

Transport Committee

Oral evidence: [HS2: progress update](#), HC 641

Wednesday 2 November 2022

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Members present: Mr Ben Bradshaw (Chair); Jack Brereton; Chris Loder; Karl McCartney; Grahame Morris; Gavin Newlands; Greg Smith.

Questions 71–137

Witnesses

[II](#): Mark Thurston, Chief Executive, HS2 Ltd; and Clive Maxwell, Director General for HS2, Department for Transport.

Examination of witnesses

Witnesses: Mark Thurston and Clive Maxwell.

Q1 **Chair:** Welcome back. You are familiar faces to us, but not to everybody. Perhaps you could both introduce yourselves at the start of the session.

Mark Thurston: Good morning. I am Mark Thurston, the chief executive of HS2.

Clive Maxwell: Good morning. I am Clive Maxwell, the director general for High Speed Rail at the Department for Transport.

Chair: Thank you. Greg Smith is going to kick off.

Q2 **Greg Smith:** Good morning, gentlemen. I want to start the session on costs. The six-month review last week had some pretty stark figures in it, not least the report to Parliament from the Secretary of State stating that phase 1 is now likely to exceed the target of £40.3 billion. Can you take us through why that is?

Mark Thurston: It is worth reminding the Committee when that budget was set. There are two numbers that we focus on at HS2. The target is the number that HS2 committed to within the overall budget. The budget is £44.6 billion. We committed to £40.3 billion. We set that target at the back end of 2019. There was a slight refresh of the number at the very beginning of 2020 on the back of the Oakervee report that the Government commissioned.

Frankly, since then the world has changed, as we all know, beyond all recognition. We have left the EU and there has been a global pandemic. More recently, we have the energy crisis. We now find ourselves in a high-inflation environment.

If I were to say that the number was still £40.3 billion and it was under pressure, that would be less credible than saying that it is under pressure. Of course, we have made huge progress across the project in those three years. There are now 29,000 people on the project. We have over 350 sites right across phases 1 and 2A. We are making great progress. We are about a third of the way through phase 1 alone, and by the end of this year we will have moved around 25 million cubic metres of material just to build phase 1. We should not lose sight of the scale of what we are doing.

Inevitably, as we have gone through the last couple of years with some of those challenges, we are seeing cost pressures. As the Secretary of State's report says, there are some at Euston. A big chunk is on main work civils. We have seen some additional costs come through to work out how we are going to deal with the changes to Network Rail infrastructure, both at Old Oak Common and at Euston.



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Frankly, the other thing we have done in that time is to complete all the enabling works. We are virtually 96% through all the enabling works; that is clearing all the utilities and getting all the land access, and there has been some cost pressure there.

In summary, that is where we have come from in the last three years. We reported that pressure to Parliament in the last report and there has been further pressure over the last six months.

Q3 **Greg Smith:** Where do you predict that will go? The report talked of roughly half of the contingency on phase 1 already having been drawn down. At what point will that contingency be burnt through? At what point do you think the financial modelling needs to be totally updated to reflect the fact that, unfortunately, we are seeing 10.1% inflation in the latest numbers? Where do you think the project needs an overall remodelling of costs to bring it up to where we are economically in 2022?

Mark Thurston: There are a number of things in that. We update the numbers every month. We do a full review of all the numbers every quarter, so we do that every three months. The important point is that we continued to report all the figures in 2019. I think that was serving us okay through until probably the back end of last year. The events of the recent year—to your comment about the growth of inflation—and keeping the numbers and reporting them back to 2019 every six months for the parliamentary report is an increasing challenge for us and the supply chain. Of course, we have to deflate and inflate those numbers as we go through.

It is a fair question. Certainly, we have had conversations with the Department and Treasury about the merits of, at some point, resetting all the funding for HS2 in current prices or cash so that at least it starts becoming much more relevant, otherwise you have a reconciliation to do every time.

On one point you made, we spent about £1.5 billion of the £5 billion contingency we have within the HS2 element of the contingency. As you will see in the report, we have yet to draw down any of the Government contingency. Although we are saying that the target cost is under pressure, we are confident at this stage that we will be within the overall funding envelope. That will include, in due course, drawing down all or some of the Government contingency, but we are not there yet. We forecast that every quarter. We still have the best part of eight or nine years to go before we are finished. We have still not let all the systems contracts. We have only just received the concept design for the trains. We have only awarded the last of the four stations in the last few months. There is still a lot to do, but the Committee should take confidence from the fact that we have a good line of sight of the costs from the supply chain, and good and robust forecasting going forward.

To your point, how we report cash of the day and make sure that we take account of future inflationary pressures is an issue that we are going to



need to work through in the fullness of time with both the Department and the Treasury.

- Q4 **Greg Smith:** Before we come to some of the measures you might take to counter inflation and relieve the cost pressures, from what you just said about a reset of the financial modelling, is that something that HS2 Ltd wants to do? Within that, do you think it would be a good, moral thing to do, given that the entire project is underpinned by the British taxpayer—there is no private sector investment in the railway—so that the project is perfectly transparent to the public who are paying for it about where the real costs are as opposed to costs from, frankly, when the economy was in a totally different place?

Mark Thurston: There are two things. I think I understand your question. First, at some point we need to think about how we deal with what we would call nominal or cash of the day. We need to be clear on the issue of holding all the budgets to 2019 when they were set. As I say, at some point we need to think about how we refresh. It is choice of language—financial modelling. It is more about just setting the costs for phase 1 to a current cost price.

Clive can talk to it probably in more detail, but we have to refresh the business case next year. We have to do an outline business case for phase 2B. At business case stage, there is a natural point in time when there is recognition across Government that you might reset the cost price.

We will continue to do what we are doing at the moment. I want to be really clear that there is full transparency of our costs. We roll up something like 6 million cost points of data every month into an ingestion platform right across the supply chain. Our budget for this year was set at somewhere around £6 billion—£5.7 billion. You can see that to a high degree of detail and visibility whether it is through the Department, Treasury, the National Audit Office or, in fact, the Government Internal Audit Agency. This Committee and the public should take confidence from the fact that there is a high degree of transparency in what we are spending, what we are forecasting and where that spend is allocated across all the contracts that we now have.

- Q5 **Greg Smith:** Can you take me through some of the measures you are taking internally to relieve some of the pressures and find ways of getting the budget to the British taxpayer down? Within that, can you commit that, in all the things you offer up as a cost saving, none of the mitigation funding to local communities impacted by the project will in any way, shape or form be offered up as a saving?

Mark Thurston: On the last point, it would not have any impact on local communities or any other funding we have made available separately for community projects. That would be separate and stand-alone.



The CEF and BLEF funding, if that is what you might be referring to, is self-contained. It is protected and independently governed. We cannot impact that. It is not as if dealing with the cost pressure of the core project is going to have an impact on the funds to invest in local community activity that Parliament made available when the Bill was passed.

On the sort of things we are doing, again we were making good strides. Some of it is inflationary pressure, and some is market conditions. Supply chain issues have given us some headwinds. We have a collaboration forum with the four civils contractors. We work with them as a collective to find ways in which we can drive value to the supply chain on economies of scale. We need huge amounts of concrete, steel and reinforcement bars. We are looking at how we can use procurement and supply chain efficiencies, recognising the scale of what we are buying.

We have done a huge amount with what is called UKRRIN—UK Rail Research and Innovation Network—and with a number of universities, looking at how we can use innovation to drive much greater certainty and predictability in what we buy and what we build. That is also delivering some cost savings. We have a hopper to the tune of millions of pounds of different opportunities right across each of the supply chains, where we can use innovative techniques, either in design or construction, to drive savings out of the programme.

