

Transport Committee

Oral evidence: Rail Safety, HC 694

Monday 14 November 2016

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[Watch the meeting](#)

Members present: Mrs Louise Ellman (Chair); Clive Efford; Robert Flello; Karl McCartney; Mark Menzies; Huw Merriman; Iain Stewart; Martin Vickers.

Questions 1 - 97

Witnesses

I: Ian Prosser, Director of Railway Safety and HM Inspector of Railways, Office of Rail and Road, and Simon French, Chief Inspector, Rail Accident Investigation Branch.

II: Mark Carne, Chief Executive, Network Rail, and Graham Hopkins, Group Safety, Technical and Engineering Director, Network Rail.

Written evidence from witnesses:

- [The Office of Rail and Road \(ORR\)](#)
- [Rail Accident Investigation Branch \(RAIB\)](#)
- [Network Rail](#)

Examination of witnesses

Witnesses: Ian Prosser and Simon French.

Q1 Chair: Good afternoon and welcome to the Transport Select Committee. Does anyone have any interests to declare?

Robert Ffello: I declare that I am chair of the Heavy Rescue Partnership charity and an associated not-for-profit company.

Chair: Thank you. Could you give us your name and your position in your organisation for our records, please, starting with you, Mr Prosser?

Ian Prosser: I am Ian Prosser, director of railway safety at the ORR.

Simon French: I am Simon French, chief inspector at the Rail Accident Investigation Branch.

Q2 Chair: I would like to start by asking what you can tell us about your respective investigations into the tragic events on the Croydon tram last Wednesday. I understand that you are not able to give us a great deal of information and that a number of things are sub judice as investigations are ongoing. We would like to have whatever information you are able to give us, particularly about what sort of investigation you are carrying out, where you are up to and what you think might happen from now. Mr Prosser, are you able to tell us anything about what you are doing?

Ian Prosser: Yes. First and foremost, my thoughts and deepest sympathies are with the families and friends of those who lost their lives in this tragic accident and those who were injured. This is a very strong reminder that despite continuous improvement in safety we cannot, and must not, be complacent. We still have too many close calls, despite being the safest railway in Europe.

It is too early to talk very much about the actual details of any investigation. I have a specialist inspector and engineer working closely with BTP and RAIB. In my eight years in this role, this is the most serious accident by a significant margin in terms of fatalities. We owe it to the families of those affected by this tragedy to ensure that a rigorous investigation takes place and lessons are learned. At this time we are supporting RAIB and BTP, as I mentioned. From a criminal investigation point of view, BTP have primacy and therefore we are supporting them. We will be looking at whether there are any health and safety issues regarding the companies involved. At this time, I cannot really say very much more.

Simon French: The role of the RAIB is to act as the UK's independent investigating body for accidents on railways and tramways, and that is what we intend to do. We deployed a team of seven to Croydon following notification of the accident in the early hours of Wednesday morning. The last of my inspectors left the site at 9.20 on Saturday morning, and during that period of time they carried out a detailed investigation of the site. They did measurements on the site and a download of the trams on



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the tram data recorder, often known as a black box; and they carried out some preliminary analysis of the sequence of events.

As I said, our role is the investigation of the accident. I am sure you will understand that, like Ian, I am limited in what I can say at this early stage. However, it is our intention to issue an interim report on Wednesday. That is certainly the plan. We are working on that at the moment. That report will lay out some of the basic facts and information that we feel able to reveal at this stage of the investigation.

An investigation of this type will involve a very large number of interviews, detailed analysis and examination of the evidence. The completion of our investigation may take many more months. If there is information of immediate safety importance that needs to be communicated, of course we will do so, as is normal in our investigations, by issuing urgent safety advices.

Q3 Chair: Mr Prosser, do you know when you are likely to produce a report?

Ian Prosser: At this stage, it is too early to tell. In terms of our investigation into health and safety, if there are any health and safety breaches it will take some time. At this time, we will allow British Transport Police to take the lead, as they have primacy. It is really too early to say.

Q4 Robert Ffello: While echoing the comments you made, Mr Prosser, in terms of the tragic loss, I have a couple of quick questions. When the incident first occurred and emergency services were deployed, who was in charge of the scene? Was it the fire service or British Transport Police?

Ian Prosser: It would be the emergency services. They have a structured approach to managing such scenes. The police were obviously taking the lead, but there would be a command structure put in place and they would manage that situation.

Q5 Robert Ffello: It was under the command of the commander from the fire service.

Ian Prosser: They have a tripartite arrangement for it.

Q6 Robert Ffello: Mr French, when you do your investigation, will you also look at the way the scene was managed immediately afterwards and in the subsequent hours after the incident as part of your investigation, or do you just look at the cause of the incident itself?

Simon French: Our scope would include the emergency response, as it always does. If we feel that there is important safety learning, it will of course be published. We always look at that aspect of any incident, and comment and make recommendations where necessary.

Q7 Chair: Thank you very much for giving us that information about what has happened. We will pursue this as we are able to and as information emerges.



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I would now like to turn to your general work and look at safety on rail more generally. There are a number of agencies looking at safety on the railway. You are two of them, but there are others as well. Are there any problems with overlap of the number of different agencies involved?

Ian Prosser: As you rightly point out, more than one of us is involved, but it is very important that we ensure that there are no overlaps and that we support each other. We have well established and tested arrangements, with MOUs in place—memorandums of understanding. We have very distinctive roles. RAIB's role, as Simon will explain in more detail, is primarily to focus on causes on a no-blame basis, and to identify improvements. They make recommendations in their report and have done so over the last number of years. We are then responsible for following those up with the industry, to see how they can be implemented in line with health and safety legislation on a reasonably practicable basis.

BTP investigate and prosecute criminal acts as a police force. Our role is to investigate for breaches of health and safety legislation. As I mentioned, we also have a role in the railways around proactive inspection of all the rail companies that we regulate, on a proportionate basis. There are other agencies, such as RSSB—the Rail Safety and Standards Board—which is a not-for-profit company owned by the industry itself, and it focuses on standards for the mainline railway. Obviously, Simon and I cover the whole sector, so we also deal with trams and London Underground.

One of the key things when we interview people—witnesses and so on—is to make sure that we work closely together, to minimise distress. In the circumstances of such incidents, it is important that people are not distressed further.

Q8 Chair: Does that work effectively? The point has been put to us that, because there are different organisations looking at the same incident, witnesses who may be very distressed indeed might end up being interviewed more than once. Does the system work to stop that happening?

Simon French: Ian mentioned the memorandum of understanding between ourselves, the ORR and the police. This ensures that, wherever possible, we share technical evidence, which means that whoever takes the evidence—very often in the first instance it will be the RAIB—shares it with other parties as necessary. That cuts out a great deal of duplication and ensures that we can be very focused on our core role.

When it comes to witnesses, we have a very particular role, which is to enable witnesses to speak to us without incriminating themselves. Our investigations are no-blame investigations. They are purely for the purpose of safety learning. Therefore it is vital that witnesses feel able to speak to us. In fact, they have an obligation under our regulations to speak to us and to answer our questions. As a consequence, we cannot



share witness statements with other parties, so whereas we share physical and technical evidence, photographs and measurements—that sort of data will be shared—we cannot share witness evidence. We believe that is very much in the interests of the witnesses so that they do not self-incriminate, and it is very much in the interests of safety, in that witnesses feel able to speak to us.

It is certainly true that the BTP and the ORR co-ordinate very carefully, and we are aware of that, but from our point of view it is important that we are given access to witnesses. Having said that, we talk about ways in which we can time interviews in order to minimise distress to witnesses. The issue is well understood, and we do all we can to mitigate the effect of those interviews, but it is important that we get that access and that it is quite separate from the ORR and BTP. I hope that is helpful.

Q9 Chair: Are there any changes that either of you would like to see in relation to the respective roles of your different organisations or other bodies looking at safety on the rail, and in how you operate? Are there any obvious problems in terms of communication?

Simon French: I think the railway accident investigation reporting regulations under which we work have worked very well. The relationships between the parties have enabled efficient working, sharing of evidence and minimisation of duplication in the interests of good safety investigation. So, the answer to your question is, no, I do not think there is a major issue in the way we work together. That does not mean we should be complacent. We should always look for ways of developing that relationship further. In fact, at the moment we are reviewing the memorandum of understanding between us so that we can learn lessons from the first 10 years of our working together.

