



House of Commons
Committee of Public Accounts

The completion and sale of High Speed 1

Fourth Report of Session 2012–13

*Report, together with formal minutes, oral and
written evidence*

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Committee of Public Accounts

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The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at www.parliament.uk/pac. A list of Reports of the Committee in the present Parliament is at the back of this volume. Additional written evidence may be published on the internet only.

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Summary

The high speed railway linking London to the Channel Tunnel, known as High Speed 1, has now been fully open for almost five years. Since opening, the line has had a good performance record and the Department for Transport (the Department) can be proud of some aspects of the project. A revised timetable and budget were established in 1998 and the line was constructed within this revised timeframe and revised budget. In 2010 the Department managed the sale of HS1 Limited, which has a concession to operate the line for 30 years, in an exemplary manner. The sale, along with the Department's restructuring of Eurostar UK, which ran the British arm of the international train service, transferred most of the remaining operational risk relating to the line to the private sector, with the project debt being met by the taxpayer.

There have also been some costly mistakes in the history of this project. The Department originally expected London & Continental Railways Limited (LCR), (which was awarded the contract to build the line in 1996), to service the project debt from future revenues from Eurostar UK (the train operator). However by the end of 1997 Eurostar UK revenues were substantially below LCR's forecasts. Consequently, in 1998, the Department agreed to restructure the deal and guarantee most of LCR's debt. The Department's debt guarantees were called upon in June 2009 and the taxpayer is now servicing and repaying the project debt of £4.8 billion.

Passenger demand for international services on the line has been much lower than forecast and that is the root cause of the failure of the original deal and of the call on the Department's debt guarantees. International passenger numbers have only been one-third of LCR's original 1995 forecast and two-thirds of the level the Department forecast in 1998. The Department's planning assumptions for the line were wrong; it failed to properly consider the impact on passenger numbers of the growth of low cost airlines and the competitive response of ferry companies. Over-optimistic forecasting and insufficiently robust testing of planning assumptions is a recurring problem, as our previous report on the East Coast Mainline has demonstrated. The Department must learn the lessons from the past and ensure that cost benefit analysis is solid as it develops its plans for HS2.

The Department still does not have plans in place to evaluate fully the impact of High Speed 1. Total taxpayer support for the line, over a 60 year period to 2070, has an estimated present value of £10.2 billion. Benefits for passengers from shorter journey times over this period have an estimated present value of £7 billion. The basis of this cost/benefit analysis is open to challenge. There is a risk that the value of passenger benefits is overstated, for example because the Department's methodology assumes that all time on a train is unproductive, and a further risk that the wider economic benefits are not taken into account because no appropriate analysis is made.

While difficult, it is disappointing that the Department has not attempted to understand the economic impact and local regeneration benefits achieved so far from High Speed 1. Also it has not assessed the impact on regeneration of decisions on where to locate stations. The Department will need to evaluate HS1's regeneration benefits and wider economic impacts worth many billions of pounds if the project is to demonstrate value for money. To

learn from past decisions and so make well-informed investment decisions in the future the Department, as well as other government departments investing in infrastructure, must improve its understanding and measurement of the economic and regeneration benefits of new infrastructure.

On the basis of a Report by the Comptroller and Auditor General,¹ we took evidence from an expert witness and from the Department for Transport on the High Speed 1 project and the lessons that need to be learnt from it.

1 C&AG's Report, *The completion and sale of High Speed 1*, Session 2010-12, HC 1834

Conclusions and recommendations

- 1. The Department does not have sufficient understanding of the economic impact and regeneration benefits of transport infrastructure, compared with alternatives, so is not able to make fully-informed investment decisions.** The Department needs a better understanding of both the economic benefits of transport investment and the relative merits of alternative investment, including non-transport options such as investment in broadband. In assessing the benefit-to-cost ratios of future projects the Department needs to improve its estimates of the regeneration benefits and wider economic impacts they will deliver and also evaluate a wider range of alternative options.
- 2. The Department gives insufficient attention to evaluating its major projects.** The Department has not got an evaluation framework in place and has only recently begun to develop an evaluation plan for High Speed 1. This risks the Department retro-fitting its evaluation to reflect what has occurred on High Speed 1 rather than properly evaluating it against original expectations. If the Department does not complete a proper evaluation there is also a risk that it will miss out on learning lessons from the project; for example, about how its decisions about the locations of intermediate stations are affecting local regeneration. The Department should develop a full evaluation framework urgently, including an assessment of the economic impact and regeneration benefits, for High Speed 1. It should also develop evaluation frameworks now for all its current major projects, and assure us that these frameworks are in place for all future projects including Crossrail and High Speed 2 (HS2).
- 3. The delivery of regeneration benefits from High Speed 1 suffered from a lack of effective leadership from the centre.** Regeneration is not the Department's core purpose and responsibility, but the Department justified High Speed 1 on the basis of the regeneration it would bring around stations at King's Cross, Stratford and Ebbsfleet. Development is under way at King's Cross and Stratford but is at a very early stage at Ebbsfleet. The Department has not been involved in regeneration at Ebbsfleet because the land is owned privately and so it considered sorting out delays there to be the responsibility of others. The Treasury should ensure that a single party has clear overall responsibility for coordinating the delivery of regeneration benefits and wider economic impacts from major public infrastructure investment.
- 4. Over-optimistic and unrealised forecasts for passenger demand on High Speed 1 left the taxpayer saddled with £4.8 billion of debt.** We have seen similar problems before with forecasting for the East Coast Main Line. In the case of High Speed 1 the highly over-optimistic forecast was due in part to the Department giving insufficient weight to factors such as the emergence of low cost airlines and the competitive response of ferry companies. When deciding whether to proceed with a major infrastructure project the Department needs to do more than analyse the sensitivity of individual assumptions. The Department should specifically consider what combination of different factors has to happen for the project to no longer be viable.

5. **Unrealistic passenger estimates for High Speed 1 must not be repeated in the business case for HS2.** The Department's case for HS2 has modelled demand on the assumption that ticket prices for HS2 will cost the same as tickets for slower 'classic' trains between London and Birmingham. This unrealistic assumption acts to exaggerate the HS2 passenger number forecasts. In reality the operator of HS2 is likely to be able to charge a premium price and the operators of 'classic' trains would be likely to drop their prices to retain passengers. The Department should rework their passenger demand forecasts and benefit-to-cost ratio for HS2 based on a more realistic estimate of ticket prices. Its assumptions must be transparent so that sounder judgements on passenger demand can be made in future.
6. **Some of the Department's assumptions about the benefit of faster travel are untenable.** The Department uses a 'simplifying' assumption that all time travelling on a train is entirely unproductive. The value that it assigns to time saved by business travellers at £54 per hour also appears unfeasibly high and is more than seven times that of people commuting to and from work. These assumptions may skew appraisals of projects in favour of long-distance travel. Regeneration benefits of intermediate stations and benefits from relieving overcrowding and improving reliability may also be undervalued. The Department should undertake research to understand better the values passengers place on different transport benefits—faster journeys, reliability and over-crowding relief—and to more accurately assess how people actually spend their time on trains.

1 Delivering the line and sale of HS1 Limited

1. In 1996, the Department for Transport (the Department) awarded a contract to London & Continental Railways Limited (LCR) to build a high speed railway linking London to the Channel Tunnel (High Speed 1), and to run the British arm of the Eurostar international train service (Eurostar UK). Construction of the line was to be funded partly by government grants (£3.2 billion) and partly by LCR borrowing money, secured on future revenue from Eurostar UK. Very shortly afterwards, by the end of 1997, Eurostar UK revenues were only a half of LCR's forecasts. Consequently, in 1998, the Department and LCR had to restructure the deal and the Department agreed to guarantee most of the money LCR would borrow to fund construction. When it offered the guarantees the Department did not expect they would be called on. This is our third report on High Speed 1.²

2. The Department did well to oversee the construction of High Speed 1 within the revised funding and timescale that it had set in 1998.³ This was a far better performance than some of the other rail projects that this Committee has looked at in the past, such as the West Coast Main Line upgrade.⁴ The Department achieved this despite the fact that the project had successive restructurings and was complex. The line has performed to a high standard since it fully opened in November 2007.⁵

3. However, in June 2009 the Department took LCR and Eurostar into public ownership, and took on the £4.8 billion project debt which it had guaranteed. Revenues from Eurostar were insufficient to service this debt as passenger numbers since the line opened in 2007 have only been two-thirds of the level the Department had forecast in 1998. In 2010, the Department sold HS1 Limited, with a concession to operate the line for 30 years, to the private sector. The Department handled the sale of HS1 Limited well and the proceeds from the sale were, at just over £2 billion, higher than expected. The sale limits the future liabilities arising from operational risks to taxpayers.⁶

2 Committee of Public Accounts, 22nd Report of Session 2001-02, *The Channel Tunnel Rail Link*, HC 630; Committee of Public Accounts, 38th Report of Session 2005-06, *Channel Tunnel Rail Link*, HC 727; C&AG's Report, *The completion and sale of High Speed 1*, Session 2010-12, HC 1834, para 1.3

3 Qq 24, 91, 100, 108

4 Committee of Public Accounts, Thirtieth Report of Session 2006-07, *The Modernisation of the West Coast Main Line*, HC 189

5 Qq 108; C&AG's Report, para 1.6

6 Q 24; C&AG's Report, paras 2.9-2.11

2 Evaluating the impact of transport infrastructure projects

4. It is important that evaluation frameworks are developed when a project starts so that departments can evaluate projects against their original objectives; understand differences from plans; assess progress against original aims; and learn lessons for future projects. The Department told us it is still waiting for new travel patterns to be fully established before it starts to evaluate the project and it has only recently started to develop a plan for evaluating High Speed 1. By developing the evaluation retrospectively there is a risk that the evaluation model will be set up to show maximum benefit from the project. A more objective judgement against original aims could be achieved from a model set up at the start of the project.⁷

5. While a complete evaluation of the High Speed 1 project would not be possible for some time, there are aspects which the Department could have evaluated by now to inform its plans for current projects such as High Speed 2 (HS2).⁸ The NAO estimated that the total cost to taxpayers of supporting High Speed 1 could be £10.2 billion and the value of journey time saving benefits for passengers will be £7 billion. Both of these estimates cover a 60-year period and were calculated in accordance with HM Treasury guidance. The Department will need to show that the line will have regeneration benefits and wider economic impacts worth many billions of pounds for it to be value for money.⁹

6. A proper evaluation of transport infrastructure projects is challenging. It requires a good understanding of the effect of the project on regeneration locally and on the economy more widely. For example, jobs may be displaced from one area to another or economic growth that is experienced in an area with new transport links may have occurred without it. We heard that the evidence of the wider benefits high speed rail has brought to other countries is mixed: Lille in France has grown as a result of high speed rail, but there has been less of an effect in Germany and Spain.¹⁰ The New Economics Foundation told us that evaluation needs to be done within the context of a wider industrial and regional strategy.¹¹ The Department agreed to build an evaluation model earlier for the HS2 project. The new Accounting Officer told us that he had talked to the Department's chief economist about how the Department can become "best in class" in evaluating the range of its activities.¹²

7. While the Department delivered its core objective, the construction of the line, well, it has done less well in addressing how the line's regeneration benefits will be delivered.¹³ One of the Department's key objectives for High Speed 1 was that it would deliver

7 Qq 12, 82-86, 91

8 Qq 11, 85, 102

9 Qq 8, 90; C&AG's Report, para 15

10 Qq 3-4, 6-8, 13, 20, 109-110

11 Q 13

12 Qq 82-86

13 Qq 99-100

regeneration benefits at King's Cross and at the line's two intermediate stations at Stratford in east London and Ebbsfleet in north Kent. The Department told us that "very significant regeneration activity" is under way at King's Cross and Stratford.¹⁴ The Department maintains that the High Speed 1 project transformed St Pancras station and opened up access to the King's Cross site bringing regeneration that would not otherwise have taken place. However, regeneration occurred at Paddington Basin without any such transport investment. We are unconvinced that regeneration at King's Cross is dependent on High Speed 1. Without a convincing evaluation, the Department cannot demonstrate the added value that High Speed 1 has unlocked and that its investment has been well spent.¹⁵

8. The Department told us that it has little influence on the progress of regeneration at Ebbsfleet, which remains at a very early stage, because the land is privately owned and controlled. The Department said that the principal responsibility for regeneration at Ebbsfleet lies with the private landowner and the local planning authorities. Neither the Department nor any other central government department is taking the lead in making sure that regeneration does in fact take place at Ebbsfleet, although this was a stated Government objective for HS1 and despite a lot of time and attention being spent on trying to regenerate the whole of the Thames Gateway. We believe that the Department has missed an opportunity at Ebbsfleet to demonstrate that high speed lines can bring regeneration around the intermediate stations they serve.¹⁶

14 Qq 67, 90

15 Qq 10, 81-82, 108

16 Qq 67, 101-104

3 Lessons for the Department's future investment decisions

9. There are a number of important lessons from High Speed 1 which the Department needs to learn and apply to future transport projects, including HS2. We asked the Department what it was doing to ensure that these lessons were learned. In particular we were interested to know what was being done to improve passenger demand forecasts—use of High Speed 1 had been substantially overestimated by both LCR and by the Department.¹⁷

10. Demand forecasting for new projects is challenging but there was significant optimism bias in the original 1995 LCR forecasts of international passenger demand for High Speed 1 with actual passenger numbers, since the line opened in 2007, at a third of these predicted levels. International passenger numbers were also 30% below the Department's revised 1998 forecast, when the Department guaranteed the project debt.¹⁸ More recent forecasts are more accurate, but this is to be expected as they predict demand over a shorter time period.¹⁹ High Speed 1 is not the only case where the Department has shown optimism bias. For example, it accepted National Express's bid for the East Coast Passenger franchise, which was based on unachievable growth in passenger revenues.²⁰ The New Economics Foundation told us that demand forecasting is difficult and pointed out that inaccurate forecasts were also made by the private sector, for example, Disneyland got its forecasts dramatically wrong.²¹

11. The Department's models for forecasting passenger demand are highly sensitive to a variety of factors, particularly projections of GDP. The New Economics Foundation considered that it was critical "not to assume the best" and to be cautious. In relation to HS2, we asked the Department for the reasons underpinning the changing forecast of the year by which passenger demand will have doubled as this has fluctuated from 2033 to 2043 and back to 2037 (recently revised again to 2035). According to the Department the main reasons for the first fluctuation were downward revisions to projections of passenger growth following the economic crisis, combined with a change in fares policy. The second fluctuation was mainly due to updating the year on which the forecasts are based to reflect actual increases in long distance passenger demand which had been greater than expected. The Department does sensitivity testing on individual factors underpinning its benefit-to-cost ratio estimates but in reality changes tend not to happen in isolation.²²