We are looking at resource sharing, for example. The civils alone are some £16 billion-worth of work. With the overheads that each of the contractors have, there are opportunities to look at savings on the overheads. At Old Oak Common, we have done a lot of work with the tunnelling contractor as to how we remove material from site. We have installed a major conveyor system. Not only does that create greater predictability in the delivery of the work and getting material away from the site, but it gets thousands of lorries off the local roads in west London. That went live only recently.

I could go on. There is what we call an efficiency challenge programme which my CFO runs right across the supply chain. We have a hopper of ideas. It is an idea-generation exercise. We convert those ideas through a maturity process until they start to deliver real savings on the ground. We could certainly make more detail available to the Committee, if that was of interest.

Q6 **Greg Smith:** That would be helpful. Within the scheme of costs, obviously in February this year you lost the ability to take land in phase 1 under the special powers that the hybrid Act gave you. Certainly from the experience in my constituency, it seemed that HS2 erred on the side of caution there for your own interest, taking more than was necessarily needed in case you decided you needed it later. Do you have an assessment of how much land was taken across the whole acquisition period that you do not in fact need, and that could be released back to its



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original owners or indeed sold back to relieve some of the cost pressures that you are seeing?

Mark Thurston: To give a little bit of data on that, we have now possessed around 58 square kilometres of land for phase 1. There is about another 10 square kilometres to possess.

For clarity and for the Committee's benefit, the five-year powers after Royal Assent expired, as you say, in February this year. By then, we had to make sure we had issued all the notices of our intent to acquire or take possession of the land. We have still not taken possession of all the land. There is quite a tail of that which runs out over this year, and certainly into next.

We are starting to explore with the DFT where we can release some. There are some local agreements with landowners about releasing land back, where it makes sense to do so. We do not need all the land permanently. Some land we take permanently, of course, for the permanent railway, but some of the land we only take temporarily to facilitate the construction. Where we get through that construction phase and we can reduce our footprint, we naturally work with local landowners to make sure we return the land, where it has only been temporarily taken, to landowners.

The other thing we are doing with the Department is running a pilot, which Mr Maxwell might be about to give more colour to, looking at how we might start to dispose of land and property that we acquired but no longer need. The original principle of the Act is effectively that the Government, the Secretary of State, would sell the land that is not required for the railway after the railway opens. That means the Government are sitting on a lot of land for longer than they need. That is creating some other risks. You asked colleagues before about protester action, people getting on to the land and starting to disrupt the work.

Clearly, the whole budget is based on the net cost of land and property. We take a view on the gross value and what the net sales will be. We want to start to go back into the market and release some properties. There are quite a lot of properties that we own. We will never lease those. We will never justify spending money to make them safe or habitable, to put them back on the market. It actually makes sense to put them on the open market and sell the land or the property. The receipts can then come back to the project. We are exploring, much earlier than was originally intended, the merits of doing that.

Clive Maxwell: Absolutely. Looking at opportunities where an early resale might give some benefits to the local community and, potentially, for the taxpayer, and on the whole holding land until the railway has opened is seen as a way of minimising the taxpayer net costs, because by then some of the construction effects and things like that will be out of the way. You have removed some of those sorts of disruption, so you will be able to sell the land or the properties at a higher price. There are



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particular locations where that will not be the case. In particular, if HS2 has decided it does not need land, if there is excess of the sort you are talking about, you can move on with those.

Q7 **Greg Smith:** Let me give you one very quick example, because I am aware I have gone over 10 minutes now. In the village of Turweston in my constituency, HS2 acquired a quarter—maybe even higher than that—of properties, nowhere really near the track, although yes, you could see it from the back windows. That has devastated that small village, which has seen a massive population drop. Can you be clear that you are now looking to release properties like that—I am not asking for a specific commitment to Turweston—back to residential use?

Clive Maxwell: We are looking at a pilot as to how we could go about releasing properties like that. We want to see how it would work with a small number of properties first, to see what the consequences are. There is a whole series of quite important commercial issues about how you would release properties in a small area—for example, not doing it all at once. You would not want to depress other local property prices as you did so. There are some practical things to work through. We think that the best way of doing that is through a pilot process.

Q8 **Chair:** Jack Brereton is going to come on to the schedule of construction. Before he does, Mr Maxwell, at the weekend Michael Gove said, when he was asked about Government spending and a black hole in the public finances, that everything will be reviewed. Does that everything include HS2 or any part of it?

Clive Maxwell: The Government are committed to HS2. I think my own Secretary of State has been on the radio this morning reconfirming that. I don't have any more to say on that particular subject. Clearly, the Government are looking at their finances. I am not going to speculate, but what I observe is that we have nearly 30,000 people working on the line of route of phase 1 in particular and getting on with that programme.

Q9 **Chair:** There have also been reports of contractors getting cold feet because of the uncertainty, and withdrawing, or possibly going elsewhere in the UK or the world to work on other projects. Is that something you are picking up?

Clive Maxwell: We are going through quite a lot of change at the moment in terms of Government and the importance of signing off big contracts and things. It is something that you would expect the Government to take seriously, and to take their time to do properly. We are getting on with those.

Q10 **Chair:** Did you just suggest there were delays in signing off contracts?

Clive Maxwell: We are moving ahead with the process of getting on with the contracts. In particular, Mark talked about the work on the systems contract, for example, for phase 1. There is active work going on with that at the moment.



Q11 Chair: Mr Thurston, do you have any concerns that these eye-watering decisions that have to be made are going to have any more impact on your project?

Mark Thurston: To your original question, there has been a lot of media speculation. It is not news that we have fiscal pressures in the economy. HS2 is a very big investment of public funds, taxpayers' funds, as Mr Smith said. Inevitably, it gets drawn into debate about whether it will or will not go ahead. As Clive says, that is an issue for the Government to decide. We are well on our way. With the progress we have made, what the railway would do for the cities it touches, and how it will put massive capacity into our railway system, I am confident that the Government will make the right decision, but that is for the Government.

To your earlier question, inevitably that uncertainty can be unsettling for the supply chain. There is a huge amount of investment by the supply chain in the project. For some of the contractors and consultants that work for us, this will be sensitive to their balance sheets. We have thousands of people from some of the big consultants and contractors working on HS2. Of course, they will be very keen to see what the Government say about this when they make a fiscal statement in a couple of weeks' time.

I suspect, as we go into more procurements, that getting some certainty from Government will be really important. Inevitably, contractors and consultants will be pricing some of that uncertainty, and that will not be great value for money either. Our job is to find a balance to make sure we get pricing that is value for money, but we have to recognise that there are wider macroeconomic decisions that will influence some of their appetite or otherwise for what is on offer with HS2.

Q12 Jack Brereton: I want to ask a few additional questions about costs before we come on to the schedule, particularly on phase 2. We have seen the estimated costs of phase 2 more than double already. When do you expect that we will reach a more realistic figure? Do you have confidence that we will reach a more realistic figure on how much phases 2A and 2B will actually cost?

Mark Thurston: We have a range for phase 2A of £5.2 billion to £7.2 billion. That is the publicly stated range. We are still very much in the early stages of phase 2A. To come back to the earlier point, that is all still in 2019 prices. Phase 2A is the best part of four years behind phase 1.

