

# Transport Committee

## Oral evidence: The work of Highways England, HC 60

Wednesday 23 October 2019

Ordered by the House of Commons to be published on 23 October 2019.

[Watch the meeting](#)

Members present: Lilian Greenwood (Chair); Jack Brereton; Ruth Cadbury; Paul Girvan; Huw Merriman; Graham Stringer; Daniel Zeichner.

Questions 1 - 123

### Witnesses

I: Jim O'Sullivan, Chief Executive, Highways England; Elliot Shaw, Executive Director of Strategy and Planning, Highways England; and Mike Wilson, Chief Highways Engineer, Highways England.

## Examination of witnesses

Witnesses: Jim O'Sullivan, Elliot Shaw and Mike Wilson.

Q1 **Chair:** Welcome, and thank you for coming along today. Please introduce yourselves for the record.

**Jim O'Sullivan:** I am Jim O'Sullivan, the chief executive at Highways England.

**Elliot Shaw:** I am Elliot Shaw, the executive director of strategy and planning at Highways England.

**Mike Wilson:** Good morning. I am Mike Wilson. I am the chief engineer at Highways England.

Q2 **Chair:** Thank you for being here. It is your first time in front of the Committee and the first time we have looked at the work of Highways England since it was established in 2015. We would like to get a sense of your priorities and what is occupying the organisation. Can you start by telling us what are the three biggest issues sitting on your desk at the moment?

**Jim O'Sullivan:** The first would undoubtedly be air quality. Brexit and Brock would probably be the second, and indeed national preparation for Brexit. Finally, you are right that Highways England is only five years old, and therefore it would be finishing RIS1 successfully and getting a good deal from Government in terms of what we are going to build and what we are going to do in RIS2.

Q3 **Chair:** Are those your three biggest issues because they are the most urgent, the most important or a bit of a combination?

**Jim O'Sullivan:** It is a bit of a combination. They are certainly the most important right now. That is how I would put it.

Q4 **Chair:** You did not say safety among those things.

**Jim O'Sullivan:** No. Safety is Highways England's first imperative, and it runs through absolutely everything we do. When we were established five years ago, we established three imperatives and we told 5,500 people, "If you're not working on these three things, what are you working on?" The three were safety, customer service—because we felt that, with the coming hypothecation of VED, we should be treating road users more as customers, doing what they wanted and providing them with better information, as well as providing roads as a service—and delivery. The whole premise of Highways England was that it would do a better job of delivery than the Highways Agency.

We are by no means the finished article. We have made huge strides from five years ago. If I measure us against perfect, we have an awful lot to do, but if I measure us against the Highways Agency as was, I am very proud of how far we have come.



**Q5 Chair:** I am sure that we are going to pick up those issues further. The latest progress report by the Office of Rail and Road says that you are meeting some but not all of the 2020 targets that they set for the organisation. Are there any targets that you think you are in danger of missing?

**Jim O'Sullivan:** It is important that we state that those targets were set as challenging. You either have a set of easy targets and you achieve them all as if they were some sort of baseline, or you get targets that are set that stretch the organisation. There is no doubt that the targets we were set were very stretching.

If I was to look to the ones we might miss, the customer service target is still at risk. The target is 90%. We have never hit it in four years. For the last rolling 12 months, we were just above 90%. If we continue on our current trend, we might just hit that one.

We missed the road surface quality target for two years. That is finally back on track. I would like to think that we are going to maintain that, too. In the round, I think we are in reasonably good shape on our KPIs.

**Q6 Chair:** Coming back to the safety question, one of your targets is to reduce the number of people killed and seriously injured on the network by 40% by 2020, compared with the 2005-09 average baseline of just under 3,000 people per year. What steps are you taking to meet that target, and are you on track to meet it?

**Jim O'Sullivan:** The first thing is that Britain's roads are among the safest in the world. They are certainly ranked No. 1, 2 or 3, depending on who you talk to. Within that subset of roads, the strategic road network is the safest of the safe. Our motorways are twice as safe as the country's dual carriageways. The strategic road network includes other roads as well as motorways, but our motorways are 10 times as safe as urban roads, so we start from a good place.

Over the last 10 years, between 2008 and 2018, the number of fatalities was down nearly 30%; it was down from 350 to 250, so we have made good progress. This year, the numbers have gone up. Eight more people were killed on the motorway network this year than last year. It is still the third lowest number in the last four years, but it has gone up. If you look at the previous years, it is still satisfying the long-term trend.

We are doing a number of things to improve safety on the road network. The first thing is that we see the safety of road users as important, and of the people who work on our road network—breakdown recovery operators, police, emergency services and our own employees. We have 1,000 staff, traffic officers, working on the roads. Finally, there are the construction workers, and over the last five years we have reduced their injury rates by about 30%.

We have adopted a campaign called Home Safe and Well, which applies to every road user and does not just focus on primary safety but on



wellbeing and how people feel about using our roads. We have invested heavily in making our roadworks safer and better for road users. We have run a large number of public information campaigns. We have targeted young motorcyclists, who have a particular safety challenge. We have done a great deal of work on communication on smart motorways and how to remain safe on smart motorways. We have done quite a bit in the safety space.

**Q7 Chair:** Are you on track to meet that target?

**Jim O'Sullivan:** We think so. We are very disappointed with this year's numbers. They have caused us to redouble our efforts, but we believe it is a long-term safety target to hit zero by 2040. We are disappointed with this year's numbers, but we think the long-term trend remains good.

**Q8 Chair:** What is your assessment of why the number on the motorways has increased by eight this year?

**Jim O'Sullivan:** If you look across Government statistics, it is all of the high-speed roads. Conventional motorways, smart motorways and dual carriageways have all gone up between about 8% and 12%. We have a challenge on our high-speed roads.

Equally, these are very small numbers. We have about 1.5 billion journeys a year. On the motorway network, we had, in total, 85 fatalities; there were 77 on the conventional motorway network and eight on the smart motorway network. In 1.5 billion journeys a year, those are very small numbers.

We analyse each one individually. We get the coroners' reports when incidents are fatal. If it is about the road design, better signage or better information, we action them. It is the science of very small numbers.

**Q9 Chair:** Do you have a figure for the difference between fatalities per mile on a conventional motorway and fatalities per mile on a smart motorway?

**Jim O'Sullivan:** Yes, we do. We have a whole suite of information. We use fatalities; we use killed and seriously injured, which is the Government measure. We use a fatality weighted index. They all show that smart motorways—

**Q10 Chair:** Are they done per mile? Is that the basis?

**Jim O'Sullivan:** Some of them are per vehicle mile, yes. Per vehicle mile, if anything, the smart motorway numbers are better than the conventional motorway numbers, but we are talking about Britain's roads being the safest. We are talking about motorways, both smart and conventional, being 10 times safer than urban roads. Our roads in this country are the safest in the world. Within those safe roads, at the top of the stack are motorways. You cannot split the smart motorway performance from the conventional motorway performance. Interestingly, we see no difference in the types of accidents on conventional motorways. We have live lane breakdowns on conventional motorways.



## HOUSE OF COMMONS

We have live lane breakdowns on smart motorways. The causes of the accidents are very similar across dual carriageways.

Q11 **Chair:** You said that you cannot split—

**Jim O'Sullivan:** The nature of the causes of accidents on smart motorways and conventional motorways.

Q12 **Chair:** We are going to ask more about smart motorways, as you might anticipate. I will bring in a couple of colleagues in a moment.

The Office of Rail and Road is the safety regulator for the rail network, and the chief inspector of railways produces an annual report. It is clear that health and safety is taken extremely seriously. Is there a need for the ORR to fulfil a similar function for the strategic road network?

**Jim O'Sullivan:** We don't think so. There are two reasons for that. First, our health and safety performance is extremely good. If I look at the staff that work for Highways England—the 1,000 people we put out on to the road network every day—when Highways England was formed five years ago, we had two to three serious injuries every month, mostly caused by falls. There would be broken legs, broken arms and hips, and long-term absences. We have improved the accident rates by almost a factor of 10, and we have not had a serious injury to a traffic officer in 11 months, so we are heading for a year without an injury. In terms of the health and safety of our own employees, we have done a good job.

In terms of the construction industry—rail construction workers face high safety tasks—we have improved the RIDDOR rates, which are HSE reportable, by about 30% over the last five years, and we intend to keep going. I think we have health and safety under control.

There are other groups of workers who cross the boundary between road users and workers, and we have those at the forefront of our sight in safety, too—in particular, emergency services breakdown operatives out on our roads. We think we do a great deal and we can do more.

Q13 **Ruth Cadbury:** For the non-motorway elements of the network, do you keep collision and KSI statistics for non-vehicle users, such as pedestrians, cyclists and horse riders?

**Mike Wilson:** Yes, we do. They are published by the Government in STATS19. The last data was published in September this year, for 2018.

Q14 **Ruth Cadbury:** And trends?

**Mike Wilson:** I don't know off the top of my head, to be honest. I don't think I have it in my pack, but we would be happy to let you know. We have those statistics. Pedestrians are not allowed on motorways by their very nature, but we look at pedestrians through the RIS period.

Q15 **Ruth Cadbury:** That is why I specifically said non-motorway. And cycling?



## HOUSE OF COMMONS

**Mike Wilson:** And cycling, too. Through the RIS period, we have invested considerably in improving cycle paths and footpaths, trying to separate strategic road traffic and cyclists and pedestrians.

**Jim O'Sullivan:** Because we mostly operate in what I would term the high-speed road network, we think the best approach is segregation, to segregate vulnerable road users from vehicles. We have opened over 100 pedestrian ways, bridleways and cycle paths.

Q16 **Ruth Cadbury:** What percentage of the non-motorway network are those routes, and the planned routes?

**Jim O'Sullivan:** I cannot speak for the existing network, but for the new network we always ensure that the scheme design includes them.

Q17 **Ruth Cadbury:** I think you are required to by Government.

**Jim O'Sullivan:** Yes, and we do. For the A14, which is 14 miles long in Cambridgeshire, the Minister insisted on understanding how you would cycle from one end of it to the other without ever going out on the road, before he would sign off the scheme.

Q18 **Ruth Cadbury:** But retrofitting the rest of the network.

**Jim O'Sullivan:** This is a topic that may come up again. Where we do major refurbishment schemes and where we revisit a junction, we find that, if we are doing that work while we are doing other work, it is probably about half the cost. That means we get twice as much for the same money. When we visit a junction or a road to do other work, that is the time when we look at improving facilities for vulnerable road users.

Q19 **Chair:** Do you have performance indicators now for vulnerable road users like pedestrians, cyclists and horse riders? That was one of the requirements placed on you, wasn't it?

