MINUTES OF ORAL EVIDENCE

taken before the

HIGH SPEED RAIL BILL COMMITTEE

on the

HIGH SPEED RAIL (CREWE – MANCHESTER) BILL

Tuesday, 31 January 2023 (Afternoon)

In Committee Room 8

PRESENT:

Andrew Percy (Chair)
Dr Lisa Cameron
Antony Higginbotham
Grahame Morris
Holly Mumby-Croft
Martin Vickers

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IN ATTENDANCE:

Timothy Mould KC, Lead Counsel, Department for Transport
James Strachan KC, Counsel, Department for Transport
Tim Smart, Phase Two Managing Director, HS2 Ltd

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IN PUBLIC SESSION

INDEX

(At 2.13 p.m.)

1. THE CHAIR: I'm Andrew Percy. I'm the new Chair of the HS2 Committee. This is our first public meeting of the Select Committee on High Speed Rail (Crewe – Manchester) Bill.

2. As many will be aware, this Committee runs and works slightly differently to other Select Committees. We sit in a quasi-judicial capacity to hear the concerns of petitioners against the Bill and we also have the power to determine whether any changes should be made to the Bill or whether any undertakings should be given by the Bill's promoters to address the concerns we hear.

3. There was a further petitioning period over the summer to which the Committee received 155 petitions. Of those 155, 134 were against the Bill and 21 were against the first additional provision, which was introduced in July. Three petitions have already been withdrawn and all of the information is, of course, available on our Committee's webpage.

4. Today we're going to be hearing the opening statements made by representatives of the Bill's promoter, the DfT. This will give an overview of the Bill and its provisions and some of the key issues involved in the construction of the proposed scheme and we will then hear from one of the promoter's expert witnesses, who will talk us through the proposed route.

5. Over the next few weeks we'll be, as a Committee, receiving some technical briefings on some of the key issues relating to the Bill and to the construction of the proposed scheme, such as the environmental, tunnelling, noise and compensation issues. All of these sessions will be held in public and transcripts will be made available online and, of course, we'll be visiting the line of route too.

6. We will be commencing hearing cases where the promoter has challenged the petitioner's right to be heard by the Committee. We'll do that first, before starting to hear cases presented by petitioners.

7. Our expectation is that we'll begin hearing petitioners in March and, from then on, we'll be meeting a number of occasions per week. Our initial plan is to hear petitioners in geographical sequence. So we'll be starting from south, working our way north along

the route, although due to the scale of some of the issues, we expect to hear the petitioners relating to Manchester Piccadilly station slightly earlier in our programme since that is likely to occupy a significant portion of the Committee's time.

8. As I said, we will be meeting a number of times a week. We initially intend to sit on Mondays and Tuesdays of each week but there is scope to adjust our approach as we go on, where we sit fit, to ensure that we can work our way through the petitioners adequately.

9. We are expecting divisions today but not until about 4.00 p.m. So when they come at 4.00, or earlier, we will of course suspend the session for 15 minutes to allow us to vote and then we'll resume.

10. So that's it from me. Thank you all for attending today. It's good to see the past Chair of the last HS2 Committee also with us today and we'll be looking forward to receiving some of his input on how the committees work in the future.

11. Can I now invite the promoters' counsel, Mr Timothy Mould KC and Mr James Strachan KC, to introduce themselves before presenting their opening statement? We will then have a short break following this section before proceeding on to the route overview. Thank you very much, gentlemen, for joining us.

Opening Statement by Mr Mould

12. MR MOULD KC (DfT): Thank you very much indeed, sir. My name is Tim Mould KC. Mr Strachan sits to my right. This opening statement is likely to take about an hour and a quarter, I think, if you bear with me. Not all of it is the most exciting subject matter but it needs to go on to the record, I'm afraid.

13. THE CHAIR: I have confidence you can make it the most exciting subject matter.

14. MR MOULD KC (DfT): I'll do my best.

15. THE CHAIR: So I'm already expecting.

16. MR MOULD KC (DfT): And it does have some images to go, which will come up during the course of what I have to say.

17. With myself and Mr Strachan are Mr Cain Ormondroyd, Mr Jonathan Darby, Mr Jack Parker and Mr Robert Williams.

18. The Bill before your Committee authorises the construction and operation of a new high-speed railway line running between Crewe and central Manchester. The railway will run from a connection with HS2 Phase 2A in a tunnel beneath Crewe. It will then resurface and run north through Cheshire, passing via Manchester Airport to a new station to be constructed alongside the existing station at Manchester Piccadilly in Manchester city centre. The railway is about 63 kilometres in length, which is about 38.5 miles in old money.

19. The Bill also takes powers for a station to be constructed adjacent to Manchester Airport. Off-route works to support future high-speed services to the north include station works at Preston and Carlisle and a depot at Annandale in Scotland. I'll refer to the section of HS2 Phase 2B promoted in this Bill as 'the proposed scheme'.

20. The slide that's about to come up is a simple slide showing you the line of route over a map base with Crewe marked to the south and Manchester to the north.

21. A few words about HS2 itself. HS2 is the new high-speed rail network promoted by the Government to connect major cities in the United Kingdom. Stations in London, Birmingham, Manchester and the East Midlands, and interchange stations at Old Oak Common in West London, south of Birmingham and at Manchester Airport, will be served by dedicated high-speed train services. High-speed train services will also be able to run from the HS2 lines, via connections at Handsacre in Staffordshire and south of Crewe, on to the existing rail network to serve city destinations in the north, north-west and Scotland.

22. The programme is being developed in phases and, on the screen, you can see those phases. The proposed scheme is the section of railway shown in the orange line which is being pointed out now. Phase One is the dark blue line from London into the West Midlands and Birmingham and then you can see Phase 2A in the pink line, which Mr Duddridge, who chaired the Select Committee – being shown to you now. The blue shows you the existing railway network and the green, the final colour, that shows you the line of the future proposed HS2 East running into the East Midlands with the possibility for trains in future to run on to the existing network to cities and towns

further north. So that is the phased HS2 network.

23. The High Speed Rail (London – West Midlands) Act 2017 authorises the construction and operation of HS2 Phase One, which runs between London, Birmingham and the West Midlands. Phase 2A is authorised by the High Speed Rail (West Midlands – Crewe) Act 2021 and will run between the town of Fradley in the West Midlands to Crewe with HS2 trains serving Crewe station and connecting to the West Coast Main Line just to the south of Crewe.

24. The Phase One railway, including its stations at London Euston, Old Oak Common, Birmingham Interchange and Birmingham Curzon Street, is already well under construction. Unlike previous Select Committees hearing petitions against HS2 Bills, your Committee will have the opportunity to see some significant parts of the construction work that is already underway on the Phase One railway and get a sense of the job opportunities that it has created.

25. And we've an image coming up of the major construction site just to the east of the M25 at Harefield in Buckinghamshire and you can see the two portals of the Chilterns tunnel being pointed out to you now. And then in the foreground you can see, on the right-hand side, the large building is the concrete batching plant and then the lower rise set of buildings is where concrete segments, tunnel segments, are manufactured and you can see the serried ranks of those tunnel sections in the foreground of the photograph. So that gives you a sense of the scale of construction that is underway in relation to Phase One.

26. We're going to invite you to visit that site and we'll also invite you to visit other construction sites including, if you would wish to see it, a section of the high-speed railway line in operation that connects to the Channel Tunnel, which, as you know, is known as HS1.

27. The Bill which is before you, if enacted, will authorise the construction and operation of the proposed scheme and so complete the HS2 railway running between London, Birmingham and Manchester. You'll hear shortly about the proposed scheme in more detail from the managing director of HS2 Phase Two, Mr Tim Smart, as you mentioned earlier, in a route overview.

28. I turn then to the principle of the Bill and the first of a number of cover pages of information papers which have been published, which explain a wide range of topics in relation to this Bill and the process for its enactment. So this is B10, the hybrid Bill process.

29. The Bill was introduced into Parliament on 24 January of last year, given its Second Reading in this House on 20 June. As with previous Bills for HS2 it's a hybrid Bill. As the Bill has been given its Second Reading, the promoter is not required to prove the case for the proposed scheme before your Committee, nor is the principle of the Bill open to debate.

30. The principle of the Bill is as follows: firstly, the provision of a high-speed railway between a junction with HS2 Phase 2A south of Crewe in Cheshire and Manchester Piccadilly station; secondly, the broad route alignment of the proposed scheme as set out on the Parliamentary plans deposited in January 2022 in connection with the Bill; thirdly, that there shall be no new stations other than Manchester Piccadilly and Manchester Airport station; and, fourthly, that there shall be no new spurs other than at Hoo Green and in the parish of High Legh in Cheshire.

31. The Bill also provides for a 22-kilometre rail connection with the West Coast Main Line via what has commonly been referred to as the Golborne link. On Second Reading of the Bill, this House instructed your Committee to amend the Bill to remove the Golborne link and not to hear any petitions relating to the Golborne link. It's not within the scope of the Committee's instruction to hear debate about the principle or underlying policy of the Bill such as, for example, whether the proposed scheme should be built or follow an alternative broad route alignment. Nor is it within the scope of the Committee's instruction to require the inclusion of an additional station or new rail spurs in the proposed scheme.

32. Where the promoter believes that a petition raises issues that concern the principle of the Bill, we will, of course, draw that matter to your attention. In this way, we hope we can help you in enabling petitioners to focus their cases before you on those matters that, in accordance with the established rules and usage of this House, your Committee will wish to consider and to include in your special report.

33. The House has instructed the Committee, as you know, before it completes its

business, to make an assessment as to whether the proposed scheme will adversely affect the integrity of a small number of nature conservation sites which are protected under the Conservation of Habitats and Species Regulations 2017. I shall come back to that instruction briefly towards the end of this opening statement.

34. I turn then, very briefly I hope, to outline the HS2 programme and, in particular, the Government's objectives, just to set the context. There is an information paper entitled, 'The Development of the Proposed Scheme', which sheds some more detailed light on that topic.

35. The Government's objective is to provide a high-speed rail network which supports the nation's economic development by transforming rail capacity and connectivity between major urban centres. HS2 will provide sufficient capacity to meet the long-term demand for travel. It will improve connectivity by reducing journey times and making travel easier. It will improve resilience and reliability across the network. It will help to build a stronger, more balanced United Kingdom economy, delivering growth and wider economic benefits. It will deliver significant economic benefit to the midlands, the north-west and to Scotland.

36. By taking high-speed services into the heart of Manchester on a dedicated high-speed railway via Manchester Airport, the proposed scheme is fundamental to achieving the Government's objectives for HS2. The proposed scheme will deliver faster and more reliable journey times between the West Midlands, the north-west, London and Scotland. It will relieve pressure on the existing rail network, particularly the West Coast Main Line, helping to improve its reliability and performance. The proposed scheme will support major regeneration opportunities in Manchester, and more widely across the north, in connection with Northern Powerhouse Rail, which is often described by the acronym NPR.

37. HS2 Manchester Piccadilly station will be a new terminus station alongside the existing Manchester Piccadilly station. The new station will provide interconnections with existing railway services, including Manchester's Metrolink tram service. Manchester Airport station will also enable connections to the proposed Northern Powerhouse Rail and to Metrolink. The proposed scheme includes powers for engineering works to enable future connections to Northern Powerhouse Rail along the

route.

38. The journey time between London and Manchester will reduce from just over two hours to one hour and 10 minutes. London to Liverpool will reduce from two and a quarter hours to just over one and a half hours. London to Glasgow will reduce from four and a half hours to three and three-quarter hours.

39. The railway will be operational between 5.00 a.m. and midnight on Mondays to Saturdays and between 8.00 a.m. and midnight on Sundays. Services will operate as 200-metre-long trains accommodating up to 550 passengers or 400-metre-long trains accommodating up to 1,100 passengers, depending on demand and the time of day.

40. Trains will be able to run both on the dedicated HS2 network but also to pass on to the West Coast Main Line and rail links proposed as part of Northern Powerhouse Rail. Trains will run at speeds of up to 360 kilometres per hour which is the equivalent of 225 miles per hour.

41. Both the proposed scheme and the wider HS2 programme reflect the Government's commitment to sustainable development. Electric rail is a sustainable means of mass transportation. Enhancing intercity connectivity is one of the most carbon efficient means of transporting large numbers of people measured in terms of emissions per passenger mile. Shifting people and freight from vehicles to trains, facilitated through the delivery of a new railway link freeing up capacity on the conventional rail network, will deliver important carbon benefits.

42. HS2 is vital to decarbonising the country's transport network and the wider Government commitment to bring all greenhouse gas omissions to net zero by 2050. HS2's net zero carbon plan seeks to accelerate the ambition of the construction industry to realise net zero during the construction phrase of the proposed scheme and to procure zero-carbon electricity from day one of operation. HS2 will play an important role in climate change resilience as extreme weather events become more frequent, as HS2 has been designed with such events in mind and can be expected to maintain performance under more extreme weather conditions.

43. I turn to say a little about public consultation; the screen shows you the cover of one of the consultation reports to which I briefly refer. In 2013, the Government

consulted the public on the preferred route for HS2 Phase Two. In November 2016, a public consultation began on the refinement of the proposed route for the link between Crewe and Manchester. In November of that year, the Government consulted on a package of measures to alleviate the impact of generalised property blight.

