

PUBLIC SESSION

MINUTES OF ORAL EVIDENCE

taken before

HIGH SPEED RAIL COMMITTEE

On the

HIGH SPEED RAIL (LONDON—WEST MIDLANDS) BILL

Tuesday 28 October 2014 (Morning)

In Committee Room 5

PRESENT:

Mr Robert Syms (In the Chair)

Mr Henry Bellingham

Sir Peter Bottomley

Ian Mearns

IN ATTENDANCE

Mr Michael Carpenter, Speaker's Counsel

Mr Timothy Mould QC, Lead Counsel, Department for Transport

Ms Nathalie Lieven QC, Landmark Chambers

Witnesses:

Mr Andrew Savage, County Highways Service Manager, Warwickshire County Council

Mr David Lowe, Principal Ecologist, Warwickshire County Council

Mr Tim Smart, International Director for High Speed Rail, CH2M Hill

IN PUBLIC SESSION

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(At 9.30)

1. CHAIR: Order, order. Good morning, everybody. Today we hear again from the Warwickshire local authorities. This morning we're going to hear their position on the Environmental Statement. Ms Lieven, are you going to kick off?

Warwickshire County Council: Submissions on Environmental Statement

2. MS LIEVEN QC: Yes please, sir. I've reduced what I'm going to say to a very short note. I should make it clear at the start what I'm not doing. I'm not raising points about the legality of the Environmental Statement in anticipation of a challenge in the European Court. That's nothing to do with our issue. Our issue is all about environmental protection and where the Environmental Statement sits in that regime. I'm also breaking one of the rules of parliamentary advocacy, because I'm not asking the Committee to actually do anything today on this issue. The reason I'm making the submissions—and I'm making them on behalf of a number of local authorities—is just to highlight to the Committee why the accuracy of the Environmental Statement matters so much in the process of this Bill so that when other individuals, environmental groups or local authorities down the line raise issues about the Environmental Statement the Committee shouldn't think, "So what? Why does it matter? It's all in the past." The point I want to make on behalf of these local authorities is that the accuracy of the Environmental Statement is critical to how the Bill works in practice for the people and businesses who may be affected.

3. Turning to the note, which I hope has—

4. MR MOULD QC (DfT): It's not loading, for some reason. I'm sorry; we did try and scan this in, but for some reason it's just not loading up.

5. MS LIEVEN QC: Revert to the old-fashioned method. I have brought hard copies, so if I can have them passed round.

6. CHAIR: I have to say the technology has worked pretty well so far.

7. MS LIEVEN QC: It's always best to have a backup. I start by saying in respect

of this issue Warwickshire County Council is making submissions on behalf of a number of other local authorities along the route who are concerned about the adequacy of the ES. I'm going to use that acronym; I'm sure you're all very familiar with it by now. The issue here is not the adequacy of the ES in relation to any questions of legality but the relationship between the ES and the Environmental Minimum Requirements—the EMRs—which I know Mr Mould and probably others on his team have already spoken to you about. The scheme of environmental protection within the HS2 project—when I talk about environmental protection, that covers the whole gamut of noise, dust, ecology, traffic and any other environmental impacts—rests fundamentally on the accuracy of the assessments in the Environmental Statement and, I should say, any addendums or supplements to the Environmental Statement. That's fundamentally for two reasons. The EMRs are triggered by the assessments in the ES, so if those assessments are wrong the protection in the EMRs does not work correctly. Secondly, all those affected by HS2 look to the ES to tell them the level of those effects and the mitigation they can rely upon. If the ES is inaccurate then there can be no such reliance and residents, businesses, environmental groups or whoever else might be concerned are left in the dark as to how the project is going to impact upon them.

8. Now, we weren't going to raise this as a simply theoretical matter. A number of local authorities have specific concerns about very significant inaccuracies or absences within the ES, and what Warwickshire was going to do was to illustrate its concerns by reference to the lack of data and inaccuracy in the data there is in the current ES in respect of ecological issues within the county. That was really why Warwickshire was leading on it: because we were concerned—oh, here we are; we're on paragraph 3—specifically about absence of ecological data. But, to a great extent, HS2 have accepted our representations in that regard, because HS2 has now said, as I think the Committee knows, that it's carrying out further ecological surveys and will produce an addendum to the ES based on that further ecological work, and I think that's due at some date early-ish next year—I think maybe spring next year. So, it seemed to us there was very little point in explaining the current deficiencies in the ES with regard to ecological matters when HS2 had accepted that that was the fact and were going away to do further work.

9. But further down the line—literally, both in time and down the HS2 route towards

London—you will hear from a number of other local authorities and, I suspect, individuals and residents' groups about their specific concerns on accuracy of the ES, perhaps most likely around noise, which I know other local authorities are going to raise, and traffic impacts. So, our particular example has, at least temporarily, fallen away. We will obviously have to have a look at what the addendum ES covers to see whether there are any continuing inaccuracies on ecology, but hopefully that won't be the case.

10. The legal issue here is the relationship between the ES and the Environmental Minimum Requirements. What I've done in the note is set out in italics the critical paragraph from the draft Environmental Minimum Requirements document produced by HS2. What that says in paragraph 1.1.3, which Mr Mould referred you to last week when HS2AA came along with Mr Banner and made related submissions, I think it would be fair to say, on the ES but not quite targeted precisely on our issue, is: “The controls contained in the EMR along with powers contained in the [High Speed Rail] Act and the Undertakings given by the Secretary of State will ensure that impacts which have been assessed in the ES will not be exceeded”—so, the ES sets the baseline—“unless”—and the “unless” is really important—“any new impact or impacts in excess of those assessed in the ES: (i) results from a change in circumstances which was not likely at the time of the ES; or (ii)”—and this is probably the most important for today's purposes—“would not be likely to be environmentally significant; or (iii) results from a change or extension to the project, where that change or extension does not itself require environmental impact assessment”—and then there are specific provisions about that—“or (iv) would be considered as part of a separate consent process (and therefore further EIA if required).” We're not concerned about the separate consent process then there would be an EIA; we don't need to worry about that.

11. So, all the environmental protection along the route rests on having an accurate ES so that people know what to expect and have the information on which to say to HS2 and, indeed, as we discussed yesterday, the local authorities that the impacts are greater than they expected or that there are impacts which were not set out in the ES and that further mitigation is required. Of course, mitigation can be something massive like a new bund or it can be something small like a few trees.

12. SIR PETER BOTTOMLEY: Different from, rather than greater.

13. MS LIEVEN QC: Different from, yes, although in practice the concern is likely to be greater than.

14. One major practical problem which is raised in respect of this issue around accuracy of the ES is what I've called the second "unless", which is happily the one that appears at the top of that page: unless the new impact is not likely to be environmentally significant. That appears to have been approached on the Crossrail project, which has the same EMR system, as meaning that any change to the project which would not itself have required an ES would be permissible. That's a very high test of change; very large change could take place without there being a trigger of the EMR. The Committee will be well aware that the powers in the Bill are very wide. This is not like a detailed planning consent, where everybody knows precisely what is permitted. The Bill allows relatively wide limits of deviation, both vertically and horizontally; wide powers to construct ancillary works; and very general powers to construct the railway generally. The test of requiring a fresh ES—in other words, the "unless"—is a very high one, and in practice the only remedy for a local authority who thinks that the change is likely to be environmentally significant—and HS2 thinks it isn't—is to try to get an injunction to stop the project if the further ES is not provided.

15. This is where one needs a smattering of reality. It would be a very, very, very brave High Court judge who granted an injunction to stop HS2 until a further ES was drawn up given the scale of damage that would be caused in terms of contractual costs and the potential that that damage would fall ultimately on the local authority. So, there are legal mechanisms, but the likelihood of them actually being able to be brought into play is extremely distant. As I say in the note, in practice this is extraordinarily unlikely to happen.

16. That means in reality major new impacts can be introduced which either were not in the ES at all or were not assessed as being significant. Examples—because it is always helpful to think about the real world—could be new buildings; new substations or other plant along the route; raising or lowering the track within the limits;

constructing bunds or embankments; or changing the designs of bridges, none of which on their own would necessarily warrant an ES but any of which could have major impacts on, for example, wildlife, noise, potentially dust, or views. In many cases, it's important to understand that it will be very much more difficult to what I call retrofit mitigation such as noise barriers than to design it into the project in the first place. If you've got your ES wrong, your impact comes out as being major or even significant but nobody's going to stop the project to draw up another ES, it may be either completely too late to get your mitigation in or so prohibitively expensive to put the mitigation in later that everybody agrees it's not a reasonable course to take. So, a lot of our submissions are about the pragmatic reality of building a railway rather than the legal theory.

17. It is of the greatest importance that the assessments of likely effects and therefore, in this example, of necessary mitigation are made before the work commences. In those circumstances, it's very important that local authorities, residents and businesses can come to this Committee and highlight errors in the ES and ask that HS2 be told to remedy those deficiencies in an addendum ES—or a second addendum ES; wherever the process has got to. Unless that is done and the baseline then is wrong, the environmental protection upon which HS2 places great reliance is flawed. I'm really trying to highlight to the Committee how important it is that when people come to you and say, "The ES is wrong because it says it's not going to have a significant effect on my house but it is", I'm afraid it is one of the roles of this Committee to then push HS2 to deal with that deficiency.

18. Just finally, HS2 has been keen to say, "Well, our ES is all fine and dandy. It's gone through the right processes. It's survived the Supreme Court and it's survived the assessor" but none of those processes were about the accuracy of the information in the ES. These submissions are made in a context where HS2 themselves have acknowledged that there are deficiencies in the ES which have led them to carry out an addendum or to be in the process of carrying out an addendum ES inter alia on ecology—there may be other things in it as well; I don't know—so it must be open to petitioners, not just HS2, to highlight further concerns around the accuracy of the ES in important respects which HS2 hasn't yet acknowledged.

19. Just one final point, which is really to deal with an issue raised by Mr Mould last week in his response to HS2AA. It is really important to have in mind that the assessor appointed by Parliament—the Committee will remember that there was an assessor built into the process before the Second Reading—is not there—it was not his remit—to assess the accuracy of the Environmental Statement. All his report did was report on the representations made—so, “X people raised Y point”. He made no assessment as to whether Y point was a good point or a bad point, and he certainly didn’t begin to delve into the kinds of issues that are being raised about the accuracy of the noise assessments and so on. So, as far as this issue is concerned, the assessor is a complete red herring. His stamp of approval is simply on recording the representations, not on accuracy, and the report does not purport to give any view on whether concerns about accuracy of the information in the ES are correct or not.

20. That’s why I’m afraid we’re saying to you you need to listen to concerns raised about the accuracy of the ES.

21. CHAIR: Okay. Thank you. Mr Mould.

22. MR MOULD QC (DfT): There’s not a great deal between us, actually, because, picking up on that last point, it has never been my case—and you’ll recall this from last week—that the Committee should decline to hear petitioners who raise a concern in the context of their petition about—to use Ms Lieven’s phrase—the accuracy of the Environmental Statement.

23. Just to illustrate that in a simple way, the Environmental Statement includes a good deal of assessment work of the visual impact of the project as you pass up and down the route. You’ll find that it’s supported by a very comprehensive landscape and visual assessment report, which then sits beneath the assessment in the main Environmental Statement document. If you were to go to the Environmental Statement for, to take a Warwickshire area, Ladbroke and Southam, you would find in that many pages which identify a series of viewpoints and say, “These are the characteristics of that viewpoint now. This is what it will look like once you’ve got the railway in the landscape.” If the parish council of Ladbroke looked at that and said, “Hang on a

minute. This is just not an accurate assessment of the visual qualities of views from these points and what it does is it undervalues the quality of the existing view and it underestimates the degree of degradation that will result from the railway,” that would be a perfectly proper point, to illustrate it—I don’t know whether it is something that’s going to be raised—to raise before this Committee, and you would investigate that. You will have seen the route for yourselves; you’ll be able to draw on your own experience in that respect. Visual material can be presented in order to demonstrate that the Environmental Statement assessment is wrong, and you will be able to consider giving a remedy. You might say further mitigation should be included; there should be further screening planting put in, or there should be further earth mounding to protect the views from this point, and the Environmental Statement should be adjusted accordingly. It probably would in any event if that involved the promotion of an Additional Provision, because the Additional Provision would itself have to be supported by supplementary environmental information in the form of a supplementary Environmental Statement. That’s one point.

24. The next category of point that might be raised—we discussed this to a degree last week—is that the standards upon which the environmental assessment is based for, say, noise or ecology are themselves too generous to the project; they ought to be tighter—there ought to be a more rigorous design standard for airborne noise than is included. If you were persuaded on that point and said that the project should review its design to that more rigorous standard, it’s almost inevitable that that would mean that the noise assessment for the Environmental Statement would have to be re-run and the mitigation that would flow from that would have to be reconsidered. We would expect to have to provide further noise barriers or we would expect to have to provide noise insulation to a greater quantity of residential properties than is currently envisaged. Again, that’s the subject matter of this Committee’s role.

25. The third category is where the Environmental Statement is not so much said to be inaccurate but it’s said to be lacking in adequate baseline information. The ecological concerns raised by this council are an example of that. We’ve acknowledged in the Environmental Statement that we have not got total coverage through surveys of the entirety of the route. There are areas of the route where we haven’t been able, for various reasons, as you know, to get onto land and survey it and so we’ve had to make

assumptions. We've done it on a conservative basis—a precautionary approach—but in terms of empirical data there's a gap. As Ms Lieven has very kindly acknowledged, we've acknowledged that fact and we are proposing to carry out further work. We're already carrying out further survey work; we will continue to do so, and the fruits of that work and any further mitigation or whatever that may come from it, before this Committee has finished its work, will be reported in the form of a supplementary Environmental Statement. As it happens, in the context of Warwickshire, we've done rather better than we have for some other areas, because we've managed to undertake surveys on 80% of land within Bill limits in Warwickshire, so it's perhaps less of an issue in Warwickshire than it is elsewhere in some other parts of the route. But that's a detail.

26. All of those matters are matters, as you know—I've said this before—that I accept would fall within the proper remit of this Committee.

27. The other point I perhaps ought to touch on because it's a point that I think hasn't been raised by the Alliance is the point raised by Ms Lieven in paragraph 6 of her note. She raises the concern that flows from this point. The way in which the deemed planning permission is granted under the terms of—I think it is—Clause 19 of the Bill is that planning permission is granted for the scheduled works—the major elements of the scheme—and then planning permission is granted for ancillary works provided that they've been the subject of assessment in the Environmental Statement. The corollary to that is that if one proposes an ancillary work that goes beyond those that are contemplated in the Environmental Statement and as a consequence the impact of the project, either wholly or in part, is significantly changed from the assessment in the Environmental Statement, then there would need to be a supplementary Environmental Statement, or, indeed, there would need to be a planning application to cover that.