Q10 Chair: Mr Prosser, what changes would you like to see?

Ian Prosser: I agree with Simon. We now have in place in Great Britain a fairly well-established health and safety regulatory framework that involves both ourselves and the railways, and RAIB as the independent no-blame investigator. It is important continuously to improve, which is why Simon, Paul Crowther and I have instigated some work to look at our memorandum of understanding to see if it can be improved. At this time, we do not overlap. Where we work together on certain incidents, we come up with some good results.

Q11 Chair: Mr French, does the industry listen to your recommendations? Does anything happen?

Simon French: Under our regulations, we address every recommendation to the safety authority or other public authorities. In most cases, it is the ORR for the mainline railway. It is addressed to them, and ORR's job is to work with the industry and report to us actions that have been taken in response to our recommendations.



The vast majority of our recommendations lead to change; well over 90% lead to change. Are we listened to? The answer is in the statistics in our annual reports that we publish every year: yes. Does the industry always do exactly as we think it should do? No, not always. We make recommendations. The industry has to manage its own business and reach its own conclusions. We are aware that ORR works very hard with the industry to track through what it is doing in response to recommendations. A great deal of attention, time and effort is spent on understanding what is done and the effects that that would have. I would hate to be complacent about it. We are always pushing. We are always keen to see more done. On occasions, when we believe that more should have been done, or something should have been done quicker, we are not frightened to say so.

Q12 **Chair:** Mr Prosser, can you tell us of any instances when there has been difficulty in following recommendations and making changes?

Ian Prosser: In terms of detailed recommendations, there are always some—I cannot remember specific ones—where the industry believes there is a better way of doing it than RAIB thought when they made the recommendation. We sit down together and work that through.

Q13 **Chair:** Could you give us any examples of when that has happened?

Ian Prosser: I am trying to think off the top of my head. There have been one or two around some aspects of level crossings, where the technical solution proposed was perhaps different from that envisaged by RAIB at the beginning.

Q14 **Chair:** Is that where Network Rail have not done what you have asked them to do?

Ian Prosser: RAIB make their recommendations. We have to work with the duty holder, whether it is Network Rail or another rail company, to establish if it is reasonably practicable under the health and safety legislation to implement them. Sometimes there are better ways of doing it. The technical solution can be easier for implementation, for example, but it is about working through with the implementer what the best practical solution is.

Q15 **Chair:** How does that work, though? Can you enforce what you want to happen, if you genuinely see a different way of achieving the same end, or do you just give up and think it is too difficult to enforce? Could you give us any examples of the sorts of situations you have experienced?

Ian Prosser: If there is an example where we believe there is a reasonably practicable solution, we would enforce if necessary. We did some enforcement after the Grayrigg incident around understanding the mechanisms around points failures. That helped to implement some of the recommendations RAIB had made.

Q16 **Chair:** What did you do? What happened?



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Ian Prosser: We issued an improvement notice on Network Rail at the time. We can use our enforcement tools if we believe that we have a situation where we can demonstrate that the duty holder is not doing everything reasonably practicable.

Q17 **Chair:** If you fine Network Rail, you are simply fining another public body, aren't you?

Ian Prosser: An improvement notice is not a fine. Improvement notices are about ensuring that the duty holder carries out what we want them to do. It is a mechanism of enforcement without having to go to the courts and prosecute the company. For example, in the last five years we have issued 99 notices: 60-odd improvement notices and 30-odd prohibition notices. We are very active in issuing notices when we believe that the law is not being complied with.

Q18 **Karl McCartney:** In relation to all those recommendations or enforcements that you have imposed, particularly on Network Rail, have most, all or any of them been price-sensitive and price-led?

Ian Prosser: Price-sensitive?

Karl McCartney: As in the cost—money.

Ian Prosser: Very often, health and safety legislation requires that you do everything reasonably practicable to manage the risk. Therefore, in some cases but not many, there will be the need to do a cost-benefit analysis—the cost of actually implementing the recommendation versus the benefits. In some cases, that will have to be done to ensure that the proposal is reasonably practicable or otherwise.

Q19 **Karl McCartney:** Have any of your recommendations or enforcements led to Network Rail spending more money than they were originally going to spend?

Ian Prosser: I do not think it has led to them spending any more money than they would need to in order to comply.

Karl McCartney: I think you have just answered my first question with that answer. Thank you.

Q20 **Clive Efford:** How are the enforcement notices enforced? What is the penalty? Can they be ignored? Are they ignored?

Ian Prosser: No, they are not ignored. If they are not complied with, we can prosecute the company.

Q21 **Clive Efford:** It is the company you prosecute, is it?

Ian Prosser: Yes.

Q22 **Clive Efford:** There is an issue about fining Network Rail. The Minister has said that it is fining a public body and just moving money around the public sector, and ultimately no one benefits. By fining the company or taking enforcement action against the company, is it not the same



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outcome? You are taking money away from Network Rail. Isn't it the managers of Network Rail who need to be dealt with, perhaps through their bonuses or something else? That would give them more incentive to respond to the notices than suing the company.

Ian Prosser: First, the notices are about achieving what we want to achieve and complying with the law without having to go to court and fining anyone. They are an important route. In terms of prosecutions and fines, we are just the prosecuting authority. The fines, and whether or not someone is guilty, are decided by the courts and the judges.

Q23 **Clive Efford:** But I am asking what effective tool there is against a public sector body, when you carry out enforcement action or penalise them for a failure of some sort. Rather than taking money away from the company, isn't it the people in charge of the company whom we need to incentivise?

Ian Prosser: The improvement and prohibition notices are an important tool. We use them fairly extensively. The issue of fining is for the courts; it is not for us.

Q24 **Robert Ffello:** Are there any occasions when you issue a notice and Network Rail, for example, comes back and says, "We would like to do that, but to make that change or do something that improves things requires either the Secretary of State to sign it off or some other body to give permission," and that then takes a period of time? Is that the sort of thing that occasionally happens, or am I just having a flight of fancy?

Ian Prosser: Sometimes Network Rail want to consider the best way to comply with a notice, so they need to do some work, perhaps engineering or other work, to establish the best route to do that. They then need to prioritise that against their other requirements. Their overriding legal requirement is to run the railway in accordance with the health and safety laws of this country.

Q25 **Robert Ffello:** Say, for example, there was a requirement to change a particular type of lighting on a section of track, or something along those lines. Is that something that Network Rail could just step in and change, or are there other hoops that they would need to jump through?

Ian Prosser: They are their own company; they have their own processes to approve expenditure. They see safety as the No. 1 priority in their organisation.

Q26 **Robert Ffello:** Let me put the question in a slightly different way. Are there any circumstances in which an organisation, whether it is Network Rail or any other, could say "We'd like to do what you've told us to do but there's some regulatory hoop"—whether it is a sign-off by the Secretary of State, or whatever, that might stop them?

Ian Prosser: I have never come across that.

Q27 **Karl McCartney:** I want to go back to your enforcement of your



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recommendations to Network Rail. Do you look at every single project that Network Rail is looking at to improve safety, or do you pick and choose? Do Network Rail ever tell you that they would like you to look at a particular project?

Ian Prosser: We prioritise our work on the basis of risk. We look at Network Rail's risk profile and at information coming from day-to-day operations. We look at what we should proactively inspect. We tell Network Rail what our overall strategy is for proactive inspection of them, but we do not ask their permission. We look at what we want to look at and what we feel it is necessary to look at.

Q28 **Karl McCartney:** Say, hypothetically, there was a project that was going to cost Network Rail an awful lot of money, and they thought they were over a barrel by local people who wanted a safety improvement. Could they come to you and say, "Will you look at this and tell us that it's too much money?", and therefore put the project back?

Ian Prosser: We can only enforce what is reasonably practicable under health and safety legislation. If somebody demands something that is grossly disproportionate, we would support them in not doing that particular thing.

Q29 **Karl McCartney:** On the grounds of cost, you would not do it.

Ian Prosser: On the grounds that it was grossly disproportionate for the benefit.

Q30 **Karl McCartney:** Who decides what is grossly disproportionate? Is it the ORR or anybody else?

Ian Prosser: Ultimately it is the courts. We have established precedents in this area over a number of years. The industry itself produced a document called "Taking Safe Decisions," which we have endorsed. That goes through an analysis and a process by which you can make judgments to decide what is the right thing to do and the right priorities for safety.