12. The Department's scenario planning for High Speed 1 was inadequate. The Department maintained that its estimate of the size of the total market for travel between

17 Qq 1, 24

18 Qq 24-25, 57; C&AG's Report, para 1.15

19 Qq 31-32

20 Qq 73, 77; Committee of Public Accounts, 39th Report of Session 2010-2012, *The InterCity East Coast Passenger Rail Franchise*, HC 1035

21 Q 5

22 Qq 3, 5, 35-41; Ev 39 – Department for Transport, *HS2 Demand Forecasting and Cap Year*, paras 9-11

the UK and France and Belgium was about right but accepted that it had over-estimated the share that would be captured by High Speed 1 because it had not anticipated the competition from low cost airlines and the competitive response from the ferry companies. The Department accepted that, although difficult, it could have predicted these developments in the mid-1990s.²³ HS2 is also being modelled on a limited set of assumptions. For example, the Department has not modelled the potential impact of the growth of video-conferencing on passenger numbers.²⁴ In addition passenger numbers for HS2 are being forecast on the assumption that premium prices will not be charged on the high speed line. This assumption is unlikely to be adopted when HS2 is in operation. Passengers may be willing to pay higher fares to travel faster and the operator of the 'classic' line may cut fares to compete.²⁵

13. The Department's method of calculating the benefit-to-cost ratio of new rail infrastructure projects, including HS2, includes an assessment of the value of journey time savings for different types of passengers. For business passengers, the Department uses an assumption that all time spent on a train is not productive, so an hour less on a train will mean that an hour more can be spent on business activities. The Department uses an average of £70,000 a year as the value of business travellers' time when it calculates how much these time savings are worth. The Department told us that this figure is based on surveys carried out in 2002-03 and reflects not just salary costs but business travellers' productivity as a whole, including their contribution to profits.²⁶

14. The New Economics Foundation considered that more up-to-date information is needed about how people actually spend their time on trains and on what they value most about travelling by train. Business travellers may value the right conditions to work on the train combined with arrival on time more highly than shorter journey times. The Department's assumption that time on trains is unproductive combined with a high value for business travellers' time risks overestimating the benefits of high speed rail, exaggerating the negative effects of intermediate stations, which make journey times longer, and skewing investment decisions in favour of long distance travel rather than commuting. The time business travellers save by using high speed rail is valued at £54 per hour yet commuters' time saved getting to and from work is only valued at £7 per hour.²⁷ Such differences are hard to justify and yet vital for proving the case for long distance investment.

15. The lessons identified above all impact on the benefit-to-cost ratio of a project. The Department told us there are a variety of other "pillars" which it takes into account, including strategic judgements, when making a decision on whether a project is value for money. Without clear, transparent criteria for making investment decisions, including for example that a project must have a benefit-to-cost ratio of at least 1.5, the Department may be able to justify any individual investment decision whether or not it is good value for money. We asked the Department if it had considered a wide range of options as

23 Qq 25-29, 70-72

24 Q 62

25 Qq 42-49

26 Qq 3, 62, 92- 98

27 Qq 3, 59-61, 68, 118-121

alternatives to investing in HS2, such as increased investment in local transport or in broadband. The Department told us that it had not considered the benefits and costs of these alternatives in its assessment.²⁸

Formal Minutes

Wednesday 27 June 2012

Members present:

Mrs Margaret Hodge, in the Chair

Mr Ricard Bacon
Stephen Barclay
Jackie Doyle-Price
Matthew Hancock
Chris Heaton-Harris

Mr Stewart Jackson
Fiona Mactaggart
Meg Hillier
Nick Smith
Ian Swales

Draft Report *The completion and sale of High Speed 1*, proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 15 read and agreed to.

Summary agreed to.

Conclusions and recommendations agreed to.

Resolved, That the Report be the Fourth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for printing with the Report (in addition to that ordered to be reported for publishing on 18 April 2012).

[Adjourned till Monday 2 July at 3.00 pm]

Witnesses

Wednesday 18 April 2012

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Philip Rutnam , Permanent Secretary, Steve Gooding , Director General, Domestic Group and Mike Fuhr , Director, Department for Transport	Ev 5

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List of Reports from the Committee during the current Parliament

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2012–13

First Report	The Government Procurement Card	HC 1915
Second Report	Mobile Technology in Policing	HC 1863

Oral evidence

Taken before the Committee of Public Accounts on Wednesday 18 April 2012

Members present:

Margaret Hodge (Chair)

Mr Richard Bacon
Jackie Doyle-Price
Matthew Hancock
Chris Heaton-Harris
Meg Hillier

Mr Stewart Jackson
Austin Mitchell
Nick Smith
James Wharton

Amyas Morse, Comptroller and Auditor General, National Audit Office, **Gabrielle Cohen**, Assistant Auditor General, NAO, **Geraldine Barker**, Director, NAO, **John Ellard**, Director, NAO, and **Marius Gallaher**, Alternate Treasury Officer of Accounts, HM Treasury, were in attendance.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

Department for Transport: The completion and sale of High Speed (HC 1834)

Examination of Witness

Witness: **Stewart Wallis**, Executive Director, New Economics Foundation, gave evidence.

Chair: Welcome, Mr Wallis.

Stewart Wallis: Thank you.

Q1 Chair: May I also welcome the delegation from the Lebanese Parliament who are sitting in today? I hope you learn something from our proceedings.

Mr Wallis, you are probably aware that this first session is to support the way in which we then interrogate accounting officers around the issue of HS1. The other thing to say is that I have read quite a lot of the stuff you have written around HS2. What we are interested in getting out of today is a real understanding of the channel tunnel rail link, so that it can then be used by the Department to inform the approach to HS2. That is the context. It is open to you as to where you think the key issues are arising out of the experience of HS1, which you think ought to inform the evaluation of whether to go forward with HS2 and, if to go forward, how.

Stewart Wallis: Thank you, Chair. I will certainly orientate my remarks to the lessons from High Speed 1. To say a little in a quick opening about our experience: I am the executive director of the New Economics Foundation, which is one of the larger UK think-tanks. We have a particular focus on a number of areas, such as measuring the right things, on sustainability, inequality, jobs and regeneration. Those types of areas are where we focus.

We have been doing independently funded research—and it is independently funded—on High Speed 2. That follows a range of bits of work we have been doing on the social, environmental and economic costs and benefits of a range of other projects and programmes—some in infrastructure, some in other areas such as alternatives to prison for women.

The thing I would like to stress at the beginning is that we genuinely—and I mean genuinely—do not have a position on whether HS2 is a good thing or not. Whenever one is critical in any way, there is a danger that you are put in the “no” camp. We are not. Our concern is value for money and the right appraisal of big projects that take a large sum of taxpayers’ money. That is the territory we come from. In a nutshell, there is a real danger if we do not learn the lessons from High Speed 1 that this Committee, or a successor to this Committee, in 15 to 20 years’ time, will be having some of the same conversations about High Speed 2. That is what we are so keen not to see happen again. There are three key areas that are major lessons from High Speed 1. One is around passenger demand. The second is around how one values time, and particularly the time savings of business travellers. The third is around the wider economic benefits—the very-difficult-to-quantify benefits that range from regeneration to agglomeration and the technical term. It is really those three areas that I should like to concentrate my remarks on, although there are three other generic areas that might be worth commenting on to do with the costs, the sensitivity and the evaluation—or lack of evaluation—on High Speed 1.

Q2 Chair: I do not want to interrupt you because this is very helpful, but we are going to have a vote, probably in about 20 minutes, which gives you your time frame. We will want to ask you questions, so if you are concise—

Stewart Wallis: Would you like me to continue on those areas?

Q3 Chair: Very briefly cover the three and the three others, but do it very quickly.

Stewart Wallis: I will do it quickly and then we can get into questions.

The first is passenger demand. As this Committee will be aware, the initial passenger demand on High Speed 1 was overestimated by about 30%. One of the major factors that happened on High Speed 1 was that the demand for near tourism and near travel to near Europe—Paris and beyond—did not grow in the way that was predicted. That has quite major consequences on the financing model and others on High Speed 1. With High Speed 2, there is an equal issue around demand but it is a different issue. The main competitiveness of High Speed 2 will be from other rail and, as in High Speed 1, the major factor that will influence demand is the estimates of GDP growth.

As the Department themselves say in their April update, they are still using the Office for Budget Responsibility GDP forecasts of a year ago. When one revises them down, that will affect the project first of all. But the other thing that will have an effect on High Speed 2, and this is commented on in the Booz and Co commentary on High Speed 2, is what the Government does about other franchises and what other rail companies do about farestructures.

One of the other factors that happened in High Speed 1 was a greater than expected competitive reaction from ferry companies and others. So the demand factor is a very complex model, but fundamentally it comes down to what you think is going to happen to GDP and what you think will happen and be the competitive reaction from other forms of transport.

We think that there is a real danger at the minute that it is over-optimistic. You are relying from here to basically 2060 on GDP figures, year on year, of over 2%. Now we all know that has not been our historical experience. If you don't get that then your benefit-cost ratios are going to drop to very unacceptable levels. The thing just to stress on that to the Committee is that the benefit-cost ratios already on High Speed 2 have dropped for the Birmingham connection—the first bit of it—down to 1.2 without the wider economic benefits and 1.5 with. The Y—the extra bit up to Leeds and Manchester—is not much higher. So already you are looking at the latest assessment from the Department for Transport with very low benefit-cost ratios. You put in those uncertainties around demand and GDP and you could easily be seeing a real problem. That is the first problem.

The second problem, which applied to HS1 as well, is the way the Department—this is widespread practice so it does not get picked up in the NAO report—values time and time saving. Basically, it works on the basis that you look particularly at business travellers and you do not count the time spent on a train as productive. So any time saved, because you have a faster journey, is then valued in at a particular figure. At the minute—the other factor here on High Speed 2—it is valued in at an average of £70,000 per person, which might apply to some business travellers, but is way above any wage rates of a large proportion of the travelling public and business people.

The real problem is whether it is the right analysis. We are going to do much stronger testing on High Speed 2 and go out to a statistically effective sample of business people to actually look at what they do

value. Anecdotally, they say that they value reliability, the space in which to work and connectivity. They very much value—if one has the right working conditions and trains are going to arrive on time—the ability to work on the train. To count it as non-productive and to count the minutes saved in a linear way at £70,000 per business person is, we think, a serious overestimation of the real time savings.

The third major factor is the one that has bedevilled High Speed 1 as well, which is what value you put on wider economic benefits. To cut a long story short, various studies of high-speed rail in other countries show a very mixed picture around those wider benefits. They are difficult to quantify and we have sympathy with that, but when you look at what has happened in France, for example, Lille is quoted as benefiting from high-speed rail lines, but Paris has benefited even more, so the imbalance has not changed.

If you look at Spain, Madrid has benefited and there has been severe under-utilisation of the line. If you look at the benefits that are calculated for Manchester and Leeds, they are growing fast, anyway. Would they grow fast without High Speed 2? One needs to be careful about the whole way in which one looks at wider benefits. Even the job creation that is estimated on High Speed 2 is weighted to London—70% of the jobs that are estimated to be created, directly working on the railway, are in London, not in the north.

Q4 Nick Smith: Jobs directly related to the railway?

Stewart Wallis: Yes. Not just construction jobs, but jobs created as a result of building a new railway line. The point I am making is that it is very difficult—going by the evidence from other countries—to quantify the wider benefits. You really have to do it in the context of an industrial and a regional strategy. Some people say that Cardiff will suffer if we build High Speed 2. You need to ask whether you are creating net new benefits and taking from other areas. Are you rebalancing and what would happen, anyway? Those are the sorts of factors that one has to look at in regeneration benefits. Those are the three big things.

Q5 Meg Hillier: You talked about the modelling for growth, for use and for income. We have seen this before. Visitor numbers to the Dome magically increased every time the budget for the Dome went up. It is not uncommon, so I do not think Government are very good at it. Are there good examples in the private sector of modelling? Clearly, private sector companies are bidding for this type of project. They have done their modelling to work out whether it is worth their while. Or is there a good international model?

Stewart Wallis: On demand management, Disneyland got it dramatically wrong, so the private sector is not necessarily immune to this. It is incredibly difficult, but the critical thing is not to assume the best. There is an optimism bias that the Department has built into its figures, which is a good thing to do, but overall, relying on a GDP of 2% right out into the future strikes us as something that would be lovely, but it is probably not totally realistic. This is another point that

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I wanted to make along with the other three points. Sensitivity analyses have done one thing and another. Several things tend to happen at once. The way in which sensitivity analysis ought to be done on transport and other projects is to say what combination of different factors has to happen for this to be non-viable? I think that when you look back at the different benefit-cost ratios over the years, you will see, based on the current figures on High Speed 2, and arguably on High Speed 1 as well, that these are quite marginal projects. There may be other very good reasons to do it that do not come up in economic analysis, but I do not think that we should pretend that we have a way of assessing things scientifically when we do not and when the margins of uncertainty and risk are quite high.

Q6 Nick Smith: Mr Wallis, can you tell us a little more about what you think has happened to places such as Lille, which I understand was a former coal mining area? When I go past it on Eurostar it seems to have changed dramatically. I had understood that it had done quite well, but I do not know. Secondly, related to that, what do you think is happening to Kings Cross, which I have been watching over a long period of time and it now, at last, seems to be taking off as an old railway line site, although I know that it has a few years yet before it is finished?

Stewart Wallis: I do not think that I can comment in detail. All I can tell you is that the evidence from studies internationally is very mixed. Lille seems to be quoted as one of the examples that really has benefited—there is good evidence that it has. One of the things that is said, particularly about High Speed 2, is about rebalancing the economy. There is a real danger shown in other evidence that, yes, some areas might benefit and some might lose, but London might benefit even more than others. In the case of Lille, it has grown as a result of high speed rail, as far as one can tell from the evidence, but Paris has grown even more. That may still be a good result, but one has to be aware that it is not rebalancing the economy and that it may or may not achieve anything on the north-south divide.

Q7 Jackie Doyle-Price: It is not rebalancing, but it is still growing the economy.

Nick Smith: In a very poor area.

Stewart Wallis: I agree. The point I am making is that you have got to look at each case differently. Germany is different again. The evidence on Germany is that it has not had as big an effect. The evidence on Spain, ditto. The evidence on Lille is that there has been an effect. It is not that there are not benefits: there are. The issue is on where those benefits will arise. Will Manchester and Leeds do well in spite of it? Who might lose out? You have to be able to answer the thing in the round. That is in the context of each country's geography, policy and so on. That is the main point. I do not think that one can—

Chair: I am going to move on quickly.

