill now to give protections in this area, rather than doing that later down the line. The Minister has repeated constantly that this is a modest Bill that is merely a skeleton and that regulation will have to come as technology improves. Indeed, given the uptake of these vehicles and the number of them being purchased, action will clearly be required where the technology changes, but there is a real risk in not legislating now, when we have the opportunity to ensure the safety of these things.

Our amendment would definitely tighten up this area of the Bill by setting out when an automated vehicle is capable of driving itself safely. That would give the driver protection with regards to liability, if it was proved that there was a manufacturer’s fault or if the vehicle had been hacked. I do not intend to press the

amendment to a vote; its purpose is to start a discussion about this area, in particular the hacking element. The issue of cyber-security and vehicles being hacked has been discussed previously, in the predecessor to this Committee. I have read the *Hansard* report of those discussions and there was some very detailed debate, but it is important to look at it again now. I stand to be corrected, but the Minister previously said he would come back with potential changes in this area. However, I think he simply wrote to members of the previous Bill Committee.

New clause 18 would do exactly what we intend it to do. We now have the opportunity, and I hope that the Government will listen carefully.

**Sir Oliver Letwin (West Dorset) (Con):** I want to talk about clause 7(1)(b), which deals with the interpretation of what it is for a vehicle to be insured. That takes us back to the discussion we had in the Committee’s previous sittings. I am grateful to the Minister for providing access to his officials in the interim. I am satisfied that the issues I was raising are handled in the Bill, but want to set out how I now understand that to be the case, so that the Minister can give us an assurance that I have got this right and we know for the future that that is how the Bill is meant to work. It is a little sad that we have to do quite a lot of interpretative work to understand how the Bill is working, but I understand that that is caused by the fact that it is trying to piggyback on the Road Traffic Act 1988.

It turns out that clause 7(1)(b) is critical to the whole structure, because it defines a vehicle as being insured if there is a policy in force in relation to the use of it. Whereas one might think, under clause 2(1)(b), that when the Bill says the vehicle is “insured” at the time of the accident, it means the vehicle is insured at the time of the accident—indeed, I fell into the trap of thinking that that is what clause 2(1)(b) meant, because that is what it says—in fact clause 2(1)(b) has to be read in the context of clause 7(1)(b). Therefore, it is not actually the vehicle that is insured; it is the person who is, or may be—but maybe isn’t—the driver whose policy is the relevant policy and is actually insured to drive that vehicle. That is what I now understand clause 2(1)(b), in the light of clause 7(1)(b), to mean.

What clause 2(1)(b) is actually trying to say is that, as long as there is a person in the vehicle who, one way or another, is insured to drive the vehicle, then the insurer of that person is liable for the accident, even if the vehicle is driving itself. It follows from that that even if the driver, who is not driving at the time when the vehicle is driving itself, is not the owner but is insured to drive the vehicle on a policy that gives him insurance to drive other cars, it is also the case that the insurer of that person, not of the owner or the vehicle but of the person who is the driver—or would have been, if he was driving—is the insurer who is liable for the crash caused by the vehicle when it is driving itself. If I have at last understood all that correctly, it follows that the problems that I and several Committee members foresaw, about things such as transition, disappear, given that it is always the same insurer who is liable both when the car is in automated mode and when the car is being driven, because it is the insurer of the driver—or crypto-driver—regardless of whether he is driving or the car is driving itself.

**Mr Hayes:** That is the central and salient point. I think this is where the misunderstanding took place between us in the earlier sitting. That there is a single insurer, as my right hon. Friend now acknowledges, is one of the points covered in my letter, along with a couple of others, on which he will no doubt speak. He is right that that changes the assumption about the transition, as he describes it.

**Sir Oliver Letwin:** I am delighted to hear the Minister confirm that and that I have eventually managed to understand this. If it is a single insurer, those problems disappear, which is very good news.

10.15 am

**Clive Efford:** I understand that better myself now, but do I understand what the right hon. Gentleman is saying? The person in the vehicle is the one insured and, in the first instance, it is their insurance that would pay out. If the vehicle is found to be at fault, whether it is automated or under that person's control, they would pay out in the first instance, and subsequently the discussion we had on the previous clause would apply, where there is a sorting out of who is actually responsible—the manufacturer, the software designer, the driver of the vehicle or of the other vehicle. That will be sorted out following the initial payment from the driver of the vehicle that is found at fault.

**Sir Oliver Letwin:** I was following the hon. Gentleman until the very last words he spoke, because I think he means payment from the insurer of the driver, rather than from the driver.