We have a few procurements waiting for Government approval, which I am very confident we will get in the next few weeks. Next year is a big year to progress phase 2A. Over the course of next year, we will appoint the design delivery partner, we will go out to market for the main civils works and we will get the advanced civils works appointed as well. With that, we will be able to get to a position where, between the company and the Department, we will set the target cost. It will be the equivalent of the £40.3 billion number that Mr Smith referred to. We will set that



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equivalent number and that is the challenge number that we will be tasked at HS2 to deliver within the wider funding envelope. That is on phase 2A.

Phase 2B is even more premature. The Bill has only been in Parliament since the beginning of the year. It has had its Second Reading. We expect, hopefully, the Select Committee to start taking petitions early in the new year. Again, there is a window, and a funding envelope has been identified. There is quite a broad range of £13 billion to £19 billion for phase 2B now that we have taken the Golborne Link out. As that Bill goes through Parliament, we will refine the scope. We will inevitably refine the estimate for that as it passes through to Royal Assent. Our current assumption is that it will be somewhere around late 2025, but that will be subject to parliamentary timescales.

There is work in train for both. Phases 1, 2A and 2B are at different stages of maturity, but we have numbers that are declared. They are in the public domain. We have agreed them with the Department and Treasury.

Q13 Jack Brereton: It is going to be far higher than those.

Mark Thurston: They are set at 2019 prices. It is all going to have to be indexed at an appropriate point in time, but that is only about dealing with inflation. That is not about the scope and the cost getting any higher.

The other thing to remember for the whole project is that from where we started on HS2 to see trains into Manchester is a 30-year project. We are 13 years in, with 17 years to go. This is a long, strategic investment in a new rail network, so we are going to have to refresh and reset those budgets as we go through the inevitable development of the projects, particularly 2A and 2B, over the next four to five years.

Q14 Jack Brereton: Obviously, there are significant inflationary pressures. Have there been any other unexpected costs that you have come across that you are concerned about in phase 2?

Mark Thurston: Not at this stage. It is too early to tell. We have to get in the ground. We have started looking at land acquisition on phase 2A. We have started some early ecology work. The good thing, and the Committee should, not unreasonably, take comfort from this, is that there are a lot of lessons coming out of phase 1, certainly at the front end of the project, on how we acquire land, how we work with landowners to get surveys for ground investigations and how we understand where the ecology and environmental work needs to be done. That is all part of the enabling works. We have good relationships with all the utility companies that we built up in phase 1, which will serve us well, because there are major national grid diversions, gas diversions and the like.



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Certainly, as we go further north to Manchester, the utilities and the enabling works that we have to do there will be really challenging. There is a lot of learning that has come out of phase 1 that will flow into future phases. In terms of uncertain costs, it is a bit early to say.

- Q15 **Jack Brereton:** On the additional security costs that you mentioned earlier, I have driven through Swynnerton near my constituency on a number of occasions. We had a massive protest camp, and now we have quite a lot of security people stationed there, not doing very much. Quite frequently, they are there. How much is all the additional security costing?

Mark Thurston: To date we have said that the impact of protester action—both direct and indirect, particularly with that sort of specialist security—is somewhere in the order of £140 million.

Clive Maxwell: That is including some of the delay costs.

Mark Thurston: Yes, some of the consequential costs. It is not insignificant. There was a question to the earlier panel about the injunction. The judge clearly felt that it was appropriate, where we have seen significant illegal protest, and quite violent and disruptive protest, at our works on both the sites and the workforce. In fact, in some places, the local community can, and should, be protected. Hopefully, the injunction will serve us well as we go further north into your constituency in the 2A part of the route and further north all the way to Manchester.

- Q16 **Jack Brereton:** You have already mentioned a bit about the progress of the construction programme. Would you like to offer any further update on the progress of the construction programme?

Mark Thurston: Generally, we have made great strides over this year. The weather has been pretty kind. It is a lot of civil engineering, earthworks and movements. For the first full year of production for the civils, it has gone very well. We are on site at three of the four stations. We have made good progress at Euston. Old Oak Common has moved on considerably this year. At Curzon Street the platform is pretty clear now. The enabling works contractor is effectively demobilising and we are ready to put the station build contractor in at Curzon Street.

We appointed Laing O'Rourke to be the contractor of the interchange near Solihull earlier this year. They will start taking up site presence soon. There has been a good first year of progress with the rolling stock contractor. We are now receiving concept designs. We let that contract just a year ago to the Hitachi-Alstom joint venture. As I said earlier, I think we are literally a handful of per cent. outstanding on all the enabling work. There is a bit of a tail, but we are more than 95% complete.

To Mr Smith's question, we have issued all the notices for land and property for phase 1. Mr Maxwell made reference to the fact that we have received some, but not all, of the tenders for the systems. The next



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phase for us is to appoint all the systems contractors. They will go into a design phase. As they move through the design phase into installation, they will take ownership of the site as civils contractors and complete their work over the next three to four years. They demobilise and it very much moves from a civil engineering project to a systems and a railway project.

Q17 Jack Brereton: In your most recent update to the Department, which I believe was last week, you said that you were working to address some pressures within the overall schedule range for phase 1. What does that actually mean?

Mark Thurston: Again, to the earlier point, if you think about some of the conditions we have had to work through over the last two or three years, covid has had an impact on staffing levels and various things, among other pressures we have seen.

As I said, the weather has been quite kind. We are confident that we are still well within the published window for phase 1 of 2029 to 2033, but the reality is that there is a combination of delays to completing the design, and that is having a knock-on effect on securing all the necessary consents. There are some other issues with productivity, material supplies and labour supplies. It is the range of issues that you would expect to see. Of course, when we feel them on HS2, on the scale we are operating, they can be not insignificant across the board.

All of that is putting some pressure on the schedule. Our focus at the moment is on getting the civils in a place where we can finish them and hand them off to the systems. With the systems procurement, it is taking a little bit more time to make sure that the bids we have had back from the systems contractors are value for money and meet the funding envelope. Inevitably, to the earlier question from the Chair, we have seen some responses from the market being a little bit higher than we would have expected. We have to work those through to a point where we get them into the right affordable place.

Again, I do not think that would be a particular surprise to the Committee in light of the environment in which our contractors are bidding for our work. These are all things that we can absorb. As you can imagine, in answer to the earlier question on cost, we review the schedule every quarter. We rerun the schedule every quarter and we have been broadly holding a forecast completion date well within that window of 2029 to 2033.

Q18 Jack Brereton: The Infrastructure and Projects Authority initially raised quite serious concerns about the deliverability of the project entirely. This has slightly improved more recently. How have you managed to get those improvements for them now, to improve that rating?

Mark Thurston: When the IPA did their last report, they said that bar one or two specific issues they would have given us a green. I think it is



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probably good practice in government not to get a green because you can only then go in one direction. We took an amber rating, which I think is probably totally appropriate. I think that was a reflection of the maturity of the organisation and the work we are doing on our controls environment on capturing and managing all the costs.

Q19 Jack Brereton: Are you confident that it might go green in the future?

Mark Thurston: That is an issue for the IPA. I think we are in pretty good shape, frankly. If we were to take the Committee out on site—I know some of the Committee have been—you would see at first hand the scale of what we are doing, how safe it is, the quality of the work, the momentum we have and the way the supply chain has embraced what we are doing.

If you were to look at the construction commissioner's last report, inevitably we still have some local issues with communities. I talked to Mr Smith earlier. His community suffers particularly because he has East West Rail coming through as well. Complaints are down. We committed to deal with all construction complaints within 48 hours. We are holding that metric as well.

