

Transport Committee

Oral evidence: [HS2: progress update](#), HC 85

Wednesday 8 November 2023

Ordered by the House of Commons to be published on 8 November 2023.

[Watch the meeting](#)

Members present: Iain Stewart (Chair); Jack Brereton; Paul Howell; Grahame Morris; Gavin Newlands; Greg Smith.

Questions 245–333

Witnesses

[I](#): Nigel Harris, Co-host, Green Signals podcast; Richard Bowker, Co-host, Green Signals podcast; Richard Morris, Rail Consultant; Professor Andrew McNaughton, former Technical Director, HS2 Ltd; and Tom Worsley, Visiting Fellow, Institute for Transport Studies, University of Leeds.

Examination of witnesses

Witnesses: Nigel Harris, Richard Bowker, Richard Morris, Professor Andrew McNaughton and Tom Worsley.

Q245 Chair: Welcome to today's session of the Transport Select Committee, where we shall be considering the recent developments in HS2. Before I ask the panel to introduce themselves, I would like to set today's session in context. We already had in our schedule a couple of our regular scrutiny sessions, with the Secretary of State next week and, later this month, with the HS2 Minister, the chair of HS2 Ltd and other interested parties in the west midlands. We thought that today it would be useful for us to hear from a number of witnesses who have a high degree of knowledge of the project to help to inform us in our further scrutiny work. Then we will determine as a Committee what further work we may wish to do on the issue.

First, I invite each of the panel to introduce themselves, stating their name and organisation.

Richard Bowker: My name is Richard Bowker. I am currently a commentator on a podcast called Green Signals. I am also the former chair and chief executive of the Strategic Rail Authority and a former co-chairman of Virgin Rail Group.

Nigel Harris: I am Nigel Harris. I am the co-presenter, with Richard, of the Green Signals podcast. A month ago, I finished a 28-year stint as managing editor and events director for *Rail* magazine.

Professor McNaughton: Good morning. I am Andrew McNaughton. I am a professor at the University of Southampton National Infrastructure Laboratory. I am also the part-time chair of the Network Rail subsidiary that looks after High Speed 1. Most relevant, perhaps, to today, I was technical director of HS2 from its inception in 2009 and took it through Select Committee as principal witness until 2017. Before that, I was chief engineer of Network Rail.

Richard Morris: I am Richard Morris. I was formerly managing director of Crossrail, when we were planning and getting the budget through. I have to say that I have not been involved in HS2, so I hope that I am not here under false pretences in terms of the detail. I am certainly used to managing those sorts of projects. I was at Eurotunnel, before we opened. I have been in operations and safety for 53 years now.

Tom Worsley: I am Tom Worsley, visiting fellow at the Institute for Transport Studies at the University of Leeds. It is worth adding that I spent most of my career as an economist in the Department for Transport. Between 2005 and 2011, I managed the team responsible for analysing the rail network and analysing and making the economic case for additions to rail capacity. That included the analysis of quite a lot of the earlier work on High Speed 2. After I retired from the Department, I



was appointed as a special adviser to the Economic Affairs Committee for its investigation into High Speed 2, which reported in 2015.

Q246 Chair: Thank you all. We wanted to have a good spectrum of experience and opinions to help to inform us not just on HS2 specifically as a project but on the wider implications of the project and the changes for the rest of the rail network and transport more generally.

My colleagues and I want to delve into a whole range of different areas, but I will open with a general question. HS2 has been a very controversial project from its inception. I will summarise what I think has happened. In 2020 the Government's business case stated, "HS2 offers value for the taxpayer under all but the most extreme scenarios." Then covid happened and disrupted passenger numbers. The Government now take the view that the project is absorbing a disproportionate amount of the transport budget. Does that make sense? Have they got it right? I will work my way down the line alphabetically and then proceed.

Richard Bowker: I will preface by saying that it is 15 years since I had a senior leadership role in the rail industry, as chief executive of National Express, so my views on HS2 are as much observations as they are detailed involvement, which I have not had. I was the chair of the client board that sorted out the west coast route modernisation back in 2001 to 2004, when I was at the Strategic Rail Authority, so I lived through that process.

I think that that was a fair summary of the current narrative, yes, but I do not agree that it was the right decision, not because of what HS2 is but because of what HS2 does—what it enables. What it enables is a transformative change in capacity on the busiest corridor that we have in the UK rail network, the west coast main line. As a result of the decision, if we are curtailed to phase 1 only, there is no material increase in capacity north of Lichfield—north of Handsacre junction. That will cause us some problems.

To your point about covid and the change in travel patterns, unquestionably the pandemic has caused a shock to the system. Personally, I suspect that the commuting market on Britain's railway has changed quite significantly, probably for a very long time, with hybrid working and so on. The west coast main line has commuting traffic on it, particularly at the south end, but it is also a very important business, leisure and freight corridor. I believe that if we are able to get back to running a reliable, predictable rail service on the west coast—something that is a challenge at the moment—we will see a return to growth. When we see a return to growth, we will run into a capacity problem in the relatively near future.

Q247 Chair: Thank you. Nigel?

Nigel Harris: All of the above. With regard to your specific point about its absorbing a disproportionate amount of the budget, I am struggling to get my head around that, given that the last point at which we had



HOUSE OF COMMONS

agreement on HS2's funding and performance was April 2020, when there was general agreement by Government and everybody else that it was a solid project with definable benefits on which we all agreed. Even more recently, as recently as March this year, the Prime Minister said that the Government were totally committed to HS2, which represented good value for the taxpayer. As recently as June, the Rail Minister made similar comments in Parliament. I am struggling to see how, in a very short time period, we have gone from everybody being in broad agreement—setting inflation aside for the time being—to the endless stories about costs spiralling out of control, when clearly they have not. The point about its being disproportionate needs some drilling into, I think.

Professor McNaughton: I have little to add to the two people who have spoken so far, save that when High Speed 2 was initiated there was a certain usage of long-distance lines and a recognition that it was likely that the west coast main line would literally run out of capacity by around the mid-2020s. At the same time, the motorway network between London and the north and north-west would also be running out of capacity. The growth subsequently through the 2010s far exceeded what we had originally modelled. We modelled on a growth of around 2%. The reality for long-distance travel was between 5% and 6% per year. Clearly, covid has put a shock into that, but it is a shock in a rising graph of both road and rail traffic. That shock has effectively bought three or four years of capacity, through to about 2030, but 2030 is now rapidly approaching. After 2030, capacity will need to be rationed without HS2.

Richard Morris: I find myself in agreement with the rest of the panel. If I use Crossrail as an example, it is like my saying, "I tell you what we'll do. We'll stop Crossrail at Bond Street. We won't go any further, to Canary Wharf; we'll just go to Bond Street." I cannot understand the logic that says that you have a scheme that runs with a tree, with branches, and you cut all the branches off, so that there is nothing there but the tree and you get no fruit. I don't understand that logic.

If it is about cost, I wonder whether the costs have been managed properly. We had a problem on Crossrail. We had to take money out of the budget because the Government, quite rightly, said that it was higher than it should be. We ran a value management exercise and took shafts out of London—all sorts of things—but it was with the intention of making sure that the project was a success. This seems to me to be a case of saying, "Let's get rid of that bit and we'll just keep this bit here." What happens to the capacity of freight north of Birmingham? Where does it go, if there is no capacity for it to use? Why do it? Why do any of it, in a way?

Tom Worsley: The Department has a very good way of demonstrating whether transport investment represents value for money. I have not yet seen a new assessment of the value for money of the scheme truncated as is proposed, with the sunk costs already written off, as it were, and a reassessment of how demand might evolve in the future, particularly the



issue of capacity. There is a difference between capacity on the railway line for trains and passenger capacity. It would seem that the peak position has changed since HS2 was first thought about. Evidence about how that is changing needs to be tested with sufficient sensitivities. We are very uncertain about the future, so a range of scenarios would be appropriate.

Q248 Chair: Thank you. I want to dig in a little more detail into how the pandemic has changed the economic case. We can look at the different types of passengers who are returning to the railway. I am probably making a very broad generalisation, but the business traffic, which is the most lucrative revenue earner for the rail industry, is still suppressed. The growth has been in the leisure and tourist off-peak market, which does not generate the same volume of revenue. Is that significant in how we assess the economic case for HS2, or is it too impossible for us to predict in 2023 what the likely market will be in 15, 20 or 25 years' time?

Tom Worsley: We think that it is possible, but I don't think that we understand yet the change in the relationship between economic growth and business travel. There was a pretty constant link between the growing economy and business travel in the past. It is not clear that that link still exists, but it is something that should be examined in order to help us to understand the case for further investment.

Of course, one other thing is that the value of time savings to business users is very much higher than the value of time savings to leisure users. Time savings count far more for business travellers, so if there is a reduction in business travel there is a bigger reduction in the economic benefits. Time savings for business travellers mean that in the long term businesses relocate to more accessible places and are more productive in those more accessible places. There is always a myth about time savings, that they are something that just happens and should be disregarded, but time savings are the way in which firms and businesses relocate to respond to improvements in accessibility.

Richard Morris: Can I add to that?

Chair: Yes, please.

Richard Morris: I understand the point, but if you think about it, people work on trains now because of technology. They have discussions on mobile phones on trains. I am not sure whether the saving in time is quite as important as it used to be before all of that happened. Certainly, most of the meetings that I have now are on Teams. We just get on the computer. It saves people travelling. It means that we all talk to one another very easily and that we do not spend a whole day on it. We just have a morning or an afternoon for the meeting. I think that one has to add that to the economic case. In 10 years' time, will the children or young workers of today want to travel like we used to? I don't think they will. They are so used to technology that the actual demand will go down. That is my view.



HOUSE OF COMMONS

Richard Bowker: I take a slightly different view. I would look at what we have seen before. I accept fully that the pandemic has caused some structural changes in the market for travel. It would be foolish not to accept that, but looking back at the experience on the Virgin west coast franchise from the period around 1997, taking a 20-year view, if somebody had said to me that the 11 million or 12 million passenger journeys that were taking place on west coast at that time would more than double, I would have looked a little askance. They did not more than double. They ended up being close to 40 million passenger journeys per annum.

There were two very important reasons for that. One was that we were able to run a much more frequent service. Passengers love frequency. They love the fact that they do not have to worry too much about the timetable. If they turn up, there is another train. As this Committee will know very well, Manchester, the most important single revenue flow in the country, is now a 20-minute service on a weekday. That stimulates demand, not just for business but for leisure. We also employed yield management techniques, which literally drove people on to trains. Although the headline is a very expensive turn up and go first-class ticket for business travel, I think that I am right in saying that the average price of a ticket on Virgin west coast actually came down because we yield-managed it. We ended up with significant improvements in ridership and, therefore, overall yield.

At the moment, I do not think that we can say, because at the moment we have a very unreliable west coast service. We have to get that sorted. I believe that, if we do, not only will we see all travel come back, but we will see it continue to grow. People want to travel. They will continue to want to travel. Yes, working patterns have changed, but they want to travel.