Q8 Jackie Doyle-Price: If you have economic growth when the country benefits—it is not about gainers and losers, although I accept that there will

be a disproportionate benefit in London, but that will always be the case, because whenever you have growth London will grow faster than anywhere else—and if we can demonstrate that there will be a significant increase in economies such as Sheffield and Leeds, that growth means much more to them than the added growth in London. We need to look at it in terms of a holistic vision as opposed to a bottom line.

Stewart Wallis: I agree totally. I was just making the point that one should not over-claim about rebalancing. The issue is that it is very difficult. At the minute, if you look at High Speed 1, you started off with the extra benefits of regeneration being about 16% of the total. Now, as the NAO report has pointed out, you need them to be more than 100% of the other benefits to make the thing work. The point I am making is that it can bring major benefits and we need to understand those better. That is why I say genuinely that we are not anti-High Speed 2, because even if one takes into account those other things of time and demand forecasts, which are likely to be negative against the case, you can really look at the regeneration benefits. The only way, however, to tell whether we are a Spain or a Germany, where there have not been massive benefits, or a France, where there may have been, is understanding the particular context of the country. I do not think that we have an argument that really sets that out yet.

Q9 Austin Mitchell: I think that a lot of the benefit for High Speed 1 must have come from the great chunk of land that they got round King's Cross, which will be profitable to develop, but there is not any such massive donation that can be given to High Speed 2, is there? What proportion of the regenerative benefits came from the King's Cross development?

Stewart Wallis: That is absolutely right, though they are not well quantified yet. But on High Speed 2, it would depend, among other things, on whether, for example, you have new stations within cities or outside. There are a number of factors like that that still need to be determined. Part of the difficulty is that for the "Y" part of the High Speed 2 line—in other words, the bit beyond Birmingham—the route is not fully clear yet. There are still some quite major details—do you have city centre stations, which might have that sort of effect, or do you have stations outside towns—that have got to be quantified, as has the issue of what the environmental costs are. The Department has done environmental costs on the first bit of the line, and it is good that it has factored them in, but it has not done that for the second part of the line. Given how those benefit-cost ratios are quite low already, we don't know—

Q10 Chair: Having lived with King's Cross for about 20 years, as Nick has done, King's Cross has always got economic regeneration benefits, and it would have happened had you or had you not had the Channel tunnel rail link there. The real question I have for you is, how do you do a model? The thing that rather shocked me is that we invested in this in—I can't remember when the decision was—'93 was the original decision?

Stewart Wallis: Yes.

Q11 Chair: Nobody has ever done an evaluation. It is absolutely shocking. Is it because it is too difficult to do?

Stewart Wallis: No. I do not think that it is too difficult to do, but I think that another key lesson—one of my second three—

Q12 Chair: How do you pull out that it is the railway?

Stewart Wallis: You need to plan an evaluation at the beginning, whereas on High Speed 1, we were in danger of not ever getting the answers to that. It is difficult, yes, but we really have to plan it now. If we are going ahead with it, we should plan an evaluation at this stage, not think about it—

Q13 Chair: Given what I have just said about King's Cross, which is that regeneration and economic activity would have happened anyway, can you, in an economic evaluation, pull out the impact of the rail, or is that being over-optimistic?

Stewart Wallis: I cannot answer you on King's Cross. It should be, but you could only do it if you have—this is a difficulty that we face, and this is a much wider question—a clear industrial strategy and regional plan, so you can then say what part is transport playing in that. If one is just looking at transport on its own, it is very difficult to tell what has happened because of transport and what would have happened anyway. That is the case of Leeds and Manchester. We might see very good growth figures in the future, but would those have happened anyway? That is the most difficult question to answer.

Q14 Matthew Hancock: This hearing is about High Speed 1 and learning the lessons from HS1. It is very important that we do not end up just pontificating about High Speed 2. I am very grateful that you have set out the benefits that you think have come from High Speed 1. In the report, the cost-benefit is about 1.8, when you take everything into account.

I wanted to question you about the assumption of 2% growth. You said that that has not happened, but I wonder over what time frame in the past we are taking that, because that is inconsistent.

Stewart Wallis: That is particularly on High Speed 2—

Amyas Morse: It is not 1.8 in our report, Matt¹.

Q15 Matthew Hancock: Yes, but you said that that is not what has happened. I wonder whether you have any evidence for that at all.

Stewart Wallis: I am making a general point about the UK economy. If you are reliant, both for elements of your time saving and for your passenger demand

figures, on the key driver of GDP, all I am saying is the record of the last 10 years has not been a year-on-year growth of 2%.

Q16 Matthew Hancock: What has it been?

Stewart Wallis: You can see that there has been a major down flow in GDP over the last few years.

Q17 Matthew Hancock: High-speed rail is supposed to be over a long period of time. So say, take it over 20, 30 or 40 years. What has been the GDP growth over that period?

Stewart Wallis: I cannot give you the figure out of my head, going backwards.

Q18 Matthew Hancock: It has been about 2%, hasn't it, or 2.5%, on average?

Stewart Wallis: A bit less, I think. Obviously, if we take the last four years, they would have pushed it down quite seriously.

Q19 Matthew Hancock: Yes, but high-speed rail is not intended to last for four years during a financial crisis.

Stewart Wallis: I know. All I am saying is that it has not been a compound rate. Even on average, it probably has been a bit below 2%, but I am guessing there. I do not think I should quote a figure I cannot give you out of my head, the average from 1980 to 2010.

Q20 Matthew Hancock: The other question is about the wider impacts. You were talking about the positive impact on Lille, Paris and London of High Speed 1, but you went on to argue, it seemed, that because they are distributed in all three areas, they somehow do not count. I did not understand that. I have an old-fashioned view that improvement is improvement.

Stewart Wallis: Definitely, but the issue is—if I quote your question right—that the evidence from other countries on regeneration and wider economic benefits of high-speed rail is very equivocal: it is stronger in some countries than others. All I am saying is that one needs to try to get a judgment—and it is difficult—of what would have happened anyway if we did not have a high-speed rail line, and what might be happening in some regions compared with other parts of the country if one builds high-speed rail? In other words, you might get greater growth in some places and less in others. Is it net new growth or is it substitution? Obviously, your point is that it does matter if that growth is happening in a poorer place. That is very important, so I am not knocking it at all. It is about trying to understand what is really going on, and it is not simple. The evidence—that you think you can get x amount of benefit—is not clear.

Of course, the other question is: what might you have done otherwise? Would it be better to do much more on the inter-north-north links, for example, and the areas round Manchester to get much better local transport links? I cannot answer that. A problem on High Speed 2 that was not, really, on High Speed 1, is that there has been an inadequate real look at the alternatives. That is a different issue.

¹ The benefit cost ratio of 1.8 is taken from a study published by London & Continental Railways on the economic impact of the high speed line, which is summarised in Figure 12 of the Comptroller & Auditor General's report, and includes estimated wider economic impacts. The Comptroller & Auditor general's report does not give a cost benefit ratio from NAO analysis as the NAO was only able to value journey time saving benefits which are one aspect of the benefits identified in the original business case.

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Q21 Matthew Hancock: I have one other question. I am interested in why you and NEF have done the work on this. Obviously, here is an expert witness. What is the background for why you have done the work?

Stewart Wallis: Certainly, that is a very good question. The reason is that we got funding for this from an organisation called the Hadley Trust, which was set up by a business person who has worked in computers all their life. It has supported NEF on a range of projects—and other people have, too—looking at what we call the social return on investment, looking at the social, environmental and economic costs and benefits of major projects. We have done all sorts of other things, from Sydney harbour, to working with

John Lewis on opening stores, to runway 3. Having done work on Heathrow runway 3, there is a logic to our looking at a major transport project that is taking, potentially, £36 billion of public money to find out what we can learn from it.

It comes back to the fact that we are not coming from a position of campaigning on this; we are coming from a position of saying, “Is this value for money? What can we learn about how best to appraise projects in future?” *[Interruption.]*

Chair: Thank you so much. I am sorry to interrupt you because of a vote, but that is democracy at work. That was very clear and helpful, so thank you very much indeed.

Sitting suspended for Divisions in the House.

On resuming—

Examination of Witnesses

Witnesses: **Philip Rutnam**, Permanent Secretary, Department for Transport, **Steve Gooding**, Director General, Domestic Group, DFT, and **Mike Fuhr**, Director, DFT, gave evidence.

Q22 Chair: I start by welcoming you, Mr Rutnam, to your first appearance before this Committee as the Permanent Secretary at the DFT.

Philip Rutnam: Thank you.

Q23 Chair: No doubt, there will be lots of appearances, and we wish you well. I do understand that you have been there for only a week, but it says something about the accountability structure that you are going to have to account for everything since 1993—I do not know where you were then. Welcome, too, to the other two witnesses.

I will start by saying that I think this is a mixed-picture Report. I don't know if you agree. There are some things that clearly, if you look back on the history of the project, went better than they did on the west—whatever it is called—

Philip Rutnam: The west coast main line.

Q24 Chair: Thank you for helping me on that. Things were clearly a zillion times better than on the west coast main line. I think our interest is to look at HS1 to see what lessons we can learn from it and, therefore, to try to assist you and the Government to ensure that we get proper value-for-money decisions as we move forward with another major project—with HS2. If you feel that a question is looking at the past to inform the future, that will be the bias of the questioning of you this afternoon, but accept that against the background that, for example, I think that the way in which the sale was handled was exemplary. There are other aspects that we would have been pleased to have seen.

The thing that hits you is the passenger forecasts that were done on HS1. As far as I can see, if you look at the present total travel between London, Paris and Brussels, it is still a third less than either the 1995 forecast—the LCR forecast—or your own departmental forecast in 1998. I do not know what you learn from that. Why do you think that that went so badly wrong, and what are you intending to do to make sure that you are better at forecasting passenger

numbers as you move towards taking real decisions on HS2?

Philip Rutnam: Perhaps I could go back to your summary of the Report, because I think that that is a fair summary. There are some things that, in retrospect, were not quite right in relation to this project. I think the passenger forecasts, whether in 1995 or 1998, clearly overstated the level of demand compared with what we have seen. In some ways, there was also an excessive level of ambition in relation to the amount of risk that could be transferred to the private sector. On the other hand, once the decision to proceed with the project had been taken, many aspects of the way in which this Department handled the project were, to use your word, exemplary. The way in which the Department handled the successive restructurings, and the way in which the Department ultimately ended up with a very complex, major project that was built within the funding identified back in 1998 and within the time scale identified in 1998, is also a significant achievement.

Q25 Chair: We will come back to that.

Philip Rutnam: And the sale process, too.

Could I just pick up on the question of demand forecasts? I have already indicated that there are clearly lessons to be learned from the demand forecasts. The demand forecasts made in 1995 and 1998 need to be put into a bit of context. The challenge that the Department faced then, and that the private sector bidders for the concession and, indeed, the public sector operators of the railway, both British Rail and SNCF, all faced then, was forecasting what was a very novel form of travel: high-speed rail travel between three international capitals. Picking up on something that Stewart Wallis said in the previous session, I do not think that the forecast got the total size of the market wrong—I think that the total size of the market was about right—it was the share of the market that would be captured by high-speed rail

going between those destinations, as opposed to, for example—

Q26 Chair: I shall have to stop you there, because I do not think that is right. My understanding is that Eurostar has got 80% of the market to Paris and Brussels. I do not know how ambitious it wants to be, but 80% seems to me to be probably pretty much the maximum share of the market, given the competition from air and sea. What was wrong was the total demand. It is not the share of the market; it is the total demand.

Philip Rutnam: Actually, the forecast back then assumed that people would be travelling much greater distances from destinations that are now served by regional airports that have direct flights to France and Belgium. It is that part of the market that has gone away from Eurostar. Also, as Stewart said, there was a stronger competitive response from the ferries in particular.

Q27 Chair: But 80% of the cross-channel market is what Eurostar currently has.

Philip Rutnam: Eurostar has about 10 million passengers a year to and from—

Q28 Chair: My understanding—maybe those around you can help you—is that it is about 80%.

Philip Rutnam: I think it is 80% of the market to Paris, rather than the cross-channel market completely.

Q29 Chair: Okay, 80% of the market to Paris. What was got wrong was the assessment. You may have an explanation why—cheap airlines, and so on—but you got it wrong. One is always wise after the event, but I cannot understand why in 1993, 1994, 1995 they did not think about cheap airlines, because they were beginning to emerge then.

Philip Rutnam: Having looked at it in the week that I have had, the key issue is that then they were forecasting a relatively novel mode of travel: high-speed rail across the channel. The size and share of the market that would be taken, with hindsight, was wrong. However, if you look at the forecasts made by the Department in 2004 and 2008 or, indeed, the forecast made for the domestic rail services running on High Speed 1, these have been very accurate. Figure 2 of the NAO report brings that out in relation to the international services. Both the 2004 forecast and the 2008 forecast compare to subsequent outturn very accurately. The same is true of the domestic services.

Q30 Chair: But if you got it so wrong and you were over-optimistic—the assumption behind how you are answering the question is that you were over-optimistic because you thought a lot of people would be attracted by the novel, high-speed way of getting from London to Paris or Brussels—how on earth do you then justify a prediction of demand for HS2 that is twice that of HS1?

What we are trying to tease out of you is your capability to make sensible predictions on passenger numbers for these very high investments. I cannot for

the life of me get HS2. We have other lines to go on. HS2 is much less likely to have competition from cheap airlines—you might have a bit of competition from cheap airlines, but not so much—but there are existing lines that people can go on. Yet you are predicting and justifying your investment by a doubling of extra demand from what you predicted you would get out of HS1.

Philip Rutnam: I will ask Steve Gooding to comment on that in a moment, but just to make a point about the context, in relation to HS2, we are modelling a market that already exists. We have decades of data and experience of inter-urban travel in Britain. We also have decades of experience of steady growth in demand for that travel, so the context and market we are dealing with in relation to HS2 is quite different from the market we were dealing with in trying to forecast HS1. I point again to the forecasts—the three sets of forecasts—that we have made: 2004, 2008 and the domestic services on HS1. In all three cases, the forecasts we made and the subsequent out-turn have been very close.

Q31 Chair: I understand that Steve wants to come in, but you are accepting therefore that if you are trying to make forecasts over a 30, 40, 50 or, indeed, 60-year period, they are likely not to be right. If you are making a forecast on a much shorter term, you are far more likely to be accurate. Would you accept that?