**Jim O'Sullivan:** We have safety measures for them.

Q20 **Chair:** No. Performance indicators, so that you can assess the impact of investment in measures to improve usage or safety.

**Jim O'Sullivan:** Yes.

**Elliot Shaw:** We evaluate. Certainly in RIS2, one of our performance indicators is absolutely about the safety of non-motorised users, including all pedestrians, equestrians, and so on. Within RIS1, we measure through the designated funds. We have done a range of things, as Jim was saying. There have been 101 cycleway improvements and new cycleways. We have also upgraded and created a lot of new pedestrian crossings across the network. We have a responsibility to evaluate that as well. We evaluate effectively the efficiency and the efficacy of that spend, so there is ongoing evaluation of the designated funds.

Q21 **Ruth Cadbury:** And user levels?



## HOUSE OF COMMONS

**Elliot Shaw:** It will look at that as well. To be honest, the ORR are doing a bit of a deep dive into the designated funds at the moment. They will be looking at that spend and how effective it has been.

Q22 **Chair:** In 2014, the DFT said, "We require the Company to provide PIs that measure the safety of vulnerable users," and suggested that there should be consultation on that. Is that work done and completed?

**Elliot Shaw:** Yes, in that, in RIS2, we are going to have a PI—a performance indicator—formally part of our performance specification that is about vulnerable road user safety.

Q23 **Chair:** The consultation with other groups is done, and that PI is now developed ready for use in RIS2.

**Elliot Shaw:** Yes.

Q24 **Paul Girvan:** I appreciate the statistic you have given—that there has been a 30% reduction in construction-type accidents on our motorways—and I take on board that you said that this last year has been very good. In relation to the 2016-17 year and accidents associated with construction workers on our motorway network, particularly those who are closing a lane by means of laying out cones, I appreciate that maybe you do not have that statistic to hand, but I would be happy if you could get me that information. It would be very helpful to me. It is for the 2016-17 year, because I understand that things have moved on. Has anything happened to reduce the number from that year until now in the processes that you are using in relation to lane closures during either works or a major accident?

**Jim O'Sullivan:** Thank you for the question. Absolutely. We will get you the 2016-17 statistics, and we will have the subsequent years too. We have done a fundamental rethink about how maintenance is done on the highway network. In particular, we have brought responsibility for understanding the asset and for the task planning in-house to Highways England.

We have combined the organisation that used to do the repairs with the organisation that runs our control rooms and traffic officer service in one division. That means they work more closely together. We are now using rolling roadblocks, which is the way we would use our traffic officers. If we were clearing debris from a motorway, we would use traffic officers to form a rolling roadblock to hold the traffic back. Where we think traffic volumes are high, we use a rolling roadblock to make the cone lanes safer.

Conversely, we are using impact protection vehicles. They are huge vehicles that are parked behind the work in order to make sure that trucks, in particular, do not run into the back of the roadworks. We are now using those on incidents. We have a number of teams set up across the country whereby, if we have a vehicle breakdown or an incident that is going to be there for some significant time, we can deploy a team that



## HOUSE OF COMMONS

includes an impact protection vehicle. That close working between traffic officers and maintenance workers has improved safety all round.

Q25 **Paul Girvan:** I raised the question because quite a few contractors from Northern Ireland play a key role in maintenance.

**Jim O'Sullivan:** They do.

Q26 **Paul Girvan:** I think it is our access to good quality stone. The point I am making is that they have highlighted to me that the most dangerous job they incur is lane closures and laying cones on the motorway.

**Jim O'Sullivan:** It is.

Q27 **Paul Girvan:** The reason I asked the question associated with that year is that a number of people from Northern Ireland were killed on the network while undertaking that very function.

**Jim O'Sullivan:** Thank you. One of the most hazardous activities that our maintenance people undertake is laying out the first set of cones that form the chevron that diverts the traffic out of the lane.

Q28 **Paul Girvan:** The taper.

**Jim O'Sullivan:** The taper. Thank you. It is hazardous, and we have done a great deal of work since 2016-17 to make that safer.

Q29 **Chair:** Since the ORR took on responsibility for monitoring your work in 2015, has the way that Highways England works changed? How has the relationship with ORR evolved since then?

**Jim O'Sullivan:** I would sum up our relationship with ORR like this. I would call them a critical friend. If you look at their last performance report, I thought it was fairly tough. I did not necessarily agree with all of it. I thought it was fair-minded. One might even say, "It was a fair cop, guv," to use that sort of parlance.

We respect them. It is an arm's length relationship. How they have changed our work is that we have much greater focus on data. We enter RIS2 with a focus on things that we would not have had in RIS1. I do not think we even had the capability at the beginning of RIS1 to do these things. For instance, in RIS2 we will be able to do regional unit costs and compare why a road repair costs more in one area than another, or why a particular area can do more of them in a night shift than another area. The original costing model will come in.

There is a focus on asset data. I still think that we and the ORR disagree. They think asset data is a good thing for its own sake. We focus on the assets where we think our data brings the most value. There is still friction between us on the purpose of data. It is probably a good thing. If the relationship was entirely harmonious between us and the ORR, one or other of us would probably not be doing our job.

Q30 **Chair:** Why is there that difference of opinion? Knowing the state of your



## HOUSE OF COMMONS

asset is hugely important in being able to ensure that it is kept to a good and safe standard. Why the discrepancy?

**Jim O'Sullivan:** As we see it, we would like to focus on particular classes of assets first. I think they view us particularly in comparison to rail, where they have been collecting asset data for a very long time and therefore have a robust suite of asset data and asset tools. We do not have that yet. Whereas we would be looking to collect data in order to improve business efficiency or the customer service offering, the ORR would say, "You should be taking a more generic approach and you should be improving your asset data right across all of your assets all at the same time." We would see it as more targeted. It is a philosophical difference. There is validity to their argument. I like to think there is validity to ours too.

Q31 **Chair:** But if you do not know the state of your asset, there is a risk that there are defaults on it that you are not aware of.

**Jim O'Sullivan:** That is true, which is why, if you start from a low base of asset data, where do you want to focus? Drainage? That is very important to us; we are doing a lot of work on drainage. Bridges? There is a lot of focus on bridges, particularly in light of Hammersmith and Genoa. We missed our road surface quality target in one of the five years. That was a blow to us, so understanding the quality of the road surface asset was important. We are working our way through them.

Q32 **Chair:** You are prioritising.

**Jim O'Sullivan:** Yes.

Q33 **Chair:** What are the criteria used to prioritise?

**Jim O'Sullivan:** It goes back to the point you made when you opened the meeting. The first is safety—the safety of the road user and the safety of the road operative. We start from safety and work our way back, probably through customer service, not just for road users but for the communities around us and the environment.

Q34 **Chair:** How long is it going to take Highways England to have a comprehensive overview of the state of its assets?

**Jim O'Sullivan:** That is a very big question. I would like to think that by the end of RIS2 we can reasonably satisfy ORR.

Q35 **Chair:** Can you tell us a bit about how the relationship with the Department has changed since 2015? Obviously you have transitioned to be in a Government-owned company. Has that change in status made any difference at a practical level?

**Jim O'Sullivan:** I think it has. There are a number of factors that play into that space. The first is the five-year funding. The current climate has been particularly turbulent. In the four and a half years I have been in this role I have had three Secretaries of State and four Roads Ministers. When you are building 30 and 50-year assets, continuity is hugely



## HOUSE OF COMMONS

important, not just to us but to the supply chain and the local economy. If people know you are building a road, then housing, jobs, and so on all hang off the back of it. The five-year funding has been hugely important to us. That is the first thing.

We have brought discipline to the Department. Rather than being of a public servant mindset, we tend to be of an engineering mindset. We understand project management. We understand the implications of making changes to programmes. The Department themselves have signed up to what I consider a very robust change control process, whereby if we are going to make changes to the programme, and changes are inevitable, we go in with our eyes open and with an understanding of the cost and time implications of what we are about to do.

We have a number of disciplined and outcome-focused meetings with the Department. We have a shareholder team who look after the wellbeing of the company. They get us to focus on succession planning, capability and reputation. We have a client team who represent the Department's views on what we should be building and how we should be operating it. The relationship has become more mature, more disciplined and probably more publicly transparent, too.

Q36 **Chair:** Have you met the new Secretary of State?

**Jim O'Sullivan:** I have.

Q37 **Chair:** What are his priorities? What did you discuss? Can you share what his priorities were in those discussions?

**Jim O'Sullivan:** I think his first thought was that he wants to give a strategic view of the company and he wants to give us a sense of direction. From his interchanges with us, he is very keen on the environment and on accelerating technology. He is very keen on the roll-out of electric vehicles and the services we provide for communications to vehicles, how we can stimulate economic growth, and the whole digitisation of the road network. They were the sorts of topics he talked to us about.

Q38 **Chair:** Did you discuss all-lane running with him?

**Jim O'Sullivan:** No, we have not discussed all-lane running with him. We have with the Minister but not with the Secretary of State.

Q39 **Chair:** In your discussions with the Minister, what has she said to you about all-lane running?

**Jim O'Sullivan:** We have presented, as we have to many forums, the data and the information, particularly on safety. We have talked about the economic benefit that all-lane running brings. We have talked about the environmental benefits of all-lane running over and above conventional road widening. We have taken the Minister through the various data, and she is satisfied with it.



## HOUSE OF COMMONS

**Chair:** We might come back to Brexit with you later, but for now we will move on to all-lane running. You said a few moments ago that you felt Highways England had an engineering mindset. One of the concerns is whether your engineering mindset gets between you and thinking about the drivers' and the customers' mindset. However, Graham is going to look at the issue of all-lane running.

Q40 **Graham Stringer:** Where are you up to in the programme of converting motorways to smart motorways and all-lane running?

**Jim O'Sullivan:** Could you be a bit more specific?

Q41 **Graham Stringer:** What does the next programme consist of? How many more motorway miles are going to be converted?

**Jim O'Sullivan:** We have just started converting the M4 between Heston out towards Swindon. That is an £800 million scheme we have just started. We are going about them differently in RIS2. Historically, we have done smart motorways as schemes. They are our busiest motorways. It is quite remarkable that the safety performance on smart motorways is as good as conventional motorways, because we are absolutely converting the busiest motorways we have. It is not a like-for-like comparison.

We have done about 300 lane miles so far. We intend to continue at something approaching the current rate through RIS2. We are starting to connect them together because the technology we are putting in will also be an enabler for connected vehicles through RIS2 and RIS3. The cabling and the control room technology are all the sorts of stuff that we need to communicate with vehicles. Our intent is to run this on a programmatic basis through RIS2 and to start connecting together the motorways that we have already done.