It is very important that the Committee is aware that today we are running about 13 trains per hour on the west coast, through the most congested section. That is roughly what it is today. If you look at the section between Colwich Junction and Stafford, it is around 13 trains per hour. As a result of cancelling phase 2, particularly phase 2a—I cannot get my head around cancelling that—that figure of 13 trains per hour does not change materially, so if it comes back we have nowhere to put the additional services.

Nigel Harris: And nowhere to put any freight on that section. Richard is right about what happened with the west coast. It went from something like 15 trains a day to 47. Those are the 47 trains that would have moved on to HS2 to create the released capacity.

I want to take slight issue with the Zoom and Teams point. As I said, I did 28 years working for Emap and Bauer on magazines. Like everybody else, I spent the entire time looking at Teams screens, which seem like the modern equivalent of a séance—"Is anybody there? Can you hear?



HOUSE OF COMMONS

You are on mute,” and that sort of thing. By the end of that, all I detected was a real hatred of it and a determination to get away from it as much as possible. At the commercial end of an awful lot of private sector businesses, turning up and talking to a potential customer will be a differentiator. This person took the trouble to come and see me to sell me £100,000 of advertising, or whatever, rather than sit for 10 minutes on Zoom and Teams. It is all very much in the air and quite volatile. Assumption is going to be the very devil there.

Only this week we have seen news stories about commuting showing signs of reviving suddenly because an increasing number of big companies want their staff to be back in the office more than they are. On the point about businesses moving to where the transport hubs are, HSBC moved to Birmingham on the basis of HS2. I wonder how they are feeling.

Q249 **Chair:** Andrew, do you have anything to add before I turn to others?

Professor McNaughton: I have a very short addition, to remind us that, in terms of volume, business travel is quite a small proportion of the anticipated usage, albeit, as you say, at premium fare. In terms of HS2 not as a narrow business proposition but as a transport proposition, the majority of people using it would be for all manner of uses, as are the majority of people who use all the main lines north of London. To classify it as leisure and therefore not important does not understand why people travel. And they do travel, very strongly. We see that coming out of King’s Cross on the east coast, where there is a reliable service. Whether it be standard class or first class, a huge number of the trains are full. Demand is coming back. Personally, I am convinced that it will soon outstrip pre-covid demand.

Q250 **Greg Smith:** I sense that we have a pretty pro-HS2 panel in front of us. My views on it are pretty well documented. I am the exact opposite.

Mr Worsley, in your evidence, you talked about how we don’t really have a new business case for just phase 1. We don’t really know the BCR for it. We don’t really know the economics of keeping just phase 1. Can I ask you all whether there is likely to be economic sense in keeping just phase 1? Pretty much all of you have criticised the cancellation north of Birmingham, but that leaves us with a question: what is the point of what I have called in the House of Commons a headless, legless stump between Old Oak Common and not-central Birmingham? Is there a reality that could emerge—accepting Mr Worsley’s point that we do not know yet, because the figures are not out there—that phase 1 just does not have an economic case on its own? Mr Worsley, I picked on you, so perhaps we can start with you.

Tom Worsley: What surprises me is that it is not a terribly difficult exercise to do, although I guess that there is still much uncertainty about future demand and how it is going to pick up from its low base, particularly for business travellers, as we said earlier, with these very



HOUSE OF COMMONS

high values of time. It is not a difficult case to make, so I am a bit surprised that the Department has not yet published anything about this.

It is possibly because of the uncertainty about whether demand is going to grow on the lines on which it did in the past, whether the past relationships will continue to hold, but it is quite simple to make a range of assumptions about the future and see how robust the benefit-cost ratio is under a range of scenarios. I am a bit surprised that that was not done before the decision was announced.

Q251 Greg Smith: Can I come back on that before I bring others in? Is it the case that it is just an unpredictable scenario, on cost as well as any potential economic benefit that might be there? We all remember the original numbers around HS2, which ballooned massively. Even when the eastern leg was cancelled, the actual cost for a lower-scope project was still higher than it was in the first place. It is just such an out of control thing. No one designed it to be out of control. It just is. You can put a number on anything, but it can become meaningless very quickly, just as all of the figures for HS2 have always become meaningless very quickly as costs have ballooned.

Tom Worsley: One can make assumptions about the different things that might go wrong on the cost side. There is a lot of good work on reference case cost forecasting, looking at schemes that have overrun in the past and using those overruns to estimate what might go wrong with new schemes. There is quite a lot of work on uncertainty about income growth forecasts and population forecasts. One can now run a series of scenarios to say, "What would have to happen for the scheme not to represent acceptable value for money?" That was done in the past, in the 2017 economic appraisal of High Speed 2. There was a nice chart that showed under what probabilities the case for High Speed 2 would stop representing acceptable value for money. It has not been done for the latest decision, though.

Q252 Greg Smith: I will bring in the others and, Mr Worsley, you can come back on this point at the end, if you want.

Inherent within that, when we look at phase 1—actually, the whole project, before it was cut up—isn't there a problem in the way we do infrastructure in this country? Someone comes up with a concept. Then we have a decade rowing about it. For projects where the green light is given, only then do we do the detailed design. At that point, of course, we have the experience of my own constituency, which leads to some of these cost overruns and the ballooning in cost. The detailed designers come along and say, "Well, there's a gas main there. That's £25 million to move. That bridge ain't going to take that and that's another £75 million." Very quickly, everything ratchets up. Is it inherent that you must have detailed design before you green-light things, otherwise it all goes wrong?



Richard Morris: Absolutely. I couldn't agree more with that, as a statement. It seems to me that projects are load, fire, aim. We do not look at them in a sensible way. With Crossrail, when we did the value management exercise and looked at things like the number of shafts coming up into London to escape from the train, we found that we didn't need them. Seven shafts were taken out. That is an awful lot of money. If the operator, if I can use that term, had been there at the beginning, they would have done a proper risk analysis and said, "You don't need them." We moved the depot for Crossrail from Romford to Old Oak Common because there was going to be a flyunder at Romford, which would have cost a lot of money. We saved all that money. We had to spend a little bit on Old Oak Common, I accept.

If you get the people who are actually going to run the thing involved and have a proper change management process—ours was called the star chamber, because people did not want to go there if they had to change something—you can keep a hand on the costs and manage them properly. I said at the beginning that I have not been involved with HS2, but I have not seen anything that gives me the confidence that that has been done.

Q253 **Greg Smith:** Can there be a positive economic case for just phase 1?

Richard Morris: In my view, purely from up in the sky, no. I cannot see it. I cannot see what the point is, to be honest. Why build to Euston? Stop at Old Oak Common. There is a perfectly good station there. I heard somebody say that we need 17 platforms. I don't know who said that, but that is nonsense. You don't need that.

Q254 **Greg Smith:** That is really clear.

Professor McNaughton: There are a few myths coming in. First, I will address your first question. Do I believe that there would be a positive business case for phase 1 in the way that you have described? I would be astonished if there were. Back in 2009 or 2010, our first chairman, Sir David Rowlands, sat before your predecessors and said, "There is no point in just going to Birmingham with a new line. The purpose of this is that it is the first stage of something that opens up the country." That is why the report in 2009 was called "London to the West Midlands and Beyond". The operative word is "beyond". Other than that, it is, to use Richard's analogy, a wonderful trunk of a tree with no branches and no fruit. Irrespective of the cost, you cannot see the benefit.

You then moved on to cost. The scheme that went into the Bill was quite accurately costed, not by old cheerleaders like me but by the best of the British industry. Every part of the scheme was designed in reality by the people who had designed High Speed 1—the channel tunnel rail link. The initial costs were based on that scheme, adjusted by inflation. That was a scheme of similar complexity, through a densely populated area, with long tunnels into London. It was not very different.



HOUSE OF COMMONS

Each section of the scheme that was worked up for Parliament had a leading British consultant and a leading British contractor, working together. They did not advise on the detailed design, as in whether we had the right number of reinforcing bars in the bridge. Frankly, a road bridge is a road bridge. You know how much it is going to cost, just as what was the Highways Agency, now National Highways—it has changed its name several times—has a very good understanding as a client of what the “should cost” is. When I was giving evidence to the Select Committee, we believed that we had a very good handle on the should cost. If as a client you do not know the should cost, you are going to be taken for a ride, just as much as you will be taken for a ride if you want to get an extra bedroom on your house.

Some things have happened since, and they will probably be the subject of more detailed questions in a minute—I have talked too long. The benefits disappear, even more so if the thing adopts a budget airline approach: “We don’t go anywhere near where people want to go.” It is basically a cost project. There is no benefit if it is curtailed in the fashion the Government say that they want to curtail it.

Richard Bowker: Mr Smith, you make a really valid point about the difficulty of predicting future demand. It is difficult at the moment, given the fact that we have challenges with covid and so on.

On a couple of your specific points, there is a BCR estimated for phase 1. The permanent secretary wrote to the Chair of the Public Accounts Committee on 4 October and set out—as I suspect she had to do as accounting officer—the value for money of remaining with phase 1. She estimated the BCR to be between 1.2 to 1.8. That feels quite high. The reason it is quite high is that it will assume that the costs already incurred are sunk, so, in cancelling it, you do not get anything back. That will be driving that.

It also makes a lot of other assumptions. They are all assumptions. They are not wrong; they are just assumptions. One of the assumptions is that the line still goes to Euston. I will come back to that in a moment, if I may. It also makes the assumption that, in wider economic benefits, level 3 benefits are not included although there are some for Birmingham. We can talk in detail if the Committee would like to understand that further. There is a BCR for phase 1. I agree with Mr Worsley that we have not seen a detailed analysis behind that, but at least we now have a reference point.

However, on the point about Euston I am afraid I do not agree that Old Oak Common is a suitable terminus point. Old Oak Common, as currently designed, I believe can take between six and eight trains. Mr McNaughton may know better.

Professor McNaughton: Six trains.



HOUSE OF COMMONS

Richard Bowker: Six trains reliably per hour. If the railway was to go on to Euston, that can be increased to up to 10 trains per hour. At the moment the plan is to run seven trains per hour over HS2. We clearly cannot do that if we go to Old Oak Common only. Although Old Oak Common is not too bad if you are travelling east to west, we know from previous analysis that an awful lot of people were coming to Euston and wanting to go north/south, to Victoria, Waterloo and so on. They will be significantly penalised, particularly if they are carrying luggage for long distances. I am afraid I do not accept that Old Oak Common is a logical end point. It has serious implications.

I have a final point on capacity. It is very difficult to forecast future demand. I don't think anybody here would say, "We know how that's going to look in 10 to 15 years' time." However, the one thing I would say is that for every rail project and every rail capacity enhancement project I have seen—I cannot think of one where this is not true—we have never looked back and gone, "I think we've put too much capacity in." If we look at projects like the Borders railway recent reopenings and projects similar to that, they are popular if the service is reliable, and they fill up.