28. This happened with Crossrail. I'll give you an example. The Crossrail Custom House station was set out in the Crossrail Environmental Statement and included in the Bill powers. When it came to construct the Crossrail Custom House station, the promoter of the project decided that they wanted to promote some changes and that took the Custom House station outside the envelope which was authorised under the Bill and therefore assessed under the ES. Because that involved some changes of significance,

an application for planning permission was contemplated to the local planning authority. That shows you how that system works in practice, and it would be exactly the same here.

29. I accept that within the scope of that envelope of “does it make a significant change to the assessment in the Environmental Statement and therefore require further planning consent?” there’s room for some variation within limits of deviation; there’s room for variation in terms of whichever particular form an ancillary work would take. But that in itself has been contemplated in the Environmental Statement. You’ll find in the Environmental Statement there is an assessment of whether, if we were to raise or lower the horizontal alignment of the route in certain places within limits of deviation, that would have a greater and more significant impact on the landscape or in terms of noise than the proposed alignment would have. We’re not blind to that consideration; we accept it.

30. Having said that, again, if a petitioner wants to come and say, “If they were to raise the railway as it passes to the south of our village by the level that is allowed for under the limits of deviation, we think it would have quite a significant and quite a harmful additional effect in visual terms or it would increase the noise from the railway quite significantly and we would like the Committee, in that case, to consider saying in this particular case the limits of deviation should be set more rigorously; instead of having three metres or four metres, they should only have two metres or perhaps none at all,” that’s a point that in principle would be for this Committee to consider.

31. Those points that Ms Lieven raises, building on the points raised by the Alliance last week—on analysis, there’s no reason why petitioners should fear me saying, “No, you can’t hear about that”. What I’m not happy with is the approach that the Alliance took last week, which was to say: “You’ve got to down tools until you’ve satisfied yourselves on a line-by-line analysis that the Environmental Statement is”—to coin a phrase—“accurate”. That’s not helpful to anybody. The Committee, if I may say so, is perfectly well equipped to hear the kinds of arguments that I have suggested—I think the kinds of arguments that Ms Lieven contemplates—as it goes through and hears the subject matter of petitions. If people have concerns that in order to bolt in the remedy

that they seek it needs to be accompanied by some adjustment to or some reconsideration of the environmental assessment as it applies to their particular town or village or their particular property, then we will hear that, but if we don't the Committee can tell us that we should go away and we should supplement the environmental assessment for that purpose.

32. So, there's not much between us, but I just wanted to bring out those practical points.

33. CHAIR: Right. Thank you. Any questions from the Committee?

34. SIR PETER BOTTOMLEY: What is absolutely clear is that what Ms Lieven said about the role of the assessor is clear. It's spelt out in the second paragraph of page 1 in the introduction: they were to look at what was sent to them.

35. Then there's the issue raised by North Warwickshire in their issue on the petition, which may be a separate point, which is that normal planning processes are over-ridden. I don't think that's the question of the adequacy or the absence of information in the Environmental Statement; I think that's a separate type of issue.

36. We're then left with what is the bulk of the submission, which is that if the promoters use the leeway—the variation—the Environmental Statement won't have assessed what the impact will be. From our experience, people on the ground talk about what would happen were it higher or whether it could be lower, so I think the Committee is getting quite a degree of input on environmental impacts, which is what environmental statements are in fact about. Some of the questions on ecology are slightly in the air. The question came up of whether there are pine martens, or how many pine martens there are in certain parts of the country. That's understandable. The question which I haven't quite got a complete grip of is: what's this part of our hearing about? What, in effect, are you asking to happen, if not for us to do, that isn't happening anyway?

37. MS LIEVEN QC: Well, I think I'm asking for two things. One is I'm asking you

to hear what Mr Mould said about not challenging petitioners who come along and say they've got concerns about the ES—that's the critical point: for what Mr Mould has said to be on the record so that other authorities and individual petitioners know they can raise that point—and for the Committee to understand why that point matters. That's all. I'm not asking you to do anything today, because we're not raising a specific point, because the ecology point has gone into the long grass. It being Warwickshire who took on the generic burden of this point, I'm raising it as a flag to the Committee to say: when people come along from here on in and say, "This ES is not accurate because actually the impact on me is going to be much more significant", you need either to give them the mitigation they ask, such as limiting the line going up or down—up generally is going to be the issue—or to require the promoters to go away and do an addendum ES on that so that you can be confident that the environmental information is accurate and then the EMRs are working on the right basis.

38. SIR PETER BOTTOMLEY: Or perhaps make a statement that's equivalent to an adjustment to the Environmental Statement. One issue is time, and the one thing that seems fairly plain when we go around is that, assuming the project goes ahead, a lot of people don't want an unnecessary delay because their circumstances are harmed by uncertainty and other things. If, for example, a petitioner were to raise a question about the impact of variation and were the promoter to say, "Our answer to that is such-and-such", I don't believe you're saying to us they should necessarily have to go round and take months to prepare a formal addendum to the Environmental Statement.

39. MS LIEVEN QC: No. I think, sir, that will totally depend on the circumstances. At the moment, as I understand it, there's a bit of a window of opportunity because we know there's going to be an addendum ES next year. Well, I'm not quite sure how the terminology is working on this project as opposed to Crossrail between "supplementary ES" and "addendum ES". I think there are going to be both. As I understand it, there's going to be a supplementary ES, which will encompass at least ecology, and then there's going to be an addendum ES, which will encompass all sorts of new things, including redesign at Euston station. So, there may be more than one opportunity to put further environmental assessment into the public domain through ESs. So, that's a window of opportunity.

40. I completely accept that as this Committee's work proceeds, it will at some point become too late to slot things into that further ES work that's already undertaken. At that stage, if it's a huge issue, the Committee might have to say, "This has got to go in an addendum ES". If it's a much more site-specific issue or not such a major issue, the Committee might itself give a steer or a ruling or a recommendation to HS2 which would cover the same point. I think that can only be answered on the specifics of the particular point being raised. But I completely agree we're not trying to use this just as a way of delaying the project, because that doesn't ultimately help anybody.

41. SIR PETER BOTTOMLEY: So, you speak to us for Warwickshire County Council as the lead authority for all the others who may be affected. You're concerned essentially about practical points that petitioners may raise—who may be local authorities or may be other petitioners—and you've been interested to hear what Mr Mould has said in response.

42. MS LIEVEN QC: Yes. It's very important in proceedings such as this for the promoter to put matters such as Mr Mould did on the Hansard record so everybody else coming along can read that, rely on it and, if they need to, point the Committee back to it. That is a very important part of the process, so it is not just in private correspondence between us and HS2 and other petitioners don't know what's happening.

43. CHAIR: As I've said before, we don't live in a perfect world, so I would see the Environmental Statement being improved and added to as we go through the process. I can understand your concern about the trigger—at what point do HS2 move?—and of course the very real concern if a local authority had to undertake legal action, with all the consequences of that, but as long as the Hybrid Bill Committee's going, we're the cheaper option than going to the courts.

44. MS LIEVEN QC: Absolutely.

45. CHAIR: Also, we could be the trigger. If somebody makes a case to us that proves that, let's say, an aspect of the document is wrong, then not only would HS2 have to go and work at that, but if the process had not finished—and it will last longer than most of us want—it is possible that if there were several cases where we relied on

the Environmental Statement when we heard them and we hadn't come to a judgment, we could track back and say, "Right. Six months ago we heard somebody in Staffordshire had a similar issue. Let's have a look at that." I think there are remedies through the Committee at the moment, which I'm sure will be the case.

46. MS LIEVEN QC: Yes. We entirely agree with that, sir. Absolutely.

47. CHAIR: Okay. Good. Any questions of each other? I don't know. Are you in the same chambers? I'm not sure.

48. MS LIEVEN QC: We shared a room for 10 years, sir, and we're now two doors apart.

49. MR MOULD QC (DfT): You shouldn't be revealing that kind of thing. It gives the Bar a bad name.

50. CHAIR: Okay.

51. MR MOULD QC (DfT): If we've got the assessment wrong and someone says, "Your assessment is underplaying the impact of the railway on me", then they should come to this Committee and say that and preferably come and say how we can put it right. They don't have to, because if we've got it wrong and you agree with them then you'll tell us to put it right, but I would suggest practically two stages. If you think that the assessment has got it wrong and you need more mitigation as a result than is set out in the ES, come to the Committee and say why, and then tell the Committee what we need to do in order to put it right.

52. SIR PETER BOTTOMLEY: And that doesn't stop an affected person or body coming to HS2 and saying, "This is right and that's wrong".

53. MR MOULD QC (DfT): Absolutely.

54. SIR PETER BOTTOMLEY: HS2 presumably have got the ability and the sense

to agree a—

55. MR MOULD QC (DfT): Well, we have a choice then. We don't have to agree, of course, but we'll certainly look at it to see whether we do agree, and if, having looked at that, we think that there's some force in it, we then have a choice. We can either deal with it or we can say, "No, we're not going to deal with it" and then they'll come and see you and you'll say, "Deal with it", and I think that then rather undermines the credibility of the promoter's position. So, I'm very clear on the advantage of people bringing something to us first and then we will have a look at it, yes.

56. MS LIEVEN QC: There's one point Mr Lewis raises with me which I should put down a marker on. It relates to Sir Peter's point about timing. I am very conscious of the fact I don't represent the London Borough of Camden, but I do know something about their issues, and clearly they have been put off right to the end—at the moment—of this process because there is an Additional Provision being brought forward and there will have to be an addendum ES. The environmental impacts on residents in Camden are massive from this project, as the Committee will already understand. It's important to put down the marker that Camden's concerns about that addendum ES or any other concerns about the ES shouldn't be prejudiced by the fact that they're at the end of the process, because they may have the most important concerns about assessment on their residents, because obviously they've got more residents closer to the project than any other authority. I'm not asking for any view on that at this stage—it's obviously far too early to tell—but I just think it's appropriate to put on the record that what I said about timing shouldn't ultimately be used against Camden because, through no fault of theirs, they will end up at the end of the process.

57. CHAIR: I wouldn't presume necessarily they'll be the last thing we deal with, because clearly there's been delays, but, if we can, there are issues there that we may need to look at before we arrive at Euston station for those very reasons: that there may be further work needed and we don't want to get to the end of the process and have to adjourn for three months when they're working out more stuff to do with Euston.

58. MS LIEVEN QC: Absolutely.

59. CHAIR: We'll see how it goes. Is that the final word for the moment, Ms Lieven?

60. MS LIEVEN QC: Yes.

61. CHAIR: Could I ask you please just to withdraw from the room from 10 minutes so we can clear our thoughts? When we come back, we'll get on to transport. Order, order.

Public sitting suspended.

On resuming—

62. CHAIR: Order, order. Thank you very much, everybody, for coming back in. We did find the last session useful, and of course we're still waiting for some written evidence from the Action Alliance to see whether or not we hear them again, but I think that was time well spent. Next subject. Transport, is it?

Warwickshire County Council: Highway Maintenance

63. MS LIEVEN QC: The next subject, sir, is a group of highway concerns. The first one is highway maintenance. I will do a short introduction and then I'll call my witness, Mr Savage.

64. To a great degree the issue here follows on from the issues we were discussing last night about the costs that fall on local authorities—in this case highway authorities, and specifically Warwickshire County Council as highway authority—by reason of the HS2 project. As I said yesterday, the HS2 project will involve the construction in Warwickshire not just of a number of new highways but also of a number of new highway assets such as bridges, viaducts, crash barriers and all the other kit that goes with a project such as this, across Warwickshire. The cost of maintaining those assets, as Mr Savage will explain to you, presently, it appears to be envisaged, will in the great majority of cases fall upon Warwickshire County Council as highway authority. Our

view is that there should be a clear agreement and that the Bill in one regard should be amended so that HS2—or the DfT; again, it doesn't matter which you call them—should pay the costs of maintaining new highways required for HS2 and highway assets.

65. As Mr Savage will explain, there are two parts to the ask here. The first is that we want HS2 to be required to enter into a detailed agreement to provide clarity and consistency as to the liabilities for those new assets. Secondly, in respect of the provisions in Schedule 4, paragraph 16 of the Bill, there is a maintenance period for all highway infrastructure created by HS2, but that maintenance period is at present limited to 12 months from practical completion of the asset—in other words, the road. HS2's liability is limited just to 12 months from after they complete the road. That might be a number of years before they complete the railway, and we think that that should be extended to either 12 months from the completion of the railway or five years from the completion of the road.

66. CHAIR: Phase one, phase two, phase three or HS whatever-it-is?

67. MS LIEVEN QC: Mr Savage can answer that question. I think what is envisaged is that phase one infrastructure is linked to phase one operation rather than trying to worry about phase two.

68. SIR PETER BOTTOMLEY: For those of us who have got the green booklet, page 105, paragraph 169 spells it out.

69. MS LIEVEN QC: Given that short introduction, can I call Mr Savage? First of all, your name's Andrew Savage.

70. MR SAVAGE: That's right.

71. MS LIEVEN QC: Can you just explain to the Committee who you are and your qualification for being here?

72. MR SAVAGE: Thank you very much. I'm a chartered civil engineer. I've got

30 years' construction background. The relevant experience to the presentation today is 10 years' experience in bridge design, maintenance and assessment, and management of a bridge stock of 1,600 structures in Warwickshire. I then had a period of regeneration work, and then the last 10 years has been in key roles in managing Warwickshire's highway network as operations manager and network manager and, in the last two years, putting together our highway maintenance contract. It's very important that there's the right detail and clarity in any agreements.

73. MS LIEVEN QC: Before you go on, we haven't got the slides up. It's A180, according to my index. "HS2 in Warwickshire: Highway Maintenance Liabilities." Could we get those up?

74. MR MOULD QC (DfT): A180(1) is the front page.

75. MS LIEVEN QC: That looks a good start. Brilliant. Thank you very much. Can we have the next one?

76. MR SAVAGE: Whilst the slide's coming up, I'm part of the Highway Forum. It's a collective group of all the highway authorities involved with phase one. The Highway Forum was re-established in September. I'd just like to say there's a very positive working relationship being established with HS2 and I think it's fair to say we genuinely want to be proactive and collaborative to make sure we get practical solutions to help streamline those processes to maximise the benefits of our activities.

77. MS LIEVEN QC: Next slide. We've put these together as Concern 1 and Concern 2. Can you take us through Concern 1, please?

78. MR SAVAGE: The Bill basically mentions that the highway authority will take on the liability of the highway surface, which is understandable. HS2 is not adding that much highway network within Warwickshire or any other authority, I would imagine. Where there's a degree of uncertainty is the whole schedule of other assets being introduced across phase one in Warwickshire, and the extent of that network is roughly 54km. Warwickshire, you're probably well aware now, is a rolling county, which

means there's an awful lot of structures involved in over-bridges. There are at least 29 over-bridges. With that form of construction where you have a raised embankment, there's a considerable amount of crash barriers, signage, retaining walls and other assets which are introduced, and it's not clear in the Bill who's liable for that. A very small detail but an important detail with bridges is that the actual inner face of the parapet of a railway bridge becomes the liability, so removing all the graffiti, potentially, falls upon the authority. So, there are pieces of detail about the assets and the responsibility which are unclear in the Bill, and part of the Highway Forum would like to untangle that grey area and come up with detailed schedules for each authority which is relevant so that we can have consistency and clarity of those assets and those responsibilities.