Q42 **Graham Stringer:** What is the cost per mile? Is it going down or going up? There was a lot of concern about the length of time for conversion to start with. It appeared that the engineering companies were using it to balance their workload elsewhere. In terms of your performance both in cost per mile and in time, how is that comparing? Is it improving or getting worse?

**Jim O'Sullivan:** I do not have the exact numbers to hand, but I can tell you that the cost per mile on smart motorways is coming down. There are a number of innovations that have contributed to that. The ORR have been in discussions about our efficiency targets in RIS2. They looked very closely at the cost of smart motorway conversions. On a like-for-like basis the cost per mile is coming down. There are a couple of—

Q43 **Graham Stringer:** Roughly by how much—ballpark figure?

**Elliot Shaw:** I'm not sure.

**Jim O'Sullivan:** We are talking 10% to 20%, and in certain locations as much as 30%. A number of things contribute to that, in particular the



## HOUSE OF COMMONS

change in gantry design. You will have seen that we now use the gantry that comes out and projects on an arm halfway across the motorway, with all the lanes on the same sign. It has a single base as opposed to two bases. There is less steel in it. It is better for the environment. That is the sort of thing that is bringing the cost down.

There are some things that are putting the costs up. We have started painting the refuge areas yellow. That increases the cost. The additional signage that we have put out—the three signs at half-kilometre gaps—have driven the cost up. In RIS2, we are starting to prefabricate the refuge areas, because they are all the same, and that will offer a significant cost saving.

The costs will be higher on the M4. It was originally a two-lane motorway. When it was widened to three lanes, the hard shoulder was taken so that the existing bridges could cope with a three-lane motorway; as you go under the bridges you have three lanes, one of which is already the hard shoulder. In a number of cases, we are going to have to take down the bridges and put up new bridges in order to widen it.

On the one hand, our efficiency and productivity is driving the costs down, but, on the other hand, the scope and specification of smart motorways is changing and, in some cases, driving the costs up. We are also doing the more difficult ones. A smart motorway through open countryside is relatively straightforward. When we start working around Heston, with the M4 and Heathrow airport close to the M25, it will be more expensive because there is much more engineering content.

**Q44 Graham Stringer:** You did not respond to the question about scheduling. Are you hitting your schedules?

**Jim O'Sullivan:** Yes, we are. We are content with the schedule on smart motorways.

**Q45 Graham Stringer:** When Andrew Jones appeared before the Transport Committee in 2016, we were concerned as a Committee about all-lane running. Although it appeared that the analysis showed that, overall, it was safer, for breakdowns in the middle lanes it was less safe, and we recommended that it did not go ahead. What is your response to that analysis at the moment? Do you accept that it is more dangerous in the middle lanes?

**Jim O'Sullivan:** We treat each of the roads as a system, and if you compare conventional motorways with smart motorways, they are slightly different systems. In the round, they are safer. There are aspects of smart motorways that are safer than conventional motorways, and there are aspects of conventional motorways that are safer than smart motorways. In the round, they are equally safe.

For instance, to take the point that you are making, yes, a live lane breakdown is more likely on a smart motorway than a conventional



## HOUSE OF COMMONS

motorway. However, by way of compensation, the hard shoulder is nothing like as safe a space as an emergency area. Whichever design one chooses to build, there will be trade-offs.

**Q46 Graham Stringer:** This is the discussion I had with Andrew Jones. Basically, you are saying that if you get into a safe area it is safer, but, in terms of designing these, you are more at risk if you break down in the middle lanes.

**Jim O'Sullivan:** Live lane breakdowns happen on dual carriageways, they happen on conventional motorways and they happen on smart motorways. If you suffer sudden engine failure in lane three or lane four—what one might call the outside lane—of a conventional motorway, you are probably not going to make it to the hard shoulder. On a smart motorway, if that happens we have the MIDAS system, which will detect that the traffic behind you is slowing down. It will automatically set the signs and signals. We are starting to introduce stopped vehicle detection and you are on a CCTV camera.

If you break down in the live lane of a conventional motorway, our guidance and advice is the same: please dial 999 or phone Highways England. It is probably more hazardous if you break down in the live lane of a conventional motorway than it is on a smart motorway, because we will be unaware of your breakdown until you contact us.

There seems to be a higher likelihood of breakdown in a live lane on a smart motorway.

**Q47 Graham Stringer:** That seems inexplicable.

**Jim O'Sullivan:** It does, but it seems to be more likely. It is partly, I think, because they are busier roads and therefore there are more vehicles out there, so we get higher rates. The second reason is that, in many cases, our busiest motorways are also commuting motorways. There is more likelihood if you are setting out on a long journey, or your vehicle is highly loaded, that you will have checked your tyres and that you have enough fuel for your journey. What we find with commuting is that people are only hopping on for one junction, and they do not take quite the same care as when they are heading off on a long trip.

**Q48 Graham Stringer:** There was a very severe accident—I don't like the word "accident"—on the M1, with four fatalities. Could you attribute that directly to all-lane running?

**Jim O'Sullivan:** No. This goes back to a point I made very early on. There is very little difference—there is no difference, in fact—in the nature of the accidents on conventional motorways and smart motorways. Very often a tyre is going to fail—25% to 30% of our problems are tyres—and 5% to 7% of breakdowns are people actually running out of fuel. That will happen on either type of motorway or a dual carriageway. It could just as easily happen.



## HOUSE OF COMMONS

I guess I have an open audience here, and a child wanting to be sick is not an emergency; wanting to relieve yourself is not an emergency, yet 50% to 70% of people who stop on a motorway do not have a valid reason for doing so. If something comes out of this Committee this morning, I would ask for the help of the motoring organisations and other groups in communicating how to be safe on these roads. You are going to bring two tonnes of machinery out on to our roads and operate it at 70 mph-plus. There are workers out there. My staff, the emergency services and the breakdown services have to work if you get it wrong.

The vast majority of people who come out behave responsibly. I have talked about the science of small numbers. Of 1.4 billion journeys a year, there are 200 to 300 casualties. Small pieces of information can make quite a difference to those small numbers.

**Q49 Graham Stringer:** When the M42 was converted to a controlled motorway, it kept its hard shoulder. Do you have comparative statistics for controlled smart motorways with a hard shoulder and smart motorways without a hard shoulder? Are there comparative statistics for accidents?

**Mike Wilson:** Yes, we have comparative statistics for all the different types. There are traditional motorways and there are the dynamic schemes that you referred to, such as the M42—the M42 active traffic management scheme as it was when it went live. There were other dynamic schemes that we built on the M6 and on the M1. Subsequently, there was all-lane running, and we have comparative data for the three types.

**Q50 Graham Stringer:** Can you tell us in very simple terms whether the statistics show that smart motorways with hard shoulders are safer or less safe than smart motorways without hard shoulders?

**Mike Wilson:** I do not have specific details of those statistics. We are happy to provide them. But what I do say—

**Q51 Graham Stringer:** I would have thought that was very simple. You would want to know whether hard shoulders were saving lives or whether removing hard shoulders was causing fatalities.

**Jim O'Sullivan:** In the last 12 months, five people were killed on the hard shoulder of conventional motorways and nobody was killed in an emergency access or an emergency area. One of the concepts that I would like to get across is that the hard shoulder is not a safe place.

**Q52 Graham Stringer:** You are told immediately to climb over the fence. It is a dangerous place.

**Jim O'Sullivan:** Yes, it is not a safe place.

**Chair:** But 38% of breakdowns on an ALR motorway are in a live lane, where people did not make it to the emergency refuge area. Surely that is the issue.



**Q53 Graham Stringer:** Although that is a really interesting statistic, it does not answer the point about which smart motorways are safer over the time they have been operating: the ones with hard shoulders or without.

**Jim O'Sullivan:** The dynamic hard shoulder, where we only use all four lanes when traffic volumes justify it, and we reduce the speed limit to 60 mph, creates its own problems. The first problem is that we turn it on at certain times of day because we know that, in the morning rush and the afternoon or evening rush, we are going to need speed control. One of the things that people observe is that we turn it on 15 minutes before the traffic accumulates. If you are an early-morning commuter on the M42, you may be saying to yourself, "Why is this on when there is no traffic?" We have to turn it on before the traffic accumulates, because once it is congested, it is too late. Sitting stationary in a car seeing a 40 or 50 mph speed limit just frustrates people, so we turn it on before or after.

One of the problems is with what we call time shifting. If people whose normal daily commute or journey takes place at 8 or 9 o'clock have been to the dentist and come out at 11 o'clock, they drive down the hard shoulder because they are used to their daily commute at 8 o'clock. Every day for the past 12 months they have driven down the hard shoulder because it is an open lane. When we close it at other times of the day, people still drive down it, even if somebody is using it as a hard shoulder.

Under those circumstances, we get people who are confused between it being a hard shoulder and a running lane. We get people who stop there when it is a running lane. Over and above that, we also find that, because people are not sure whether it is a hard shoulder or a running lane, even when it is open, usage of the running lane is much lower, because people are not sure whether it is a hard shoulder or not.

We have done a lot of work with red X communication. We actually light up the sign that says "Hard shoulder use only in emergency" when it is closed, but we have a particular problem with compliance. The MIDAS system detects slow-moving traffic at other times of the day—say, the horse show is on at the NEC. It will put the system on automatically. We may not have the management information, but our control room may be aware that, at 2 o'clock on a Saturday afternoon, there is an event at the NEC, or maybe the airport is busy in a mid-term holiday, and it will have selected the lowest speeds and opened the hard shoulder. I do not think we will be building any more dynamic hard shoulder smart motorways. They are too complicated for people to use.

**Q54 Graham Stringer:** Does Mr Wilson have the statistics?

**Mike Wilson:** No, I do not have the statistics, I am sorry. We are happy to provide them.

**Q55 Graham Stringer:** I saw you foraging.



## HOUSE OF COMMONS

**Mike Wilson:** I thought there might be something in my pack. One thing I would say is that the comparison we put is before and after. We set ourselves a target that the new smart motorway would be as safe as the motorway before it. That is the test we set. The all-lane running schemes are demonstrating that they are as safe, if not safer, than the motorways they replaced.

**Jim O'Sullivan:** We have studied the data. There is a league table of about 20 motorways. Their safety performance is clustered. It is close together. There are no particular outliers. I say that with qualification because we have had a cluster of accidents on the M1. We get clusters of accidents, and the data we have is relatively short, because the scheme has only been open for a year or so. We are almost paranoid about a cluster of accidents in one location. We do see them, but because it is a smart motorway, we are paying extra attention to it.