The capacity issue of HS2 is the key one. Only going to phase 1—only going to Birmingham—creates massive issues if we need future capacity on the west coast in the future, and I think we will.

Nigel Harris: I would agree with all of that. Going to Old Oak only would be a disaster. You constrain forever the capacity of the railway that it supplies because you just cannot turn the trains around quickly enough. It has to go to Euston to unlock a better BCR. Likewise on Andrew's point about "beyond", probably the best thing you could do to enhance the BCR significantly is to build phase 2a, which is not that long, not that expensive and would transform the usefulness of certainly phase one as well. If somebody had taken phase 1, as the Prime Minister has left it, when he was the Chancellor or at the Treasury, he would have rejected it out of hand, and he would have been right.

Q255 **Paul Howell:** I want to take the discussion in a slightly different direction for a second. Colleagues will come back to the cost of HS2 and different issues. Obviously, one of the things that was said was about the change to where this money is going to be spent now. As a north-east MP, I am quite happy with some of the money that is coming up to us. We have potential capacity issues on the east coast main line.

I want to get your opinion on the question of certainty. We are now saying that we are going to do this, that and the other project, but what sort of certainty do you think exists there? As a particular example of that, there is one in my patch called the Leamside line. There is talk about the money going through the devolved process of the north-east Mayor and things like that. What certainty does that put into the process? Do we have the cohesiveness of a UK rail structure that is going to arise from this? Do we need to look more at that?



HOUSE OF COMMONS

Tom Worsley: We need to make sure that the lines that were in the proposal represent good value for money because the Treasury and the Department demonstrate that spending taxpayers' money wisely—

Q256 **Paul Howell:** I just want to build on that. One of the things that obviously concerns me, in the value for money game, is this. You will always get more economic benefit by putting things into an area of high population. If you don't put things into areas of sparse population, they will never have more population, will never grow and you will never get the economic benefits, albeit there will be smaller economic benefits in the short term. How do we square that circle in terms of the big picture? As one of you gentlemen talked about, if you get frequent transport options, people will get on them. I have no buses in my local patch. I have no trains in my local patch. I come down here and I can get one, just like that, and get everywhere.

Tom Worsley: You have a sparse population and no real prospects of a lot more housing to make rail schemes economically viable. I guess that is a problem. Rail schemes are good at carrying relatively large numbers of people very quickly to urban centres. Dare I say that buses can be a very much better and more cost-effective way of serving local areas where the population is sparse? It is just an inevitable fact that railways are good at providing for heavier flows. After all, most of the branch lines that were built during the Victorian period were complete monopolies because nobody had a car. Once there was any sort of sufficient road transport, the financial case for retaining them, and indeed the economic case, became very weak.

Q257 **Paul Howell:** It does. I am sorry to interrupt, but if you are talking about Newcastle, Sunderland and Middlesbrough, they are not sparse places.

Tom Worsley: No, certainly not. There, you have the Metro and—

Q258 **Paul Howell:** But they don't join up.

Tom Worsley: There was a good case for several Metro extensions in the past.

Q259 **Paul Howell:** I'm focusing too much. I want to know about the cohesiveness of the UK approach. I am trying to use that as an example of the problem.

Tom Worsley: It goes back to the question of whether the schemes deliver value for money because we need to spend public money wisely.

Professor McNaughton: I think you raise some enormously wide and philosophical points. As I come from Leeds and most of my early career was in the north-east, I would not describe the north-east as sparsely populated. I would describe it as totally underinvested over many decades, but it is not alone in that.

Q260 **Paul Howell:** No. That is why I am trying to keep it as the bigger picture



because it is easy to get parochial.

Professor McNaughton: It is quite important to remember that. There are solutions. As he is somebody who has spent 50 years in rail, I bow to my learned colleague here. You start with what the benefits are and what we can do for the cost that supports those benefits. You start with what we can achieve.

I am involved in all manner of things around the north of England where you go, "Look, if the benefits are that big," I do not buy that it is just about narrow economic benefit; it has to be about social equity and regional development. I did an extensive report in New South Wales which showed that the value of investment was in what you did for communities, not how much you can flog a ticket for. Okay, you might need to satisfy the Treasury on the flog-a-ticket bit, but it was about what you achieved for communities. That is why I got so passionate over my years in HS2. It was not because I was so excited about the business community; I was excited about what the changes were to Birmingham, what the changes to Manchester would have been, and what would have been the changes to Crewe and the regions around them.

In the three reports by Sir David Higgins, of which I had the privilege to be a co-author, we emphasised that there were complementary local infrastructure improvements, whether or not it was the whole "Y". It is no good building a tree without the twigs and the branches. You are getting people to work, people to people. I am sorry that this has become a bit of a monologue. I had better shut up.

I am basically agreeing with you. You start with, "What are the benefits?", and then, "Find me an affordable solution."

Q261 **Paul Howell:** Do we think that the change of direction that has now been pointed at can now deliver some sort of cohesion to these other projects?

Richard Morris: Absolutely right. In a way, if we can take ourselves right back, we remember Beeching. Of course, he did not have any idea about social needs at all. He just shut lines because they did not pay. I think now, with reopening a lot of those lines, people are realising that it was a bit of a mistake.

I am totally with Andrew. I think the social side of it is important. You can do a cost-benefit analysis on that. You can say, "Socially, this is a good thing to do." There would be lots of things in this country that did not exist if we could not do that. Maybe that is the answer. If we are going to cancel the north bit and we are going to put the money into the north—so it should be—let's use that as one of the markers as to whether this is worth doing or not.

Richard Bowker: Mr Howell, may I come back to your first point about the Network North proposal? I think we have to be a little careful in



HOUSE OF COMMONS

suggesting, "Oh it makes sense, so we should do it." I do not think that is wise.

Your first question was whether the projects that are proposed to be done instead of HS2 are coherent. Does the project stand up and deliver a strategy? I would say, no, it does not. I am not saying that there are not projects in the Network North list that are not good things to do. There may well be, but they are not a strategy. A project in Ashington cannot be connected strategically with reopening the line to Tavistock. That is not a strategy. Most importantly, the Network North scheme does not answer the same question that HS2 answered. They are different questions. Again, they may both be right, but they are different.

On the question of the projects—you asked about certainty—my answer to that would be no, I do not think it is certain at the moment because both the Network North document itself and the same permanent secretary letter that I referred to before with the BCR on phase 1 both make it clear that, for the £36 billion released, all those projects will still have to be assessed, as Mr Worsley said, on a case-by-case basis and deliver value for money. Some are at very different stages of development. Some are hardly developed at all. They may one day be done, but I do not think we can say today that they will be done.

I have a final point on that. I have changed my view over 20 years. When I was at the Strategic Rail Authority 25 years ago, I was very much driven by the economic and financial analysis. You are absolutely right that, if it was just down to that, most of the projects would end up getting done in London and the south-east because guess where the biggest value for time-saving benefits is going to be. Over time, I think that our appraisal analysis has changed, to a degree. We are much better at understanding the wider economic benefits, and that is great. I also think the point about community, levelling up and investing in the regions is vitally important.

I leave you with this thought, which has probably driven my thinking as much as anything else. In 1997, when I started at Virgin, there were 22 million cars registered on Britain's roads. There are now 32 million cars on Britain's roads—a 40% increase. If we are serious about climate, mobility and doing something to improve all of that, we cannot keep simply adding to our road load. We have to do something with rail, and that includes doing it in regions where perhaps 20 years ago our economic analysis might have said, "It doesn't quite stack up."

Paul Howell: You may be surprised to know that I agree with you.

Chair: We will return to the wider impacts of cancelling the second part of HS2 in a moment. Before we do, Greg has some further questions on phase 1.

Q262 **Greg Smith:** The Government have been pretty public in saying that they need to bear down on the costs of phase 1 and only deliver that



HOUSE OF COMMONS

which is essential. If we look at some of the base numbers on that, since construction of phase 1 began in anger in 2020, some £29 billion has been spent or contracted on it so far. We have seen that number go up and up and up. How realistic is it to bear down on cost on phase 1, given that it is an entirely taxpayer-funded project and that no private investor was willing to touch it?

Professor McNaughton: I think people are expecting me to take the first punt at that one. I have to say that this forms one of my lectures, so if I start lecturing you, tell me to shut up.

It is extremely challenging to bear down on costs on HS2. It is no different from any other infrastructure being built in this country at the moment. It is just that because of the scale the number of noughts is a bit more. If you are looking at the cost of energy, production, power stations, energy lines, offshore wind and the out-turn cost of hospitals and schools, they are all suffering the same increases that you have just outlined.

I see four principal factors. First, does the client know what they really want, and do they stick to it? One of the opportunities with HS2 is that the client—the Department for Transport—stops mucking about with it. Every time you change it, it is basically Christmas for the supply sector. You chuck away the design and start again. Everybody is standing around. The client must not keep changing the scope. Stick to the scope, whatever it is.

Secondly, post the Carillion failure the supply sector is extremely nervous about construction risk, but at the same time the client has been shuffling risk at the supply sector. I call it the slopey shoulders. You take the risk of ground condition; you take the risk of all manner of things. If you are a contractor, you cannot take that risk. You have to insure it. If you insure it, you have to produce absolutely bombproof designs. In my book, that is called over-engineering. There is plenty of evidence on HS2 of over-engineering, as there is on the other projects going on in this country at the moment, such as the electrification projects and things like that.

The last bit is that in this country we are not well blessed with skilled artisans. We have lots of white collar people on big salaries, but we have not been training artisans. Artisans create projects. That is why infrastructure across the board has seen almost super inflation. On the other hand, you might think that going forward with a project as big as HS2 becomes the place where we fix those problems. It will influence the cost of all the other projects going on, including some of the projects that Mr Howell was talking about, otherwise they will be unaffordable too.

Stick to the knitting. Do not give risk to people who cannot bear it. Bear down on over-design and work on standard construction that does not need so many skilled people to deliver it successfully. That is the way to



HOUSE OF COMMONS

control the costs, not just of HS2 but of all the other major infrastructure that you seek to purchase.

Q263 Greg Smith: I take your point on over-engineering. I see over-engineering in my own constituency, where I have 19 miles of the monster. In terms of the point that you make about sticking to a plan, notwithstanding the inflationary pressures, covid, and so on, which I accept hit everybody, the phase 1 plan has not changed much since it was given the green light in 2017. There has been the detailed design, and there are the examples I gave earlier. Once you go and find that that bridge is not going to take that weight or there is a gas main that has to be moved, you see the ratchet effect of the cost, but the design of phase 1 has not fundamentally changed. Yet, we saw the *Financial Times* report recently where an internal review by HS2's then deputy chair, Jon Thompson, found that phase 1 will run many billions over budget, is very unlikely to meet its £40.3 billion target cost, which is £46 billion in 2022 prices, and only has a 50% chance of meeting its upper envelope of £44.6 billion, including contingency that is over £51 billion in 2022 prices. The design did not change but the costs ballooned, and people have no confidence that it will even land in its upper reaches of planning.

