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Public Bill Committee

VEHICLE TECHNOLOGY AND AVIATION BILL

Fourth Sitting

Thursday 16 March 2017

(Afternoon)

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Monday 20 March 2017

The Committee consisted of the following Members:

Chairs: James Gray, † Joan Ryan

† Baker, Mr Steve *(Wycombe)* (Con)
† Brown, Alan *(Kilmarnock and Loudoun)* (SNP)
† Burden, Richard *(Birmingham, Northfield)* (Lab)
† Doyle-Price, Jackie *(Thurrock)* (Con)
† Foxcroft, Vicky *(Lewisham, Deptford)* (Lab)
† Fuller, Richard *(Bedford)* (Con)
† Hayes, Mr John *(Minister of State, Department for Transport)*
† Hendry, Drew *(Inverness, Nairn, Badenoch and Strathspey)* (SNP)
† Knight, Sir Greg *(East Yorkshire)* (Con)
† McDonald, Andy *(Middlesbrough)* (Lab)
† Malthouse, Kit *(North West Hampshire)* (Con)
† Marris, Rob *(Wolverhampton South West)* (Lab)
† Matheson, Christian *(City of Chester)* (Lab)
† Prentis, Victoria *(Banbury)* (Con)
† Selous, Andrew *(South West Bedfordshire)* (Con)
† Snell, Gareth *(Stoke-on-Trent Central)* (Lab/Co-op)
† Stewart, Iain *(Milton Keynes South)* (Con)
† Tugendhat, Tom *(Tonbridge and Malling)* (Con)

Ben Williams, Farrah Bhatti, *Committee Clerks*

† attended the Committee

Public Bill Committee

Thursday 16 March 2017

(Afternoon)

[Joan Ryan *in the Chair*]

Vehicle Technology and Aviation Bill

Clause 2

Liability of insurers etc where accident caused by automated vehicle

2 pm

Andy McDonald (Middlesbrough) (Lab): I beg to move amendment 18, in clause 2, page 2, line 18, leave out "owner of the vehicle" and insert

"person in charge of the vehicle at the time of the accident".

This amendment ensures that the person who was in charge of the vehicle at the time of the accident is liable, rather than the owner of the vehicle who may not necessarily have been in the vehicle at the time. However "person in charge of the vehicle at the time of the accident" can also include the owner of the vehicle if they were in charge of it at the time.

It is a pleasure, Ms Ryan, to serve under your chairmanship. We had a thorough debate this morning and perhaps took a little bit longer than we anticipated. I promise to be exceptionally quick on this amendment, which seeks to clarify who would be liable in the event that an automated vehicle is not insured, and relates not to the owner of the vehicle but to the person in charge.

I tabled the amendment because it appeared to me that we run the risk that a thief of a vehicle would get away scot-free if that vehicle was not insured; the owner would be liable, which would be a perverse outcome. We had some helpful information from Mr Howarth at our evidence session when I put that scenario to him. He correctly pointed out that the clause relates to Crown Estate vehicles, local authority vehicles, police and ambulance vehicles and so on and that the current insurance arrangements will apply to automated vehicles. That is clear, but I wonder whether the Minister considers that matters would be even clearer if the word "and" were to be inserted in clause 2(2)(b). That is not included in my amendment, which I intend to withdraw, but does the Minister think that that addition would bring further clarity to the Bill, because at first blush, I think there could be some perverse outcomes.

The Minister of State, Department for Transport (Mr John Hayes): The shadow Secretary of State has made it clear that he intends to withdraw the amendment, so I will be very brief and straightforward about clause 2. It mirrors the Road Traffic Act 1988, which, as the hon. Gentleman has said, allows some public bodies and the Crown itself to insure the use of conventional vehicles. In effect, they take the role of the insurer in terms of paying compensation to an innocent victim in the event of a collision.

Just as clause 2(1) places a first instance liability to pay compensation on insurers, clause 2 (2) places it on the public body or the Crown, as the hon. Gentleman has said, if they choose to self-insure a vehicle. That will ensure that innocent victims would have quick and easy access to compensation, and mirrors the arrangements under the Road Traffic Act, where a public body or the Crown self-insures a conventional vehicle.

The risk with the amendment is that it might confuse that policy intent, as the driver of the vehicle may not have sufficient financial resources to pay compensation at all, let alone in a timely manner. I know that that is not the intention of the amendment but it might be its effect.

There is also a question of fairness. One can imagine that in a large public sector body, it would be unlikely that the driver of an automated vehicle would be the person who made the decision whether or not it should be self-insured. Also, the driver may not have contributed in any way to causing the collision. I acknowledge that the hon. Gentleman does not intend to press his amendment, but my fear about it is that it may actually confuse all the issues in respect of the relative responsibility of the body and the driver. I will certainly look at the semantic point that he raised; the addition of a single word is a modest request, and inevitably as the Bill progresses a series of minor and technical changes will be made. If his suggestion is helpful, we will of course consider it. I absolutely understood that the intent of the amendment was not to do what I said, but I think that might be its effect.

Andy McDonald: I beg to ask leave to withdraw the amendment.

Amendment, by leave, withdrawn.

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

Rob Marris (Wolverhampton South West) (Lab): It is a pleasure to serve with you in the Chair, Ms Ryan. I have a couple of minor points for the Minister.

First, on line 5 of page 2, the first three words of subsection (1)(c) are "an insured person". I tried to clarify this, I think with the Association of British Insurers, during our oral evidence session two days ago, but my understanding is that the insurance architecture for automated vehicles is changed by the Bill. Rather than the driver being covered by a policy of insurance, which is the existing situation, for an automated vehicle pursuant to clause 2 it will be the vehicle itself that is insured. Unlike now when negligence is alleged in a road traffic collision, the claim legally will be against the tortfeasor, the wrongdoer, not against the insurance company, although legislation from the 1930s enables the insurance company to step in at present. Under the Bill, were there to be legal proceedings, the person on the other side would be the insurance company directly, not, as now, indirectly, in lay terms.

If that is the case, there is no insured person on the scene, unless "person" in that context somehow means the insurance company as a legal person. The way the clause appears to be worded, the policy of insurance is carried not by the driver, the human being, but by the vehicle itself. In which case, if I am reading the Bill correctly, there is no insured person. I am hoping that the Minister will clarify that today or in writing to me later. I fully accept that he might say that I have misinterpreted it.

Secondly, on lines 19 and 20 of page 2, subsection (3) includes a definition of "damage", but that definition does not include what used to be called special damages and have since 1998, I think, technically been called financial losses and expenses. For example, if someone is injured in a road traffic collision and loses pay at work as a result, that is liquidated damages, but it does not seem to be covered in the definition of damages in that subsection. That might be deliberate and might come in somewhere else, but I hope that the Minister will clarify the wording.

Andy McDonald: My hon. Friend makes a hugely important point about special damages. As he knows all too well, special damages in any given case could dwarf the compensation for pain, suffering and loss of amenity, so it is a hugely important point, which I want to support. I hope that the Minister can clarify it.

Rob Marris: I am grateful to my hon. Friend. For someone who has to have two years off work, is earning £50,000 a year and so on, that can be a loss of money. I fully concede to the Minister that I may have overlooked something, or it might be covered somewhere else or not need to be covered, but I would find it helpful were he able to explain to the Committee why special damages, as they used to be called, are not included in the clause. Will he also explain why we have "an insured person" in subsection (1)(c)?

Mr Hayes: Welcome to the Chair, Ms Ryan. We had a fairly lengthy discussion this morning about the early parts of the Bill, but in doing so we were able to establish context and purpose. Many hon. Members in all parts of the Committee made important points that I have listened to carefully. I will take them into further consideration as the Bill enjoys its passage.

At the very beginning of our consideration we set out the tone of this scrutiny. The Bill matters a great deal, but it is essentially a technical, not a partisan, measure, and not one that should give rise to unnecessary discord, disharmony or contumely. None the less, it is right that we get it right, as it is for all legislation, and so I want to say a word about clause 2.

Clause 2 details the liability of insurers where an accident is caused by an automated vehicle. Where an accident is caused by an automated vehicle when it is driving itself, the clause creates first instance liability on the insurer to compensate innocent victims.

The hon. Member for Wolverhampton South West has made a number of interventions already, and in each one, with a humility that personifies all of his contributions to this House, has suggested that he is finding his way through this, just as other members of the Committee are. He is right to say that the definition of damage that applies will be the definition established in the Road Traffic Act 1998 and so it is not necessary to do more here. He suggested that might be so and I can confirm that that is indeed the case.

The hon. Gentleman raised a second important issue about the character of the relationship between the driver and the vehicle. The point is that the driver has motor insurance. It is true that when someone has motor insurance, they designate a vehicle, but the driver will apply to an insurer to take out a policy in the same way that they do now. In respect of a claim, the difference that automation will make is that the insurer will then be in the business of determining subsequent liability. Of course, that will depend whether the car is being driven in automated mode or not, which is something we have all talked about both informally and formally in the Committee.

In a sense, that is immaterial to the hon. Gentleman's question, because our absolute determination is to ensure that all the changes that are necessary as a result of the developments we are discussing are largely invisible and that, from the driver's point of view and that of any other party that might suffer a loss as a result of an incident—a victim of an accident and so on and so forth—they are no worse off than they are now and at no greater risk, and that the driver, from the perspective of acquiring insurance, is in the same situation as they are now. So the issue of subsequent inquiries necessary to settle a claim is not dealt with in the Bill and, frankly, does not need to be, for that is in the end a matter for insurers. I think that clarifies the point, but if the hon. Gentleman wishes to intervene again, I am happy to give way.

Rob Marris: I understand the points that the Minister is making, but clause 2(1)(b) says, "the vehicle is insured". It does not say a policy of insurance is in effect covering the person in charge of the vehicle. It specifically says that the vehicle is insured. Secondly, I would point out to the Minister that unless we get this right, there may be problems later if a minor is in the vehicle alone because of full automation—that minor cannot hold an insurance policy because as a minor they cannot contract insurance.

Mr Hayes: That is true enough. I suppose perhaps the easiest way of putting this is that, compared with the compulsory insurance cover that is the necessary result of the Road Traffic Act 1998 and is long established, the clause widens the insurers' liability to include damage as a result of automation. Essentially, it includes damage suffered by the driver when the automated vehicle is driving itself, or damage suffered by any third party.

I invite the hon. Gentleman to look at clause 7, which deals with this matter—as I am sure other Committee members will do so with enthusiasm and speed. Clause 7(1)(a) describes a vehicle "driving itself" and subsection (1)(b) states that

"a vehicle is 'insured' if there is in force in relation to the use of the vehicle on a road or other public place in Great Britain",

and so on.

That clause provides the clarity the hon. Gentleman seeks. When it is combined with what I described—the existing arrangements under the Road Traffic Act—I think he can be satisfied that we have got this right.

Question put and agreed to.

Clause 2 accordingly ordered to stand part of the Bill.

Clause 3

CONTRIBUTORY NEGLIGENCE ETC

2.15 pm

Andy McDonald: I beg to move amendment 19, in clause 3, page 3, line 6, at end insert—

"(3) The Secretary of State may by regulations define when it is and is not appropriate for a person in charge of the vehicle to allow the vehicle to drive itself."

[Andy McDonald]

This amendment requires the Government to provide regulatory guidance for when it is and is not appropriate for a person to allow an automated vehicle to drive itself.

Our amendment would allow the Secretary of State to define by regulations when it is appropriate for a person in charge of a vehicle to allow it to drive itself, because under subsection (2), the insurer or owner

"is not liable under section 2 to the person in charge of the vehicle where the accident that it caused was wholly due to the person's negligence in allowing the vehicle to drive itself when it was not appropriate to do so."

We are talking about the realm of automated vehicles, so this issue warrants some discussion. It should always be appropriate to allow the vehicle to drive itself—that is the whole purpose, but perhaps we can explore it.

Sir Greg Knight (East Yorkshire) (Con): Does the hon. Gentleman not accept that if, when someone gets into an automated vehicle, a dashboard warning light said, "Software error: do not move", and they ignored it, that would indeed be a case where they should not have proceeded to use the vehicle?

Andy McDonald: The right hon. Gentleman makes a very good point. We will consider in what situations it would be inappropriate to continue in that mode. If he bears with me, I will come to that. A great advantage of automated vehicles is to allow people with disabilities and without capacity to enjoy the same freedoms as we do. If they are in that environment, it would be somewhat difficult, as I am sure he would concede, to impose an obligation on certain individuals to do the very thing that he is suggesting, so I would be grateful if he bears with me.

As the clause is drafted, whether or not it was appropriate for the person in charge of a vehicle to allow it to drive itself has a consequence for negligence, but the Bill does not outline when it is appropriate or not for a vehicle to be used in automated mode—it talks about it, but it does not tell us. I accept that it might not be appropriate in some circumstances for vehicles to drive themselves. For example, early automated vehicles might be deemed safe to use only on motorways and not on some urban roads. Perhaps a known fault with the software that manages the function might have come to people's attention, so using it would be inappropriate. I wonder whether the true intent of subsection (2) was to focus on bi-modal vehicles, because to my mind it is a bit of a nonsense to apply it universally to fully automated vehicles.