Notwithstanding that, if the M42 were an outlier that was dramatically safer or less safe than the bulk of our motorways, we would have spotted it. We will certainly look at the data for you.

**Graham Stringer:** Thank you.

Q56 **Chair:** This seems a bit surprising to me, knowing that you were coming to the Committee this morning and that you would be asked about all-lane running. In a letter to me, Jim, you provided details on the conventional motorway weighted safety record and on motorways with all-lane running, but you are not able to tell us whether a smart motorway that retains the hard shoulder is safer or less safe than an all-lane running motorway.

**Jim O'Sullivan:** No. I am persuaded that the difference is so slight that we would not have looked into it. The public argument has been the safety of all-lane running and dynamic hard shoulder versus conventional motorways. There is very little difference there. Within the pack, there are three or four configurations of smart motorways. I think one of the mistakes we made was trying to explain all the different types to the public, whereas we should have put bandwidth into explaining red Xs and white arrows: "If you disobey a speed limit, even if it is on an LED sign, you will get prosecuted." For all-lane running, we should never have got into the detail of the different schemes with the public. We should have just explained how to be safe on them.

We will write with the statistics, but frankly I would be very surprised if the M42 is in any way different from the performance of any of our other smart motorways.

Q57 **Chair:** One of the most dangerous aspects of driving on a smart motorway with all-lane running is the possibility that you break down in a live lane, isn't it?



## HOUSE OF COMMONS

**Jim O'Sullivan:** Yes, but that is true of all our motorways. If you are in the outside lane of the M25 or one of our four or five-lane motorways, it is a challenge to get to the hard shoulder.

Q58 **Chair:** In breakdowns on conventional motorways, what proportion end up in a live lane rather than on the hard shoulder? We know about that for your ALR smart motorways because you have provided me with a breakdown location. We know that 38% of breakdowns end up in a live lane.

**Jim O'Sullivan:** We have that data. You are more likely to have a live lane breakdown on a smart motorway than on a conventional motorway partly because, for the most part, they are wider. You are now on four lanes as opposed to three. Mike is looking up the numbers.

We have looked at the spacing of ERAs, and we have compared the spacing of emergency areas. We have a variety in service now. We have areas where they are as low as 600 to 800 metres apart, which is the M42. We have them 1.5 miles apart on sections of the M1. There is no difference in live lane breakdown rates on motorways whether they are spaced a good distance apart or whether they are close together.

**Mike Wilson:** I don't have those statistics to hand; I am sorry. As Jim said, we see injury, incidents, collisions and fatalities on both conventional motorways and on all-lane running motorways. We also see, as Jim said, non-emergency stops on hard shoulders. There are statistics that demonstrate that up to about 90% of stops on any hard shoulder are for a non-emergency purpose. Jim described some of those.

Hard shoulders are safer than live lanes, but they are not safe places. Again, as Jim said, emergency areas are safer than hard shoulders for two reasons, fundamentally. They are wider than hard shoulders; an emergency area is 4.6 metres wide, whereas a hard shoulder, on average, is about 3.5 metres wide. Some road users weave in and out of the hard shoulder, and the discontinuous nature of an emergency area means that that behaviour is less on smart motorways.

I do not have the particular statistics to hand, but the nature of the motorways is that we see a change in hazards and risks, which was the analysis we did before we went to all-lane running and which we have run again. That has demonstrated that smart motorways would be safe, and the evidence we have provided shows that. Clearly, there is more work for us to do for road users to feel safe on smart motorways.

Q59 **Chair:** If I were driving on a smart motorway and I broke down—I am one of the 38%, the more than 19,000 vehicles that end up broken down in a live lane—I accept that the hard shoulder is not a safe place to be, but where would you rather break down? A hard shoulder or a live lane?

**Jim O'Sullivan:** In order of priority, I would definitely rather not have broken down in the first place. We can do a great deal to prevent that. That is the first thing. Having broken down, comparing like for like, I



## HOUSE OF COMMONS

would prefer to be in an emergency area than on a hard shoulder. I would prefer to break down in a live lane of a managed motorway or a smart motorway than in a live lane on a conventional motorway or on a dual carriageway. Like for like, smart motorways are as safe or safer than conventional motorways.

Q60 **Chair:** But would you rather end up sitting in the hard shoulder or sitting in a live lane?

**Jim O'Sullivan:** That is a false choice.

Q61 **Chair:** Is it?

**Jim O'Sullivan:** It is, because on a like-for-like basis it is an emergency area or a hard shoulder, or it is a live lane on a managed motorway or a live lane on a conventional motorway.

Q62 **Chair:** Yet we know that 38% of people who break down on a smart motorway do not make it to an emergency refuge area.

**Jim O'Sullivan:** We will produce the numbers for conventional motorways. They will be of a similar order of magnitude. We are into the science of very small numbers, as I said. We are evidence led. Both of these categories of roads are the safest in the world, and you are safer on a smart motorway than you are on a dual carriageway or an urban road.

Q63 **Chair:** You made some comments to *The Times* newspaper that described as reckless people who were involved in some of the serious actions and who had stopped in a live lane. Are you really blaming drivers for some of the accidents on smart motorways rather than taking responsibility for Highways England's design?

**Jim O'Sullivan:** No, absolutely not. What one says to the paper and what the paper chooses to write is sometimes a slightly different tone of voice. I spent over half of that interview explaining how to be safe. Our first priority is to share that information.

These accident rates are very low, and to a large extent they reflect the skill and the care of the people who use our roads. These are the safest roads in the world. I want to get to zero. Part of getting to zero is preventing accidents in the first place. If you have a yellow warning light, you probably have time to investigate and find a convenient place of safety. If you have a red warning light, please go to the nearest emergency area or get to the hard shoulder. Better still get to the nearest service station. Do not press on knowing that the next emergency area or the next exit is two to three miles away. Five per cent of our breakdowns are people running out of fuel. There is the fuel gauge and the warning light; we even put the distance to the next service area on a sign, and the indicator shows the mileage you have left.

Q64 **Chair:** It does sound rather like you are saying that it is the fault of drivers who are breaking down, rather than your systems for making



people driving on smart motorways safe.

**Jim O'Sullivan:** No. We have created the safest roads in the world. We are doing more to make them even safer. We need help to make them absolutely safe. What I am asking for is help. What I am giving is practical advice to people who find themselves in a very difficult situation as to what they should do about it.

Q65 **Chair:** Is that percentage of 38% of people breaking down in a live lane acceptable?

**Jim O'Sullivan:** I would like to see it at zero. I would like to see nobody breaking down on our road network. Car manufacturers are making great strides in the reliability of vehicles. We are designing ever safer roads. We continue to learn how to make roads safer. We are talking about a very small number of accidents on the world's safest roads.

Q66 **Chair:** I don't suppose that is much consolation to the friends and family of those who have been killed in such accidents.

**Jim O'Sullivan:** Every time a family loses a family member, that is a great tragedy. Anybody who has felt personal loss knows how that feels. I would very much like to see it at zero. In a comparison of these roads with roads in any other country, they are the best.

Q67 **Chair:** When Mr Wilson was in front of the previous Committee in May 2016, almost three and a half years ago, he told us, "We will continue to work with those organisations to minimise the risk of live lane breakdowns." Have you done enough to minimise the risk of live lane breakdowns, given that 38% of breakdowns end up in a live lane?

**Jim O'Sullivan:** I do not think you can ever do enough. That is the first thing. I think we have done everything we can. Mike can talk in a second about the work we have done with the breakdown community. We have found new and innovative ways to work with trucking companies. For instance, despite the gig economy, we have worked out that the name on the side of the truck is usually very reputation-sensitive, and therefore, by working with the prime movers in those sectors, we can raise driving standards.

We have worked with the public sector in a campaign that we call Driving for Better Business. We have worked with the private and the public sector, and we have run vast numbers of information campaigns. We continue to fine-tune the algorithms that operate smart motorways, to make them more customer friendly. We continue to communicate through our VMS signs on safety. We have done everything we can. We are introducing stopped vehicle detection, of which you will be aware. Mike, do you want to talk about the work with the breakdown industry?

**Mike Wilson:** There are two things. To pick up on what Jim was saying, Driving for Better Business is a campaign that we sponsor. About 30% of all collisions on our network involve somebody who is driving for work,



whether it is for delivery or going to a meeting. We are working very hard with a number of organisations to reduce the number of people who are injured while driving for work. We are introducing some basic advice to companies to help to keep their people safe.

The advantage of Driving for Better Business is that it works from a moral perspective in reducing the number of people who are hurt, and companies are clearly extremely interested in that. It also reduces their costs. It reduces their insurance costs and premiums. It is an opportunity for us to help companies keep their people safer and reduce their costs, and, fundamentally, it reduces the number of people who are injured on our roads.

Coming back to the recovery industry, following the Committee's recommendations in 2016 we did a significant piece of work. You will recall that they were about the size and spacing of emergency refuge areas and the processes and protocols associated with facilitating recovery from smart motorways.

As part of that, we went to the fire service college in Moreton-in-Marsh, where there is a mock-up of a motorway. We worked with about 70 organisations to understand whether the size of an emergency area was correct. The result was that it was the right size. What was more important was where the vehicle broke down. Fundamentally, if the vehicle breaks down at the end of the emergency area, it does not matter whether the emergency area is twice as long—it still does not facilitate the recovery. Not only did we introduce the orange paint to help people know where the next emergency area is and what one looks like, but we also introduced a pit stop—a simple marking on the road to encourage people to stop in the right place and therefore facilitate recovery.

We have been working with an organisation called Survive to publish guidance, processes and protocols for the recovery industry working on smart motorways. Indeed, we have now introduced an eight-hour training course, which is part of the professional certificate for training that all HGV and recovery organisations are involved in, to help them understand and work with us on smart motorways, so that we can facilitate recovery much more straightforwardly and keep recovery operators safe, although I would suggest that they are safer on smart motorways than on more conventional types of motorway.

**Chair:** I have some further questions, but I will pass over to Paul.

**Q68 Paul Girvan:** Thank you for your information so far. In relation to your view of the risks associated with all-lane running, what are the risks and what measures should be taken to address them to ensure that they are minimised?

**Jim O'Sullivan:** As I said earlier, we treat each road as a safety system. How do you make it as safe as it can be from beginning to end? In the round, is it a safe experience or not?



## HOUSE OF COMMONS

One starts with the fundamentals of a motorway. People sometimes complain about the cost of our roads, but there are so many things about a British motorway that contribute to its safety—for instance, lane width. These are common features, but part of the safety system is the lane width. The wider the lanes, the safer the road becomes because it gives you more time to react should you have a problem.