**Clive Efford:** Yes.

**Sir Oliver Letwin:** In that case, my answer is yes. As I understand it now, I think, the insurer who has insured the person who is sitting in the driving seat will pay the third party who has been damaged in the accident, regardless of whether the person sitting in the driving seat is driving the car or the car is driving itself. That is also regardless of whether the person sitting in the driving seat is the owner of the car, insured as the owner to drive that car, or is not the owner but is insured under some other policy to drive that car. In any of those cases—whether automated or not; whether the policy covers other cars or that car—the insurer of the person sitting in the driving seat at all times is liable to third parties, and then the insurer claims from whoever it wants to claim from, and is able to claim from in court, after the fact.

**Mr Hayes:** I am grateful to my right hon. Friend for his helpful dialogue because it also relates the issues raised by the hon. Member for Kingston upon Hull East. The short answer to the question posed to my right hon. Friend is yes. The complicated factor that my right hon. Friend is now dealing with is that there are policies—I do not have one myself and I do not suppose many here do—where fully comprehensive insurance cover allows other people to drive. That is not the named drivers policy that most of us will probably have, but a more permissive kind of policy, and that is exactly what my right hon. Friend is alluding to.

**Sir Oliver Letwin:** I am grateful again to the Minister. Yes, exactly: I had been worried about two cases, one in which the person sitting in the driving seat was the

owner, and the other in which the person sitting in the driving seat was not the owner but was covered by a policy covering the driving of other cars. In both instances, I think it is clear.

The reason I am labouring these points and asking the Minister to confirm them is that I do not think that any ordinary human being reading the Bill would have the slightest clue that this is what it is trying to do. I think its architecture has been forced on it by the desire to piggyback on the Road Traffic Act; and I suspect that lawyers will understand, because they will be familiar with the Road Traffic Act and how its principles operate. Therefore, I am satisfied that probably this is the right way to structure the Bill. In any case, it is certainly structured in a way that, when everything is read together in the right way, does not create the gap that I was worried about, as the car moves between automated and non-automated mode. That was the critical issue.

**Graham P. Jones:** It is a pleasure to serve under your chairmanship, Mr Bailey. I seek clarity from the Minister—I know he has been reasonably descriptive up to a point—on the types of vehicles that will and will not be insured. It will probably be connected and automated vehicles, automation level 4 and 5; however, I am concerned about the size and shape of the vehicles and how the legislation will fit them in the future.

There has been an issue about insuring automated vehicles, not just on public but on private land. However, even on public land, are there situations where we might see a size of vehicle—my hon. Friend the Member for Kingston upon Hull East drives a very small electric vehicle, and there might be even smaller ones—on parts of the road network that had become accessible to new types of electric vehicle, and where we might suddenly need to reflect on the type of insurance? They may get down to the size of a bicycle, for example—I do not know—so are there circumstances or situations where the shape and size of the vehicle would have some effect? I suppose that relates to the definition of level 3 and 4 automation. I know that the Minister will produce a list in future guidance, but I would welcome a clarification from him on shape and size, how the Government see that changing and whether they will be responsive to that.

Going back to insurance on private land, this causes an enormous problem, quite apart from my earlier point about mapping. The legislation says that vehicles must be insured on public and private land—although there are some discrepancies around private land. How will this work with automated vehicles? If we multiply that by the fact that the shape and form of automated vehicles may change—they may be able to go down narrow footpaths, for example—where are the Government on the insurance system? How it will work with automated vehicles accessing private land? I am asking for clarity on this point. I do not know the answer; I am probing the Minister to see if he does. There seems to be a complex minefield of issues when it comes to insuring an automated vehicle—of whatever shape, form or function—that can wander off on to private land. There does not seem to be much clarity in the Bill on that. It seems to be hanging on the old legislation for traditional motor vehicles as we know them and how they are insured on the current road network.

Turning to automated vehicles, in particular on private land, and their shape and form, this will clearly be a challenge, so will the Minister clarify how the Government will respond? Again, I come back to the mapping issue. There will surely need to be tighter definitions of where automated vehicles go and what they are allowed to do. There seems to be no reference to that in the guidance or anywhere else. Will the Minister provide some clarity? People want to know. It is not just about the public highways, motorways, A roads and B roads. It is far bigger than that and the insurance system has to cope with insurance off-road, on private land.

**Mr Hayes:** By way of adding a certain excitement to the proceedings, I shall deal with the last point first, rather than reply to the points made in chronological order.