Philip Rutnam: There are always risks in making any forecast.

Q32 Chair: Would you accept the statement that I made?

Philip Rutnam: Typically, when you look at forecasts, the level of risk expands the further you go into the future.

Q33 Chair: So your current assessments of the use of HS1 are more accurate because they are over a shorter time period.

Philip Rutnam: The point I was going to go on and make is that the way to address that risk is by testing the analysis of any project against a wide range of sensitivities and testing the robustness of the forecast. To be honest, we also address it by making assumptions that are prudent rather than aggressive. In relation to HS2, we have done all three of those things, as perhaps Steve could explain.

Q34 Chair: You are coming out with growth that is double that of your prediction on HS1. It is a very different set of circumstances.

Steve Gooding: There are two things that I would say particularly that the Department has learned from the High Speed 1 experience. One is that although, in its way, high-speed rail on land is novel and might therefore be thought to be more attractive, we have not put anything in assuming that. We have assumed that there are benefits from the speed at which it goes, but not from the novelty of the experience. As you were saying, people might have been expected to think that a high-speed connection to Paris was in itself exciting and that that would be a good thing.

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The other thing is, as Philip was saying, we sought to put a very wide range of possibilities around the central numbers. So, again, harking back to what Mr Wallis said earlier, obviously we are going to start off with the figures that the Office for Budget Responsibility gives us for GDP growth. But then we put some different assumptions into our modelling to ask ourselves, "What if that does not happen? What if growth does not go on in perpetuity but stops at a point in time? What if it is not quite the rate that the OBR is expecting?" That gives us a range. As Philip said, the challenge for us is ultimately that the further out we go, the wider that range is. We then have to think, "What's the probability of where we might end up within that range and what would we do?" That is what we have sought to do with the High Speed 2 calculations.

Q35 Chair: I hear that. It looks to me as if your High Speed 2 rail calculations change annually as well. In 2010, you expected demand to double by 2033; in 2011, you expected demand to double by 2043; and in 2012, we are back and you are expecting demand to double by I think 2038.

Chris Heaton-Harris: 2037.

Chair: 2037. All of this leaves us with very little confidence in the Department's capability, built on the record of what it did on HS1, of predicting properly the crucial factor of passenger demand when you take such a massive investment decision. Why have we had those three changes? You have been so brilliant, yet we have got them changing so radically in the three years.

Steve Gooding: Among the factors that have caused those changes is the fact that we start with a different base year each time. Over that period of time, we have had a significant recasting of the forecast of GDP growth between 2010 and 2011.

Q36 Chair: My understanding is that you are using the old OBR figures anyway, not the OBR figures since the second downturn last year. Have you recalibrated it again on the latest OBR figures?

Steve Gooding: We have not recalibrated from the March figures yet; that will be part of the recalibration that the Secretary of State said we would do, which we will publish in the summer.

Q37 Chair: If you get these sorts of changes—a 10-year change in expected demand doubling, from 2010 to 2011. I am trying to think what was happening in that year, apart from a general election; I cannot think. The economy at that point was gradually getting better, and it was in 2011 that we had the big downturn.

Philip Rutnam: Can I try to explain and put in a little bit of context here? Typically in these models, what matters is: the base year, which you start from; the latest data you have about the world as it is; and then what assumption you make about the trend rate of growth in demand for the product. In this case, for high-speed rail, we had been assuming that growth in demand would be, on average, about 2.5% a year for each year until demand essentially doubles, and then we have assumed, prudently, that we cannot just go

on adding demand in perpetuity. We have assumed 2.5% a year until it doubles. That compares to an historical experience, since the mid-1990s, of demand for that product growing at more than 4% a year, or in the previous decade, notwithstanding the recession, growing at about 5% a year. In terms of the central assumption about what the rate of growth in demand is going to be, we have sought to take the best assumption, but also a relatively prudent assumption.

Chris Heaton-Harris: Going up a decade in one year—it does seem like guesswork though, doesn't it?

Chair: Well, quite.

Q38 Chris Heaton-Harris: The Chairman is asking what parameters massively changed. In 2010, you decided that demand was going to be dramatically less for HS2, based on this. Then you decided in 2011 that there would be quite a bit more demand a bit later.

Philip Rutnam: I do not know quite which document you are referring to.

Chris Heaton-Harris: I am citing the figures the Chairman has.

Philip Rutnam: The key drivers of the model, as I understand it, are: what the base level of demand is, so you start with the latest historical data; and what the trend rate of growth is. There is then an assumption in the model, which is also put in for reasons of prudence, that you do not just continue to assume that demand will grow for the whole century or for the next two centuries, but put an assumption in the model that demand will stop growing when it reaches double the level.

Q39 Chris Heaton-Harris: But these are the economic cases for HS2 that your Department published. In 2010, it said that it expected demand to double by 2033, and in 2011, it was a decade later. The question that the Chairman and I would very much like to hear an answer to is, why the massive difference in just a year? The following year, you produced another set of figures and it has gone backwards six years. It looks a bit like you are picking figures out of the air.

Philip Rutnam: I assure you that we are absolutely not picking figures out of the air. I think that probably the best thing to do will be to send you a note, if we may, on that, because I am afraid that in the space of a week, I have not been able to pick up exactly that point. It will be driven out of the model by the latest historical data around the base year and then the trend rate of growth, and then this assumption about demand—you do not keep growing demand after it doubles.

Q40 Nick Smith: Mr Rutnam, you have said that three times, and we get it, but given the large difference, what factors changed so much?

Chair: Perhaps there is someone around who can help you. We do not expect you to know a week in, but we do expect either Mike Fuhr or Steve to tell us—or you have brought the wrong people to give evidence.

Nick Smith: What has changed so much?

Amyas Morse: It is very sensitive to the base year, isn't it?

Steve Gooding: It is. There are significant sensitivities to the year from which we are calculating, so that year changed. There was a significant central re-forecasting of GDP growth between 2010 and 2011, and that has a knock-on effect on some of the other elasticities in the model.

Q41 Nick Smith: So it is the GDP growth change which has markedly affected your estimate.

Steve Gooding: Well, those two together, and from the base-year point that the Comptroller reminds me of, there is also the extent of growth up to the point of the base year. So there had been more growth than many forecast in the period up to our base years, which were, successively, '09 and '10 and '11.

Q42 Chair: This is all learning from HS1. Let's take another aspect of this, because we are getting lost on this. I don't think that GDP growth went up and down to that extent in the base years, but we'll check that, perhaps through the NAO, before we write our Report.

Let me take another issue. One of the things that went wrong with HS1 was that you assumed that people would switch to go on to the high-speed rail and they would not use the traditional—or “classic”; I am picking up the lingo in this world—trains, but would use the high-speed rail network. Yet people operate on the basis of price—surprise, surprise—and the tickets are 20% higher and they chose not to switch. In fact, you can read endless articles about people who have been really fed up because it takes them much longer to get to work now than it did before the channel tunnel rail link was in. We know that. We know from HS1 that one reason why your passenger numbers were wrong was that your assumption about switching was wrong.

We then look at HSR2, and in your evidence you're assuming 65% will switch from classic to the high-speed railway. How on earth—on what basis—do you make that assumption, when, presumably, the price differential will still be there?

Steve Gooding: We haven't actually put a premium price into the modelling for the high-speed rail service.

Q43 Chair: Well, that's wrong. That's crazy. If you haven't assumed a premium price and you know it'll cost more, that is bonkers.

Steve Gooding: I don't think we do know, at this stage, that it will cost more. We haven't applied the sophisticated pricing model to High Speed 2 that you might do if you're an operator bidding to operate it in 2024. What we've done, I think, is take the more prudent assumption that there is a pricing model for the railway at the moment and that those prices—

Q44 Chair: Don't tell me you haven't—have you got an assumption on the price that people will pay?

Steve Gooding: We have an assumption on the price.

Q45 Chair: Is that higher or lower than for the classic trains?

Steve Gooding: We're not assuming that it's higher than the classic rate.

Q46 Meg Hillier: Can I just get this straight? If I wanted to go to Birmingham on the train and the Chairman wanted to go as well, we would pay the same price for her to go at a snail's pace and for me to go faster?

Steve Gooding: On the grounds that, in our modelling, we thought it was more prudent to assume that we weren't charging a premium for the high-speed route than for the classic route. Remember that how services—

Q47 Meg Hillier: So why would anyone travel slowly?

Steve Gooding: I do not think people will choose to travel slowly to go to Leeds or Manchester. I think they will choose the classic line to go to the intermediate stations. I think they'll choose the faster service to go on a longer distance trip.

Q48 Meg Hillier: Then it's fairly easy to model, isn't it? So what you are doing is taking the total passenger numbers now and you will be working out who gets off at what stations, which is easy to calculate from season ticket sales, no doubt, as a good indicator of that, compared with the people who go directly to one of the major cities.

Steve Gooding: We can undoubtedly build in a sense of a higher price—a premium—for getting the time saved and the higher-speed service from the high-speed line. There would then, as I think the Chair is getting at, be a trade-off between the willingness to pay the higher price and the volume of traffic that the line is to carry.

Q49 Chair: Your modelling is really quite shocking. It seems to me that you are biasing the modelling assumptions, because you're putting in a modelling assumption that there will not be a premium price, to demonstrate your additional passenger numbers, then you say, “Actually, there might be a premium price, because people will want to get there faster”. You've got to build that assumption about there being a premium price into your modelling of passenger numbers, because that's what went wrong, going back to what we hear about. That's one of the things that went so badly wrong with HS1.

Philip Rutnam: I really don't think it was one of the things that went wrong with HS1, if I may say so. In relation to—

Q50 Chair: The Report says it is.

Philip Rutnam: Let me take the domestic services, for example, which do operate at a premium price, between 20% and 35%—the domestic services on HS1. The model—the forecast—which was made of those domestic services was very much in line with the out-turn, and some 8 million passengers a year are using those services because they find them better than any alternative. So I think the experience in HS1 shows to me that, the 1998 forecast aside, actually, the forecasting record was pretty good.

Q51 Chair: That's why we are reducing the number of trains, are we? There are supposed to be 29 trains

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a day. The current timetable has 24, reducing to 22 in May.

Philip Rutnam: Sorry, which trains?

Q52 Chair: Using HS1. Passenger trains. Demand is so great that the operators have decided to reduce the trains to 22 in May.

Philip Rutnam: Those figures are certainly new to me.

Q53 Chair: The assumption was 29. The current timetable shows 24. I think that Chris has the same briefing as I have, and we are down to 22.

Philip Rutnam: I am afraid that those figures are new to me. The data that I have show, for example, that in the year to March, just last month, passenger revenue on the domestic services was growing at an annualised rate of 25% a year—a very rapid growth.

Q54 Chair: Do any of you know how many trains there are?

Philip Rutnam: There are eight services per hour in the peak hour on the domestic services.

Q55 Chair: How many trains?

Philip Rutnam: Eight trains in each peak hour on the domestic lines; four trains in the off-peak hours. From memory, there are 18 international services a day.

Q56 Chair: How many were planned originally, and how many will be around in May in the new financial year?

Philip Rutnam: I am not aware of any changes to the timetable in May although obviously, if there are, we will confirm it. In terms of how many services were planned—

Chair: I've got it on trains.

Amyas Morse: We are not convinced. We gather that the evidence was put forward, but we did check the timetable. We don't think that there has been a change in timetabling².

Chair: In May.

Amyas Morse: We haven't found that change.

Chair: Amyas, did you want to come in something else?

Amyas Morse: To go back to High Speed 1, Mr Rutnam, of course I accept that it was novel and there were different things, but it is pretty clear to us and probably to you from your remarks that there was optimism bias in the way that it was done originally—I am setting aside the later projections. I understand from what you say that you will be very much exercised in doing your projections on High Speed 2 that that optimism bias will not be present in those projections. Would that be a fair way of summarising it?

Philip Rutnam: Yes. That is a fair way. I would say that, again with hindsight, there should have been more attention to sensitivities and to the real level of

risk around passenger forecasts for HS1 back in the mid to late 1990s. The question is about lessons learned. That is an issue of which we have well and truly learned the lessons. In our published appraisal of HS2, a great deal of attention is given to risk both on the cost side and on the demand side, and a great deal of work has been done in terms of both quantified risk analysis and examining specific sensitivities.

Of course, more can always be done, but the question of risk that exists in major projects like these is one that the Department has absolutely recognised, and it must be central to the way in which it handles them.

Q57 Chair: In your own thing, you talk about a rough doubling of long-distance demand of 2008 levels. That is what you believe. I am gobsmacked by that.

Steve Gooding: As Philip has said, we have seen significantly higher annual rates of growth in the long-distance market over the past 10, 15 and 20 years. We have set in a lower rate, and then we have sought to cap it. Some of the consultees to the exercise that we ran last year think that was cautious on our part. I accept that others thought it was—

Q58 Chair: As I understand it, if you look at ORR and its work during the past decade, the greater growth comes in regional traffic.

Steve Gooding: No, the ORR figures that I have still show a significant growth in the long-distance traffic.

Chair: But the greater growth is in regional traffic.

Steve Gooding: There has been significant growth in all of our markets.

Chair: But the greater growth is regional. When you are making capital investment decisions and you want to deal with congestion, the greater growth is in regional traffic.

Philip Rutnam: The greatest growth may have been in regional traffic but, while we are assuming 2.5% a year growth in the markets that are relevant to HS2, the historical average going back to the mid-1990s was something like 4% a year. Of course, there are risks with these projects. There is also significantly the risk that we are underestimating trend, that traffic will double more quickly than we have projected. In that case, in the absence of this investment, the existing services on the classic network will become that much more crowded, that much more quickly, and that much more unsatisfactory.

Q59 Chair: I will have just one more go and then I will go to Chris, Austin and Meg.

My final thing is, what assumption have you made, for example, about changing working practices, through things such as video-conferencing? Have you built that in?

Steve Gooding: We have not built that in as an explicit assumption in the modelling done so far. We have had quite a bit of debate about that, including exchange with the previous witness this afternoon, about how best to do that. The modelling we have done takes, as everyone has said, a simplifying assumption about the value of business time savings, but in turn it does not count an assumption about the crowding benefit; that is, the benefit that the business traveller has from

² The written evidence the Committee received from 51M states that the number of trains in use will be reduced from 24 to 22 under the new timetable against an original expectation of 26. While the new timetable, which starts on 20 May 2012 has the same number and pattern of services as the previous timetable the operator may have changed how its rolling stock is managed to meet the timetable.

being able to sit down and make some use of their productive time. What we have got is limited evidence so far from the studies that have been done about quite how productive that time is. It is definitely something we need to look further at.