Professor McNaughton: My principal case about changing the scope is that there have now been four designs of Euston station, which have cost over £100 million and have been put in the proverbial bin. That is now a case study, as far as I am concerned, of how not to do things.

To your other point—has the rest of it changed since the Bill became an Act?—no, it has not. We knew where every gas main was, to use your example. We had estimates from the utilities about how much it would cost to change them and how long it would take to change them. There was a 50,000-page environment statement that had every blasted thing that could get in the way in order to justify to Parliament whether the scheme deserved an Act. You might then ask me, "What has changed?" My answer is, I do not have a clue.

Nigel Harris: On Andrew's point, and your own, about over-engineering, it is endemic everywhere. It runs through the system, and it adds vast costs. I can give you one interesting and very simple example. The east coast main line was electrified in 1989-90, and the masts down the side of the track go down 2.5 metres. I think I am right in saying that it has never been known for one to fall over. Not ever. For the Great Western electrification a couple of years ago, do you want to take a wild guess on how far every one of those masts goes down?

Q264 Greg Smith: Not as much.

Nigel Harris: Ten metres; five times the depth. You can't see that, but it adds hugely to the cost. That applies to everything, such as bridge foundations. It adds hugely to the cost. There was no need for 10-metre foundations on those massive steel structures when you consider that on



HOUSE OF COMMONS

the east coast main line there were like structures, 2.5 metres, and they had never fallen over.

Q265 **Greg Smith:** Does anyone else want to add anything on the phase 1 cost overruns?

Richard Bowker: This is not a specific point on phase 1, Mr Smith, but a general comment and where I would look. It goes back to the first thing that Andrew said. This is from my experience of buying trains and being in west coast 25 years ago. For projects which get into difficulty, particularly major schemes that are highly complex, always first look at the client and the sponsor for how they specified it and how they managed their client ownership of that project. It is usually all very easy to beat up on the delivery part of it, and I am not saying there are not lots and lots of things to look at there, but always start with how the client specified it and managed it.

Q266 **Greg Smith:** This is the last question from me on this. Phase 1 is cancelled. What is the actual loss to the Treasury once land has been resold?

Richard Bowker: I don't know the number, but there will be all the same costs of the construction, demobilisation, contract unwind costs, compensation claims and land issues. It will be a very big number. I am sure there is a way of calculating it, but I don't have it off the top of my head.

Greg Smith: Does anybody have a view on that? No? Okay.

Q267 **Chair:** I want to return to the consequences of not proceeding with the second phase of HS2 for the existing network. You have already alluded to the fact that it is potentially going to cause, or is likely to cause, depending on your view, considerable congestion in the future. What mitigating measures could be taken at Handsacre and north to lessen that potential impact?

Richard Bowker: I hope this does not sound a slightly glib answer. It is not meant to be. Don't worry about running any more trains than we currently have.

The position at the moment is that we have a west coast timetable. The west coast is congested in lots and lots of places. It would be wrong to say it is only the section from Handsacre to Stafford, but that is particularly bad. If we just focus on that, you are running around 13 paths an hour through there. At the moment, I do not think that freight is necessarily using all of its four, but that will come back; it is probably intermodal traffic that may be a bit soft at the moment. The danger of this is just thinking about real short-term impacts. We have three to Manchester, two to Liverpool, one to Preston and one to Glasgow. We have Chester and a London Northwestern railway service. When you add all of those, you get about 13. That is pretty much what it can do.



HOUSE OF COMMONS

With HS2 phase 1, I think I am right in saying that you potentially get additional pathway. Of course, you free up a little bit of space at Colwich Junction because everything has gone down, so you can potentially run another Manchester to London, but I would need to come back to you on that in detail. That would be very helpful because, if we are not careful, places like Tamworth, Lichfield and Nuneaton will actually suffer post phase 1 because all the Manchester to Londons will be going down HS2 phase 1.

What can we then do to mitigate it? One of the projects we looked at in 2003 was a thing called the Stafford bypass. That was a way of getting round the really bad section from Handsacre to Stafford. We did not do that in 2003. We could not get approval for the funding. That is what HS2 phase 2a is. It is, effectively, the Stafford bypass.

My appeal to the Government is to reconsider phase 2a. That means instead of HS2 trains coming back on to the west coast main line at Handsacre Junction through that corridor, which is pretty much full, all those HS2 trains will come back on to the west coast main line at Crewe. That immediately releases capacity on the most congested section. It means we can have more freight. They go to Crewe anyway. They go into Basford Hall and that is fine. They pause there while working out what else to do. We can get more freight trains through the corridor. We can get more services on the classic network, through the Trent Valley, Tamworth, Lichfield, Nuneaton and Rugby. They all benefit significantly. We get an additional 13 minutes or so of journey time saving. Manchester to London, Liverpool to London or Preston to London will all improve by another 13 minutes.

I suspect the benefit-cost ratio of phase 2a incrementally is very good, but from an operational point of view it is transformational. We may not go to Manchester, but that phase 2a is important. Failing that, I am afraid it is my slightly glib answer: I cannot really think of a transformational way of putting new capacity on that congested section. Yes, we could put grade separation at Colwich. Yes, we could probably widen through the section where Shugborough tunnel is. It is National Trust land and it would be very controversial, but I suppose it could be done. In a 20-year timeframe, those are all still sticking plaster solutions.

Nigel Harris: Tweaks.

Q268 **Jack Brereton:** I want to go a bit more into some of that. You have talked about the benefits that you see from phase 2, but the reality is that it would still have meant serious congestion issues at Crewe. If we look at the revised 2022 SOBC that was put forward by HS2, it would only have resulted in additional frequency of services to two locations, which are Runcorn and Liverpool. Virtually every other destination north of Crewe in the north-west and also parts of the north midlands would have seen the same, or fewer, services than they do today. Why is it that there is the suggestion that there would be additional capacity to those



destinations?

Richard Bowker: I didn't quite say that. You are making an extremely powerful argument for phase 2b and reinstating the golden link, I agree, because it was the golden link that then bypassed the next major congested point, which is Weaver Junction. That would then have enabled us to deliver capacity and improvements to Preston and north, but I accept that is off point.

Phase 2a may not make a huge amount of difference to the number of trains that we can run to places such as Liverpool or Manchester on HS2 services, but it definitely means that we have the ability to run more freight, which we don't without it. It definitely means we can run additional services on what I would call the classic network. If I may give you just one example of that, at the moment if we do not have phase 2a but only phase 1, there will be capacity released south of Handsacre Junction, through Lichfield, Tamworth and so on. The problem is that we cannot really use it. You cannot start a train from there. You can start a train from Crewe. With phase 2a we can run more services on the classic spine to London on that classic network. That is an example of a benefit that we could get. It is a good example of why HS2 was a trunk with branches. The second you start chopping bits off, it is true that some things are no longer possible.

Q269 **Jack Brereton:** Do you recognise that phase 2 would not have solved, as was now proposed by HS2, the serious capacity issues that you were mentioning?

Richard Bowker: It solves the problem between Handsacre and Stafford, which is serious—

Q270 **Jack Brereton:** It moves it to Crewe.

Richard Bowker: That is a very interesting point. Part of the problem with the west coast main line is that when you fix one problem you sometimes kick it down the road. I agree. However, moving it to Crewe benefits another very important corridor, which is Birmingham to Manchester. We have services that cross over at Stafford and then they can turn right at Norton Bridge and go through Stoke, your constituency. That improves if there is stuff not going up the west coast main line, crossing it and going through Stafford, so that is an improvement.

Q271 **Jack Brereton:** I want to ask a bit more about the business case. As a Committee, when we have had witnesses here, we have repeatedly requested updates to the business case and production of revised figures. Obviously, a lot of this is still set at 2019 figures. We have not had that forthcoming for the whole project. It has been something that the Department and HS2 have been unwilling to produce. We have discussed a bit this morning the potential business case for what remains of HS2, but isn't the reality that we do not have a business case that is updated for any of the project?



Tom Worsley: At least a detailed business case, which you might expect to see. Very important is a business case predicated on the uncertainty about rail demand growing in exactly the same way as it did in the past, which are the relationships in the model that we use to forecast demand. Yes, it needs to be done, and it needs to be done recognising the uncertainty that should be entering the appraisal process. Indeed, the Department for Transport has quite a good set of alternative scenarios to emphasise the future uncertainty about population, income growth and where those things happen.

Q272 **Jack Brereton:** How significant would that work be? What amount of detail and what length of time would it take to undertake that sort of analysis?

Tom Worsley: I hesitate to answer because sometimes when you are doing these things my memory is that problems arise that you were not anticipating. I do not think it should take terribly long. I guess the bigger issue is how much updating you want to do of, as it were, the base from which you are looking at these forecasts of growth and, in particular, whether you want to try to get a better grasp on what has happened to business travel, which, although not a huge proportion of travellers, is the type of travel that gives you the greater economic benefits. Business time savings are so much more valuable than leisure time savings.

Q273 **Jack Brereton:** In terms of the wider scheme, obviously there was a focus from the very early days on having quite a gold-plated project. There was not a focus necessarily in the early days on capacity. It was initially very much about speed and making sure that we connected as quickly as possible. Andrew said it is not very different from HS1. Actually, this railway was going to have a higher intensity than any other railway that has ever been built before in terms of the frequency of services that it was designed for. It is a much higher intensity of design than has ever been accomplished. Why was it that we designed a scheme that was to such a very high level of design standard? Why were alternatives not considered that could have actually delivered far better capacity at some of the key locations on the west coast?

Professor McNaughton: First of all, it was designed for maximum capacity. That was the remit from Government. Maximised capacity does not make a hell of a lot of difference to a two-track viaduct. It makes more difference when you get to stations where you need more platforms and things like that. If you are going to build a railway with viaducts, tunnels and everything else, and it is a two-track railway, you can either run it intensively or not. It introduced some additional costs for capacity, but we demonstrated over and over again through the long years through Parliament that the additional costs were twofold. One was the decision to put more of the line in tunnels. That was partly because of the intensity of service and therefore the effects on communities. The other was that although some aspects, like the track, would need to be designed more robustly to take the cumulative tonnage, speed made pretty much no difference.



HOUSE OF COMMONS

I take issue with you, if you don't mind, that from the early days it was described as rather like the start of High Speed Rail in France. We need new capacity, and the incremental cost of new capacity at high speed is marginal—a few per cent—over the cost of new capacity at lower speed. Speed is really not an issue.

Q274 Jack Brereton: It affects the line of route, doesn't it, in terms of going near much more sensitive locations?