The hon. Member for Hyndburn spoke about where vehicles might be used, and the size and shape of vehicles. He was right to identify that it may be—note the emphasis on “may”—that autonomous vehicles at the beginning of their life on our roads are typically used in certain places and in certain ways. One can easily imagine a vehicle in autonomous mode travelling on a long straight road—a motorway, for example. It could be that that is the way the technology will develop. He is right to draw attention to that because it has been written and spoken about many times in the discussions about autonomous vehicles. He was also right to raise the matter of shape and size. Earlier in our considerations, we discussed vehicles other than private cars. Of course we should not assume that autonomous vehicles will simply be private motor cars. There will be other kinds of autonomous road vehicle and it may be that they will develop first, or at least in parallel with the development of private cars.

The hon. Gentleman is right that that could well be where we are heading, but the essence of his argument is that we might have to have different insurance policies to deal with those different eventualities. That will not result from the measure before us; the size and place considerations—the type of vehicle and where it is used—will be the same as in the current insurance framework, most of which is covered by the Road Traffic Act, so I do not anticipate a huge departure from existing practice.

In essence, insurance works on the basis of insuring people, to some degree taking account of what they are driving—for example, policies take account of the size and shape of vehicles. I do not imagine that that will change and nothing in the Bill suggests otherwise. I anticipate—the insurance industry told us this in evidence submitted to the Committee—that the industry wants enough certainty from the Bill to develop products that are fit for purpose. My judgment, from what we have been told, is that the industry will want such products to mirror as much as possible what is available now. Certainly that is true of where vehicles are used and of their shape and size.

**Graham P. Jones:** I was simply probing the Minister because the use of automated vehicles on private land is an interesting area on which the Government must be probed. I also made some other small points. I urge him to clarify whether he foresees any situations, beyond what is in regulation or statute now, where automated vehicles on private land may provide a challenge that the Government will need to look at.

**Mr Hayes:** I will deal with the private land point in a moment.

To re-emphasise: when we insure a vehicle at the moment, the questions we are asked by the insurer are not about where we intend to drive it—we are not interrogated about whether we will drive the vehicle on the motorway, on side roads or only in our village. That is not typically what happens with an insurance policy, although there are exceptions. Someone with a historic vehicle, for example—a classic or vintage vehicle—might well take out an insurance policy stipulating that the vehicle will only be used for a certain number of miles in a given period, paying a lower premium as a result. If people say that they will use their vehicle only on high days and holidays and that it will be driven for less than 100 miles a year, of course they will obtain a different kind of policy, often offered by a specialist provider. That, however, is an exception. As a rule, we are not interrogated about where we are going to drive, whether it be on a main arterial route or a side route, so I do not think that the insurance products that I hope are developed as a result of the Bill will, in those terms, be very different from what we have now.

That is certainly what the Association of British Insurers and others have told us. The evidence to the Committee emphasises not only the insurance industry's support for the Government proposals, but its wholehearted support for the development of autonomous vehicles. The industry sees it as critical that we get the legislation on to the statute book so that it can develop the products necessary to provide the safety and security we all seek.

**Graham P. Jones:** I am grateful to the Minister for giving way one last time. To pursue this matter, let us say that an accident occurs on private land while the vehicle is in autonomous mode. Does he think that the existing regulatory framework is sufficient for insurers, or that some changes will be needed for assigning liability should there be an accident on private land? An automated vehicle goes on to a large piece of private land, a track or whatever, and there is an accident, so there needs to be an investigation as to who was in the right and who was in the wrong. On private land where an automated vehicle was making its own decisions, does he not think the Government should conduct some analysis of the potential issues? It may be that no changes are required, but should not the Government consider it? People do drive on private land, and if they are going to take automated vehicles on to private land, it is a legitimate question.

10.30 am

**Mr Hayes:** The hon. Gentleman's specific question is about private and public land. The Bill and the products that emerge after it is enacted will follow the Road Traffic Act, which is clear about public roads and other public places. I see no distinction between what we have before us and what is in law now. Because I am not intoxicated by the exuberance of my own verbosity, I will end there.

**Clive Efford:** I did not hear the Minister—I must have missed it—respond to the amendments tabled by my hon. Friend the Member for Kingston upon Hull East and the issue of hacking. We are discussing amendment 14, are we not, Mr Bailey?

**The Chair:** I understand that Karl Turner wants to speak to new clause 18 separately.

**Karl Turner:** Very briefly.

**The Chair:** The hon. Gentleman can decide whether he wishes to make his comments then or whether they would be more appropriate later.