Q31 **Chair:** I would like to turn to questions about level crossings, which have been mentioned. The Committee did a lot of work on level crossings a couple of years ago and made a lot of recommendations, but people are still being killed on level crossings and there are still a lot of near misses.

Clive Efford: Why is the number of near misses gradually increasing at level crossings?

Ian Prosser: We believe one of the possible reasons is that reporting is improving. I understand there is a long-term trend of a slight increase in the type of pedestrian near misses at what we regard as passive crossings. Passive crossings are those where the user makes the decision to cross. They are, and have been for a number of years, a big focus for us and for Network Rail in terms of improving safety at level crossings.



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They are where, unfortunately and tragically, the vast majority of fatalities have occurred.

The actions we are taking, with Network Rail and others, are the following. We are working with Network Rail and DFT to implement improvements to signage and warning systems at both private and public crossings. Network Rail, with the help of the ring-fenced fund provided by the Government, are introducing new technology to enable warnings at passive crossings, so that they make them active and they are not just reliant on the whistle boards at these crossings. One of the other areas is in terms of closures and prioritising passive crossings on high-speed lines. Sometimes that is difficult and takes a lot of work with local communities to achieve, but it is a priority. Network Rail have closed over 1,000 crossings since 2008, following our encouragement and pushing at the time. The ring-fenced fund that was provided in the control period by the Government is supporting closures. There have been 57 so far, and 10 crossings have been upgraded; £25 million has been spent to date, so there is a lot of activity with particular focus on these types of crossings, which is where we feel the greatest risk now remains.

Q32 Clive Efford: I want to go back to your initial answer about improvements in reporting. It is a bit alarming that near misses at level crossings would go unreported. Can you elaborate on that? What sorts of things would have gone unreported in the past?

Ian Prosser: A pedestrian may have moved towards the oncoming train and then moved back again. They may have thought about crossing but did not, if you see what I mean. It is important that we understand as much as possible about that.

Q33 Clive Efford: How does that get reported more regularly now than in the past? What has changed?

Ian Prosser: One of the things that has happened in recent years is that a lot of work has gone on between Network Rail and the train operating companies to understand the risk at level crossings. Part of understanding that risk is to understand how they are used, and the number of near misses. There has been a lot of work between Network Rail and the train operating companies because obviously train drivers see what is going on on the railway.

One of the other big improvements has been Network Rail's implementation of what they call level crossing managers, which has been a very important step forward. There are more than 100 of them across the country; they make sure that they understand the risks at each and every level crossing—they each have a number of them—and that has enabled Network Rail to focus their risk management much better. In the past, a number of different parts of Network Rail looked after bits of level crossings, such as signalling engineers or operations managers. By focusing on one person to manage and understand the risks at those crossings, we are getting much better understanding over



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time. There is still a lot to do and we cannot be complacent, but we are getting a better feel and a better understanding, as an industry and Network Rail, of the risks at level crossings.

Q34 Chair: What about signal box errors? Isn't it true that wider areas are now being controlled by one signal box and that is a reason for accidents?

Simon French: That is right. In our written evidence, I raised particular concern about signaller error that resulted in users being authorised to cross when a train is closely approaching. Such an event occurred at Hockham Road level crossing in Norfolk quite recently, and resulted in an accident that could easily have derailed the train and led to much worse consequences. That is one example. We have had another example since, and over the life of the RAIB we are aware of a number of occasions when signaller error has been a factor.

From our point of view, it is not enough to say that it is human error. It is necessary to look very closely at the working conditions of signallers and the amount of information they need to process when making those decisions. That is certainly something we are looking into at the moment in the context of those two particular accidents. I raised a concern about understanding issues of human reliability as signalling control centres control larger and larger areas. One signaller could very easily have a very large number of crossings under his or her supervision.

I believe that the industry understands the issue and is thinking through very carefully how to manage it. It is a challenge for the future. Looking ahead, it may need some quite deep and original thought in order to think through ways of managing the issue. In essence, there is a single point of failure. It requires one error by one individual at one moment for an accident to occur. There are few parallels in the railway industry. Generally speaking, there are multiple failsafe systems, but in the case of signaller error you are reliant on a single individual getting the decision right at that moment in time. The consequences can be catastrophic. That is why I raised it. It was a concern of mine following our investigations, and I think there is more work to be done in the area.

Q35 Chair: What needs to change to save more lives in relation to level crossings? Last year, three people were killed on level crossings. It was the lowest number for some time, but still, three people lost their lives. There were a lot of near misses. I get a feeling that after the great concern two years ago, there is a bit of complacency around. What do you think needs to be done to change things and to make changes happen more quickly?

Simon French: In our investigations, we have detected no sign of complacency. Yes, last year we had the lowest number of fatalities at three; but the year before we had 11 fatalities. I do not think we can draw too many conclusions from one year, albeit a very good year. I have not sensed complacency. I certainly hope that it is not there. From the



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RAIB point of view, we continue to look at the investigations involving level crossings where we believe there is important safety learning.

Q36 Chair: Mr Prosser, are there any changes you would like to see? The Law Commission recommended changes to facilitate the closure of level crossings where it was thought necessary on grounds of safety. That has not happened, has it?

Ian Prosser: There are a few things that we still need to improve on. Following your inquiry on level crossings, we took a step back and re-looked at our strategy. As I mentioned, there was a particular focus on passive crossings, but we are focused on five things. There is closure where it is the right thing to do. There is improved risk assessment. I mentioned earlier that we have worked with Network Rail to change a number of the ways in which risk assessment is done. Better technology has a big part to play. Network Rail are working on that, using the ring-fenced fund. We are monitoring that very closely and working with them. They have their own level crossing strategy, which they have developed since your last inquiry, and which is very important. They are very focused on that, so there is certainly no complacency.

Finally, from our perspective, yes, law reform; reforming the law could have a benefit in enabling things like the introduction of new technology more quickly and in helping closures. It would also reduce the regulatory burden on the industry in terms of process and some of our resources. This is principally for the benefit of the industry so that we can bring clarity to the legislation and ensure consistency for both public and private crossings. Level crossings, in terms of risk and legislation, should be managed in the same way as other risks across the industry. We have been working over the last nine months with the Department to try to find a way through this. We are still very keen that the law reform takes place.

Q37 Martin Vickers: Mr French, a few minutes ago you mentioned your concerns about signallers having control over much larger areas, whereas in the past a signal box monitored three, four or maybe half a dozen level crossings by CCTV. Are there any actual limits on the number of crossings an individual signaller can monitor?

Simon French: I don't know. Dare I say that is a question you might want to ask Network Rail? I certainly think that Network Rail should consider the number of crossings. I know they grade signalling tasks. They analyse them and carry out workload analyses, so I would hope the answer is that they have limits, or that they assess the workload for each individual signaller.

We will certainly be making recommendations following our investigation into Hockham Road that touch on the issue of workload. It is correct that there is an issue, and it needs to be understood. We need to be absolutely clear about what is a reasonable assumption of human



reliability, and the point at which that human reliability begins to degrade to a point that is unacceptable.

Q38 **Martin Vickers:** Mr Prosser, do you have any thoughts on that?

Ian Prosser: It is very important, as in any activity, that the duty holder—in this case Network Rail—analyses what it expects from the signallers in a detailed way. Obviously, some crossings are used much more frequently and require a greater workload for the signaller. It is very important to do a detailed analysis. We have been looking over their shoulder at the work they are doing as they move towards bigger signalling control centres. It is their legal responsibility to make sure that they do not overload the signallers.

Q39 **Karl McCartney:** Mr French, I am going to counter your claim that there is no complacency by saying that I believe there has been complacency. I am going to speak very parochially about Lincoln and Lincolnshire over the past two years. Mr Prosser is well aware of some of the issues to do with my constituency. Within Lincoln city specifically, we have four of the riskiest level crossings out of the top 10 on the east coast line. One has already been dealt with. In fact, we have a high street level crossing footbridge, which I am very pleased to have in place. There has been an inordinate delay to the Brayford Wharf East footbridge, which we still have not seen. Maybe you could give us an update, Mr Prosser, as to why that is. That is why I have been asking certain questions.

Once those two level crossings have footbridges, the next two level crossings certainly move up the scale on the level of risk. I want to know when you are going to start dealing with other busy level crossings. Nobody wants to see near misses, but certainly in Lincolnshire, as Network Rail push more and more freight through our constituencies, that affects our constituents, and there are going to be a lot more risks involved as the frequency of trains increases.