One of the primary purposes of part 1 of the Bill is to provide a framework to give insurers, manufacturers and potential users greater clarity, providing confidence and encouraging progress on automated vehicles. However, it is still not clear from the Bill what the Government have in mind about when their use would be inappropriate. I do not propose to press the amendment to a vote at this stage, but I think the Minister has got the point I am making. We are asking for regulations to be brought forward that better define those circumstances, because we cannot afford to have any fudging or confusion. People must be clear where there obligations lie. If we are to see the growth of the industry as we all wish, we do not want to leave this issue hanging over it.

Alan Brown (Kilmarnock and Loudoun) (SNP): It just occurred to me when the hon. Gentleman mentioned manufacturers that some of the conditions or stipulations for when the vehicle should not be driven should derive from the manufacturers rather than Government regulations, although I am not sure how that could be worked in with his amendment.

Andy McDonald: That is an excellent observation. That could form part of the regulations, so that the obligation sits with the manufacturer to ensure that the situation we are describing is avoided. The hon. Gentleman makes a valid point, which highlights the lack of clarity about describing the circumstances in which it is inappropriate for the vehicle to drive itself. Somebody could get into the vehicle, fully anticipating it to be totally automated and expecting to be free to eat their fish and chips or make the cup of tea that my hon. Friend the Member for Wolverhampton South West referred to with impunity. If that is not the case, we need clarification of when those circumstances arise, especially when we talk about issues concerning capacity, capability and so on.

Mr Hayes: GK Chesterton said:

"The centre of every man's existence is a dream."

To dare to dream is to drive us beyond the prosaic towards the sublime. For me, the achievement of the sublime is indispensable from a redistribution of advantage in society. To redistribute advantage we must seize opportunities where they do not exist, in exactly the way that the hon. Gentleman described. To seize the opportunity to travel for those to whom, for no other reason than their incapacity, it is currently unavailable would indeed be the achievement of a dream leading to the sublime, so he is right that we need to get the circumstances in which people can achieve that right now, but we also need to be mindful of the fact that as the technology develops there will be a need to do more.

Therefore, I accept what the hon. Gentleman says about the need for further regulation. There will certainly be a need to look at Road Traffic Acts, because of what he queried in respect of the obligations of very vulnerable people. We will certainly need to look at that. That is a matter for future standards and Road Traffic Acts rather than the Bill, but I fully acknowledge that that will need to be a part of the legislative package that is bound to emerge as a result of these changes.

The Bill is very much a first step, as we have all acknowledged. It is a first step that, rather strangely, as he pointed out, begins with insurance. It does not begin with insurance because of any philosophical or doctrinal belief that insurance matters most, but it certainly matters enough to stop further investment and development. That is why insurance is the beginning of the process. In the end, the other adjustments to law and the publication of regulations will be necessary to achieve some of what he has described. We therefore recognise entirely the need to put in place a proper regulatory framework in this area. This is about the safe deployment and safe use of automated vehicles. It is also about public confidence, which was raised this morning by the hon. Member for Inverness, Nairn, Badenoch and Strathspey, who is not now in his place. By doing what he said subsequent to the Bill, and through the passage of the Bill, we will

send a signal to the industry and the wider public that we are indeed at the beginning of that journey, which I hope might lead us to the sublime.

Perhaps it is worth pointing out by way of illustration that we consulted on changes to The Highway Code and the Road Vehicles (Construction and Use) Regulations 1986 to support remote parking systems, because there are also Highway Code issues associated with the changes. We are looking at how the existing regulatory framework will need to be amended, leading up to a series of incremental changes that will take us to the place where full automation will become accepted by the public and available through the industry.

I must not compliment the hon. Member for Middlesbrough so much so early, because not only might that encourage him to believe that I will do so throughout our consideration—at some point I might no longer wish to do so—but also because it might make him a trifle big-headed, and I would not want to do that. However, he is also right about the likely first stages of the development. He is right to point out, as has been written elsewhere, that automated vehicles might initially be used in particular circumstances in particular modes. Some of the developments that manufacturers are researching, considering and rolling out are likely to be for use on motorways, as he said, or in particular driving conditions. As part of the incremental change I have described, it is possible that automated vehicles will be used in specific situations, or what are sometimes called "use cases". This would involve a kind of geo-fencing of vehicles, defining when and where they are used—perhaps in part of a city or something of that kind, or perhaps on high-speed roads exclusively.

It is also important to point out that we are not considering this matter in isolation. The development of the technology is international and, as I described earlier, international regulations will create a set of safety standards leading to type approvals that may reflect that limited case use. It is also likely that those regulations will contain requirements for the vehicle to be able to detect where it is, so that the system can be used only in those situations that are designated or defined. It is not clear whether we need to make matching regulatory changes in our domestic framework, but if we do, we could use existing legislative vehicles. We typically use the Road Traffic Act 1998 to revise existing or create new road vehicle construction and use regulations to reflect and reinforce those international regulations.

I acknowledge also that the hon. Gentleman is correct to say that further work will need to be done. I am not sure that the Bill is the right place to do that—by the way, I do not think he is suggesting that—but it is the right place to ask that question. I freely acknowledge that the issues he raised about obligations, specificity—how a vehicle might be used in what circumstances—and so on will require further consideration, consultation and regulatory measures. With that assurance I hope we can move on in the spirit of harmony and agreement to which I have attempted to add by my not excessive but generous compliments.

2.30 pm

Andy McDonald: I am grateful to the Minister, who has been very kind and generous. However, I do not want to misquote him, but he seems to have set out a strong argument for a regulatory framework, the better to describe the circumstances in which it would be unsafe to allow a vehicle to be conducted in the automated mode. In fact, he set out a number of circumstances where that would be relevant.

The Minister also referred the Committee to international standards and to international regulatory application in this case, but we have no information before us about how that would address the current situation in an evolving market for an evolving technology. I am struggling to understand where the deficit would be if we were to commit to a regulatory framework to address the issues—not by saying, here and now, what would be in it, but simply by saying "That is what we are going to do. We recognise it needs to be done." I am not persuaded that this is not the right time and place to do that very thing.

Mr Hayes: Perhaps I may intervene, to avoid the need for another speech by me—which is probably unnecessary, although it would be widely welcomed. I do commit to what the hon. Gentleman has said. Global regulations will develop. Such discussions are happening worldwide, of course, and the manufacturers are international in both their reach and their location. We will introduce regulations that are in tune with those regulations. Let us not forget that the Bill is about insurance—about a first step in establishing enough legislative work to allow insurance to be put in place. We will commit to taking further necessary steps along the way.

Andy McDonald: The Minister is very persuasive. He has made things very clear. Although I feel some disappointment that we are not dealing with the matter now, his unequivocal commitment to bringing forward regulations at some later stage terminates the discussion as far as I am concerned. I am grateful for what the Minister has told us, and I beg to ask leave to withdraw the amendment.

Amendment, by leave, withdrawn.

Clause 3 ordered to stand part of the Bill.

Clause 4

Accident resulting from unauthorised alterations or failure to update software

Mr Steve Baker (Wycombe) (Con): I beg to move amendment 1, in clause 4, page 3, line 12, leave out "operating system" and insert "software".

This amendment replaces "operating system" which is too narrow a term. A vehicle may have firmware which is software in non-volatile memory, an operating system which is software in volatile memory, and application software.

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

Amendment 2, in clause 4, page 3, line 15, leave out "'s operating system".

See explanatory statement for amendment 1.

Amendment 3, in clause 4, page 3, line 20, leave out "operating system" and insert "software".

See explanatory statement for amendment 1.

Amendment 4, in clause 4, page 3, line 23, after "install software updates" add "to the vehicle".

[The Chair]

Amendment 5, in clause 4, page 3, line 29, leave out "operating system" and insert "software".

See explanatory statement for amendment 1.

Amendment 6, in clause 4, page 3, line 32, leave out "'s operating system".

See explanatory statement for amendment 1.

Amendment 7, in clause 4, page 3, line 39, leave out "operating system" and insert "software".

See explanatory statement for amendment 1.

Amendment 8, in clause 7, page 5, line 31, at end insert

""'software" in relation to an insured vehicle, means those components of the vehicle's computer system that are intangible rather than physical, however stored."

This amendment would add a definition of software.

Mr Baker: At last it seems that it was worth studying for that MSc in computer science, not because we shall discuss formal specification using Object-Z, or the state of communicating sequential processes, and not even because of implementation languages, emulation and testing, but because I think it would be appropriate to replace the term "operating system" in clause 4 with the single word "software". All the amendments in the group are intended to do that.

I should like briefly to elaborate on what I said on Second Reading, to explain why these amendments are necessary to achieve the purpose of the Bill. In the explanatory notes, clause 4 is described very simply:

"This clause ensures that insurers should not have to bear liability to the insured person in some situations where the vehicle's software or operating system are altered, or not updated."

That is the purpose of the clause, but subsection (1) refers to

"alterations to the vehicle's operating system made by the insured person, or with the insured person's knowledge, that are prohibited under the policy…a failure to install software updates to the vehicle's operating system".

I should like to make briefly and, I hope, engagingly the case that that is drafted too narrowly and that, to achieve the purpose of the Bill if it were tested in court, we need to simplify it and use the term "software".

The "Oxford Dictionary of Computing" defines "operating system" as:

"The set of software products that jointly controls the system resources and the processes using these resources on a computer system."

That refers to the software that controls the hardware and makes it available to other programs. Opposition Members have gamely tabled amendment 20, which would delete "vehicle's operating system" and insert

"application software related to the vehicle's automated function".

There is great merit in what they are trying to do. Again, the dictionary defines "an applications program" as:

"Any program that is specific to the particular role that a given computer performs within a given organization"—

it is talking about business, rather than cars—

"and makes a direct contribution to performing that role."

Just as I said on Second Reading, it would technically be the application software that did the automated driving in such cars. I therefore fear that if the Government and the Committee were to keep the definition used throughout clause 4 and specify the term "operating systems", we could find that an unintended conclusion was reached if it was necessary to test the law in court after an accident.

The solution is simple. The "Oxford Dictionary of Computing" defines software as:

"A generic term for those components of a computer system that are intangible rather than physical."

I propose in amendment 8 that

"'software' in relation to an insured vehicle…means those components of the vehicle's computer system that are intangible rather than physical, however stored."

Richard Fuller (Bedford) (Con): I am grateful to my hon. Friend for his dissertation on software systems, but can he advise me? We want to avoid the problem that we were talking about earlier in trying to define what might happen in the future. New software systems might be created that were unknown at the beginning and software—malware, for example—that was never conceived of when the operating system was developed might be added and somehow find its way into the computer systems of an automated vehicle. Under my hon. Friend's amendment, how would those adaptations, legal or otherwise, or those new types of software be handled?

Mr Baker: I am grateful to my hon. Friend for extending my remarks with his question. The reason why I have included "however stored" is to distinguish software stored in volatile memory from software stored in non-volatile memory, such as a USB key, and to include the firmware used to start up the low-level devices. The term "software" as I have defined it from the "Oxford Dictionary of Computing" is all-encompassing; it includes everything in the computer system that is intangible rather than physical. To answer his question directly, that definition encompasses all the software in the system however it might arise, so it is the maximal definition.

If we go back to making the legislative definition work, what I propose in amendment 1 is to leave out "operating system" and insert "software". Amendment 2 would delete "'s operating system", because that phrase is otiose, as a colleague said earlier. Clause 4 would simply read "a failure to install software updates to the vehicle". I am trying to make this maximal to ensure that the Bill is absolutely clear that all the software in the system must be untampered with and up to date.

Christian Matheson (City of Chester) (Lab): This is simply a question of clarification. Would the clause as the hon. Gentleman sees it include, for example, not just the vehicle but the software on the electronic key that will be used to engage the vehicle?

Mr Baker: That is a very good point, and I think that the Bill already deals with it. I shall try to find the right part of the Bill—it does not leap out at me instantly—but I think that it states that updates are as specified by the manufacturer. Perhaps a colleague might find that and intervene. The point is that all the software that should be up to date must be up to date, and it should be as specified by the manufacturer. As I said on Second

Reading, I do not think that the House should tightly constrain what is necessary. Unless anyone wishes to correct me, there is only one software engineer on the Committee, and I am certainly seven years out of date. As legislators, we should seek not to constrain but simply to ensure that the legislation is drawn up so as to encompass the entire software system and ensure that the legislation meets its intended purpose.

I hope that the Government will accept amendments 1 to 8, if not today then on Report and having consulted the industry. I am very much aware that we did not take expert evidence on this issue, so I would understand if the Government wished to consult outside the Committee and return to the issue on Report. I should say that owing to a lamentable lack of attention to detail on my part, it would be necessary to table a duplicate of my amendment 4 to amend line 41 of clause 4, as my proposed manuscript amendment would have done. I draw that to the Government's attention. If they want any assistance in preparing amendments for Report, I would be glad to help.

The Chair: I think that my co-Chair ruled this morning that we would not accept a manuscript amendment. That decision still stands.

Iain Stewart (Milton Keynes South) (Con): May I first ask for a point of clarification? I have a few brief comments to make on the clause, but they do not relate directly to the amendment tabled by my hon. Friend the Member for Wycombe. Do you plan to have a separate clause stand part debate?