Chair: We will come back to the productiveness of time, but this is whether it impacts on passenger numbers. Business travellers may travel less if they can video-conference. That is pretty common sense. I do it and I think most of us know that in businesses there is less traffic and more alternative ways of having a meeting. Chris.

Q60 Chris Heaton-Harris: May I ask a couple of questions about lessons learned from HS1? The first is on cost and the second on regeneration. I cannot quite work out in my mind—and I cannot put it all down to land costs—why to build a mile of high-speed line in France costs four times less than in the UK. Could you comment on that?

Lessons were learned from HS1 about costs in the construction. How are you ensuring that the lessons learned from trying to keep costs down for the taxpayer then feed through into the HS2 project? If you match like with like and take out inflation, I am told there is a 30% to 38% increase in the costs of this stuff. How are you keeping costs down and why does it cost so much to build high-speed rail in the UK?

Philip Rutnam: First, it is important to seek to compare like with like in this discussion. So, the claim that it costs four times more to build High Speed 1 compared with high-speed lines in France does not take account of the fact that part of High Speed 1 was the very substantial reconstruction of St Pancras station. There was also a much higher volume of urban works, tunnelling from London to Barking, and much greater complexity in the project as a result of those additional works than anything faced by high-speed lines examined in France.

You have to compare like with like. If you look at the Infrastructure UK cost study, it also compares the construction of the first section of High Speed 1 from the channel tunnel up to Fawkham in Kent, and it identified a gap there of around 24%. I think that is probably a better comparison than a four-times difference. That 24% is still very substantial. The factors that seem to come out of that are higher land acquisition costs—the value of land in south-east England being higher than in France—greater environmental mitigation; and other additional regulatory costs.

Then you get into the question of whether the construction supply chain itself is as efficient in the UK as it is in France. I think there are some interesting questions we could look at in terms of supply chain integration, how we work with the supply chain to ensure that it is as efficient as possible. The Infrastructure UK study talks about the importance of very clear signalling from the client side—that is, from the Government—about future demand, so that the supply chain can gear up to provide it. It talks about the importance of a really strong expert client function on the Government side. Again, I think there

are lessons we can learn, but it is a lesson not about a four-times difference but a lesson about 24%.

In relation to the High Speed 2 project, of course that is at a much earlier phase. What we have done there has been to try to take a sound, risk-based approach to estimating the construction costs of the project. That includes taking point construction cost estimates from HS2 Ltd, working across each of the different cost categories, but then doing a proper risk analysis on top of that to look at the risks involved—there are well-established techniques for that quantified risk analysis—and then applying what is effectively a premium for optimism bias on top of that.

When you add all those elements together, which from my discussions in the Department are clearly benchmarked against global best practice for dealing with major projects, you end up with something like a 66% increment to the simple cost estimate in order to arrive at what we think is a really robust figure for the project, which absolutely should not be exceeded. Going back to the point about lessons learned, this is an area where the Department, conscious of its role on major projects, has absolutely put a great deal of effort into trying to make sure we are right up there with best practice in dealing with the costs of major projects.

Q61 Chair: The Major Projects Board, or whatever they call themselves, in the Cabinet Office, have they vetted your—

Steve Gooding: Yes, we have been through the gateway process with the Major Projects Authority.

Q62 Chair: And what have you got? Red? Amber? Green?

Steve Gooding: Amber red, but for a variety of reasons. We share the honour with a number of other projects. This is not going to be an easy project, and I will not pretend that it is. The point I wanted to pick up that you were asking about also plays to the lessons learned. I am pleased to say that we have actually got someone from IUK on our programme board for this. Key to making sure that we manage the costs is when we get beyond the current planning stage into the contracting stage, it is in the management of the works, so there are the elements that Philip has said that might make the situation different—

Chair: Amber red is not good enough.

Steve Gooding: Amber red is not something we aspire to stay in; it is something we aspire to get ourselves out of.

Q63 Chris Heaton-Harris: Can I ask about regeneration? Part 3 of the NAO Report talks a great deal about regeneration, but lots of that regeneration is actually taking place at intermediate stops on High Speed 1. As there are no intermediate stops on High Speed 2, is that a lesson un-learned?

Philip Rutnam: Can I say something about regeneration? On High Speed 1, the principal regeneration, which I think was discussed in the NAO Report, is at King's Cross, which we were hearing about earlier, and at Stratford. There is also Ebbsfleet. Developments at Ebbsfleet are still at an earlier stage,

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but at King's Cross and Stratford very significant regeneration activity is clearly under way.

In relation to HS2, we have not sought yet to put a value on the regeneration impact of HS2. The figures that have been cited for the benefit-cost ratio for HS2 do not include a value for impacts on regional rebalancing or the regeneration of specific sites. This again goes to the fact that we are seeking to take, throughout this process, a prudent approach to both costs and benefits, and we do not yet have a sufficiently robust evidence base to be able to put a value on the regeneration benefits. There will be, I am confident, significant regeneration benefits. There are plans for major redevelopments at Old Oak Common in the west of London. There are plans already being developed in Birmingham for what will happen around Curzon Street and around Birmingham Interchange. There will also be things happening at Euston, but we have not yet sought to put a quantifiable value on that.

Q64 Chris Heaton-Harris: I can just about remember the excitement at Ashford in Kent and the number of very cross people there were around there when the plans for HS1 were first mooted. I can then remember the campaign when HS1 was essentially to move away from stopping at Ashford in Kent, because the regeneration that had happened—by accident, not by design—had been so dramatic, and property prices in the surrounding area had gone up. If you go back to Victorian times, travel down South West Trains line now and the reason why Surbiton exists, and is the size it is, is because the people of Kingston did not want that horrible nasty train to come so it bent round to Surbiton, which is a bit of a boom town for commuters now. So there are benefits from having stops on train lines into London, and yet this is just Birmingham to London. Another mooted idea was to have spurs, which you decided was not good enough. Surely the lesson learnt is that if you want buy people in and build on regeneration and help with employment and many other factors, then there should be slightly more stops. Why have you gone away from that?

Philip Rutnam: Steve might add to this, but the subject of intermediate stations raises some complex issues, because essentially the more intermediate stations you have, the greater the delay, because the train has to stop and start again, or the greater the complexity in the service pattern. There are some big trade-offs there. While it is true that, apart from Old Oak Common, I do not think that any intermediate stops are planned on HS2 between London and the Birmingham interchange, there will be very significant benefits on the west coast main line through the capacity that is freed up on that for additional services. So the intermediate destinations, such as Milton Keynes and so on, will be able to have very significant benefits through changed and enhanced services.

Q65 Austin Mitchell: There must be, in terms of construction costs, a benefit from the greater amount of work and the continuity of work in Europe in the sense that, as with the urban trams, they can move on

from one construction project to another and keep a continuity of work and supply and everything. That must have been an enormous financial benefit to European construction.

Philip Rutnam: I think that is absolutely right. In fact, one of the things that we are conscious of in relation to HS2 is how Crossrail coming to an end in 2017 should free up some of the construction resources to work on HS2, so it is absolutely a point.

Q66 Austin Mitchell: We have moved too jerkily.

I just have to observe, in respect of what the Chairman was asking about premium pricing, that I am prepared to pay a premium to get to Birmingham more slowly or indeed not at all. However, you mentioned, in terms of the estimates of use, that there had been an increase in traffic from regional airports and, presumably, budget airports. Does that account for the whole of your over-estimate as compared with actual use?

Philip Rutnam: In the HS1 forecasts?

Austin Mitchell: Yes.

Philip Rutnam: In the analysis that I have seen, it was the arrival of the low-cost airlines and the dramatic impact that they had—although not necessarily on the market from Heathrow, Gatwick, Stansted, and London City airport—on the wider market for travel from England, in particular, to France and Belgium. That was, if you like, a disruptive event, which was not anticipated.

Q7 Austin Mitchell: Did it fill the whole of the gap?

Philip Rutnam: It filled most of the gap. The other factor, which I think I also mentioned, was the competitive response of the ferries. The ferry companies brought in more aggressive pricing. Some routes disappeared, but there was more aggressive pricing on those that remained, so there was a competitive response.

Q68 Chair: Would you accept that those things should have been predicted?

Philip Rutnam: We can all learn things, and I am determined that we do learn things from the projects that the Department has been responsible for in the past. Could those things have been predicted? It is difficult to think back to the mid-1990s now, but I do not think that it was impossible to predict them.

Q69 Austin Mitchell: In terms of that, you must be a very happy Department—perhaps there is something in the water—because you always over-estimate. Everything is over-estimated, such as passenger usage. You over-estimated the fact that the guarantees would not be called on. You accepted the gross over-estimates of the increased use of the east coast main line by National Express, which proved to be totally wrong, and you are accepting over-estimates of the GDP growth for High Speed 2.

Philip Rutnam: I do not think that I have accepted anything like that on GDP growth for High Speed 2

Q70 Austin Mitchell: But you are a happy lot, are you not? I wonder whether the Department's and Ministers'—although you can only speak for the Department—penchant for “les grand projets”

actually colours your estimating process of how much these “grand projects” are going to be used by people.

Philip Rutnam: I do not accept that the Department always over-estimates. I do accept that forecasting and estimating is a very difficult thing to do, which is one reason why we need to recognise that risk is inherent in it and we need to allow for risk in projects. We need to look at the risks and look at the sensitivity analysis. I can give one other example, which is in my mind, where we clearly did not over-forecast. If you go back to the forecasts that were being made of rail traffic back in the mid to late 1990s, they did not foresee the boom, essentially, in rail traffic—the very heavy growth in demand for rail traffic that has happened since then. There may be cases that go the other way but that is one where I think, if anything, we underestimated.

Q71 Austin Mitchell: But you are more inclined to as a Department. You are more generous than St Martin-in-the-Fields, splashing out letters of comfort and guarantees. You did the same on Metronet as you have done on HS1.

Philip Rutnam: I cannot speak to the Metronet case. I am afraid I don't know anything about it, but what I would say is that—

Austin Mitchell: But letters of comfort were issued that were over-optimistic.

Philip Rutnam: From what I have seen of the Department, the task of forecasting costs and benefits—and indeed, risks and the external uncertainties around projects—is taken very seriously indeed. We seek, as we have done with HS2, to take the very best data available, benchmark it against leading academics and other authoritative sources, and take the best view we can. This does not mean that 10 or 15 years later, we will be right, because forecasting is inherently an uncertain business, but it is also a necessary business if we are to plan for the future.

Q72 Austin Mitchell: You guaranteed Network Rail's £25 billion. You have a lot of mis-estimates hanging around your neck, haven't you?

Chair: What I was going to say to you is that I have absolutely no doubt about your intent. The problem we have as a Committee is that we have looked at three issues out of your Department before you arrived. There was the M25 road-widening, where the cost estimates were all over the ruddy place. There was East Coast rail, which we looked at—and what was the third? This is the third, so we have looked at three where the failure to provide anywhere like realistic estimates has led to poor value for money. So, you have to accept a bit of our scepticism. I really welcome the fact that you want to get it better, but it shows caution is hugely important here, given what we have had to deal with.

Q73 Austin Mitchell: Just one other question. I am a devoted user of the east coast main line. Are you in effect saying to me that I will have to put up with less than adequate service and conditions, when they could be improved and you could have more frequent, longer, and better trains? Am I going to have to

tolerate the existing situation because all the money is going to HS2?

Philip Rutnam: No, absolutely not. I think the Government have been clear that they are not going to cut their funding for the core rail network, just in order to fund—

Austin Mitchell: They are not funding it enough. They need to increase it.

Philip Rutnam: There are always debates to be had about funding.

Q74 Mr Jackson: Can I jump in now? Forgive me, gentleman, I wasn't here earlier. I was detained elsewhere, but to take Mr Mitchell's point, if you go back to High Speed 1, is there not an issue about opportunity cost here? Although you have talked about the regeneration potential for central London and to a certain extent, Ashford, you have not talked about, for instance, the regeneration potential for Medway and Thanet. There is only a certain amount of capital available to be spent by Government and the private sector. Thanet remains one of the poorest parts of the south-east of England, and Medway struggles with lots of social deprivation in many areas. So, Mr Mitchell makes the very important point that when you have limited resources, it is reasonable for people to say that if you are spending it on, essentially, a super-west coast line, you will be taking money away from the east coast. That is what worries some of us who are rather High Speed 2-sceptic.

Philip Rutnam: I can understand the concern. All I will say is that one of the fundamental principles of the way in which Government go about appraising projects—it absolutely runs right through the Green Book—is that we need to recognise opportunity costs. We need to recognise that resources used for one purpose cannot be used for another, which is one reason why they have a significant value. The concept of opportunity cost is something that absolutely lies at the heart of the way in which we have appraised HS2. I would comment, in passing, on east Kent, that it has of course had significant benefits from HS1. I understand that something like two thirds of the travellers from places like Deal and Sandwich now use HS1 services, so there are significant benefits. I know that there remains a big regeneration challenge in Thanet.

Q75 Mr Jackson: Yes, but the context is that you are making a value judgment between High Speed 2 and £36,000 million of public money for discrete local transport infrastructure and projects. That is the key issue. So opportunity cost is not just between east coast and High Speed 2. It is between all the other local infrastructure: bus, cycle, train, guided bus, for instance, across the country. That is the key issue which perhaps you gentlemen need to consider.

Chair: Do you hear that? Nick is coming in on the same point.

Nick Smith: It is not the same point but related. I was pleased to hear from Mr Wallis that Lille, a deprived former coal-mining district—

Chris Heaton-Harris: Seen through the window.

Nick Smith:—which I am dying to visit, benefited greatly from HS1. I get that. We would love to see

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electrification of the valley lines, particularly Ebbw Vale to Cardiff, if anybody is listening. That would help my district hugely. I want to return to the point that Mr Wallis was making which is that sometimes this regeneration could have taken place already. King's Cross, central London, large railway lands: do you know what? I think it would have happened anyway. The obvious example is that Paddington basin, just down the road, has gone through the roof and been regenerated and been a success and that has been done more quickly because it has not had to deal with having a whole bunch of infrastructure dropped into either. I am really interested in the added value of transport infrastructure and whether you can measure that in the central London locations and therefore whether the money would be better spent elsewhere where you could make a bigger difference.

Philip Rutnam: You are absolutely right. It is a difficult thing to measure. It is one of the things we will be looking at in the evaluation of HS1 that will be done. Take the example of King's Cross: it is an interesting case where the added value of the rail investment is very significant in relation to the whole regeneration plan. I know there were ideas around. Norman Foster had plans for King's Cross going way back, although even that was connected to the hole in the ground that was going to carry international rail services at that time.