**Clive Efford:** Are we discussing amendment 14?

**The Chair:** Yes.

**Clive Efford:** My hon. Friend the Member for Kingston upon Hull East has raised an important point. There might be a whole new area of insurance with clauses in the small print of an insurance policy that require people to be covered in the event of an automated vehicle being hacked. If the manufacturer and the designer of the software that drives the automated vehicle, and the insured party who is in control of the vehicle or in the vehicle—I am not sure whether we can say in control of the vehicle now—have all taken reasonable steps to prevent hacking and the software is hacked in some way, and that affects the vehicle’s operation and causes an accident, liability inevitably falls back on the person in the vehicle at the time of the accident, as set out by the right hon. Member for West Dorset.

I can foresee a circumstance where insurers say, “Every reasonable step has been taken to prevent hacking of this vehicle, so the manufacturer of the vehicle cannot be held liable, and nor can the people who wrote the software. It is unlucky, but it is your responsibility as the driver of the vehicle, because your vehicle has been hacked and has caused an accident.” It seems a considerable liability could be taken on by drivers. We have heard a lot about the safety aspect of automated vehicles, which is bound to reduce the number of accidents and therefore the number of claims, but what we can see here is a whole new area of insurance opening up where there are different sorts of claim being made as a consequence.

I think it is reasonable of my hon. Friend the Member for Kingston upon Hull East to table an amendment requiring every step to be taken to protect the vehicles from hacking. It is right that it should be in the Bill because we need to protect consumers from that potential liability. What is the Department’s thinking? What consideration has it given to vehicles being hacked and liability in such circumstances? What are “reasonable steps” to prevent it happening? We all know that even though we have the highest level of security to protect the software or computers from being hacked, they still are. We have seen numerous examples in recent times, not least the successful hacking of some very high security systems, so we can imagine that this will present a challenge for some of those people who undergo that sort of criminal activity. It could put lives at risk and open people up to considerable liability, so I wonder what the Government’s thinking is about that.

**Mr Hayes:** Let me see if I can satisfy the hon. Gentleman by way of a brief intervention. I will then respond, as he invited me, to the shadow Minister when he comes to the new clause. The critical thing is to understand that an autonomous vehicle will, in practice,

be a combination of sophisticated software and technology—the mechanical components of the car and the software that drives it. If the vehicle is deemed to be liable for an accident, that might be as a result of its software being faulty or because of a mechanical failure. From the perspective of those affected by the accident, that is immaterial because even if the software had been hacked the autonomous vehicle would still be responsible; the consumer’s position does not change. The consumer is protected, as it were, from the reasons why the autonomous vehicle was responsible and whether it might be as a result of a fault in the software.

**Clive Efford:** If I have followed the Minister correctly, and it is distinctly possible that I have not, the situation I am describing is slightly different. He says that there will be a vehicle that is at fault, that the person who is insured to be in the vehicle will pay out initially, and that there will then be consideration of who is liable.

**Mr Hayes:** Yes.

**Clive Efford:** That is fine, but if the vehicle has been hacked, the person paying out initially is opened up to a liability even though they are not at fault because they took all reasonable steps to prevent such hacking. However, no one else accepts responsibility because they too took reasonable steps to prevent the vehicle from being hacked. It is not unreasonable to require in the Bill that every measure be taken to prevent the liability from falling back on the insured person, whose vehicle has caused the accident even though they were not at fault. How do we ensure that the liability is not dumped on the consumer?

There is also the issue of the vehicles communicating with each other. If they are hacked and are communicating duff information, who will be responsible? Considerable liability could fall on consumers. Their vehicle is the cause of the accident but they are not responsible for it because of hacking. However, they are ultimately deemed responsible because no one else will accept responsibility.

**Mr Hayes:** I will make the point more emphatically; I was perhaps being a bit too understated. Understatement is a problem I constantly struggle with, as my right hon. and hon. Friends know.

The simple fact of the matter is that if the autonomous vehicle is “responsible” for the accident, and its software is at fault, whether that fault be caused by malevolence or some failure, the consumer’s interest will be unaltered. In the Bill, the consumer is protected in the way I have described, regardless of why the vehicle was at fault. That will then be a matter to determine during the course of the events, but it will not affect the person or persons affected by the accident.