When you look across a range of indicators of whether we are doing all the right things, we are in pretty good shape. We are not complacent. We have not peaked yet. It will peak in the next 12 to 18 months or so. Of course, we will bring 2A onstream over the next year, and we will work with the Committee on the 2B Bill as well. We are very much working across all three fronts. To your question, the IPA were quite complimentary about the work we are doing.

The other important piece of work that is starting to get momentum in the company is how we set ourselves up as the integrator. A key lesson from Crossrail was that we did not really integrate all the railway systems and the stations. That was very painful in terms of missing the opening date and all the work they had to do to bring the whole railway together. We are eight or nine years out from opening. We are setting ourselves up at HS2 Ltd to be the system integrator and make sure that we own, as the guiding mind, the way we bring all the contracts and the assets together, to give us an integrated operating railway.

Jack Brereton: I think we have some further questions about that later. I will hand back to the Chair.

Chair: There are some more questions now from Greg about specific construction issues. You may have touched on some of these, so do not feel that you have to repeat yourself.

Q20 Greg Smith: Before I come on to some of the points that you referenced there, clearly Euston featured quite heavily in the parliamentary report last week, with significant change required to the original plan. I believe £100 million-worth of design work went down the drain for that. Can you update us on where you are with Euston and how you can be confident in



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getting to a design for Euston that is going to work?

Clive Maxwell: I will kick off, and then hand over to Mr Thurston to talk about some of the construction work. What we have going on at Euston is the creation of a new terminus for High Speed 2 in central London. We have work looking at the redevelopment of the Network Rail station and the opportunities for over site development around the station. There is a complex set of three projects being taken forward. That is being done in a difficult urban environment. There is not very much space to use and a build that is going to take several years.

Mr Thurston's team in High Speed 2 is now working very closely with Network Rail colleagues and with our master development partner, Lendlease, and with many representatives from the local community, whether through the London Borough of Camden or with Transport for London and the Greater London Authority. That is coming together through something called the Euston Partnership Board, chaired by Sir Peter Hendy, and is bringing those different voices to the table.

Coming up with the integrated plan to pull all of that together is challenging work. It is about managing the interfaces between the Network Rail works and the High Speed 2 works in particular, and some of the TfL works. It is about making sure, for example, that access to the underground can be made to work. As was announced earlier in the summer, that has involved some changes to the design of the High Speed 2 station to help it stay closer to budget than was previously the case. It was necessary to make some changes to the design parameters, moving to a 10-platform rather than an 11-platform design and, in particular, moving to a single-stage build for the High Speed 2 works rather than a two-stage build.

Those assumptions are now locked into the planning that HS2 is doing, so they have become core assumptions. They were done to bring the costs down and to make them more manageable. Mr Thurston might want to say more about how he is organising works with his team there.

Mark Thurston: My only caution would be that we could spend the rest of this Committee talking about Euston. When Oakervee did the review of HS2 in the first place, it even questioned whether Euston was needed. We looked hard with Doug and the team as to whether you could terminate the railway at Old Oak Common and save all of the costs of Euston. Actually, the case is very compelling for Euston in terms of capacity. Experience around the world is that bringing high-speed trains right into the city centre is where you get the value, and the business case really flies. Euston survived that.

Doug made a number of recommendations. One is the point that Clive made, which is that the SRO should do a study to look at what the right solution is. Does it need to be 11 platforms? Is there a way of making it smaller for all sorts of reasons, cost being one of them, and a more compact station?



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To be clear, with the two-stage build the intent was to build the station in two halves, which would really have extended the timetable. If we had built half the station, we could have started running trains. We would then have built the other half. Going from 11 to 10 platforms, although it does not sound overly profound in terms of the footprint, has allowed us to build the whole station in one go and open it earlier so that we can run trains into Euston earlier than was originally envisaged. That clearly has cost and schedule benefits.

On Clive's point, the commitment to the Network Rail station design was after ours. We are playing catch-up jointly with Network Rail to make sure that we align the designs of the two stations. Clearly, if you are a member of the public using Euston when it is open in years to come, it needs to be one integrated homogeneous terminus. Of course, their stations are much older and we are going to build a new one; the levels are different. There is quite a lot of work to do to make sure that the whole thing works.

The other challenge is making sure how the surface level—buses, taxis and all that—fits with the local landscape, working with TfL and Camden. To Clive's point, we did a lot of work on that. In the spring, when I signed off the accounts for the company for last year, we declared the impairment. That was agreed with the NAO. As you rightly say, the Minister made note of that in his report to Parliament. It was £92 million plus VAT. Euston overall, when you put all the costs in, is a multibillion-pound scheme.

Q21 **Greg Smith:** We will leave Euston there. You are right that we could talk about it all morning.

Mark Thurston: We could.

Q22 **Greg Smith:** On the wider construction issues, I understood the point you answered to Mr Brereton's question about overall complaints coming into HS2 Ltd being down, but the lived experience on the line of route continues to be incredibly difficult.

I will give you one example of Hunters Farm in Fleet Marston in my constituency. You have acquired quite a lot of their land, which is now waterlogged. There is no drainage in place, which is causing run-off into their crops. What is the mechanism from your construction practices to ensure that when you take land it does not have that adverse impact on what is left as agricultural use on a farm?

Mark Thurston: Let me just understand the question. I am not familiar with the particular case. If our contractor on the ground needs to do work with a landowner to make sure that the flooding, or whatever you referred to, needs to be dealt with, I would expect our teams on the ground to respond to that pretty quickly, frankly. That would need to be done as an urgent issue.



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Your broader question asks what we are doing to ensure that the land we take does not impact local farms. There is a broad point. We need to demark all of our land for construction. We have made some big strides through the top end of your constituency, further north. We have now built four roads inside our boundary. I think that has made a big impact in trying to get construction traffic off local roads, where we can, particularly in rural communities.

All our contractors work to the construction code of practice and we expect them to be compliant with that. We have teams on the ground who are there to hold the contractors to account, support the contractors and act as liaison with local communities. All the contractors have their own local community liaison people. I know that they can, and do, interact wherever they can.

If you look at the stats overall, as we have built the supply chain up—we are pretty much now at full tilt in terms of volume—we have not seen a growth in complaints. We have not seen a growth in issues. If anything, it has gone the other way, but we need to be vigilant. Going into the winter period, on your point around flooding, where we tend to get much wetter winters, it is going to be a challenge for us. Only this week, I was talking with my team about winter preparedness, so that—not just for the safety of local communities and the operatives—we and the other contractors make sure that issues like flooding run-off and mud on roads are very much front of mind as we go into the next few months.

Q23 Greg Smith: I take reassurance from that comment, but do you think from the on-the-ground experience that the construction code of good practice and the good neighbour commitment is working? I will give you one more example. Talking earlier to my colleague and constituency neighbour Rob Butler, in the Aylesbury constituency, I was astounded to discover that it took 10 months for the Wendover HS2 mitigation group to secure a meeting with the community liaison officers. Clearly the problem carries on. Is that an acceptable outcome?

Mark Thurston: I can't comment on a specific case. I find it hard to think that it took 10 months to arrange a meeting, but if that is what Rob is saying I will pick it up with the team.

The reality is that there are thousands of people impacted by the disruption and the construction of HS2. We are very aware of our responsibilities. Only yesterday we convened a big group in the midlands with both commissioners. They work very positively with us to keep us honest and make sure that we are doing the things that you and your constituents expect us to do.

In the round, we are in a much better place than we were a couple of years ago. Given the scale of what we are doing, I think the contractors should take a lot of credit for the work they are doing with local communities. It is not just about how we minimise the impacts of the construction. It is how we can give back to the local community and



create opportunities for employment and work with local schools. We have made reference already to things like the CEF and BLEF, where we have been able to bring local community projects to the fore. Your constituency in particular has done very well in receiving funds from that. There has been a lot of good work between us, your good office, local community groups and the contractors to put something back where it makes sense to do so.