79. As Ms Lieven outlined, there's potentially structures which will be built in the early part of phase one, which opens in 2018, with a possible maintenance period of one year, and then there's lots of ancillary works by HS2 in that vicinity which may have impact, certainly with the high traffic flows, etc., which become a potential burden on stretched financial budgets.

80. MS LIEVEN QC: So that's the first slide. If we turn to the second slide, please.

81. MR SAVAGE: This slide really just gives an outline estimate of what would be some of the activities associated with managing. Undertaking routine maintenance—which is cyclic maintenance—could be undertaking a lot more clearing of drainage networks; dealing with road traffic accidents because there's so much crash barriers involved with the lead-in to these highway bridges because they're built on embankments—they're not the usual 40-metre length; they could be half a kilometre along. It's just that accumulation of the sheer scale of infrastructure being introduced into Warwickshire that I think a very simple mechanism to establish if there is damage and need to carry out a maintenance function, then that could be captured quite easily on an annual basis or what have you to recognise the scale of the task.

82. MS LIEVEN QC: Shall we look at the next page—the solution? You set out there that what you're seeking is an appropriate agreement for the highway authorities. I think, to be clear, you're not asking the Committee to set out what the terms of that agreement should be; that's for the Highway Forum to work up.

83. MR SAVAGE: That's right.

84. MS LIEVEN QC: But what you're seeking from the Committee is a steer to HS2 that such a detailed agreement should be entered into. Is that right?

85. MR SAVAGE: That's right. I've identified a formal agreement on HS1 with Kent County Council. That gives quite a good baseline. It's more focused on the general structures, but I would like it to go one step further and be reasonable with the process of capturing assets effectively—what effectively is being built in Warwickshire.

86. MS LIEVEN QC: So that's a relatively general ask. All we're seeking from the Committee is a steer that HS2 should enter into such an agreement.

87. MR SAVAGE: Yes. The actual principle of agreement is actually set out on page 119 in Schedule 4, where it sets out "any agreement between the nominated undertaker..." There's an implied agreement, I believe, in the Bill, and I think it would be a great support to the Highway Forum if the Select Committee would support that principle of developing such an agreement.

88. MS LIEVEN QC: Shall we then turn to the second concern, which is more specific, where we're asking the Committee to make a specific change? Can you explain what this is about, please?

89. MR SAVAGE: Again, it's about protecting the highway authority's position, really. I think with a 12-month liability period it's too short. I think with construction we should be setting the challenge that maintenance periods should be even longer, because it forces construction quality to be even higher. It's a bit like buying a car.

90. MS LIEVEN QC: What's the maintenance period set at at the moment?

91. MR SAVAGE: It's currently set at 12 months.

92. MS LIEVEN QC: 12 months from when?

93. MR SAVAGE: After the opening of a bridge, effectively.
94. MS LIEVEN QC: Bridge for the road rather than bridge for the railway.
95. MR SAVAGE: That's right.
96. MS LIEVEN QC: Okay. Turn over the page.
97. MR SAVAGE: Two more points.
98. MS LIEVEN QC: Yes, sorry. Can you go back a slide?
99. MR SAVAGE: Again, with the benefit of having maintenance period linked to opening of the railway line, it very much simplifies the process. Again, because we've got so many assets and there's a requirement that every time you open a new bridge up you've got to inspect it within 28 days, having a very clear single date to work to simplifies what could be a very fragmented process.
100. CHAIR: You've got the main roads but then you've got a lot of roads running through villages—country lanes—which I presume, if you're a normal county council, probably get resurfaced every several years or whatever.
101. MR SAVAGE: Yes.
102. CHAIR: They're clearly going to take some wear and tear and you're not going to want to resurface them all within 12 months of the end of the project.
103. MR SAVAGE: No.
104. CHAIR: Which doesn't make sense, economically or anything else, but at some point you're going to have a schedule for dealing with the roads that probably were most affected by the works.

105. MR SAVAGE: I'd like to just clarify, sir: the surfacing of roads I think is accepted by the highway authorities. That really isn't an issue for the authorities; it's all the add-on infrastructure—the road signs, the crash barriers, the drainage systems. The types of bridges being introduced will probably involve specialist drainage facilities; they're slotted drains on the structures. The maintenance of those is not small money. Again, it's the sheer number of assets being introduced in Warwickshire. Warwickshire's very similar to Buckinghamshire, in that both authorities effectively have more than 50% of HS1. It is quite unique, I think, to the rural authorities with the introduction of so much other assets on the network.

106. CHAIR: Okay. So if something like a footpath were put in, that would require more maintenance by the authority as a result.

107. MR SAVAGE: Potentially so. You will have the right-of-way structure and then if there's specific disabled ramps, etc. there could be additional costs, yes.

108. MR MEARNS: Mr Savage, when HS2 are proposing a new piece of road infrastructure, whether it be a bridge or whether it just be a link road or whatever it might be, would the highway authority be consulted about the design? If the highway authority has to down the line accept responsibility for maintenance, surely you would know, as the highway authority, what would be the most routine ways of actually maintaining—

109. MR SAVAGE: Yes, that's right. There are various technical approval stages, such as safety audits, but there is an actual process to look at, clearly, the detail so that we're aware of those assets. Again, particularly for Warwickshire, by building so many new over-bridges we're ending up with lots of stopped-up roads. The maintenance liability of those stopped-up roads possibly is another burden, with fly-tipping and things like that. That level of detail needs to be sorted out because there is a genuine cost there. All we're looking for is reasonable costs, to be fair to both parties.

110. MS LIEVEN QC: Anything else on this slide? I think you've just referred to the precedent of the M6 toll road, which starts, I think, in north Warwickshire or very near.

111. MR SAVAGE: That's right. On that particular scheme there was a three-year maintenance period after the opening of the toll road.

112. MS LIEVEN QC: Thank you. And then the last slide: summary of what you're asking for.

113. MR SAVAGE: It's really for a clear, consistent and complete agreement, effectively. Again, I refer back to the sheer scale of the project. I think, again, having clear asset schedules helps better maintenance. When you're building things you've got to maintain them; you can't fit and forget. The better you can maintain assets—a stitch in time saves nine, in my view, basically.

114. MS LIEVEN QC: Just to be clear on that, we're asking for two things. One is the clear asset agreement; and the other is the extension of the 12-month maintenance period to run from the date on which HS2 opens. Is that right?

115. MR SAVAGE: That's right.

116. MS LIEVEN QC: Is there anything else you want to refer to, Mr Savage?

117. MR SAVAGE: I think in summary, again, focusing on keeping the process nice and simple, there should be the ability to create a simple agreement. The Kent County Council model with HS1 is a very good baseline and I would recommend that to the Select Committee as a starting point in working with the Highway Forum over the coming months to conclude and resolve our concerns.

118. MS LIEVEN QC: Thank you. That's all at this stage.

119. CHAIR: Mr Mould.

120. MR MOULD QC (DfT): Thank you. I just wanted to deal with Mr Mearns' question first, if I may. That's actually addressed in Information Paper E14, which is

entitled “Highways and traffic during construction—legislative provisions”. At page 4, which I think we have in front of us, you’ll see there’s a subheading, “Construction and maintenance of highways”. The paragraph references here are to paragraphs within Schedule 4 to the Bill, which is dealing with a range of highways issues. You will see paragraph 3.13 on this page: “Paragraph 11 [of that Schedule] requires that any new carriageway constructed, or existing carriageway realigned, by the nominated undertaker must be carried out in accordance with the plans and specifications approved by the highway authority (with such approval not being unreasonably withheld)”. The footnote says that “‘plans and specifications’ also includes sections and any other particulars submitted to the highway authority for approval”. The highway authority have an approval function in relation to that matter.

121. Just turning, then, to the question of maintenance costs, can we put up P730, please? Mr Savage, good morning. I think you’ve seen this slide before, haven’t you?

122. MR SAVAGE: That’s correct.

123. MR MOULD QC (DfT): Yes. Before addressing your two asks, I just wanted to draw the Committee’s attention to the proposed division of responsibility under the legislation. If we can go through this, under paragraph 14(2) of Part 3 of Schedule 4 to the Bill, any highway which is constructed or altered under the powers of the Bill “must be maintained by and at the expense of the nominated undertaker for a period of 12 months from—(a) the date of practical completion, or (b) if later, the date on which it is first open for public use”. After that period of 12 months has expired, the new or altered highway is “maintained by and at the expense of the highway authority”. That relates to your second ask, I think, because you want that period to be extended to a year after the opening of the railway, as I understand it.

124. MR SAVAGE: Mr Mould, ideally yes. Yes.

125. MR MOULD QC (DfT): Okay. We need to just read on, because the way in which the Bill deals with what you might call HS2-related maintenance that is required after the 12-month period on that page is dealt with in the next sentence. If a highway is damaged by construction traffic or otherwise by the construction of the works, it must

be repaired at the nominated undertaker's expense. So, whilst general responsibility for maintenance passes to you as highway authority after the 12-month period specified on the page here, if HS2 cause damage to the highway after that period has expired, we have to repair it.

126. MR SAVAGE: I think that's a very acceptable arrangement.

127. MR MOULD QC (DfT): You think it's acceptable.

128. MR SAVAGE: Yes.

129. MR MOULD QC (DfT): Excellent. Right.

130. MR MEARNNS: Sorry, isn't there a significant problem there about burden of proof about whether or not it was in fact construction vehicles that caused the damage in terms of general wear and tear on a carriageway?

131. MR MOULD QC (DfT): All I can say in response to that is this. This system has been used for the Channel Tunnel Rail Link; it's been used for Crossrail. It's the standard approach to railway projects promoted under the existing consent regime—the Transport and Works Act and so forth. I'm not aware of any evidence that that problem that you've identified has proved to be a significant practical problem.

132. MR MEARNNS: Okay. Thank you.

133. MR MOULD QC (DfT): If someone's got evidence that it is, I'll obviously listen to it and we'll address it, but I don't think it's actually a problem.

134. MR MEARNNS: That's fine.

135. MR MOULD QC (DfT): Right. Okay. Then we go on to bridges and tunnels and other structures, and there the provision is quite different, you see. In the case of bridges and tunnels which take highways over or under the railway, the Bill differentiates between responsibility for maintenance of the structure of the bridge or

tunnel and the highway. The nominated undertaker is responsible for the future repair or maintenance of the structure, whilst after the 12-month maintenance period mentioned above has expired the highway authority is responsible for the highway surface running along the structure—and then it gives the references. As you see, that’s an approach which is consistent with the provisions of the general law, which have been in place since the Transport Act in 1968. So, if the bridge parapet is damaged, the nominated undertaker has to repair it, but if the highway surface going over the bridge has a pothole which needs to be filled two years after the opening, that would be the highway authority’s responsibility. I think that broad division of labour is one that you’re content with, isn’t it?

136. MR SAVAGE: Yes. It’s the other assets which are of concern.

137. MR MOULD QC (DfT): Yes. Okay.

138. MR MEARNS: If there was a pothole, though, after two years on a newly-laid carriageway, I think you would be asking questions about the strictures which were put on the original construction methods.

139. MR MOULD QC (DfT): Yes. It perhaps wasn’t the most carefully judged example. Shall we say a pothole after 10 years? That seems more plausible, yes. I accept that. Right. Okay. Now, within that framework, which I think as we’ve gone through is broadly not a source of contention between us—

140. SIR PETER BOTTOMLEY: Before you go off this page, what should we understand by the word “damage” in the third paragraph? If you had excessive use of the road so it’s worn out by the construction traffic, is that called damage or is that called something else?

141. MR MOULD QC (DfT): I think if you can show that the construction traffic has had such an effect that a road that would otherwise have not worn out has in fact worn out within a short period after the 12 months expired, that would constitute damage, yes.

142. SIR PETER BOTTOMLEY: I don't want to anticipate where you're going with your questioning, but what's in our mind, I think, is that we've been told by Mr Savage that you may get the highway completed before the construction work takes place. If you then have two to five years of construction work, the road, depending on how well it was made, would need work on it. Whether that's called maintenance or it's called damage repair I don't think really matters to us. I think what Mr Savage has said to us is that what's happening here, especially for Warwickshire and Buckinghamshire, is more than for most railway schemes. He's told us that there's a Highway Forum, and I think he's indicated to us that that Highway Forum will go on having practical discussions and that by the time we get to hear from the London local authorities we may be able to hear that agreement has been reached or it's not been reached. That seems to me to be the context in which we're listening to things, which is why I think this word "damage" is actually rather a significant word.

143. MR MOULD QC (DfT): If you assume that after practical completion of the carrying-out of the highway works it's in pristine condition—it's been done; it's a good job—and, after the period of 12 months has expired any deterioration in the road—one would assume, picking up on Mr Mearns' point, that there wouldn't be any particularly—has been addressed, consistent with our 12-month obligation, then if the evidence shows that within two or three years after that, as a result of the passage of a substantial quantity of heavy goods vehicles, the road has deteriorated to a degree that is clearly over and above that which you would expect with the ordinary flow of traffic, that would constitute damage. I don't expect, I have to say, that that is likely to happen, because the level of construction traffic that we're dealing with on any particular road in a scenario that you present, where the road has been created, 12 months has expired and there is still construction traffic going along it—I don't think we expect that that phenomenon that you've mentioned is very likely to arise, but if it does arise then it would be covered by this particular provision of the Bill. That's what it's there for.

144. MR SAVAGE: Sir, can I comment? The maintenance of the road and dealing with damaged roads during construction isn't a major concern, because I think there's adequate provisions. I think I'd just like to draw it back to the other assets in the verges which are—

145. SIR PETER BOTTOMLEY: Your schedule of costs.

146. MR SAVAGE: —high capital value and they do take routine maintenance activities to keep the roads safe. That's where the Highway Forum is looking for the asset registers and a fair and simple cost-recovery basis.

147. CHAIR: You mentioned HS1. What was done there? Or what do you think was done there?

148. MR SAVAGE: There was a form of agreement specific to bridge structures, and discussions with contacts there thinks it ought to be broadened out because there are other assets which get naturally damaged on the highway network. The cost to repair a tensioned corrugated crash barrier is probably £10,000 a time. Ideally you get the driver's address but on occasions you don't. Warwickshire County Council can't afford to pick up the tab on those occasions. It's just being fair and reasonable.

149. MR MOULD QC (DfT): I was just about to come to that. What I wanted to do was to set this in the context of the statutory arrangements. Mr Savage I think has confirmed that he's content with the arrangements as regards maintenance of the surface. Coming then to the question of the more detailed matters such as crash barriers, signage and so forth, the Bill doesn't descend to that level of specifics. What we would propose there is that the Highway Forum that Mr Savage has mentioned as being a positive and constructive dialogue between the project and highway authorities should consider the development of a scheme, if you like, to define the division of responsibility on these more specific matters. It may be that the product of that will be that the project will enter into agreements with individual highway authorities which will set out, by reference to the highways in their area and the structural works and so forth, a regime for dividing up responsibility for maintenance of particular items like signs and so forth. As I understand it, broadly speaking, that was the arrangement that existed with Kent in relation to CTRL. Mr Savage, is a process broadly along those lines one that would work?