**Sir Oliver Letwin** *rose*—

**Clive Efford:** I give way to the right hon. Member for West Dorset.

**Sir Oliver Letwin:** I think this is a conversation somewhat at cross-purposes. Use of the term “consumer” by the Minister is confusing the issue. Let us distinguish between the injured party and the insured party. The injured party is protected in the way my right hon. Friend the

Minister and I have described, and the hon. Member for Eltham, my right hon. Friend and I are all in agreement that that is okay.

The hon. Gentleman is asking about the insured party. He is really asking whether anybody will be willing to buy an autonomous vehicle level 4 or 5 under circumstances in which, having taken out the insurance policy, the insurer then discovers that they are liable to some injured party. Then, having paid out to the injured party—tick—they come back to the insured party and say “Because the manufacturer had taken reasonable steps and because the hacking went on despite that, and because nobody including the manufacturer is responsible, and because your insurance policy excludes—you may not have noticed this—in the small print a hacked case, you, O insured party, are now responsible.” I hope I am correctly interpreting the hon. Gentleman.

**Clive Efford** *indicated assent.*

**Sir Oliver Letwin:** Yes, good. He is raising a serious point. I do not know whether it is about the Bill, but it is certainly a serious point about what the Bill is trying to achieve, which is to get to a situation where people buy autonomous vehicles because they are able and willing to insure themselves to own them and drive them. They would not be if they thought this was a realistic possibility. Somehow, that problem needs to be solved, whether in the Bill or otherwise.

**Clive Efford:** Again, I am grateful to the right hon. Gentleman. I have a feeling of *déjà vu* because he is putting my points better than I can. I have little to add to that. There is an issue there that my hon. Friend the Member for Kingston upon Hull East has raised in his amendment that the Government should go away and consider.

**Matt Western** (Warwick and Leamington) (Lab): It strikes me that there is potentially a grey area between the software company and their design and the hacker and where the responsibility begins and ends, and how any court or technical expertise will be able to determine where ultimate responsibility lies. A software company could readily say “We designed it. We were perfectly happy with it and there were all these protections and safeguards in place,” and they will blame the hacker, but who can determine if it was down to a hacker or the failing of the software designs? I just throw that out because sometimes these things are very difficult to determine and I am not sure where the responsibilities lie.

**Clive Efford:** I will finish on this point and I will not take much more of the Committee’s time. The Bill is designed to ensure that the injured party is paid out swiftly in the event of an accident, with blame subsequently apportioned either through agreement or by a court. In this case, however, there is another consumer—the insured party—who could be open to enormous liabilities through no fault of their own where nobody else can be found to be at fault because they have taken all reasonable steps. There is a grey area, as my hon. Friend has just said, where the Government need to go away and give that some further consideration.

**Mr Hayes:** It seems to me that we are risking going on a flight of fancy by trying to anticipate exactly what the insurance products that develops as a result of this legislation will look like. My right hon. Friend the Member for West Dorset described a policy that might qualify the protection offered in the way that he set out. We cannot, at this juncture and certainly not in debating this Bill, start a debate about what those policies might look like down the line.

The essence of the Bill is that the insured party will only potentially be liable if they are responsible and the insurer does not cover that risk. If someone deliberately failed to maintain their vehicle, deliberately failed to update their software, even interfered with their software for some reason I cannot imagine, clearly there would be an issue of responsibility. The important thing is that the debate that takes place on why the vehicle failed—assuming it is an autonomous vehicle—is one that the individuals concerned should not have to know about unless there is a palpable reason for their doing so, because of the negligence or even malevolence that I describe.

We could have a long debate about the kind of insurance policies that might emerge. I am not an expert on insurance and I do not know if there are any in the room.

10.45 am

**Craig Tracey** *rose—*

**Mr Hayes:** My hon. Friend is going to offer the expertise that I have admitted I lack.

**Craig Tracey:** The set of circumstances described by the hon. Member for Eltham actually exists in current insurance. If someone had a car that was parked up and somebody else stole it, drove off in it and hit a row of parked cars, then for insurance purposes the onus is currently on the owner of the vehicle. The whole point of insurance is to protect the insured person against unforeseen circumstances, and hacking would come under that process, because we do not presently know how it could affect the systems.

**Mr Hayes:** One of the delightful things about the House of Commons, and indeed about Committees such as this, is that there is always expertise that one did not know about previously and that emerges as a result of the discourse. I am grateful to my hon. Friend for his expert advice on that particular subject. The point raised by the hon. Member for Eltham is that he wants to be certain that an innocent party is not adversely affected by the development of products that do not afford the same kind of protection that people now routinely rely upon.