The reality is that the next couple of years are going to be more of the same. We have to remain vigilant and disciplined. Frankly, when we get through the civils phase, and I genuinely think we are through the worst of that now, we create a fence. We now operate inside that fence and our impact on the local communities should diminish significantly. We now have to take a lot of the learning from that and start to apply it further north in phase 2A, which is through Staffordshire.

- Q24 **Greg Smith:** I appreciate the very welcome words there. The final question from me, though, is this. I refer to Harpers Field Farm and Upper South Farm in Quainton—the Goss family. My office has been in constant contact with you and the contractors on this. It plays to my point about the construction code of good practice and marrying up with the words of being a good neighbour and the practical outplay. The site personnel report that a lot of the farm has been taken. There is parking in unauthorised areas, blocking their driveways. There is property damage, including the water supply during last winter. There is littering and trespassing through the live agricultural land beyond the Act limits. There is a failure to reinstate fencing in accordance with the plans that had previously been agreed. It is just not working on the ground, is it?

Mark Thurston: I am not familiar with that case. Let me take it away, Mr Smith, and we will come back to your office on what is going on there. That, from all I see and hear, is very much the exception and, in the round, our conduct on the ground is much better than that. It will not be perfect. On any given day there will be issues where there is some disruption. That will be more inadvertent than not. We will follow up on that particular case.

Chair: We need to speed up a bit. Jack, do you want to come back in very briefly?

- Q25 **Jack Brereton:** Thank you, Chair. Just on what you were saying a minute ago about vehicle movements and use of the haul roads, has the amount of vehicle movements of spoil and construction materials been in line with your expectations, or has it been higher?

Mark Thurston: I don't have the stats, but in the round it has been better. Enshrined in the Act there are undertakings and assurances about what lorries we can use and the time that we can be on the road.

- Q26 **Jack Brereton:** Perhaps you could write to the Committee with those statistics. That would help.



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Mark Thurston: We will. We have done a lot of work in trying to minimise it. I referred to the conveyor system at Old Oak Common and Willesden. About 10 km of construction routes have been built through the EKFB section, and Balfour Beatty, where it makes sense, and Vinci in the north have done the same. At the south portal site, where ALIGN is based, where we have the two tunnels coming north and the Colne Valley viaduct coming south, you will see very little construction traffic bar a couple of points where we have to go on to the public highway. We have tried to become as self-contained as we can.

There are lots of good examples where we have improved what was enshrined in the Act. We will put that together in a note and send it back to the Committee.

Chair: Thank you. Short questions and answers please, if we are to finish on time.

Q27 **Karl McCartney:** Thank you very much for that, Chair. Mr Maxwell, I believe congratulations are in order from me and all the Committee, as you have a new position to go to. You mentioned contracts that are being signed. Has your move caused any delay, or is your replacement in place already?

Clive Maxwell: My successor is in the process of being replaced. I expect someone to be in the role before I move to a new job.

Q28 **Karl McCartney:** Timescale?

Clive Maxwell: Next week, I think.

Q29 **Karl McCartney:** It may be a weak link, but you have already mentioned supply chains, Mark. I am going to ask you to provide an update on HS2's current status in procuring materials to build HS2: a critical path analysis and what you might be doing forward planning-wise.

Mark Thurston: We are well established with a supply chain for materials, so we are not worried about supply. What has been an issue for us over the last year is cost. To give you a sense of that, concrete is now about 10% more expensive than it was a year ago, mostly because the suppliers are passing on the energy costs. We have seen a significant increase in structural steel over the last year or so. It went from about £1,200 to about £2,000 a tonne. It has settled back to about £600 a tonne. It has gone through the peak, but nevertheless we are seeing that. We are securing supply but it is more expensive than we were paying previously.

Q30 **Karl McCartney:** You have secured supply, but was that by ordering early? Have you offset the cost of steel specifically? Obviously, the cost has dropped down, but it could go back up. You are going to be using an awful lot of it over the next 17 years.

Mark Thurston: Some of it we can pre-order. A lot of the big tier 1 contracts made strategic investments in contracts with steel supplies.



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Aggregate supply is a case in point. We have reopened some quarries to make sure we have security of stone. In terms of securing what we need, generally speaking I think we have seen the peak period when it looked a bit vulnerable. I think we are through that, but we are seeing some increased costs coming through. We are having the conversation about how we offset that where we can, through other efficiencies or ways in which we can drive better value.

As I say, with what we have done on phase 1, we will think about how we then build the supply chain going further north. London and the midlands have been well served, but as we go further north into Staffordshire for phase 2A, and, ultimately, the other side of Royal Assent, for phase 2B, we need to think about establishing all the right sorts of networks and suppliers in the north-west for phase 2B.

Q31 Karl McCartney: I am conscious that the members of the first panel are still in the room. Have you accounted for environmental sustainability in your wood supply chain?

Mark Thurston: I am sure that the answer is yes. I cannot imagine that we would not have done because there are requirements under our works information to the contractors. There was concern when the war first started about the supply of plywood. I have not heard that we have had any particular challenges there.

Q32 Karl McCartney: We are probably looking for some detail. If you are happy to write to the Committee—

Mark Thurston: Yes, I will take that away, Mr McCartney, and single out what our arrangements are for the supply of wood.

Q33 Gavin Newlands: You told the Committee at the last review in February that it was too early at that point to assess the impact on the overall cost of the change in the plans for the eastern leg in the IRP. Is there any update on that?

Mark Thurston: Clive is probably better placed in the Department to take that on.

Clive Maxwell: I do not think I have anything new to say on that, I am afraid. The former Rail Minister wrote to the Committee explaining that the Government were thinking through the issues that were raised in the Committee's report on the IRP. I expect them to be in a position to answer those questions more fully early next year. I do not have any new cost information on aspects of the eastern section to give today.

Q34 Gavin Newlands: I was going to come to you on that. Ministers have written to us asking for quite a significant delay in the usual scheme of things. The Department has been through a fair bit of flux since then. Are we still likely to see this by March?

Clive Maxwell: I do not know, but I would expect so. That is what we are working towards at the moment. I am happy to organise for a



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Minister to write back to you, or for me to write to you to confirm that timeline.

- Q35 **Gavin Newlands:** I appreciate that. Let me see if there is any update on this. Obviously, the benefit-cost ratio—the BCR—for the eastern leg was always substantially higher than the western leg. Shelving the majority of the eastern leg will undoubtedly have an impact on the overall project's BCR. This Committee's IRP report urged the DFT to publish an updated BCR for the old eastern leg, as was, and the overall project. Is there any update or progress on that, or are you going to give me the same answer as you did to the first question?

Clive Maxwell: I fear that I am going to give you the same answer. I expect that the Department is due to publish a number of business cases over the course of this year, which Mr Thurston referred to. I think there is a full business case on 2A and an outline business case on 2B western leg. There will be further business cases to come.

- Q36 **Gavin Newlands:** Mr Thurston, what contribution is HS2 Ltd currently making in the Department's work on how to get HS2 trains to Leeds?

Mark Thurston: Under the requirements that we have been set by the Department, we have issued a contract for trains that would serve phases 1 and 2A. That is all we have done at this stage. Obviously, some work was done on the eastern leg preparing some of the early environmental work and impact assessment work for the build. That work was suspended when the IRP work carried on. All we have done thus far is work with some colleagues in the Department to look again at what it would mean to take HS2 to the east midlands. We have done nothing on rolling stock in that regard. That would need to be a whole, separate, new set of requirements. Frankly, it would be a separate procurement.