44. In July 2017, alongside the introduction of the Phase 2A Bill into Parliament, the Government announced its route decision for Phase 2B with a route engineering report and a strategic outline business case. Public consultation on a working draft environmental statement and a working draft equality impact assessment took place in October 2018.

45. In June 2019, the Government consulted on the first design refinements to the proposed design for the Phase 2B project. To support this public consultation, public events were held in towns and villages local to the route of the railway.

46. In February 2020 the Government decided to bring forward the legislation to enable completion of HS2 from Crewe to Manchester. In October of that year, the Government consulted on its second design refinement of the Crewe/Manchester route and published its response to the consultation of the first of those design refinements which I referred to a moment ago.

47. Engagement with local authorities, statutory bodies and local communities affected by the Phase Two project has been central to preparation of the Bill. That engagement continues with your petitioners with a view to resolving their concerns where the promoter is able to do so.

48. I ought to say a little about the integrated rail plan and the union connectivity review. In November 2021, the Government published the integrated rail plan for the north and midlands. That plan sets out the Government's programme for a £96 billion package of rail schemes. Those schemes include the proposed scheme. They also include the Northern Powerhouse Rail proposals for a new high-speed line between Warrington, Manchester and Yorkshire and for HS2 East, which will extend the HS2 network to the East Midlands. Delivery of these and other rail projects included in the integrated rail plan will enable communities, towns and cities across the north and the midlands to be better connected with more frequent, reliable and greener services and faster journey times.

49. The plan seeks to speed up delivery of rail transport and the economic benefits with similar or better value for money in a more deliverable way. In the context of the integrated rail plan, those petitioners who advance proposals that would add very significant costs and delay to the delivery of the proposed scheme, do so, we say, in conflict with those objectives and, ultimately, undermine the fair distribution of the funding package for the integrated rail plan itself.

50. The Government is committed to exploring alternative connections to the West Coast Main Line that deliver similar benefits to the Golborne link within the £96 billion envelope that has been set by the integrated rail plan. The Bill retains the powers to deliver the enhancements to the conventional rail network stations and to construct the Annandale depot in conjunction with whatever connection option is chosen.

51. I turn then to the Bill, and the information paper B9 gives an introduction to hybrid Bill powers. This Bill follows, as you would expect, the format of the Phase One and the Phase 2A Acts. In summary, the main powers of the Bill are as follows: firstly, and obviously, works powers – powers to undertake and to maintain scheduled works and other ancillary works such as environmental mitigation works in connection with construction and operation of the proposed scheme.

52. The scheduled works, so described because they're set out in a schedule to the Bill, are the principal engineering and railway works, such as the railway itself, highways and utilities diversions, which are required for delivery of the scheme under the Bill. The relevant clauses are clauses 1 and 2 and the first, second and third schedules are together with the deposited plans and sections.

53. The Bill and the Parliamentary plans prescribe limits of deviation within which the scheduled works must be carried out in order to allow an appropriate degree of flexibility for completion of the detailed design of the proposed scheme. The Bill also prescribes limits of land to be acquired or used, whose purpose is to accommodate ancillary works such as environmental mitigation. Together, the land within the limits of deviation, and the limits of land to be acquired or used, constitute what are known as 'the Bill limits'.

54. The Bill includes highway powers in schedule 5 which are necessary to enable the creation of means of access, interference with existing highways and the construction

and maintenance of new or altered highways in connection with the delivery of the scheme.

55. Clauses 4 to 9 of the Bill are very important. They grant the Secretary of State powers to acquire, whether compulsorily or by agreement, the land and rights within Bill limits that are required for the purposes of the proposed scheme. The exercise of powers of compulsory purchase of land or rights is subject to the payment of compensation under the Land Compensation Acts, which are applied to the Bill. Schedule 15 to the Bill also gives powers to the nominated undertaker to take possession of and to use land within Bill limits on a temporary basis for the purposes of the proposed scheme, again subject to the payment of compensation and the restoration of that land in accordance with an approved scheme of restoration.

56. As you would expect, the Bill provides for planning permission. Clause 18 of the Bill grants deemed planning permission for the scheduled works. For development that is not comprised in a scheduled work, deemed planning permission is granted where it has been subject to environmental impact assessment or is not likely to have significant effects on the environment, and I come back to environmental impact assessment in a moment.

57. The detailed planning regime is set out in schedule 17 to the Bill. The nominated undertaker is required to obtain local authority approval of the detailed design of the proposed scheme and of a range of construction matters, as set out in that schedule. I'll return to that moment.

58. Clauses 22 to 34 of the Bill disapply a series of general regulatory legislation and, in place of those, the Bill provides a tailor-made regime for the regulation of construction and operation. That is appropriate to a project which is specifically authorised by an Act of Parliament. This, again, follows the approach followed on the Phase One and Phase 2A Acts. It's explained in information paper B4, which is on the screen. For example, the Bill removes the need to obtain specific listed building consent for demolition, alteration or extension of listed buildings as they are specified in the Bill. In their place, alternative procedures for those matters are provided for under the Heritage Memorandum which is one of the environmental minimum requirements which I'll introduce later.

59. Not all existing regulatory controls are disapplied. For example, the construction site licensing regime under the Control of Pollution Act applies to the proposed scheme, as it does to other construction projects.

60. THE CHAIR: Sorry to interrupt. Is there anything that's been disapplied this time that wasn't disapplied in the previous two phases or is it just simply a mirroring of Phase One?

61. MR MOULD KC (DfT): There are some additional changes, I think, in relation to environmental permitting legislation but, broadly speaking, this Bill follows the same pattern as the previous Bills. Where, during the course of your hearings, any particular aspect of the disapplication regime is relevant, we'll make sure we draw that to your attention and explain it to you.

62. THE CHAIR: Excellent, thank you. Sorry to interrupt.

63. MR MOULD KC (DfT): Not at all. Clauses 35 to 40 address railway matters such as the role of the Office of Rail and Road and the application of licensing requirements.

64. Clauses 46 to 48 gives powers to relocate existing facilities affected by the Bill and to carry out reinstatement works. Power is given to the Secretary of State to promote a compulsory purchase order to acquire land for the purposes of relocating an undertaking displaced by the proposed scheme. The limited circumstances in which the Secretary of State would consider exercising that power are described in information paper C7 which is entitled, 'Business Relocation'.

65. Clause 49 authorises the Secretary of State to enforce environmental covenants for the purpose of protecting and maintaining landscaping and other works carried out in order to mitigate the effects of the proposed scheme.

66. And finally, in relation to the Bill, I draw attention to the protected provisions for statutory undertakers, which are set out in schedule 32. These ensure that the interests of statutory undertakers, such as gas and electricity providers, enjoy proper protection during the delivery of the proposed scheme. There will also be protected provision agreements with certain statutory undertakers and bodies with statutory responsibilities

such as highway and drainage authorities.

67. The nominated undertaker is explained in clause 42. That is the person or body to be appointed by the Secretary of State who will be responsible for the delivery of the proposed scheme. The law places the nominated undertaker under a non-delegable duty to exercise reasonable care and skill in carrying out the works authorised by the Bill. Until the Bill is enacted, HS2 Ltd is the body responsible to the Secretary of State for developing and promoting the Bill.

68. I turn to additional provisions, which is dealt with in information paper B11. Changes will need to be made to the proposed scheme as introduced by the Bill whilst it is before your Committee, both as the design is refined and in response to petitions and to directions of your Committee. Where the promoter proposes alterations to the proposed scheme which extend the powers in the Bill, it is necessary to promote an additional provision for that purpose.

69. The promoter deposited additional provision 1 shortly after the Second Reading of the Bill. AP1 promotes a number of design changes to the Bill. Some further changes to the proposed scheme are contemplated in an additional provision 2, which the promoter is hoping to deposit in around July of this year. Further changes may need to be brought forward during the proceedings before your Committee, including amendments which will form the subject matter of a further additional provision.

70. Petitions can be made against an additional provision in the same way as they are made against the Bill. Petitions have been lodged against AP1. Similarly, an additional provision may enable one or more petitioners to decide to withdraw their petitions, or at least not to pursue one or more of the issues in their petitions. More detail on this topic is to be found in the information paper.

71. There will be changes, of course, which can be made within the powers of the Bill and, in those cases, there will be no need to promote an additional provision. Such changes may be the subject of further environmental assessment but that process in itself doesn't give rise to the right to petition against the Bill in this Committee.

72. Turning then to the planning regime, information paper B2 is on the screen. The current design of the proposed scheme provides the level of detail needed for the

purposes of the Bill and the requirements of environmental impact assessment. The level of detailed design required in order to enable the scheme to be constructed and operated will not be completed until after Royal Assent.

73. As I've mentioned, schedule 17 therefore creates the planning regime that regulates that process of detailed design. Although planning permission for the proposed scheme is granted by the Bill, it is local planning authorities who'd exercise the power of approval of the detailed design under the procedures provided by that schedule.

74. Under that schedule, qualifying local authorities will have powers to regulate and to approve a wide range of matters in the interests of preserving the local environment, the local amenity, to prevent prejudicial effects on road safety and the free flow of traffic, and to preserve the historic and the natural environment. These matters include, firstly, plans and specifications for a range of elements, including buildings, embankments, cuttings, artificial lighting, earthworks, fences and barriers; secondly, certain construction arrangements for lorry routing, artificial lighting, construction camps, construction storage sites, working in restoring borrow pits and spoil handling; thirdly, plans for the restoration of constructions sites; and, fourthly, the approval of works before they are brought into use in order to confirm the efficacy of mitigation works carried out for the operation of the railway.

75. In relation to some of the construction arrangements, the Secretary of State does have the power to make class approvals in relation to those which, generally speaking, mean that they are dealt with in that way rather than through specific approvals at local authority level.

76. The Secretary of State issues statutory guidance to local authorities under schedule 17 whose purpose is to ensure that the right balance is struck between local scrutiny of design and the timely delivery of the proposed scheme. Information paper B2 on the screen provides more detail on these processes.

77. I now come to the assessment of environmental effects. Standing order 27A of the private business of this House requires the Bill to be accompanied by an environmental statement. That statement includes a detailed description of the proposed scheme, a comprehensive assessment of its likely significant environmental effects and of the

range of measures that are proposed for the purpose of mitigating its adverse effects. It is, necessarily, a very large document. We'll draw attention to the relevant parts of it, where appropriate, in dealing with individual petitions.

78. A further environmental statement must also be submitted with each additional provision. This has already occurred with regard to AP1. The environmental statement consists of the following reports. Volume 1 provides an introduction to the proposed scheme and the process of environmental impact assessment. It also deals with the alternatives considered by the promoter. Volume 2 consists of community area reports and map books; an example is on the screen. They are numbered MA01 to MA08. You'll note, I'm sure, that MA04 and 05 cover the Golborne link so we won't be referring to those. Volumes 3 and 4 deal respectively with route-wide and off-route effects. Volume 5 comprises a voluminous number of technical appendices, maps and environmental topic reports, including the detailed noise impact assessment, landscape and visual impact assessment and transport assessment for the proposed scheme.

79. Happily, there is a non-technical summary of the environmental statement of which the front cover is coming on screen, which is designed to enable those who have neither the time nor the inclination to go through the thousands of pages of the full document to get an understanding of what the assessment involves.

80. The principal purpose of an environmental statement is to assist environmental decision-making and to generate environmental information in the widest sense, so that the decision-maker is well informed about the project that he or she is being asked to authorise. Here, of course, Parliament is the decision-maker. It's for these reasons that the standing orders of this House, in particular standing order 224A, requires the environmental statement to be subject to public consultation and for the comments received in response to that consultation to be reported in summary to the House of Commons by an independent assessor appointed for that purpose.

81. Supplementary environmental statements submitted by the promoter under standing orders are also subject to public consultation and reporting to the House in accordance with standing order 224A. Those procedures have been followed for both the environmental statement for the Bill and supplementary environmental statement 1 and additional provision environmental statement 1.

82. Many members of the public, including local authorities, non-governmental organisations, businesses and individuals took the time to participate actively in these processes. The promoter has assessed the effects of removing the Golborne link from the Bill in supplementary environmental statement 1.

83. The requirement of standing orders for the provision of an independent assessment report has been fulfilled in this case by AECOM. AECOM, the independent assessor, submitted their assessment report on the environmental statement to the House on 6 June 2022, so the House had the benefit of the key points made in response to the environmental statement at Second Reading. It's now in the Library of the House, as indeed it was from 6 June onwards, and the same firm submitted their report on the supplementary environmental statements to the House on 26 October 2022.

84. I turn briefly to equalities and mental health and wellbeing, a very important topic. The Bill is subject to an equalities impact assessment and the promoter's equality, diversity and inclusion policy is summarised in information paper H1. And if we move on to the next slide, we have the cover page of HS2's mental health and wellbeing progress report, which was published in December of last year. That is a report which reports current progress in the response to the directions of Mr Duddridge's Committee in relation to this topic and it sets out the measures that HS2 and the Government has in train in order to gain a better understanding of the relationship between mental health and wellbeing, and major infrastructure projects.

85. Turning briefly to information papers, I've mentioned those already. You've seen some –

86. THE CHAIR: Sorry to interrupt again. On the mental health and wellbeing progress report, that was in relation to the previous phases. That document stands throughout the whole process, doesn't it?