150. MR SAVAGE: Mr Mould, I'd be delighted to progress that.

151. MR MOULD QC (DfT): Right. That's excellent news. Thank you very much indeed. I was going to ask Mr Smart to help you with some of the practical aspects of repair, but I think in those circumstances probably there's no need for the Committee to hear from Mr Smart on that point. Thank you very much, Mr Savage.

152. MR SAVAGE: Sir, if I could just make one final reference back to the maintenance period, it would streamline things so easily for the authorities to just have this period 12 months after the opening of HS2. It just makes the asset inventories and snagging processes, so much easier and streamlined.

153. MR MOULD QC (DfT): Well, we've said the arrangements that we've put in are those that are tried and trusted and they've applied for other railway projects and they've worked, so I don't—

154. SIR PETER BOTTOMLEY: Are you agreed that the forum is meeting and are you agreed that that's a useful place for these matters to be sorted?

155. MR MOULD QC (DfT): I think I've just said that, yes. That's how I would expect these issues to be taken forward.

156. MS LIEVEN QC: Can I just chip in on one? As I understand it, the Highway Forum is the appropriate place to deal with Concern 1 so long as the HS2 representatives go with an understanding that the agreements that are drawn up need to be full and clear. That is appropriate for the Highway Forum. So far as Concern 2 is concerned, which is the maintenance period, that is provided for in the Bill and I think it's very unlikely that the Highway Forum would be the appropriate place to change that. The maintenance period I think is a matter for this Committee unless HS2 is prepared to say that they would agree outside of the terms of the Bill in that respect for the Highway Forum. That would be an unusual thing to do and I'm not even sure it would be a lawful thing to do—I say looking at Mr Irving, who is looking dubious as well.

157. MR MOULD QC (DfT): It's probably me. I probably didn't make it sufficiently clear. The reason I had this slide on the screen was to say that the arrangements we

propose for maintenance periods in relation to the surface of the highway are as set out on the screen. They are based on a tried and trusted and effective regime that has operated in relation to previous railway Bills. ‘If it ain’t broke, don’t fix it’ is our position on that. In relation to the agreements, Ms Lieven has it correct, and I’m sure, without any need for persuasion from me, those from the project who are involved in that will approach that in a positive and constructive frame of mind.

158. MS LIEVEN QC: Can I just come back, then, finally on this idea that this is a tried and trusted method? So far as I’m aware, with my knowledge of railways, the only precedent that would be relevant here would be Channel Tunnel Rail Link. Crossrail did not involve new surface-level railways, so we can forget Crossrail. Channel Tunnel Rail Link was a number of years ago now—I can’t remember the date of Royal Assent, but at least 10, probably closer to 15. In fact, definitely closer to 15; more like 18. It was in a very different world of local-authority finance and of settlement between central and local Government. As I said yesterday, I do not accept that it was an appropriate precedent for the appropriate settlement now of the relationship between a DfT project and local authorities who are expected to pick up the tab. I just want to make that entirely clear.

159. CHAIR: Can I ask you, Mr Mould, about timescale? Clearly our process is going to take a while, as will the House of Lords; then we will get Royal Assent. Will there be a draft agreement between HS2 and the local authorities prior to that? Clearly there’s a degree of uncertainty, which is unhelpful to local authorities. Or are we to wait until Royal Assent and then there to be an agreement? If there’s a draft agreement earlier, are we going to hear back when the Highway Forum has come to some sort of broad conclusions? Otherwise, I can see this drifting on for a long time and the county treasurers and borough treasurers starting to say, ‘Well, what’s happening?’

160. MR MOULD QC (DfT): These agreements have to be in place in time for Royal Assent because it is in the interests not only of the local authorities but also of the project to have a clear and certain understanding of where they stand in relation to these matters before the time at which the project goes live. That does need to be done. When before Royal Assent it will be achieved I cannot at the moment say. The experience with Crossrail and with CTRL is that the negotiation of this and other

agreements which are taking place under the aegis of the various local authority forums that we have continued through the parliamentary process and weren't concluded during the deliberations with the Commons Select Committee. But, of course, if there are concerns raised about the details of agreements or where the division of responsibility should fall in relation to matters such as repairing signs, there will be an opportunity to raise those matters before the Second House if that is thought appropriate.

161. In terms of your point about uncertainty, the very reason why these fora—the Planning Forum, the Environmental Forum, the Highway Forum—are in place working in parallel alongside this Committee is precisely to ensure that local authorities are able to bring forward their proposals and for discussion to take place in that way. It's designed to reduce uncertainty, because they have a place at the table and we're working towards a consensual outcome in the form of agreements rather than something that is imposed. It's designed to be helpful to local authorities rather than to—

162. CHAIR: But clearly if it's not sorted out soon then we're going to hear it from Northamptonshire, Buckinghamshire, a bit of Oxfordshire—

163. MR MOULD QC (DfT): I'm sorry to interrupt you. I hope that that won't happen, because I hope that, just as people I hope will have been reassured to some degree by what I've said on the record today about the Environmental Statement, other local highway authorities will be reassured to some degree by what I've said about the intention of the project through the Highway Forum to negotiate the sort of specifics that Mr Savage says he's interested in. Mr Savage has pronounced himself satisfied with that, and I'm sure that Mr Savage is representative in that sense of the approach of local highway engineers down the route.

164. MS LIEVEN QC: I think the reality is, sir, that you will get an update on this, certainly from Buckinghamshire, who I think are likely to come on in the New Year. Mr Savage I think chairs the Highway Forum, so he will do his utmost to ensure that an agreement is made, and he tells me there's no reason an agreement can't be reached within six months. If appropriate progress is not being made, if I can put it like that, then although, again, I don't represent Buckinghamshire, Mr Lewis, my parliamentary agent, does, and he assures me that Buckinghamshire will come back and give you a

progress report, because, as you can imagine, highway maintenance and highway management is a critical issue in Buckinghamshire. So, I think you could have that on your list of things to come.

165. MR MOULD QC (DfT): I have no difficulty with that at all. The reason I mentioned the experience with previous Bills is because I don't want to raise expectations in a way that causes problems later, but if we can make better progress I would be delighted.

166. CHAIR: Okay. Good. Right.

167. MS LIEVEN QC: Good. I think that's that one, sir.

168. CHAIR: Okay, good. Another one ticked off.

Warwickshire County Council: Active Traffic Information System

169. MS LIEVEN QC: I think we can probably do the next one before the Committee adjourns, which is active traffic information system. It should be A179, please. Again, this is Mr Savage giving evidence. Perhaps we could go to the first slide directly. It may even be the second. Yes. This was our list of highway concerns, sir, and the sub-regional active traffic information system is the second on that list. Can we go to the next slide, please? Mr Savage, can you explain the nature of the concern here?

170. MR SAVAGE: The topic of the presentation is around the absolute importance of keeping Warwickshire moving for business. HS2 I think by all standards is going to be a mega-project. In Warwickshire there are going to be over 80 construction sites across 57km; then the route passes through Solihull. Inevitably, again by the sheer scale and the nature of the project, there's almost two elements to the project in Warwickshire. There's a mass haul of soil—32 million cubic metres' worth—and an awful lot of concrete structures in north Warwickshire—the viaducts being built. Inevitably, there is going to be a considerable flow of traffic.

171. If we can move on to the next slide, the proposal for an active traffic management system is aimed to address some of the concerns by key businesses. This slide gives a pictorial representation of what I've just explained previously. HS2 is about moving an awful lot of soil. There's a large movement of soil from South Warwickshire; again, because of the rolling countryside, there's a surplus there potentially which has got to be moved northwards. In the north of the county is a considerable amount of viaduct construction—over 10km. It's going to be long-term slow major civil engineering projects over a long duration. HS2 themselves have identified 40-plus pinch points, and the following slide will actually identify where some of those are. We have got to deal with those issues, and also we've got effectively a highway network, like most places in the country, nearing capacity, so we've got to manage that. The net result of all of those variables is potential gridlock at certain locations.

172. If we could move on to the next slide, please.

173. MS LIEVEN QC: Now, the next slide just needs a little bit of explanation, because I'm afraid it's rather small scale although it's an HS2 slide. If you look at the key, each of the areas with a traffic effect is in one of those yellow boxes, and the key differentiates between "MI", which is minor; "MO", which is moderate; and "MA", which is major. You can get some sense of the scale of the impact by looking at the detail. Then there's what's called "construction effects identifiers" which one can see listed out there. I don't think the Committee needs to get into the level of detail, but if you want to see the inter-relationship you've got to delve down into those little yellow boxes.

174. MR SAVAGE: That's right, and the red dots identify areas where there's significant traffic impact or effects at key junctions. The first slide shows north Warwickshire. All the red lines on the plan are effectively the motorway network and the A-road network. You can see in that part of the county it's very much a corridor. Can we move on to the next slide, please?

175. MS LIEVEN QC: Can we just stay on that one for a moment so I can just point out to the Committee the A446, which is highlighted? The Committee may remember going on the site visit to Hams Hall and at least driving past BMW and Sainsbury's.

That's just off the A446 there and the highlighted section is the single carriageway, which is the subject of ongoing discussion in the corridor. Next slide.

176. MR SAVAGE: This slide is a snapshot of, I would say, central HS2 in Warwickshire and neighbouring Solihull. There are a few less red dots, as you'd expect—we haven't got the motorway network to contend with—but there are still, just on that section of HS2, seven junctions which are going to be very close to capacity or potentially going past that tipping point. One of the key stakeholders on that particular plan is Warwick University. There's a junction there, the A46 near Kenilworth, which we're particularly focused on. We've got two or three strategic pinch points, but that location is one of their concerns.

177. MS LIEVEN QC: In terms of discussion around that junction and the A46, that's being led by Warwick University, isn't it?

178. MR SAVAGE: That's right.

179. MS LIEVEN QC: Yes. Next slide.

180. MR SAVAGE: Yes please. With so much traffic potentially on the network and in locations there will be 1,000 HGVs a day going through particular areas—A446, minimum of 100 HGVs north and southbound per hour, potentially up to 300 or 400—we're dealing with a significant change in the nature of traffic on Warwickshire's network.

181. My ask is really: how do we have a very simple system which is proactive in regulation of construction traffic onto the network? We've got to get a balance that allows as much as possible to help HS2 but we've got to take one step back and ensure public safety. If we've got genuine pinch points, we've got to be able to react quickly. ATIS, as I'll refer to it as, is a very simple network of CCTV cameras—those might be fixed; they might be mobile, basically—which will enable the contractor and—well, I'll start with the contractor. That will enable them to monitor and regulate their large flows, not just from one site but from 80 sites, potentially. We need a process which

will allow the main contractor's HQ to monitor what's going on 10 miles away. We need a process which is clear and simple but also enables key stakeholders such as the fire service, the road traffic police and the highway authority to monitor what's going on on the network.

182. It's quite a simple ask. The actual ask for 15 to 20 CCTVs is not just for Warwickshire; it covers our neighbouring authorities. I believe there might be 10 required for Warwickshire, three or four in Coventry and probably three or four in Solihull. Again, the numbers aren't that extensive, but what I think the next slide shows is it starts to use information intelligently.

183. MS LIEVEN QC: Can you just explain about the monitoring centre? How do you envisage that operating?

184. MR SAVAGE: Right. Again, with such a large contract, I recognise HS2 in their Code of Construction Practice are going to have GPS trackers—which is standard practice—on all their lorries, which regulates speed; you know where they are, effectively. That's alright for the contractor to get a gut feel for flow of traffic, but it's not rapid enough. We've got to have a process which is independent of the contractor. It's too easy for the contractor just to keep squeezing too much traffic on the network. We've got to be able to be much more proactive and deal with it in five or 10 minutes I think in some of our locations. It's not really adding a lot to his setup. He will have a small office with perhaps half a dozen TV screens. It's not as extensive as the picture shows, really; it's probably half that size. The capital cost is a few TV screens, just with that web-enabled connectivity, really.

185. MS LIEVEN QC: Then the next slide. Sorry, have you dealt with that one?

186. MR SAVAGE: ATIS is really about being as proactive as we possibly can, again to keep Warwickshire moving. I believe the proposals in the Code of Construction Practice and the traffic management plans are not proactive enough. I think we've got to go that extra step, again to reflect the scale of construction in Warwickshire.

187. MS LIEVEN QC: Can you just explain why the traffic management plans are not

sufficient in your view?

188. MR SAVAGE: They are written documents. We need to give the emergency services the right tools. As part of developing this proposal, I actually went to Warwickshire's fire and rescue control—HQ—and genuinely asked them, "Is this a useful tool?" They say any real-time information is key to them, because increasingly they've got less resources so they deploy those resources around the network. They can then inform the neighbouring authorities if they've got a potential problem on the network. They will be able to inform other resources, basically, if we're getting towards a critical situation, which I envisage we could do.

189. MS LIEVEN QC: I think we've actually got that slide up now. Is there anything more you want to say on the solution slide?

190. MR SAVAGE: It's really tried and tested practice already. The Highways Agency have it on the motorway network. Because we're putting a lot of additional pressure on the local authority's network—the A-roads principally—I just want this equipment to do exactly the same, so we can inform key stakeholders, if they've got distribution centres and there's a traffic jam, "Hold back your fleet of vehicles going out onto the network". The local media can use it. It's, again, having smart information.

191. MS LIEVEN QC: Thank you. Then the next slide I think is the letters of support from the Deputy Chief Fire Officer and from Coventry City Council. Do you need to say anything about those?

192. MR SAVAGE: In respect to the letter from the fire service, it's key for them to get to whether it's a road traffic accident or a fire as quickly as possible, so it's an obvious requirement. Any tool that facilitates that is great.

193. MS LIEVEN QC: Just to tease that out a little bit more, it's not that this would be the method of telling the fire authority that there had been an accident; it would be a method of telling the fire authority whether there were congestion problems on, say, the A446—because that's the road in Warwickshire I can remember—in order for them to know whether they should go by an alternative route or plan for longer journey times.

194. MR SAVAGE: That's right.

195. MS LIEVEN QC: Thank you. Next slide, please. What do you perceive the risks to be if we just go on with business as usual under the HS2 scheme?

196. MR SAVAGE: I think this tool will provide the ability to avoid or help avoid traffic congestion, basically, which is caused by unregulated flows. Having real-time information will help. As we just discussed, it will delay the response times by emergency services. Keeping traffic moving in Warwickshire is fundamental to all businesses, residents and holidaymakers getting to places on time. We don't want a situation where people are getting stuck unnecessarily in a jam for 15 minutes, 20 minutes or longer.