Sight lines are hugely important. Naming no names, if you visit some other European countries and look at the radius of the bends or inclines, you will find that the sight lines are not great. If you are doing 70 mph and look forward, you cannot always see five, 10 or 15 seconds in front of you, which is the time you need.

One of the biggest changes of the last five to 10 years—we are rolling it out everywhere we can—is concrete central reservations. Both smart motorways and conventional motorways have concrete central reservations, and we will not implement a smart motorway scheme without them. We find that the move to 44-tonne trucks from 38 tonnes and 40 tonnes, and the move to SUVs, which sit higher and tend to be heavier, means that the old steel barrier, while it still meets specification, is not as good as we would like in preventing crossover accidents. The most dangerous accidents and fatal accidents are where one vehicle faces another head on. The introduction of concrete central reservations is hugely important. They start as the risks.

If you are to choose between a hard shoulder and an emergency refuge area, as Mike has already said, the most important thing is size and the fact that recovery operators can move freely and safely around the recovery area. I personally would not change a wheel on the hard shoulder of a motorway. Twenty or 30 years ago, when roads were much less busy, I might have done—in fact I probably would have done—but today I would wait for my recovery agent, a traffic officer from Highways England or a breakdown vehicle. I would want some professional cover before I attempted to do that. Times have changed. We have emergency refuge areas and signage, in particular the use of VMS and information signs to close lanes and manage traffic flows and speed. Those are the sorts of things we introduce.

Over and above that, we are rolling out stopped vehicle detection. It is challenging because radar is designed to ignore stationary things and detect things that are moving. To have a radar system that can see that something has stopped moving is a challenge. The MIDAS system already detects slowing traffic, so that, if you break down and traffic starts to slow behind you, there are automatic signs and signals, but we are now starting to roll out stopped vehicle detection. It is not without its challenges. Indeed, we are looking to other technologies in the future and what might be out there to help. The vehicle itself will at some point know that it is on a smart motorway and that it has stopped, and will probably be able to emergency communicate itself at some point in the future.



## HOUSE OF COMMONS

**Q69 Paul Girvan:** That leads on to the next question, which relates to stopped vehicle detection. Instead of introducing all-lane running, would it not be good to have all the technologies put in place before it is introduced? In areas where there is major congestion and you have all-lane running at specific times, which you identified earlier, does that not increase the risk? Those who do not understand, and who have been on the motorway before, know that there is all-lane running, but they find a lorry stopped on the hard shoulder, because it is a hard shoulder time of day. The in and out tends not to be a good idea.

**Jim O'Sullivan:** To take the last question first, I agree with you. The dynamic hard shoulder, particularly on the M42, is something we probably need to revisit at some time. If we were going back five or seven years, we would have had one design and we would have rolled it out everywhere.

The proviso is that, when we did the M42, people did not feel that smart motorways would work at all; they thought they would be very dangerous. We have had nine schemes running for one year and one scheme running for three years, and there isn't a fag paper between our smart motorways and conventional ones. It is hugely satisfying—"rewarding" is not the right word—to know that all the work that the engineers, road architects and so on did was right. The M42 was a prototype. We put a lot of stuff into it to make sure that it would work. Having seen the results of the M42, we were able to fine-tune the design, but with the wisdom of hindsight, I would like them all to be the same, and I would like the user experience on all of them to be the same.

There are two things about rolling out the technology. When we put out the technology, we also refurbished the hard shoulders. Generally speaking, we widened the road a little bit and took some of the central reservation. We have to do both of those things at the same time. I do not think people would allow us to put out the technology and wait two years, and have us come back and close lanes for another two years while we put in the emergency refuge areas. We should do the carriageway widening, introduce the technology and add the refuge areas all at the same time.

Having done it, the first thing we do is trial them for a period of time at a lower speed limit. It used to be 50; we have recently raised it to 60. We get a lot of negative feedback from the public, who say, "We know this is a smart motorway and you are opening it. Why can't we use that lane now?" They want the point at which our cones and barriers disappear and the point at which they have fully functioning all-lane running to be immediate. Therefore, if the idea was that I should put the technology out but would continue to use the inside lane as a hard shoulder for a period of time, I think the public would find it entirely unacceptable.

**Q70 Paul Girvan:** In relation to one stretch of the M1 motorway, South Yorkshire police have deployed extra patrols in the all-lane running stretch. Does this indicate that you do not have enough traffic officers to



monitor that? There is an interesting quote from Edmund King of the AA. He remarked that the situation on the M1 in South Yorkshire “means the police know the Highways England Scheme is dangerous”—that is fairly damning—“but have to increase resources to pick up the pieces.” The police have to increase their resources to pick up the pieces after a design issue on a stretch of motorway that potentially is causing concern. I do not know the man, but Edmund King of the AA must be a recognised figure.

**Jim O'Sullivan:** I know Edmund quite well; he is a close colleague. We serve together on the DFT's motorist forum, and that opinion would be consistent with opinions he has expressed on smart motorways in general.

We have already mentioned in this session that we have seen a cluster of accidents in that section of the M1. We have analysed them. We are satisfied with the design of the smart motorway in that area. A cluster like that is unusual but not unheard of. We have had clusters of accidents like that on other motorways that are not smart motorways, with similar numbers of fatalities.

We are always interested in a cluster of accidents, but we are a data-led organisation. We now have nine of these schemes and 300 miles of them. It is tragic and upsetting, but it is not entirely unreasonable or unheard of that we would have a cluster. There are enough of these schemes now that we would see a cluster of accidents similar to what we see in other parts of our motorway network.

Q71 **Chair:** Why are the police deploying extra patrols if it is safe?

**Jim O'Sullivan:** That is a question for the police. Roads policing has been a subject of much public debate. The DFT has just launched an initiative to review roads policing. The public have strong opinions on roads policing, and it is right that it is looked at, but why the chief constable of South Yorkshire has deployed his resources is, I suggest, a question more appropriately asked of him.

Q72 **Chair:** Paul asked you about stopped vehicle detection. It is currently in place on only 18% of ALR motorways. What is the timescale to introduce it on all stretches?

**Jim O'Sullivan:** We are currently developing plans for that. It has to be productionised, and there are a number of challenges with it. We now know that it works; we have three years' experience on the M25. Our first retrofit of stopped vehicle detection will be on the M3, and we are doing it this year. Refitting it and productionising it so that you can roll it out over hundreds of miles as a retrofit programme is quite a challenge. We need to understand what the challenges are and how we can achieve it efficiently. It is going to be incorporated on all new schemes after 2020. Typically, a smart motorway spends about two to three years in design. It is a bit like reducing the spacing of the ERAs. If we catch the



## HOUSE OF COMMONS

scheme in design, it is much easier to incorporate it and build it in; for instance, gantries can turn up with the equipment already fitted.

With retrofit, there are two challenges. The first is the existing equipment. How does the new equipment interface with existing equipment? It has to interface physically and electrically. We have to be sure that the radio signals it is using do not interfere with what is already there. Most importantly for the road user, we have to work out the traffic management, because, if it needs extensive road or lane closures, we need to communicate with people about the inconvenience it causes. We have to understand how we do the retrofit before we can roll out a full plan, but ultimately our intention is that all of these schemes will have stopped vehicle detection.

**Q73 Chair:** If stopped vehicle detection had been in place on all schemes, how many deaths would have been prevented?

**Jim O'Sullivan:** A number of them. That is a hypothetical question that is impossible to quantify. A number of these accidents happened very quickly. I think one of them was 17 seconds. Of the eight fatalities, undoubtedly one or two might have been avoided, but not all of them. Stopped vehicle detection, because of the nature of the system, is only about 80% to 90% effective. That is the difficulty of detecting with radar something that is not moving. We have only one supplier, so it is about their ability to scale up and deliver this programme. We are trail-blazing in this area; we are inventing something that people have not considered before. It may have prevented some, but, given the accuracy of the system and the speed at which some of these accidents happened, it is questionable.

**Q74 Chair:** I am concerned about the speed with which you are doing this work. I accept that it is developing and needs thinking through, but Mr Wilson appeared before the Committee in 2016 and said that stopped vehicle detection systems would be part of the standard roll-out of smart motorways going forward and implied that the system would be retrofitted to existing schemes. We are now three and a half years on. Why is it taking so long? I accept that the work needed doing, but if it started three and a half years ago why are we still at only 18%? Why is it taking so long to do that work?

**Jim O'Sullivan:** This is ground-breaking technology. We have just had the exact opposite discussion about smart motorways and waiting until the technology was proven to roll it out. We are rolling this out as quickly as we possibly can. We had to trial it for a period of time. It is not just about the technology but about the people interface. We had to be satisfied with the results of the schemes introduced on the M25. Having proved that it works, we have to productionise it, because we cannot roll out on a prototype basis a system that is that complex across the huge volumes that we have.



## HOUSE OF COMMONS

We have already started on the design of new smart motorways, so from 2020 the new ones that come into build will incorporate it. The most difficult part of any engineering programme is the retrofit. We have to work out how we retrofit the equipment to existing smart motorways, many of which have different designs. We have used different shaped gantries and different gantry spacing, so each one of them will have to be a tailored design.

Our first target was to make sure that all the new ones introduced had it. If you have a limited number of designers and manufacturing capability, that is where you get the most impact for your money to make sure that the new designs go forward. All of them have it. We have done that. The most difficult bit is the retrofit. The idea that we would start with the retrofit and then do the new designs would be the wrong way round.

**Q75 Paul Girvan:** I understand that German autobahns currently have that technology. Why are we reinventing the wheel when stopped vehicle technology has been on the autobahns for probably the last 10 years?

**Mike Wilson:** The technology we are using here was developed in Sweden and was aimed at tunnels. Many tunnels, including those that we operate, have stopped vehicle detection in place. The challenge has always been that because of a tunnel's consistent weather environment the technology has been designed to work in a controlled environment. The challenge has always been to move it into an all-weather environment, and, as I say, we have used technology from Sweden. I am not aware of it being used on all German roads. They may well have it similarly in tunnels.

**Q76 Paul Girvan:** Not on all German roads, but on the autobahns there is definitely technology to detect stationary or broken-down vehicles.

**Mike Wilson:** We have looked at a number of different technologies and continue to do so, such as using CCTV analytics—looking at CCTV images to identify them. The challenge is getting a robust set of data so that you can be confident that, when the system tells you there is stopped vehicle detection, it is actually happening. We have looked at and trialled a number of technologies over the years in this space and have been concerned about the number of false alerts. The challenge for us has been to create and demonstrate a technology that gives a level of confidence that the alert is a genuine one so we can take action accordingly.