87. MR MOULD KC (DfT): It does and I'm sure we will refer you to it from time to time, but it does set out a series of initiatives that are in progress which are intended to cover not only existing phases but to inform the future delivery of the HS2 scheme as a whole.

88. THE CHAIR: Does that have specific measures in it to aid the public in affected

areas then?

89. MR MOULD KC (DfT): It has specific measures to, in the broadest sense; it is focused principally on information gathering and understanding the impact of major schemes of this kind on the mental health and wellbeing of those communities that are affected by it. But it's not simply confined to studies. It also has sought to understand how engagement and consultative processes might be improved with a view to alleviating the effects of blight and uncertainty on the mental health and wellbeing of those who have to receive the project.

90. There's quite a lot of detail in that document and it may be helpful at some point if we give you a little synopsis of it which is probably what is beyond what I can do in the course of today. But it was a matter which I know your predecessors were particularly keen to see taken forward, and it's featured in their final special report and there was a response to that from the promoter. And I certainly know that they didn't intend that it should be confined only to the Phase 2A railway. They wanted it to have much broader application. I daresay they intended that it might help to inform promoters of major projects generally rather than simply HS2.

91. THE CHAIR: Thank you.

92. MR MOULD KC (DfT): Information papers – published on the HS2 website in January of this year. As you will have gathered, they're thematic. They cover a wide range of subject matter about the proposed scheme. They also explain the promoter's policies and commitments in relation to particular aspects of the project and that's an important function. For example, information paper E9, which is on the screen in front of you, sets out the promoter's commitments for the control of noise arising from the operation of the Phase 2B project, particularly airborne noise. As appropriate, we shall draw your Committee's attention to information papers. Often they contain the gist of our response on many of the petitioning issues raised before you.

93. You may already have some knowledge of petition response documents and exhibits but petition response documents, those are the promoter's specific written responses on individual petitions or, where appropriate, groups of petitions. The promoter will also produce exhibits in response to petitions, which will provide the basis for our evidence. We prepare and publish standard packs of exhibits dealing with

particular areas along the route and environmental topics. For some petitions, bespoke documentary evidence will be prepared and exchanged. We shall also refer, where appropriate, to the environmental statement and to the introductory presentations that are in the programme over the coming weeks.

94. I next turn to compulsory purchase and land compensation, which is plainly a topic of vital importance to all those who own land or occupy land subject to compulsory purchase or temporary possession under the powers of this Bill. The Bill grants the Secretary of State powers to compulsorily purchase any land within the Bill limits that may be required for Phase 2B purposes. This includes the power to acquire rights of way and other rights over land to which the Bill relates, as well as airspace and subsoil. The Bill limits extend to all that land which the promoter presently considers to be required in order to enable the construction and operation of the proposed scheme in accordance with the Bill and in a timely and economic manner.

95. On the screen is information paper C3, which deals with the Secretary of State's land acquisition policy and, if we turn to the next slide, there are two paragraphs in that information paper which are of particular importance. I'm not going to read them out to you. They're on the screen but those set out the Secretary of State's policy in relation to the exercise of his statutory land acquisition powers once the Bill is enacted.

96. I also direct your attention, if I may, to the next slide, which is paragraph 4.2 of the same information paper, in which the Secretary of State sets out his policy on the exercise of his temporary possession powers in relation to land which is required for use as a construction worksite. So those are undoubtedly paragraphs that you will become, I fear, familiar with over the course of your sittings.

97. We turn then to safeguarding. The Secretary of State and the Scottish Government in Scotland have safeguarded the land required to construct and operate the proposed scheme by issuing safeguarding directions. These directions were first made on 15 November 2016. They've been updated since, broadly to reflect the current land requirements set out in the Bill, the latest revision being those issued on 22 June 2022. Their purpose is explained in information paper C4. In summary, it's to protect land likely to be needed for the construction and operation of the proposed scheme from potentially conflicting development. The directions require a local planning to notify

HS2 Ltd of applications for proposed development on land falling within the safeguarded areas. The key objective of the safeguarding directions is to enable would-be developers to engage with HS2 Ltd at an early stage to ensure that the development they propose does not prejudice delivery of the proposed scheme.

98. It's important to note that safeguarding directions also serve a valuable role for owners of properties falling within the safeguarded area. They trigger the statutory requirements that allow qualifying property owners to serve a blight notice on the Secretary of State. Since the original safeguarding directions were made in November 2016, such owner occupiers of residential properties, small business premises and agricultural holdings within the safeguarded area have been able to require the Secretary of State to acquire their land and receive land compensation on the same basis as for compulsory purchase. That is the effect of the statutory blight notice regime.

99. The Secretary of State has also maintained safeguarding along the Golborne link whilst alternatives are being considered. The Secretary of State has introduced an express purchase scheme whose purpose is to streamline the process of acquisition under a blight notice, which is explained in the information paper on the screen in front of you, C4.

100. Information paper C8 explains the basics of the statutory land compensation code which applies to this Bill. The code is based on the principle of fair compensation, also known as the principle of equivalence. That principle says that a person whose land is subject to compulsory purchase gets monetary compensation that is no less but not more than the loss he has suffered as a result of compulsory purchase of that land.

101. Depending on the particular circumstances of each case, compensation may be claimed for the following: firstly, the open market value of the land acquired, valued on the assumption that the proposed scheme has been cancelled so that the land's value isn't affected by it; secondly, where only part of the holding is acquired, that compensation covers any depreciation in the value of the land retained by the landowner to cover the effects of severance or other impacts on its value; thirdly, costs incurred as a result of being dispossessed, for example the costs and losses incurred as a result of the occupier having to move his or her business from the land and relocate it elsewhere, often known as disturbance compensation; fourthly, there are certain statutory loss

payments such as home loss payments which cover the impact of being displaced from one's home or from one's place of business; and, finally, reasonable professional fees incurred in negotiating or securing land compensation and also conveyancing costs.

102. More details on the practicalities can be found in information paper C1. There is a 'Guide to Rural Landowners and Occupiers', C2. The Secretary of State's land disposal policy in relation to surplus land is information paper C6. C7 deals with arrangements to assist in business relocation and C9 deals with the topic of recovery of costs by property owners. You'll be hearing a little more about these matters in due course from Mr Michael Eckett.

103. At the heart of the compensation code is a series of longstanding general legislation that has been consistently applied by this House to major infrastructure projects promoted through primary legislation. The Channel Tunnel Rail Link, Crossrail, the Olympics and Phase One and Phase 2A of HS2 are recent examples. The purpose of that legislation is to provide fair compensation for losses arising as a result of compulsory purchase for the construction and operation of such projects. The current Bill follows that established approach.

104. There is one matter that does merit clear emphasis at the outset. Financial compensation has never been payable simply for disturbance resulting from the construction of a project where that project is carried out properly in accordance with statutory powers. Persons who own and occupy neighbouring property have never been entitled to claim such compensation unless the whole or part of their property is actually acquired for the purposes of the project. Instead, and as with other national public works projects such as those that I have just mentioned, the promoter will secure the operation of a comprehensive scheme of environmental controls during the construction of the proposed scheme. Their purpose is to limit disturbance to neighbouring owners and occupiers as far as is reasonably practicable. I shall return to this topic when I touch upon the code of construction practice and other environmental minimum requirements for this proposed scheme.

105. I should also mention part 1 of the Land Compensation Act 1973, which provides a right of compensation for qualifying owner occupiers of properties whose value is depreciated by physical factors such as airborne noise resulting from the operation of the

railway.

106. In addition to the statutory arrangements that I've just summarised, the Secretary of State has introduced a wide-ranging package of non-statutory measures in relation to purchase and compensation. Their purpose is principally to alleviate the impact of generalised blight resulting from the proposed scheme. They operate across HS2 on the basis of the same eligibility criteria that govern the operation of the statutory blight notice regime to which I referred a moment ago. So they are available to residential owner occupiers, owner occupiers of small business premises and owner occupiers of agricultural holdings.

107. The current guide to those schemes is just going to flash up. In brief, they are the voluntary purchase scheme; the alternative cash offer scheme; the need to sell scheme; rent-back arrangements; and home owner payments. The Secretary of State will also consider applications in cases that raise exceptional circumstances or which concern atypical properties. Again, Mr Eckett will explain these in more detail in due course and so I won't, if you'll forgive me, say any more about them now.

108. Turning then to the question of design and mitigation which I anticipated a moment ago, that is to say the impact of the construction and operation of the proposed scheme on those who live and work along or in the vicinity of the route and its impacts upon the local environment through which it passes. The objective, we say, must be to enable the nation to take full advantage of the opportunities and benefits offered by the Bill whilst mitigating its adverse impacts as far as is reasonably practicable. It's an important principle that the additional cost of any change to the proposed scheme must be shown to be in reasonable proportion to the benefit that is gained by incurring it. Changes to the Bill that are disproportionate in cost to the benefits that result from them are not in the public interest.

109. So I'll explain briefly how the promoter has sought, and will continue to seek, to mitigate adverse effects as effectively as it reasonably can. The approach that HS2 Ltd has taken is set out on the slide which I've taken from page 58 of the non-technical summary, for reference. In summary, the promoter's approach has been threefold: firstly, to avoid or reduce adverse environmental effects through the design of the railway and the trains themselves; secondly, to include measures in the project to limit

or reduce adverse effects, whether at the railway, sometimes known as ‘at source’, or at the point of impact on landowners, occupiers or local communities, sometimes referred to as ‘at receptor’; and, thirdly, to provide compensatory measures to remedy those adverse effects that remain. Mr Peter Miller, the director of environment for HS2, will explain the promoter’s policies and approach to controlling environmental impacts when he speaks to you in due course.

110. How the promoter has applied that approach is explained in the non-technical summary and in much more detail, supported by comprehensive technical information, in the environmental statement itself. For present purposes, I’ll mention the principal design and mitigation techniques that the promoter has used. First and foremost, the promoter has followed the principle of seeking to avoid or reduce adverse effects through the design of the railway. The alignment of the route itself has been developed and refined in order to limit the potential for adverse environmental effects. As with previous phases, the proposed scheme has been designed to take advantage of natural topography and land form to shield the line, both visually and aurally, from those who live and work along the route. The creation of false cuttings and extensive planting along the route will provide further effective visual and aural screening to neighbouring occupiers and local communities.

111. Just a little flavour. This is a computer-generated image showing a view of the railway from a nearby footpath as it passes over the River Bollin on the approach to the M56 and Manchester Airport station. The images on the screen show you a comparison between the current baseline, so the current view effectively, in winter, and the image at the bottom of the page shows you the same image in a verified photo montage at the very beginning of operation, and you can see there’s quite a degree of change there, through the introduction of the viaduct carrying the railway across the river, and obviously quite a bit of change to the immediate landscape. That was assessed as being a major adverse impact in the environmental statement.

112. If we turn to the next slide, moving from winter to summer, there is the same view from a footpath, and you can see there the existing view of the landscape during the summer months with the trees in leaf and then, below that, a photo montage after 15 years of operation, so once the planting that you saw on the previous slide has come into leaf and has grown. And you can see that the effect of that planting is very substantially

to screen the railway from view, from those walking along this footpath. So that's just a little illustration of the technique of visual screening through planting that I've just described.

113. Turning back to my script, noise and visual impacts are avoided or limited by the expedient of using the natural landform and the engineered railway as a noise and visual screen. These are tried and trusted techniques. The nominated undertaker will also expect to take advantage of the opportunities presented by improvements in the design and performance of trainsets and rolling stock.

114. Where it hasn't been possible to limit the impact of the railway through applying these design principles, for example where the line is on embankment or on viaduct, the promoter is able, effectively, to limit or reduce noise from the operation of the railway by providing noise barriers.

115. An important example of mitigation, to use the jargon, 'at receptor' – that is to say, at the house – is the provision of sound insulation such as secondary glazing. Again, this is a well-established means of mitigating the environmental effects of transport schemes including railways. The current statutory noise insulation regulations follow this approach. You'll be hearing from Mr Rupert Thornely-Taylor in due course in relation to the topic of noise and noise mitigation.

116. Turning to visual impact, the promoter's design policy is set out in information paper D1. The promoter will engage with local planning authorities to seek to ensure that the design and appearance of viaducts, bridges and other railway structures are in keeping with the local environment. The promoter has committed to a process of local community engagement on key design elements of the proposed scheme, such as the Crewe tunnel north portal, the Crewe rolling stock depot and the Trent and Mersey Canal – there are others – so as to enable local people to have their say on the emerging designs for such elements prior to submission for approval of applications under schedule 17 of the Bill.

117. Notwithstanding the sensitive design of the railway and a comprehensive range of measures to mitigate its adverse impacts, there will inevitably be some adverse effects that remain. It is at this point that a range of compensatory measures is available to provide a remedy, sometimes monetary, sometimes in kind. A case of monetary

compensation might arise, for example, where a resident owner of one of the small number of dwellings that is predicted to qualify for sound insulation is able to show nonetheless that the value of his home is reduced by virtue of the presence of noise from the operation of the railway. In such a case, statutory land compensation would be available. A case for compensation in kind might arise where it's necessary to provide new habitat to replace existing habitat, unavoidably lost to the railway.