Simon French: Thank you for that. I agree that it is important that the risk is not dismissed, and that we continue to work on improvement in that area. I will give you a very important reason why I believe we cannot be complacent. We talked earlier about the number of near misses. One of the factors underlying a persistently high level of near misses, or even a slight increase, may be the number of vulnerable users at crossings. I want to clarify a point here. We spoke about signaller error, but of course most crossings have no input from a signaller. They are just footpath crossings and it is down to the individual user to judge when it is safe to cross. We are all aware that the population is ageing; the average age is increasing. It is important that work is done to look at the management of risk to vulnerable users—people who may be elderly or, in some circumstances, disabled, or quite possibly encumbered by luggage, dogs or bicycles. A whole range of users are vulnerable on crossings, and that may very well be a theme for the future.

Chair: We will return to the level crossing issue a little later. We will be



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asking Network Rail about it. I want to move on to some other very important issues.

Q40 Huw Merriman: I want to move on to station platform and train interface, with particular reference to driver operated trains with respect to doors. This Committee has heard much about that over the last few months. Mr Prosser, I believe the ORR has reached the conclusion that DO operations are safe. Is that indeed the case? What specific evidence did you use to form that judgment?

Ian Prosser: First, driver-only operated trains or driver operated dispatch has been in operation in this country for over 30 years. We have inspected it. We have looked numerous times at its operation. We believe that if you have the right equipment—these are important points—which is well maintained and you have people trained and competent in the right way, as well as the right processes and procedures, driver operated dispatch, and other forms of dispatch, which may include guard dispatch or station operative dispatch, can all be safe. That is not to say that there cannot be improvements. There is definitely continuous improvement that can take place for all forms of dispatch.

Whoever dispatches the train, there are issues that need to be addressed as more people use the railway. That is why the industry launched a platform train interface strategy 18 months ago. A few years before that, after work from some of the investigations that RAIB had done, we decided that both Network Rail and the train operating companies needed to join together and collaborate on ways in which we could continuously improve platform train interface safety, particularly as more and more people use the railway. That is starting to bear some fruit.

It is very important to me that we have a unified approach to doing risk assessments of platforms. It is very important, and a key requirement of the law, to understand the risks and to do an appropriate risk assessment. At some times of the day on London Underground, for example, it is very important that the driver—who does the dispatch, and has done for many years—is aided by station staff. You can see the very effective way in which that is managed. Their safety performance at platforms is very good, and has been for a number of years. They were involved in helping to devise the strategy. Recently, RSSB developed and launched an improved risk assessment process for the whole industry. That is where we stand.

Q41 Huw Merriman: I have a couple of supplementary questions. I draw your attention to the recent incident earlier this month at Reedham. The newer roll-out has not perhaps been investigated by both of your bodies quite as thoroughly. I referenced which evidence you had found. I know you have referred to historical evidence, but the concern, and certainly the message the union keeps trying to hammer through, is that it is not as safe on the Southern network as it is on the existing network. First, are you considering investigating Reedham, because you have discretionary powers at RAIB to do so? I am aware that it has been DOO



for some time. Given the heightened sense of concern about the safety of DOO, would this not be a matter where both of your bodies could give greater reassurance to commuters?

Simon French: We looked into Reedham and concluded that we would not carry out any further investigation into it. I must explain that there are many incidents on the railway; they occur on a daily basis. Many of them are unfortunate, but we are not in a position to investigate them all. We select investigations very carefully. We select on the basis of the importance of the potential safety learning and the severity of outcome. Both of those are factors. In the Reedham case, the circumstances became clear quite quickly. The driver, essentially, forgot to close the doors. With much of the rolling stock on the system today, when the doors are open a driver is still able to release the brakes but he is not able to take power. What happened in that particular location, where there was a downward gradient, was that he was able to release the brakes, the train rolled for a time and he tried to take power. The system worked correctly and he was not able to take power, because a system known as a traction interlock prevents that from happening if the door is still open. He attempted to re-engage power, and then realised that the doors were still open and he closed the doors. It rolled for a short distance—it is hard to be exact about that distance, maybe one or two coach lengths—with the doors open. It was very unfortunate and I would not argue that it was a safe outcome. There was no evidence of immediate risk to passengers on the train. We also felt, when we looked at it, that the safety learning was very clearly understood. There was very little added value to come from us investigating that further.

That is a discretion I have and a judgment I must make. We take that judgment very seriously. When incidents are reported to us, we look at the details in every case. We try to understand what has happened and reach a conclusion. I feel that in that case it would have been disproportionate and inappropriate for us to have investigated the particular incident. We have seen it before. It is not unique; it has happened before. We concluded, no. It needed to be investigated, but of course there are others: the train operator itself has a duty to investigate, and we understand that the train operator has done just that and has investigated, and will take its own actions in response. We had to decide whether it was for us to investigate or whether it could be left for others to investigate. I hope that helps to explain our decision-making process.

- Q42 **Robert Ffello:** Mr Prosser, you came up with a list of “ifs” to qualify your answer to the question about whether or not the system was safe in operation. You also mentioned the fact that there was a body of industry working together. Can I conclude from that that you believe that safety is the responsibility of the whole industry? What is your view about the Department for Transport basically mandating that a train operating company must introduce DOO, when you seem to be saying yourself that various aspects of the industry should decide what is and is not safe and



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whether various qualifications are met? What is your view of the Department for Transport requiring it?

Ian Prosser: The companies involved have legal responsibilities to operate their trains safely, alongside Network Rail's responsibilities to operate the infrastructure safely. Obviously, with an issue like platform train interface, there is a need for people to co-operate and collaborate. Network Rail will be involved at some of those stations, as well as different operators. What is really important is that the legal responsibility for operating safely is with those companies. They have to ensure, as I said, that the equipment they have in place, the people with the training and competency, and the procedures and so on are such that they can perform safely whatever form of dispatch it is.

Q43 **Robert Ffello:** But if they feel they cannot and the Department for Transport has told them they have to do it, what is your position?

Ian Prosser: If they cannot and they say that they cannot meet their legal requirements, no one can force them to do it.

Q44 **Robert Ffello:** But the Department for Transport is trying to.

Ian Prosser: In this case, I am not aware of the details of the contractual relationship between the Department and the operator.

Q45 **Robert Ffello:** This Committee has taken evidence on that point. If that is the case, do you think that is right?

Ian Prosser: It is for the company to decide if it can safely operate those services, whether driver-only operated dispatch, guard operated dispatch or station staff operated dispatch.

Q46 **Robert Ffello:** So the Department for Transport is going above and beyond what it is able to do legally by requiring something of a train operating company and the various drivers, if the train operating company and the drivers feel it is unsafe, or indeed others feel it is unsafe. The Department for Transport is going above and beyond what it should do.

Ian Prosser: As far as I am concerned, the statement I have made is that driver-only dispatch can be operated safely. As long as the companies involved have the equipment, the trained workforce and the procedures and processes in place, they can operate that safely.

Q47 **Robert Ffello:** But what if they don't?

Chair: There are a number of conditions in your assessment.

Robert Ffello: A long list.

Chair: They can be operated safely provided that various other things are done. That is correct, isn't it?

Ian Prosser: Yes, and that is very important. The equipment available must work properly. The staff must be trained adequately.



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Q48 Robert Ffello: Mr Prosser, I and the Committee members understand all that, but the Department for Transport require the train operating company to use driver-only operation. Are you saying that the Department for Transport can require it, and therefore the train operating companies and everybody involved must do it and must find a way of meeting all your “ifs”?

Ian Prosser: That is correct. What the train operating companies have to do is provide the equipment—

Q49 Robert Ffello: And if they don’t?

Ian Prosser: Then we will step in. Coming back to Southern, we have done a detailed inspection and audit of Southern and GTR’s proposals to introduce their new processes for driver operated dispatch. We found that they have done their risk assessments thoroughly. They have looked at the equipment, and so on; they have looked at stations and surveyed stations to make sure that the lighting is correct and everything else, so that they are able to introduce those services in a safe manner.

Q50 Chair: Does that mean that in relation to Southern you are satisfied that it is safe?

Ian Prosser: We have done detailed audit and inspection work on Southern’s proposals. They have done test train runs, for example. We have sampled all their risk assessments. We have checked what they put in place following those risk assessments, so that we clearly understand how they are going to operate the services. They have started one on the Dorking service. We have looked at what they are proposing to do.