I share the hon. Gentleman’s view. My view is straightforward: it would be intolerable for a situation to develop in which people, through no fault of their own, and with no negligence or irresponsibility in what they have planned or done, were to find themselves uninsured because of the development of some perverse policy. In the end, that is a matter for the insurance industry, but I have made my views clear and put them on the record, and they reflect the views of the hon. Gentleman and my right hon. Friend the Member for

[*Mr John Hayes*]

West Dorset, who, among his many distinguished and eminent achievements, has today added another: becoming a spokesman—or perhaps I ought to say the interpreter—for the hon. Member for Eltham. And so it is that such unions are formed in Committees such as this.

**Karl Turner:** I want to speak briefly to new clause 18. Before doing so, I want to put on record my thanks to the Minister's officials for the work they have done with my office. They have been extremely helpful.

New clause 18 covers the issue of cyber-security and the hacking of automated vehicles. It would require the Secretary of State to consult with such persons as he considers appropriate within 12 months of the Bill receiving Royal Assent. I am not planning to push the new clause to a vote; its purpose is mainly to probe a little deeper to ensure that the Government properly and widely consult in this area. I would be grateful if the Minister indicated how that has already been done. I know that a great deal of work has gone on behind the scenes; will he assist the Committee by setting out who the Department has consulted with thus far?

**Sir Oliver Letwin:** I actually do not think that this matter can be dealt with in the Bill, but I agree with the shadow Minister that we should seek an assurance from the Government that they will spend the time that needs to be spent, once the Bill is out of this House, trying to deal with what is a very, very big problem.

It is easy to imagine that this is just science fiction, but it is not. It is more than imaginable that, as part of the convergence of networks and as the transport system becomes automated, the single biggest security vulnerability of the UK—and, while we are at it, of any other advanced economy—will be the ability of state or non-state actors to intervene in a whole series of its convergent networks. Obviously, there may also be threats from exogenous things such as space weather, which may affect convergent networks, including electricity, transport, communications and so on, but state actors and some non-state actors are employing serious and highly developed methods to intervene in our cyber-security, as the Government are well aware.

The capacity to do damage to the UK by bringing the transport system to a grinding halt, amidst thousands or perhaps hundreds of thousands of simultaneous crashes, is a delicious prospect. I absolutely guarantee the Minister, although I am sure that he does not need my guarantee to believe it, that someone sitting somewhere—if not several people sitting in several places—is planning that kind of offensive cyber-activity at this very moment. Many of those people have access to many of the people who will be involved in developing the software that will be used in the very machines that we want to be used on our roads.

That is an irony of the globalised world. This is not like the 18th century, when people sat behind huge national barricades and we did not use their technologies but they tried to use them against us. We are now in a position where the people who may use our technologies against us supply some of those technologies to us. That creates a degree of risk out of all proportion to anything we have witnessed before. I am a believer in automated

vehicles—I do not think that we can resist this trend—but we need to ensure that an immensely higher level of cyber-security is built in from the start than we might think necessary under other circumstances.

I want to make one further point. This is one of those cases where externalities will not be internalised. It is not in the interests of particular manufacturers to worry very much about this issue. If I am a specific manufacturer of a specific automated vehicle, my interest is in producing something that is good to drive, cheap and normally safe, because that is the way I will sell the maximum quantity of it. If somebody tells me that I could make it safer from hacking, which is unlikely to occur, in the sense that there is a one-in-1,000 or one-in-10,000 or whatever chance of it being hacked, by making it significantly more expensive, my natural and commercial response will be not to add that protection, because it would make me less competitive. I am not particularly worried that Britain may be brought to a halt, because I am not Britain; I am a manufacturer, and I am answerable to my shareholders, not to the electors of the UK.

There is a clear area of intrinsic market failure here, where, however pure a free marketeer one is, Adam Smith principles apply and it is for the state to ensure that the externalities are internalised by legislating or regulating, or by reaching agreement with manufacturers. As I say, I do not believe that the Bill can be the vehicle for creating a whole new structure of invigilation of the cyber-security standards of automated vehicles, but the Minister, in conjunction with Ministers in parallel positions in other jurisdictions, needs to get to work on that rapidly. If that is not done, the Bill will be useless, because it will provide a framework for something that no rational Government will ever allow to occur.