The Chair: Thus far, I plan to call a clause stand part debate.

Iain Stewart: Then I shall await that part of the proceedings.

Mr Hayes: Regarding the points made by my hon. Friend the Member for Wycombe, I said earlier today and again this afternoon that the essence of our intention with the Bill is to provide a starting point by getting right the insurance provisions for automated vehicles. It is important that we do so with precision. His case is that if we do not get the technical language right, we risk failing to achieve our policy objective. Getting the language wrong would risk insurers not being able effectively to exclude liability in instances where we wish them to be able to do so. Conversely, it would also allow insurers to limit liability in circumstances where we do not intend them to be able to. Although we are working closely with the insurance industry and, as I said this morning before you joined us, Ms Ryan, the industry welcomed the Bill during our evidence sessions on Tuesday, it is important that the signal we send to them and the underpinning legislation reflect the certainty that my hon. Friend advocated in his amendments and his speech in support of them.

The Opposition have tabled amendments in the same area and, I think, recognise that the issue raised by my hon. Friend is significant. I do not know whether the hon. Member for Middlesbrough is going to speak on those amendments—he may choose to. In essence, the message that I want to broadcast is that although we will not accept these amendments today, we recognise their salience. My hon. Friend's case is certainly well made and well understood by us. He invited us to consider the issue further, and I commit to doing so.

Andy McDonald: I was not sure whether we were dealing with amendment 20 now, because it speaks to exactly the same area.

The Chair: At the moment, we are debating amendments 1 to 8.

Andy McDonald: Although we are in the same territory, I will defer my comments, Ms Ryan.

Mr Baker: Given that the Minister wishes to consider the issues and return to them, I beg to ask leave to withdraw the amendment.

Amendment, by leave, withdrawn.

2.45 pm

Andy McDonald: I beg to move amendment 20, in clause 4, page 3, line 15, leave out "vehicle's operating system" and insert

"application software related to the vehicle's automated function".

This amendment makes clear that insurance liability is limited or excluded where damage is suffered following an accident as a result of failure to update the application software related to the vehicle's automated function, rather than the whole operating system.

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

Amendment 21, in clause 4, page 3, line 17, at end insert

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

(i) notify the owner of a vehicle about the need for an update of the vehicle's operating system,

(ii) provide the relevant update of the vehicle's operating system to the owner or insured person, and

(iii) arrange for the installation and update of the vehicle's operating system."

This amendment ensures that manufacturers have made all reasonable efforts to provide an update to the vehicle's system for the owner before placing liability on the owner for not updating the software.

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.

Andy McDonald: As we have a software engineer in the room, I bow to his superior knowledge, but I think he has already acknowledged that ours is a bold and perhaps even decent attempt to narrow the definition to the very function—not bad for an old personal injury solicitor. I recognise that we are all trying to be specific about the what the software is intended to do, so I will not detain the Committee long on amendment 20 but rather move on to amendment 21, which is in the same territory but not on the same point. It would add a proviso to exclusions and limitations on an insurance policy, because, as drawn, the policy would simply be void in the event of failure to install the software.

[Andy McDonald]

We discussed this subject during our evidence sessions, and I think we were all quite fascinated by how software would ultimately be installed, but we think it proper to oblige the manufacturer to attempt to notify the vehicle's owner, provide the update and arrange for its installation. If an automated vehicle is to be able to drive itself, it is critical to safety that the software responsible for the driving operation be up to date. No one doubts that.

I do not know whether everyone can say with certainty that their mobile phone or home desktop computer has the latest version of the software installed. If a smartphone or computer is out of date, that is pretty poor, but significant consequences are unlikely; if an automated vehicle's software is not up to date, the consequences could be catastrophic.

Mr Baker: This is a sensible amendment, but I think it suffers from defining in terms of operating systems rather than software. Perhaps the Minister will explain whether the definition needs to be in the Bill, or whether updates could be required under the policy and it should be for insurers to determine how software updates should be installed.

Andy McDonald: I am grateful to the hon. Gentleman for pointing out the necessary correction. My concern is that there is nothing in the Bill that requires software to be updated. I find that somewhat difficult to understand. These vehicles will be available for use and there will be several iterations of the software updates, so I am staggered that there is nothing to require that to happen. It is almost an assumption—the nature of the beast is such that of course it will be part of the debate—but there is no obligation.

Tom Tugendhat (Tonbridge and Malling) (Con): Many businesses have insurance for business disruption based on their updating cyber-security software for their accountancy models and so on. I am not entirely sure why the hon. Gentleman feels that such a provision is needed in the Bill when it works alongside the insurance element, so in reality the insurance company would provide that check.

Andy McDonald: I am not entirely sure that, as a matter of course, insurers would check whether the software on all the vehicles they insure is up to date. They might demand that at the outset but I am not sure what mechanism would make sure of it, other than to warn people that otherwise policies would be voided.

Tom Tugendhat: Would not that in many ways be similar to servicing vehicles? My insurance policy, like many others, requires me to service my vehicle, which is about as non-electronic as it is possible to get these days, pretty regularly. The insurance company will not have checked in advance, but if they later find out that an accident was caused because the vehicle was not in a roadworthy condition because I did not maintain it properly, my insurance is invalid. I understand the hon. Gentleman's point, but not why he believes it should be in the Bill, rather than leaving it to insurance companies to manage.

Andy McDonald: I think there is a distinction between ordinary, conventional vehicle maintenance arrangements, with which people are familiar, and the requirements of this brand-new environment, where if software fails because critical updates were not installed or it has been infected in some way—I am not an engineer—the consequences can be catastrophic. Mechanical failures may not be picked up, but we have MOT tests and warranties and it may be starkly obvious that something is fundamentally wrong with the vehicle; software failure may not manifest itself so clearly.

Rob Marris: Is not part of the problem that we have several players on the scene? We have the manufacturer, the supplier of the vehicle—the main dealer for example—the insurance company, the owner of the vehicle and the driver. Part of the problem is that the owner of the vehicle may not have any contractual nexus with the manufacturer and may not know that the update is available for their software, just as many people may not know that their smartphone can be upgraded from Android Marshmallow to Android Nougat.

Andy McDonald: The point is well made, so I will not expand on my hon. Friend's intervention but simply accept it.

In short, that the manufacturer should notify the owner of a vehicle of the need for an update of the vehicle's operating system or whatever term we settle on, provide the relevant update to the owner or insured person, and arrange for the installation of the update, are reasonable expectations. We are shifting into a completely different model of vehicle ownership. We have already embraced the principles of personal contract plans and everyone in this room will be aware of the potential to migrate to bundled services, which might not be about one person with one vehicle; they might have a variety of options—a small vehicle for the home and a more comfortable vehicle to make longer journeys, such as touring the Scottish highlands.

We are getting into new territory, and it occurs to me that if we want motor vehicles to be sustainable, rather than rapidly obsolescent, it might be eminently sensible if, rather than someone owning and maintaining a vehicle, such maintenance were part of the services they received and the vehicle was ultimately returned to the manufacturer or retailer. We get into issues about extensions on product liability. With every iteration, there are issues around that. We heard from Mr Wong on Tuesday that the manufacturers will no longer support vehicles beyond a particular time. He did not expect the support to carry on for ever. If it was my Toyota Previa with 163,000 miles on the clock after 17 years it would be unsupported, but there we go.

Rob Marris: I bet that went round the highlands.

Andy McDonald: Yes, it did, several times. It is still running, but it is partly rusted to death. The point is that the measure fits in with the new modelling and is entirely consistent, but it must be underpinned by the obligation to take reasonable steps to update the software. Otherwise, we have difficulties. The amendment would not put the manufacturer behind the eight ball if people are determined to avoid updates or interfere with them—far from it—it just sets out a framework that there should be an obligation on them. I recommend the amendment.

New clause 9 is directly related to the amendment. It requires the Secretary of State to make regulations preventing automated vehicles from being operated in automated mode on public roads unless the software for that function is up to date. We addressed the importance of updating earlier in the Committee, so I will not repeat those arguments, but I underline the seriousness of ensuring that the software is up to date. Out-of-date software can present safety risks. Because of the issues surrounding liability, it should not be beyond the wit of man or too difficult to prevent un-updated vehicles being on our roads, and it would make sense to do that. If a vehicle had a serious mechanical fault that could endanger the driver and others, we would not allow it on our roads. It makes sense that an automated vehicle would similarly present an increased safety risk if its operating system was not updated.

Kit Malthouse (North West Hampshire) (Con): I find the hon. Gentleman's new clause a bit absolute. My experience of updating software is that some updates are critical and some are quite nice to have and may not relate to safety. For instance, with an autonomous car, there might be a software update that tells the car to take a particular angle of bend at a slightly more comfortable speed. That has an impact on comfort; it does not necessarily have an impact on safety. My reading is that the new clause would rule out that car from being authorised to be on the road unless it had that update.

Andy McDonald: I think there is a difference. The new clause says that the car has to be up to date and fit with the current requirements, but it does not say it has to be the latest software. A software product may have several versions—we are now getting into nice-to-have mode and additional facilities—and the one someone has in their car may be safe and up to date without being the latest. What I am trying to address with the new clause is software that is updated on safety grounds and essential changes to the programming.

Without the new clause, people would be able to take un-updated vehicles on to our roads, either by accident or on purpose. Insurance companies would surely factor the increased risk into premiums, which would be higher as a consequence. For reasons of affordability, it would be sensible to include the new clause in the Bill.

The amendment proposes that the Secretary of State should introduce regulations to prevent an automated vehicle from being operated on public roads unless the application software relating to the vehicles' automated functions is up to date—not the latest available, but up to date. From a technical standpoint, that should not be too difficult to achieve. 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 un-updated vehicles from being used, we would achieve safer roads and cheaper insurance.

One primary benefit of AVs is that they reduce the likelihood of human error, yet one of the few areas in which 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. The new clause would address that. I trust that it will have the Committee's support.

3 pm

Mr Baker: I rise to make two points, one at slightly more length than the other. The first is that the amendment mentions application software. At the risk of labouring this point, there is a stack of software in the car: firmware at the low level, the operating system, which makes the low-level devices usable, and application software on top. We have reached the point where we are all agreed that all the software needs to be up to date.

The second point is one that my hon. Friend the Member for North West Hampshire just made: not all the software is safety-critical. That is an important point, so I will take a moment to consider it. Safety-critical software will almost certainly have been derived from formal specifications, proved safe as it is manufactured and then tested comprehensively before it is deployed. I would hope and expect that any responsible engineer, before putting an automated car out on the road, would have a very high level of confidence that the software was in fact safe to use.

The issue then is that there are often bugs in software, so it is not inconceivable that a safety-critical update might be required, but I would like to think that it would be an edge case. If we were to prevent all cars with an automated function from being on the roads because some software update was required, we might end up defeating our purpose. On one hand, I think it reasonable that all safety-critical software must be up to date; on the other, I think that the amendment probably would not achieve the purpose intended.

Andy McDonald: The hon. Gentleman is focusing, quite correctly, on "safety-critical", but is not the software relating to the automated function by definition safety-critical?

Mr Baker: The hon. Gentleman makes a good point. I will give way to my hon. Friend the Member for North West Hampshire in a moment if he wishes, but I think that he put his finger on the point very well, not least because he drives a semi-automated car. Imagine my hon. Friend's Volvo, which requires him to keep his hands on the wheel when it is in semi-automated mode. There could be a software update that allowed him to take his hands off the wheel for an additional five seconds. That is not safety-critical; it is just a variation on the length of time during which it is not necessary to hold the wheel. The point is that such an update would not be critical to the safety of the car's ability to drive itself—I am grateful to him for indicating assent—but it would be an update related to the software related to the automated function. That is where the amendment falls down. It is possible to conceive of updates that are related to the safety-critical software but not safety-critical. That is where the issue lies.

The other point is that if I have understood correctly, the overall thrust of the Bill, which I welcome, is to be permissive but absolutely clear where liability lies. Drivers know that they are insured whether or not the vehicle is in automated mode. That is the crucial point.

Mr Hayes *indicated assent.*

Mr Baker: I am grateful to the Minister for indicating assent. The point then becomes that it is between the insurer and the manufacturer to ensure that these vehicles are safe, properly insured and that the risks involved are insurable—in other words, low.

[Mr Baker]

I have in mind skydiving. I like to skydive. The parachute that has saved my life a couple of hundred times was sold to me without warranty for use for any particular purpose—in other words, it is formally a novelty item under the law. However, it seems to keep saving my life, provided I use it properly. I am quite comfortable with that, because I understand that the vendors of the equipment—the container and the parachute—produce good, reliable equipment to which one can reliably trust one's life.

I rather imagine that, in relation to cars, while it will all be much more formal and the software will be more complicated than the parachute's, we are in a similar position. Provided everyone understands where the trust and the liability lies, and provided those relationships are correctly defined, so that they can be tested in court, and provided that the arrangements that are in place are understood, we have a basis on which we can proceed. The quite detailed, technical arrangements, which I would suggest we as legislators are not equipped to either foresee or handle at the time, can actually be dealt with in a way that allows innovation, spontaneity and creativity, but within a fixed framework of law that is suitable to the purposes.