197. MS LIEVEN QC: Thank you. And then the last slide. You've done what is admittedly a relatively quick piece of work but still we hope reasonably accurate on what the possible costs of this would be.

198. MR SAVAGE: Yes. I think that's an upper-bound cost. Again, the cost reflects 20 cameras, and the costings were based on mobile cameras, which would be an upper-end potential cost. I think if we adopted mobile camera units, it's got the flexibility to give the contractors the right equipment in the right location, which will keep us all informed of what's happening in Warwickshire.

199. MS LIEVEN QC: I suppose to be realistic about this, if Warwickshire were to get this ask it's pretty likely that Buckinghamshire might ask for it as well. Is the £500,000 capital cost just for the sub-region that you've been considering: Warwickshire, Coventry and Solihull?

200. MR SAVAGE: Yes.

201. MS LIEVEN QC: So, one might be considering a roughly equivalent cost for Buckinghamshire. We're not representing Buckinghamshire on this, but it's only fair the Committee would think of that knock-on effect.

202. MR SAVAGE: I'm aware they've got a similar proposal in their petition.

203. MS LIEVEN QC: Thank you very much, Mr Savage. Anything else on that?

204. MR SAVAGE: No.

205. CHAIR: Right. Mr Mould.

206. MR MOULD QC (DfT): Thank you. I'm going in a moment to call Mr Smart just to respond on this, but before I do, before Ms Lieven completes her case, can I just ask one or two questions of Mr Savage?

207. Mr Savage, I think the context for this is that it's clearly in the interests both of the project and of Warwickshire County Council as local highway authority that the HS2 traffic should find its way to and from its intended destinations without giving rise to gridlock on the roads. That's in both our mutual interests, isn't it?

208. MR SAVAGE: Yes.

209. MR MOULD QC (DfT): Because delay, as we know, is cost, and the project therefore wants to minimise delay. One obvious way of minimising delay is to work closely with the local highway authorities to ensure that HS2 traffic doesn't give rise to congestion on the roads.

210. MR SAVAGE: That's right.

211. MR MOULD QC (DfT): Yes. And the way in that the highway authority has to controlling that under the terms of the Bill is that it is responsible for approving the designated routes for lorries and for HS2 traffic where the quantity of flow that is anticipated is more than relatively little. I think the limit is of the order of 25 or 40-odd lorries per day, isn't it? So you would have responsibility as highway authority and the power to designate the main transport routes to be followed by HS2 vehicles as they

pass through the roads of Warwickshire.

212. MR SAVAGE: Sir, I think the representation of 40 vehicles a day is grossly underestimating the sheer impact of HGV flows in Warwickshire. There are some roads which are going to be taking potentially 300 to 600 vehicles a day.

213. MR MOULD QC (DfT): I didn't suggest that the traffic would be limited to 40 per day. What I was saying was that subject to a lower limit, which is set at a very low level, you, as the local highway authority, have the statutory right under the terms of the Bill to designate the lorry routes that should be followed by HS2 traffic as it passes through Warwickshire.

214. MR SAVAGE: That's correct.

215. MR MOULD QC (DfT): Right.

216. MR MEARNS: Don't you think, Mr Mould, for clarity, we should be differentiating between the number of vehicles and the number of vehicle movements?

217. MR MOULD QC (DfT): Well, the schedule deals with it in terms of vehicles, as I recall. Let's put it this way. The sort of levels of traffic that Mr Savage is concerned with here—that is to say vehicles measured in terms of hundreds of vehicles a day, which we can reasonably expect on a number of the strategic roads throughout the county—the routes of those vehicles are subject to prior approval, under Schedule 16 to the Bill, by the local highway authority.

218. MR SAVAGE: That is correct. The issue here is that we're trying to fit a quart into a pint pot. HS2's own information, as per the two slides with the red dots on, identifies 40 pinch points where there's going to be significant traffic effects. There will be measures to try to put lanes, widths, etc. there, but we've got to have a tool to regulate these pinch-point situations. If we don't adopt this situation, we'll be compromising the ability to know how to respond—whether it's emergency services or other traffic management.

219. MR MOULD QC (DfT): Where the project has been assessed under the transport assessment to give rise to potential capacity issues at junctions, for example, appropriate alterations to the junction in question, which might take the form of physical works to increase capacity at the junction or might take the form of signalisation changes in order to improve flows through the junction on various arms—those matters are provided for under the Bill, aren't they? That's a feature of the Bill scheme.

220. MR SAVAGE: Mr Mould, that is a good feature of the Bill. The last slide probably sums it up. What are we trying to do? We're trying to optimise construction traffic. You can only do that if you've got smart, real-time information. If I could just put the context of the scale of the project, 1,000 lorries delayed for one hour is probably £50,000. This is a very small ask in terms of the potential cost saving by keeping that extra traffic flowing. Dare I say it's a no-brainer. It's such a simple tool, which the Highways Agency use on their network, and it just makes smart use of existing technology.

221. MR MOULD QC (DfT): Let's assume that this installation was included. You've made clear that the monitoring would be undertaken by the nominated undertaker. That's what you've said, yes? A contractor-led monitoring centre.

222. MR SAVAGE: The information is monitored by the contractor but the information is shared with the emergency services, who already have the capital cost of this equipment; it's just using web-based information to go back to the emergency centre and to our own highways traffic management teams. If you've got that information, you can change literally in the office the phasing of a traffic light. So, again, we can try to get rid of potential blockages in the network by having at your fingertips real-time information to help regulate, monitor and maximise the flow.

223. MR MOULD QC (DfT): I think your model for this is the conventional CCTV cameras that we're all familiar with on the motorway network, isn't it?

224. MR SAVAGE: That's right.

225. MR MOULD QC (DfT): Yes. And the Highways Agency operates that system as

the highway authority for those roads, doesn't it?

226. MR SAVAGE: That's correct.

227. MR MOULD QC (DfT): Yes. And as the highway authority for those roads, the Highways Agency is able to deploy all the tools at its resource as highway authority to seek to manage congestion on the M42 in your area, for example, if the message that's coming back from the CCTV cameras shows that something needs to be done. It can put up speed limit signs; it can regulate flows in a whole series of ways. It can do that because it's the highway authority for that road, can't it?

228. MR SAVAGE: That's right.

229. MR MOULD QC (DfT): We are not the highway authority for the roads going through Warwickshire. We're a developer which is seeking to obey the routing designations that you have given us. If our lorries are travelling along a road and that road is subject to congestion, we can't then divert those lorries away so that they go on to a different road that is not one that is designated for us. I'm just questioning how practically this is of any value to you. It's surely the better course—sorry, go on; answer that question.

230. MR SAVAGE: It's very valuable, because the construction haul routes in Warwickshire extend to 150km. The haul route network on the motorway network is roughly 70km. We mustn't underestimate the reliance on the A-road network, whether it's in Warwickshire or Buckinghamshire. These are key distribution networks. They are the main arteries of getting local traffic round. HS2 is very reliant on that network of principally A-roads and B-roads, because you are going through rural areas. We are putting considerable flows, whether it's in Southam or Kenilworth or the Coleshill area, onto our network, and I would just like to have this tool that helps the process. Again, we're trying to work together. It's a very small spend, I feel, for a large saving.

231. MR MOULD QC (DfT): It might be a small spend, but with any spend, however large or small, you've got to ask yourself the question: is the benefit that you get from it worth spending the money? I'm just questioning whether, given that we are—

232. SIR PETER BOTTOMLEY: Is it right? It is necessary? Will it work? Who should do it? Who should pay? Those are the sort of questions that essentially come up, and they're ones which, bluntly, aren't going to be resolved here this morning. It seems to me that if Warwickshire and HS2 could talk and if it could also be a subject that comes up at the forum then it could become clear whether the economics described by Mr Savage make some sense to the in-future nominated contractor. I don't think going much further on this is going to help us. I think it is quite clear—forgive me—having been responsible for national roads for three and a half years, that it would be possible to have serious professional conversations—if necessary using the IHT, but probably directly. I suspect that either Warwickshire or the promoter would be able to come back and say, “We've narrowed the issues down to these particular ones and we think some progress can be made or full progress can be made or no progress can be made”.

233. MR MOULD QC (DfT): As always, I accept very much that it's pointless having a debate before you which we could be having privately elsewhere; it might be more productive. But what I do want to say, just because I'm interested also in managing expectations on this—the point I've been trying to bring out, unless there's been any misunderstanding—if you'll just forgive me for repeating it—is the project cannot see what substantial benefit would be gained from a system whereby the contractor would have a set of screens on a work site based on images from 15 or 20 CCTV cameras, because we cannot see what in practice the contractor could do with that information.

234. SIR PETER BOTTOMLEY: Let's assume you're trying to turn data into information into helping to make decisions. What's the cost of running a big wagon carrying spoil? How much per hour?

235. MR MOULD QC (DfT): Yes.

236. SIR PETER BOTTOMLEY: If you had some idea of that—if you take the driver into account, the vehicle into account, and what they're being paid to move—then you can start saying, “What are the estimated variations about having the data turned into information turned into decisions that are different?” Then I think you can answer your

own question.

237. MR MOULD QC (DfT): I think we're on the same wavelength. Yes, I agree with you. I'm certainly not saying today to the Committee, "You must preclude this". I'm not saying you've got to rule it out, because ultimately the nominated undertaker may want to look at this and see whether it helps to serve his purposes. What I'm saying is, equally, it would be unhelpful to rule it in without any chance to consider that. I think, Sir Peter, that's really what you're saying: let's delve a little more deeply into it and see whether, in fact, it can be justified along the line that you've described.

238. MS LIEVEN QC: Can I just chip in with two points, sir? First of all, in terms of leaving this for discussion at the forum—

239. SIR PETER BOTTOMLEY: Or directly with Warwickshire and—

240. MS LIEVEN QC: Or directly with Warwickshire. HS2 has made it entirely clear in correspondence that they are not interested in this and they are not going to do it, so if there is not a steer from this Committee there may be discussions but they will be wholly pointless at the moment.

241. The second point I wanted to make is to try to clarify something that I think may just not be understood by HS2. As I understand this proposal, there's a series of CCTV cameras set up. There's a central monitoring unit run by the nominated undertaker, but the nature of modern technology and the web is that that information can then be immediately shared in real time with the highway authority and with the emergency services. You don't need these days to have each of those people having bodies of screens; they can click on the web through smart technology and they can see the same information as the nominated undertaker. The benefit, as I understand it—and Mr Savage will tell me if I've got this wrong—is the nominated undertaker can see, "The A446 is congested. Let's put it on one of our other haul routes" or the A446 is so badly congested that although the traffic management plan says "run the traffic down the A446" there is always a get-out clause in these plans—it always says "save in exceptional circumstances" or "save..."—and, "The circumstances of the congestion are

so bad we're going to run it down a non-haul route". That's always a possibility in congestion. Also, at the same time, if there's a link—which there would be—to the highway authority, the highway authority can say, "A446 is really badly congested. Let's change the traffic light sequence"—I can't remember the names of the junctions, but—"at the next junction along. That will free traffic up." Or, "Let's ring up the nominated undertaker and say, 'Vary the TMP for this afternoon and send the traffic the other way'." Or the emergency services who are dealing with a crash on the M42 can immediately click on and go—I'm going to get the traffic the wrong way round—"Gosh, the A446 is jammed up; we'd better run our fire engine the other way". This idea that it's going to sit in the nominated undertaker's compound and nobody else gets access to it I'm afraid is a bit old-fashioned. That's not the way the web works.

242. I hope that helps HS2 to understand how the information would be used. Have I got that roughly right, Mr Savage, except for the junctions?

243. MR SAVAGE: That's right. Sir, could I just make two final points from my perspective? Two key aims. We've got to keep Warwickshire moving. For tourism and other businesses it's fundamental. We cannot have our reputation damaged by potential gridlock in Warwickshire. If this saves one life across the period of seven years of construction where we're going to have 300 HGV movements then it's money very well spent.

244. MR MOULD QC (DfT): I don't want to prolong the debate with the Committee and I'm very conscious of the point that's been raised by Sir Peter in relation to the advantages of further discussion, but I would, I'm afraid, in the light of what's just been said to you, like to ask Mr Smart to give our perspective on this so that the Committee hears not from me but from someone who actually has some practical experience of building railways about this. If Ms Lieven has finished with her witness.

245. MS LIEVEN QC: Yes.

246. MR MOULD QC (DfT): Perhaps Mr Smart can sit in the middle. Whilst he's doing that, I do just want to reiterate, in the light of what has just been said: of course we accept that it is in nobody's interest that there should be gridlock on the roads of

Warwickshire.

247. MR SMART: Sir, do you want me to just give my views on what has been said and how we would—

248. MR MOULD QC (DfT): First of all, I just want to put up one of Mr Savage's slides. A179(5), please. There you are. You've seen this slide before. The red dots are showing areas where he suggests there is the potential for major traffic effects. Do you see? They happen to be broadly along the route of the A446, I think.

249. MR SMART: That's correct, yes.

250. MR MOULD QC (DfT): About which further discussions are going on outside, so we don't need to take time on that now. In general terms, what is the position with regard to capacity? Is the project predicting any significant capacity problems in Warwickshire? To the degree that it is, how are we proposing under the Bill to address them?

251. MR SMART: We have predicted that there could be some issues with construction traffic, of course, and what we have done is offered an assurance that we will limit those construction movements so that the A446 is not over capacity. In fact, it means that at peak times the construction traffic is around 7% on that road. We will work with Warwickshire—we completely understand their concerns—to make sure that we don't overload the road.

252. MR MOULD QC (DfT): Leaving aside the A446, is the assessment predicting significant exceedances of capacity, as it were, on other routes within the county?

253. MR SMART: No. The main other route would be the M42 and we're really negligible on that. As I think Mr Mould has already said, there are some assessments we need to do at some junctions and if that shows that we need to do physical works we will undertake to do those.

254. MR MOULD QC (DfT): Now, in terms of traffic management, the Code of

Construction Practice sets out the suite of arrangements that we would expect in discussion with the local highway authorities to bring to bear as appropriate in order to seek to optimise the accommodation of HS2 construction traffic within the road network.

255. MR SMART: Yes, it does.

256. MR MOULD QC (DfT): Can we just put up, please, page 59 from the Code of Construction Practice—the draft? A couple of pages on, please. Page 59. One of the specific measures that is included in the Code of Construction Practice. The reference, for those of you who have it, is paragraph 14.2.5. It's the third bullet point from the bottom on that page: "introduction of a GPS vehicle location and tracking system for tipper lorries within the lead contractors' control to be used for the movement of materials and waste in bulk". What is the practical advantage in terms of traffic management to that component of the much larger suite of measures?