**Q77 Paul Girvan:** Are we currently investing in the innovation fund or whatever to try to bring this forward, as a nation?

**Jim O'Sullivan:** Yes, we are. I am unaware why we rejected the technology that the Germans are using, but I can find out and get back to you.

**Q78 Paul Girvan:** Can you please come back to us on that?



## HOUSE OF COMMONS

**Jim O'Sullivan:** Yes. I am confident we will have looked at that and rejected it, but why, I do not know.

**Mike Wilson:** We are continuing to look at a number of technologies.

**Jim O'Sullivan:** On Mike's point about nuisance warnings, we are working all the time to improve the way we set speed limits. If a device that we put on the network sets the wrong speed limit, it encourages people not to pay attention to speed limits.

It is about nuisance stopped vehicle detections. There will be 60 to 100 detectors every kilometre. If any one of them gives 1% or 2% false readings, a number of the 40 mph and 50 mph alerts we put out on the network would be unnecessary. There are two issues. One is that one vehicle runs into the back of another because the vehicle in front has slowed suddenly. The second is that we could create an environment where people do not trust our speed limits, so it is about avoiding nuisance warnings from the system.

**Mike Wilson:** The detectors are every 500 metres.

**Jim O'Sullivan:** Yes. Getting it right and making sure it works in all geographies and topographies as we roll it out is very important to us. This is 30 to 40-year infrastructure; it is going to affect 4 million users a day. We are in a hurry, but we have to get it right.

Q79 **Chair:** The question is that members of the public are saying that you are rolling out removal of the hard shoulder, but not rolling out as fast the technology that, if I stop on the hard shoulder, will potentially find me quickly and prevent other traffic from hitting me from behind.

**Jim O'Sullivan:** I would say we are rolling this out as quickly as smart motorways, if not more quickly. The issue is that we started much later. We have been perfecting the design of smart motorways for 10 or 15 years. This Committee got the commitment three years ago that we would begin stopped vehicle detection. I think we have made very good progress in introducing a ground-breaking, unproven technology across a vast and important network.

Q80 **Huw Merriman:** I want to ask about the red Xs on gantries. There is still a 7% non-compliance rate by drivers. That figure has barely changed since we reported in 2016. Why have we had no progress?

**Jim O'Sullivan:** The short answer is that I do not know. We have worked very hard to improve that compliance. We sent out over 130,000 letters before it became automatically enforceable—I will come back to that in a second. Over the last 18 months or so, working with DVLA, we have sent over 130,000 letters to people to remind them that they had failed to comply with a red X instruction. This autumn, we are expecting red X automatic enforcement using cameras to come into being. We hope or expect that that will bring up the compliance numbers, too.



## HOUSE OF COMMONS

Q81 **Huw Merriman:** That means there will be sanctions for drivers.

**Jim O'Sullivan:** It has been a motoring offence to drive under a red X for—how many years?

**Mike Wilson:** I think red X was introduced in The Highway Code in 1998.

Q82 **Huw Merriman:** You said that you were writing to people, so there is a letter and a fine.

**Jim O'Sullivan:** Yes. One could say that, over the last 18 months or two years, we have made 130,000 people aware of the law, and as police forces move into enforcement in the coming months the fine and penalty points will have a greater impact.

Q83 **Huw Merriman:** Do you think enough people know that that will happen?

**Mike Wilson:** We use an insight panel to help us direct our campaigns. Our recent advice told us that 95% of the 20,000 people involved in that knew what a red X meant and that they should not pass beneath it.

Q84 **Huw Merriman:** It is one thing knowing what it means—we all know; I am amazed that it is 95% and not 100%—but it is another thing knowing that you will get fined if you ignore it.

**Jim O'Sullivan:** We have now enabled the cameras and computer technology that allow police forces automatically to use cameras and the red X together in the same way as cameras can be used for speeding tickets, so that is happening as we speak.

Q85 **Huw Merriman:** Are you going to broadcast that on your gantries themselves? They are always telling us various things. That might be a good way to get the message across to drivers that they will receive a fine if they drive under a red X.

**Jim O'Sullivan:** We have already used a number of messages on red X compliance on those screens. What we can put on them is controlled by the DfT.

Q86 **Huw Merriman:** I understand that.

**Jim O'Sullivan:** We also know from our user panel that what goes up on those notices is of great interest to our users, but, historically, a lot of the messages we used to put up there they did not like and did not feel were useful. We try to restrict them almost entirely to operational information rather than public information, so there would be a lively debate as to whether or not telling people they will get fined for disobeying a red X should be on those VMSs.

Q87 **Huw Merriman:** From a personal perspective, I think it would be an excellent way. If I am a driver, I get educated, and then I drive more safely and do not get fined. I would love Highways England on that basis—one to take back.



**Jim O'Sullivan:** Thank you. I will take that back.

Q88 **Huw Merriman:** How far back from an incident do you insert a red X?

**Jim O'Sullivan:** The previous gantry. If the signs are working correctly, you will see two white arrows, so you get two warnings to move across from the lane, and then you get the red X. Depending on the spacing of the gantries, we may repeat the red X in case you missed it, but typically, depending on the spacing of the gantries, the signs start maybe a mile or two miles before the incident.

**Mike Wilson:** The sign preceding the incident will be set at red X. As Jim says, we have what we call two kick-over arrows before that, which tell people to move out of the lane, and then there is the red X preceding the incident itself.

**Jim O'Sullivan:** I know that a lot of people will be watching this Committee. If you get flashed by a camera having driven under a red X, you will probably get a fine in the post.

Q89 **Huw Merriman:** We are trying to broadcast the broadcast, as it were.

Can I ask about emergency refuge areas? There are continued concerns about their availability. They are currently spaced either every two or every 1.6 kilometres. Why has Highways England not reverted to a spacing of 500 metres to 800 metres between emergency refuge areas, as the Committee recommended back in 2016?

**Jim O'Sullivan:** We now speak with the voice of experience. As I said, nine schemes have been in service for a year, and we have one scheme that has been in service for three years, so we are starting to collect the data. We find that the spacing of the emergency areas makes very little difference to the live breakdown rates. That is entirely counter-intuitive, and we are struggling to find an explanation for it, but it whether or not the emergency area is available that seems to be the driver.

Having looked at the spacing, the furthest apart is 1.5 kilometres and the closest is on the M42, at 400 metres to 600 metres. The spacing does not seem to matter from a safety perspective. However, it plays to a very important public point, which is that we recognise that significant numbers of drivers do not feel safe on smart motorways. With an aviation background, I can understand that a safe aeroplane that people do not feel safe in is not a very good customer proposition. We are working on what is the best overall customer offering.

In combination with painting them orange, which has made a huge difference to their acceptability, and the very large signs we have put up pointing them out, we have come to the conclusion that, for all new smart motorways, the best compromise between making people feel safe and keeping them safe is a spacing of around 1 mile. We have reduced them from the theoretical maximum safe distance apart, but it is in recognition that people need to feel safe. If people are in view of a sign



## HOUSE OF COMMONS

or refuge area all the time they are driving, they feel safer, and a mile seems to achieve that ambition.

- Q90 **Huw Merriman:** The AA believes that the 30-metre stopping space is not long enough to allow vehicles to build up sufficient speed to rejoin the motorway. How do you respond to the AA's view?

**Jim O'Sullivan:** This is another area where I think we need to do more communication. When your vehicle is repaired and you are ready to leave the emergency area, we set the red Xs in the first lane and close the lane so that you can exit safely. I wish more people knew about that; maybe advising the Committee of it this morning will be part of sharing it.

- Q91 **Huw Merriman:** With the combination of the red X and what you have at the moment, do you feel the AA's view is not fair?

**Jim O'Sullivan:** We close the inside lane for you to exit an emergency refuge area. That has to be safer than trying to accelerate on a hard shoulder and pulling out into the first lane of the motorway.

- Q92 **Daniel Zeichner:** I want to recap because of the blizzard of statistics earlier. To be clear in my own mind, your argument is that the numbers are very small because the roads are very safe. You said it is absolutely obvious that there will be more people who end up breaking down in a live lane with all-lane running. The figure for that is 38%, and so far you have not been able to give us the equivalent figure for a conventional motorway.

**Jim O'Sullivan:** No.

- Q93 **Daniel Zeichner:** Could you give us that in the future? That is an important comparison. Looking back to the previous Committee in 2016, when an assessment was made, the figure it came up with was an increased risk of 216%, so presumably that may not have changed very much.

**Jim O'Sullivan:** No.

- Q94 **Daniel Zeichner:** In the end, you are trading off the various risks, and the conclusion you come to is that it is reasonable to make that trade-off.

**Jim O'Sullivan:** Yes.

- Q95 **Daniel Zeichner:** Who should make that decision ultimately? Is that an engineering decision for Highways England or ultimately a political one to be made by politicians?

**Jim O'Sullivan:** There are two levels to that decision. The first is that we are the highways authority as well as the construction and operations company, and our technical standards are adopted not just in this country but all over the world. We set those standards and adhere to them. The technical operational judgment is one for Highways England and the highways authority.



I am also accountable to Parliament for public money. Therefore, it is part of my responsibility, the company's responsibility and the board's responsibility to ensure that public money is used wisely. When it comes to safety, I would rather spend money on things that are effective and make a genuine difference to safety. That is the limit of our authority.

Beyond that, if there is a societal concern, it is for the Government to choose to address it. We do not just treat safety in that way. When we propose a change to the strategic road network, we do so on the basis of a sound business and economic case, but we respect and accept that the Government have broader societal concerns and issues to address. If there is something that is genuinely transformational, the Government may choose to do it and we will deliver it. There is a societal issue that is beyond our mandate, but safety and the use of public money are definitely within our responsibilities.

**Q96 Daniel Zeichner:** You touched on this just now. You know that the AA and the RAC take a different view. A recent survey by the AA of some 15,000 drivers showed that seven out of 10 do not feel safe. As you said, it is the same with aviation. If people do not feel safe, that is an important point in its own right, and in the end it is a judgment call. I suggest to you that in the end you need to get to a very different figure. How long will it be before that survey shows that as many people make the same judgment as you that it is safe?

**Jim O'Sullivan:** One thing we can definitely agree with the AA on is that this is a very contentious topic. The Government have created a watchdog called Transport Focus whose job is to monitor what motorists and road users think of Highways England, feed it back to us and then ensure we are taking such advice seriously.