118. THE CHAIR: Sorry to interrupt. Is that on a like-for-like basis? Does the amount of habitat lost have to be replaced exactly? In our area on the Humber where we have significant industrial development, whenever there has to be compensatory habitat provided, it has to be done on the same scale. Is it the same environmental legislation framework that applies or does the Bill allow HS2 to operate outside of that? Is it exactly like for like?

119. MR MOULD KC (DfT): No, it rarely is exactly like for like and the reason for that is that environmental and ecological design ordinarily demands a degree of precaution in replacement provision. It's almost impossible, as I understand it, on a like-for-like basis, to provide the same level of quality in the habitat that is provided in replacement to that which is lost.

120. THE CHAIR: I suppose I mean in terms of size. So if we lose three acres of woodland somewhere, is the compensatory land provided elsewhere to an equivalent size?

121. MR MOULD KC (DfT): No, in almost every case I think it would be a little larger and sometimes rather significantly larger. For example, where it's necessary, as it is, I'm afraid, to a fairly limited degree on this Bill, to remove some pockets of ancient woodland, in the case of ancient woodland, the compensatory provision would be very significantly greater in terms of size than that which is lost. So it varies, but I think it's probably sensible for the Committee to proceed at this stage on the basis that, where that kind of issue arises, you'll find that the area that is proposed as replacement will be appreciably larger than the area that is lost, and I'm sure Mr Miller will be able to explain to you in each case what the thinking is behind that.

122. In terms of whether the delivery arrangements are dealt with under – whether we resort to existing legislation, broadly speaking, the environmental mitigation, including

the provision of replacement ecological habitat and so forth, is dealt with under the powers of this Bill rather than under general environmental legislation. There may be cases in which general environmental legislation has a part to play but the Bill is intended to be self-contained in terms of mitigating the environmental effects of the railway and that would certainly extend to ecological impacts.

123. THE CHAIR: The mitigation is more significant than other environmental legislation would require.

124. MR MOULD KC (DfT): That probably is true and it's true because it reflects the much greater scale of effect and impact that this railway scheme has. I mean, this is obviously a very large linear transport scheme which necessarily has the potential for much more extensive impacts on the environment through which it passes and it's been a critical objective of HS2, right from the outset, that this railway should be environmentally – the design should be environmentally beyond reproach, as it were. And you'll hear in a moment that I'll refer to the fact that the Bill is committed to achieving what's known as a 'no net loss' in biodiversity but, in fact, the promoter's policy now, on this Bill, is to seek to achieve a net gain. That is consistent with broader Government policy, of course, but it's a feature of this Bill which has been introduced at this phase to reflect the development of Government policy on biodiversity in the years since the Phase 2A Bill was introduced into Parliament.

125. THE CHAIR: Of course, because we had the briefing from AECOM yesterday and, of course, much of the response in terms of the environmental statement was around biodiversity, loss of woodland, in part because of a campaign from one organisation but general comments from the general feedback was generally around these issues.

126. MR MOULD KC (DfT): Yes. There's no doubt that there are those, some of whom will appear before you, who are by no means convinced that the Bill is doing enough and we'll have to seek to explain what we're doing and see whether you're persuaded by that. But, no, I'd readily acknowledge that – forgive me if I use this expression – we're not yet out of the woods on that particular score.

127. Would you just forgive me, I seem to have had – someone's passed me a note.

128. THE CHAIR: Do any colleagues have anything they want to raise at this point, by the way?

129. MR MOULD KC (DfT): I'm ready to carry on if you are.

130. THE CHAIR: Okay, yes, please do.

131. MR MOULD KC (DfT): Thank you very much indeed. Yes, this is a pertinent point actually, if I may say so, in response to your question. It's worth reminding the Committee at this point that the promoter doesn't regard the process of mitigating the adverse impacts of the project as complete. On the contrary, the promoter is confident that the process of detailed design development under the auspices of the Bill and other statutory and non-statutory environmental controls will provide further opportunities to continue to refine and improve the environmental performance of the railway.

132. Now I turn briefly to the topic of farmers and growers, which is a matter which has been at the forefront of previous committees' deliberations, and I do so recognising that securing effective mitigation of the railway, the kind of work that you asked me about, will often require agricultural land to be used for planting or ecological purposes. The promoter has published a guide for farmers and growers, which sets out the principles that the promoter will follow in seeking to limit the interference with farming activities on holdings through which the route would pass.

133. THE CHAIR: Sorry to interrupt again. In terms of mitigation that has to be provided for loss of woodland or other space, is there a limit on where that has to be provided?

134. MR MOULD KC (DfT): The basic design principle is that it should be provided as close as possible to the place at which the impact takes place. I suspect the reasons for that are self-evident. It isn't, of course, always possible and so the designer will have to use their judgement to design the replacement habitat or whatever it may be in a way that is best placed actually to mitigate or compensate for the loss. But, no, the general principle is that you seek as best you can to provide replacement habitat or environmental mitigation at the point at which the loss occurs and that's not simply a principle that applies in relation to HS2. It's a principle that is enshrined in national planning policy.

135. You may be familiar with the idea of offsets and environmental banking, which is intended to perform a similar sort of function as carbon offsets and so forth. One of the points that national policy makes is that care should be taken to ensure that where it's possible to mitigate in kind, rather than simply through making a monetary contribution, serious consideration is given to that first and I think this Bill, and this project, seeks to follow that course. So we have sought to produce a Bill and an environmental design in the scheme that's before you which is able to provide the necessary mitigation and, where necessary, compensatory habitat, within the Bill limits. The principle is no net loss and the achievement of that, in practice, is through ensuring that, in the event that the Bill becomes law and the railway begins to be built, the powers that are conferred through detailed design are able to achieve effective mitigation and compensation within the limits that Parliament has provided under the Bill itself.

136. This is very much Mr Miller's topic. He's absolutely expert on all this so he'll be able to give you a much more convincing explanation, I suspect, than I can but I hope that gives you a flavour.

137. THE CHAIR: It does. I just suspect this is going to obviously occupy a significant portion of our time with petitioners so it's important that we're clear on –

138. MR MOULD KC (DfT): No one's jabbing me in the back so I think what I've said so far is broadly correct.

139. THE CHAIR: That's all right. It's a positive sign.

140. MR MOULD KC (DfT): I think I've reached the funds, which is a topic of interest, obviously, to local communities. The Secretary of State has established a community and environment fund and business and local economy fund for HS2. The purpose of the funds is primarily to support local schemes promoted by communities disrupted along the line of route for the proposed scheme. Some £10 million has been made available in these funds for the Phase 2B Crewe/Manchester scheme, the proposed scheme. Details of these funds, their objects, administration and eligibility for bids are set out in information paper C11. I'm also pleased to announce today the creation of an £8 million road safety fund and a £1 million woodland fund for the proposed scheme.

141. THE CHAIR: Those again, sorry?

142. MR MOULD KC (DfT): An £8 million road safety fund and a £1 million woodland fund for the proposed scheme. And, again, if I may, I'll ask the witnesses who will be appearing before you in due course to explain a little more detail about those.

143. Turning then, and I'm making good progress, to the control of environmental impacts, another very important topic, information paper E1. This information paper explains the range of controls which will secure effective management of the environmental impacts of the proposed scheme. Mr Miller will deal with this in more detail in due course.

144. There are three distinct components that, taken together, will provide effective control over the environmental impacts of the scheme: firstly, the requirements laid down by the Bill itself for the approval of detailed design and construction arrangements – compliance with these approvals would be secured by local authorities through their statutory enforcement powers or by other statutory bodies under the protected provisions of the bill; secondly, arrangements laid down by existing general legislation such as the Control of Pollution Act 1974 that remain applicable to the project alongside the Bill and, again, these approvals will be complied with and compliance secured by local authorities through their statutory enforcement powers; thirdly, there are all the policy commitments and undertakings given by the promoter which will take effect alongside the provisions of the Bill. These environmental minimum requirements with which you will become very familiar, I think, under the acronym EMRs, embody those controls. Compliance with these requirements will be secured through contractual obligations binding both upon the nominated undertaker and through him on his contractors.

145. An example of the category of controls imposed by the Bill – the controls on construction traffic on local roads which are dealt with under Schedule 17. I've already mentioned, in relation to existing legislation, the Control of Pollution Act, which provides for a scheme of environmental controls over construction sites under the consenting regime in section 61 of that statute. That particularly relates to controlling the operation of worksites, both in relation to noise and working hours. Other controls under existing legislation include protected species licensing and waste permitting.

146. The full definition of the environmental minimum requirements is to be found in

paragraph 3.3.1 of the document entitled, 'Draft Environmental Minimum Requirements: Draft General Principles', which I think we have a slide of coming up. Those environmental minimum requirements establish a series of controls in relation to the environmental impacts of design, construction and operation of the project with which both the nominated undertaker and his contractors will be required to comply. They are, as their title indicates, intended to be minimum requirements and the first component are memoranda, deeds and agreements on planning, heritage and environmental controls. Those are being developed during the passage of the Bill in consultation with local authorities and other statutory bodies such as English Heritage, Natural England, in England, and I should say the Environment Agency as well and, in Scotland, Scottish National Heritage and the Scottish Environment Protection Agency. They'll be finalised at Royal Assent.

147. The second component – and I know that this is a matter of particular interest to petitioners – are binding commitments in the form of undertakings and assurances given to local authorities, statutory bodies, private entities and individuals and recorded in the Phase 2B register of assurances and undertakings. The register will include the specific policy commitments given by the promoter in information papers to mitigate the impact of the project on property owners. These include policies for the mitigation of noise impacts and ground settlement. The nominated undertaker and his contractors will be contractually obliged to give effect to those undertakings and assurances. The register was first published in draft on 24 January of last year. The current draft was published on 21 November of last year. It will be finalised at Royal Assent.

148. I wish to emphasise that each and every registered undertaking and assurance forms part of the environmental minimum requirements and is enforceable as such during the construction and operation of the proposed scheme.

149. MR MORRIS: Can I just seek some clarification?

150. MR MOULD KC (DfT): Yes.

151. MR MORRIS: Because we discussed this yesterday in our briefing. Is my understanding correct of what you've just described? On 39, in relation to B5, compliance with undertakings and assurances, do undertakings relate to property and assurances relate to nontangible things like the view of a railway or noise mitigation, or

is that not correct? Is that an oversimplification?

152. MR MOULD KC (DfT): Undertakings are effectively contracts. We tend to enter into an undertaking where, as I think you indicated, the owner of a property wishes to secure certain commitments from the promoter and it's convenient to record, to enshrine those commitments in the form of a contract which the property owner then, if necessary, can enforce through a court of law.

153. Assurances tend to be more wide ranging in their scope. The project, if it feels it's justified, will offer an assurance to a petitioner, whether or not that person has sought a commitment which relates to their ownership of property and, as you say, a commitment of that kind may relate to –

154. MR MORRIS: Tree planting or noise mitigation or something like that.

155. MR MOULD KC (DfT): Something of that kind, yes. So that's certainly true. As always with these things, it's probably a good idea not to put them too rigidly into silos but I think, broadly speaking, there is a distinction between undertakings, which tend to be contractual in nature, and assurances, which are given in the form of a letter.

156. The fact that assurances are often given in the form of a letter on behalf of the promoter doesn't in any way diminish their effectiveness. As I've just indicated, the substance of the commitment in each case will be written into the relevant construction contract and the nominated undertaker. Whichever contractor is responsible for that piece of the scheme will be obliged to comply with it and, if they fail to do so, then they will be answerable ultimately to the Secretary of State who, as you'll hear in moment, will be answerable to this House. So the compliance route, in that sense, differs but it's certainly no less effective.

157. Yes, so I've mentioned the memoranda, the planning and heritage and environmental controls. I've mentioned undertakings and assurances. The third component of the environmental minimum requirements is the general assurance to use reasonable endeavours to adopt mitigation measures that will further reduce any environmental impacts caused by the scheme, insofar as those mitigation measures do not add unreasonable cost to the project or unreasonable delays to the construction programme.

158. And the fourth component is the code of construction practice and, at local level, local environmental management plans which are prepared under the code. It's dealt with in information paper D3. It sets out objectives and measures to protect the environment and limit disturbance from construction activities as far as is reasonably practicable. It addresses all the environmental topics related to the construction of the project, for example, working hours, traffic management, noise and vibration and a number of others. It will require the nominated undertaker and contractors to comply with all the measures set out in it as well as all applicable environmental legislation prevailing at the time of construction.

159. I've mentioned that the provisions of the code will be written into all HS2 construction contracts. There will be measures to ensure that it is being operated effectively through monitoring. It plays a key role in supporting community relations during construction of the scheme. There's a requirement for the provision and implementation of community liaison plans and it will operate in conjunction with a small claims scheme, which is explained in information paper C10, which will provide a prompt informal remedy for small claims relating to damage to property arising from the construction of the project.

160. There will be a process for handling complaints with an independent construction commissioner, whose role is explained in information paper D4. This regime is a tried and tested tool for managing the construction of major projects of this kind, which has been used successfully since the construction of the Jubilee line extension in the early 1990s.