257. MR SMART: The advantage of the GPS is it is real time—and I understand the point made by Mr Savage, but it is real time—and it allows the contractor to see exactly where the vehicles are across the network of roads feeding the sites. It also gives speed information, so the contractor would know if there is congestion by the fact the lorries aren't moving. I should point out that this will be required from our own compliance point of view to make sure that lorries are going to correct tips, so it's something we need to implement for a number of reasons, not least traffic management. It does mean that on a wider scale if there was congestion in an area there is some chance that the contractor has a better way of controlling that by—the wagons would have radio control—diverting wagons to another site, rather than a camera, which would just give you a particular view, which may reveal congestion but, as I have said, we are only 7% of the load on the road, so the congestion could be for a number of reasons. I actually think that gives a better way of managing the traffic flow; it's something that we would have to put in place for our own commercial compliance and our own traffic management reasons.

258. MR MOULD QC (DfT): If we turn to page A179(10), please. One of the points that has been made is that the contractor-operated CCTV monitoring system would

assist the emergency services. If you just look at the letter on the left-hand side from the fire service. It's not terribly easy to read because it's in such small type, but you can see from the third paragraph the concern is with emergency services having restricted access to Hams Hall Business Park in a fire situation. That's the example given. "We may find ourselves in a situation where we are dealing with a far more significant fire than if we had immediate access. This could mean the impact on the Fire and Rescue Service resources is greater and the damage and subsequent costs to the business are more significant." First of all, under the arrangements that we propose—for example, under the GPS system—how could the information gleaned from the GPS system assist in the nominated undertaker seeking to avoid that kind of situation arising, if at all?

259. MR SMART: I guess what we would be able to do is, if we knew there was congestion in that area, we would be able to look at our control of our lorries to say, "Don't send more wagons into that area". If we have congestion, there's not much we can do about the fact that it's actually there, but I would also highlight the fact that we would want to minimise impact. As part of the provisions that you've already outlined, Mr Mould, on the Code of Construction Practice, of agreeing traffic management and liaison plans, of course the emergency services are an important part of that. As a construction site, it is imperative that we have the emergency services having good access.

260. MR MOULD QC (DfT): Access to Hams Hall is a matter that has been raised by other petitioners, hasn't it, as we know?

261. MR SMART: Yes, it has.

262. MR MOULD QC (DfT): And although those petitions have yet to be heard, in simple terms, what is the project seeking to do in order to alleviate the concerns of those petitioners who occupy Hams Hall Business Park and are concerned about access being restricted?

263. MR SMART: We would agree plans to make sure that we don't restrict access and—similar to what you've heard before—if there is to be any local disruption to the roads, such as utilities, which is the common one, we'll make sure we put in place

arrangements that we can get emergency services through. That can be stopping work if necessary and moving aside, but usually you can do the construction such that that doesn't occur and you make sure that you've got access.

264. MR MOULD QC (DfT): This is the final question. Just help me with this. In your view, would the contractor gain anything in terms of information which is usable in the construction process from a CCTV-based system in terms of regulating entry of the HS2 vehicles into the road network?

265. MR SMART: No. In my view, it actually is not as good as what he would get with GPS. The contractor wouldn't gain anything and would really be relying on the GPS system for his method of control. Of course, it is an important way for us to make sure we have compliance monitoring under the contract as well. From the promoter's point of view, that's another important aspect.

266. MR MOULD QC (DfT): Thank you.

267. CHAIR: Have you finished, Mr Mould?

268. MR MOULD QC (DfT): I have, thank you, yes.

269. CHAIR: Ms Lieven.

270. MS LIEVEN QC: Just a very few questions, Mr Smart. Sorry; I'm going to have to aim them at your back. I do apologise.

271. MR SMART: That's okay.

272. MS LIEVEN QC: First of all, you referred when you started to the offer to limit traffic on the A446.

273. MR SMART: Yes.

274. MS LIEVEN QC: If we put up slide A179(6), which is the significant traffic

effects slide. No, it's the one before. Sorry.

275. MR MOULD QC (DfT): 179(5).

276. MS LIEVEN QC: 179(5). The offer about limiting the level of traffic is only on the single-carriageway section of the A446, isn't it? It's between the two junctions; it's only on that one very specific section.

277. MR SMART: Yes.

278. MS LIEVEN QC: And that section is the section where the arrow on this slide is shown, yes?

279. MR SMART: Yes, that's correct.

280. MS LIEVEN QC: So, as far as significant impacts on other junctions further down the A446 is concerned, there's no offer to limit the traffic that goes on those sections.

281. MR SMART: Well, our view is that by limiting the traffic in the peak, which is where the loading is the highest and we're at the capacity of that road, there wouldn't necessarily be any need to look at those other junctions, but if, in the light of further assessments, we needed to do something, as you've already heard, we would do that. That's physical works to those junctions.

282. MS LIEVEN QC: And just in terms of the wider traffic effects, not just on the single carriageway of the A446, which is being discussed outside, you said the Environmental Statement doesn't predict any significant impacts at junctions. Let's just take one example: the A46, where Warwick University are leading in terms of the petition issues but it is also raised by my clients. Warwick University are very concerned about significant impacts at that junction and that is the subject of discussion between yourselves and the university, isn't it?

283. MR SMART: Yes. What will come out of that I can't predict.

284. MS LIEVEN QC: So it's by no means the case that as far as petitioners in Warwickshire are concerned there is a general acceptance that the traffic assessments in your Environmental Statement are actually correct.

285. MR SMART: Well, I think you can see by the slide that we believe we've done a very thorough analysis of looking at the traffic assessments. All I can deal with here is the particular concern that you have on the A446, and I think we have offered some assurances that I think deal with that. As I've already said, we're only 7% of the traffic on that road; we're within capacity, and we have already said that if there are certain junctions that, on further assessment, would need further work, we would offer assurance that they would be done. In fact, as the highway authority, I believe that you would be able to enforce that anyway.

286. MS LIEVEN QC: I was just going to ask you about that very briefly. Mr Mould put to Mr Savage that through the mechanism of traffic management plans in the Bill the highway authority could approve or refuse arrangements under traffic management plans. Do you remember him putting that point?

287. MR SMART: Yes.

288. MR MOULD QC (DfT): No; I said "discuss".

289. MR SMART: It's just a consultative role, I think.

290. MR MOULD QC (DfT): Approved routing.

291. MS LIEVEN QC: Approved routing, yes. But the approval of routing arrangements under the Bill is subject to the fact that any arrangements that the highway authority seeks in respect of, say, changes to roads have to be reasonably capable of being so modified. So, if there is only effectively one way of getting HGVs out of one of your sites and there is no reasonable method of amending that road, then the local authority can't refuse that TMP, can it?

292. MR SMART: In that case we would have an issue with getting the HGVs in and out, so I'm not sure that actually gets anywhere, because we would be seeking to get construction access in a way that maintains our programme but minimises the overall impact on the traffic. That's the balance that we believe that we've achieved.

293. MS LIEVEN QC: But the fundamental objective as far as your client's concerned is going to be to get your HGVs out as speedily as possible rather than any knock-on effects on Warwickshire's roads. I'm not saying you'll ignore those knock-on effects but that's obviously going to be the secondary consideration.

294. MR SMART: Well I think it's—I wouldn't necessarily say it's a secondary consideration, because as you've already heard, if we've got congested roads we're not efficiently controlling our programme via our materials that have to come in and out. But what we will be doing, via the assurance that we've given, and the further work in liaison, and putting in place management measures to appropriately deal this—which I particularly highlight the GPS, because for meeting with that is particularly important—we think that we've got the package of measures which give us the right control.

295. MS LIEVEN QC: Can I just ask you finally about the GPS? As far as GPS information is concerned, it necessarily only gives information about where the lorries are at that specific moment?

296. MR SMART: Yes.

297. MS LIEVEN QC: Yep. So in terms of the overall flow of the road, or indeed the flow of the road further down, if there isn't a lorry there at that moment, the GPS won't give you any information?

298. MR SMART: It depends on how wide that GPS network is, and it can be quite wide. But you're quite right. If there isn't a lorry there we won't see it. But the GPS network can cover an area that we believe appropriate for our traffic management plans.

299. MS LIEVEN QC: One of the advantages of cameras, is that you can put them on junctions or pinch points where there is known to be a particular—I appreciate you say

there isn't going to be an impact—but where there is known to be a particular flow constraint. So particularly junctions or narrow bridges; places such as that.

300. MR SMART: Yes, but you can only see what's on the camera. And it might not be that that congestion is actually a matter that's caused by the traffic that we put on. Because I've said it's only 7% and it's within the capacity. But what the GPS allows the contractor to do, is to see where the speed of the lorries are. And where they're not moving, we can control lorries away from that area, rather than let them sit. We've got a better chance of managing, is what I'm saying. A better chance of managing any potential congestion.

301. I'm going to come back to the point, that the whole reason we're doing this, is we've assessed the effects. Where we think there's an impact, we have put in appropriate mitigation, which we believe is the limit on the lorries, and then we look at how we can ensure that we meet those assurances. And that is the GPS system.

302. MS LIEVEN QC: But Mr Smart, it's a fairly obvious point: it's not either or, is it? A system that has both the GPS information from the lorries, and CCTV cameras at known pinch points, will give more information, both to the nominated undertaker and the highway authority, than simply having the GPS.

303. MR SMART: Well I think the point is that we know we need to put in active management measures. We believe that the best way of managing this is the GPS system. It may be that in certain circumstances a CCTV is appropriate. We don't believe it's appropriate in this instance, and I would suggest that a further half million pounds on something which is not required to manage the situation, is not the best use of public purse.

304. MS LIEVEN QC: I think we'll leave it there, sir. Committee understands the points.

305. SIR PETER BOTTOMLEY: So we're agreed no one's trying to say there shouldn't be GPS in the lorries. Everyone agrees there should be GPS in the lorries. Most people would agree, that having the ability to monitor traffic by CCTV is useful to

highway authorities, highways agency on the national roads, to local highway authorities as well. It happens.

306. Most people agree that it's sensible that data turn into information, which turns into the ability to make decisions. So for example, when we were coming back from Bicester yesterday, Professor Andrew Norton told us that there weren't trains into Marylebone until 3 o'clock. So we didn't have to rush to catch the 13.58, we could wait until the 14.18. And that was information being shared in a perfectly normal way.

307. The issue, I think, that has been aired in front of us—though I don't think it's a decision for us at the time being—is whether the apparent lack of interest by HS2, or lack of understanding or agreement on its value with Warwickshire, and Buckinghamshire as well, probably, of whether either existing cameras should be linked in, or cameras should be added to the ones that are there at the moment, to a place where the data can be brought together to turn into information, to produce benefit—not just to the nominated contractor, but also to others who use the roads—that's, in effect, the issue.

308. And I don't want to speak for the committee, but I sort of thought that HS2 and Warwickshire should talk more together in a practical way, to actually work out what benefits might come, and if something should be done, who should do it.

309. CHAIR: I'm of a similar view. I can't see it's of much direct benefit to HS2. But what is clear is that the corridor from North Warwickshire into Birmingham and Solihull is very busy with commuter traffic, very busy with vehicles delivering goods into some of the car plants etc., and then taking goods out. And sods law is that if the NEC have a motor show—and I presume they're still going to be operating when HS2 is being built—and if there's a problem on the motorway, and if British Gas is digging up a few roads, although not directly because of HS2, there's going to be gridlock, which is going to have an impact on the area.

310. And if there's continued gridlock, that isn't good for anybody. So I don't know whether Mr Savage has come up with the right solution, but he has raised, I think, a question that we need to consider. And I'm not sure even the contractor or the

undertaker will be the best person to do this. But there may be somewhere between HS2 dealing with its GPS and getting its railway built, and perhaps considering whether or not to give a bit help to the local authorities to manage traffic, so that everybody doesn't start punching each other, because they can't get their kids to school or their traffic to work.

311. So I think we need to go a little farther. So I think I agree with Peter's point. I think there needs to be a little bit more discussion about this, because this isn't only going to be an issue there, it's going to be an issue on other parts of the line. And road closures and traffic lights can, you know, make people pull their hair out. Ian?

312. MR MEARNS: Can I ask Mr Savage a question? I'm terribly sorry, sir, I did intend to ask earlier. You said that the 500,000 capital cost was an upper-end estimate. What's your estimate on revenue to run the scheme that you're talking about on an annual basis?

313. MR SAVAGE: For all the stakeholders, they've got existing styles. So you're just having smarter information on your existing screens. So there should be no revenue costs—

314. MR MEARNS: No additional revenue cost?

315. MR SAVAGE: No, not for the key stakeholders.

316. CHAIR: Can I ask, is it the RAC that have a centre in Walsall, just off the motorway, which also directs traffic?

317. MR SAVAGE: That's right.

318. CHAIR: I mean, it isn't beyond the wit of man that there are organisations that are quite used to dealing with some of these issues as well.

319. MR SAVAGE: Yep. Yeah.

320. CHAIR: Okay. Alright.

321. MR MOULD QC (DfT): If this focus is on a discussion about provision of cameras feeding into existing monitoring systems, which I think is what's emerged, from a—

322. CHAIR: Yeah.

323. MR MOULD QC (DfT): The committee has been clear on that.

324. CHAIR: Or maybe the odd additional camera where we think that's going to be practical.

325. MR MOULD QC (DfT): Then that—if—a discussion on that might be helpful. I think the concern we've had, as you've heard, is it seemed to be a suggestion that there should be a wholly new monitoring system set up, which we couldn't see would really be of use from the projects perspective. But I think if we're moving to—

326. CHAIR: I don't think it would be of use for the project. But I think that being a good neighbour is a slightly different thing. And I think if you're going to have to live with the communities for some years, then—and these problems are recurring—then we need to think about it before you get there.

327. MR MOULD QC (DfT): Yes. And just to be clear, I'm not for a minute doubting that proposition. But I'm saying how does one actually facilitate that in practice. And that's where the discussion I think needs to come.

328. CHAIR: Right. Okay.

329. MS LIEVEN QC: So that's very helpful. Maybe those thoughts could be taken forward into the highway forum, obviously with, you know, record of what you've said, and again it may be that if progress is not made, it may be an issue that Buckinghamshire could return on.

330. CHAIR: It may not be a massive cost issue. It may just be a question of

coordination; what information there is and putting somebody in charge of keeping the traffic moving. You know, it might be paying one person a salary and giving them all the hassle of sorting it out.

331. SIR PETER BOTTOMLEY: It also links back to previous day's discussion, where there are some things where the promoters will be paying local authorities for certain identifiable, limited, defined costs. And it may be that we will think, or the promoters will think, that it would be sensible actually to add something onto that, which will allow local authorities to do some of the things which they will want to do as a consequence of the scheme. I don't think anyone expects local authorities to get money for facilities which they aren't at least prompted by the fact of the scheme.