- Q37 **Gavin Newlands:** Are you concerned about further changes to Government policy on the eastern leg? Is that why there has not been as much work done as perhaps one might have thought?

Mark Thurston: Again, I think that is an issue for the Department and Ministers. We are very clear about our responsibilities for phases 1, 2A and 2B, providing support, advice and technical input to the Department on future work, whether it is Northern Powerhouse Rail work or the work on the eastern leg. Where that sits relative to what we are already doing is for the Department to decide and prioritise.

Clive Maxwell: I agree with those comments. For that section of HS2 east, from the west midlands to the east midlands, plans are currently being developed. There are instructions or requests for information out to High Speed 2 Ltd and Network Rail to work together to come up with the best sorts of plans for developing that link.

Mark Thurston: To be clear on your earlier question, Mr Newlands, the trains we are buying will be suitable to run to the east midlands. They are high-speed trains. You could run our high-speed trains out of Euston,



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past the west midlands, the junction there, and up to East Midlands Parkway, which is where the notional terminal is proposed. Our expectation is that the sets that we buy for 1 and 2A primarily will run on the rest of the network, as well as the existing railway network. They are compatible with the existing rail network.

Q38 Gavin Newlands: If there were further changes, or likely potential delays, to the plans for the eastern leg, what would the implications be for HS2 Ltd? How could you absorb those issues?

Mark Thurston: At the moment there would not be. My focus and the organisation we have established now are very much geared up to do the three phases that we are working on. I am increasingly going to be spending more time in Manchester in the new year because I need to stand up almost a new division of the company in the north-west. We have a very small office in Manchester. We have 1,000 people or more in Birmingham and the rest in London. Over the next few years, as the western Bill takes passage, I am thinking about how I migrate resources and capability to the north-west.

In the fullness of time, to your question, the reason I make that point is that if there is a requirement to do more work on the eastern leg—we started to look at somewhere round Chesterfield—where would be a good place for us to base ourselves if we get to the point when we are developing a build and we need a physical presence somewhere on that corridor?

Q39 Gavin Newlands: It is probably sensible not to invest too much resource in the eastern leg at the moment, if I am honest.

Mark Thurston: That is the bottom line.

Q40 Gavin Newlands: My final issue, before I hand back, is on the Golborne Link. As far as I am aware, an alternative to the Golborne Link is yet to be identified. What impact does that have on your planning and costings for phase 2B?

Mark Thurston: Let me deal with the second half. We have adjusted the budget envelope for phase 2B now that the Golborne Link has been taken out. We are awaiting instruction from the Department about how they want to look at an alternative to the Golborne Link, which in principle, as I understand it, would go further north to rejoin the west coast main line, and would then reduce journey times to Scotland.

Clive Maxwell: We will be asking High Speed 2 to do development work to look at different options, to provide that sort of link. No decision has been taken on that.

Q41 Gavin Newlands: What is the timescale?

Clive Maxwell: I don't have one that I can share right now, I am afraid.

Q42 Gavin Newlands: If it wasn't replaced at all, and it went ahead without



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it, at least for an interim period, what additional time would that add to journey times between Glasgow and London?

Clive Maxwell: It depends on how you configure your train services. That sounds a weaselly way through it, but it depends on how long your trains are and what other sorts of arrangements you need for the train paths. The answer is that it could be a few minutes.

Q43 **Gavin Newlands:** A few minutes?

Mark Thurston: We will run trains to Crewe. The trains will run to Crewe and then they will get back on the west coast main line somewhere around Crewe rather than, obviously, much further north, whether north of Preston or somewhere else. The differential, which I think was behind your question, to get all the way to Scotland will depend as much as anything else on what other trains are in its way.

Clive Maxwell: Exactly.

Mark Thurston: You are going to want to run freight and existing Pendolino services on that route. The timetabling is going to be a factor. There is clearly an absolute version of A versus B. Offhand, I do not know what that number is. I think the Golborne Link and going further north could take up to an hour off the journey to Scotland.

Q44 **Gavin Newlands:** This is my last question. What have been the practicalities of assessing and perhaps consulting on replacing the Golborne Link? That is why we have perhaps not heard anything thus far.

Clive Maxwell: The Government have not yet put out a set of plans or options and consulted on those. When they come forward with plans to consult on, they need to be quite cautious about how they do that to make sure that they are not creating undue concern or blight to areas. They need to progress their work to a certain stage of readiness to be able to do that, rather than create those sorts of worries.

Mark Thurston: Peter Hendy did the Union connectivity review last year, which looked at how we connect England to Scotland better using the rail network. There are some options in there which would need to feed into any work that the Department would commission to us. The existing Golborne Link route is safeguarded. On Clive's point, we need to be careful about that when we start looking at alternatives.

Q45 **Jack Brereton:** I have a very short question. You have talked about a lot of HS2 trains that are now going to be going on to the classic network. Who is responsible and who is focusing on the enhancements that might be needed to the classic network to facilitate all those trains?

Clive Maxwell: In short, there is an awful lot of work going on between High Speed 2 Ltd and Network Rail. These are Network Rail assets that we are talking about—for example, the west coast main line north of Crewe. They have the responsibility for the maintenance of those assets, so they are looking very hard at what improvements are required, the



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ones that are absolutely essential for the trains to run and serve different sorts of stations, but also those that would just speed up the journey and make some of the sorts of improvements that Mr Newlands talked about, for example.

Mark Thurston: Our trains will be compatible with the existing Network Rail gauge. Another case in point is the work of Network Rail around a resignalling proposal at Crewe.

Q46 **Jack Brereton:** I understand that they will be compatible. The issue is that there are congestion issues on the network. There are junction issues and there are station issues. How do we make sure that all of the challenges of a Victorian network are taken into account?

Mark Thurston: There are assumptions in the overall business case on journey times around the performance of the existing network when you run new high-speed trains on it. To the point that Clive made, we are working with Network Rail to make sure that the wider network is fit for purpose to take the trains and deliver the performance that we expect from those trains.

The other thing the Committee should be aware of, though, is that at the point when we start to run High Speed 2 trains back out on to the west coast main line, it is a fairly fundamental rewrite of the west coast main line timetable. It means you are almost in the realms of rewriting the national timetable. That is a big deal. It is something we are thinking about in terms of how we configure the introduction of HS2 services towards the end of the decade.

Q47 **Jack Brereton:** Will Network Rail's next control period reflect some of the enhancements that are needed to facilitate HS2?

Clive Maxwell: Those are exactly the sorts of funding discussions that are going on at the moment. It is about the importance of prioritising the things that are most essential to be able to deliver those sorts of outputs and understanding which are essential and which are optional.

Mark Thurston: There is work ongoing as well.

Clive Maxwell: There is very intensive planning going on between those two organisations and the Department for Transport, looking at exactly those things. It is also worth saying that on the ground Mr Thurston's teams and Network Rail are working very closely together—for example, at Crewe where they are already doing significant works for High Speed 2. How do you also get some synergies from doing works on the Network Rail assets at the same time to make sure you are getting double benefits?

Chair: Grahame, we need to move on so that we have time for the environment, which was the purpose of this whole session.

Q48 **Grahame Morris:** You have covered some of the ground already,



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gentlemen, and given us some good information. This section is about jobs and apprenticeships. Mark, you told us that we had about 27,000 in the workforce, working on phase 1 at around 350 sites. The spend this year is about £5.7 billion. How many apprentices are you currently employing on HS2?