161. Through these controls, and I accept that this is quite a complex process, but through these controls contained in the Bill, in general legislation and in the environmental minimum requirements, the Secretary of State intends that the environmental impacts of constructing and operating the project should not exceed those that have been assessed in the environmental statement. The exceptions to that are as follows: firstly, where any new impacts beyond those assessed in the environmental statement result from a change in circumstances which was not likely at the time of the environmental statement; or where such a change would not be likely in themselves to be environmentally significant; or where such a change results from a change or extension to the project; where that change or extension does not, itself, require an

environmental statement; or, finally, would be considered, in any event, as part of a separate development consent procedure and therefore further environmental assessment would be required as necessary.

162. Now that's a very technical summary and forgive me for that; it needs to go on the record. But the purpose is to make it clear that where formal environmental impact assessment is required under the environmental impact assessment legislation, and in particular standing order 27A, works will not take place unless they have been assessed already as part of the environmental statement for the Bill, or are subject to a further environmental impact assessment and development consent process hereafter.

163. Now I now give an undertaking in the same terms that I have given on behalf of the Secretary to State to previous committees on HS2 legislation. I undertake on behalf of the Secretary of State to this House in the following terms. Insofar as the environmental minimum requirements are not directly enforceable against any person appointed as the nominated undertaker, the Secretary of State will take such steps as he considers reasonable and necessary to secure compliance with those requirements. This undertaking will be entered on to the register. The undertaking applies also in any case where a statutory undertaker is carrying out development for or in connection with the Phase 2B project in reliance on the planning permission enjoyed in consequence of the provision of the Bill, of which the marginal note is extension of permitted development rights. The Secretary of State undertakes to take such steps as he considers are reasonable and necessary to secure compliance with such of the environmental minimum requirements as he considers relate to that development and are not directly enforceable against that undertaking.

164. These arrangements for the control of the environmental impacts of the proposed scheme are well established. Essentially, the same approach was followed on the Channel Tunnel Rail Link project and on Crossrail. They are to be followed in the construction and operation of HS2 Phase One and Phase 2A. They are an effective basis upon which to proceed.

165. I had intended to provide a summary of the promoter's position in relation to some of the key topics raised in petitions but I'm conscious of the time and I wonder whether, in fact, I should leave that over for now and just move to the final two or three pages of

– I'm in your hands. I mean, just to give you an indication, I was going to say something about Cheshire salts, viaducts, tunnels at Crewe and Manchester and Manchester Piccadilly station but I don't want you to be deprived of the opportunity of hearing from Mr Smart, which, I think, may be more helpful to you at this stage.

166. THE CHAIR: I'm in the Committee members' hands. I mean, I think I wouldn't mind hearing something about Manchester Piccadilly, given the nature of the interest there and then maybe if we can say something about that and then we can move on to Mr Smart.

167. MR MOULD KC (DfT): Okay, well, I'll deal with that, then I've got a couple more topics to deal with.

168. THE CHAIR: Sure, yes.

169. MR MOULD KC (DfT): So in relation to Manchester Piccadilly, we can go to slide P146. Information paper F1 provides a summary of the proposals for this station. The Bill makes provision for the construction of a new HS2 station alongside the existing station at Manchester Piccadilly. The HS2 station will cater for HS2 services as well as interconnecting Northern Powerhouse Rail services. It will also provide ready interconnection with the services at Manchester Piccadilly and a new Metrolink station for tram services in Greater Manchester.

170. Detailed consideration of alternative options for the proposed station has been given by the Secretary of State and HS2 Ltd in the light of engagement with Manchester City Council and Transport for Greater Manchester. That comparative assessment has confirmed to the Secretary of State and HS2 Ltd the appropriateness of the surface station solution that is proposed in the Bill. The new station would provide all of the benefits of the new HS2 services, connections with Northern Powerhouse Rail and interconnection with the existing station in a new station operating as a surface turnback station alongside Manchester Piccadilly and stimulate very significant opportunities for regeneration in the Piccadilly area.

171. The option of an underground station beneath the existing Piccadilly station has been carefully considered. It has been found to be unnecessary to deliver to the transport and economic benefits of the proposed scheme. It would require huge

additional costs, estimated at £5 billion, representing very poor value for money, and be fraught with additional engineering challenges and consequential major delays in delivery of the project of around seven years. It would have its own very significant construction impacts. It would not deliver additional benefits that would begin to justify those additional costs and delay.

172. Our analysis shows that the additional costs of an underground station are plainly disproportionate to such additional economic benefits as may reasonably be expected to result. Conversely, there is no good reason why a physical and visible new station, signalling HS2's presence in Manchester, should not itself be a beacon for regeneration and investment in the area in any event. To the extent that such proposals would involve the construction of new spurs or railways beyond the terminus of the railway at Manchester Piccadilly, that would be in conflict with the principle of the Bill. So that's a short summary of our position. I think Mr Smart is going to say a little bit more about Piccadilly station in his presentation.

173. Can I just deal with habitats regulations, because I said I would come back to that topic, in the light of the instruction that you have? As you know, the House has instructed your Committee to act as 'competent authority', for the purposes of applying regulation 63 of the Habitats Regulations 2017 to the proposed scheme. Certain ecological sites are specially designated for their importance and require special treatment under the habitats regulations. This includes special areas of conservation designed to protect certain species and habitats, and special protection areas designated to protect certain species of wild birds. Can I just note, each of those designations is commonly abbreviated to acronyms, so you'll hear reference to SACs and SPAs.

174. The habitats regulations require a competent authority to make what is known as an appropriate assessment of the implications of a project that potentially affects such sites in view of their conservation objectives before giving any consent or permission for that project to proceed.

175. In the case of the proposed scheme, there are a number of special protection areas and special areas of conservation which are potentially affected by the provisions of the Bill. As Parliament is the consenting body, it is the competent authority for the purposes of the habitats regulations. In short, the House has instructed this Committee

to make the appropriate assessment under regulation 63 of the habitats regulations of the effect of the proposed scheme, if any, and I stress 'if any', on the integrity of the Rochdale Canal special area of conservation and any other protected sites which, in the light of information provided to it by the promoter, it, the Committee, considers are likely to be significantly affected.

176. To assist your Committee in complying with its instruction from the House to carry out that appropriate assessment, the promoter will prepare habitats regulations assessments – another label for appropriate assessment, if you like – habitats regulation assessments addressing the effect of the scheme on the conservation objectives of those protected sites. Those assessments will be submitted later in your proceedings so that they can take account of the impact of any additional provisions in good time to enable you to make your assessment and report back to the House when you conclude your sittings.

177. I should add that, as you would expect, that work will be informed by close consultation with Natural England, as would be the case in relation to any planning application that raised these requirements.

178. THE CHAIR: What is the difference between a special area of conservation and a special protection area? They're subject to the same habitats regulation, I'm presuming.

179. MR MOULD KC (DfT): Special protection areas tend to relate to sites which are protected for birds.

180. THE CHAIR: Right.

181. MR MOULD KC (DfT): And special areas of conservation are for broader – mammalian and other – not just mammals, but often fish, invertebrates etc. Mosses, lichens, yes. I think the Rochdale SAC is concerned with a species of flora, isn't it? Yes.

182. THE CHAIR: And the ones you've referred to, it's Rochdale Canal and then there are other sites, did you say?

183. MR MOULD KC (DfT): There are other sites which – Rochdale Canal was identified as a candidate through the environmental assessment process. There are other

sites being considered. One of the things that the law indicates is that, in order to carry out the process robustly for the protection of the protected site in question, one can't simply assume that mitigation measures and so forth will avoid any potential for effects. One has to carry out the assessment and decide, and look carefully at whether mitigation compensation will work.

184. But it's fair to say – I don't think there's any secret about this – the work that has been done so far and is to continue, as I've indicated to you, that work has as one of its clear objectives, seeking to understand and to make provision to control and to avoid the risk of adverse effects being caused to these areas, so that we can limit the degree to which it is necessary for you to carry out an appropriate assessment yourself, which seems to us to be an important way of approaching matters. But we will obviously keep you informed, as appropriate, of progress with that. We thought it right to aim to report this to you formally towards the end of your sittings to give, if you like, the best chance of reducing the burden which it places upon you but obviously, to some degree, we're in your hands about that, yes.

185. THE CHAIR: Thank you.

186. MR MOULD KC (DfT): I then was going to say a few paragraphs about standing challenges but, again, it may be that I can deal with that at the very beginning of the first meeting that you have where you hear a standing challenge and just introduce the position in relation to those then.

187. THE CHAIR: These are to the petitions you're challenging.

188. MR MOULD KC (DfT): These are petitions we're challenging, yes.

189. THE CHAIR: Is it nine in total?

190. MR MOULD KC (DfT): It was 10 but I think two of those who we challenged have since withdrawn their petitions. So, at the moment, you're due to hear eight.

191. THE CHAIR: Presumably we'll hear that on the day so it's probably –

192. MR MOULD KC (DfT): Yes, yes. And if you're happy to proceed on that basis, it remains simply for me to remind you, as you will have seen from the cover sheet of

the Bill itself, that the Secretary of State has confirmed that the provisions of the Bill are compatible with the Human Rights Act. The public benefits of the Bill are, in the Secretary of State's judgement, sufficient to outweigh its impact on the private and proprietary rights affected by it. It's considered that the public interest in acquiring land to build and operate the proposed scheme outweighs the interests of the owners and occupiers affected. No sensible way can be found of building this project without acquiring that land. The measures proposed in the Bill are proportionate when considering the right to claim compensation for compulsory purchase and the wide range of measures for environmental control and mitigation to which I have referred. And on that basis, if you will allow me, I will commend this Bill to your Committee.

193. I have just been passed a note in relation to the question you asked me about disapplication of controls. Do you mind if I just read this?

194. THE CHAIR: Yes, of course.

195. MR MOULD KC (DfT): Yes, in fact, I'm reminded, I think, that the only significant change in this Bill to previous Bills is to make sure that the disapplication arrangements apply to Scotland as they do to England. The environmental permitting regime changes that I mentioned, I think, in fact, those were – they were the subject of the previous Bill, of the Phase 2A Bill. So it's really just to extend the disapplication provisions to Scotland that is the significant difference in this case. Yes.

196. I'm sorry I haven't been able to cover everything but that concludes my opening.

197. THE CHAIR: Thank you. Just before we move, do members have any further points, questions? No, thank you. I think in relation to the other issues, obviously we covered Manchester Piccadilly. If you want to send us a note on that, we'd be happy to receive the note on that.

198. MR MOULD KC (DfT): Thank you.

199. THE CHAIR: So, thank you very much. I think we were going to – yes, we will have a vote in about 10 minutes but I think maybe if we start with Mr Smart, we can –

200. MR HIGGINBOTHAM: The vote's not for a while.

201. THE CHAIR: Is it not for a while?

202. MR HIGGINBOTHAM: No.

203. THE CHAIR: Did they start late because of statements?

204. MR HIGGINBOTHAM: They did.

205. THE CHAIR: Okay. In which case then we will suspend for five minutes for a comfort break. I thought we'd all be able to merge that with the vote but can I thank the promoters for attending and we'll suspend for five minutes and then resume. Thank you.

206. Sitting suspended

207. On resuming –

208. THE CHAIR: Thank you and welcome back. Thanks for bearing with us while we had that short recess. I'll hand back to Mr Mould and Mr Strachan, and I think we're going to hear from Tim Smart. Mr Strachan?

209. MR STRACHAN KC (DfT): Absolutely, and I've got a very short speaking role, you'll be pleased to hear. It's just my pleasure, if you'll allow me, to introduce Mr Smart to the Committee. To save his blushes, I'm not going to read out all of his qualifications to you.

210. THE CHAIR: We have them in front of us. We're very impressed.

211. MR STRACHAN KC (DfT): But just by way of introduction, he is a chartered civil engineer with over 40 years of experience in the design and construction of heavy civil engineering works and rail systems. He's currently the managing director for Phase Two. He was previously the chief engineer for the High Speed Two project and also the engineering director for High Speed One, which, of course, the Committee may have the opportunity to visit and see in action.

212. So, with that introduction, I'm going to hand over to Mr Smart. He's going to provide a route overview for the Committee, touching on the route and the key features and I'll let him control the slides as they come up.

213. THE CHAIR: There's going to be a flyover video, is there, of the route?

214. MR STRACHAN KC (DfT): That's very much for you, the Committee, to decide. It takes, I think, about 15 minutes, the digital flythrough. So entirely in your hands whether when we get to the end of Mr Smart's presentation you want to have him – he can provide a small running commentary to that flythrough if you wish.

215. THE CHAIR: Thank you. Mr Smart?

Evidence of Mr Smart

216. MR SMART: Thank you, Mr Strachan. Good afternoon, sir, and good afternoon, Committee. I'm aware that you've been listening to quite a lot so I'll try and skip through this but be clear as well.

217. So I think as Mr Mould said in his opening statement, this is the third hybrid Bill for High Speed Two. Phase One was Royal Assent in 2017 and Phase 2A (West Midlands – Crewe) in 2021 and now here we are for the final leg to Manchester. And also as Mr Mould indicated, we are doing a piece of work for a potential future hybrid Bill to connect into the East Midlands in the Nottingham/Derby area and that will be subject to a future hybrid Bill.