What the rail project has done is, first of all, change the access to the railway lands, which were previously locked up by rail lines going right the way round them, opening up the access to create many more opportunities for regeneration. Secondly, it has involved the regeneration and transformation of St Pancras, which is now obviously a fantastic destination, and lately the transformation of King's Cross. A "regeneration only" option, without transport investment, would not have involved that. The work needs to be done in the evaluation, but I think we will find that in that case, the rail and transport investment has been absolutely critical to unlocking regeneration value, which is very, very significant.

Q76 Chair: Mr Rutnam, you are making an assertion, and so is Nick. One of the shockers in the HS1, which I hope you will accept, is that I cannot understand why an evaluation framework was not put in place as early as 1993–94.

Philip Rutnam: I will come to that if I may, but on King's Cross, it is not an assertion; it is quite demonstrable that the rail investment unlocked the land physically. In relation to the evaluation, I understand the concern, and I want to make two points. First, there are very good reasons why it has not been possible to do an evaluation until now. Indeed, it remains not possible. It is to do with the fact that these very large projects bring about such significant changes in travel patterns and in regeneration that you need to allow time for those changes in travel patterns to work through.

Q77 Chair: Hang on. You did not hear my question. When you embark on a major project of this sort, you put in an evaluation framework. As the project proceeds, clearly the things that you assess change and

evolve. Here we are in 2012, and you still have not got an evaluation being undertaken of a project that started in 1993; that is just not acceptable.

Philip Rutnam: I would agree that the preparations for evaluation need to start at the start of the project. In my previous existence in BIS, we spent a lot of time in programmes we were working on—such as apprenticeships, for example—doing exactly that. The point I am seeking to make was just to explain why an evaluation has not yet been done.

Chair: It will change.

Philip Rutnam: I think an evaluation needs to be done. When you have such big changes in service patterns, you need to allow some time for people to adjust the way in which they travel and the way in which they live.

Chair: Mr Rutnam, you are just not getting it. Of course things change, but you could have done an evaluation of all sorts. You could have evaluated, for example, why you got the passenger numbers wrong. You could have evaluated why you had to change your target costs. You could have evaluated why, actually, they could not raise the private finance. All those things, if you had evaluated them early, could have much better informed what you are doing on HS2. It is not an evaluation of the whole thing—of course that takes time.

Amyas Morse: I have to say I do agree. Mr Rutnam, in many ways our Report is very clear that a lot of good things happened on High Speed 1. We have tried to be very clear about that, but we were not persuaded by the idea that you could only begin an evaluation once all the results were in, which has a tendency to result in the retrofitting of the evaluation methodology. We think you would have gained a lot by building evaluation in from the beginning, and I suspect that at some level you do, too. Our reason for emphasising that so much is that, going forward, I suspect the Committee would ask that question from the very beginning of any project. They would want to know about the evaluation method. The point is that we know all the results will not be in, but if you make predictions about trend-line developments that you would expect to see and they are not happening in the way you expect, that allows you to adjust in course, rather than just continuing.

Given that the reversionary liability on these projects always lies with the Government, as I am sure you realise, we think it is very important to be aware of these things earlier. I am only taking a moment to say this because it is one of the few points, apart from the passenger numbers, where we were critical of the Department. Therefore, I think it is worth while making sure that it does not get lost in the discussion.

Philip Rutnam: It is very helpful to have this feedback and, of course, I paid a great deal of attention to the Report. If it is any reassurance to the Committee, I have already talked to the chief economist of the Department about how we make sure that, as a Department, we get to a place where we are very clearly best in class in achieving best practice in relation to evaluation across the range of things that we do. From what I have seen, I think there is lots that is already like that; the guidance we produce is excellent, and we will be developing plans to ensure

that that is implemented, including from the very start of projects, as you have identified.

Chair: Thank you.

Q8 Meg Hillier: Picking up on the evaluation, with High Speed 2 looming, it seems to me that you need to build up evaluation earlier. Will you be doing that for High Speed 2?

Philip Rutnam: Yes.

Q79 Meg Hillier: You have talked about managing risk, and I recognise that it is not a simple science, but do you look at the private sector? There are some things, such as the issue with the ferries and aggressive pricing, that if you were in the private sector and your business was transport, you know you would have to face. I used to work for the cross-channel ferries, and there was always a fear about the options when the channel tunnel was being developed, and about the flights and so on. There is a very acute awareness in the cross-channel industry of the challenges. It seems to me that surely, when the Department did the modelling, that should have been built in. I am interested to learn that it was not. What will you do with High Speed 2 to make sure that some of the issues that colleagues have raised about options that might arise for people elsewhere are taken into account?

Steve Gooding: Some of the problems that we have had and to which you have alluded, such as the east coast main line, have been instances where our colleagues in the bidding world have got their assumptions wrong, too. The key thing for us is that there is a breadth of opinion out there to be had on what we should be looking out for and what the future might hold. We need to be drawing that out of the potential operators of train services, the competitors and the academic world. That is why we have had a panel of academics involved in the work so far. That is why what might happen—both on the development of high-speed services and with regard to the implications for the classic lines, as we call them—has been part of the debate we have already started to have with the bidders for the west coast main line. I can give you the assurance that we are seeking to draw experience on that from the widest range we can.

Q80 Meg Hillier: You talk about academics and civil servants, no doubt very good civil servants—I am checking your biographies to see how many of you have worked in the private sector—but do you bring in expertise from people who have worked in the private sector and who have done this?

Steve Gooding: Yes, our DG of major projects worked in the private sector and the rail sector before he worked in the public sector.

Q81 Meg Hillier: So you are confident that these questions are being asked, even if the answers are difficult?

Steve Gooding: I am confident that the questions are being asked. They are part of the ongoing dialogue that we have with, for example, the rail industry, represented in the Association of Train Operating Companies, or the owner groups. We not only talk

about the individual competitions that they are bidding in, but try to stand back and have a wider debate with them about the nature of transport demands and the patterns coming through.

Q82 Meg Hillier: The Report talks about the number of different potential benefits from this. What were the top objectives of High Speed 1? Perhaps you could state that for us, because there are many things that you talk about measuring, in terms of achievement.

Philip Rutnam: Two objectives really stand out. One is the said transport benefits: improvements to journey times and reliability, and crowd improvements to services and so on, on the high-speed line, with knock-on effects to the classic network. The second is regeneration. Regeneration was an absolutely core objective from the outset; if you remember, the Government of the day decided to route it through East London. Regeneration—the impact on Stratford, King's Cross and other locations—was a key benefit. Mike, you were more heavily involved; do you want to say anything about objectives?

Mike Fuhr: Those were exactly the ones. The debate at the time was whether there should be a northerly route, a southerly route or what was then the Channel tunnel rail link. The decision to route through South-East London was taken very deliberately, so that there would be access from King's Cross St Pancras to Stratford. The growth of Stratford city, which at the moment is interrupted by the Olympics, if you like, can be expected to resume rapidly once the sites have returned from Olympic use. That is our evidence of the extent to which regeneration was a key objective. The transport benefits, although the initial forecasts were over-optimistic, are there none the less; the NAO itself valued them at something in the order of £7 billion.

Q83 Meg Hillier: As the Chair acknowledged at the beginning, there were certainly very good things about how HS1 was managed. You have picked up on our concern with evaluation. That is because we see other big projects coming in and we spend rather a lot of time dealing with big-budget projects that do not have proper evaluation or management along the way.

Talking about regeneration, we have not got real time to go into the issues around whether you mean job growth or social regeneration, so let us park that for a moment. If you look at the passenger demand figures, however, we know that when fares go up—for the shorter commuter routes certainly, and others, although I am not an expert; colleagues from Peterborough and other places might be better placed to comment—people will make the calculation about the cost of their travel versus the cost of their housing. Taking away the costs of moving house, it would now be cheaper for some people—certainly on the shorter commuter routes—to live in central London and pay the extra mortgage costs, rather than to pay some of the increased travel costs. These are difficult things to model but, nevertheless, this is real behaviour right now. Peterborough is 48 minutes from King's Cross, which means that I, living in Hackney, am about 58 minutes or, allowing for transfers, just over an hour from Peterborough, which is not bad given that it

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takes me half an hour to get into Westminster in the morning. That means that there are a lot of people who are maybe making those judgments on the longer commuter distances, so have you factored that into your calculations? Can you, indeed? Maybe it is asking the impossible.

Steve Gooding: We try to factor that in. I have to say, it is an imperfect science. We try to work off the Office for National Statistics forecasts for population, which include not only the total population but where the population is. You are absolutely right that with something like high-speed rail significantly reducing journey times, I suspect that some people will be thinking that the trip to Birmingham is a perfectly reasonable commuting trip; they will be doing the trade-off between the cost of an annual season ticket, the sort of lifestyle that they want to live, and the sort of house that they want to live in. We do try to capture that. It is another area where I am sure we could be doing better.

Q84 Meg Hillier: I have a supplementary question on time saving, which the Report talks about being over-calculated. Certainly, working time on a train that is going at a steady pace and is not so wobbly that you cannot write or read is a valuable thing. Do you think that you have got that wrong? Are you going to be looking at that for High Speed 1, because that is quite a big factor? If you have got trains going faster, but people who were using that time to work are not able to use it—they will have a faster journey, but there will be pay-offs—that sort of feeds into what colleagues were saying about investment in other infrastructure. I speak as someone who lives right on the East London line, which was a great initiative and has made a huge difference to my constituency. We are looking forward to—I put my bid in, as others have—the Hackney-Chelsea line, which is the next thing we are looking forward to you delivering. *[Interruption.]* I think Hackney is definitely the most important. Can we just answer that question about time saving? As I said, there are pay-offs here for people.

Steve Gooding: There are three aspects to the time saving that we try to capture, which is basically the leisure market, the commuter market and trips in the course of business. It has been observed—Mr Wallis, among others, has observed this—that we make a simplifying assumption at the moment that for trips in the course of business, we value the entirety of the saving as a productive benefit, and we tried to match that to the average cost to businesses of employing the people making the trips.

Q85 Meg Hillier: You count the £70,000 a year as an average cost to businesses?

Steve Gooding: It is the cost to the business, so it is not a salary cost.

Meg Hillier: Well, take a salary and add a third on costs. That is still quite a generous salary for my constituents.

Steve Gooding: That is the number that we got from the survey work that we have done.

Q86 Chair: When did you do that survey work?

Steve Gooding: The survey work was done in 2002–03.

Q87 Chair: Should you not update it? It seems a potty figure to all of us. You are in the top decile of earnings.

Meg Hillier: Maybe only the top decile of earners travel on those.

Philip Rutnam: It is not earnings; it is to do with the productive time. If a firm paid all the value that it created from people to its employees, it would not have anything left for investment, profits and so on. It is to do with the productivity, not with salaries.

Meg Hillier: So someone who is a production line worker not doing anything while they are on the train is costing the company more than someone like me, who might be sitting there writing a report. Actually, I am not losing productivity.

Steve Gooding: If I come to the core question you are asking—do we think we need to do more on this—the answer is yes. The thing that makes this difficult is that there is imperfect knowledge out there. Some studies have been done about quite how productive that time really is, and what time it is eating into. I suspect that I am like many people here: I work on the train in the morning as I come to work. Whose time is that I am saving? I do not think the civil service is paying me for it. The time on the train is not, by and large, being as productively used as the purpose for which the trip is being made. We do want to try to get into that; that is one of the discussions that we started with Mr Wallis, and we will take it up with the academic world. We will try to get better at that.

Q88 Meg Hillier: And you will have that in place? High Speed 2 is coming along the line.

Steve Gooding: We seek to develop the way we approach this. All the time, we are looking to get better at it. We are always going to be having to make some simplifying assumptions there. The key thing—again, this is something that Philip said earlier on—is that in making an assumption, we need to test that with a range of things: “Maybe we got that wrong. Maybe we are over-optimistic. Maybe we are pessimistic. Where do we think the range leads us?”

Philip Rutnam: I also observe that as technology has changed in the last 15 to 20 years—people have Blackberries, iPads and so on—it has become easier, in a sense, to use your time on public transport productively. That has not dented the growth in demand—this is the period in which we have had rapid growth in demand for public transport. There are some other complex issues. If one of the other major benefits of High Speed 2 is reducing crowding, compared to not having High Speed 2, at the moment, we do not suppose that reducing crowding makes it possible to be any more productive on trains, but if you think about a world in which all the trains coming into Euston are absolutely packed full and standing room only, you are not going to be able to do much work on them. It is quite a complex issue, and we need to look at it in the round.

Q89 Jackie Doyle-Price: I have always worried about silo culture in Whitehall. Obviously, you are the Department for Transport, and your core role is to deliver an effective transport system. Yet overlaid on this project has been this objective of regeneration, which, if we are all honest about it, is not a core responsibility of yours. It is other Departments, really, that have a role in making that happen. To what extent do you engage with other Departments on a project such as this? If it is really going to be effective and transformational, which we all want it to be—ultimately, you are going to think about it very much from a transport perspective—you will need that additional input. Are there any lessons learned with regard to this project that you will take forward with HS2?

Philip Rutnam: First, as someone who is new to the Department, I think it is really important that we seek to think about transport in the round, in terms of all the impacts that it has on the economy, society and the environment. That is a difficult thing to do, and it is sometimes much easier to measure some types of impact, such as journey time savings, than other types of impact, such as regeneration, wider effects on the economy and the ability of firms to connect with each other more effectively. There is inevitably a tendency to focus on things one can measure, but it is really important that, as a Department, we can give the weight that is due to things that cannot necessarily be measured, or cannot be measured so precisely, but are none the less really important for the long-term future of the economy. I really do think we have tried to do that in HS2. I have already observed that, for HS1, regeneration was an absolutely central objective.

Q0 Jackie Doyle-Price: It was, and I agree that, in terms of the stuff that is your core responsibility, the Report actually comes out very well and you have done very well, but the regeneration angle is slightly weaker. My constituency is Thurrock. During this period, the Government were spending a lot of time and attention on the Thames Gateway to try to regenerate the whole economy of East London and South Essex through to Kent. HS1 runs 40 feet from my back door, but there is no benefit to my borough or to South Essex from this infrastructure.

It just strikes me that there have been missed opportunities here, and we risk having them again with HS2. You start off with this great vision about what you are trying to achieve with this great transport project. It rolls out to the public, and the public debate tends to be about what is bad about it. We now have a debate about HS2, which is all about the impact on the environment and less about the economic impact in the north, which is actually the main objective. That is really what I am trying to get at: how can we actually do more to link back to the vision when we are evaluating this, rather than, through consultation, just keep ticking off the interests of various groups?