We cannot allow the UK's transport system to be put in peril by being easily accessible to hackers in a way that could cause hundreds of thousands of accidents simultaneously. It is a necessary concomitant to the Bill that there should be a serious attempt to create that degree of universal cyber-security for level 4 and level 5 vehicles. I hope that the Minister will be able to tell us that he is at this very moment getting the plane tickets to go and talk to all the other relevant Ministers and set up the international systems required to do something similar to the protocols that govern the GSM standard, which make it not unhackable, but much less hackable than previous mobile systems.

**Mr Hayes:** Perhaps I should say a word now about my personal and professional relationship with my right hon. Friend, in as much as it relates to what he has just said. When we worked together in Downing Street, we discussed these kinds of issues many times. I was the Minister responsible for cyber-security at the Home Office, and I take what he and the shadow Minister said very seriously indeed. My right hon. Friend is absolutely right that cyber-security is a pressing, present and immensely great threat. It is vital that the work on this technology, like all the work we do across the House and across Departments, takes account of the scale and nature of that threat and that it does all we can to counter it. My right hon. Friend was involved in that at the Cabinet Office.

On a more personal note, I am not surprised that my right hon. Friend raised the issue. I am rather more surprised that he—with an absolute, but none the less

surprising, frankness—emphasised the limits of the market and the constraints on commerce, because he has always been more inclined to a liberal perspective than I am. But then again, who is not? I know he is a great admirer of the power of the markets to shape our futures, so I am delighted—perhaps it is my influence or that of his dear late mother, who, I think it is fair to say, was more on my wavelength on these subjects—that he has been encouraged to take the view, which he has articulated so forcefully and persuasively today, that the industry will not do this alone. It is right that we should work in partnership with the industry. The Government must take their place and have their influence in that respect, and that brings me to new clause 18.

If anything, I regard new clause 18 as an understatement of how significant the issue is. If it were accepted—although I am grateful that the shadow Minister has said he will not press it to a vote—it would impose a requirement to consult on security risk. I do not regard that as a requirement; I regard it as an obligation. It is absolutely essential that we do that. The work that we are already doing, which he asked me to briefly summarise, is advanced but ongoing. We are working with UK security agencies, the Centre for the Protection of National Infrastructure and the new National Cyber Security Centre—which was set up while I was the Minister responsible, by the way. This issue is a real challenge for Government and for Parliament. It stretches well beyond any particular Government or political party, as has been made clear by what has been said. We will need to engage directly with industry and raise awareness.

We are already discussing the issue with industry. As part of that, we have consulted, developed and published a document, “The key principles of vehicle cyber security for connected and automated vehicles”. It is a guidance document for the automotive industry on good cyber-security and the connected and automated vehicle ecosystem. I do not know whether the Committee has access to that, but I will happily make it available in hard copy form. It is available electronically, if Members wish to take a look. We have also set up the automotive information exchange to promote the sharing of intelligence and best practice for effective cyber-security across the industry.

This issue has been identified as a top priority by the new National Cyber Security Centre. The work will continue and our understanding of how we can counter the risks will grow; but more than that, I would say—as a result of the contributions from my right hon. Friend the Member for West Dorset and the hon. Member for Kingston upon Hull East—that we should consider seeking additional powers over time. I do not think that this Committee is the right place to debate that, or indeed that the Bill is the right vehicle to bring those powers forward, but a commitment to considering additional powers, should they become necessary, is an important one to make. Furthermore, I think my right hon. Friend is right: we need to ensure good cross-governmental work on this. I will take that away, because a further dialogue across Government is necessary. It is happening, but we can always do more, and when it happens at ministerial level, as he will know from the meetings we have had over time, a great deal can be achieved rather more quickly.

11 am

**Clive Efford:** The Minister says that the Bill is not the appropriate place for us to legislate on that, but that is exactly what new clause 18 says. It says that consultation should happen separately from the legislation and really only sets the timescale. On that basis, will he accept new clause 18?

**Mr Hayes:** I charged my right hon. Friend the Member for West Dorset earlier with being the hon. Gentleman’s spokesman and interpreter, but now the hon. Gentleman has put the boot on the other foot. He added further sophistication to my right hon. Friend’s argument in his last contribution. He is right that the Bill begins to address this issue; the point I was making is that, given the ongoing work I described through the agencies I mentioned, it would not be right to set that out in further detail in the Bill. I am arguing against an addition to the Bill, rather than what is in the Bill already.

There is another aspect to this that I want to add. It is very important that we work internationally. Of course, many of the manufacturers are, by their nature, multinational organisations that therefore work across national boundaries. We talked earlier about the development of standards, and how that is happening at UN level and as a result of international dialogue. There is an international dialogue as well on cyber-security, and it is important that we marry our conversations on vehicle standards with our conversations on cyber-security, to ensure a synergous approach to the two.