If I may say so, that is why I am so excited about the Bill. I think it shows that the Government are embracing a better way of structuring our society that allows for freedom, but within a fixed institutional framework that does not seek to intervene too much. That is why I reject new clause 9. It is very well intentioned, but for the reasons I have set out, I personally cannot accept it today. If the Government wish to achieve a similar intent, they will need to choose a different form of words at the fore.

Alan Brown: It is a pleasure to serve under your chairmanship, Ms Ryan. I will mainly speak to amendment 21, and I will be brief. To remind the Committee, the amendment relates to clause 4. The title of the clause, "Accident resulting from unauthorised alterations or failure to update software", implies that software that has not been updated causes an accident. Part 1 of the Bill is about defining the liabilities and responsibilities needed to make insurance practical and able to be rolled out, and to facilitate the roll-out of autonomous vehicles. On that basis, amendment 21 makes a lot of sense to me. In defining liability and responsibility, it clearly sets out that manufacturers have a responsibility to try to make sure that vehicles are updated with the latest software. That is important, and I do not think it should be left to the small print of individual insurance policies. If we are trying to improve consumer confidence going forward, placing an onus on manufacturers to fulfil their responsibilities make sense, and putting that in the Bill would help that. It would facilitate that for insurance companies as well.

New clause 9 complements amendment 21. I take on board the comments about incorporating terminology such as "safety critical" in the new clause; that is something that should be considered going forward as well. I think there is merit in the amendment and the new clause.

Rob Marris: As you know, Ms Ryan, Labour Members are particularly sensitive to getting the wording of clause 4 accurate. On new clause 9, I think the hon. Member for Wycombe is quite right; it would be better if, at the end of it, it said something like "up to date as regards safety", because of the points that have been made on the difference between safety-critical updates and leisure or convenience updates or whatever.

On amendment 21, it may be that the Minister will be able to assure me that we already have a suitable system. I am thinking, for example, of the system in which, providing they can be traced, the current registered keeper of a vehicle in the United Kingdom gets a safety notification from the manufacturer. For example, my hon. Friend the Member for Middlesbrough and I are pleased to drive Toyotas, but Toyota and a number of other manufacturers have a problem because the Japanese supplier of airbags and their ignition devices supplied about 15 million duff ones around the world. Those are gradually being replaced. As the registered keeper of a Toyota, I get a letter from the manufacturer—not from the mainline Toyota dealer from whom I bought it, but from the manufacturer—telling me that in due course this problem will need to be sorted out.

We are all familiar with that process now in relation to safety-critical updates for software introduced by the manufacturer, presumably as a result of its discovering a bug in software, which occasionally happens. We already have a system—for shorthand, "the airbag-type system"—that might read across in terms of the software system, and therefore we would not need amendment 21. However, I would like the Minister's reassurance on that point, or his acceptance that we do not already have that kind of system as regards safety and therefore we need either amendment 21 or something akin to it.

Mr Hayes: The hon. Member for Middlesbrough began this part of our discussion by claiming that he was courageous and then admitting that he was imprecise. Courtesy obliges me to emphasise his courage and not his imprecision, although he also said that he recognised that my hon. Friend the Member for Wycombe has expertise in this field. I have already said that I agree that it is important that we address the issues dealt with in these amendments, which were also highlighted by the comments of the hon. Member for Wolverhampton South West. It seems to me that we can look again at whether this part of this Bill needs the proposed improvements.

In respect of new clause 9 and amendment 21, I suppose the obvious point—I will go on to make less obvious points, or at least I hope they will be less obvious—is that manufacturers should and will ensure that they update software in a way that guarantees safety. That seems to me to be fundamental, but I just do not think that this Bill is the right legislation to do that.

Perhaps I can make a less obvious point—

Andy McDonald: The Minister heard the evidence from Mr Wong on Tuesday, in which he made it abundantly clear that it would be impractical and totally uneconomic for a manufacturer to maintain software support ad infinitum; there has to be a limit. To assume that there is a manufacturer out there that will just do that forever is perhaps a little dangerous.

Mr Hayes: Or even innocent, perhaps, not to say naive. I did not say that, though, did I? What I said was that manufacturers should and will update software so

as to guarantee safety. Where safety would be compromised by any change that a manufacturer might make, or where safety was not the result of the original incarnation of what a manufacturer issued, clearly that would be unacceptable, and it would be covered by vehicle standards and other regulatory and legislative mechanisms. It is absolutely right that if a vehicle comes to market, the software, like the other parts of the vehicle—for example the mechanics—is of a kind that passes the necessary tests allowing the car to be sold, purchased and driven safely, and any changes to that vehicle should comply with those core requirements. The idea that we, or indeed the law, would allow a manufacturer to update software in a way that compromised safety is clearly not sensible; we simply would not allow that.

The hon. Gentleman says that a manufacturer might not choose to update software ad infinitum. Indeed, a customer might not want their vehicle changed forever, and as long as the vehicle can be driven safely, that would be a matter for the driver; it is not a matter for us. A vehicle that can be driven safely but does not have all the latest mechanical gadgets or software is not a matter for the Bill, or even for the Government, beyond the existing legislative requirements. It is certainly not something that I would want to address in this legislation.

3.15 pm

Rob Marris: May I ask the Minister to reconsider that point? As he said, part 1 of the Bill is largely about insurance. Let us imagine that a manufacturer says of an automated vehicle, "We are not going to update the software for a vehicle that is more than 10 years old. We just don't do that. We are not saying whether it is needed or not, but it has reached the 10-year mark and we will no longer support it." At that 10-year mark, that vehicle is likely to be uninsurable, because the insurers will say, "We don't know anything about the software. After 10 years, we don't know whether it needs updating or not and the manufacturer isn't telling us—end of story. We are not going to insure a vehicle that is more than 10 years old, or however long the manufacturer selects."

Mr Hayes: We are ranging a little widely, but I must say that the hon. Gentleman is entering the realms of fantasy, to use a phrase often used by Captain Mainwaring of Corporal Jones in that legendary programme, "Dad's Army". Insurance models are currently available for all kinds of vehicles of all ages and at all stages of development and iterations—my right hon. Friend the Member for East Yorkshire is a renowned expert on the subject. Some of those vehicles are very ancient indeed and include no modern technology or mechanics, but they are safe, they can be driven safely, and they are insured accordingly. It would be extraordinary if the insurance industry did not develop products that suited vehicles of all ages. They do so now, so why would they not do so in the future?

Tom Tugendhat: The Minister makes an impassioned defence of his point, and he is absolutely right: the market has solutions for these things. It is not necessarily for the state to decree the exact contractual relationship between an insurer and a vehicle manufacturer. It is certainly true that some software solutions, unlike the mechanical solutions that my right hon. Friend the Member for East Yorkshire enjoys, will inevitably become obsolete, just as some computers and telephones have done, but the Bill's purpose surely cannot be to ensure that no car built from now on is allowed to go obsolete and that all its systems and software must be kept constantly up to date until the last person who wishes to drive it decides no longer to do so.

Mr Hayes: Perhaps, having accused my dear friend—not my hon. Friend in parliamentary convention, but my dear friend—the hon. Member for Wolverhampton South West of entering the realms of fantasy—

Rob Marris: Don't panic!

Mr Hayes: He is rising to the occasion. Perhaps I can find a compromise, because it is important that we have a regulatory framework in place that ensures that manufacturers bring safe systems to market and that the process is as simple and effective as possible. I think we can do that, but not necessarily through the Bill or even through primary legislation. There is a good argument that understanding of the kind the hon. Gentleman advocates will emerge from the continuing dialogue that we enjoy with manufacturers and the further frameworks that result from it.

Our public engagement in this process is determined and well funded. We have invested more than £100 million in the research and development of connected and autonomous vehicles. Many of those projects have had a significant component of building public understanding, and part of that has been to explore precisely the issues that are dealt with in the clause and amendments

We have published a series of documents such as "Pathway to Driverless Cars: Proposals to support advanced driver assistance systems and automated vehicle technologies" and "Proposed ultra low emission vehicles measures for inclusion in the Modern Transport Bill", which hon. Members will be familiar with. With the establishment of the Centre for Connected and Autonomous Vehicles, the programme of work continues. We will work with the industry and academia to ensure that we not only test the behavioural response to all this, but work on where manufacturers' responsibilities begin and end and how much further legislative action is required. I do accept that, and perhaps we can find a happy middle ground, but I am not sure the Bill is the right place.

I underpin that by drawing the Committee's attention to the briefing we have had from Ageas, which is the third largest motor insurer and leading provider of award-winning insurance solutions in the United Kingdom—that sounds a bit like an advert. None the less, Ageas says that:

> "The Vehicle Technology and Aviation Bill will establish a new insurance regime for the next generation of autonomous vehicles currently being developed. Ageas is supportive of the Bill as it reflects the extensive discussion that have taken place between the government, insurance industry and other stakeholders."

It goes on in a similar vein, but for me to amplify it further would seem a little self-congratulatory. I simply ask Members to give it their fullest consideration following this short speech.

Alan Brown: Will the Minister give way?

Mr Hayes: I will happily give way to the hon. Gentleman, because I have not been generous enough to the Scottish nationalists—it is against my inclination to be so, but I am changing.

Alan Brown: I thank the Minister for finally giving way. I appreciate him saying that there may be a middle ground; that gives some sort of hope. Touching on the previous intervention, this is not about the state legislating to stop vehicle software becoming obsolete. Clause 4 is about accidents arising from a failure to update software. That is critical; we are setting out responsibilities and liabilities, and that is why amendment 21 has merit. In terms of worrying about the state, there are 42 lines in clause 4 already and we are only asking for another five or six to be added. It is not too much and not too prescriptive, so I ask the Minister to think carefully about amendment 21.

Mr Hayes: Where I agree with the hon. Gentleman is that it is important that the insurance industry is entirely confident about the basis of this legislation. That is why I quoted a leading insurer a moment ago. The essence of their confidence is the creation of the first instance liability on the insurer to settle a claim involving a car in automated mode. That first instance liability will mean that the driver and other parties cannot be adversely affected in the way that the hon. Gentleman suggests. I can see why he said that, and that it was with the best intentions. I am not seeking to undermine his principles, but I do not think we need to do more at this juncture.

Alan Brown: I thank the Minister for giving way once again. Although he quoted a letter that says the industry are supportive of all this, I request that he asks what they think of the amendment and whether they are happy with it. Rather than saying that they are happy with the Bill as it is, they might see merit in the amendment as well.

Mr Hayes: I am always happy to engage with the industry on the basis the hon. Gentleman describes. I am more than happy to include that in our continuing discussions, and it is right that we should continue to have that discussion with the insurance industry.

Mr Baker: I say as gently as I can to the hon. Member for Kilmarnock and Loudoun that the problem with amendment 21, as I said earlier, is that the Government cannot accept it in its current form, however long or short it is, because it is phrased in terms of operating systems. I think the hon. Member for Middlesbrough accepted that earlier. Should the Government wish to look at the function of the amendment and bring it forward on Report, I implore them to choose different words.

Mr Hayes: Yes. Let me be even kinder to the hon. Member for Kilmarnock and Loudoun than I have tried to be already. Without wishing to put words in his mouth, I do not think that he is arguing for this precise amendment to be made to the Bill—it has been acknowledged that that is not the case. What he and others are arguing is that the spirit of the amendment might add to further consideration. I have said that I think it is important, in regulatory terms, that there is a commitment from manufacturers of the kind that has been described. I essentially agree with my hon. Friend the Member for Wycombe—I used to think that it was me and the Labour party against the free market liberals, but I am very impressed with and reassured by his contribution.

Andy McDonald: Will the Minister seek that reassurance from the motor manufacturing sector? If he says that will happen, that would make life an awful lot easier.

Mr Hayes: I think it would be reasonable for me to say to the manufacturing sector what I have said to the Committee: that a core part of the work on updating systems is ensuring that a framework is put in place that compels manufacturers to bring to market systems that make the process as simple and effective as possible. That is perfectly reasonable. We will certainly have that discussion. I think that regulations are bound to be the consequence of that later; I just do not think that this is the time or the place to do that.

I said this morning, and I will say again—this is so important that I make no excuse for repeating it—that we accept that as this technology develops there will be a need to return to the House, to develop subsequent regulation and consult further. That is very much part of our approach. Of course, in our ongoing discussions about that later regulation I am more than happy to put the case that has been articulated across the Committee.

Andy McDonald: I think it falls to me to deal with all of the amendments and the new clause, if I am following the procedure correctly.

The Chair: You can state your intention on the new clause.

Andy McDonald: I am grateful for that guidance, Ms Ryan. I will turn to amendment 20 and, if I can, encapsulate it with new clause 9. It is my intention to seek leave to withdraw the amendment and the new clause, for the reasons set out by the hon. Member for Wycombe. I think we are as one across the Committee about the need to get the wording absolutely accurate. There is consensus on that, which feeds into the new clause and the amendment. It also has an impact on amendment 21.