Q51 Huw Merriman: Mr Prosser, I understand that it is the legal responsibility of the train companies, but the difficulty for commuters who have been suffering for nine months with the strike is that they do not necessarily know whether to believe the union, who say it is unsafe, or Southern who say it is entirely safe. Would it not be better perhaps if both your organisations, being trusted by the public on safety, did more than just audit and actually came up with a completely independent report and published it, so that everybody knew which side to agree with?

Ian Prosser: We have just finished our work. I will take that suggestion away and consider it.

Chair: I think that might be a helpful move.

Q52 Clive Efford: I will ask this very briefly, because I know we need to move on. There was an incident at West Wickham station, when a trainee driver under instruction moved the train and somebody was dragged along the platform. Mr French, you concluded that it was unlikely that the trainee driver carried out a full check before the train moved. It is a little bit alarming that the driver was under instruction at the time; and it calls into question whether the procedure for checking and moving the train under driver-only operation is adequate, and whether all the checks and balances required of the driver are in place. I am concerned that the



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driver was under the instruction of an experienced person who was training him at that time, but the accident could still happen.

Simon French: Shortly after we published West Wickham, we published a report into a trap and drag incident at Hayes & Harlington. During that investigation we obtained evidence that there was widespread misunderstanding among some train crew and their managers about the role of the final safety check. The best way to describe it is that there had been a loss of corporate memory as to the necessity to look, to check to see that no one was trapped in the doors and that the train was safe to depart, before departure. In some cases, there was over-reliance on the door interlock, which is a light that shows to prove that the doors are closed. That had been taken by some to be an indication that the train was safe to depart. It caused us to issue urgent safety advice, which was widely distributed. It reminded drivers, their managers, the guards and platform staff, who also have responsibility for dispatch, of the necessity of not placing over-reliance on the interlock, and stressed the need for checking and looking back along the train to make sure that the train is safe to depart.

It is the case that we were unable to ascertain exactly why that final safety check was not done at West Wickham, but our subsequent investigation revealed a general problem that was addressed by the issue of urgent safety advice. We believe and hope that that has led to a much better understanding right across the industry of how important it is to check that the doors have not been obstructed and that no one is trapped in the doors before departure.

Q53 **Clive Efford:** In your opinion, that has led to change. Are you hoping, or has it?

Simon French: I am hoping. I cannot measure that it has. I would think it extraordinary, with the amount of publicity that was generated by our urgent safety advice and by the reports that were issued, if there had been no modification of behaviour. These circulars are used as a reminder to train dispatchers—be they guards, platform staff or drivers—of the necessity of this.

Chair: I am looking at the time. We have overrun and there are a couple of other important safety issues that we want to raise.

Q54 **Iain Stewart:** I would like to turn to a particular area of concern, which is landslips and other earthwork failures. I refer specifically to the incident at Watford in September when a number of my constituents had a narrow escape. It could potentially have been a catastrophic incident. In 2012 and 2013, both your organisations made recommendations to Network Rail about the management of earthworks, particularly after periods of inclement weather. First, I would like you to give an assessment of how well Network Rail have implemented the recommendations you made at that time.



Ian Prosser: In the first instance, yes, we issued an improvement notice in 2012. We have also issued two others since then, one on Network Rail and the other on LUL, in the area of drainage and earthworks. The management of drainage is critical in earthwork management. Our inspection work related to earthworks after we had issued that notice, and they believed they had complied with it. It identified some improved management and asset stewardship but, again, we cannot be complacent. We have seen earthwork failures increase in the wet weather in 2015-16. While Network Rail's consequence management—trying to manage the consequences when bad weather is predicted—was generally good, we have areas of concern, and we are still doing inspection work to make sure that they get it consistent enough across all the routes. It is important that management of both the earthworks themselves and the consequences when there is bad weather is more consistent across the whole of their organisation.

Simon French: We have a category of investigation that we call class investigation, which is broader investigation of a number of incidents. In 2013, we published a class investigation into landslips, which is the one I think you are referring to. We made five recommendations in that area. One of them related to the management of risk from issues on neighbouring land, which is a very difficult issue for the railways; very often the railway drainage is dependent on what is happening on neighbouring land. We made recommendations in the area of actioning safety issues raised by examiners and engineers. We made a number of recommendations in the area of weather forecasting but also real-time collection of data on unusual events and knowing where there had been very extreme rainfall.

Of course Watford, as you identified, could so easily have been a very serious accident indeed. It was very close. We will be looking very closely at the actions that have been taken following our recommendations and following the landslips class investigation. At present, we are aware that one of them has been reported to us by the ORR as implemented, and the others are still ongoing. We have had view of some encouraging steps that have been taken to address others of the recommendations. We want to understand whether the actions have been completed, and, if the actions have been completed, how they would have applied to Watford and the circumstances there. There is a lot of ongoing work in just that area. You can rest assured that we will look very closely at that.

The way the process works is that ORR has a duty to notify us of the actions that it has been told by industry are being taken. ORR will also satisfy itself as to whether it believes those actions are being taken. It is for us to report, in our annual report, the status of each recommendation. Clearly we are keenly interested to know how far Network Rail has gone in implementing those recommendations and how they link to the circumstances at Watford.

Q55 **Iain Stewart:** I have one supplementary. I appreciate that you have not



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yet concluded your investigation into the incident. One possible contributory factor for that incident at Watford is that it is a very steep-sided cutting and there was a very dense number of trees on the site, which were cut down and removed a number of months before the incident. I do not know why—perhaps to remove leaves on the line as an issue, or something like that. They were removed and the incident happened after a period of heavy rain. Would you be looking at that separate piece of work, which happened at that location, as a possible causal factor of the incident and how it relates to your previous recommendations?

Simon French: Absolutely. Our inspectors went to site and took very detailed measurements. We have all the records relevant to the management of the slope where the landslip occurred. Yes, we are aware of the de-vegetation that was carried out in preparation for some works in the area. We will look at the impact that had on the landslip. We have our own specialists to do that. We have some geo-technical specialists. We have a civil engineering specialist. We have all the expertise we need. We will also be talking to Network Rail in that area. Yes, we will certainly be covering that and will wish to understand the impact, if any, that it had on the incident.

Q56 **Clive Efford:** I want to ask some questions about this, because we had a landslide at the beginning of 2015 on the Bexleyheath line. I was told that the particular area had been surveyed less than a year before. Is there an issue about the quality and standard of surveys? I was told in another parliamentary answer that Network Rail carries out these surveys at one, three, five and 10-year periods, depending on the location. Is that adequate? Is the standard of the surveys adequate? Does it need to be looked at?

Ian Prosser: One area we are looking at in relation to both earthworks and structures is, if you like, the quality of those assessments. Some of those assessments are quite difficult. Some of the earthworks were built in the 1800s. No one is always completely clear about what is in them. I know that Network Rail is looking at new technology and the use of more sophisticated technology to try to do more detailed surveys of those assets. It can obviously tell you more about that later.

Q57 **Clive Efford:** I am sorry to cut across you, but I want to make the point that there was some quite essential equipment located at the landslide, and it had footings and foundations. Was that adequately surveyed? All of that slipped at the time the landslide took place. It is not the case that they were very ancient and historic earthworks. It is something that has been added to in fairly recent times, yet it still managed to have quite a major landslip.

Ian Prosser: I do not know the specific details of that slip, but this is a whole area where important focus is required. For me, there are two key things about earthworks. One is using new technology for the way in



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which they are monitored. The second is trying to get more work done on them in the future.

- Q58 **Karl McCartney:** You mentioned vegetation in relation to Mr Stewart's questions regarding the landslip. Have you looked at the prevalence of wildlife, specifically rabbits? Are you aware how much management of wildlife Network Rail does today compared with five, 10 or 15 years ago?

Simon French: I am unaware how much wildlife management Network Rail does and whether that has changed over time, so I cannot answer that question.

- Q59 **Karl McCartney:** It is a good question to ask.

Simon French: With respect to any investigations of landslip, of course our engineers look at any degradation of the slope due to digging animals. Such a failure would always be considered as part of any investigation.

- Q60 **Chair:** Finally, I would like to ask you about the worker safety record on the railways. The rail industry does not have a good worker safety record. Could you tell us what your concerns are and what you think should be done to improve it?