218. So if we start with the route, I think the Committee will be aware by now, it's a 38-mile route, just over 60 kilometres, going from Crewe into Manchester via Manchester Piccadilly station. Fourteen train paths per hour is the capacity that the route is designed for and that would include, on the route into Manchester, provision for the Northern Powerhouse Route services. We've got two tunnels and we have 18 viaducts. The tunnels, principal tunnels, as you're aware of, are Crewe, which is 6.8-kilometre tunnel, and into Manchester, a 12.8-kilometre tunnel. They both have vent shafts, but I'll come on to that later in the presentation.

219. THE CHAIR: Are we allowed to have the distances in miles as well, given they're the only distances we use on UK roads? Because I do find it very difficult to relate to something when it says it's 16 kilometres. I don't really know how long that is in proper measurements.

220. MR SMART: So times by 1.64. I'll try and do the mental arithmetic as I go

through.

221. THE CHAIR: Okay. It's just I find all this technical stuff is always in kilometres, yet when I get in my car and all the road signs in the UK, by law, have to be in miles, it all gets very confusing.

222. MR VICKERS: On the railways they use miles and chains.

223. THE CHAIR: Well, we don't want chains, Martin; we're not that old but we'll settle for miles.

224. MR VICKERS: They still do.

225. THE CHAIR: Well, I know they do but I don't drive many trains. What I do drive is a car and it's always in miles. All our distances are. It's just sometimes a bit hard to relate to some of these things.

226. MR SMART: If I try and do the mental arithmetic, I will probably slow the Committee down.

227. THE CHAIR: Well, this was a test for you.

228. MR SMART: What we can do for you, we can provide some –

229. THE CHAIR: No, just in future, because when people talk about the length of a tunnel, for most people, and for people watching particularly and for local people, those are the measurements we use when we get in our vehicles and look at road signs. So I've never heard anyone describe their journey anywhere in kilometres. It's always, 'Well, it's about five miles away', so it's just nice to be able to relate to the size of these tunnels.

230. MR SMART: It's duly noted and we'll try and make sure we provide miles in the future.

231. THE CHAIR: And it's not because I'm middle aged. It is because they are actually the only things on our roads so it's just a bit – for people to relate to, I do find it a bit confusing sometimes, but anyway.

232. MR SMART: We note that, sir.

233. THE CHAIR: We'll do our best to do the maths.

234. MR SMART: So we also have three connections, or three junctions, I should say, for future proofing for the Northern Powerhouse route scheme. Those connections are essentially the Crewe north connection, which this Bill provides for actually making, and that allows the Northern Powerhouse trains to access High Speed Two. And then we have provision in the future for the Northern Powerhouse trains, a London/Liverpool connection, a Liverpool/Manchester connection and a Manchester/Leeds connection but I'll talk about those when I talk about the community areas in a bit more detail.

235. We also have Crewe north rolling stock depot. Now, that is the main depot in the north for maintaining our trains, the trainsets that operate on High Speed Two. This particular facility will take over 50 of our trainsets there and we also have to have train crew and maintenance facilities for the trains.

236. We have two satellite maintenance bases: one at Crewe and one at Ashley and these are for maintenance of the infrastructure of the railway. The one at Ashley in particular is really just a siding with some welfare facilities and the reason it's there is we have to prep trains that go in to maintain the mechanical and electrical and fire and life safety equipment that is in the tunnels. So these are strategic points on the network where we can intervene for our maintenance purposes.

237. We also have some off-route works. Now, these are works that we will be carrying out, if you like, that are not directly on HS2 route but in Scotland and also on the existing conventional railway. So we need to do platform extensions at both Preston and Crewe. At Preston we are extending two platforms and also bringing into use a platform that was previously not used to allow our services to stop because there are 400-metre trainsets, which is appreciably longer than conventional services. And at Carlisle we're doing a platform extension. And we have provision for a rolling stop depot at Annandale. This would be for about 28 trainsets and these would be for the services that would serve Carlisle, Glasgow and Edinburgh in the future.

238. THE CHAIR: What's the date for both of those projects then? What were the likely dates of those – for example, the Annandale facility? The land is acquired and –

239. MR SMART: So the future dates would depend on the outcome of the union

connectivity report on how we're going to access through and the date for that is not currently known but work is underway. But we do need this provision because when that connectivity report advises on how to make the final connections through to Scotland, or we will have to do work on it, we will need to have a rolling stop depot and that's why we've taken the provision in this Bill.

240. MR VICKERS: You said there'd be 14 train paths per hour. How does that compare with the existing West Coast Main Line, for example?

241. MR SMART: It's more than that. The existing West Coast Main Line would be – well, at the moment it's probably a lot less than that. It would be down at around about 10.

242. MR HIGGINBOTHAM: Is that 10 capacity?

243. MR SMART: It depends on which part of the West Coast Main Line you're on because you've also got freight that operates on there under what is known as Q paths. So it would be difficult to explain, depending on which part of the West Coast Main Line you're on, but certainly, when you get north of Crewe, the west coast is a bit more constrained because the work that Railtrack did to upgrade the West Coast Main Line stopped at Crewe, back when they did this back in the early 2000s.

244. MR VICKERS: Fourteen doesn't sound all that much because obviously the new line will have digital signalling and so on, and Network Rail are talking about increased capacity on the existing network when more advanced signalling comes in. So it doesn't seem a great advance.

245. MR SMART: It's quite high. I mean, a lot of French TGV systems are operating at that or below and one of the constraints, of course, is we've got to come into Manchester on the spur where we have to allow for the Northern Powerhouse route. So the core route for Phase One is 17 and it has one growth path and, of course, a lot of it depends on the services at the stations because you need to be able to operate flexibly and the more train paths you have, potentially, the more operational constraints you might have at a station, which means you need bigger, and therefore more expensive, stations. So I would suggest that this is an economic answer to the connectivity and capacity issue.

246. THE CHAIR: Thank you.

247. MR HIGGINBOTHAM: Sorry, can I just check? So extending Preston train station, some platforms there, for example, that's for new high-speed trains to operate to Preston.

248. MR SMART: Yes, on the conventional network.

249. MR HIGGINBOTHAM: So what kind of speed can a high-speed train do on a conventional rail network?

250. MR SMART: It would be whatever the conventional line speed is and there are some restrictions for HS2 trains on the West Coast Main Line because the West Coast Main Line has Pendolino trains, which, of course, tilt and can therefore traverse curves slightly faster. But we would do the line speed at whatever the top line speed is. So typically, on the West Coast Main Line, it would be around 125 miles per hour at the maximum but depending on where you are on that line, depending on (a) the condition and (b) the curvature, it could be a lot less. It could be down at 70 or 80.

251. MR HIGGINBOTHAM: We're potentially expanding Preston train station to get no increased speed on the trains on that bit of the network but possibly increased capacity.

252. MR SMART: Yes, indeed.

253. THE CHAIR: You get the speed advantage obviously on the earlier sections.

254. MR SMART: Yes, yes. I mean, if we were to put a conventional Pendolino type train on to High Speed Two, because of the speeds it operates at, it would take out about five train paths of our railway, just to give you a rough comparison.

255. So if we can move to the next slide. This really gives you an idea of where we have the connections and, if you like, the future provision for Northern Powerhouse route. I just ought to explain here what we mean by passive provision because passive provision is really building the track-supporting structure, which could be structure as embankments or even cuttings, in place so that we can connect the extension to the railway whilst at the same time minimising disruption to the operating railway.

256. So if we don't do that under this Bill, we would end up with massive disruption to HS2 when it is operating. We, of course, would need possession to cut in the track and the overhead line catenary system, but they are more minimal than trying to do expansive civil engineering works. And the reason we actually make the Crewe north connection in this Bill is because we want to allow for Northern Powerhouse trains to get on to High Speed Two and if we did not make that connection in this Bill, and actually form the connection, trying to do it later when you've got an operating West Coast Main Line and High Speed Two would be too disruptive. So we're taking the opportunity to do it as we build High Speed Two and it will also allow the northern connection into the rolling stock depot.

257. THE CHAIR: My only issue with this slide is you've put everywhere on apart from Goole, which is literally here, so I'm very offended now.

258. MR VICKERS: Who'd want to go to Goole?

259. THE CHAIR: Steady on; I'm only joking. Sorry, "passive provision" I'm a bit confused about. Just explain that to me again. What do you mean by passive provision?

260. MR SMART: So we would make a spur and we would build the track-supporting structures, which could be embankments, cuttings or even structures such as box structures, which allows track to be laid in the future. But obviously when you're building big civil engineering structures you need land take and you start to create earthworks, which could undermine the existing railway, so we'd take the spur far enough away from where the operating railway of HS2 would be such that when we do add the rest of the railway, which will be the Northern Powerhouse railway in the case of these three, we will – the minimum disturbance to the operating High Speed Two.

261. THE CHAIR: Of the HS2 line.

262. MR SMART: Yes, yes.

263. THE CHAIR: Right, okay, sorry. I get it.

264. MR SMART: No, not at all. Right, if we can move on.

265. MR STRACHAN KC (DfT): Just because there's been a pause, in the non-

technical summary, if I could just provide some information. You talked about the Preston information journey time. There is some information there. London to Preston, I think currently said to be about two hours and eight minutes, would go down to one hour and 18 minutes with HS2. So that takes account of the HS2 part plus the conventional railway.

266. MR HIGGINBOTHAM: Relying on having a high-speed train running that.

267. MR STRACHAN KC (DfT): Yes.

268. MR HIGGINBOTHAM: Because I presume there'll still be conventional trains running on the route.

269. MR SMART: Yes, yes.

270. MR STRACHAN KC (DfT): Well, sorry, done with classic compatible, I think is the expression.

271. MR HIGGINBOTHAM: Yes.

272. MR STRACHAN KC (DfT): The train that can run on both HS2 and then on to the conventional route.

273. MR HIGGINBOTHAM: Right.

274. MR STRACHAN KC (DfT): I hope that helps.

275. MR SMART: So I'm going to move on now to the community areas, I think which the community has heard about. I'll take you through each of these community areas and just give you the brief highlights of what we're building along the route and these are they: Hough to Walley's Green; Wimboldsley to Lostock Gralam; Pickmere to Agden and Hulseheath; Hulseheath to Manchester Airport; Davenport Green to Ardwick; and then ultimately into Manchester Piccadilly station.

276. So if we talk first about Hough to Walley's Green, which is community area MA01, this is a 10-kilometre section of route. I apologise for the kilometres.

277. MR STRACHAN KC (DfT): Which I'm told is 4.2 miles. I can't say I did the maths, but someone tells me it's 4.2.

278. THE CHAIR: It is just easier to relate.

279. MR SMART: We'll make sure we pick that up, sir. And other than the tunnel, there's substantial embankment sections of 3.5 kilometres, especially around Coppenhall. But this is where we have the connection to Phase 2A in this section. We do have Crewe tunnel, which is a 6.8-kilometre tunnel, as you've heard. It has two vent shafts. Each vent shaft has to reach the bottom of the tunnel, which is about 40 metres deep, and these two vent shafts are at Cowley Way and Middlewich and you'll see them on the fly through as we go through. Vent shafts here are about 17 metres in diameter. I don't know if you want that in feet and inches but we'll stick with metres for now. And, of course, we have the Crewe northern connection which I've already talked about for Northern Powerhouse route.

280. So if we could then move on to community area MA02, which is the Wimboldsley to Lostock Gralam, this is a 14.6-kilometre section of route with significant viaduct, 3.9 kilometres of viaduct, and also over 10 kilometres of embankment.

281. THE CHAIR: Embankment—so the railway's raised or that's not the cut and cover.

282. MR SMART: I will come on to that, sir, later in the presentation and I'll explain embankments etc.

283. THE CHAIR: I'm just getting ahead of myself.

284. MR SMART: No, no, it's a perfectly reasonable question but I will come on to it. I've already explained that we have the rolling stock depot in this section and the infrastructure maintenance base, which is basically the siding with some facilities for crew. We've got some significant road realignment. One of the issues you will hear about is, when you're building a railway through a fairly well-developed country, you have lots of utility and other existing road diversions and we have the A54 Middlewich Road realignment and the A553 Northwich Road which – one of them involves creating a box structure – and we also have the realignment of the A556 Shurlach Road which is a lift and shift because we build the railway along where the road is. So we would build the new road first, divert the traffic and then put the railway where the road is. So that's really the highlights of that community area.

285. If I move to the next section which is Pickmere to Agden and Hulseheath. This is an 8.2-kilometre section of route with significant embankments again, 5.5 kilometres of embankments and 1.8 kilometres of cutting with just under half a kilometre of viaducts. This is where we have what we call Hoo Green junction. This is the site of where the Golborne link would have connected into the High Speed Two route and you've already heard Mr Mould talk about the provision that's in this Bill for that. So we will make – again, I use that term – 'passive provision', but actually it's a 3.1-kilometre section we would build and a fairly significant box structure which would allow trains to effectively go off to the west for a future potential connection to West Coast Main Line, to be decided under the union connectivity review.

286. This is also where we take the main power supply to our railway, which is at Peacock Lane transformer feeder station. We try and take power from the nearest place we can in terms of proximity to the National Grid. So power comes in three phase of 400 kilovolts and we have to step that down to our operating voltage of 25k, but I'll come on to that later, and we do that at the transformer feeder station at Peacock Lane but I'll explain a little bit more about electrification later in the presentation.