I wish to clarify that we are talking about trying to have some balance. Clause 4 describes circumstances where liability may be excluded, which includes a failure to install software. As the hon. Member for Kilmarnock and Loudoun rightly outlined, it is without any consequence and there is no balance to this if it is left as drawn. There is no obligation upon the manufacturer to take any reasonable steps to ensure that the software is updated. It would strike any reasonable observer as entirely out of kilter if it remains as it currently is. I am extremely grateful to the Minister for his undertaking to seek assurances from the industry that it will express a view on the clause and develop a conversation about its obligations to install software. I accept that assurance and beg to ask leave to withdraw the amendment.

Amendment, by leave, withdrawn.

3.30 pm

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

Several hon. Members *rose—*

The Chair: I expect Members to be brief because we have already had a fairly wide-ranging debate.

Iain Stewart: I will be brief, Ms Ryan. The first part of the clause title is:

"Accident resulting from unauthorised alterations".

I am perfectly comfortable with the contents of the clause that relate to the owner or driver making alterations themselves, but on Second Reading I flagged up my concern about where the liability lies if an external alteration is made either deliberately or accidentally. By deliberate, I mean the computer system being hacked in some way, the installation of malware or similar problems, and accidental alteration could arise from the car being serviced and the garage mechanic somehow messing up the system. I would like some clarification about where the liability lies in such circumstances. The Minister kindly honoured his promise on Second Reading to write to me.

Andy McDonald: I wonder whether the answer to the scenario that the hon. Gentleman has described—the realms of uninsurance—is that the Motor Insurers Bureau's uninsured scheme would come into play. Under the Road Traffic Act 1988, it would be the same insurer who stepped in to resolve the damage suffered by third parties.

Iain Stewart: The hon. Gentleman has anticipated what I was about to say, because the Minister kindly honoured his promise to write to me and gave me the clarification I needed. He said that although future regulations may be made, the current system will apply and ultimately the courts will decide where the liability lies if there was an external intervention. The Motor Insurers Bureau happily resides in my constituency and I visited it a couple a weeks ago, and we discussed that very point. I want to put on the record that the concerns I expressed on Second Reading have been addressed, and I am perfectly content with the clause as it is currently drafted.

Rob Marris: I have six fairly brief points. I know that the Minister is a great proponent of using language properly, so at the beginning of line 18 of clause 4(2), may I ask him to remove the first word "But", which is a conjunction? It adds nothing to the Bill and is a grammatical monstrosity.

Mr Hayes: That is a done deal.

Rob Marris: What a Minister! Given that he has been so generous to me, I will be generous to him.

On a more serious point, may I draw the Minister's attention to the beginning of line 23 of clause 4, which states

"knows he or she is required"?

I think that should state "knows or should have known that he or she is required", because otherwise the person can plead ignorance and there is no "should have known" about it, which is a common construction in law, as my hon. Friend for Middlesbrough will know. Similarly, in line 33, "that an insured person knew or should have known that he was required under the policy" would be legally clearer and help all of us, including insurers. Line 41, subsection 5(b), reads

"which, at the time the person knew he or she was required".

It ought to be "at the time the person knew or should have known he or she was required". Having put that forward, I know the Minister will consider it in his usual generous spirit.

More importantly and substantively, there should be a provision in clause 4 on the cost of software updates. I appreciate that clause 4 is principally about insurers and so on, but it is about software updates. If in terms of safety—not the legalities—there is a safety-critical update that the manufacturer decides is going to cost £1,000 to whack in and the insured decides not to do that, that would void his or her insurance policy, but it would also put the rest of us at risk.

That is not a figure plucked out of the air. I might have said in an earlier session that the software to install a sat-nav in my car—just for the software; none of the hardware—costs £600. To update the software for sat-navs in many cars can be £300 or £400. That is just for the software update for a poxy sat-nav, let alone for an automated vehicle.

Tom Tugendhat: The hon. Gentleman is seeking now to regulate the contract between an individual and the car company they buy from in relation to servicing. There are many different updates that are required for a car in terms of safety-critical features, which happen every now and again, such as changing tyres. *[Interruption.]* Or buying a new set of brakes, as my hon. Friend the Member for North West Hampshire says. Each different manufacturer has a different price list. If someone wants to buy a Rolls Royce, they can be pretty sure that the price of the items will be very high. I chose not to—there were several reasons for that, not least that child seats do not fit very well. Rather more fundamentally, I chose to buy a cheaper car for the simple reason that I realised that if I was going to be asked to service the damn thing, I wanted it to be affordable. The hon. Member for Wolverhampton South West is effectively seeking to govern the servicing arrangements.

The Chair: Order. That was a very lengthy intervention.

Rob Marris: Without straying too far, the Labour party was in favour of looking at a regulatory regime to cap energy prices; so now is the Conservative party. There is a role for the state when there is market failure. We are talking about potential market failure for very important safety items, not whether it is going to cost £100 or £200 to service a car and someone decides whether they buy a Rolls Royce, or whatever presumably less expensive car the hon. Gentleman bought—I cannot think that he would have bought a more expensive one. I understand the role of the market for that.

I am not looking to cap service charges, but there is an argument for the state putting a cap on the price of software updates, on safety grounds. The hon. Member for Wycombe referred earlier to parachutes. He can correct me on this, but I do not think that many people are killed in this country from someone's parachute failing, besides that individual. What we are talking about here potentially is an individual whose parachute fails and who then lands on someone else and kills them. It is not just the owner of the vehicle; it is the rest of us.

Tom Tugendhat: The hon. Gentleman talks about safety-critical software. Brake pads are pretty safety-critical. If someone does not maintain their vehicle to a reasonable standard with proper brake pads, the vehicle is uninsurable. The same would be true in this case. If the manufacturer

[Tom Tugendhat]

overprices the update, people will not buy the car. If people do not update the software, the car will be uninsurable and therefore undrivable.

Rob Marris: The hon. Gentleman has a much more touching faith in the market than I do to resolve these things—that is why he is on those Benches and I am on these. That is fine, but in terms of the safety of all of us—he drives on the road, so do I; his family goes on the road, so does mine—I want a cap on safety software upgrade prices. The Minister should consider that, and it would go in clause 4.

Mr Hayes: I am going to be brief. I was in favour of a prices and incomes policy when even the Labour party had abandoned that. *[Interruption.]* I hear comments from behind me. I have been a protectionist all my life, and now it is coming back into fashion. The semantic points that the hon. Member for Wolverhampton South West made are good ones. As I said, we will take out the word "But"—as there are no ifs or buts with me, as yet. We will take a look at the other semantic points; there are bound to be those linguistic changes to a Bill.

The hon. Gentleman's fundamental point was about the cost of software. If there was a catastrophic market failure—we are speaking about something down the line, as my hon. Friend the Member for Tonbridge and Malling said, for we do not know what the market looks like yet, but if we follow the hon. Gentleman's advice we are already dooming it to failure—of course we would consider becoming involved. Were that to compromise the wellbeing of a large number of people who purchased automated vehicles, with all the consequences that might have, at some point the Government would need to take some kind of stand, but, if I may use an appropriate phrase, frankly I think we are at risk, Madam Deputy Speaker, of travelling roads as yet uncharted, let alone those we can reasonably foresee how we might journey down.

Mr Baker *rose—*

Mr Hayes: I will give way quickly, though I had produced a wonderfully eloquent summary.

Mr Baker: It was a wonderfully eloquent summary and I agree with a proportion of the Minister's remarks, although not all of them. If we do end up in a position where safety-critical software updates to cars are both frequent and expensive, there will be a catastrophic market failure, and we will be banning automated cars and sending engineers back to college.

Mr Hayes: Exactly. I have nothing to add to that.

The Chair: I thank the Minister for promoting me to the dizzy heights of Deputy Speaker.

Question put and agreed to.

Clause 4 accordingly ordered to stand part of the Bill.

Clauses 5 and 6 ordered to stand part of the Bill.

Clause 7

Interpretation

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

Rob Marris: Will the Minister explain why the Bill is confined to Great Britain and does not include Northern Ireland? There may well be a simple explanation.

Mr Hayes: The hon. Gentleman's assiduity does him great credit. It is perhaps worth saying that the clause defines a series of terms and concepts vital to the functions of the proceedings in the Bill. The only reason it does not apply to Northern Ireland is that this is a devolved matter: motor insurance is devolved in Northern Ireland.

Question put and agreed to.

Clause 7 accordingly ordered to stand part of the Bill.

Clause 8

Definitions

Mr Baker: I beg to move amendment 9, in clause 8, page 6, line 5, leave out "electrical".

This amendment would allow the Bill to cover hydrogen fuel used to power internal combustion engines.

I would not dream of pressing the amendment to a vote, but I would like to probe the Government on their position. Currently, the definition of "hydrogen refuelling point" is

"a device intended for refuelling a vehicle that is capable of being propelled by electrical power derived from hydrogen".

My amendment would leave out "electrical". The reason for that is the evidence we heard from witnesses in oral evidence.

I put it to a witness that we could have a dual-fuel vehicle, or indeed a vehicle propelled entirely by hydrogen, just as we could have liquefied petroleum gas vehicles and keep the internal combustion engine. I know it is not very fashionable at the moment—I know we are mostly looking at battery power, possibly with an option on fuel cells—but it is important that we ought not to unnecessarily constrain the use of hydrogen.

3.45 pm

I am well aware that hydrogen possibly has a disadvantage as a fuel—what I believe is called a low calorific density—but the point for me is that some of us really enjoy our driving. We have started to forget that some of us love our motoring—we enjoy our motoring and our motorcycling—and some of us might wish to preserve vehicles that one day may be considered historic: vehicles with an internal combustion engine. I would like to leave open the possibility of converting those magnificent petrol engine vehicles to run on hydrogen and to use hydrogen refuelling stations. In order for the Bill to apply in such circumstances, we need to leave out "electrical", so that a hydrogen refuelling point and so on is possible. The capability of being driven by power derived from hydrogen is a simple proposition, and we can simply leave open greater scope for innovation, which might assist those of us who love our motoring.

Kit Malthouse: I want to speak in support of the amendment, not least because of something we have to bear in mind during the passage of the Bill, which is the pace of change of technology. It is likely that the move to electrical vehicles, whether battery or hydrogen, will

be very fast over the next two or three decades. We will be left with the legacy of an enormous number of internal combustion engine vehicles—millions and millions of them.

The ability to convert a petrol-powered car to hydrogen internal combustion is quite easy—it is not that hard to do—and in fact dual fuel is possible with two tanks, one of hydrogen and one of petrol, which would allow someone to compensate for the sparsity of hydrogen refuelling facilities. Having that ability for non-electrically driven cars to refuel would mean that instead of having millions of cars that people need to recycle or dump, and whose value will suddenly fall off a cliff as the new technologies come through, they can opt to convert them to internal combustion driven by hydrogen.

As my hon. Friend the Member for Wycombe said, we would therefore be able to preserve some of those historic vehicles and, frankly, to extend the life of existing petrol vehicles, which would be more environmentally friendly than simply dumping them.

Mr Hayes: The essence of the argument of my hon. Friend the Member for Wycombe, which reflects the exchanges that we enjoyed in the evidence sessions, in which a number of Members played their part, is to query whether the Bill is insufficient in respect of fuel types such as hydrogen. At this juncture, I perhaps ought to make it absolutely clear that the Bill is technology neutral. We recognise that a number of technologies are emerging. Given the scale and nature of the change we are enjoying, it is not yet clear which will become pre-eminent, but it is certainly true that there is investment in hydrogen. That was pointed out by a number of my hon. Friends during the evidence sessions. In particular, my hon. Friend the Member for North West Hampshire has taken a keen interest in such matters for a considerable time.

Raising the issue of extending the definition of a hydrogen refuelling station is important. The proposed redefinition away from

"a device intended for refuelling a vehicle that is capable of being propelled by electrical power derived from hydrogen"

to one that includes hydrogen-fuelled internal combustion engines, however, is more challenging. I will explain why. I recognise that there are all kinds of ways of propelling vehicles. As I have said, a number of those would have a beneficial effect on emissions, in essence producing zero tailpipe emissions, just as electric cars do. I also note what my hon. Friend the Member for Wycombe said about the adaptations that could be made to an internal combustion engine. I did wonder what my right hon. Friend the Member for East Yorkshire would think of that, but he made no move or sign. There was no change of expression on his face, but I could not help wondering—

Sir Greg Knight *rose—*

Mr Hayes: Ah! I have provoked him now.

Sir Greg Knight: Is my right hon. Friend aware that converting a petrol engine to run on hydrogen is not that easy if the engine involved has a carburettor and is not fuel injection? That is the case for most historic vehicles.

Mr Hayes: Whether I was aware of that or not, I am now. It is certainly the case that the adaptation of an internal combustion engine to allow it to use hydrogen varies according to the character of the vehicle. That is partly dependent on the vehicle's age. In many cases, it produces only a limited advantage in respect of emissions. It is not true that adapted hydrogen vehicles always produce as efficient a result as vehicles that are designed to run on hydrogen fuel cells. At least that is what I am advised, but I can tell that I may be about to obtain different advice from my hon. Friends.

Kit Malthouse: I am hesitant to give the Minister a chemistry lesson, but the combustion of hydrogen does not produce anything like as much CO_2—no carbon is involved, necessarily, in the combustion of that—and it produces significantly less NOx emissions, so there is a huge advantage in the internal combustion of hydrogen over that of a carbon-based fuel, such as petrol or kerosene.