If one were to look at the Transport Focus work on smart motorways, there are two interesting conclusions. It looks right across all road users; it looks at truck drivers, coach drivers, the freight industry—everybody. The first interesting thing that I draw from that, which is relevant to this discussion, is the fact that all the road users they talked to did not mention smart motorway safety unless pressed. When they were asked what they thought of their journey, what it was like and what they would like us to change or do, none of them raised safety. It was only when they were asked how they felt about the safety of smart motorways that they responded. We believe that, based on the Transport Focus evidence, the vast majority of people using smart motorways do not reflect the views of AA members.

The second piece is that, having got to that question—if I get these numbers wrong, we will correct them—something like 64% of the people Transport Focus talk to think smart motorways are safe, and about 10% to 15% think they are not. Our own historical data says that about 10% of people do not feel safe on an ordinary motorway, so 10% do not feel safe on an ordinary motorway and about 15% don't on smart motorways. I would like everybody to feel safe. Driving is an uncomfortable



## HOUSE OF COMMONS

experience for an extended period of time. We do not want that. We would like everybody to feel safe, but, based on the Transport Focus work, our smart motorways are not that far away from the rest of our motorways.

I tried this and failed through *The Times* at the weekend, but I would ask that, if people could spend half the time they devote to criticising the safest roads in the world informing people as to what they can do to stay safe on them, we could reduce that very small number of accidents to zero. We need help with that, but there are many different surveys and statistics out there, and it is definitely a hugely contentious issue.

**Chair:** We are going to move on a little bit and talk about the roads investment strategy.

Q97 **Jack Brereton:** We are coming to the end of the first five-year programme of road investment, RIS1. What do you feel have been the main successes of RIS1?

**Jim O'Sullivan:** We have talked about safety. I am very pleased with that. I am very pleased with our progress on customer service. We do not always get it right, but I think you can see it in what we have done on journey times and the information we put on VMSs. The introduction of 60 mph in roadworks won a public policy award. People driving at 60 mph in roadworks feel safer than they do driving at 50 mph. We are very pleased with that.

Then we come to the main reason why Highways England was set up, which is delivery. We were given a very complex portfolio of schemes. We have by no means been perfect in our delivery. From a standing start, 112 schemes were always going to be a challenge. So far we are on course to have delivered and completed, open for traffic, 35 of them. By March next year, there will be another 35 under construction. Of the original 112 that were published, about eight have been removed because they turned out to be poor value for money, so we decided not to proceed with them. As I said earlier, the benchmark is whether we are better than the Highways Agency, not whether we are perfect. I think that, in the round, we have done a reasonable job of delivering those roads.

Q98 **Jack Brereton:** Do you think mistakes were made at the start of RIS1 about its affordability and deliverability?

**Jim O'Sullivan:** We inherited RIS1 from a standing start. As we go into RIS2, for a start we will have completed 35 schemes and we have 35 under construction, so you are looking at a much more experienced organisation than the one that put RIS1 together. Was RIS1 the best that could be put together at the time with the capability that the Department and the organisation had? Yes, I think it was. Have we learned from it? Yes. All sorts of things happened in RIS1.

Q99 **Jack Brereton:** What are the lessons you have learned?



**Jim O'Sullivan:** Setting the scope and budget too early would be one challenge. Because RIS1 was from a standing start, I do not think the site surveys were as good as they could have been. To take the A21 in Kent, we found a medieval brickworks and mass dumping of asbestos. That project was something short of £100 million when it was launched; it ended up costing more than £120 million. It is a great scheme and still makes great economic sense, but we found some untoward things there, so better site surveys would be one lesson.

On the M60 at Manchester, we started work on the smart motorway. The hard shoulder and most of the asset was very old and not in a good state, so the budget for that project overran. There were scope changes. Historically, the Highways Agency would have been given a sum of money and would design a scheme to that budget in order to improve things. Now that we see the strategic road network as a national asset, we are far more circumspect. We say to the Department, "If you are serious about fixing that, you need to do this."

An example is the A428 where the A14 joins the A1. If I get this number terribly wrong, we will correct it. The original budget was about £200 million to £300 million for some roundabout improvements and a short section of dual carriageway. In truth, if you are to transform the A1 and its connection to Cambridgeshire and the midlands, it needs a proper dual carriageway and a proper graded junction, and the budget is probably closer to £800 million. We are now scoping these projects as a once-in-a-lifetime fix and making sure we get them right, as opposed to, "Here's the budget. What can you do about that road?"

We have fundamentally shifted the scope of a number of projects. The A428 is probably the most obvious example; the A12 would be another. There are a number in the north of England. Simister Island up in Manchester is another where the scope is quite different. Learning to scope the project properly and being able to play that back to DFT is another lesson.

It is about site visits and better planning. Engagement has been a huge thing. We have gone back to consultation twice. We got the answers from the first consultation and made significant changes to the scheme, and went back a second time. I think we are now better listeners. I would like to think that we do not end up going back to consultation a second time in RIS2. There are any number of learnings.

We have learned to live within our budget and funding each year, which is not necessarily common. The first year we were heading for a £400 million overspend. We brought that under control and delivered to our numbers at the end of the first year, and we have delivered our numbers every year since.

There is one document I would point to. Each year we have done a delivery plan update that represents what we are truly going to produce in the next 12 months. In each year, external factors notwithstanding, we



## HOUSE OF COMMONS

have hit the targets we set in that delivery plan for schemes to be delivered, consulted on or whatever. There has been quite a bit of learning.

**Q100 Jack Brereton:** You touched on a number of the schemes that had dropped out of RIS1. About 70 of the original 112 were going to be started in RIS1. Could you go into a bit more detail about why some of those schemes have dropped out? Are they going to be replaced with alternatives, or are they no longer necessary?

**Elliot Shaw:** We are still committed to delivering 104 of the 112 schemes. Of the eight that have dropped out, six were on value-for-money grounds; in particular, most of them tended to be technology schemes on motorways, and when we did the work, in effect, the cost did not justify the benefits. There were a couple of schemes where it was clear that there was not stakeholder support. Chichester was one where there was a scheme on the table.

**Q101 Jack Brereton:** That has been going on for some time, I think.

**Elliot Shaw:** It was. As a responsible operator and road builder, we are conscious that we need suitable local support for a scheme, and it was not there in that case.

We are still committed to the vast majority of the schemes. There has been some reprofiling and reprioritising. Originally, the programme had about 60 schemes starting right at the back end of RIS1, which would have been particularly challenging for our customers; there would have been stretches of the road network where you had roadworks after roadworks. We undertook a prioritisation or optimisation exercise and brought forward about 14 schemes. We moved some back to try to spread the peak, to minimise the impact on road users. Overall, in our delivery plan, 104 of the 112 are still going ahead, but we have tried to optimise the timings, primarily to make sure that we minimise the disruption to customers.

**Q102 Jack Brereton:** As a whole, do you believe that RIS1 has delivered value for the taxpayer?

**Jim O'Sullivan:** Absolutely. We are not perfect, for sure. Our benchmark was that if you set up the Infrastructure Act, and you set up Highways England, you will get a better result than with the Highways Agency. I think we have achieved that. The benefit-cost ratio for the portfolio in RIS1 is about 2:2.5. We think that is a good measure of success.

We have had some startling successes. The Huntingdon viaduct was opened the week before last. It is a year early. That whole scheme is £1.4 billion. It will open on time and on budget. To have a £1 billion-plus project on time—we still have a winter to go—and on budget is, I think, startling. We are very pleased with that. We have been quite successful in a number of other places. The Canadians have been doing green



bridges for a number of years. We put our first green bridge across the 556.

The introduction of designated funds was a huge innovation. It is a significant sum of money—£800 million—and it has done two things. Stakeholder organisations talk to us because they help us to spend that money. Equally, the people who build roads and are fascinated by the roads themselves now have to take cycling schemes, environment, biodiversity and a bunch of other things seriously. Historically, in other industries I have worked for, if the budget gets tight, it is those things that disappear.

If your budget gets tight, you still have to deliver those things because the money is earmarked for that. If you do not deliver the cycling scheme, the green bridge or whatever, we will take the money back and spend it on something else that delivers those benefits. It is changing the mindset of road builders to believe that all those other things are an integral part of the product they are delivering, and getting them to take advice from people like Friends of the Earth, Bug Watch, the various nature organisations, British Cycling and so on, and meet them in communities, listen to them and take on board their feedback. That has been a huge innovation in both directions.

**Q103 Jack Brereton:** About 40% of the £25.3 billion of RIS2 funding is going to be used to cover the overruns of RIS1. In delivering those schemes in RIS2, can you reassure us that we will not have the delivery issues that we saw in RIS1?

**Jim O'Sullivan:** Given the number of schemes we were going to start on 31 March that have shifted into RIS2 in any event, and given that about 5% to 10% of the budget of any scheme is typically the design, if we were starting construction on 31 March, we would probably only have spent 5% to 10% of the budget for the total scheme. Most of that spend was already in RIS2, given that those schemes were going to start on the last day and we shifted them. A significant amount of the work labelled as RIS1 was always going to be delivered in RIS2, and that is the bulk of it.

Are we going to make mistakes again in RIS2? Almost certainly. If I knew what they were, I would prevent them, but I do not. Are we going to do a better job in RIS2 than RIS1? We absolutely are. As to our benchmark costs from RIS1, we are on track to deliver our £1.2 billion of efficiencies. There is another amount baked into RIS2.

**Elliot Shaw:** It is still to be confirmed, but it will be over £2 billion.

**Jim O'Sullivan:** In the order of another £2 billion of efficiency is to be delivered in RIS2, so that has to happen.

**Q104 Jack Brereton:** Are you confident that you will achieve that?



## HOUSE OF COMMONS

**Jim O'Sullivan:** No. It comes back to the fact these are challenging targets. If I am sitting here in five years' time and, for the sake of argument, the number is £2 billion and I have achieved £1.8 billion of efficiencies in RIS2, I guess I won't be too unhappy with that. If you set challenging targets, the idea that, over the next five years, this organisation will achieve all of them in every way is an unrealistic expectation.

Q105 **Jack Brereton:** Some of the money in RIS2 will be taken up by covering the costs of projects that have moved over from RIS1, as we have just discussed. Has that meant that schemes you wanted to be in RIS2 will not be possible?

**Jim O'Sullivan:** There are two things. The first is that we have to balance the needs of current road users and future road users, and there is only so much work that the network can sustain. There is only so much we can do. Indeed, in RIS1 we reorganised the order of some of the schemes. We found ourselves at one point working on the M1 and the M6 at the same time—not smart. We won't do that again—two smart motorways at the same time. Making the network available for today's user is important.