Mark Thurston: As of today, I don't know the exact number, but there are north of 950 apprenticeship starts. We have a target—

Clive Maxwell: They have started on HS2.

Mark Thurston: We have a nice milestone coming towards us in the next few weeks or months when we reach our thousandth apprenticeship start. We have committed to 2,000 with what is still in front of us on the project. That target will look quite modest. My ambition will be that we continue to create early career opportunities for people right along the line of route.

Q49 **Grahame Morris:** We have almost 1,000 and the target is to double that.

Mark Thurston: It is.

Q50 **Grahame Morris:** A number of quite important sectors in the economy are reporting labour shortages. How is HS2 coping? There are a number of major construction projects in rail and other key areas of infrastructure. Are you able to secure the workforce to deliver it?

Mark Thurston: We have, when you think that we have built a workforce to nearer 30,000. I think you said it was 27,000 but we are not far shy of 30,000 people now. We have seen people roll off Crossrail. We have seen some people roll off the Thames Tideway tunnel. We are seeing some people roll off Hinkley Point C. There is quite a mobile workforce in construction.

There are some specialist skills that we are particularly sensitive to. We have made sure that we have secured all the appropriate tunnelling resource because we now have five tunnelling machines. We still have another five drives to do. That is quite specialist capability.

We run a cross-contractor labour forum, looking at this very issue. It is, rightly, a constant key risk for us that we are pretty vigilant about.

Q51 **Grahame Morris:** Finally, on making the workforce more diverse and sustaining that, because there is a lot of work to do, particularly in rail infrastructure, do you have a plan to recruit more women and a more diverse labour force?

Mark Thurston: Across the supply chain we have 20% BAME in our workforce. There are 30% female in our supply chain workforce, and 4% with registered disabilities. Inside the company we are at 22% BAME, 37% female, and 23% with registered disabilities. We have been platinum assured and accredited for our work in diversity. It is something



that we are quite proud of. We have done a lot of work with supply chains to get to those communities on the route who probably may not get the opportunity to work on a project like ours. Again, a bit like your earlier question, this will be a constant theme for us as we go further north. We need more resources over the next five to 10 years.

Q52 Grahame Morris: I am conscious of the time, but that is a good link—from labour force diversity to biodiversity.

Mark Thurston: If you say so.

Q53 Chair: Mr Maxwell, I think you were in for the earlier session. We heard some pretty searing criticisms from environmental organisations and the Government's own statutory adviser on the natural environment about the impact that the work is having and the shortcomings, as they saw them, in the mitigations that you are undertaking. How do you respond to those?

Mark Thurston: You heard what was said. I would say a couple of things. One is that there is a clear programme of environmental work enshrined as a requirement on us in the Act, both in undertakings and assurances. We have made great progress in the work that we have been doing.

Inevitably, in some places, there is some impact on the natural environment of the scheme that was approved by Parliament. There are a lot of examples, taking the Long Itchington tunnel as a case in point, where we have consciously avoided an ancient woodland. Of the 50-odd ancient woodland sites on 1 and 2A that are impacted, the actual effect of the railway is about 15% or 20% of those woodlands. In our detailed design, what has been quite pleasing is that we have been able to reduce the actual impact on woodland by about 20%, which is equivalent to about 20 hectares.

This is an important piece of work for us. We have already planted about 800,000 trees and bushes on the route as part of our green corridor. This is a groundbreaking commitment on our part. Clearly, once the railway opens, we want that to be a very developed and mature part of making sure that the railway is sympathetic to the natural environment.

We have done a lot of work to see how we can outperform the no net loss commitments we have in the 1 and 2A Act. We absolutely expect that when the 2B Bill becomes an Act of Parliament and is enshrined in law, we will have a commitment based on the Environment Act of 10% biodiversity net gain. As the Bill makes its passage through Parliament, we are thinking about how we are going to achieve that 10% net gain.

There was some comment in the earlier session around how we measure it. Frankly, we are probably a bit of a trailblazer in that regard. There are different views about how we are measuring that. We are working very closely with DEFRA, Natural England and the Environment Agency—the regulators—to understand the appropriate way to do it, so that we can



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demonstrate what our no net loss achievement is. Frankly, if organisations like the Woodland Trust and others have views on how we might do that, we will be happy to engage with them.

You have to remember that the way in which we measure biodiversity was done for the purposes of the Bill going through Parliament. We are in a very different place now. We are actually physically doing things on the ground. We have to find a way of codifying and measuring that so that it is auditable and recognisable by agencies like the EA and Natural England.

Q54 **Chair:** You may want to study the evidence they gave in the earlier panel. They were highly critical of the metrics you use.

Mark Thurston: "They" being?

Q55 **Chair:** The Woodland Trust, the Wildlife Trust and English Nature themselves, saying that your metrics were not as good as the standard or as good as DEFRA's norm. They were very sceptical of your ability to meet the no net loss using the metrics that you are currently using.

Mark Thurston: Noted. We are actively working with DEFRA on coming up with a mechanism that we all agree with. That is the reality. I am sure that will be an ongoing conversation for this Committee, but I am confident that we are doing all the right things. There is recognition that it is a work in progress, and we are not there yet. We are not suggesting that we have cracked it, but nevertheless there is a lot of work going on with DEFRA, and the EA in particular I think, to come up with the answer.

Q56 **Chair:** Mr Maxwell?

Clive Maxwell: Can I come in with a detailed point and go back to some of the bigger things? On the data, the commitments around no net loss that HS2 started off with for phase 1 were relatively groundbreaking. As Mr Thurston said, some of the data used for that came from the environmental impact and assessments and the environment statements that were used for purposes of the Bill. Some of the data came from that sort of source.

I will go away and double check, but my understanding is that the way in which that was done, back in 2016, is something that English Nature was comfortable with at that point in time. The world has changed for a lot of these metrics. The technical understanding about how to measure and quantify impacts on biodiversity has changed very much, even over those six years. As HS2 works on later phases of the programme, in particular the western leg for example, it is seeking to update the types of data and technical information that it uses and how it goes about doing that, working very closely with English Nature, with Natural England and with DEFRA and other bits of Government. What I see, day to day, is a lot of effort being made to make that technical work as close as possible.

Q57 **Chair:** Do you accept that if a rail scheme like this, which has the



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potential to be an environmental good on the face of it, gets a reputation for environmental destruction, in addition to the community impact that Mr Smith has expressed so much concern about so often, it is bad news for the image and reputation of HS2?

Clive Maxwell: It is, if that were to be the case. It is worth thinking through the hierarchy of different actions that we are talking about. The first thing is to try to design the original scheme to avoid those sorts of protected habitats, for example. When you are developing the line of route for a railway like this, you are trying to do lots and lots of different things. It is about managing cost pressures, joining up the right places, literally, and also worrying about the environment. I can say that environmental considerations, including high-quality habitats like ancient woodland, have been central to the original route selections that have been taking place.

When you then have the route, you want to try to minimise the impact. Mr Thurston, for example, talked about work on ancient woodland. As you refine your designs at the very local level you can find ways to avoid some of those impacts. Reducing the impact on ancient woodland by about a fifth or a sixth on phase 1 has been possible because of that refinement of design. Very often, the next step is about mitigation and actions on the ground to avoid specific impacts, whether it is about relocating species, soil translocations and the like or about compensatory arrangements where you cannot mitigate—for example, around ancient woodland and creating new habitats.