287. The next community area is Hulseheath to Manchester Airport, MA06 – 10.7-kilometre section, substantively in cutting, over six kilometres of cutting and over three kilometres of embankment. We have a short tunnel, 130-metre tunnel as we go under the M56, and there's substantial roadworks that are required on the M56. We also have the high-speed station at Manchester and I'll come on to that later in the presentation. We also have the Manchester to Liverpool junction for the future NPR services and the passive provision for that, again, is an embankment and a short box but we'll put that in ready for future, NPR, the Northern Powerhouse.

288. Here we've got what we call the Ashley railhead, which is used for temporary construction. So we need to bring material on to High Speed Two from the existing railway and we're close to the mid-Cheshire line there, and there's certain things we would want to move by rail because it is efficient and not only efficient in terms of cost but efficient in terms of transport disruption and we would create a temporary railhead which we feed in ballast, long-welded rail and other railway components, and if the Committee do go to High Speed One, we used Beechbrook Farm on High Speed One for the very same purpose, and, as you go past, we'll try and show you it is now all

green fields because it's all been restored to its previous use.

289. Ashley infrastructure maintenance base rail – that's what IMBR is – I've already explained and then we have the junctions for the M56 modifications, which is substantial roadworks which we have to do on the M56.

290. If I then move to the community area MA07, this is Davenport Green to Ardwick and this is the major tunnel. It's a 13.4-kilometre section of route of which 12.8 is the Manchester tunnel with four vent shafts. The vent shafts go down to the tunnel so the deepest is about 48 metres, ranging 40 to 48 metres of the tunnel depth, and the vent shafts are around 24 metres in diameter.

291. MR STRACHAN KC (DfT): And I'm told the 12.8 kilometres is a 7.9-mile tunnel, so a nearly eight-mile tunnel.

292. THE CHAIR: Eight miles is a very substantial tunnel. What's the longest stretch of tunnel on the other route?

293. MR SMART: The longest stretch of tunnel on Phase One, sir, is the Chiltern tunnel, which is coming in around 16 kilometres. It's a long tunnel, very long. And in order for programme purposes we will have four tunnel boring machines operating on this section of route. I will be explaining I think in the tunnel teach-in about tunnel boring machines but, actually, all four of them come out at the Palatine Road vent shaft. So we start from either end, meet in the middle.

294. As we come out of tunnel to get into Manchester Piccadilly, we've got a short section of route where we have to come out in a cutting initially, because we're low with the tunnel, and then on an about 80-metre embankment, not kilometres, 80 metres, and then we've got a box structure as we go finally into the throat of the station.

295. So if I now move on to community area MA08, which is Manchester Piccadilly station, it takes up approximately six hectares of land. It's got the approach viaducts and station viaducts – I'll come on to that later – and obviously is the terminating station for HS2 in Manchester. Six platforms are in operation, two for the Northern Powerhouse Rail provision but to allow operational flexibility, all the trains can access all of the platforms in the station. So we've got a future proofing as well as you come

out of the station to allow the NPR to go Manchester to Liverpool and to Leeds and Bradford and potentially beyond into the north-east. And we also provide 2,029 parking spaces at that station. It remains to be seen whether ultimately those are required but that's what the provision is in the Bill.

296. MR MORRIS: You mentioned the frequency, the number of trains running per hour. When it reaches the terminus at Manchester Piccadilly, how long will a train spend there before it comes out again?

297. MR SMART: It depends on whether it's an HS2 train but the turnaround times for NPR to go in and out again would be in the order of five minutes. HS2 would be, depending on what was required on the train, whether there's any catering facilities to go on but typically, depending what the final operating service is, somewhere less than 20 minutes but it could be longer. And we also would have stabled trains potentially overnight in the station as well as we do at St Pancras and other stations commonly around the network.

298. MR MORRIS: Just thinking if it was a rapid turnaround, it's such a busy station for the driver to get from what was the front of the train, which is now the rear of the train, to the front of the train through a packed platform of passengers. Is there some thought given to how that's done?

299. MR SMART: There absolutely is and I think we'll come on to that when we talk about the operation of the Northern Powerhouse services. But certainly for High Speed Two, it's allowed for within the final train operating spec and, effectively, it's rostered via the train crew and there's also modern technology you can now use which allows a turnaround time of trains, because often the driver, conventionally, has to walk to the other end of the train and power up and initialise the cab and it all takes time. But with modern rolling stock as they've got on Crossrail, that can be done more automatically.

300. MR HIGGINBOTHAM: The Manchester Piccadilly station, this is a totally new station, just for these trains.

301. MR SMART: Yes, just for HS2 and obviously Northern Powerhouse.

302. MR HIGGINBOTHAM: But that sits within the same vicinity.

303. MR SMART: Yes, and I'll come on to give you a spatial of how that all sits and how it looks, yes.

304. So if I actually talk now about the rail corridor, so when we're on the open route, typically, the main part of the railway can be up to 19 metres wide but of course the trace – and the trace is a term that we use which forms the construction of the railway, so the trace is obviously wider than that because it will depend whether we're on embankment or whether we're in cutting – but on a viaduct, typically, it's the smallest spacing because you haven't got side slopes and you haven't got side slopes for embankments or cuttings. The overhead line spacing is typically 45 to 55 metres depending on tensioning of the wires and the height of the overhead line to the top of the pole is about 8.3 metres but the contact wire, which is where the train touches the wire to get its traction power, typically around five metres high.

305. So that gives you an idea of the trace but, of course, it does depend on what the main form of the track supporting structure is, which is what I'm going to come on to now.

306. MR HIGGINBOTHAM: What's the rough height of a security fence?

307. MR SMART: It depends on where you are but can be – there's often two types of – if we're on a cutting, on High Speed One, we've got sheet between the two, but typically four, four and a half metres.

308. MR HIGGINBOTHAM: And are they monitored fences or anything like that?

309. MR SMART: Certainly, you can put monitoring in. The problem with monitoring the fences is they tend to get – wildlife tends to actually set off the alarms. You can then add video/TV camera to that so you can check it. I think it's generally done on a risk assessment basis. If you're in an area of the railway where you might get potentially more vandalism, you can certainly put in CCTV cameras to cover the route and we'll be looking at that as we develop the design. On High Speed One we used a more transportable system, which you can move along the route on hotspots if you get vandals in particular areas, and as we got into a certain place, which I won't name because it would be unfair, we use that technology.

310. MR HIGGINBOTHAM: I mean, I'm just thinking it's difficult for any train driver to respond to an incursion on the track. It's probably more difficult for a train driving at 300 kilometres an hour.

311. MR SMART: Absolutely, because of the stopping distance.

312. MR HIGGINBOTHAM: For that reason. But you've got to balance that with the private landowners who don't want a 20-foot fence.

313. MR STRACHAN KC (DfT): Yes, indeed.

314. MR SMART: If I move on, I think this particular side is fairly self-evident but I think the point I want to bring out here is, overbridges, the over bit refers to over the railway. So in this case, the overbridge goes over the HS2 railway and obviously it's used to carry existing public rights of way and roads etc.

315. MR STRACHAN KC (DfT): I think there might be a slight delay on your screens but it's just coming up so there we are. You've got it now, yes.

316. THE CHAIR: Yes, single span overbridge.

317. MR SMART: Yes. So the headroom that we need from rail to the soffit level, which is the underside of the bridge, would be 7.15 metres but, of course, the actual height might dictate what you're diverting over the railway so it would depend on whether it's a motorway or whether it's a road. And also the abutments would be back eight metres from the centre line of each track. That's really to allow derailment risk. If a train did derail, you don't really want it to hit the abutment so you move slightly wide.

318. That's the overbridge and if I just give you time for the next slide come up – which is, quite understandably, an underbridge.

319. THE CHAIR: Even though we're MPs we can understand some of these concepts. I'm just saying, we're all right at it and we can keep up, just.

320. MR SMART: Sir, I'm conscious that there's a lot of jargon within the railway industry and, indeed, High Speed Two.

321. THE CHAIR: We can figure out underbridge though. I think we can work that

one but, no, it is all very interesting for us.

322. MR SMART: Typically, for a public highway, the headroom you require to give to go over would be 5.7 metres but it does vary if you've got agricultural. So when we come to viaducts, I can explain a little bit more about that.

323. MR HIGGINBOTHAM: Those are only used to protect existing public rights of way.

324. MR SMART: Yes, and roads, and then services as well sometimes but we can sometimes put those in a culvert and do that.

325. MR HIGGINBOTHAM: Utilities, right.

326. MR SMART: So carrying on to embankments, I mean that is basically –

327. MR STRACHAN KC (DfT): They can be sometimes there to protect what would be regarded private rights of way such as agricultural accesses where that's considered necessary and required or sometimes it's diverted. Sometimes there may be a need for an underbridge in certain circumstances. Sorry to interrupt.

328. THE CHAIR: I'm going to suspend the Committee for 15 minutes because we're about to have a division.

329. Sitting suspended

330. On resuming –

331. THE CHAIR: Apologies for that. We ended up having two votes. There was only one expected but we ended up with two so I apologise for that. Well, I'm apologising but it wasn't my fault. So, Mr Smart, do you want to continue? I think we're up to embankments, aren't we, now?

332. MR SMART: Sir, we're up to exhibit P220. I think the important point here for me to bring out on embankments is that, first off, clearly, to maintain the right alignment you have cuttings and you have earth, which then needs to be – excavated material which needs to be dealt with and we have got what's called a mass haul where, as far as we can, we use the excavated material along the route to save taking it off on to roads,

for example, or even by rail where we can, for disposal. That does mean that of course the material needs to be suitable, strong enough to form an embankment but we try and balance our cut and fill as best we can and therefore minimise disruption to transport systems by taking it offsite.

333. The advantage of embankments is that, of course, you can plant the side slopes and therefore you can have screening, and you can also incorporate some landscaping proposals around them if areas are suitable. The downside of an embankment is, of course, you can't traverse underneath and I'll come on to that when I talk about viaducts.

334. I think I should just mention here, when you look at the flythrough, you will see something called balancing ponds. So we haven't got a slide on it but if I just briefly deal with it. As far as we can, we would want to use sustainable drainage on the railway, which means we use gravity and we don't have to pump and use electricity etc. We can't always do that because obviously the low point of a railway, a tunnel, the only way you can really get any water out is to pump it. But the balancing ponds are created, to do with our railway or potentially to do with road diversions, where we need to make sure that in the event of heavy rainfall, we don't overwhelm existing watercourses or storm water systems and therefore cause flooding. So we have a balancing pond which retains water and feeds it back into the network in a way that it won't create problems. So when you see balancing pond on the flythrough, that's what that is.

335. Moving to viaducts, viaducts are typically where we cross over sections of the route such as roads and rivers but it's also important in areas of flood plain where an embankment would cause a problem and therefore we need to allow water and, indeed, certainly agriculture vehicles etc to pass under the railway. So the clearances might vary on a viaduct. It could be quite low but the lowest, for agricultural use, you would go to ground level, to the underside of the viaduct, would be 2.8 metres and that would just be for cows but it gets progressively more if you're allowing for vehicles etc.

336. Cuttings, I think, are fairly obvious what they are. They're good, in terms of the railway is obviously less of a visual intrusion in cuttings, but we can't always achieve that and also it does allow the fact that you can have some landscaping as well with the cuttings and variation in the side slopes.

337. THE CHAIR: What's a cut and cover then? I mean, it sounds like a tunnel to me.

338. MR SMART: Cut and cover is a tunnel. It's a way of forming a tunnel. Instead of boring it, you actually just dig, create an excavation, create a concrete structure which is the tunnel and then cover it again, yes.

339. So sometimes, the side slopes need to be stable in a cutting so that's why they might vary in angle, depending on the strength of the soil that you are creating the cutting in. Sometimes, when you're squeezing through existing infrastructure, you can't create the cutting because it might take too much land to create a stable cutting. So if we go to the next slide, that's where we might have what is a retained cut, where we actually use structural walls to bring in and support the surrounding soil so that we actually create a narrower corridor but we're still deep in cutting. Clearly, it's more expensive to do that but we have to do that in certain sections along the route to really squeeze the railway through narrow parts of existing infrastructure.

340. I'm going to come on now to main construction compounds. We have what we call our main construction compounds and these are really the administrative hub and the main area for each of our contracting joint ventures along the route, so these are quite big compounds where a lot of the key logistics are carried out. It's where all of the administrative workers are, all the support staff that you need to support a big undertaking in construction and obviously car parking etc around those construction sites.

341. They are the main compounds but we have satellite compounds because right down the route you do have to have certain compounds near the point of production of where you're actually doing the construction so you've got to store materials there, you've got to have plant and you will need local power, which more likely, on the satellite compounds, might actually come from transformers but in the main compounds, we would put in proper services. You've got all the welfare facilities so that's the difference between the two and they're all outlined in the ES in terms of where we anticipate these construction compounds are going to be and they're the main point of where workers come in and out in the morning etc because of the welfare facilities.