Professor McNaughton: My answer to you on that was in the environment statement and the evidence to Parliament. The work was done for us by people like Arup and showed that, if you reduced the speed, you would not actually change the alignment of phase 1. Why not? Because it already curved between communities. If you curved it more, you would simply take it nearer one community and away from another. Whether you ran it at 360, 350, 320 or 300, it was the same alignment. It was the least impactful alignment. I am sorry if I sound a bit dogmatic on this. It is simply not the case that speed impacts the alignment if you are going to build a new railway. It would be pretty much the same railway whatever speed you ran it at.

The intensity of service was there because it was a capacity scheme and because it was a new railway. Another few per cent gave you a capacity scheme with shorter journey times. From day one, if I go back to the original remit in 2009, it was to introduce new capacity.

Q275 Jack Brereton: We heard a minute ago that even with phase 2 there would still have been serious capacity constraints on the wider network, which would have prevented any enhancements to services to most of those destinations in the north midlands and north-west. How is it possible that this scheme would actually deliver additional paths through to those stations?

Professor McNaughton: First of all—I realise that I did not answer part of your question—the Department for Transport did a completely separate counterfactual set of studies which concluded that to achieve anything like the same capacity increase that the various stages of High Speed 2 did, it would probably cost more, plus two decades of not running trains at weekends. There would be disruption of the existing network and probably a higher impact because the existing railway runs smack through the middle of towns and villages everywhere. In 200 years, communities have grown up around the railway. You cannot just expand the existing west coast main line.

I come back to this. Phase 1 released capacity for additional commuter trains to the growth area of Milton Keynes, Northampton and that corridor. That is, of course, still the case, provided that HS2 goes to Euston and therefore people actually use it and you can take the fast trains off the Milton Keynes area. Phase 2a released capacity for freight, which has probably been understated, to change the relationship between Birmingham, Manchester and Liverpool. Yes, you are right that it



HOUSE OF COMMONS

introduced some challenges at Crewe. They were challenges that Network Rail considered it could cope with, and I believe still does. A small part of phase 2b took out the other major bottleneck between Crewe and Preston, but most of the cost of phase 2b was actually the cost for the works that were equally going to be used by Northern Powerhouse Rail, which was all the route into Manchester.

Q276 **Jack Brereton:** But that can be delivered separately.

Professor McNaughton: You can spend the same money and just run Northern Powerhouse Rail and not run HS2.

Q277 **Jack Brereton:** A very small section—

Nigel Harris: It is £12 billion-worth, but you would only have NPR building it—

Professor McNaughton: I am really sorry—

Q278 **Jack Brereton:** I want to move to the actual question. In terms of improvements, what additional alternatives could be done without phase 2? Phase 2 is not coming back, as we currently stand. What alternative schemes could be done? We have already had some suggestions from Mr Bowker in terms of Colwich, and potentially improvements at Stafford. What other improvements could be done on the west coast to release some of that capacity?

Richard Bowker: They will have to be worked up. They will have to be designed. The working assumption, not unreasonably, is that HS2 created the shift that would resolve an awful lot of the capacity problems for a very long time. There probably are plenty of other schemes, but I suspect we will now have to go back to that smorgasbord of schemes.

We have been here before. If I can be permitted to reminisce briefly because it is very relevant, when the west coast route modernisation was last done in 1999-2009, it was exactly the strategy that we are describing. It was a whole group of schemes. They included the remodelling of Rugby station and a grade-separated junction at Nuneaton. There was four-tracking through the Trent Valley and power supply upgrades. The whole thing ended up costing around £10 billion and was very disruptive to deliver. We closed Stoke-on-Trent for three months. We could not run any trains through. We built a fantastic bus station opposite the railway station and then, when we had done that, we moved to the Crewe to Wilmslow section and did exactly the same for three months. There were blanket possessions. It was a blockade. It was the only way to do it without two or three years of disruption every weekend.

I think there is perhaps a belief that small incremental upgrades are hassle-free. They are not hassle-free. They are very disruptive, and they can be expensive.



HOUSE OF COMMONS

Q279 **Jack Brereton:** Phase 2 would not have been hassle-free. There were going to be hundreds of days of closures at Crewe with phase 2. The suggestion that any—

Richard Bowker: Phase 2a less so, but you are right, and the point is fair. There is no hassle-free solution. I accept that completely, but modifications to the existing railway, as a rule, are more disruptive and do not deliver the same benefits.

I have a final example of that. When the west coast route modernisation was complete, it delivered a lot of additional seating capacity. This goes back to Tom's point. It is not just about the number of trains. It is the number of seats in the peak. It increased it quite significantly. By 2018, we had used it all up. We were back to the same load factors in 2018 that we were in 2008. These schemes are good, but they are not the answer for the long term.

Nigel Harris: The west coast route model was a nightmare. Was it 13 years, Richard? At one stage it was £13 billion and came back to £9 billion. There was massive disruption every weekend. It cost a fortune and the capacity uplift is a fraction of what you get with a new railway. As Richard said, we had used it by 2018. The answer to your question is that west coast route mod 2, with endless closures and disruption going on years in your constituency, will produce a marginal uplift.

Q280 **Jack Brereton:** As I think I just alluded to with Mr Bowker, the actual phase 2 proposals would have resulted in hundreds of days of closures at Crewe and disruption—

Nigel Harris: It would have lasted for 50 or 100 years, not maybe 20 as the west coast route mod 1 did. Personally, I think it is a massive waste of taxpayers' money to go for west coast route mod two with all those little bits and pieces that will take forever, with massive disruption, and will cost a fortune. It is not a good use of public money, whereas a new railway which delivers massive—

Q281 **Jack Brereton:** I have one further question. Why has more not been done to look at bringing more freight across east-west? A lot of freight at the moment, particularly from Felixstowe, goes down the North London line, across and then up the west coast. Why has more not been done to actually bring that freight east-west, which would be a shorter route and save on driver hours and journey time? Why has more not been put into that as an alternative?

Nigel Harris: I think when you were chief engineer at Network Rail, Richard, there was a scheme—I remember writing the stories in *Rail*—to upgrade the midland line through Peterborough, Stamford, Melton Mowbray and that way. There was no money; it never got done. You are right. I have been in the cab of a freight from Felixstowe, round the north link. It is just unbelievable.



HOUSE OF COMMONS

Richard Bowker: I think the reality, Mr Brereton—I may need to check this number and come back to you on it—is that something around 40% to 45% of intermodal freight uses the west coast main line. We have significant flows coming out of Southampton, for instance. They end up joining the west coast main line, probably at Stafford. Then the stuff that is coming east-west, coming over from Ely, comes on to the west coast at some point. Actually, the west coast main line is a very significant corridor for all intermodal freight, whether it is coming from Southampton, Felixstowe or Ely.

I know that one of the schemes that was talked about in the Network North programme was upgrading so that stuff could come over from Ely. That is a good thing, but the issue is what we do when it gets to the west coast main line. A lot of it is Anglo-Scottish. One option, of course, might be, if you took a really strategic view, to consider Settle, Carlisle, Glasgow South Western. There could be upgrades over time. They would have to be electrified. I don't know whether that is feasible or not.

Q282 **Jack Brereton:** Or Crewe-Derby, possibly.

Richard Bowker: Crewe-Derby is quite a constraint, but the point is fair. There are routes across, but the west coast main line, partly because of investment in places like Daventry and so on, is a really important corridor for intermodal freight. That is why the capacity issue through the Trent Valley is so important.

Nigel Harris: I urge you to read the paper that Maggie Simpson has produced—four years of briefing paper—which brings it into sharp focus, particularly about the investment that is either already committed or has now been put off by logistics companies in terminals and everything else. It is just going backwards because of the uncertainty now.

Jack Brereton: I will have more questions later.

Chair: We hoped to have Maggie as part of the panel this morning, but she had other commitments and was not available. We have had her submission.

Nigel Harris: Her briefing paper is excellent. You can see all the asterisks that I have scribbled on it.

Q283 **Chair:** Thank you. I would like to go back briefly to Euston, not in the sense of the question whether it should be Old Oak Common or Euston, but what the Government are proposing. Richard Morris, drawing on your experience from Crossrail, how realistic do you think the plans are in creating a development company to use the Euston HS2 as part of a wider regeneration and business investment scheme?

Richard Morris: Certainly it is possible. I have heard some very strong views about whether Euston should be the terminus or not. I do not agree with those.

Q284 **Chair:** Let's assume it is coming to Euston in terms of what the



HOUSE OF COMMONS

Government envisage for the project.

Richard Morris: I think they envisage going out to private investors to build the line between Old Oak Common and Euston, or to finish it I should say because some of it is presumably built already. There is nothing wrong in that at all if you follow the sort of things we have been talking about on the specification and any change there is in the project, getting the operator involved early, again, to make sure we have the right infrastructure that we need. Do we need all the platforms that have been planned at Euston? I do not know. I really do not know because I have not looked at the plans. Do we need them, or could we save something there? There is nothing wrong in looking at that in the way that the Government have suggested, in my view.

Q285 **Chair:** Do any of the other panellists have a view on the actual development scheme for Euston?

Richard Bowker: Only to say, Chair, that it is a railway station. That is its primary function. With railway projects—anything on the railway—there are really only two sources of income; it comes either from the fares that passengers or freight users pay or from subsidy. That's it. Private development anywhere has either got to generate another source of income, which could be from a property stream, or it has to get refunded or repaid out of fares or subsidy. That is going to push the cost up because the weighted average cost of capital in the private sector is higher than the Government.

All I urge the Government to do is this. If you are looking at Euston as a property scheme, great as long as it does not get in the way of or does not hold up delivery of its primary function, which is to be an effective terminating point for HS2.

Q286 **Chair:** Is the number of platforms that they are now thinking of going to be sufficient?

Richard Bowker: If it is six platforms, it would enable you to run a 10-train-per-hour service down HS2 phase 1, with one of them using what is called grade separation. Unless you have that, it is very inflexible. If there is any disruption, it is really problematic. A stronger word would be more accurate, but probably inappropriate. It needs to be six platforms with one grade separated, and then you can run, I believe, the HS2 phase 1 service at 10 trains per hour. Less than that it does not work.

Q287 **Chair:** Thank you. Andrew?

Professor McNaughton: The evidence we gave to the Committee at the time was that the original intention was to open a six-platform station in phase 1 precisely for the reasons that Richard has given. The more important aspect was to have grade separation rather than the specific number of platforms. There was a strong argument that it needed to be seven because the first time a train had a defect, you would lose the service and you would be cancelling trains because there was nowhere to



HOUSE OF COMMONS

put them. My nuance on Richard's point is that seven gave you a robust solution, and we anticipated that we could get away with six for a few years until we were running at anything like full capacity.