I think we heard quite a lot in the earlier session about some of the work going on there. I would point to work such as the creation of the new calcareous grasslands around the Colne Valley, for example, using chalk spoil from the tunnel-boring machines to create brand-new habitats and making extensive improvements in the landscape around there. Of course, all of this sits under regulatory and statutory compliance arrangements. HS2 Ltd has to comply with the law, obviously. It is licensed in different sorts of ways by the Environment Agency and by Natural England in the way it carries out those things.

Finally, there is the importance of monitoring and transparency. HS2 makes data available, and Mr Thurston might want to say more about that. If there are things that we can do to improve that and the timeliness of it, so much the better.

Q58 **Chair:** Chris Loder may have a couple of questions on this as well in a moment. I want to ask finally about carbon. I was left confused about carbon. The claim is made that, with easier access to Manchester airport and with the width of the route being wider than the motorway, actually the potential carbon benefits of HS2 in terms of modal shift were in danger of being lost, or perhaps are being lost.

Clive Maxwell: In the business cases for the programme there is an assessment of carbon impacts. Broadly speaking, it is as this Committee



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described, which was that HS2 itself will be a lower carbon form of transport than the alternatives, moving away either from cars or in particular, in some cases, from flying. That reduces the carbon day to day.

Clearly, building new infrastructure, whether it is a major railway or a motorway, involves a fair bit of embedded carbon. A lot of the work that HS2 is doing at the moment is to reduce the amount of embedded carbon by finding ways to use fewer lower-carbon materials and the like. That required improvements across the construction sector because it is not an HS2-only issue.

Q59 Chris Loder: Good morning, gentlemen. It is good to see you. I have a few brief questions, as we are coming to the end. Earlier, with the first panel, we talked a lot about ancient woodland and the effect on it and so on. I want to understand your views on the ability to mitigate the impacts on ancient woodland. We heard a lot about it. Would you be able to share your thoughts on that with us, please?

Mark Thurston: For the avoidance of doubt and just to make the point, 54 ancient woodland sites are affected by HS2 out of the 52,000 ancient woodland sites in the country. Of those affected, as I say, only about 85% are directly impacted. Nevertheless, we are very aware of that and, as Clive said, we have been able to reduce that even further through our detailed design.

It is worth thinking about the work we are doing with the various funds. I know there are different views about the funds. There is a £5 million Woodland Fund for phase 1 and a £2 million Woodland Fund for phase 2A. We are working with DEFRA and the Forestry Commission to see how we can combine those funds with some existing funds.

To date, we have restored 71 hectares of ancient woodland. We have created 123 hectares of new woodlands through those funds. Our view is that if the funds are put to good use and we work with landowners and local authorities—

Q60 Chris Loder: Could I ask you to repeat those stats on the number of hectares?

Mark Thurston: Of course. Thus far, 71 hectares of ancient woodland have been restored. We have created 123 hectares of new woodland as part of the planting programme.

Q61 Chris Loder: Earlier, we heard that 39 hectares were directly affected. You are almost four times—

Mark Thurston: The reality is that there is no substitute for ancient woodland because some of it has been there for hundreds of years. We accept that, and that is what was approved by Parliament. Our job is how we mitigate that and deal with it in the way that Mr Maxwell referred to.



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Our view is that, if those funds are put to best use, we could create a further 440 hectares of woodland through working with local partners. As much as we are trying to mitigate the direct impact of the woodland that is impacted by the construction, we are also looking to reinvest and make sure that we leave a legacy along the railway for future generations that we can be proud of so that, as the Chair said, the image and the reputation is of a railway that has been, as much as it can be, sympathetic in its impact on the natural environment, both in the construction and in its legacy and operation.

Q62 Chris Loder: Thank you. Could you tell us a little bit about how you work with other environmental organisations such as the Woodland Trust, Wildlife Trust and others? To be fair, I think there was a mixture of views from the earlier panel. Generally, it was negative, but could you give us your view?

Chair: I think it was about encouraging conversations, but then stuff not happening.

Mark Thurston: There is frustration with some of these trusts. You have to remember that they are not regulators. The regulators are Natural England and the Environment Agency. Our obligation is to meet the statutory law and the Act. There has been frustration for some of these trusts that some of the information they would like to see from us has not been forthcoming. Some of this information is protected, and it is protected for a reason. You are protecting information about species and biodiversity that we are not empowered to release. I know that has been a frustration.

Q63 Chris Loder: Do you have any concerns that any of those organisations, trusts and others would potentially use that information detrimentally, to encourage protests or anything like that?

Mark Thurston: I cannot comment really. I would like to think not. I wouldn't have thought that was a good use of their time. Our experience of illegal protesters who have got on to our land—professing to be environmental protesters—is that they have had a profoundly damaging effect on the local environments, whether it is woods at Small Dean or other places, some on the 2A route. We have had to invest significantly to clean up and restore some of the damage they have done. As to the role of the trusts in that, I would like to think not, but I cannot comment.

Q64 Chris Loder: In terms of working with other organisations, you are basically saying that the Environment Agency and Natural England are the two organisations—

Mark Thurston: They are effectively the regulators we have to—

Q65 Chris Loder: We have not spoken to the Environment Agency today, but would you care to comment on your working relationship with them?

Mark Thurston: It is a bit like Natural England. We have a service level agreement. We have invested with the Environment Agency for them to



have more resources. All the work we need to do for permissions and licences has put a not insignificant burden on their organisation to meet our needs. We have supported them and fund that. Equally with Natural England, I think we have a construction relationship there. Of the two principal agencies that we need to work with, to make sure that our work is compliant, approved and, where appropriate, audited, I would say we have a good, constructive working relationship.

- Q66 **Chris Loder:** Finally, if I may, the Chair asked you a little bit about carbon neutrality earlier, but I want to cover the biggest risks that you think there may be to achieving carbon neutrality by the target of 2035. Could you share with us what you see those key risks to be?

Mark Thurston: They are probably twofold. First, we are doing a lot of work to see how we can take carbon out of the built environment. You look at the designs of the stations. We are reducing the amount of steel and using low cementitious products. Clive made the point that there is a lot of work around the built environment in the construction sector to drive carbon out of the way in which we build infrastructure. We are very much at the vanguard of some of that.

The other risk is the assumption that the power we use to drive the trains is from sustainable supplies. Whether the events of this year around energy security will have a bearing on that when we come to open the railway, only time will tell. Our assumption is that we are using sustainable power from the grid.

Chris Loder: Thank you.

- Q67 **Chair:** I want to make a final point as a former Environment Minister that there can be value in engaging with non-statutory organisations. They have millions of members, and statutory organisations, as we know, are under severe financial and capacity pressure. We have seen that with some of the river issues that the country has been through.

Perhaps I could gently suggest that it is good for HS2 and for the Transport Department to try as best you can to have good relations with these organisations, to listen to their concerns and, if reasonable, to act on them.

Mark Thurston: I am not suggesting, by the way, that we do not engage with them. I accept that the relationship is sometimes more tense than perhaps they would like. Your point is noted.

Clive Maxwell: It is worth adding that there are bodies like the Ecological Review Group, which meets once or twice a year, and brings people together more formally. Indeed, in the case of both of those statutory regulators, you are providing support, financially and resourcing-wise, to allow them to do their job effectively without impacting on their other objectives.



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Mark Thurston: We have a board sub-committee for environment sustainability. Some of those groups have been invited along. We have issued our first environmental report. The next one is due out any time soon. We want to make sure that the Committee recognises that this is part of our responsibility, which we take very seriously.

Chair: Thank you, and thanks to the previous panel who stayed in the room to listen.