Mr Hayes: As I said, I am always prepared to receive advice on these matters. I acknowledged in advance that my hon. Friend has great expertise in this field, so far be it from me to flatly disagree with him, but perhaps I am about to get another chemistry lesson.

Mr Baker: Of course when we burn hydrogen the result is water. However, when we took evidence on this subject, we were cut lamentably short for entirely understandable reasons. The witness was really talking about dual-fuel vehicles, which run on both petrol and hydrogen. We were not able to explore fully what it would mean if vehicles were to run with internal combustion engines entirely on hydrogen. The reason behind dual-fuel vehicles is that there is a limited supply of liquefied petroleum gas around the country, so vehicles still need to run on petrol. However, if there was hydrogen everywhere, one might potentially dispense entirely with petrol in such engines. Vehicles could then run entirely on hydrogen and they would never burn a carbon-based fuel.

Mr Hayes: Despite the overtures from my hon. Friend, the witnesses were singularly unenthusiastic about hydrogen, particularly Mr Willson. He said:

"I believe hydrogen is too far away yet to get consumers interested in or excited about it."—[*Official Report, Vehicle Technology and Aviation Public Bill Committee,* 14 March 2017; c. 18, Q31.]

However, it is clearly not too far away to excite my hon. Friends the Member for North West Hampshire and for Wycombe, but they are at the apex of excitement at all times.

Richard Burden (Birmingham, Northfield) (Lab): Will the Minister give way?

Mr Hayes: I will make a little progress and then give way to the hon. Gentleman.

I want to be clear that, in seeking the powers, the Government are mindful of the need to strike a balance between encouraging the development of the refuelling infrastructure for hydrogen fuel cells and electric vehicles while ensuring that any impacts on the market are managed properly. I want to emphasise that we are by no means unresponsive or unimpressed by the argument for hydrogen fuel cell vehicles. I will personally ensure

[Mr John Hayes]

that the comments that have been made here and elsewhere—I am sure that the hon. Gentleman, who is an enthusiast for this too, will add to them in a moment—are taken fully into account as we take further steps to improve the infrastructure that the Bill is designed to reinforce.

Richard Burden: I think that one of the problems with the way the discussion was going a moment ago was about whether or not hydrogen conversions of petrol engines are the way to go. Surely the point about the amendment, which I think has merits, and this part of the Bill is the question of whether or not the Government should have the capacity to introduce regulations that would cover this area, or whether that capacity should be restricted to the kinds of propulsion systems currently set out in the Bill. From what the Minister said, can I take it that he is receptive to the argument that the Government should not be hemmed in by the technology and that perhaps between now and Report some form of words could be considered that would expand matters a little further?

Mr Hayes: As I enjoyed a very light and healthy lunch in between the two sittings of this Committee today, I was able to have a very brief informal conversation with Members of the Committee on exactly that subject. We discussed the risk of being "hemmed in", as the hon. Gentleman put it, which is certainly not the Government's intention.

I want to focus on ultra low emission and zero-emission mobility, of course, because that is very much in accord with the Government's policy and strategy, but it is right that we do not close off technological options that have merit. With all technological change in its early stages—at its cusp, as it were—it is important to retain an open mind. I could give many examples from the technological changes that have occurred in my own lifetime of decisions that, if we took them now, would be rather different, because we were not sufficiently open-minded about the kinds of developments that the hon. Gentleman has described, so I am certainly open-minded. I do not want to close down options, but I am heavily focused on low and zero-emissions mobility. That is the formula that we will adopt.

On that basis, and with what I thought was a rather more enthusiastic welcome for my hon. Friend's predilections and, may I say, prejudices—without meaning to sound in any way pejorative—I hope that the amendment will be withdrawn.

Rob Marris: I thank the Minister for his indulgence. This has been an interesting debate; I have to say that I think it has been a diversion, almost completely irrelevant to this Bill. The long title of this Bill says it is a Bill to:

"Make provision about automated vehicles, electric vehicles, vehicle testing and civil aviation".

Then it has some stuff about lasers, and so on. If—

The Chair: Order. I should let the hon. Member know that it is a matter for me what is relevant.

Rob Marris: I understand that, Ms Ryan, which is why I was thanking the Minister and made no comment on the selection by you and Mr Gray. It is just surprising that we have had such a long debate on something that is without the long title of the Bill.

The Chair: It is still up to me to make that decision.

Andrew Selous (South West Bedfordshire) (Con): Ms Ryan, I seek your guidance as to whether you will allow a brief stand part debate on clause 8. If you will, I shall wait till then.

The Chair: I will.

Alan Brown: With your indulgence, Ms Ryan, I have some sympathy with what the hon. Member for Wolverhampton South West said, because I wondered whether this was the right place to make an amendment, given that the actual title of part 2 is "Electric Vehicles: Charging". This clause is all about the charging of electric vehicles; it is not actually about internal combustion engines, so I would suggest that perhaps it is not the correct place to make this amendment.

Also, the Government Members of the Committee are some of the greatest free marketeers. If we move to this position where hydrogen internal combustion engines are the future, hopefully the free market will help to drive that as well, because we have all these petrol filling stations that can no longer sell petrol and they may have an opportunity to convert their petrol tanks to hydrogen tanks. There is still a future, but I think we are a wee bit way off it yet.

Mr Baker: I am extremely grateful for the range and scale of this debate. I started by saying that I would not dream of pushing this amendment to a Division, so I beg to ask the Committee's leave to withdraw the amendment.

Amendment, by leave, withdrawn.

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

4 pm

Andrew Selous: I seek a brief clarification of the definition of "charge point" in subsection (1)(a). My understanding is that there are currently about 11,000 charge points in the UK, of which only about 800 are fast charge points. I cannot see any distinction between normal and fast charge points anywhere in the Bill. Hon. Members will remember that in the Committee's evidence session on Tuesday fast charge points were described as the "game changer" that we will need to propel ultra low emission electric vehicles forward in the way that we seek. I would be grateful if the Minister told us whether the Government will use their powers under the Bill to ensure that there are sufficient fast charge points around the UK.

Mr Hayes: We had some debate about this in the evidence session. Clause 8 provides several definitions relating to the charging of electric vehicles. It gives a precise definition not only of "charge point", as my hon. Friend said, but of "hydrogen refuelling point", and it specifies what qualifies as a "public charging point". This is so that the effect of the powers matches their intent and so that their intent is made clear to the

public. Any other necessary definitions will be set out in secondary legislation, but we wanted to be clear about the framework. To answer his perfectly fair question, the definition of "charge point" covers both rapid and normal charge points.

Question put and agreed to.

Clause 8 accordingly ordered to stand part of the Bill.

Clause 9

PUBLIC CHARGING POINTS: ACCESS AND CONNECTION

Richard Burden: I beg to move amendment 12, in clause 9, page 6, line 33, at end insert—

"(4) The Secretary of State must consult charge point operators and vehicle manufacturers on the prescribed requirements for connecting components (before regulations under subsection 9(1b) are made)."

This amendment requires consultation with charge point operators and vehicle manufacturers on the requirements for connecting components for the charging of electric vehicles.

It is a pleasure to serve under your chairmanship, Ms Ryan. I have a few words to say about the policy scoping notes that we have received. Most Committee members saw them for the first time today because they were circulated last night. They are helpful, particularly in relation to part 2, from clause 9 onward, and they address some of the issues that our amendments probe. It is reassuring to know that Ministers are thinking about those things, but I have to say that producing those notes last night, so that we saw them today for the first time as we were going into the first sitting of line-by-line scrutiny, was really not the right way to do things.

The Government's sequencing and timing for this part of the Bill were wrong. They should have started with a consultation on the infrastructure issues that they were trying to address in order to create the infrastructure for the zero-emissions future that we all want. After that consultation, they should have scoped out the policy options that would lead to that outcome. Having reached consensus on those, they should have published a Bill with adequate safeguards in it, especially if a large part of that Bill involved powers to make secondary legislation down the track.

That is how it should have been done. Sadly, the Government have done it another way. They certainly started with a good consultation on what they described at the time as "Modern Transport", but they then went from that consultation to a Bill that leaves a large number of questions unanswered, particularly in part 2. Then, in the middle of our discussion of that Bill, we see what should have been the second stage: the policy notes scoping out the policy options. The recurring theme of these notes—it is particularly relevant to this amendment and clause 9—is that Ministers are, perfectly reasonably, not sure what regulations they will need to introduce to achieve the objectives of the clause. The Government say in the policy notes that they will produce those regulations in draft before the Bill reaches the Lords, by summer.

Ministers have not made it easy for us to get the clarity that we need at Committee stage, so the theme of the amendments to this part of the Bill that we have tabled and will pursue is to press the Government, first, on the definition of the issues that the Bill is trying to address; secondly, on what criteria they will use in addressing them; thirdly, for clarity on whom they intend to consult on those issues; and fourthly, on how far they are prepared to review in the light of experience how the Bill's provisions, when enacted, will operate in our rapidly changing environment. I hope that the Minister will be responsive as we pursue amendments on that theme.

On amendment 12, I am sure that we all agree that the market presents a significant opportunity for the UK to lead globally in encouraging uptake of electric vehicles. Making the most of that opportunity will require action in a number of areas; one is availability and interoperability of charging points. As we heard in the evidence sessions on Tuesday, there is some concern about differing design standards for charging points. The Government's response to their "Modern Transport" consultation recorded that concern from several quarters, and those Committee members who own plug-in vehicles or have constituents who do will know how irritating the absence of common or universal standards is in the charging infrastructure and the specifications of different electric or plug-in vehicles.

In the response to the "Modern Transport" consultation, the Government advised us that the relevant measures will be covered by a European Union directive on the deployment of alternative fuels infrastructure, which should mandate a minimum common charging connection and socket outlet for relevant recharge points while allowing charge point manufacturers to include other connector types. Common European standards will still need to be implemented, and their delivery will rest heavily on manufacturers. That is what the Government are getting at in the regulations on connecting components in clause 9. We are not opposed in principle to the regulations or the use of secondary legislation to introduce them. The purpose of the amendment is to probe a little deeper to ensure that the Government consult properly and widely on the final form and implementation of those connecting components, specifically consulting recharge point operators and vehicle manufacturers.

My first question to the Minister is this: what discussions have taken place so far between Government, vehicle manufacturers and charge point operators? Secondly, what pan-European working groups are the Government engaging with to ensure that the solution there is shaped sooner rather than later? It is important to avoid a situation in which vehicles have a wide range of different connecting components, because they will have to be reflected on forecourts. A wide range of different connecting components will be impractical and create confusion on forecourts. It seems to me that the Government must also ensure, particularly with Brexit coming down the tracks, that regulatory divergence regarding those connecting components does not develop between the UK and the EU, and that consistency with the EU regulations and standards that are being and will be developed will be maintained. How will that be done?

That is all essential if the UK is to be the vehicle manufacturers' location of choice for the development, testing and deployment of electric vehicles. It is important that the Government get the details right on the specification and harmonisation of connecting components. The other point to reflect on in relation to the amendment is what will happen to existing electric vehicles that do not yet

[Richard Burden]

have those common connectors that we hope will be on future vehicles. Do the Government intend that charge point operators should provide adapters for those vehicles as well?

The amendment and the others we have tabled are designed to find out a bit more about the criteria on which Ministers will make those kinds of decisions, how they will consult before making them and with whom. I hope the Minister will be able to address some of those issues and concerns.

Mr Hayes: I welcome the hon. Gentleman's first contribution to the Committee. He and I have worked together in similar circumstances in the past to produce, I hope, effective legislation.

Let me deal with the hon. Gentleman's opening remarks about the order in which the Government have gone about our business. He is right to draw attention to our consultation. I think the document is available to all members of the Committee, but I draw their attention to it once again. This is our response to the consultation, which is available from my Department and which deals with a number of issues that he raised. He is also right that after consulting we moved to legislate, but not without considerable dialogue with the industry. The communication that he requests is regular; I meet the industry on an extremely regular basis. I was with representatives of the industry yesterday evening, and I held a roundtable meeting with them on Tuesday before our witness session to discuss these and other issues, but we focused on the Bill.

Of course, automated vehicles' electric charging infrastructure is a matter of real concern to manufacturers, because the absence of good infrastructure is a barrier to entry for many consumers; it is not the only challenge they face, but it is one of them. So our determination to put into place effective infrastructure is shared by manufacturers. It is an important means by which they will encourage more people to buy the electric cars they make. We also engage regularly—I would go so far as to say routinely—with the providers of charge points. I accept the hon. Gentleman's point about the need to move to common standards. It is really important that we establish the certainty that comes from good standards.

The hon. Gentleman is also right to draw attention to the directive—I will start in a moment to deal with notes I have in front of me, rather than sharing my own views. That is the trouble, Ms Ryan—I am just one of those Ministers who says what he really believes. He is right to draw attention to that directive, and we are looking closely at how we should deal with it. We are working to consult on the transposition of the directive and the Bill measures in parallel. He sensibly points out that not to do so might imply a contradiction, so it is really significant that we ensure they are synergous. We will work on that final transposition of the directive as soon as possible. I commit now to informing Committee members as the Bill makes progress of our thinking on that synergy.