This plays to my earlier answer to you, Mr Smith, on scope. I wonder whether the Government, when they decided that a good place to build over a station and its approaches was Euston, understood the implications of doing that. It turns it into an underground station for fire, heat, ventilation and servicing—all the things you need to do with a station. I am not at this point worried about the fact that for passengers it is the new Birmingham New Street in terms of a poor environment at platform level. The amount of additional engineering to put a major station underneath a concrete layer that you are going to build tower blocks on is very high indeed, and probably lies at the core of some of the ballooning costs of Euston. Even at Canary Wharf the high-rise blocks, which are some of the biggest in the country, are not over the top of the tube station. With most places in the world, other than Japan where land prices are extraordinary, you do not build over the top of stations because you complicate things so much.

Q288 Chair: I am conscious that we are currently sitting over Westminster underground station, which was not a cheap building.

Professor McNaughton: Not cheap and rather small.

Q289 Gavin Newlands: Over to the more positive for HS2 side of the table. It has become a mess. We currently have Network North, the integrated rail plan and Northern Powerhouse Rail. Is there, or should there be, a strategic relationship between all three? All three of them seem to be quite disparate. Are they joined up? Is a piece of work now required to look at all three project streams to try to align and integrate them, bring more efficiencies and add value to them? I will start with you, Richard, with your experience at the SRA.

Richard Bowker: There was a strategic link between Northern Powerhouse Rail and HS2. One of the things we have not really talked about today is the impact of all of this for Manchester. Since that is where I come from, I suppose I should fly the flag a little. Manchester ended up with 400-metre platforms at Piccadilly. It is now only going to have 200-metre platforms, which means that the number of trains we can run to Manchester is significantly reduced in capacity as a result.

On integrated thinking, there was a plan for Northern Powerhouse Rail and HS2. That has been changed. It has been altered now. Northern Powerhouse have to rethink that. They need to integrate it with the TransPennine upgrade, which is another £10 billion project for 60 miles of railway upgrade over into Yorkshire. There needs to be some integration there.

I hope this is not unhelpful. I don't quite see how you could integrate Network North into that because it is not really a strategy in terms of the



HOUSE OF COMMONS

schemes. Please, I am not saying that I don't think any of them make sense. I would not say that. There are some projects that will make sense, but I would not call it a strategy in terms of a series of projects. I am not sure you can integrate that, but definitely with Northern Powerhouse, TransPennine and the projects in Network North that affect it, with Bradford as one example, yes, there should be an overarching strategic coherence.

Q290 Gavin Newlands: Before I come to the other members of the panel—I saw some nodding heads as soon as you brought it up—the Government have said that they are allocating £12 billion to the link between Manchester and Liverpool. That will obviously go to NPR. You have alluded to the challenges because of the cancellation of HS2. How should this £12 billion be spent? If you were in charge of the £12 billion, how would you spend it?

Richard Bowker: I don't know because the issue around connection of Liverpool to Manchester involves a lot of individual moving parts. We have the Castleford corridor to think about. We have the Ordsall curve. We have to worry about how we are getting stuff from Manchester airport. Don't forget that HS2 delivered a very significant connection between the airport and the city. We have to think about how we then connect it with the TransPennine upgrade.

One thing we have not mentioned is the integrated rail plan of November 2021 which also foresaw a new line over and through the TransPennine to Marsden. Presumably, that has gone. The £12 billion will go very quickly. Somebody needs to take a step back and go, "Okay, what benefits do I want to try to get here, and what can I do for the money?" That was Andrew's point earlier. I would just put it over there for now and go, "Right, what are we going to do?"

Q291 Gavin Newlands: Nigel, on the link, or lack thereof, between the three transport streams or projects, and if any of you has any ideas on how to spend the £12 billion that Richard has parked to one side for the moment, how can we integrate at least some of those better?

Nigel Harris: Of course, integration is always a good idea, and it was there. HS2 and Northern Powerhouse Rail shared the tracks from Manchester airport into Manchester for £12 billion. As Mr Brereton said, it could still be done separately, but it is still going to cost £12 billion and it won't have HS2 services or the contribution to it, which strikes me as a really dodgy use of taxpayers' money. For the "Disintegrated Rail Plan", you need to talk to Henri Murison; he can give you chapter and verse on it. Integration has to be a good idea. What there was has been blown apart. How that qualifies as levelling up, I cannot understand.

Richard Bowker: Building on that slightly, I don't believe there was a final scheme for what Northern Powerhouse Rail would be. There was a working assumption that at least there would be some shared infrastructure. There is still quite a lot of work to do on Northern



Powerhouse Rail. It is just that now they do not get the benefit of sharing. They have to make a case for it as a stand-alone project but, hopefully, integrated as much as they can with the other things going on, like TransPennine.

Q292 Gavin Newlands: Does anybody else have any thoughts on this? No? Moving on, the point has already been made that a lot of the advantages in HS2, and indeed in any transport infrastructure investment, are not just about the money. The point was made about the social value. I would certainly support the fact that the social benefits, if you want to call them that, are of equal value to any economic benefit.

If we look at the economics for a second, particularly the impact on regional economics, we have already mentioned Manchester, but what advantages will high speed, as it is currently envisaged, bring to Scotland and even the north-east of England? Are there going to be any real advantages to Scotland or the north-east of England of HS1?

Nigel Harris: There were advantages. The north-eastern ones went with Leeds. Scotland took a big hit with the golden link going. I remember writing a piece in *Rail* saying, "Holyrood, are you listening? Are you watching because this materially affects the sort of service you're going to get long term?" It is so frustrating when there has been some genuine long-term thinking. The benefits for the north-east and Scotland were in there and have effectively been trashed.

Richard Bowker: It is worth pointing out that all services that use HS2 for part of their journey will get some benefit. There will still be one Glasgow per hour, for example. When it gets to Handsacre Junction it will be able to use HS2, so that journey time benefit cascades through all the services, the half an hour or so, whatever it is. But in terms of additional services, no, because there is nowhere to put them as they come down through the west coast.

Q293 Gavin Newlands: Do you envisage the problem that HS2 trains currently would have to run at a slower speed than the Pendolino trains on parts of the classic network? At the moment, I think they can only travel at 110 mph as opposed to a Pendolino travelling at 125 mph on parts of the west coast main line without upgrades. Do you envisage that being resolved fairly quickly? At the moment, we might see journey times being worse for Glasgow.

Richard Bowker: No. I think there are some potential solutions; Andrew may want to expand further. Tilting trains were a moment in time. I think we probably can put in place 125 mph non-tilt paths. The tilt is quite a significant weight penalty as well. If you don't have it, you benefit from that. I think there is a way through that particular issue, and not ending up with a problem. I am into areas that are more technical, and Andrew is far better qualified to talk about it.

Q294 Gavin Newlands: That's fine. I want to stick to the regional economics. Tom, I will come to you. There are no MPs here from London. Paul



alluded to this earlier. There is always the feeling that, essentially, any transport project that is possibly imagined will be funded if it is in London, whereas there is always an excuse not to fund transport infrastructure anywhere else. I am talking about the north-east, the east of England and the south-west. That is where a lot of this comes at us from. Would you accept that historically the regions of England—I am not talking about Scotland—have been massively underinvested in terms of transport infrastructure? Yet again, we see another infrastructure project being cancelled in the north.

Tom Worsley: I guess that is the case. As I said earlier, rail investment makes better economic sense in its use of capacity in densely populated areas. However, and this is a very important caveat, now the Government have decided that no investment project should be even thought about or analysed unless it meets the Government's wider objectives, which include things like carbon, levelling up and contributing to the economic growth of all of the UK.

Sitting in London, you might say it is much more difficult to put forward a scheme that is a London scheme. You will remember perhaps that there was a scheme for a Crossrail 2 project. I think the Government decided that it would never really be considered because it was a scheme in London. There has been much more focus not just on the narrow economic benefits but on the wider objectives of Government, and hence of the schemes they implement. It is not absolutely clear how the balance between very good value for money and meeting regional objectives is determined. Nevertheless, those parts of the appraisal are now part of the economic appraisal.

Q295 **Gavin Newlands:** I appreciate that some of these questions are quite difficult to answer, but I would like your opinion. Can any comparable benefits be delivered by the Network North plans that the Government have brought forward as a replacement for HS2 phase 2? I understand that it will be different and some of the projects will be excellent projects locally, but in your view can comparable benefits be realised by these plans?

Tom Worsley: I am somebody who believes that one needs to look at the data and the figures to try to understand how schemes might benefit people, how they might change people's travel patterns, the location of the economic activity and where people live. There are ways of doing that. They are difficult, but Transport for the North has a spatial economic model that they use when they are looking at these sorts of schemes, so that you can get an idea of how they might contribute to regional economic growth. It is better to use the data and the estimates of how people will respond rather than just making a guess.

Q296 **Gavin Newlands:** Given that we will have HS1 just between London and Birmingham, rather than driving economic growth across the UK, will that not bake in the disparity between the growth elsewhere in the country and in London and the south-east?



Tom Worsley: I guess it depends on how the savings from not proceeding with HS2 are spent, and whether they are spent on schemes that help to deliver economic growth. It is worth saying that transport delivers economic growth by improving accessibility. It makes places easier to get to, and that is measured either by time savings or by changes in economic activity and economic growth.

In order to deliver economic growth from transport schemes it is important that other measures are in place. In other words, you have a local authority that wants to give planning permission and encourage people to come and locate in the places that are better served, focusing on training and education to have a really well-skilled workforce because that is going to deliver higher productivity. The more one can accompany transport investment with other measures, which are not DfT's responsibilities, the more likely it is that you will see those desirable outcomes.

Q297 **Gavin Newlands:** Joined-up government? That will never catch on. I will ask Richard before I come to Andrew.

Richard Bowker: To build on what Tom just said, one of the things that HS2 would have done—you can call it levelling up or equalisation—would have been to make it much easier to get between key nodes in the country. A very good example of that would have been Birmingham to Manchester. It is nothing to do with London. Birmingham to Manchester currently takes about 90 minutes. It is a very difficult route on the railway. By having HS2, not only would the existing railway have then been freed up of two trains an hour at least doing Birmingham to Manchester, thus enabling Andy Street to run more services to Wolverhampton or Andy Burnham to run more services around Manchester, but HS2 would then have made Birmingham to Manchester 41 or 42 minutes. It is currently around 88 or 90 minutes.

When you do that, it is genuinely game changing. The thing that Tom was talking about around changes in business activity, such as clustering and businesses relocating between those nodes, then starts to happen. In fact, some of those benefits were not factored into the business case. The level 3 wider economic benefits that rely on land use change are not in the numbers because they are very hard to calculate.

All of those journey pairs, if you like, in the midlands and the north which would have been transformed by HS2 now do not get that benefit. I am not an experienced enough economist to be able to say, but I cannot see how Birmingham to London would not have an impact on where you would want to be.

Q298 **Gavin Newlands:** Richard?