Ian Prosser: Worker safety is an area we have obviously been focused on. The key area I have focused on since I have been in this role is improving the safety culture across the sector, particularly in Network Rail. I must say that since 2010, when we exposed the issue of the RIDDOR under-reporting and injuries not being reported, Network Rail, under the leadership of Sir David Higgins and Mark Carne, has made a considerable effort to try to shift the safety culture. However, it will take time.

Key areas that need to be focused on in terms of improving worker safety—and we definitely cannot be complacent—are, first, protecting the workforce from trains, effectively, as they work on the infrastructure. The second is electrical safety. There is a lot of electricity out there, and electrical safety is a focus we have had in the sector. The third one is driving. There have been quite a few unfortunate fatalities—track workers and other workers in the industry dying on the roads. That is something we can avoid.

Those areas in particular are being focused upon, not just by Network Rail but by the sector as a whole, so that we can achieve our vision of zero workforce fatalities and zero industry-caused passenger and public fatalities. We have had some improvements, but we cannot be complacent. Last year, for the first time, the whole sector did not have a workforce fatality. That is a hell of a long time coming, but at least it is a step in the right direction. We have seen a reduction in the number of major injuries. The industry is very clear that there is much more to do. It is critical that the initiatives that have been put in place about reporting close calls are continued. That is very important so that you



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understand what lies at the bottom of the safety performance triangle. A lot of effort has gone into that in recent years, and it will start to give us information, so that Network Rail and other companies can improve their workforce safety.

Q61 **Chair:** Mr French, do you have anything to add?

Simon French: Yes. In our last annual report we listed quite a number of investigations that concluded during 2015 involving track workers. The first, right at the beginning of the year, was our publication of a report about a fatality that occurred in 2014 at Newark, which was the last fatality involving a track worker, a look-out who was struck by a train. A number of other incidents occurred. The one that particularly concerned us was a very near miss for a gang of track workers working at a place called Hest Bank on the west coast main line. They avoided, by a matter of a second or so, being mown down by a train that came around the corner at about 100 mph.

When you look through the various investigations that we have carried out, there is no one immediate cause, but all of them feature elements of behaviour and culture. In many cases, you see weakness in leadership, and also unwillingness to challenge unsafe practice. It is very deep rooted, and the industry understands that and is seeking to address it.

We are concerned by the continuing number of near misses. It is for that reason that we are now undertaking what we call a class investigation, a thematic investigation looking at a number of incidents, trying to draw some conclusions from that and adding some value to the ongoing debate about track worker safety. I would echo much of what Ian said. There is a lot to do. We should not be blind to the fact that the railway is a very difficult environment to work in. We should never accept the risk of track workers being struck by trains, despite the difficulty of the environment. They are often working at night and where there is very limited clearance from passing trains. All of that is true, and we need to continue to work in that area. I hope that our thematic investigation, our class investigation, will add some additional ideas and some new thinking in that area.

Chair: Thank you both very much. We have to finish now.

Examination of witnesses

Witnesses: Mark Carne and Graham Hopkins.

Q62 **Chair:** Good afternoon and welcome to the Transport Select Committee. I apologise for overrunning so much, but I am sure you heard the importance of the issues that we have been discussing. We will be returning to most, if not all, of them with you. Could you tell us your name and organisation for our records?

Mark Carne: My name is Mark Carne and I am the chief executive of Network Rail.



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Graham Hopkins: I am Graham Hopkins, the group safety, technical and engineering director of Network Rail.

Q63 **Chair:** Thank you. You have heard a lot of concern expressed about fatalities and near misses on level crossings. What more can be done to increase safety at level crossings, or indeed to remove those level crossings?

Mark Carne: It is certainly true that level crossings remain a significant hazard to the public. It is an absolute focus area for us in Network Rail to reduce the risk to the public at level crossings in the most effective way that we can. We have over 6,000 level crossings in this country. What we now do is assess the risks at every single one of those crossings and compare them. Then we decide how to use the ring-fenced money that is provided to Network Rail in the most effective way to reduce the overall risk.

Part of that must be trying to close level crossings. The only safe level crossing is a closed level crossing. We have closed a number—over 1,000 in the last few years—which has had a significant impact on improving safety. In the last control period, we reduced risk at level crossings by 31%. In this control period so far, we believe we have reduced risk by about 19%. We are making strides. We are reducing the risk, but, goodness me, when we have a tragedy, as we occasionally still do, it brings it home to us that we must still do more, and work harder with communities and our own teams to improve the way in which we manage the risk at level crossings.

Q64 **Martin Vickers:** Mr Carne, you will have heard the exchange I had with the previous witnesses in connection with the number of level crossings that are monitored by signallers. Does Network Rail issue any guidance or instructions as to what is the maximum number of crossings that an individual signaller can monitor?

Mark Carne: I do not know the specifics around that, Mr Vickers, but we absolutely assess the overall workload that a signaller can effectively manage. That would include a whole range of different activities that they have to carry out. We ensure that they are able to manage those tasks in a safe way. Having said that, we have had two serious incidents in the last couple of years. The Hockham incident was referred to earlier. There was also a train incident at Plymouth when two trains collided at relatively low speed. On both occasions, we looked very hard at the signalling and the contribution that a signalling error may have made to those incidents. Graham and his team have been looking at a number of different ergonomic factors around signallers to ensure that our standards and our ways of assessing that risk are appropriate and fit for purpose at the moment. That work has not concluded, but it is a reflection of the fact that we are not complacent in this area. We are restless to continue to challenge ourselves as to whether or not the current methods of working are really appropriate.



Q65 Martin Vickers: Would it be fair to say that the ongoing modernisation of the signalling network inevitably means that individual signallers are controlling much larger areas? Would it not be fair to complete an assessment before further extension of that type of signalling proceeds?

Mark Carne: There are so many factors at play. When we carry out re-signalling, of course in many cases there are significant improvements made to the risks associated with level crossings that reduce the risk, such as the installation of CCTV and so on, which perhaps might not have been there in previous cases. There are a variety of different factors at play. The new signalling systems that we are installing are, more broadly, safer. They have higher levels of reliability than the old systems. They deliver a superior level of performance for the railway as a whole. That is why we are driving so hard to deliver improvements in signalling across the network as a whole.

Q66 Robert Ffello: I hear what you say, Mr Carne. One thing I saw a few months back, when Mr Prosser very kindly met me at Foley signal and level crossing in Stoke-on-Trent, was that the good old low-tech, Victorian-plus, staff-heavy systems worked. They had failsafes and there were ways of double-checking before anything happened. I worry about the extent of the move away from the tried and tested, albeit that old-fashioned cables have a tendency to break and all those sorts of things, but at least if there was a break you knew there was a problem and there were procedures in place. I wonder to what extent the move to technology without properly testing and looking at it is the deep-rooted cause of some of the problems. I do not know whether you would agree or not, but is there now an opportunity to pause and have another look? Historically, all these systems worked quite well, give or take, over many years of trial and error, and when they did not work, the problems were found and solved. We have now jumped into a new era, and we are reliant on technology and one member of staff looking after a whole number of signals and controlling a whole number of level crossings. Are we running before we can learn the lessons?

Mark Carne: It will not surprise you to know that I quite strongly disagree with that. First, there is no way that we can continue to run a modern railway system in the 21st century using Victorian signalling systems. We need to modernise our railway in many regards, and that is one example. It is not a sudden switch. We have been modernising the signalling system in this country for 50 years, from the first advent of electronics and electronic signalling. The first big panels were installed in the 1960s and were upgraded in the 1970s and 1980s. We are continuing that process. We have huge numbers of checks and balances to ensure that within those interlocking systems and control systems, we have the highest level of integrity and safety. They are inherently—

Q67 Robert Ffello: Why is it going wrong? Why do you have a declining number of level crossings, yet clearly there are still problems with level crossing incidents?



Mark Carne: I am not saying that it is going wrong. Clearly there are isolated cases of the nature that I have highlighted. As was mentioned by Mr French in the previous session, this is still a part of the railway where a single human error can create an unsafe situation. It was exactly the same in the old-fashioned signal boxes as well. A single error from a signaller could create an unsafe situation.

Q68 **Karl McCartney:** I want to go back to Mr Vickers's question regarding how many level crossings one signalman/operator can look after in a remote control centre. Could you find out that information, if you do not have it to hand, and let us know? I have seen the one just to the west of Lincoln. It is very impressive but it controls an awful lot of line. As another way of asking the same question, how many separate single signal boxes were there five years ago, and how many are there today next to level crossings?