4.15 pm

The hon. Gentleman is right also to highlight the concerns of his constituents and others. I have a particular concern about the breadth of provision. It is possible that we might end up with many charge points in some places and very few elsewhere. I know Members from north of the border will have that in their mind, as will rural Members. I represent a rural constituency that is a long way from motorway services stations, and many of my constituents live a fairly long way from major retailers. I do not want those places to be excluded from provision. We need to think imaginatively about how we can get a roll-out that provides breadth as well as depth. The hon. Gentleman is right to draw the Committee's attention to that issue and he does a service in doing so. He allows me to make a point that I have made in my Department emphatically—I nearly said persuasively, but that is a matter for others to decide.

Andrew Selous: As someone who is proud to represent a constituency that consists of three market towns and 14 villages, I offer the Minister my wholehearted support on this point. We want this technology across the whole of the United Kingdom, and not just in big urban centres. It should be for everyone.

Mr Hayes: My hon. Friend is a great friend, was an outstanding Minister and is a valued colleague. I welcome his remarks.

I completely agree that we must consult a wide range of stakeholders with a view to making regulations. I said—the shadow Minister was enthusiastic about this—that as well as standardisation of connection, I would like there to be some standardisation of design. I think it is important that charge points are instantly recognisable. As people drive about, particularly in places they do not know, they should know what a charge point looks like. I am inclined to run a design competition to elicit something of beauty and efficacy. We will do that as a result of the conversations we have been having formally and informally.

I do not think it is right to specify which organisations should be consulted—this is where there may be a point of detailed difference between us. As we develop the regulations under the clause, there needs to be a wide consultation, but I would not want to be too specific about with whom and when. It is ongoing, and it needs to be wide-ranging. On that basis, I have a difference with the hon. Member for Birmingham, Northfield about the specifics of the amendment, but I absolutely assure him that the spirit of all he said is entirely consistent with my view on these matters. On that basis, I hope he will withdraw the amendment.

Richard Burden: As I said at the outset, the purpose of the amendment is to probe the Government's intentions. I am grateful that the Minister acknowledged that the compatibility of charge points' connections will be the making or the breaking of whether they incentivise the switch to plug-in vehicles. I am also pleased that he recognised that there is a European dimension here. Whatever happens on Brexit, we must not get a range of specifications for charge points, be they in motorway services areas or anywhere else in this country, that simply do not work on the continent of Europe, and vice versa. Those two things must be done in parallel.

Although the Minister did not specifically address this in his response—I am sure he will—I hope he will also take on board the point about the current specifications of connectors, before the kind of commonality that we

all want has been achieved. We must ensure that public charge points are able to provide adapters or some other means to enable early adopters of electric and other plug-in vehicles to charge their vehicles, even when we have got to a much better situation of harmonised and compatible charging points.

Mr Hayes *indicated assent.*

Richard Burden: The Minister is nodding, and I am grateful to him for that. On that basis, I beg to ask leave to withdraw the amendment.

Amendment, by leave, withdrawn.

Clause 9 ordered to stand part of the Bill.

Clause 10

LARGE FUEL RETAILERS ETC: PROVISION OF PUBLIC CHARGING POINTS

Richard Burden: I beg to move amendment 11, in clause 10, page 7, line 2, at end insert—

"(2A) Regulations under subsection (1) must provide exemptions for retailers and operators in instances where adhering to such regulations would—

(a) require an expansion of land, or

(b) result in any other disproportionate costs for retailers and operators."

This amendment ensures that there are exemptions for operators with limited forecourt space who are unable to accommodate public charging points without an expansion of land and that retailers and operators do not incur disproportionate costs for complying with regulations.

The Chair: With this it will be convenient to discuss amendment 13, in clause 10, page 7, line 4, at end insert—

"(4) The Secretary of State must publish, in draft, the criteria and definition of "large fuel retailers" and "service area operators" at least six months before regulations under subsection 10(3) are made."

This amendment would require the Secretary of State to consult on and publish criteria to be used for the definitions of "large fuel retailers" and "service area operators". This will make clear to the industry which kinds of companies are covered by these regulations.

Richard Burden: I will focus first on amendment 13. As it stands, the Bill allows the Government to impose requirements on what are described as "large fuel retailers" and "service area operators"; the problem is that Ministers have yet to define or outline the definitional criteria for what those actually are. It is a bit "Alice in Wonderland"—the requirements will apply to large fuel retailers and service area operators, and the definition of those is what the Government say they are.

The policy scoping notes say that "evolution of the market" and other factors mean that the Government are not yet in a position to apply the powers that they are taking in the Bill, and they may not even be in a position to start doing so for a year or two after Royal Assent. Paragraph 3.10 of the scoping notes says:

"It would not be appropriate to develop draft regulations before it had been decided to regulate",

but on page 2, the notes say that Ministers will "produce draft regulations" relating to part 2 of the Bill before it reaches the Lords in the summer. There appears to be something of a contradiction in the Government's logic. I know that this is a changing and emerging scene, but we need more clarity from the Government on when they will be in a position to produce draft regulations relating to this part of the Bill, who they will apply to and who they will consult. This relates to when they will actually apply the powers given to them by the regulations that they will bring in.

Amendment 13 goes some way towards trying to address that. It requires the Government to publish in draft the criteria for and definition of large fuel retailers and service area operators that they intend to use. In light of the policy scoping notes, arguably the amendment does not go far enough in asking for that clarity and those definitions. Will the Minister table amendments on Report to provide greater clarity on the sequencing of draft regulations, the application of powers and consultation, and on the timing of what the Government envisage?

In the meantime, it is worth pausing to consider some definitional points, as amendment 13 tries to do. What is a large fuel retailer? Going by the Government's impact assessment, how large a fuel retailer is seems to be based on market share. That makes sense in a way, but I am not sure whether Ministers have missed a trick. As my hon. Friend the Member for Wolverhampton South West said on Tuesday, there could be a case for removing the word "fuel" altogether from the definition of a large retailer, so that the Bill could apply the mandating of the availability of charge points to a much larger operator.

We know from some of the evidence we heard on Tuesday that mandating charging infrastructure requirements on motorway services areas and the like is only one part of what needs to happen. Indeed, in the evidence sessions, one of the things that came over clearly to me is that getting the right incentives in place for home charging is just as important as anything that happens in motorway services areas. I therefore question whether the cuts that Ministers have made to the plug-in car grant and other consumer incentives are consistent with that objective.

It is also just as important to address how charging infrastructure can be expanded in supermarkets, shopping parks and workplaces. In the evidence session, Quentin Willson urged us to focus on how the UK can get ahead of the game in getting connectivity for wireless on-street charging in place. He also urged us to look at how street lamps can be converted into charging points. All those things seem to go well beyond the kind of charging infrastructure that the Bill envisages and covers.

When the Minister replies on this group of amendments, I hope he will give us some reassurance that the Government are looking at those kinds of initiatives, even if they are not covered by the Bill. If they are not to be covered by the Bill, who will be responsible for making those kinds of initiatives happen and come into being? Who will be charged with looking at whether we can have charging points up and down the country on lamp posts? When and how will they be charged with doing that? The Bill does not address those kinds of issues. Between now and Report, will the Minister reflect on whether something can be done? Perhaps something can be put into the Bill to at least start addressing some of the broader issues before it completes its passage.

[Richard Burden]

In the meantime, it is worth putting on record that companies are concerned about what the Government taking the kind of powers conferred by the Bill will mean for them. These are much more immediate practical issues, but the Government's impact assessment lays out the potentially significant cost to the operators affected by this part of the Bill, which could run into many millions of pounds.

That brings me on to amendment 11. As we heard on Tuesday, fuel retailers, particularly those with limited forecourt space, are worried that they simply will not be able to meet the requirements of the regulations that the Government bring in, particularly if—returning to the previous debate—they have to accommodate a variety of different charging and connecting points. Inevitably, some fuel retailers will not have the space to implement those changes without expanding the land they have available. The amendment would provide an exemption in such instances, when meeting the regulations would result in disproportionate costs to the retailer.

Alan Brown: With amendment 13, I agree that it makes sense to ask the Government to provide that absolute clarity, but how is "disproportionate costs" defined in amendment 11? One thing that struck me was that the people giving evidence were very reticent to install the charging points anyway. There is a risk that people would hide behind a definition of "disproportionate costs". Is there any way that that could be firmed up?

Richard Burden: The hon. Gentleman is quite right. I will be clear: amendment 11 is worded to probe the Government's intentions and to ask the Minister to provide greater clarity on these issues so that the operators of motorway and other service areas know a bit more about who is likely to be affected, what will be required of them and how much it will cost. The hon. Gentleman is right; what might be disproportionate to one operator will certainly not be to another.

4.30 pm

I am certainly not saying that the profits of motorway service areas should come before the public interest in rapidly expanding the charging infrastructure available on motorways and in other areas, but in acknowledging that hierarchy of what the Bill covers it is also important to validate the concerns expressed to us on Tuesday as real. A number of operators are concerned about the costs involved. They are concerned that they will not have the forecourt space that they might need to install this kind of charging infrastructure, and they are worried about the future. I hope that in responding the Minister will therefore acknowledge the need to give them greater clarity and certainty on such matters. On amendment 13 and the broader question of the scale and scope of the powers that Ministers are seeking, I hope that he will ensure that before those powers are enacted there will be full consultation with stakeholders.

As I said earlier, I hope the Minister will use the opportunity to clarify the issues relating to home charging, on-street charging and other such things, which are not covered by the Bill. How does he envisage that those issues will be addressed to make sure that the expansion of the charging infrastructure that this country needs will be realised in practice, rather than its remaining something about which we have really interesting discussions in our evidence sessions and today but that is a long way from being realised on the ground up and down the country?

Iain Stewart: I am grateful to the hon. Member for Birmingham, Northfield for raising this important matter for clarification. If I may, I will add one additional concern that was reported to me in a discussion with Western Power Distribution in my constituency a week or two ago. There is a potential additional cost if the proposed retailer currently requires only minimal distribution network facilities. If there were to be many charging points located at that retailer because of the regulations, there might be significant additional costs to the grid and distribution networks to ensure the relevant level of supply. The concern that some of those costs might be disproportionate was flagged up. I seek an assurance from the Minister that they will be taken into consideration when he is drawing up the regulations.

Mr Hayes: Edmund Burke said,

"Early and provident fear is the mother of safety."

Although I would not describe any of the comments as indicative of fear, it is certainly true that what I might describe as dutiful doubt and honest hesitation can be a helpful thing to Government when we are trying to navigate as yet uncharted waters, as one is bound to do in respect of this kind of legislation, given that it is about rapidly changing technology. So I am grateful for the tone that the hon. Member for Birmingham, Northfield set in allowing us to explore these matters with that kind of dutiful and honest hesitation. We should hesitate, think and consider, and then act.

This is a very important debate. I have made clear and have been very open about my own determination to make sure that we have a spread of charge points, because we want electric vehicles to be as easy as possible to refuel as a petrol or diesel vehicle is now. That will require a wide spread of infrastructure to support many thousands more electric vehicles—indeed, ultimately tens of hundreds of thousands more. Similarly, we understand that regulation will not always be the right approach. Sometimes, a carrot is more important than a stick.

I hear what my hon. Friend the Member for Milton Keynes South, and indeed the hon. Member for Kilmarnock and Loudoun, said about cost. There is an argument for Government support. I have nothing to announce today, but I hear what is said and I think that there is an argument for it, in particular to get the spread that I want—small village post offices, village shops and those sorts of places spring to mind.

Similarly, it is important that the larger petrol retailers that the hon. Member for Birmingham, Northfield described are properly defined. I hear what he said and we will need to clarify that, too, during the passage of the Bill. He made a fair point, and I will do that. The Bill sets out the principle, but it seems to me that he is right that further definition is required. We are looking at that closely, as he will have assumed, and we are in discussion with the industry.

We are considering regulations to take account of a whole range of issues: the commercial viability of fuel retailers and their forecourts and service areas; the effect that mandatory electrical refuelling infrastructure would have; the space available, given total land taken

by existing facilities; the capacity of the local electricity grid in the case of charge points—we spoke a little about that in the evidence session—and the existing or future proximity of electrical vehicle infrastructure within the proximity of the fuel retailer or service area. There may well be other factors as well, because the area is complex, so we are working closely with fuel retailers, service area operators and infrastructure providers to bring forward those necessary regulations.

The hon. Gentleman pointed out that clause 15(3) specifically commits the Secretary of State to consult with appropriate persons before making regulations under this part of the Bill. He asked for greater clarity about the timetable. I think that is fair. We could set out at least an indicative timetable. In this letter I am going to send to the Committee, which is growing ever more exciting and detailed, perhaps I will suggest how we might do that. Committee members will be waiting by their post boxes with eager anticipation.

Given that the powers to mandate provision of charge points and hydrogen are bold and ambitious, concentration would need to be thorough and wide-ranging. To some degree—again there is a slightly point of difference between us on this—that is why I do not want to be too particular about whom we consult. I am certainly happy to talk about the categories of people whom we might consult, but I do not want to narrow the discussion—if anything, rather the opposite. I want to have as wide-ranging a consultation as we can, for some of the reasons that I have already offered.