342. For the next slide, haul roads, I mentioned the cut and fill balance that we achieve along the route where we try and use as much of the excavated material as we can along

the route, either in landscaping, noise bunds or, indeed, if it's sufficient quality, embankments. And we move as much as we can, material, along the trace and I did explain the trace is the construction width, not necessarily the final permanent width of the railway, but the trace is something we work along and we can move material along the trace by using articulated dump trucks with big tyres etc to minimise taking excavated material on to the road and then moving it along the trace and then back off the road. Now, we do have to do that in some circumstances. We can't always achieve moving excavated material along the trace but where we can do it, we do do that and that is the best way of moving it sustainably.

343. We also have construction sidings on our route. There are two areas where we have that: Crewe, which is for Crewe tunnel, so it's effectively for arisings, excavated material, from Crewe tunnel, and that connects to the West Coast Main Line. And as we get towards Manchester, at Ardwick in the Davenport Green community area, we have another connection via what is the Ashbury line, which then goes to the Glossop line, to try and move as much excavated material from the tunnel arisings as we can. So they'll be going in for temporary use.

344. I mentioned our railhead, which is at Ashley in the Hulseheath to Manchester Airport community area. It's adjacent to the mid-Cheshire line so if you look at the graphic which is on the top right, the mid-Cheshire line is going effectively north to south and we would bring construction materials into the reception siding, which is adjacent to that north-south line, and then move them within the railhead, in works trains, round to the other section which is adjacent to our railway and that's when we would take the works trains out on to what would at that time be a civil engineering completed level to start bringing in the rail systems such as ballast track, overhead line and long welded rail.

345. THE CHAIR: Sorry, it's the green line which –

346. MR SMART: The green line is the mid-Cheshire line.

347. THE CHAIR: Right, and then the red one is?

348. MR SMART: That's the existing railway and the red line is HS2.

349. THE CHAIR: That's going to be HS2, right.

350. MR SMART: Yes, and so the reception sidings are on the green line so we bring in trains that are loaded with construction materials from the network rail network, we unload them within those reception sidings and they move them with our works trains etc, or we could use Network Rail trains, into our railhead, which is the bit that's on the red line which is HS2.

351. THE CHAIR: Okay, sure.

352. MR SMART: And I think you've got a picture there of literally moving some material via flatbed wagons and ballast etc.

353. I mentioned how we move material, excavated material, and adjacent to Crewe north depot we have got three borrow pits where we win material to construct embankments from where we've got a shortfall in this area and we also have got the opportunity to dispose of material when we backfill and restore these borrow bits. And, again, you will see that they are very close to the HS2 trace so the aim with the borrow pits is to minimise disruption to the existing road network by not having to transport aggregates over long distances to bring them to the site or site of construction, and also we can move them along the trace, move these aggregate and clay material, which is suitable as well, along the trace to construct HS2 embankments. So it's way of minimising impact on the public roads and also, of course, efficiency of cost of transport. So it's effective to do that.

354. It is axiomatic when you're building a big railway through a well-developed country that you're going to have to deal with a lot of utility diversions and we've got a lot of utility diversions to deal with along the route. We also need to put in new utility services. I mentioned we would always have to power and put all public services into our main construction compounds. There are clashes which we have to divert and protection works and decommissioning of redundant infrastructure where we create new ones. So there is an awful lot of utility work that has to be done along the route and it's key for us working with all the utility providers that we carry this out and you can see the examples of the road diversions that we would have to do. So there are quite a lot of off-route utility works.

355. I mentioned the power supply and the Peacock Lane main feeder station but we use – I'll try not to get too technical with this – but basically we use for powering the traction power on HS2, as indeed HS1, what is the two times 25 kv system which means you feed at negative-25 and you power at plus-25 which means it's 50 volts to distribute the power. And what that does, actually, that's just an efficient way of moving energy so you get a few more strokes out of the efficient system. But that does require the provision of an autotransformer and so we have autotransformer sites about every five kilometres and you can see that they are approximately 2.75 hectares. We also site other signalling equipment at these sites. So you will see these along the route and they are required for the effective use of and distribution of traction power. Sorry, Mr Strachan has pointed out that they're actually 0.3. The feeder station is 2.7. I do apologise.

356. MR HIGGINBOTHAM: These aren't just required for construction of the scheme.

357. MR SMART: These are required for operation of the railway to make sure we've got the right power at the point at where the train is, yes.

358. I'm then going to move on to the stations. So Manchester Airport station – you can see an overview of the location of the airport station. It's right close to the airport. You can see that's the planes at the airport adjacent to our line and the M56 is approximately one kilometre or 0.8 miles from the airport terminal. There's provision for Metrolink services there. I'll come on to that. There are over 3,800 parking spaces, four platforms, two for HS2 and two future proofing for the Northern Powerhouse Rail.

359. And if we go to the next slide, you can see an overview of the station, which points out some of the significant parts of the station. I think if we can just put the cursor on, you can see the provision for the Metrolink, which is at the northern end of the station, and the curve part. That's where potentially a future Metrolink could come into the station and then you've got the central platform islands of the station, as I say, two for HS2 and two future proofing for Northern Powerhouse Rail.

360. DR CAMERON: I have a question about when you're doing the stations development. I chair the All-Party Parliamentary Group for Disability and a lot of the complaints I have is that the existing network isn't accessible enough for people with disabilities. I'm just wondering if you've been able to try to address some of those

issues in progressing –

361. MR SMART: It's actually key to us because we actually have people working with us that make sure that we can look at level access as far as we can and put in provision via lifts. So it is an important part of making sure there's full access for disabled people on our railway and on our trains, absolutely.

362. DR CAMERON: I think that would be greatly appreciated because, as I say, I get so much correspondence regarding the existing network that that would be a good improvement for many people.

363. MR SMART: Yes, yes, I do agree. If I move on to the next slide, it gives you – I should point out that these are illustrative. Obviously, we have to go through a full process of designing the station and getting planning approval, but these are illustrative images of what the station could look like, but it will be decided in detailed design and in accordance with the planning authorities what it will be but this gives you an understanding of how we come in at the lower level and then move up because of the terrain for the cross-section of the station.

364. MR STRACHAN KC (DfT): Just while we're going on the next slide, there is an information paper, D6 which deals with principles of inclusive design, which cover some of those matters as to the approach, the design policy approach, to designing stations and access of that type that Mr Smart was speaking about.

365. DR CAMERON: No, that's very helpful, thank you.

366. MR HIGGINBOTHAM: On the station design, how much of that sits with HS2 Ltd? How much sits with Manchester Airports Group? What's the balance of who's doing what?

367. MR SMART: Well that will be down to the planning authority but we would do – certain parts of the design are, if I can use the term, 'fixed', because you've got to get people on and off trains, so access and platform widths so that people are safe on the platform, so they can move around the platform. In terms of how you then would put, such as on the slide here in front of you, the roof on the station etc, that's all a matter of efficient cost and agreeing planning proposals with the local authorities. Sometimes

there's design competitions that have been used. It's not always that that's the way of going but it is a – clearly, it's important to get a sense of place in the station as we design it.

368. If I now move on to Manchester Piccadilly station, which is the next slide, you can see – which is the red, which is the existing Manchester station and then in the greeny blue it's the new High Speed Two station. There is a gap between the two because we come in right alongside. One of the reasons for the gap between us is you will see in the centre of the slide there it says, 'Existing entrance at relay room and northern block'. So there's existing, very important, Network Rail signalling equipment and relay rooms in that vicinity of where that relay room is shown and if we were to actually come in right alongside, tight alongside the Network Rail station, we would have to take out that relay room and almost re-signal Manchester Piccadilly, which is not only a cost implication; more importantly, there's a massive disruption to existing West Coast Main Line services.

369. So we come slightly to the east of that and that creates what is a shared concourse area, which is the yellow area shown between the two stations. So that's a shared concourse. So people can come out of our station and walk across that and get into the existing station. So it's good distribution of passengers between the two stations.

370. And if I go to the next slide, this gives you a view of how the two stations sit with the Metrolink taken underneath our station. That's the current proposal is that the Metrolink services will be beneath our station and then you can see at the higher level the six platforms that we would have for both High Speed Two and Northern Powerhouse Rail. Under normal operation, we would have High Speed Two trains on the four central platforms and Northern Powerhouse trains would access the two side platforms but in order to have complete operational flexibility, they're 400 metre platforms and trains can go into any one to make sure we've got an efficient operation of the station in the throat. And there's also the distance to the aspirations of Manchester City Council to create a boulevard, which is shown on that slide as well.

371. THE CHAIR: The interconnectivity with Northern Powerhouse Rail – sorry, am I right on this? So the HS2 train comes into Piccadilly and then continues on via what will be Northern Powerhouse Rail, or is it a different –

372. MR SMART: It's a different train. Yes, Northern Powerhouse Rail will be a different train which would come into Manchester Piccadilly and then go out, depending on where it's going.

373. THE CHAIR: So if I come through on what we hope will be the Northern Powerhouse Rail connection from Liverpool all the way through to Hull, which is the bit that gets missed and forgotten sometimes, where will that train come into then – into the HS2 station or is that into the existing?

374. MR SMART: The Northern Powerhouse line?

375. THE CHAIR: Yes.

376. MR SMART: That would go into the HS2 station.

377. THE CHAIR: That comes into the HS2 station.

378. MR SMART: Yes.

379. MR HIGGINBOTHAM: You would then have to change to get on a London-bound service.

380. THE CHAIR: Get on a London-bound HS2 train.

381. MR SMART: No, well, that depends on what the final distribution for the Northern Powerhouse Rail service is and I don't – because there are connections on to HS2 at Crewe, for example.

382. MR MORRIS: What's the – at the existing Manchester Piccadilly Station and on the bottom it shows, 'Crypt, the Undercroft'?

383. MR SMART: Yes. I think that's currently car parking.

384. MR MORRIS: Is that just a design feature or was it something else?

385. MR SMART: It's a design feature but probably because of the elevation of the railway at that point. So it sits on what was brick arches was commonly – you see them as you come into London stations – brick arches are you come into the stations.

386. MR MORRIS: Could that not be repurposed for HS2 then?

387. MR SMART: No, no.

388. MR MORRIS: It's in the wrong –

389. MR SMART: I mean it could be – it can be used potentially as part of the boulevard when walking into the existing station. That would be something we would have to agree with Network Rail as to how we use that common space. But you wouldn't be able to use it for HS2 services.

390. MR MORRIS: It looks – well, I suppose we'll have a look at it but it looks vast.

391. MR SMART: It is quite a big area, yes. It's a bit similar to the St Pancras International station undercroft, actually.

392. So we move on. This called the western concourse but, if you like, this is a visualisation of what the station could look like if you're looking from the Manchester end down our railway. Because of the orientation of our railway, we call that the western entrance and that is an artist's impression of what the railway could look like and how that space could be opened up. And then the next one is a view from inside the station looking back down towards London, effectively, down the route of the railway.

393. THE CHAIR: A stretch to see London from that position.

394. MR SMART: It's quite a way.

395. THE CHAIR: I'm trying but I'm struggling.

396. MR SMART: It's always up to London.

397. THE CHAIR: Yes, no, sure. So this is the shared mezzanine.

398. MR SMART: Yes.

399. THE CHAIR: The shared concourse, sorry.

400. MR SMART: Concourse, yes. It's a sort of northern part, or the Manchester end part of that concourse, yes. And then the final slide is, if you like, looking outside the

station from what is now New Sheffield Street but on the previous slide there was something called the boulevard which is where Manchester want to open up – Manchester City Council, and that's the view along the side of the station towards the northern entrance of what – again, the artist's impression of what potentially the station could look like but subject to, as I said, future design and planning approval.

401. THE CHAIR: Okay, excellent. Thank you.

402. MR SMART: And I think that's the end of my formal presentation on the route overview, sir.

403. THE CHAIR: Excellent, thank you very much, Mr Smart. Do any colleagues, any members have any questions? Can I thank the promoters for their time today? I think it's been very interesting for us. Obviously, we're not rail experts ourselves, apart from Martin here who is our resident expert on all things rail-related. But it's really important for us to receive the briefing today and for us to hopefully tease out some of the issues in the way that we have and that's all for the good.

404. Now, I think there is obviously this flyover video.

405. MR STRACHAN KC (DfT): There is. As I said, it takes about 15 minutes so it may be that you didn't want to do it today but there would be the opportunity either to come back and do it or show it at some other time.

406. THE CHAIR: Well, it is available online for people to see. So I think what we'll do is we'll probably end the formal Committee proceedings and then we can perhaps play it if anybody wants to stay around to watch it or people can go and watch it in their offices. I'll certainly stay around and watch it, and it is publicly available, as I said.

407. So on that basis, I will end the proceedings and just thank the promoters for attending today. As I say, our concern as we go through this is obviously hoping that as many of the issues – there's 17,000 issues that we were informed have been raised by petitioners – our urging is that HS2 obviously works closely with the petitioners and with residents to try to mitigate as many of those, because obviously all of us have the same interest in ensuring that legitimate concerns raised by petitioners are resolved in a way to the satisfaction of all parties.

408. But we'll be obviously seeing more of you in formal proceedings as we proceed, but thank you very much for the overview today and thank you for attending, and I'm sorry we had a couple of delays with votes and all the rest of it, but I'll close today's session and then we'll stay and watch the video for those who wish to and, as I say, for anybody who wants to watch it who may be watching proceedings at home, it is available online. Thank you very much.