With those commitments, that absolute assurance of the Government’s understanding of the significance of this matter and my heartfelt support for the strength of the argument made by the shadow Minister and my right hon. Friend, I am delighted that the hon. Member for Kingston upon Hull East will not push his amendment to a vote. We will report back further as time goes on. I will commission the work across Government and, as I have said, I will make available to the Committee some of the documents we have already published.

**Sir Oliver Letwin:** Before my right hon. Friend sits down, and at some risk of adding to the antipathetic relationship with the hon. Member for Eltham, I wonder whether he will also consider clause 1(1)(b). At the moment, it gives the Secretary of State the power to list vehicles capable of “safely driving themselves”. It might be appropriate to consider changing that to “safely and securely driving themselves”, or making some such other amendment, to ensure that he has the power already in the Bill when making the list to include on the list those vehicles that conform with whatever set of standards for cyber-security he eventually develops as a result of the work he is talking about.

**Mr Hayes:** Every member of the Committee should cherish the moment they are about to enjoy, because I accept that proposal and I will consult with my officials on making a minor and technical amendment to that effect, barring any absolute reason why it cannot be done. If we are advised by parliamentary draftsmen that it cannot be done for any reason, we will not, but barring that exception, I will do exactly what my right hon. Friend has described.

**Karl Turner:** I have listened very carefully to what the Minister had to say and to the discussion between right hon. and hon. Members from both sides of the Committee. I am satisfied that the Minister will do everything he can to achieve what the amendment hoped to achieve. I beg to ask leave to withdraw the amendment.

*Amendment, by leave, withdrawn.*

**The Chair:** My instinct is that the issues in clause 7 have been fully debated, so I will now put the Question.

*Clause 7 ordered to stand part of the Bill.*

### Clause 8

#### DEFINITIONS

*Question proposed,* That the clause stand part of the Bill.

**Mr Hayes:** As we move to a new part of the Bill, it seems important to say a few words of introduction about it. The first part of our consideration was dedicated to gaining a clearer understanding and addressing the provisions in the Bill that relate to autonomous vehicles. The second part of the Bill, which we come to now, deals with electric vehicles and in particular electric charging infrastructure. With your discretion and indulgence, Mr Bailey, perhaps I may say why that matters.

It matters because the Government are committed to promoting low emission vehicles. I have always argued that that is not because of a high flown view about what might happen to the climate in centuries to come; rather, it is much more about the effect of particulate materials, which are the result of petrol and diesel vehicles and which have a day-by-day, here-and-now effect on the wellbeing of our people. I have no prejudice about this, as is well known. I made the point on Second Reading to my right hon. Friend the Member for East Yorkshire—who as ever made a passionate but measured case for those older vehicles that we enjoy on our roads—that we certainly would not want to prohibit

their use. However, the Government are clear that by 2050 we expect new vehicles to be low emission vehicles. That will very largely be achieved by promoting and encouraging the use of electric vehicles. Our approach has always been technology-neutral, but electric vehicles are bound to be an important part of achieving our ambitions.

The reasons cited for why people do not buy electric vehicles in greater numbers now—I ought to caveat that by saying that their number is growing impressively—range between, first, the cost, which will to some extent be a feature of their number: as more are sold, the more the price will fall. Secondly, there are doubts about the battery technology and battery life. That is improving as battery technology moves on apace, with good work being done to improve the quality of the product. Thirdly, there is the availability of charge points. Most people, of course, charge at home, but people want to be able to charge away from their residence. As a result, in the Bill the Government are doing more work to put in place provisions that will allow the development of more charge points around and about the United Kingdom.

That is what the clause begins to do, by providing definitions of electric vehicle charging and in particular a precise definition of what a charge point is, as well as what a hydrogen refuelling point is. It goes further and defines a public charging point. It is important that those definitions are set out clearly, so that the effect of the power matches the intent and the intent of the power is made clear to the public. Clearly, any other, more detailed definitions can be set out later in secondary legislation, but in essence this part of the Bill is about defining electric charge points and, in later clauses, which I look forward to debating, going about the business of how we can increase their number.

*Question put and agreed to.*

*Clause 8 accordingly ordered to stand part of the Bill.*

*Ordered,* That further consideration be now adjourned.—(Andrew Stephenson.)

11.10 am

*Adjourned till this day at Two o'clock.*