The second point is the capacity of the supply chain. We do not pay well. Road work is not high margin. Therefore, the way we keep our supply chain engaged is with long-term visibility of work. We try to keep the quantities of work stable across the regions, and we do that by skillset and business size. White lining is every bit as important to us as aggregate supply. We do not always succeed, but that is what we are trying to do. In truth, we probably could have taken on maybe another 5% to 8% of work, but because it takes five to seven years to design a road, if we started now, we would still be designing it towards the tail end of RIS2 or maybe the beginning of RIS3. We are reasonably content that we are in the right ballpark, and we certainly have not postponed any schemes that we would want to build right now.

Q106 **Jack Brereton:** The publication of RIS2 should have been in early 2019, and we have yet to have that. Do we have a date or know when it is going to be published?

**Elliot Shaw:** There is no confirmed date as yet. It is for the Government to decide exactly when it is published.

Q107 **Jack Brereton:** What is the reasoning behind the longer period being taken to publish it?

**Elliot Shaw:** I think it is a question for Government. The Chancellor talked about it at the Conservative party conference. We hope and expect that publication is fairly imminent. From our perspective, we need a new RIS in place by the start of the next road period, which is April next year.

Q108 **Jack Brereton:** Would it get to a point when, if it is not published, it would be problematic for you?



## HOUSE OF COMMONS

**Elliot Shaw:** There would need to be an agreement with the Government on what our plans are. The Infrastructure Act sets out that there should always be a RIS in place, so if we get to the point when a RIS has not been published, we will need to come to some agreement with the Government on our plans.

**Jim O'Sullivan:** Having said that, our operational spend—our opex—was fixed for next year at the spending review, so we have a tick in the box for that.

Q109 **Jack Brereton:** You are able to start working up some of the schemes.

**Jim O'Sullivan:** That is our operational spend, for traffic officers, IT and the like, so we know that is there. We were given £100 million of the £25.3 billion a year early, so that we could start the design work. We have started that. Anything that is currently committed and in the ground has to be completed—all the schemes we are currently starting and are part way through construction for delivery next year. Outwith the RIS, we need separate decisions on the A303 tunnel and the Lower Thames crossing tunnel. We have set a timescale for that. We need decisions on the A303 by Christmas and the Lower Thames crossing by next March in terms of their funding. We probably have time to make those decisions.

Speaking on behalf of Highways England, in business planning terms it would be very good if we had a decision this side of Christmas, because people want to know what money they are spending next year. People want to know what the shift patterns are for April and so on, so in business planning terms we would want that decision before Christmas. However, Government may have other priorities.

Q110 **Jack Brereton:** In terms of moving forward with RIS3, how have proposals started to develop? Are you working them out, and are schemes coming forward for RIS3?

**Jim O'Sullivan:** There will be a dedicated development pot. It is for Government to decide, but what we have proposed is a development pot to develop schemes for RIS3. There is a list of schemes that we consider, as the road operator, to be the most important or valuable that they can develop. Clearly, that needs to be overlaid with the Government's broader social, economic and transformational agenda, but we have said, "This is the list that makes the most sense to the road builders. Which of them do you want to take forward?"

It takes seven to eight years for a new road scheme, by the time we have consulted, designed, DCO'd and so on. If we can get those early stages done without making a commitment to building it, the Government have a choice of schemes that they can deliver not in eight years, but in four or five. Shortening that timescale for the Government for a relatively modest investment is one of the things we are proposing for RIS3.

Q111 **Huw Merriman:** I want to pick up your point about the A21 and the overspend there. I think it came in at a budget of £80 million and in fact



## HOUSE OF COMMONS

cost £120 million, so a 50% overspend.

**Jim O'Sullivan:** I did not think it was as much as that, but it was a significant overspend, and it was money we had to find by making efficiencies elsewhere.

Q112 **Huw Merriman:** Do you understand the frustrations? You build these superb roads—I think it is one of the safest stretches of road—but there is an overspend, so further south a village like Hurst Green, with a primary school on the same stretch of road, is due to have a bypass and it got cancelled. You end up with a super-safe road because so much money is spent on it, and further south you end up with an appalling situation. I think I have said before that we tend to deliver a Rolls-Royce when we could deliver three Ford Mondeos. Would you comment briefly on that?

**Jim O'Sullivan:** One of the things that came out of the portfolio of management when we were given some money and schemes to deliver was whether we were expected to recover our overspends by changing the scope of other schemes, or delivering them more efficiently in the round. For the most part, that is what we have done. The decision on what we are going to build, such as the bypass near the school you mentioned, is made up front, and the question is whether or not it is in the programme. We are not cancelling schemes in the programme in order to fund the overspend. There will have been no relationship between the decision to cancel that bypass and the cost overrun on the A21.

Q113 **Huw Merriman:** I am aware of that. My comment is that it is superb that we make our new roads so safe, but, if it is so expensive, it means there is less money to spend on other areas that are really unsafe.

**Jim O'Sullivan:** In terms of what goes into the programme, there is a dialogue with stakeholders. The Government have a huge role to play in what goes into the programme, but, equally, I am not going to stop rolling out stopped vehicle detection, and we are not going to increase the spacing on new smart motorways to above a mile. We have the safest roads in the world, and the reason for that is concrete central barriers, wide lanes and sight lines. If we want the safest roads in the world, we have to design to a very high standard.

**Huw Merriman:** I will leave it there.

**Chair:** Time is against us. However, I want to touch on the role of Highways England in meeting some of our environmental targets.

Q114 **Daniel Zeichner:** As you know, a third of the UK's carbon emissions come from road transport and a third of the road transport is on roads for which you are responsible, so what role do you think you have in mitigating the environmental impact?



**Jim O'Sullivan:** As provider of the infrastructure, we have to play a very proactive role in terms of carbon emissions. The root cure is decarbonisation of the fleet; we start from there, and we are doing a great deal to support the roll-out of battery vehicles and electrically powered vehicles. The decarbonisation of the fleet is the starting point.

The second thing is to remove congestion, which many of our schemes do. Another thing is to foster and support more efficient use of transport and more accurate information to haulage companies. All of these things play a role. We have quite a role to play.

Q115 **Daniel Zeichner:** You mentioned in one of your previous answers that far more attention is paid to environmental organisations. Can I give you a specific example from my patch? Camcycle, which is my local cycling organisation, tells me that the A428 at Caxton Gibbet, a new development, is not going to be consistent with the design guide for cycle traffic. Why not?

**Jim O'Sullivan:** If that were the case, I would be quite surprised. In all our major schemes, and the A428 will be a major scheme, we are very earnest in co-operating.

Q116 **Daniel Zeichner:** So you will make it consistent.

**Jim O'Sullivan:** I would want to understand what that meant and why it is not consistent.

Q117 **Daniel Zeichner:** I will write to you.

**Jim O'Sullivan:** I would be very surprised if that scheme has not taken due account of all vulnerable users.

Q118 **Ruth Cadbury:** What is the one environmental initiative that Highways England is working on that will make the biggest difference to people using, living near or affected by the impacts of the strategic road network, particularly pollution?

**Jim O'Sullivan:** Air quality.

Q119 **Ruth Cadbury:** What are you doing?

**Jim O'Sullivan:** We have been handed a number of links to our roads by DEFRA, which we are analysing. It is important to understand that the strategic road network comes into compliance with air quality over the next seven years. I do not think that is soon enough, and we are doing a great deal of work. The first thing people will see, which I do not think everybody will be pleased about, is the introduction of speed limits. We have found that at certain times of the day a reduction in speed from 70 mph to 60 mph, where we are in proximity to people's residences—

**Ruth Cadbury:** It works on the M25.

**Jim O'Sullivan:** Yes, although a lot of the time on the M25 the speed is not 60 mph.



## HOUSE OF COMMONS

**Ruth Cadbury:** It is 15 mph.

**Jim O'Sullivan:** Managing speed limits to ease congestion plays a huge part, because if engines are working efficiently it makes a difference. We are running out the first of the speed limits either at the end of this year or the beginning of next year. There are five locations.

We are trying to be innovative. It is not strictly in accordance with the regulations, but we are trying to introduce signage that warns people when they are entering an area of low air quality. We are looking at making provision for people whose homes are close to the road, where we can do nothing else. We have already used double-glazing and forced ventilation to reduce noise levels, and we will try to read across from that to residences that have low air quality. It does not comply with the regulations, but in the real world it makes life better for the people who live there.

Q120 **Ruth Cadbury:** It does not comply with which regulations?

**Jim O'Sullivan:** It does not comply with the requirements of the various air quality regulations, but in the real world it makes life better.

Q121 **Chair:** Before we let you go, you said at the start that one of your main priorities is Brexit. How prepared are Highways England and the strategic road network for possible disruption that could result from a no-deal Brexit?

**Jim O'Sullivan:** Highways England is well prepared for that disruption. We start from a base of good contingency planning for any eventuality; for instance, the beast from the east would qualify. We work closely with all the local resilience forums across the country, and with Brexit the particular focus has been on ports.

We have engaged extensively with Kent. We have taken a step forward. Stack used to cause us to close the entire coast-bound carriageway of the M20; its replacement, Brock, allows us to keep open two lanes to the coast and two lanes to London, even though we are storing trucks there. We have an in extremis measure that includes storing trucks on the M26.

In the round, we started with our basic contingency plans and adapted them to suit what we believe might be the circumstances around Brexit. We are well prepared.

Q122 **Chair:** Do you think people know what to expect?

**Jim O'Sullivan:** That is a much broader question. We have had 5,000 or 6,000 trucks stored on the M20 because of industrial relations in France. When we had immigrants in the tunnel and the beast from the east, large swathes of the network were closed and we had to advise people to stay at home. I guess we are prepared for the unexpected.

Q123 **Ruth Cadbury:** I want to ask about increasing capacity to cope with the rise in electric vehicles. Do you have targets for facilities at motorway



## HOUSE OF COMMONS

service stations for both three-phase fast charging and standard charging?

**Elliot Shaw:** We have a RIS1 target of making sure that you are within 20 miles of an electric charger across 95% of the network, and we are on track to meet that by the end of the first RIS period. We have been installing chargers and working with charging companies and local authorities.

We are working with Government to work out where we go further. I think the previous Prime Minister asked OLEV to look at what the requirements were for a national charging network through project Rapid. We sit on the project board. The aim is that that will define effectively what is needed for the future charging network and how it should be provided, whether by Government or the private sector. Companies like BP and so on are increasingly involved in charging on a commercial basis. That work will define future roles, but there is one target around making sure that there is a charger every 20 miles. We are on track to complete that by the end of the RIS.

**Jim O'Sullivan:** We are about to step up for the beginning of RIS2 to make that 100%.

**Chair:** Thank you very much for giving evidence today.