332. CHAIR: Okay.

333. SIR PETER BOTTOMLEY: Yes.

334. CHAIR: Right. Have we finished with Mr Smart?

335. SIR PETER BOTTOMLEY: Yes, thanks.

336. MS LIEVEN QC: And we've finished that.

337. CHAIR: Has everybody finished? Okay. Thank you very much Mr Smart. Okay. Is that another one knocked off?

338. MS LIEVEN QC: That's another one done, sir.

339. CHAIR: Okay. Right.

340. MS LIEVEN QC: I was told we were breaking at 11.30. It's not a—

341. CHAIR: We do on Wednesday. Is it Wednesday though?

342. MS LIEVEN QC: It is Wednesday.

343. CHAIR: No Tuesday.

344. MS LIEVEN QC: Oh is it? Oh it is Tuesday. So we're not breaking at 11.30.

345. CHAIR: Alright.

346. MS LIEVEN QC: Oh. So –

347. CHAIR: Do you want to carry on?

Warwickshire County Council: Green Bridges

348. MS LIEVEN QC: No, no I'm very happy to carry on, sir. So the next issue that we are raising is green bridges, sir. And I've got two witnesses on green bridges: Mr Savage, who's going to explain where they are, effectively, and the basic rationale, and then Mr Lowe, who's the ecology witness, who will explain further the ecological benefits of the green bridges.

349. SIR PETER BOTTOMLEY: Are these the green bridges you want to have in the scheme?

350. MS LIEVEN QC: Sir, the position was originally that there was one new bridge, and there were a series of amendments to existing bridges. But happily, I think possibly on Friday, HS2 have agreed the one new bridge, which is at Wormleighton Loop; down towards the south of the county. So all the, what I'm calling, green bridges, that we are now raising, are amendments to the existing scheme. I think they're mainly widening. One is putting in a bit of kit underneath the bridge. And one I think is capping over the railway. I think I've got that right?

351. MR MOULD QC (DfT): Can I just—I mean, my understanding is that we are dealing with six bridges—

352. MS LIEVEN QC: Yep.

353. MR MOULD QC (DfT): Four of them are green already, but the case of the petitioners is that they should be greener. Two of them are not yet green and the petitioners say that they should be green.

354. MS LIEVEN QC: There may be a definitional issue about what is green. So I've just called them all green bridges, but I'm sure Mr Mould's analysis of the level of greenness is more accurate than mine. So, sir, if we can put up—and I'm afraid I don't have the number—the slides 'HS2 in Warwickshire', with the picture of the deer on the front?

355. Can I just mention at this stage, that there may be an issue about who questions go to, because, as I say, Mr Savage is going to explain to you where they are, and the basic rationale, and then Mr Lowe the ecological evidence. So it's entirely up to committee whether we hear Mr Savage and then Mr Lowe together, and then they sit next to each other and questions are fired at both of them, or whether we deal with—

356. CHAIR: Okay. You can sit Mr Lowe in the middle, if you want, and then we can—

357. MS LIEVEN QC: It might be easier to hear both of them.

358. CHAIR: Sure.

359. MS LIEVEN QC: Otherwise there's a slight danger that Mr Savage will end up answering questions about where the deer go, which he's not really equipped to do.

360. CHAIR: Okay.

361. MS LIEVEN QC: Can I just say in opening on this, before I call Mr Savage, that it is really important the committee have in mind, that the effect of HS2 is to create an entirely new barrier of the high speed railway, right up through Warwickshire. So a completely new piece of infrastructure, which on its face acts as a complete barrier, west to east, for ecological movements.

362. And it severs very fundamentally the existing patterns of movement for wildlife, because it's not following any pre-existing barrier. So the deer, or the badger or whoever it is who happens to have wandered across the line for many, many generations, is now going to find this completely new thing stopping it doing so. And it also cuts through, of course, very large numbers of hedges, woods and ancient woodland.

363. So there's a very fundamental point here, about ecological connectivity. And what our proposals are, is to try to mitigate—obviously the best thing would be to have the whole thing covered by one long green bridge. We've tried to be very realistic in terms of analysing out where the greatest impact on ecological connectivity is, and proposing to put in measures to mitigate those effects. So if we can go to the slides. I don't need to introduce Mr Savage. So Mr Lowe, if you move to the middle.

364. CHAIR: Right. Thank you, Mr Lowe.

365. MS LIEVEN QC: And what I'll do is go through the slides with Mr Savage, and then move onto Mr Lowe and introduce Mr Lowe. So Mr Savage, if we go to your slides, and just explain what the first one's showing, to the degree it isn't completely obvious.

366. MR SAVAGE: The light green area—the leg of lamb—that is Warwickshire wrapping itself around Coventry and Solihull. So as you can see with the reference marker to HS2 phase one, it comes through South Warwickshire, Wormleighton, traverses through central Warwickshire up to Kenilworth and then goes into Solihull. And then, as the picture in the top on the left hand side shows, a different type of construction. We're moving into an area where there's lots of viaducts, and we haven't got any concerns there of connectivity.

367. MS LIEVEN QC: Next slide, please. So this slide is trying to summarise the county-wide impact. Can you just pick out the key issues in terms of connectivity here?

368. MR SAVAGE: There's obviously a series of statistics about the impact of HS2 in Warwickshire: 43 viaducts, 35 of those are in North Warwickshire, which provides

adequate or good connectivity. In the middle of Warwickshire we've got a 1.9 kilometre tunnel, which again provides good connectivity. But the main feature of the slide in red is the extensive railway cuttings, and the picture on the bottom of the slide shows again that rural rolling countryside.

369. MS LIEVEN QC: Next slide, please. Thank you

370. MR SAVAGE: That slide just gives you an aerial plan of South Warwickshire, from Kenilworth down to Wormleighton. So sort of the market towns, or the towns. There's Kenilworth in the middle, you've got Southam and then you go to the very rural parts of Warwickshire. The red arrows indicate where we think we've got insufficient connectivity. The blue arrows indicate where we've got viaducts or river crossings, so there's good connectivity in terms of wildlife. Next slide please.

371. MR SAVAGE: I think the aerial view, sort of, highlights how green, leafy south Warwickshire is. We're quite fortunate in that respect. And the green dots from the south, one to eight, are specific locations where I think an improvement can be made. So I think we can pick up the detail on future slides.

372. MS LIEVEN QC: Can we just run through them now, so the committee gets a sense of where each one is, and what the overview is? So in this instance we're starting from the south.

373. MR SAVAGE: That's right.

374. MS LIEVEN QC: Wormleighton Loop: new bridge. That's the bridge that HS2 has now undertaken to provide.

375. MR SAVAGE: If that's correct, great.

376. MS LIEVEN QC: That's my understanding. Mr Mould will tell me if I've got that wrong. Number two: Windmill Lane

377. SIR PETER BOTTOMLEY: Is that the sort of width that was in the petition?

378. MR SAVAGE: No it's a new bridge. We've got a slide. I can just, sort of—

379. MS LIEVEN QC: We'll come to the detail of it in a moment, sir. I'm just—just to give an overview. So number two: Windmill Lane. Change of the form of the structure there.

380. MR SAVAGE: That's right.

381. MS LIEVEN QC: Number three: Long Itchington tunnel. Yep?

382. MR SAVAGE: There's a proposal there where I think a different solution might solve local community issues.

383. MS LIEVEN QC: Sorry, next one up. Yes, number three, Long Itchington Road. That's another change of the form of the structure.

384. MR SAVAGE: Yep.

385. MS LIEVEN QC: Yeah. Four, just to the north of that, the Fossway greenway: new bridge to connect greenway.

386. MR SAVAGE: That's a cycleway, which will give excellent connectivity on a national cycle route.

387. MS LIEVEN QC: And that's the second—that's not actually a green bridge, but that is agreed. So you don't need to worry about that one. Number five: Cubbington. What's being proposed there?

388. MR SAVAGE: It's to create a cut and cover tunnel, as a minimum provision to provide wildlife connectivity.

389. MS LIEVEN QC: Six: Leicester Lane.

390. MR SAVAGE: Again that's a proposal just to make the bridge slightly wider, so it's a dual purpose to suit the farmers in that facility.

391. MS LIEVEN QC: Seven: Stoneleigh Road bridge?

392. MR SAVAGE: A simple widening.

393. MS LIEVEN QC: And eight is the A46, where I think there's a change in the detail of the bridge. Is that right?

394. MR SAVAGE: It's just a request to focus detail.

395. MS LIEVEN QC: So that's just the overview. Then the next slide, 'background and supporting evidence', now is this one better dealt with by Mr Lowe, do you think? Or you explain the point?

396. MR SAVAGE: If I just give the background to the document, it's a 12 page European document, with some excellent recommendations about best practice of creating green bridges in Europe. It highlights to some extent the deficiencies of what we do in the UK. The report also highlights two issues: fragmentation of habitat and the growing concerns, or the reality, of where you're channelling larger wildlife, you are creating a road safety issue.

397. Sadly there was a fatality in Warwickshire due to a motorcyclist hitting a deer, and that's raised in this report, and also through an organisation: 'Deer Collisions'. So as the point at the bottom of the slide obviously says, wider bridges reduce the risk of collisions.

398. MS LIEVEN QC: Next slide.

399. MR SAVAGE: Davis, a chance for you to give a view on—

400. MS LIEVEN QC: Well, hang on, Andy, let's stick with you and then we'll hand it over separately. Shall we leave this one for Mr Lowe to deal with? Yep. That's fine.

Sorry, we've been—some tweaks with how this is done. Now these examples, do they come from the EU report?

401. MR SAVAGE: Yes they do, and they're a series of pictures taken out of the report.

402. MS LIEVEN QC: Of what is described as a green bridge?

403. MR SAVAGE: Yes.

404. MS LIEVEN QC: And would it be fair to say from these pictures, that green bridges can take slightly different forms? So some of them would have roads going across them, some—so combined-use bridge, as it were. Some of them, such as the one in the middle, is entirely greened over.

405. MR SAVAGE: That's right.

406. MS LIEVEN QC: Alright. So then we come to the specifics. The first one is Wormleighton Loop. And I think we can skip through these, because this is what the promoters have now agreed. So can we move onto slides—to Windmill Hill green bridge?

407. MR SAVAGE: The—

408. MS LIEVEN QC: Hang on.

409. MR SAVAGE: Next slide?

410. MS LIEVEN QC: Let's wait until we've got it up.

411. MR SAVAGE: There's a slide before that, actually. It shows the current—

412. MS LIEVEN QC: That's it.

413. MR SAVAGE: Yep.

414. MS LIEVEN QC: So this is where we need to go a bit more slowly and explain the detail. First of all, what is it that HS2 is proposing here?

415. MR SAVAGE: It's a wide cutting. Therefore, you end up with a need of a multi-span, long narrow bridge. So the bridge might only be 10 metres wide, but 100 metres long. So—and the—there's a small image. You can just about see it in the photo montage. So it's another verse to the accommodation bridge which has been provided—proposed.

416. MS LIEVEN QC: You can just—I'm not getting very good at this map. You can just see there the grey bridge. That's the proposed HS2 bridge, is it?

417. MR SAVAGE: That's right.

418. MS LIEVEN QC: And then next slide, please. Can you explain what it is that we're proposing?

419. MR SAVAGE: Well we'd like to take, effectively, a very long and narrow structure, and request thought is given into making it a short span bridge, but wider. Probably—may be cost neutral, depending on the ground conditions there, and the form of construction.

420. But what the picture highlights, as an example, that it provides a much wider wildlife corridor, it's probably more fitting to the landscape, it's potentially cost effective—on the premise that the square footprint of that structure would be the same or probably less—and would have less impact on the farm, and certainly would be a more pleasant experience to traverse, if you're on a horse, or just walking in the area, basically.

421. So it's just a request to consider changing the former structure, from long and thin, to a squat and wider.

422. MS LIEVEN QC: Can we go to the slide before?

423. SIR PETER BOTTOMLEY: That long thin one at the bottom, that was supposed to be the wildlife corridor, was it?

424. MR SAVAGE: It's a proposed—that's an accommodation bridge, which is creating—

425. SIR PETER BOTTOMLEY: For the farm?

426. MR SAVAGE: That's right.

427. MS LIEVEN QC: I'm not sure that HS2 would describe that as a wildlife corridor. I don't—

428. SIR PETER BOTTOMLEY: No, no, no I don't—

429. MS LIEVEN QC: I don't know Mr Mould's differentiation between the bridges that are getting greener.

430. MR MOULD QC (DfT): It is—we do—this is—in the bill this is proposed to be a green bridge. Yeah.

431. SIR PETER BOTTOMLEY: And the short, wide one, would that also be an accommodation bridge, so that the farm could get across it?

432. MR SAVAGE: It—as the photo shows, it is a relatively narrow, long expanse.

433. SIR PETER BOTTOMLEY: No, no, not that one. Yes. But—

434. MS LIEVEN QC: The next one? Our proposal—

435. MR SAVAGE: That's right.

436. MS LIEVEN QC: —would provide the same accommodation function for the farmer—

437. MR SAVAGE: Absolutely. Yeah.

438. MS LIEVEN QC: —but a greater wildlife corridor by being much broader. Can you click onto the next slide please? There.

439. SIR PETER BOTTOMLEY: Is the red supposed to show the brick?

440. MR SAVAGE: The red line is just purely the footprint. So the span of the structure is what you need to traverse two lines of HS2 line, and then the width of that structure is widened out to 40 or 50 metres. So you're swapping length for width.

441. SIR PETER BOTTOMLEY: You've got more earth—

442. MR SAVAGE: That's right.

443. SIR PETER BOTTOMLEY: —to move, to be able to build up—

444. MR SAVAGE: Yeah. And you—one of the benefits is you're taking less earth offsite.

445. MS LIEVEN QC: I think, Mr Savage, I think you may have got over-excited with the 40 metres, because Mr Mould is pointing me to a later slide where we refer to a 20 metre width there. Yes, it's the end of Mr Lowe's exhibits: minimum 20 meter width, cut and fill green bridge at Windmill Lane. So, I mean, I think the position is that Warwickshire has not sought to do any detailed design on these bridges. The position is we think they should be significantly wider.

446. MR SAVAGE: Yes.

447. MS LIEVEN QC: And Mr Lowe can talk about how wide is necessary. Yep? So we'll come back to each of these with Mr Lowe, to talk about the ecological

connectivity issues.

448. CHAIR: I'm going to try and call things to an end around about 12.30-ish, because some members of the committee are going to have to leave. Is it possible you can make the progress, or...?

449. MS LIEVEN QC: We'll do our best, sir. We'll rattle through them, and then—so next one—

450. MR MOULD QC (DfT): You won't, I fear, finish proceedings for the day by then, because I will want Mr Miller to speak to you about this issue.

451. CHAIR: Okay. Alright. Well, then that can come back at two.

452. MS LIEVEN QC: Next one, please, which should be Long Itchington Road.

453. MR SAVAGE: This is a location where Long Itchington Road is closed, and there's a provision for a long-span structure to connect the Fosse Way. So the current situation on this one is simply where the arrow is, the road is closed, and there's an adjacent new bridge proposed by HS2.

454. If we go onto the next slide, I'll just outline what a possible solution there is. This is an issue at this specific site, where the local communities of Long Itchington church parish council will be making representations about the need to keep the road open, which is supported by ourselves.

455. There's an opportunity to compare what is currently being proposed—which again is the long, narrow bridge—and where the green strip is, is to create a wide but short span structure. So it solves the need to close Long Itchington Road, it provides a green tunnel to accommodate the two existing roads, less spoil is taken off-site, and it highlights there a roundabout to accommodate the various traffic movements.