Mark Carne: We still have around 400 signal boxes in operation in the railway system.

Q69 **Karl McCartney:** That compares to how many five years or 10 years ago?

Mark Carne: I cannot give you that now, but we are moving to having 12 operating centres across the country as a whole and running the railway from those 12 operating centres over the next 15 to 20 years. It is a long-term migration to modern signalling centres.

Q70 **Karl McCartney:** In Lincolnshire, we have various level crossings that have signal boxes next door to them. If something goes wrong, there is somebody on site immediately. What happens if something goes wrong and it is a remotely controlled level crossing? Who gets on site first?

Mark Carne: We have mobile operations managers who are able to attend to any particular incident, just as they do on any other part of the railway system. I will come back to you on the question, however; it is a much broader question than the way it has been posed. There are many factors that affect the span with which an operator can run a railway. Obviously, the frequency of trains is a major factor, as well as the mix of trains and type of trains, and the number of level crossings that happen to be on the network. We can certainly provide the Committee with the competency requirements and the ways in which we assess the adequacy of our signallers to manage those risks.

Q71 **Huw Merriman:** Is the requirement to close level crossings, or indeed upgrade them, impacting rambler groups that have walked across them safely for years and years and now cannot? Does it also make rail infrastructure projects too expensive to roll out, because you have to spend so much on level crossings? Is that a converse danger?

Mark Carne: Our target is to reduce risk at level crossings. We do not have a level crossing closure target.



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Q72 **Huw Merriman:** But you said a lot had been closed.

Mark Carne: Very often the best way to manage the risk is to close it, but it tends to be in areas where there are alternative means of crossing the railway without too much inconvenience for users, or where we are able to put in place a bridge or some other means of crossing the railway. That tends to be the trend.

There have been certain cases where ramblers and other local community groups have objected strongly to the closure of level crossings. Part of our responsibility is to recognise that railways bisect communities, and level crossings play a very important role in those communities. We have to take into consideration the needs and wishes of those communities, just as much as we need to take into account the safety of the people who use the railways. That is why we consult about the closure of crossings and we try, wherever possible, to find alternative means of providing a crossing for users.

Q73 **Huw Merriman:** Do projects get priced out because of the new level crossing requirements?

Mark Carne: I do not know of situations where they have been priced out. We have a basic principle that you should not build a new railway with level crossings, just as you would not build a new motorway with pedestrian crossings on it. You just wouldn't do it. If we build a new railway, we should not put in level crossings. Equally, we need to look at whether the cost associated with that is grossly disproportionate to the risk benefit. If that were to be the case, I suppose it is foreseeable that one could imagine installing level crossings, but one would always try to design them out in the first place.

Q74 **Chair:** Do you take the decision as to whether the cost is disproportionate to the benefit?

Mark Carne: Yes. Ultimately, I see it as our accountability to achieve the highest level of risk reduction that we can for the funds we have available. We use the industry guidance in "Taking Safe Decisions" and other industry approaches to help us make those choices. It is a very structured process. It is very transparent. All the information is available on our website so that people can see how we assess the risk on every single level crossing, and which are the ones that we consider have the highest risk, and therefore where we intend to take action to try to reduce the risk in the most effective manner.

Q75 **Clive Efford:** I want to go on to staff safety, but, before I do, could I ask you about the circumstances in which you would ignore a notice from the office of the rail regulator?

Mark Carne: Ignore a notice?

Clive Efford: Yes, not carry it out.

Mark Carne: I can't imagine—



Q76 Clive Efford: We were told that recommendations from the inspectorate were not carried out or followed up in one in 10 cases. We were told by the rail regulator that they issue enforcement notices when you fail to carry them out. I just wondered in what circumstances you failed to do that.

Mark Carne: Thank you, Mr Efford. Perhaps I misunderstood your point. As the previous witnesses said, we may not always agree with the precise recommendation or action that either the RAIB or the ORR suggests. We may propose alternative means of achieving the same objective. There have also been some occasions, I regret to say, when we have not carried out the actions with the speed we should have done. On occasion, that has led the ORR to believe that further action was required for us to accelerate that action. I do not believe there are any cases, to my knowledge, when we have simply said, "We're not going to do it; we don't agree." That is not the way we operate.

Q77 Clive Efford: Can you say why the industry has such a poor worker safety record compared with similar industries?

Mark Carne: I can. I spent most of my career in the oil and gas industry before joining the rail industry. In the 35 years I worked in that industry, I saw an utter transformation in worker safety. The oil and gas sector today has a worker safety record that is perhaps 10 times better than in the rail industry. It was one of the things that attracted me to want to do this job. I feel that safety and performance go hand in hand. That is one of my mantras. I felt that, if there was an opportunity to improve safety performance, there must also be an opportunity to improve the operational performance of our railway.

As previously said, there are some deep-seated cultural aspects of Britain's railways that take a long time to overcome, but I feel very encouraged by the progress that has been made. In the last year, we have had around a 13% reduction in serious worker injuries. As Mr Prosser highlighted, there were no worker fatalities last year in any part of the railway, which is the first time in the history of our railways. In the 1960s, two railway workers lost their lives every week, so there has been a continuous period of improvement over many years, but we still have a long way to go to reach the standards that other industries achieve.

One of the cultural changes that we want to embed is the culture of deeply caring for the other workers you are with. If you see something that is not quite right, you should highlight it and say "Look, let's fix this," rather than walk by and at some later point in time it causes an incident. The close call culture that we have introduced, where we had 120,000 close calls raised last year and this year it will be over 150,000, is a tremendously positive sign of the more open and caring culture that we are trying to create.

Q78 Clive Efford: We have been made aware that there are concerns that the planning and delivery of safe work initiative is taking too long to



implement across the network, and that there are inconsistencies in its effectiveness. What are you doing to address that?

Mark Carne: First of all, I would acknowledge that. Planning and delivering safe work is a key means by which we will improve workforce safety. In areas where we have successfully deployed it, we have seen a reduction in workforce injuries of 50%, and a reduction in overrunning or cancelled possessions. They have dropped by 50%, so that is another great example of good planning leading to better safety performance.

Unfortunately, when we first tried to implement planning and delivery of safe work, we tried to bite off too much in one go. We were changing the way in which work is done. We were changing the job descriptions and responsibilities of individuals, and we were trying to introduce technology to enable better planning and management of the work. We tried to do it all at the same time, and that met with considerable resistance in parts of our own workforce. We are now regrouping. We are going to roll it out next year, but in sequence—in steps—starting with a new process. We have consulted widely and we have great support from the unions, and we now have a much clearer process that we can roll out. Then we will move to the clearer jobs and responsibilities, and follow up with the technology.

Q79 **Clive Efford:** The ORR's enforcement activities suggest that Network Rail is not adequately addressing manual handling risks. If you are not implementing your safe work programme to address basic health and safety issues, doesn't that raise concerns about how you approach the issue of improving worker safety?

Mark Carne: I can assure you that worker safety is absolutely at the forefront of our thinking in what we are trying to do to improve the culture in Network Rail.

Q80 **Clive Efford:** On an issue like manual handling, which would seem to be a straightforward matter where you could address it, why is the ORR suggesting that you are not adequately addressing it?

Mark Carne: I know there are a number of aspects of manual handling where we have not moved as quickly as the ORR would like, particularly in the movement of heavy troughing lids—concrete lids that sit on the troughs where the signalling cables run. As part of the history of the railway, there are thousands and thousands of miles of this stuff, which has been there for years and years. Nowadays, it is rightly viewed that they are too heavy to be lifted by an individual and therefore we need to change the manner in which they are moved. We have not always been as good at handling those sorts of changes.

Q81 **Clive Efford:** Is that an issue for the management of Network Rail, or does it need to change the staff custom and practice that has happened in the past?



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Mark Carne: That is really the point. It is about changing custom and practice. When people have been brought up man and boy—they are nearly all men in those sorts of roles—to carry out tasks in a particular way, creating the culture change where they recognise that they need to act in different ways takes time. We also need to recognise that we have to introduce a different kind of technology; for example, plastic instead of concrete, because it is lighter and easier to move.

Q82 **Clive Efford:** You have a highly organised and unionised workforce, so I would assume that you have a very good and ready-made way of disseminating information about safety issues to your staff in co-operation with the trade unions. Do you work closely with them to do that?