Richard Morris: Can I add something to that? Listening to what has been said, it has just struck me that we have heard lots and lots of options and alternatives to HS2 in the north; lots of junction changes and



HOUSE OF COMMONS

all sorts of things. Where is the body, peopled by people who understand what they are talking about, rather than sometimes people who don't, that actually gets hold of all that, makes a strategy and says, "This is what we are going to do"? Where is that body? I still do not see it. The SRA has been mentioned. I worked at the SRA too. I was under Sir Alastair Morton when it started. He left because the Government interfered with him and said, "No, we're not going to do that." He said, "Well, I'm supposed to be chairman of the SRA," and he left. He told me that he had left, and he took me with him to Eurotunnel. That is another story.

Where is the body that decides transport policy for railways throughout this country? It is not in the DfT.

Nigel Harris: There isn't one.

Richard Morris: There should be, shouldn't there?

Nigel Harris: Yes.

Q299 **Gavin Newlands:** The Committee may come to a consideration on that. We have spoken in recent sessions about transport strategy and perhaps having an overarching transport strategy that looks at all modes and how you best integrate them. Obviously, Scotland has one. They don't have one down here. I think you probably have to start from that base.

Nigel Harris: Transport Scotland does a good job.

Q300 **Gavin Newlands:** I will use that quote as much as I possibly can now. Andrew, I will come to you on the point I was making about taking a step back, looking at the IRP and NPR and how best to add value to the projects by integrating them. This is my last question. Have the Government made a robust enough case yet on their Network North plans, in your view? Nigel, if you want to come in on that, you are more than welcome.

Professor McNaughton: You saw Sir John Armitt, chairman of NIC, make the point that the heart of the integrated rail plan was HS2 phase 2, as configured. Therefore, on your first point as to whether it needs to be looked at again, yes, fundamentally, because you have just lost the backbone of the skeleton. What are you left with? The flappy bits. That is a major exercise. Who is going to do that and in what reasonable time? I won't. I'll be dead by then. We should not have debates among your successors in about 2040, "Oh, what do we do?" I will now hand over to Nigel.

Nigel Harris: I find it hard to take Network North and the whole thing seriously when it includes listed schemes in Southampton, when it meant Littlehampton; or when it proposed building tram extensions to Manchester airport that were built more than five years ago. How can such a plan really be taken seriously? When challenged on it, they said,



HOUSE OF COMMONS

"Oh well, it is a possible illustrative list of things we could do." I mean, for God's sake, that is no way to plan transport.

Gavin Newlands: You won't hear me argue with that, Chair.

Chair: To flag up a separate inquiry that we are doing, which will probably run into next year, we are looking at the more strategic transport objectives, not just for rail but for transport across the piece and how that then fits into other policy areas. We will be doing a piece of work on that.

Grahame deserves a medal not just for waiting his turn today but for all the service he has done in the hybrid Bill Committee.

Q301 **Grahame Morris:** You are too kind. I did nine months on the hybrid Bill Committee for HS2b from Crewe to Manchester and heard extensive representations from the Manchester Partnership about the economic case, but we were not allowed to publish our report. I am fascinated by the whistleblower's testimony that has been reported in *The Times* about the cost overruns, particularly in relation to the estimates of the cost of purchasing land and property for the scheme.

I suspect we have a similar view about the value of phase 2a. I do not know whether the Government's decision is a full and final one. In terms of west coast capacity connectivity and the freight elements, it makes enormous sense to complete 2a to Crewe at the very least. I know there is a difference of opinion on that. This is the question I would like to ask. What should happen to the land that has already been purchased for 2a?

Nigel Harris: Safeguard it.

Q302 **Grahame Morris:** Richard?

Richard Bowker: I preface this by saying that I am not a land expert at all. My understanding is that there is a period of about five years from Royal Assent when the land has to be acquired. There is an ongoing programme. They have not acquired it all at the moment.

Q303 **Grahame Morris:** My understanding is that they are selling it.

Richard Bowker: There has to be a scheme that is consistent with public value for land disposal. I don't know if that scheme is fully in place yet. I suppose this is a conviction view, but I will say it anyway. I genuinely believe that phase 2a should happen. I absolutely take on board Mr Brereton's comments earlier about Crewe. It is an issue. It is a fair point, but there are ways of resolving that.

In a way, phase 2a is like the Stafford bypass that we looked at 20 years ago and could not do. It is the way you deliver significant capacity improvements for freight and significant reliability improvements for the rest of the west coast. You can then run some Trent Valley services, which I suspect, without it, you cannot, or not without running out of capacity. If there is any way that the land sale could be paused while



HOUSE OF COMMONS

there is a calm and considered view as to whether phase 2a could proceed, I would think that was an extremely wise thing to do.

- Q304 **Grahame Morris:** Does anyone on the panel have a counter view? I think it is quite sensible. I want to ask Professor Andrew McNaughton about the impact of the cancellation more generally on the economy, on UK engineering and on train manufacturing. What is your view in relation to the decision to cancel?

Professor McNaughton: I'm not sure I am the best person to ask. My impression is that, again, the major British supply industry—

- Q305 **Grahame Morris:** Like Hitachi, based in my region.

Professor McNaughton: It is Hitachi, but it is not just Hitachi, because if Hitachi are not building High Speed 2 trains, they will be competing for building others. You have the players building in a smaller pot.

The supply sector is actually thousands of companies. Hitachi put the trains together but look at the hundreds of SMEs in the midlands who produce the pieces. The same is true through infrastructure. It is not just steel and concrete; it is the complex control systems and overhead line systems. Those are all just taken out of the supply sector. Obviously, that has to have an impact. I am not someone who can say to you how big an impact it is, but the scale of it sounds pretty big to me.

In one of my roles, in the Institution of Civil Engineers, I have seen genuine shock among senior people, who are pretty robust, about the impact on their plans for apprenticeships and training. The one thing they say is, "You can't stop-start these industries."

- Q306 **Grahame Morris:** Funnily enough, when we had the Rail Minister here I asked about the numbers employed, particularly apprentices and so on. He was very proud about the numbers who were employed with HS2.

Professor McNaughton: Well, you can forget that. Please forgive me, Chair. I want to say one thing about Crewe that I didn't adequately answer.

Back in 2005, when I was still chief engineer of Network Rail and in charge of the investment panel, the question was, "What do we do with the problem called Crewe?" It was completely rebuilt in the 1980s—life expired, signalling, track, everything. The answer was, "We're going to have to dig it all up again." Whether HS2 comes or not, Crewe will be dug up because it is life expired. The only question is whether it is dug up in the form that was going to be anticipated for phase 2a, and eventually 2b, or by a different scheme, but dug up it will be.

Richard Morris: Can I add something to the question that Mr Morris asked?

- Q307 **Grahame Morris:** I didn't declare an interest because we are not related.



HOUSE OF COMMONS

Richard Morris: Not as far as I know. I would have thought that one of the effects of these sorts of cancellations on firms that make rolling stock, or building firms and certainly apprentices would be to make them say, "Well, next time we put in a tender for something we'll push it up a bit, just in case. If we get the money, then very good but we'll make it more expensive." With apprenticeships, sadly, I think that people will say, "We're not going to take them on yet because we need to wait and see whether it's going to occur or not." Those uncertainties make projects possibly more expensive, and certainly affect the young people who are coming forward to try to learn their trade. I would have thought so.

Q308 **Grahame Morris:** I quite like it when we have a panel I can disagree with, Chair, but I am finding it quite difficult.

You gave an answer to my colleague, Gavin, a little earlier in relation to the uncertainty about some of the Network North plans. If Ministers are saying, "We can mitigate the employment impacts and the impacts on businesses and so on because there are £36 billion-worth of other schemes," but without those being firm commitments, it is very difficult to say that there is any meaningful mitigation.

Nigel Harris: There isn't. None of those is just going to be handed out. They all have to go through the same scrutiny as everything else. There's a view that there is a room at the Treasury full of gold, and people can just take barrowloads away and spend it. Well, they can't.

Q309 **Grahame Morris:** Finally, Chair, I want to ask Nigel a question. He mentioned in an earlier answer logistics companies investing or not investing in freight terminals. What is the likely impact going to be in relation to foreign investments in particular?

Nigel Harris: It is going to be the same; I commend you to this because we are running out of time. Maggie's paper lists all the fears about logistics companies already backing off from committing to warehousing along the west coast corridor, where they were assuming they would be able to use all the released capacity for significant extra growth. I think I am right, Richard, in saying that there will be no capacity for any more trains.

Richard Bowker: Not with just phase 1, I don't think. Not through the core section, no.

Nigel Harris: With net zero and everything else, we cannot run another freight train on the west coast on the northern stretch because of this. It is just catastrophic.

Grahame Morris: Thank you, Chair.

Chair: I am conscious of time, but Jack has one or two final questions.

Q310 **Jack Brereton:** First, I want to ask about the issues that you have mentioned around Crewe. I don't think there is anybody who would disagree that there is a need for investment at Crewe. My question is,



HOUSE OF COMMONS

why would phase 2a actually do that? Would it address that? I don't think it would. I have already quoted to you the SOBC figures on the revisions that were made. The reality is that those proposals as part of 2a would not have seen any new capacity created at Crewe. It would simply have resulted in paths being created from a removal of existing local and regional services to put HS2 services through there.

Is there anything that you can say to me that would actually demonstrate that phase 2 would create any additional capacity at Crewe? At the moment there is nothing that I can see from the proposals that came forward that would actually do that.

Professor McNaughton: It becomes a very detailed answer if I am not careful, and I want to avoid that. The way in which Crewe was due to be reconfigured created capacity and reliability that the existing layout, which is essentially still a steam age layout, suffers from. When it is rebuilt, that will happen anyway because—

Q311 **Jack Brereton:** There are no additional platforms.

Professor McNaughton: Platforms are not the problem at Crewe. The problem is the approaches and the conflicts. It is always the case with stations; people focus on platforms and platform numbers, but they do not focus on how you get the trains to the platforms. We are seeing the same problem on the TransPennine upgrade. You zip across the Pennines; you approach plenty of platforms; you have a junction.

It is worth a much more detailed answer than I can give you as a kind of elevator pitch, but HS2 was part of sorting out Crewe for the future, rather than living with the 1980s Crewe that we have.

Q312 **Jack Brereton:** Perhaps you could write to the Committee because, as I say, the figures that we have of the revised 2022 SOBC would suggest otherwise in terms of the additional paths that can be created through Crewe. I question your assertion that it is about the approaches. The reality is that the proposals that were put forward as part of phase 2a would actually have connected into the slow lines at Crewe, which would potentially have removed further capacity from the station. I would be grateful if you could please demonstrate what your views are by writing to the Committee with full details about the proposals around Crewe.

Professor McNaughton: I will see if I can do that. I am not sure if I have the necessary evidence now, some years on from when I was last involved, but I shall do my best.

Q313 **Jack Brereton:** I wanted initially to ask a question about Handsacre. There are concerns that the design for Handsacre will need to be further revised now. I do not know if you are aware—I am sure you may be—that the original proposal for Handsacre was for it to connect into the fast lines, but then it was changed by HS2 in 2018-19. Why was that decision changed?