456. MS LIEVEN QC: Again, we haven't sought to do a detailed design. We're saying that this should be taken away for further consideration by HS2.

457. MR SAVAGE: That's right.

458. MS LIEVEN QC: Next slide is Offchurch Greenway, which was our proposal to amend the scheme to provide an improved cycleway, and I think this is the other one where HS2 have agreed.

459. MR SAVAGE: if you can confirm that.

460. MS LIEVEN QC: Well that's my understanding. So we'll skip over that, unless Mr Mould tells us that we've misunderstood the assurances. Next one please, Cubbington Wood.

461. MR SAVAGE: Next slide.

462. MS LIEVEN QC: Next slide, please. Right. What's been proposed here?

463. MR SAVAGE: This is a very sensitive location. There's an ancient woodland in this immediate locality. The current proposal to reduce the impact in this specific location is to have a proposed retained cutting, which some feel was alien to the rural setting of the ancient woodland, which effectively severs the connectivity there.

464. MS LIEVEN QC: So this slide is about HS2's proposal, and one can see the cutting in the green illustration on the left. Yeah?

465. MR SAVAGE: That's correct.

466. MS LIEVEN QC: So then the next slide, please, which is our proposal.

467. MR SAVAGE: I'd like to, sort of, just outline, this is a minimum request to facilitate wildlife connectivity there.

468. SIR PETER BOTTOMLEY: You used that picture before, didn't you?

469. MR SAVAGE: Yes. But it gives a good reflection of adjacent woodland in this specific location.

470. MS LIEVEN QC: I should have explained before, that image is not an image of Warwickshire. I can't actually remember whether it's CTRL or whether it's Kent or Germany.

471. MR MOULD QC (DfT): We've seen it before. The committee's familiar with that.

472. MR BELLINGHAM: We've seen it before and after, I think.

473. MR MOULD QC (DfT): Yes, indeed.

474. MR SAVAGE: At this specific location, there are local petitions for much more substantial mitigation, and we'll leave that to another day.

475. MS LIEVEN QC: So that's Cubbington Wood. Yes, I perhaps should have explained—and it's my fault for not doing so—in respect of a number of these site specifics, local residents are asking for different and usually greater changes to the scheme. This is what the county is putting forward in its evidence, in order to maintain connectivity. Clearly, because other petitioners are raising the issue, we wouldn't—we suggest that the committee should consider these sites when it comes to the other evidence as well. So this is, as it were, again a putting down a marker exercise. So the next one: Leicester Lane?

476. MR SAVAGE: This site—I've tried to come up with a solution which—sorry—

477. MS LIEVEN QC: Sorry, you need to go back. I'm so sorry, it's my fault when—I didn't mean next slide. Yep.

478. MR SAVAGE: Currently being proposed at Leicester Lane is probably a minimal width highway structure, to just construct an overbridge, which is felt too narrow, missing the opportunity to create a wider green bridge. So if you go onto the next slide.

There's a proposed widening of the structure, which is shown by the green footprint. That would be the span. And the red image is the, sort of, relevant embankments.

479. With this specific location, the local farm is badly severed by HS2. It's a vegetable crop farm. You can just see the reservoir—but you can't see it on this slide. But anyway, there's—at this location, we can get a win, win, win situation.

480. We can create connectivity, we can make the bridge safer for road users, but also importantly provide an accommodation bridge for the farmer. And that can also carry his irrigation equipment. And again, in this, sort of, location, it will be better well received by the equestrian group.

481. MS LIEVEN QC: And is this a location where the farmer has petitioned as well?

482. MR SAVAGE: That's right, yes.

483. MS LIEVEN QC: So you're going to hear about this, I think, on at least three occasions. Next one.

484. MR SAVAGE: Very briefly, this is just a straight forward request to widen the structure by 10 to 20 metres, to create a proper green bridge, which is better for the rural location, effectively. And also, by widening the structure, you're taking away the repeated situation where we're creating structures with very tall, concrete parapets, which look unsightly. So I think if we can, sort of, soften the appearance of the bridges, we've got a benefit there.

485. MS LIEVEN QC: And then the last ones are the bridges across the A46 dual carriageway, where I think what we're looking for is a design change?

486. MR SAVAGE: It's a matter of detail, just to make sure that we've got passage for otters and other wildlife in that area. It's just to make—a request, to make sure that when the detail comes through, that they're giving adequate thought to connectivity.

487. MS LIEVEN QC: Right. And then the final slide is just the summary, which I

think we probably don't need to go through at this stage.

488. MR SAVAGE: No.

489. MS LIEVEN QC: You've covered that. So can we then move onto the ecological connectivity group of slides. And while the slides are coming up, Mr Lowe, can you explain who you are and your qualifications for giving evidence?

490. MR LOWE: My name's David Lowe. I'm Principle Ecologist at Warwickshire County Council. I'm a member of the Chartered Institute for Ecology and Environment Management, and I'm also a member of the British Ecological Society. And I also chair the HS2 Ecological Technical group, which is an independent body that coordinates and sponsors back line-wide issues on HS2 matters.

491. In the title, where it says HS2, it's not actually governed by HS2. It's an independent body. I also manage a biological ecol centre for this area, write the green infrastructure strategies for the sub-regions—Warwickshire, Coventry and Solihull—and our memberships read a lot of the data—the habitat data—in partnerships.

492. MS LIEVEN QC: Thank you. So can we turn to your first slide, and can you just explain the issues around ecological connectivity in Warwickshire?

493. MR LOWE: Yes. Warwickshire, Coventry and Solihull has a fantastic habitat database, which includes basically fields and hedgerows. It's best in Europe, and it's acknowledged in Europe in best practice. And we have basically used that data to look at the ecological richness with Warwickshire. That is basically the pink slides. I believe you may have seen these colours before from Staffordshire's presentation last week.

494. That's high connectivity areas, and down to the blue, which is low connectivity areas. So it's an indication of bio-diversity richness in Coventry, Warwickshire and Solihull. And the red and white line that runs through is the construction boundary for HS2. So hopefully it gives an idea of a) the route, and b) the landscape—the ecological landscape—the route will be going through.

495. MS LIEVEN QC: Next slide?

496. MR LOWE: Yes, next slide. Yes, please. ‘General Statistics of the Impacts on Warwickshire.’ It’s the—the line’s going through 56 local wildlife sites. Those included the potential local wildlife sites; i.e. sites that haven’t been fully surveyed yet. And we’re in a process of surveying our local wildlife sites, but in all core strategies within the sub-region a potential site is considered a local wildlife site until proven otherwise, because it’s substantial data has gone to that consideration already.

497. And 85 hectares of wildflower grasslands are going to go, 100 hectares of woodland, 8.5 hectares of wetland, and there’s some farming statistics there. It hopefully gives an indication of the amount of data we have in Warwickshire, able to determine what the impacts are likely to be. But that’s going to be part of the different conversations as we go through.

498. Next slide. Again, we’re quoting the European and EU best practice. Highways agency endorsed report, ‘Cost Action 341’, we’ll be using as a best practice standard, is what I’ve used to determine the impacts on HS2 in Warwickshire. It says step one is a GIS—a computer model which enables you to see habitat fragmentation, the corridors, barriers, as they would be seen by a dispersing animal. That’s a power of a GIS tool which we can use.

499. And the identification of the impediments of animal movement is a first step in the defragmentation of landscapes. And establishing fully functional corridors and wildlife across these structures. Because that’s the whole aim, is to maintain functionality for animals to get from the south to the north. That’s a primary part of this evidence I’m bringing.

500. Data needs to be in line—so that’s hedgerows—and it needs to be in polygons, to do a really proper analysis. We have that data. This connectivity mapping has not actually been done by HS2, so we’re using it here to inform decision making purposes. As has previously been said, good data, with good interpretation, makes for good decision making, and that’s a motto we have in Warwickshire, Coventry and Solihull. And we pride in our data.

501. Yes, next slide. So back to how does that look, Warwickshire County Council has done that analysis for Warwickshire, based on our data. And again the critical points are labelled up there; the same ones that Mr Savage went through earlier, so I don't need to do that. But you can see the way we produced this, was looking at the high connective areas, we modelled species movements from woodland to woodland, basically, as you can see here.

502. And a least passage—the easiest way for those species to get to woodland to woodland to woodland in Warwickshire, is denoted by the green arrows. What we did then is put HS2 on top of that, and see where the critical points of fragmentation would be in Warwickshire for those keys. So these are the six locations where we think it's really important that some adequate structure is put in place, to maintain that functionality in the landscape.

503. It's been assigned to be—the model's been—the data was modelled, to deduce that, was from the University of York, which is well-renowned in the UK for doing such spatial analysis. So it's ecological data. But that's not the only bit of evidence we feel were needed. What we needed were actually density of passageways. Passageways are green bridges or viaducts—aqueducts—no—

504. SIR PETER BOTTOMLEY: Density means?

505. MR LOWE: The number of green bridges within a certain area, to enable good functionality. So we looked at any data which is out there, and any evidence is out there, and the best practice we have come across is the 'deer road traffic accidents report', which was a report commissioned by—well, for the deer commission in Scotland.

506. I've ignored on this statistics about red deer, because we don't have red deer in Warwickshire. But we do have roe deer, so it is specific to Warwickshire, and it is needed for Warwickshire. It classifies density of passageways should be higher in natural areas, and traditional grassland—traditional agriculture areas, which is quite obvious, than in densely built-up areas.

507. In some cases, one or several wide passages will be appropriate, whereas other problems will be best tackled by a larger number of small scale schemes. The density of the passageways needs more research, and we don't have a full research to draw from for this, this expertise. So again I have to see what's available. This was produced—what was produced in 2004, so it has been out for quite a long time.

508. It defines density of passageways for roe deer, and it says in the report 'and other animals'; probably hares, foxes, badgers etc., and possibly pine martins, but we don't have those records in Warwickshire, so we don't have to worry too much about those ones. But in—and what I've done in Warwickshire is put in areas of outstanding natural beauty.

509. What I have done is used increased importance areas—i.e. those areas with the pink, because they're high connective areas. Areas which are medium, the whiter areas in my model, we don't actually come across any of those for HS2. They're either really good or really bad is where HS2 goes through. So we can leave that one aside. And the low important is your agricultural landscapes—the blue bits—is where we're saying is a category for low importance.

510. So therefore it suggests in that way you need at least one substantial passageway—I'll come onto what that means in a minute. In a really good connective area, the average between two and four of course is three, so I'm looking at three passageways. In medium I would be looking for four, and for the low category area I'd be looking for five kilometres between each free access point; i.e. viaduct, basically. The report recommends ensuring that passageways are built on all known conflict points—that's one recommendation under that report—and passages should be placed as close as to existing animal trails as possible.

511. MS LIEVEN QC: So then I think you've—in the next slide, you've effectively applied those standards across Warwickshire?

512. MR LOWE: I have. That's correct. So it's a pass and fail, basically. In essence, the way we did this, is we went from viaduct to viaduct, because a viaduct is where a passageway is readily made. When you go over the river, you'll have river corridors on either side, as environment agency standards. Everything, basically, can move through

there; from bats, through to roe deer, through to what have you. So that's—I'm happy with viaducts. So from viaducts –

513. SIR PETER BOTTOMLEY: Bats could go over the top as well?

514. MR LOWE: They could do, but I wouldn't advise them to go over the top unless they are very high-flying bats. I would prefer them to actually still not go along, but to try and educate a bat is something different. The—

515. MS LIEVEN QC: You've been saved the pictures of dead bats.

516. MR LOWE: Yes. I haven't got any of those, you'll be glad to see. So in the green areas, it's a pass. There is some good connectivity built into HS2 in those areas. The red areas basically infer that it fails that category, as of the deer report, and that is simply all it says. So I've then put the six conflict points—even though those are a given as areas where we do need free passage, I've put those back on there to give you an idea where each of those passages is for. Otherwise the slide I believe speaks for itself. Onto the next slide.

517. MS LIEVEN QC: So this is the—the next one's the slide that Mr Savage produced as well, but has passed onto you to speak to.

518. MR LOWE: Thank you very much. Okay. EU best practice. Back onto reports. What does this mean? We've identified the conflict points, we've identified where HS2 has failed in the number of passageways needed; let's define what a passage is. A dedicated overpass has a standard width, at best practice, of 40-50 metres between the fences.

519. Or alternatively it says 'you can do a 20 metre overpass, but as long as it has a funnel around about 40 metres, basically, it's going to shove things into that 20 metre gap to get across. A dedicated underpass, a minimum width of 15 metres, and a maximum height 14 feet—four metres. Again, this is all from the report of best practice.

520. SIR PETER BOTTOMLEY: Minimum height?

521. MR LOWE: Minimum height of three to four metres. Particularly this is taken from a roe deer, and that's probably what roe deer particularly like. But a lot of other things don't like to be encased in a tomb while it goes from A to B, basically, to get across.

522. There are—and the report actually recommends there are no alternatives to specific wildlife underpasses. So actually the report is looking at these things should just be for wildlife use, and not for multi-function.

523. I take as a conservative and pragmatic viewpoint, Warwickshire has lots of humans in amongst it, more so than Scotland. And therefore I don't mind if it's a multifunctional bridge, as such. I'm just highlighting what actually the report says, but I'm also leaning to the idea that we don't necessarily have to have in Warwickshire specific open bridges in all cases. I'm trying to be pragmatic and reasonable as I go.

524. Just to point out, there are no dedicated wildlife underpasses in Warwickshire, just to put it in context. I'm not sure—I don't believe there's any round the whole line, but I'm sure you'll hear from others up and down the line as to that fact. Next slide, because I'm trying to keep to half past.

525. MS LIEVEN QC: What I was thinking, sir, is if we finish on this slide, which is the last of the generic slides, and then we'll come back at two and do this—go back over the site specifics.

526. CHAIR: Okay.

527. MR LOWE: So EU and UK practice, again, those two reports, joint use overpasses, wider low passes can be combined with local roads and forestry tracks, as long as the traffic intensity is low. The width of any road etc. on an overpass has to be added to the width of the animal passage. So humans go one side, animals go the other.

528. And that's defined in the last bullet point in landscaped bridges, you may want to

separate—you should separate the human traffic element with the animal area, to reduce and minimise the disturbance, so that road, or bridleway or footpath, as is best practice.

529. Joint under use passages, as in this goes back to underpasses again. Joint underpasses, greater than 10 metres wide are only appropriate for human traffic, pedestrians. Smaller structures can be used where the overall length is no greater than 25 to 30. There's some basic figures there on how to do it. And HS2 has not produced details of any of these passageways up until last week. We have no indications on what they actually meant by a green bridge and design principles.

530. MS LIEVEN QC: So, sir, if we stop there, if that's appropriate?

531. CHAIR: Okay. Thank you very much.

532. MS LIEVEN QC: Not at all.

CHAIR: Two o'clock. Order. Order.