Graham Hopkins: Absolutely we do, yes.

Q83 **Chair:** Mr Hopkins, can you tell us more about what you are doing to address this problem?

Graham Hopkins: On manual handling, we have now agreed with the ORR a close-out plan for the risk assessments associated with what the manual work is and the timings of that assessment throughout all our structure. As Mark pointed out, there is, in a sense, a legacy of equipment and material out there that requires a change of approach in how you deal with it. That is what our manual handling assessments and approaches are all about. I emphasise the point about planning and delivering safe work. The important point there is the first word—planning. The big thing that we are changing with planning and delivery of safe work is the assessment of the operational safety—people out on the track, and making sure those people do not get hit by a train—as well as the safety of the task that they are doing and the planning of that task: “I am going to lift this troughing. How am I going to do it?” That is going to be done by the same individual, whereas at the moment they are separate. We want to bring that together, so that planning of operational and task safety is brought into one area.

Q84 **Chair:** But are you doing that?

Graham Hopkins: That is what we are rolling out. That is what Mark intended and that is what we are now rolling out.

Q85 **Karl McCartney:** I want to come back to something that my colleague Mr Efford was asking you about. I want to turn it on its head and give you a scenario. I do not know if you will be able to answer positively or negatively; we will see. If there is a project that you want to do at Network Rail because it is safety critical and you agree to do that project at a certain price, have you ever ignored a recommendation or enforcement from the ORR when they have told you to do it cheaper, and because of the safety aspect you have agreed to do the project as it initially was set out because it was so safety critical? Have you ever done that at Network Rail?



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Chair: Mr Carne, do you know the answer?

Mark Carne: I am trying to make sure that I understand the question.

Q86 **Karl McCartney:** Do you want me to repeat it?

Mark Carne: Please.

Q87 **Karl McCartney:** I will do it slowly. I was figuring out how I was going to ask the question. If there is a safety critical project that you want to do as Network Rail and it is going to cost a certain amount, but then the ORR come to you and say, "We think you can do it cheaper in a different way and we recommend that you do it that way or we will enforce you to do it that way," have you ever said, "Get lost, ORR. We are doing it the way we want to do it because it is so safety critical"?

Mark Carne: No, I cannot imagine a scenario where we would do that. If we can find a better way of delivering an outcome, that is what I would expect us to do.

Q88 **Chair:** Bad weather, earthwork failures and landslips have been identified as major problems. What are you doing to address those?

Mark Carne: As you heard in the previous evidence, the most serious train accident that we have had on the network for a number of years was the Watford train accident. It was not actually a landslide; it was caused by a wash-out of the chalk off a very steep slope, caused by heavy rain. It highlighted very clearly that, if you cannot manage the risks associated with earthworks and landslips, the consequences can be very serious. This has an absolute focus in our safety management system as to how we can reduce risk further.

There are a few things I would highlight; they were alluded to in the earlier evidence as well. It can be extremely difficult to calculate precisely where and when earthworks may fail. This is because many of the earthworks were built 150 years ago, so design standards did not exist in those days. It is quite difficult for us to know precisely where earthworks may fail. That is one of the reasons why we cannot entirely rely on the normal routine inspection processes. We have to use other forms of technology to help us predict where we may get failures. We have a new technology programme, which Graham is leading, thinking about how we can use technology better to improve earthworks.

You need to look at the earthworks failure risk in combination with the increased prevalence of extreme weather. Over the last few years, we have seen quite significant change in weather patterns in this country, with some extreme weather events causing significant railway failures. You will remember Dawlish, Dover and the Lamington viaduct that failed. Of course, there was the Watford incident as well, where we had 60 mm of rain in two hours. Those are extreme weather events, which cause more risk to the earthworks. We have to manage that risk in the most effective way. Part of the way we do that is through improved operational



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controls. In the event that we see we are going to have a period of extreme weather, we operate the railway differently to mitigate and manage the risk in a better way.

Q89 **Chair:** Do you think you are doing that as well as you possibly could? What needs to happen to let you do it better?

Mark Carne: As I said, we need to use technology in a better way.

Q90 **Chair:** What is stopping you doing that?

Mark Carne: It is about the availability of the appropriate technology. It is about using satellite imagery. Perhaps Graham can answer.

Q91 **Chair:** Mr Hopkins, what needs to happen to enable you to address this better?

Graham Hopkins: I do not want to get too technical.

Q92 **Chair:** No, not very technical, but is it to do with funding? Is it to do with knowledge?

Graham Hopkins: Some element of it is to do with funding.

Q93 **Chair:** Is it a different way of planning? What needs to happen?

Graham Hopkins: There are a few things. First of all, as Mark indicated, the science and predictability of earthworks is not as precise as other elements of our infrastructure. Our knowledge of what we can do to control earthworks is one of our problems. We have very good risk assessments and very good inspection regimes in those areas. However, we still have earthwork failures.

Some of the technology we are looking at, therefore, is how we can do remote condition monitoring of earthworks. How do we know that an earthwork is about to move, for example, well enough in time that we can do something about it, as opposed to doing something to manage the consequence of the fall. Today, most of the remote monitoring equipment on an earthwork will tell you that it has moved. We can then work out, as Mark said, how to control the risk of that consequence on the trains. Where we want to be is to put in remote condition monitoring that says, "I am picking up something here and, based on my signature analysis and an analysis of what I have seen elsewhere, it is telling me this earthwork is moving; it is likely to fail in three or six months; therefore, go and do some remedial work." That is where we would like to be. We are not there at the moment. The technology to do that needs to be developed. We are looking at a number of avenues to do that.

Q94 **Chair:** It is not just availability of funds; it is the technology itself. Or is it both?

Graham Hopkins: Yes. If I may say so, you need funds sometimes to produce the technology. I will be blunt: we need more research, development and technology funding.



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Q95 **Karl McCartney:** How much did Network Rail spend five, 10 or 15 years ago on managing wildlife at the side of the railway compared with what it spends today?

Graham Hopkins: It is the same as with the question you asked previously. I have written it down. I do not know the answer, but I am happy to let you know.

Mark Carne: Perhaps I could address the question slightly. Sometimes we get quite a lot of criticism for the vegetation works we carry out on embankments to remove trees and so on. Very often, people believe that it is a destruction or reduction of habitat and biodiversity. Actually, we work extremely carefully with environmental groups like the Tree Council to think about how to create increased biodiversity after we have removed trees. It may sound perverse, but a uniform group of trees next to a railway creates a hazard to the railway, not just in terms of leaf fall, as highlighted earlier, but in terms of trees falling on the railway. They can also be remarkably un-diverse. If we can create, and we do, a graded series of plants growing up an embankment, starting with wildflower meadows, then small scrub and then trees, we can increase biodiversity not just in terms of the insect and plant life but also in terms of the rodents and birds and so on that live off those creatures.

Q96 **Karl McCartney:** I understand that as far as the flora and fauna go, but my question is pointing out that some landslips are caused by the fact that rabbits are burrowing in your embankments. If you are not killing those rabbits, you are not managing the risk of landslip.

Mark Carne: There is very little evidence to show that burrowing creatures create a landslip risk. There are certain cases where we have had major badger infestations on cuttings and so on, but there is very little evidence to suggest that it is a major cause of landslip risk.

Q97 **Chair:** I want to ask you one final question, about suicides on the railway. I know that you work with British Transport police and others to address that. Do you have any further plans for dealing with it?

Mark Carne: We work very closely with the Samaritans. We have a tremendous partnership with them looking across the industry at how we can reduce suicides. This is a terrible tragedy on our railway, but I am very encouraged that we are actually achieving some significant successes. Last year, we saw a 12% reduction in the number of people who chose to end their life on Britain's railways against an increasing trend of suicides in the country. This year, the drop is even more; it is a 17% reduction.

I am very proud of that programme and I am very proud of the incredibly brave people across the industry, whether in a train operating company or Network Rail, who intervene when they see a distressed person who may be about to take their life. We have over 1,000 interventions recorded, and this year alone we have seen over 120 life-saving interventions made. It is a programme that we pursue relentlessly. We



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have great support from the Samaritans. It is an internationally recognised programme, which is attracting a lot of interest from overseas countries who want to know about the steps we have taken to achieve this. Goodness me, it is still a tremendous toll, and one that we work tirelessly to try to reduce further.

Chair: Thank you both very much.