HOUSE OF COMMONS

Professor McNaughton: It was changed because 2a was taking the majority of services direct to Crewe. Therefore, it would not be used anything like as intensively and there was a cost saving from a simpler, de-scoped Handsacre. It is probably arguable whether you needed Handsacre at all, but it maintained the connection to Stoke-on-Trent.

In the original scheme there was only phase 1. All trains north of Birmingham would come off HS2 and join the west coast there, so it had to be, let's call it, a full fat scheme that joined the fast lines. If you are only going to run one or two trains an hour over that, you can have a simpler junction. That is what its capacity is now. If you are not running most of the trains direct to Crewe, people will have to go back, scrap the design and change it in full flight. That will cost an inordinately—

Q314 **Jack Brereton:** The design to connect it into the slow lines, which is what has come forward at the moment, required a longer viaduct. How is that a cost saving?

Professor McNaughton: It was cost saving because of the impact on Network Rail and all the changes on the Network Rail layout. Unless something has fundamentally changed in the laws of physics since I last looked at it, you cannot deliver the whole of the HS2 phase 1 service on to the slow lines without actually cancelling your freight trains.

Q315 **Jack Brereton:** You are advocating a redesign of Handsacre?

Professor McNaughton: I think it is inevitable and an unfortunate consequence, and then bang goes some of the money that you might have saved from not doing 2a.

Q316 **Jack Brereton:** I think we have touched enough on those issues, but I want to ask a bit more about what went wrong with the initial delivery. There was particular reference earlier to the efforts that went into the original business case, specifying some of the data around that.

I want to ask particularly about ground conditions. The data on which the costs were actually based was very weak in the initial proposal. A lot of the boreholes and ground surveys of the actual ground conditions had not been done when the original costs were identified by HS2. Is that your understanding? Could the work that should have been done to give a more accurate understanding of the cost be partly behind why we have seen such a cost escalation? Do you want to start, Richard?

Richard Bowker: I have to be honest, Mr Brereton, that that is not my area of expertise at all. I am not a technical engineer, so I'm afraid I cannot answer that.

Nigel Harris: Nor me.

Q317 **Jack Brereton:** Maybe Andrew, you could—

Professor McNaughton: I'm afraid it is me again.

Jack Brereton: I thought it might be.



HOUSE OF COMMONS

Professor McNaughton: It is a nuanced answer. There were a number of places where the inability to gain access to land prevented boreholes from being dug. In so far as they existed there was a risk that ground conditions would somehow be worse than we had anticipated, but the British Geological Survey information for this country has more data on ground conditions than pretty much any other country in the world. We had an enormous amount of data from BGS about ground condition, almost metre by metre, between London and the west midlands because there had been so much work over the decades. There were areas where it was thin because there has not been so much development; for example, one was Aylesbury Vale.

There are bits of the railway where what you have just said would be true. There was a risk of understating the ground conditions, although we had a pretty good idea of them. For the major structures we have a very good idea of ground conditions, running out through London and into Birmingham where the major structures are. There were quite small areas where it was a pity that we did not have more information.

Q318 **Jack Brereton:** That could have resulted in some of the huge cost escalations that we have seen. My understanding was that a lot of the spoil was originally intended to be used in construction of some of the embankments and other structures. Once it was identified that that material was not of sufficient grade, obviously more material had to be exported from and imported into site. Is that behind some of the reasons why we have seen such cost escalations?

Professor McNaughton: I am sure it is one of the reasons, but I would hesitate—I do have a background in geo-technical engineering—to say that it was one of the principal reasons. It is certainly a factor.

Q319 **Jack Brereton:** Are there any comments that the other panellists would like to make on the ground condition issue?

Tom Worsley: No.

Richard Morris: No.

Q320 **Jack Brereton:** In terms of the wider issues—the data and lack of data in understanding the cost—is this probably the reason why we have now seen the cost escalation? It isn't just ground conditions, is it? It is the lack of sufficient data to give the estimates that were needed. Do you think that more effort should have been put in at those early stages to analyse some of these issues and to understand properly the costs and the implications of the project? Would you like to comment, Richard?

Richard Morris: You're asking the wrong guy because I am not an engineer at all. One thing I would say, if I can go back again to Crossrail, is that we looked very carefully at the way that the Crossrail tunnels would go through London in order to get the optimum surrounding for the tunnels to go through. We missed out the Barbican, where the London Symphony Orchestra practise. We went round that a bit. There were



HOUSE OF COMMONS

sewers in the way, and so on. It was certainly looked at very carefully and reviewed before we went forward with the final estimate for the project. I don't know, because I was not involved, whether HS2 did that or not, but we spent quite a lot of—

Q321 **Jack Brereton:** With Crossrail, were those major decisions about tunnels, routes and things like that already set in stone before—

Richard Morris: No, they were not. Obviously, the stations were because that was the specification, but we could move slightly one way or the other, just as Eurotunnel did slightly one way or the other. It was not set in stone, to use that awful terminology. We looked very carefully at whether we were doing it in the best soil conditions. Yes, we did that.

Q322 **Jack Brereton:** Was cost a factor in that?

Richard Morris: Absolutely. That was the whole point. The cost had been going up like this, and we wanted to pull it back. We knew that we would not get through, quite rightly, with the Government to allow us to continue.

Professor McNaughton: By the time the Bill was submitted to Parliament in late 2013, with the Second Reading in early 2014, the environment statement that accompanied the plans listed every haul route and assessed the impact on villages of the number of lorry movements from spoil. In order to produce that information, a vast amount of design work had been done by the contractors and consultants who were engaged at that time. As I may have said earlier, it was not a detailed design for the number of bars of steel in a column, but where every column was, how much it would be, quantity-wise, and how, with the likes of Turner & Townsend, that translated into costs. As an engineer, you always want to do more before you get permission. Again, it is diminishing returns. There was a 50,000-page environment statement. It had every single thing in it.

Q323 **Jack Brereton:** It is your view that everything possible had been done to try to find the full costs and implications of the project.

Professor McNaughton: Not everything possible. You are into the laws of diminishing returns.

Q324 **Jack Brereton:** What was lacking then?

Professor McNaughton: With hindsight, I don't understand how the property costs changed. I am afraid that is a bit of a non-answer because I don't understand property costs anyway, but I do not understand how that changed. The engineering costs, as far as I am concerned, were about as good as they were going to be at that stage, before detailed design. Detailed design takes several years. You then get into the argument about whether you can spend hundreds of millions of pounds on detailed design before you have permission to do it. It is a bit of a circular argument. To be honest about it, I do not understand property.



Q325 Jack Brereton: I want to quickly ask a couple of questions now about the hybrid Bill process. There has been a lot of criticism of the process, the lack of engagement and the lack of consideration of alternatives that came forward from some of the witnesses. Do you all feel that the hybrid Bill process is sufficient and the best way of bringing forward these major infrastructure projects?

Richard Bowker: I can really only approach that in a very high-level way. I'm not quite sure what the alternative is. I have always felt that scrutiny and assessment is important with major schemes.

Q326 Jack Brereton: Do you think there was sufficient scrutiny?

Richard Bowker: It was incredibly thorough. I agree that that is an answer to a slightly different question. It took an awfully long time. Was it sufficient? It is a fair question.

When you look at these major schemes, I know that some people say, "Oh, just let us get on with them and we'll sort it." You cannot do that. Their impacts are too great, and they are too significant. It is absolutely right that they are scrutinised and considered. When they are approved, that is the point at which you can say, "Right, we're not going to change it now." I think the scrutiny process is absolutely essential. I do not know what alternative you could put in, but as to whether it was sufficient in this case, I could not say.

Nigel Harris: I am not an expert.

Q327 Jack Brereton: Do any others have any views on the hybrid Bill process? You have given evidence, Andrew, haven't you?

Professor McNaughton: I found it incredibly intensive. Your colleagues and former colleagues who formed the Committee were very searching. A lot of small, detailed changes were made in response to their consideration of something like 3,700 petitions. I do not know if it is the best route, but I do not know a better one.

Q328 Jack Brereton: I have just one more question, Chair, if I may. The process is obviously very antiquated and focused a lot on the support that those Committees had. They have not necessarily had the level of expert support that was needed. From what I have seen, there has been quite an over-reliance on HS2 and the Department for some of that.

Should there not be an option for the hybrid Bill Committee to have more external expert advice and support to help them with some of the things that come up? The other point is about the conditions. You mentioned that lots of things were changed as a result of that process. What structures were in place to ensure that the changes, and the conditions that were put on through the Committee, actually continued and were implemented when the scheme came to be built?

Professor McNaughton: Each one became one of the requirements of the Bill. If they were not followed, you would be moving outside your



HOUSE OF COMMONS

planning permission. When I was still involved, we were very serious in explaining to everyone in HS2 and the supply chain that every one of the something like 8,000 conditions that the Committee put in was a legal requirement. It was not a nice to have but a legal requirement. If you did not pursue them you were outside your planning permission.

Q329 **Jack Brereton:** When we visited Buckinghamshire, for example, we had evidence that some of those conditions had not been properly fulfilled or honoured by HS2.

Professor McNaughton: Because I am not involved I cannot comment on that. That is what good project governance is about.

Q330 **Chair:** We will return to all these points in our further sessions. Just before I conclude, I will give each of you literally a 10 or 15-second comment on what else we ought to look at. Are there any last points that you would like to make?

Tom Worsley: I think most issues have been covered.

Richard Morris: And me, Chair, thank you.

Professor McNaughton: I have probably said too much this morning, and I apologise for that.

Q331 **Chair:** It has been very useful evidence. Thank you.

Professor McNaughton: I spend a lot of time involved with infrastructure costs. My last comment to you is, do not assume that HS2 is in any way different from any other piece of infrastructure. That will affect the value for money for any other bit of infrastructure that you examine.

Q332 **Chair:** Thank you. Nigel?

Nigel Harris: This is just a point to take away, Chair. In 2009 when HS2 really got under way, the network as a whole was carrying 1.27 billion people, having risen from 800 million at the end of BR. Today it is 1.445 billion, so we are already significantly ahead of the number that triggered HS2 in the first place. It was higher in 2018; it was 1.8 billion or thereabouts.

This is the bit that is the salutary warning. The busiest year we ever had on the railway was 1920, when there were 2 billion people. We are fairly rapidly closing on that, having thrown away the big answer that we have been working on for 15 years to solve that capacity crisis.

Q333 **Chair:** Thank you. Richard?

Richard Bowker: I can only build on what Andrew said. When looking at a project that has got into difficulties, first start with the clienting and the sponsoring of it.

Chair: Thank you all very much indeed for your time. We have overshot



HOUSE OF COMMONS

our time a little bit, but it has been very useful to have your evidence and opinions. Thank you all once again. As I say, this is just the start of a number of sessions that we will be having on this subject. Thank you.