Philip Rutnam: I don't think there is a perfect answer, but one thing I would say is that it is really important that we do not see the business case for a project such as HS2 just in terms of a very narrowly defined benefit-cost ratio, which will be able to include only things that can be quantified; it has to be seen in a

wider setting, in terms of things that cannot necessarily be quantified, and are related to a broader sense of strategy for, as you say, the economy and the role the transport system can play in that. I think that is a challenge for us.

Steve Gooding: I just wanted to add that, looking at the business case—as you say, that is the sort of vision for the scheme—one of the things that we have absolutely sought to learn from a variety of projects around the world on development of High Speed 2 is the importance of working with the local authorities along the line of route. In addition to trying to make connections—we will now have even better connections with the Department for Business, Innovation and Skills and the Department for Communities and Local Government—it is very important that we do not sit in Marsham Street in London and think that we know what the best pattern of development is for Birmingham, Old Oak Common or, indeed, points north. That is why the company has sought to make very good connections with local authorities along the line of route.

Q1 Jackie Doyle-Price: That is great from a consultation perspective, but not so great in terms of leadership. As you are taking everyone with you, it is easy to lose sight of the overall programme. Coming back to HS1, obviously Ebbsfleet is key to this. Making a good case as to just what this investment has done for Ebbsfleet would be a great selling point for HS2. What are you doing to monitor that and to capture what impact that has had in terms of regeneration?

Philip Rutnam: As I understand it, at Ebbsfleet the relevant property holder is, I think, Land Securities, which is a private sector business. We do not control them, and their plans are a matter for them. I know that there has, as yet, been relatively little development at Ebbsfleet. I understand that they consider that it is still a site with very significant long-term potential, and I believe that they are talking to the local authority about some of the planning issues that they face in order to help unlock that potential.

Chair: Mr Rutnam, we have to draw you back again, because that is the whole point: a proper evaluation would have been important. We put a lot of money in. I do not know how much money went into building the Ebbsfleet station—

Jackie Doyle-Price: It should have been in Purfleet, but there we are.

Chair: It should have been in Barking, actually, but never mind—or Hackney; we will go round the table. A lot of money went into creating it and, crucially to our discussion around evaluation, it would have been really important to have looked at why nothing has happened to date, whether you should put other incentives into the system and whether there was something wrong with the partnership that you developed. On all those issues, we have not got answers, which are hugely important for informing HS2. Would you at least accept that?

Philip Rutnam: I understand that the main issues there are really planning issues.

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Q92 Chair: But you haven't evaluated it, have you? You don't know.

Philip Rutnam: In the Department, we know. I take the point about evaluation. It is about understanding the impact of the public money we have used, compared with not using the public money in that way. Ebbsfleet will be something we will look at alongside King's Cross and Stratford. It is a more difficult case. In King's Cross and Stratford we have been a principal party involved through LCR, where we have direct equity interests in it.

Q93 Jackie Doyle-Price: Can I turn to that question now then? To whom should we be talking to about the impact at Ebbsfleet? Again, it comes back to what is in your control to deliver here, and there is a bigger agenda here. Where do you require the help to get that message out about what it is doing from Ebbsfleet? Is it elsewhere in Government?

Philip Rutnam: As I understand the issues at Ebbsfleet, it is principally a planning matter between Land Securities and Kent county council. I would say that representations about getting on with unlocking the value at Ebbsfleet to the benefit of society would best be addressed to those parties. Rest assured, as a Department we are interested in it for various reasons and we will do what we can to help those issues along, but they are principally issues for the private sector developer and the local planning authority.

Q94 Meg Hillier: Can I just come in on this? One of the issues with High Speed 1 is that there was a lot of land available to package into the deal. I have seen the East London line come to my constituency not with a lot of land. We have seen property prices, rents and so on increase. It has made the area have a feel and a buzz about it, but it is quite expensive for a lot of the local people. With High Speed 2, there will not be any chunks of land available, will there?

Steve Gooding: There is quite a bit of land being unlocked at Old Oak Common. There is quite a lot of potential, although it is obviously quite contentious with Camden about what could be done at Euston. I think most of us think that something rather better than the current Euston station could be built.

Q95 Meg Hillier: But that is not land that the Department or the Government own is it? It is land that belongs to Network Rail.

Steve Gooding: Network Rail owns the land at Euston.

Meg Hillier: Network Rail, which we are not allowed to FOI and we cannot find any information about. So any boosts that we get from Network Rail, which is effectively taxpayer funded, we do not see.

Steve Gooding: I have talked to David Higgins, who was recently appointed transparency director at Network Rail, so the Committee might want to speak to him.

Chair: Let me bring in Nick.

Q96 Nick Smith: Like everyone else, I think that in the round this has been a good project—on time, on budget, fantastic engineering. There are a lot of good things about this project, and that has to be said. In a

lot of respects, it is better than many projects that have come before us in the past couple of years that I have been on this Committee. I am still not convinced, although I think Mr Rutnam has been going in the right direction with his responses in the past 10 or 15 minutes, that the Department has a good handle on the economic benefits, the regeneration effects, of transport infrastructure improvements in different places. More work on that would be valuable for the country as a whole and would make a real difference in analysing not just capacity numbers and not just a cost-benefit analysis of the different projects that you are working on, but the wider benefits of infrastructure investment in places such as south Wales, which badly, badly need it.

Philip Rutnam: Thank you for that. I am sure things can always be improved. One can always do better. Dealing with HS2, which is the case I have managed to look at—well, HS1 and HS2 are the cases I have managed to look at so far. On HS1, we have had a very clear strategy in relation to King's Cross and Stratford, and very effective participation in various quite complex arrangements, and significant regeneration benefits are flowing. Ebbsfleet is more difficult because it is private sector-led, as we have discussed. HS2 is really at an earlier stage. I think we have got a good handle and Steve was starting to run through the opportunities, but these things are actually going to be pretty complicated to bring them off. I think at Old Oak Common the land ownership is fragmented, so, to bring about the best outcome, you are into one of those situations where it is probably going to require a level of co-ordination and planning between different parties—public sector, private sector. I think we understand those issues in principle. I think HS2 Ltd will understand them in a lot more detail. What we have not done yet is try to say, "Well, this is going to be worth so much to society and we will put that value in our benefit-cost ratio."

Steve Gooding: I take absolutely the core point that you are making. There is value in us as the Department for Transport understanding and broadcasting a clearer sense, if we can get to it, of the value that the transport investment brings. That is in our interest, and it is in the wider interest. It may cheer you to know we are actively on the case with the Welsh Assembly Government on the values of electrification.

Chair: Okay, we have another 15 minutes before the next vote. Stuart, Chris, Richard and Austin, and then I will sweep up.

Q97 Mr Jackson: Can I bring out some of the points Jackie Doyle-Price alluded to? Some of the answers that you have given are a bit concerning. It is not as if we are just closing the chapter on High Speed 1; we are also opening the chapter on High Speed 2.

It seems to me that you have not fully scrutinised the regeneration possibilities' opportunity costs. You mentioned Ebbsfleet. For my sins, I was the Opposition regeneration spokesman in the last Parliament. When I went to Ebbsfleet, four years ago, a fight was going on between Medway, Swale, Kent county council, British Land or Land Securities. You only have to look at a massive project like Dubai Ports

in south Essex, which has gone on for years and years. In fact, Lord Mandelson had to fly to Dubai personally to try to sort it out. It seems strange to me that you have already said today that you do not have a methodology for regeneration for High Speed 2. At the moment, you have not built that in. It seems to me that if you are not modelling regeneration, you do not actually have many quick wins.

It is not carbon-neutral, because you do not fly to Heathrow to go to Birmingham; you take the train. You have compulsory purchase orders. You have seven to nine years to get Euston right, and Frank Dobson will tell you a lot about that. You have displacement activity and opportunity costs even in the midlands, around places like Coventry. You have got the same thing for the east coast main line, as Mr Mitchell and I have said. And, of course, some people would say that you have got some exceedingly dodgy figures on people working on the trains and what that is actually saving the taxpayer. If you add to that the anecdotal evidence from, say, the Dutch model, that you will actually suck economic activity into the capital rather than dissipating it out to Birmingham, what have you got left?

Philip Rutnam: Can I answer that in relation to regeneration? We do have a methodology. We know how to value these things. What we do not yet know, I believe, is enough about the scheme at Old Oak Common and on the east side of Birmingham to say whether this kind of development will be commercial or retail, what number of people it will involve and what else might happen if the rail project does not happen—how much it is worth to society. That is the issue.

To be honest, compared with rail engineering—a huge amount has been done on the rail engineering. How do you build the rail line at the lowest cost and the best environmental impact between London and Birmingham or Lichfield? The regeneration side of it is just less far advanced. It will get there, and I absolutely recognise, as you are saying, that we need to be thoroughly on top of it, because it is a big part of the benefit that this project could bring.

Q98 Mr Jackson: I did not even mention people chaining themselves to the infrastructure in the Chilterns, which will be another issue in terms of environmental impact. It worries me. Unless you can demonstrate absolutely conclusively what this will bring to the national economy over this massive time scale, when the business case is apparently quite weak, I think you will stay on red.

Philip Rutnam: Just to be clear, we do not think the business case is weak—that is probably another discussion—but we will be doing all that we can to try to assess the best regeneration options and what influence Government and HS2 Ltd can have on those regeneration options, to create the greatest possible value from this project. It is strongly in our interest to create the greatest possible value from the project. It is just at an earlier stage. Did you want to add anything to that, Steve?

Q99 Chair: No, I have got three more people, and we are quite tight. I was going to clean up at the end

on that one. So the benefit-cost ratio of HS2 matters to you?

Philip Rutnam: Of course it does.

Chair: Accepting that there are some things that are difficult to quantify.

Philip Rutnam: Of course it matters to us, but it is part of the wider picture of the business case.

Q100 Chair: It is the key determining issue?

Philip Rutnam: No. The Department has a very clear methodology, in which it says that the business case for a project has got to rest on a number of different pillars, of which the benefit-cost ratio is a key input into one, but not the only one.

Q101 Chair: At what point does the benefit-cost ratio demonstrate that it is poor value for money? What sort of ratio are you looking at? What are you looking for?

Philip Rutnam: We have a very sophisticated methodology in the Department for looking at benefit-cost ratios. We give projects different sorts of labels. We say that if a project has a benefit-cost ratio of under 1, it is likely to be poor value for money. 1 to 1:5 is low.

Q102 Chair: So are you looking for above 1:5?

Philip Rutnam: The benefit-cost ratio is only one element in the value for money judgment.

Q103 Chair: I accept that. Are you looking above 1:5?

Philip Rutnam: Obviously, we want the benefit-cost ratio to be as high as possible, consistent with doing a very robust, impartial analysis of the project.

Q104 Chair: I just want a yes or no answer, then I will get everybody else in. Yes, you are going to look at the OBR's most recent growth projections in determining that?

Steve Gooding: Yes.

Q105 Chair: Okay. On value of time, which is an issue that everybody criticises, are you changing the assumption that the value of time for a long journey should be £54 an hour, whereas the value of time for a commuter journey should be £7 an hour?³

Philip Rutnam: We have said we will continue to seek to improve the methodology.

Q106 Chair: Do you accept that there is something wrong with that?

Philip Rutnam: I accept that things can always be improved, but nobody in the world, to my knowledge, has come up with a better methodology. The methodology that we have used is one, as we have said, that we have tested with the leading academics in the field.

Q107 Chair: Do you accept that if you retain that, it gives a heavy weighting to work-time travel? £54 per

³ Values quoted are 2012 figures for business travellers and commuters given in written evidence submitted to the Transport Select Committee by Bluespace Thinking Ltd, also provided to this Committee

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hour if you are on a long journey and £7 if you are on a commuter journey.

Philip Rutnam: Savings in the time of business travellers are part of the business case, but they are only a part of the business case.

Q108 Chair: Do you accept that it gives a large weighting to that?

Philip Rutnam: Obviously, the higher the figure, the greater the weighting, but it is only part of the business case. As I was trying to explain earlier, if you suppose that working time spent on trains is used productively, you need to consider what impact on productivity comes from the greatly reduced crowding compared with not investing in the project. We have tested that in the sensitivity analysis.

Q109 Chair: Okay, but if you accept that it is heavy weighting, which I think you have—I understand that it is not the only factor you have taken into account—you also then further accept that it could prejudice your decisions in favour of investment in long-distance rail infrastructure rather than in the regional infrastructure that a lot of us have been arguing about.

Philip Rutnam: Absolutely not. We try to maintain our methodology.

Q110 Chair: You must do. If your methodology gives you £54 an hour for a long journey, which you have confidence in, as opposed to £7 for the short journey—the commuter journey—that must have an impact. That weighting must favour long journeys.

Philip Rutnam: Any methodology necessarily involves making assumptions. Our task is to make sure that those assumptions, given the complexity of this, are the best approximation that we can evidence in relation to reality now and in future. We will seek to maintain our methodology to be the best possible. That is what we have done so far.

Q111 Chair: I hear that, but I hope you accept that the weighting has an impact. It was rather surprising when I looked at this in detail, but you assume that all the journeys on HS1 benefit the UK economy, whereas presumably half the people travelling to and from Paris and Brussels will be benefiting the French economy, the Dutch economy, et al.

Philip Rutnam: The approach that we have taken to international travel, which is only part of half of the travel on HS1, absolutely accords with guidance from the Treasury in relation to the Green Book on how to value—

Q112 Chair: Are you happy with it, Mr Rutnam? Do you think it is fair? Are you trying to do a real, proper benefit-cost analysis? All these assumptions shove you in one direction.

Philip Rutnam: No, I do not think that is fair. Interestingly, on this question of international travel, I came across another version of it when I was at Ofcom dealing with the regulation of mobile services. In the case of non-UK residents coming to the UK and using their mobile phones here, the question was do we care if they face excessive charges? The answer

was yes, of course we care. We do not want to extract value from that.

Chair: It is a different issue.

Philip Rutnam: Underlying it is the same issue. We want to have the optimal use of resources in the UK—the optimal use of goods and services that are created. To be honest, I do not think that policing whether they go to people with UK addresses or non-UK addresses is very sensible.