Following such consultation, regulations could come into force much earlier than the six months suggested in amendment 13. We can be more ambitious than that. For that reason, I urge the hon. Gentleman to withdraw that amendment, because we can do more and do it more quickly.

Richard Burden: I am grateful for the Minister's clarification. I do not think that I have ever been accused of dutiful doubts and honest hesitation. Given that he reckoned that they were probably good qualities to have in relation to the Bill, I accept the description.

The amendments are trying to deal with two sets of concerns. The first is about the kind of operators that the Bill will mandate to provide charging infrastructure down the line through regulation. A range of practical issues relating to the definition of operators, such as forecourt capacity, cost and other things, need to be addressed. I am pleased that the Minister has committed to consult and introduce draft regulations on the matter as soon as possible. I assume, therefore, that he does not believe the policy scoping notes' description in paragraph 3.10 that it will be difficult to do anything on that until towards the end of this decade necessarily needs to be the case. Perhaps it could be done a lot earlier. I am grateful for that ambition on the part of the Minister.

The second thing that the amendments are perhaps more implicitly trying to get at is those areas of infrastructure that the Bill does not address. What about home charging, lamp posts, on-street charging and wireless charging? Is there any ambition and framework by which we can try to ensure that the UK is ahead of the game in providing such infrastructure, just as much as ensuring whether WH Smith or the motorway service area on the M42 near where I live provide the necessary infrastructure?

Mr Hayes: Let me explore that a little, because it is another important point. I suppose it is yet another balance, and there are several aspects to the balance that we attempt to strike in the Bill. The balance in this respect is about how much we mandate, how much we encourage and how much we provide incentive in the end. I am looking at all those matters. Of course I have met the providers of on-street charge points. Some of this involves relations with other Government Departments because of planning issues, and some of it involves the competition on design that I mentioned. Yes, I do accept that certain matters are not in the Bill, but do not assume for a moment that they do not matter to us and that we are not doing something about them.

Richard Burden: I am pleased that the Minister is seized of those issues. On Report, will the Bill at least give a nod to the need to do something on those infrastructure matters?

Andrew Selous: I have listened carefully to the points that the hon. Gentleman has raised. Would he also consider adding to his useful list new housing and what regulations might be required in terms of charging points, as well as existing local authority car parks and other car parks, where there is great potential to expand the number of charging points?

Richard Burden: The hon. Gentleman makes a really good point, and it underlines that we are in an entirely different game. Until now, we have had a very narrow view of what the refuelling of a vehicle entails; it means going to a place called a service station, which might be down the road or on the motorway, where there are fuel pumps, and that is about it. What is proposed under the Bill is a complete change to that practice. Certainly, those conventional filling stations will still need to be there, but if we are truly to incentivise the big switch to zero-emission vehicles that we need to achieve, convenience of charging must be the watchword. Yes, that means the filling stations, but it also means the supermarket and the car park, and homes. The hon. Member for South West Bedfordshire is right that it also means looking at the planning requirements for new homes and the availability, or provision if necessary, of charge points is an important consideration.

I do not expect the Minister to be able to provide in the Bill every bit of detail on how that will be done, although I am sure that he would love to be able to do that. That will not be possible and the Bill will inevitably concentrate fairly narrowly on the idea of the filling station, but I hope that it will at least acknowledge that there is a broader agenda. As the Bill progresses, I hope that the Government will make it clear that although it may not cover those broader issues, they intend to do so. I hope that they will provide the timetable for doing so, outline how they will ensure liaison between the different Government Departments involved and identify the outside bodies that they intend to talk to. If that is the outcome, we could be dealing with something very exciting.

On the basis of the reassurances and commitments that the Minister has given, I beg to ask leave to withdraw the amendment.

Amendment, by leave, withdrawn.

4.45 pm

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

Rob Marris: Some of what I intended to say has been foreshadowed and I will not repeat it all, you and the Committee will be relieved to hear, Ms Ryan. When we heard from Robert Evans, who is the chief executive of a specialist research and technology organisation and represented the UK Electric Vehicle Supply Equipment Association, he addressed the issue of train stations, airports and so on. More pertinently, we also heard on Tuesday afternoon from Teresa Sayers, the chief executive of the Downstream Fuel Association, who said:

"We represent the non-refining companies and major supermarkets."—[*Official Report, Vehicle Technology and Aviation Public Bill Committee,* 14 March 2017; c. 37, Q65.]

When I questioned her about the wording of clause 10, she said:

"Our apprehension about the wording is all about the location of the EV charging point on a forecourt, for the reasons we have discussed."—[*Official Report, Vehicle Technology and Aviation Public Bill Committee,* 14 March 2017; c. 41, Q71.]

I said to her:

"The word "fuel" in "large fuel retailers" is causing you to scratch your head a bit?"—[*Official Report, Vehicle Technology and Aviation Public Bill Committee,* 14 March 2017; c. 41, Q73.]

She replied, "Yes, absolutely", and agreed that "large retailers" would be better.

I look forward to the Minister's design competition, which he announced today and which is wonderful. I suggest that, for the design that is ultimately decided upon, rather like we have Belisha beacons, we could have "Hayes hook-ups" or something similar. As the hon. Member for Bedford said, we need to think more broadly about planning permission and building those into planning requirements for new buildings, and possibly about a requirement for three-phase electricity and that sort of thing for more rapid charging.

We need to look at the regulations for the franchise specifications for motorway service station operators. They have a franchise that, I would guess for most of them, requires them to open for 24 hours a day. We do that as a public good. For motorway service station operators, providing coffee at three in the morning is a public good, but it is probably not profitable; however, providing coffee over 24 hours is profitable. As a society we say we want that, because we want motorists to drink coffee and stay awake on the motorways. Electric charging points could be part of a motorway service area franchise, because—surprise, surprise—we get on to clause 10 and the Government are quite willing to intervene in a market that hardly exists now. Good; they are coming over to the socialist side. There is a role for Government in making markets that, honourably and commendably, the Government, as represented by the Minister today, are seeking to fulfil.

In terms of making markets, I suggest to him that clause 10 does not need, and should not include, the words "large fuel retailers"; I did not table an amendment to that affect because I came to that view only after I heard the evidence on Tuesday. We do not, and should not have, the word "fuel"; in fact, if regulations are made, as the clause provides for, that will provide definitions, we do not actually need the word "large" either. Ministers never want excess wording in Bills; I understand that.

We understand from the Bill's wording, which could be usefully removed, the Government's idea that little corner shops would not be subject to the regulations. Corner shops are retailers and almost all of them have a little parking area, even in rural areas. I think we understand that the concept of large fuel retailers would not cover, for example, my local BP station, which is a one-minute walk from my house and has five parking spaces; some cars parked for a quick, 30-minute charge will clog things up there. We went through the evidence on that on Tuesday. We ought to be looking at retailers and at supermarkets in particular, because very broadly most people go there, park their car, go off and do their shopping for half an hour or 45 minutes and come back. Their car could be charged during that time.

Now is the perfect time to do this because the business rates revaluation is still going through the House in the Local Government Finance Bill. Many supermarkets—not all—are winners under the business rates revaluation, so they will be paying lower business rates, which is a bit of a windfall for them. The Government could taketh away through the Bill by saying, "Well, you've had your windfall on business rates, but you have got to invest that for the benefit of our society by providing electric charging points. You are large retailers, not fuel retailers or service area operators. But, for the public benefit, as a Government our public policy to drive the market is that supermarkets or such operations that have a lot of parking should be providing public charging points, as clause 10 seeks to do for large fuel retailers."

When I had a discussion with the Minister about that outside the Committee, he was positive and said that he would think about it. That is all I ask of him today. I hope he will feel able to stand up—if he catches your eye, Ms Ryan—and say that he will consider the point of broadening out the clause by removing "fuel" as a concept, because that gets us from forecourts and so on—many areas with limited parking spaces—and more into the scenario of supermarkets, train stations, airports and so on, which is much better, more amenable and would provide a better service to those we seek to represent.

Mr Hayes: I will be brief. We have had a good, detailed debate on this aspect of the Bill. I hope that my determination to broaden the number of points at which people can charge vehicles is clear from my earlier remarks. Equally, my parallel determination is to ensure that while we mandate the provision, we do not do so in a way that is not reasonable or affordable.

I take the hon. Gentleman's point and I will return to it in a second. I suppose the reason why "fuel" is there is that it is not unreasonable that the people who are likely to benefit should make some contribution. If we think of motorway service areas—by the way, they are already taking this on—there are charge points at most of them now, and in some cases they are trialling hydrogen refuelling points, too. Given that they are likely to benefit and they are already investing, it does not seem unreasonable to pursue that avenue.

Andrew Selous: Will my right hon. Friend enlighten us about the economics of charging points? I confess that I am ignorant as to the average payback for the capital cost of putting in a charging point. We are talking about mandating, but it may be that they are profitable goldmines for the businesses concerned, who will be eager to put in as many as possible.

Mr Hayes: A rapid charge point currently costs about £50,000 and a hydrogen refuelling installation is perhaps a little more. It is expected that hydrogen refuelling will be introduced more gradually, given that higher cost and the state of market development. However, as I think I said earlier, because of my even-handedness on this, I would not want to preclude that roll-out. The answer to the question about how those who have already installed them see the analysis of income is that I do not know what the cost-benefit analysis is, but if I can get more detail on that I will happily make it available to my hon. Friend and other members of the Committee. It is an interesting point that will inform our discussions.

I was very open earlier about the other kinds of provision. Although we do not want to mandate smaller businesses, those that are more remote and those that would find such a cost far too onerous, neither do we want to deprive them of the opportunity that having these facilities might provide. We want to ensure an even spread of charge point, so there is a good case for finding a mechanism that is not legislative to encourage and incentivise other kinds of place that could put in a recharging point. I see this as only a first step.

The compromise I can strike with the hon. Gentleman and others is to say that we are establishing a framework, and we are doing so because these are the places where people typically go now to fuel their vehicles. However, it is not an exclusive framework. As this policy area develops, we will look at means of encouraging and supporting the roll-out that he and I both want, including considerations of the kind that my hon. Friend the Member for South West Bedfordshire raised. We are already in discussion with the Department for Communities and Local Government about this; as I said, there is a planning and housing issue, and on-street facilities will continue to be critical. Of course, many people will charge at home—they do now, and they will continue to do so—but it is important that we also have a really robust policy in place to increase considerably the number of places where people can charge their vehicles, and we will certainly do so. I assure hon. Members who contributed to this short debate that I am mindful of the desire to create what I described earlier as breadth as well as depth.

Question put and agreed to.

Clause 10 accordingly ordered to stand part of the Bill.

Clause 11

Information about public charging points

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

Richard Burden: Although we have tabled no amendments to clause 11, it is worth putting it on record that it is potentially one of the most important clauses in part 2 of the Bill. If we are to give more people the confidence they need to switch to plug-in vehicles, it is vital that they have an easy way, without having to work at it, of knowing not only where they can charge their vehicle but how much it will cost and how that compares with other charge points in the area. If they have a Nissan LEAF rather than a Tesla, they need to know that the charge point will charge it. Ensuring proper interoperability and transparency, particularly of pricing, is really important. Unusually, I do not think that we can add to what the Government have put in the clause, but I emphasise that it is really important.

Mr Hayes: I was driven in a Nissan LEAF yesterday, so I really do live the policy. The hon. Gentleman is right: as well as putting in place the broad infrastructure that I described, we need to provide information, and part 2 of the Bill will do precisely that. It will allow the Government to improve the provision of information on charge points for electric vehicles by requiring network operators to provide the information necessary to make locating and charging an electric car easy and hassle-free.

The way in which people obtain information has changed and will continue to change. In-car information is likely to be a feature of future developments. It is important that we set out the requirements now, so that motorists know, as a minimum, where charge points are located and can plan their journeys accordingly. As the hon. Gentleman said, the provision of information is probably as important as issues that we have spent longer discussing. The fact that he has not tabled any amendments implies that he agrees with us that the data on location, price and availability need to be accessible and open. That will also allow service operators to develop their products by giving motorists a complete picture, allowing them to plan their journeys with greater confidence. The market is moving in the right direction, and we are trying to support that in the Bill.

Rob Marris: If someone wanted to make a public telephone call 30, 40 or 50 years ago, one of the ways in which they got information about where to make it from was visual—a red telephone box was a visual source of information. I suggest that the Minister should interpret broadly the phrase

"in what form the information is to be made available"

in clause 11(3)(a), including within it the design of Hayes hook-ups, so that, like red telephone boxes, they give a visual clue—visual information—and people can see from their design where the available charging point is.

Mr Hayes: What a wonderful image the hon. Gentleman conjures; I will certainly take his point to heart. I will ask my friend and adviser, the distinguished architect Quinlan Terry, to suggest further developments of the kind that the hon. Gentleman set out.

Question put and agreed to.

Clause 11 accordingly ordered to stand part of the Bill.

Ordered, That further consideration be now adjourned. —*(Jackie Doyle-Price.)*

5 pm

Adjourned till Tuesday 21 March at twenty-five minutes past Nine o'clock.

Written evidence reported to the House

VTAB 05 BD Auto

VTAB 06 National Police Chiefs' Council

VTAB 07 British Vehicle Rental and Leasing Association

VTAB 08 Unite