Q113 Mr Bacon: On that point, I was talking to Ofcom the other day about mobile telephony and of course we all want the optimal use of resources, but, at the end of day, what constitutes the optimal use becomes slightly political. I will be very happy if mobile telephone operators make slightly smaller profits, consistently and for ever, if they are regulated into requiring 100% coverage, so that very rural constituencies like mine can operate. It would have a huge economic impact and I would go around looking for a model until I found one that showed the economic impact that I wanted, because it would benefit my constituents. I can understand, because all of the things that our previous witness Mr Wallis was talking about—about costs and sensitivity in analysis and value in time—the way that you are talking about refining your model and making it more sophisticated. That all makes sense rationally. Do you know, however, what Franklin's gambit is?

Philip Rutnam: No, that is new to me.

Q114 Mr Bacon: I recommend that you watch—it is on its website—the Policy Exchange lecture that Professor John Kay gave the other day. He quoted Benjamin Franklin, who said: “So convenient a thing it is to be a reasonable creature, since it enables one to find or make a reason for every thing one has a mind to do.” It seems to me that, at the end of the day, that is how it works: you decide what you are going to do and then you find reasons for it. I am not saying that that is wrong, but that is how it works. This Committee went to the United States a few years ago and met an academic called David Luberoff, who has written a very good book called “Mega-Projects”, not to be confused with a book by Bent Flyvbjerg's book of the same name. Essentially, there is quite a lot of evidence that proponents of projects go round getting the technical analyses that they want until they say the right thing. If they do not, the technicians are sent back to produce other numbers until they produce the right ones. We have seen that many times in PFI. You mentioned yourself that the benefit-cost analysis is only one of the contributors. When you have several important components—you called them key pillars—no matter how much you refine the methodology, who decides whether you put a 29% weighting or a 76% weighting or a 54% weighting on benefit cost ratios rather than something else? Ultimately that decision has to be plucked out of the air, does it not? We are not asking you whether this is all a complete waste of time, because it plainly is not. You have to reach for some sort of rational methodology somehow, but at the end of the day, aren't you sculpting with clouds?

Philip Rutnam: No, I do not accept that. I do accept that there are real limitations on how far you can go

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in forecasting, which we talked about earlier, and in projecting the impact that a project like this will have. There are real limitations. It is really important to go through the exercise of making the best possible analysis on the basis of the evidence that is available, but we know, I can tell you, that in 20 or 30 years' time, looking back at this project, the estimates we have made now are very unlikely to be exactly right. They may be, but it is in the nature of forecasts that you are dealing with uncertainty. I agree with you that with projects on this scale, involving this level of uncertainty, making some strategic judgments about the case for the project compared with not doing the project are critically important, alongside doing the modelling, the quantified analysis, the quantitative risk assessment and so on—critically important.

May I add one word on that? We have talked a great deal today about doing HS2. If we do not do it and there is anything like the demand that I have been talking about in relation to long-term projections for rail travel—the projected population increase of 10 million over the next 25 years, the fact that, God willing, our incomes will continue to rise by something like 50% in real terms over that period—all those things will drive demand for rail travel. As the Secretary of State said, unless we make strategic decisions now to cope with that situation, we will find, in 10 or 25 years' time, that it is too late.

Chair: Hang on, I am just going to bring Chris in.

Q115 Mr Bacon: Can I finish? I hear what you say. It may be that the guess would be wrong, and it turns out that you actually had something that was more valuable. Professor Kay gave an example of the Victoria line whose useful life has ended, according to the economic model, but it is probably more valuable now than it ever was—*[Interruption.]*

The Division bell has made me forget my question. The counterfactual that you surely need is not simply cost of the HS2 or HS1 versus not doing it, but versus the cost of an alternative. For example, what would be the effect of spending £32,000 million on broadband, on travel packs? If you don't look at something like that, how do you end up with anything that is remotely useful?

Philip Rutnam: The Government, of course, do have a broadband programme.

Mr Bacon: Yes, £510 million. And they are spending 64 times more on rail on one project than on the entire broadband.

Philip Rutnam: There are tens of billions of private sector investment, of course.

Mr Bacon: This is true. It doesn't help the last 2%, whom I represent in a very rural area. If you had a completely wired-up, fibred-up country, the impact of that on travel would probably be absolutely ginormous.

Philip Rutnam: It is an interesting question.

Q116 Mr Bacon: It is, but are you asking it? Are you asking it or are you leaving it to me to ask it? If it were such an interesting question, are you asking it?

Philip Rutnam: I have seen nothing in relation to communications technology that suggests that it has actually at the moment been dampening demand for rail travel.

Q117 Chair: He is asking, "Are you asking about it?"

Mr Bacon: Are you asking that question? Google didn't exist in 1998. The fact that you "have not seen any evidence" is a lovely phrase. I know that the Government use it all the time: "There is no evidence". But are you asking that counterfactual question? If not, why not?

Philip Rutnam: We try to ask as many challenging questions as we can.

Q118 Mr Bacon: Is that one of them? What would happen if you spent £32 billion on broadband?

Philip Rutnam: Not that precise question, no.

Q119 Chris Heaton-Harris: In the last couple of reports, your Department has been very poor at predicting consultancy costs. I know that a lot of consultancy costs are involved in this project. I wonder if you can just drop us a note saying what you have spent so far on consultancy, and what your predictions are, so we can just match you to that.

Philip Rutnam: The Department as a whole or on HS2?

Chris Heaton-Harris: On HS2, sorry.

Philip Rutnam: Right. I know that we have a budget of around £300 million this year for progressing the project. There is a great deal of work to be done.

Chair: I think that we will stop there. Nick is the only one who I haven't brought in. Thanks very much. We are going to vote in the Division. Given that you have been in the job for a week, congratulations! That was a really good evidence session.

Philip Rutnam: Thank you.

Written evidence

Written evidence from the New Economics Foundation

REQUEST FOR AN INQUIRY INTO GOVERNMENT PROPOSALS FOR HIGH SPEED TWO (HS2)

I am writing on behalf of the New Economics Foundation (nef) to request the Public Accounts Committee investigate the Government's proposals for a High Speed Rail line on value-for-money criteria. nef has serious concerns about the value-for-money offered by the Transport Secretary's proposals (announced on 10 January), and the lack of Parliamentary scrutiny they have received.

While we recognise that the PAC does not review the formation or merits of policy, we note that:

- The Committee has reviewed three transport-related topics in the past year including rail capacity and the efficiency of Network Rail.
- High Speed Two is central to the nation's long-term strategic transport investment and of critical importance to public finances.
- The Transport Select Committee has stressed the need for further work to assess and assure value for money.¹
- Publicly available figures indicate that spending up to the end of 2010–11 on developing HS2 already amounted to approximately £73 million, with a spending review settlement of £773 million for the period 2011–12 to 2014–15.²

nef has no position on whether HS2 should or should not ultimately go ahead. Our interest is in ensuring that public spending decisions on large scale, long-term projects are accountable. We do not believe that as it stands the case for HS2 is sufficiently robust to give confidence in committing £32 billion of public money.

Our principal concerns are outlined below. They lead us to conclude that more in-depth analysis and scrutiny of HS2 is essential before any commitment can be justified.

1. Ministers have suggested that Britain cannot afford not to invest in HS2,³ but the Department for Transport's cost-benefit analysis puts the first phase, London-Birmingham, connection in the low value for money category in the central case (BCR = 1.4), or at the bottom end of the medium value for money category if wider economic impacts are included (BCR = 1.6).⁴

For comparison, it is interesting to note that The Eddington Transport Review found that the average BCR for UK rail investments was 2.83.⁵

The table below shows HM Treasury's value for money categories for reference. It is reproduced from latest Department for Transport documents.

Table I

BCR CATEGORY LEVELS⁶

<i>Value for Money Category</i>	<i>Benefit Cost Ratio</i>
Poor	Less than 1.0
Low	Between 1.0 and 1.5
Medium	Between 1.5 and 2.0
High	Between 2.0 and 4.0
Very High	Greater than 4.0

2. The Department for Transport's economic case rests on the benefits of time savings to passengers. Time saving is likely to be a meaningful benefit to stakeholders although it may not be more meaningful than other impacts, such as employment creation. However the calculation of aggregate time saving is made using a very high value of time which therefore over-estimates the benefits.

The DfT's value of time for rail passengers is based on passenger earnings of £70,000 per annum or above, in 2010 values.⁷ Mean annual pay for workers in the UK in 2010 was £26,510 with even the 90th percentile earning a mean salary of £46,428.⁸ Basing time savings on such a high pay rate clearly places an extremely

¹ Transport Committee—*Tenth Report: High Speed Rail*.

² House of Commons Hansard—Written Answers: 20 December 2010.

³ See for example, Foreword by the Secretary of State to *High Speed Rail: Investing in Britain's Future—Decisions and Next Steps* (January 2012), Department for Transport.

⁴ Department for Transport: 2012. *The Economic Case for HS2: Value for Money Statement*.

⁵ Department for Transport: 2006 *The Eddington Transport Study*.

⁶ *Ibid.* Page 18.

⁷ Bluespace Thinking Ltd. 2010 *A Review of High Speed Rail—HS2 proposals*.

⁸ Office of National Statistics, 2010. *Annual Survey of Hours and Earnings, 2010*. Table 1.7a Annual Pay: Gross.

high value on time savings for HS2 passengers. Even if average pay of £46,428 were used to estimate the value of time savings, the BCR would fall to 1.3.

3. The alternatives to HS2 have been poorly evaluated. Each alternative scheme was found to deliver a higher BCR than HS2, as shown in the table below. The Department for Transport noted that total benefits from these schemes was substantially lower than HS2, although it should also be noted that their costs were also substantially lower, with resulting opportunity cost gains.

Table II

BENEFITS AND COSTS FOR ALTERNATIVES TO HS2⁹

Package 2, Package 2A, 51M and Scenario B all denote specific packages of proposals for upgrades to the West Coast Main Line between London and Birmingham.

<i>Economic Summary Statistic</i>	<i>Present value of benefits (£bn)</i>	<i>Present value of costs (£bn)</i>	<i>BCR</i>
Package 2	7.9	2.0	4.0
Package 2A	7.0	2.6	2.7
51M	6.1	1.2	5.2
Scenario B	=13.9	9.3	=1.5

4. The ability of HS2 to deliver against the primary objectives for the Government's investment has not been inadequately discussed:

- Tackling the 'North-South divide': Evidence on regional economic rebalancing from high-speed rail schemes abroad is equivocal. There is some evidence that high-speed rail can worsen the concentration of benefits on the existing key economic centres.¹⁰
- Lowering carbon emissions: It is not clear that HS2 will contribute to Government objectives for reducing carbon emissions, especially if reduced domestic aviation is displaced by long-haul flights.¹¹ The process by which the DfT has projected the total carbon emissions impact of the scheme has been poor. As such, it is unclear if HS2 is consistent with the Government's objectives for reducing carbon emissions

5. We are unconvinced that there have been robust checks and balances in place for adequate scrutiny of the returns for society.

- HS2 has already undergone review by the Transport Select Committee. The Committee voiced broad support, but also called for more scrutiny of the financial and economic case. Additional dedicated inquiry into the return for society and value-for-money of HS2 seems vital, particularly at a time of austerity. In addition, the recent loss of the Sustainable Development Commission leaves a gap in the checks and balances offered by independent agencies that will raise questions about financial, social and environmental sustainability.

Given the complex, large-scale and long-term nature of the scheme, procurement processes for HS2 have been underway since July 2011. In light of last week's announcement, further development will include lining up construction contracts, and commissioning engineering works in advance of Parliament's final consent.

We fear that without robust accountability processes, this will add to momentum for the investment despite unresolved value-for-money issues. We therefore strongly urge the Public Accounts Committee to conduct an inquiry.

We will be happy to discuss the above with you and other members of the Committee in more detail should you require it. I look forward to hearing your response.

January 2012

⁹ Department for Transport: 2012. The Economic Case for HS2: Value for Money Statement, p25.

¹⁰ Transport Committee: The Local and Regional Impacts of High Speed Rail in the UK: A Review of the Evidence, see section 4.6 (Written evidence from Professor John Tomaney).

¹¹ Oxera. June 2010 Review of the Government's case for a High Speed Rail Programme, sections 3.44, 3.43, 3.42 and 1.6.

Written evidence from Andrew Bodman

LESSONS LEARNED FROM HIGH SPEED ONE AND HOW THEY RELATE TO HS2

1. Construction Cost

HS1 was expensive to build. The line from St Pancras to Folkestone which was built in two stages cost a total of £5.8 billion and is a length of 69 miles. That works out at £84 million per mile. <http://www.railway-technology.com/projects/highspeedone/>

However the first phase of HS2 (London—Birmingham) is more expensive on a cost per mile basis. 140 miles are to be built at a cost of £16.2 billion which works out at £116 million per mile. See section 7.2:

<http://assets.dft.gov.uk/publications/hs2-economic-case-appraisal-update/hs2-economic-case-appraisal-update.pdf>

This is an increase of 38% over the cost per mile of HS1. What is even more concerning is that the cost per mile of HS2 (phase 1) is four times greater than the cost per mile of an equivalent high speed line built in France. Source: NCE Conference Barcelona September 2011. <http://metricviews.org.uk/2011/10/spotlight-falls-again-on-the-uks-high-construction-costs/>

Sir Rory McNulty (rail industry) and Sir Philip Green (government procurement) have both found the government readily pays too much for goods and services. These lessons have not been taken on board, if the government is prepared to pay four times the construction costs per mile of a high speed rail line in France. This cannot be acceptable for a government seeking to spend taxpayers' money prudently.

2. Projected Passenger Volumes

High Speed One has not reached more than one third of its planned capacity. Source: IEA, "High Speed Two, the next government project disaster?" See page 7, section 2:

[http://www.iea.org.uk/sites/default/files/publications/files/High%20Speed%20%20-%20the%20next%20government%20project%20disaster%20\(web%20version\).pdf](http://www.iea.org.uk/sites/default/files/publications/files/High%20Speed%20%20-%20the%20next%20government%20project%20disaster%20(web%20version).pdf)

This is not necessarily a surprise as Aalborg University found that nine out of ten rail projects overestimated passenger demand, the average overestimation being 106%. Source:

<http://seekerblog.com/2010/08/31/high-speed-rail-inaccuracy-in-traffic-forecasts/>

As a result of lower than expected passenger demand, 18 carriages were removed from the HS1 Javelin trains four months after the service commenced:

<http://www.metro.co.uk/news/824624-140mph-train-service-is-reduced-after-complaints>

It is very likely that passenger volumes for HS2 have been overestimated too because there are at least three respects in which the DfT calculations are flawed:

- They did not use the Passenger Demand Forecasting Handbook version 5, instead using an earlier version.
- The forecasting model was used to provide passenger estimates over a 35 year period when it should not be used for more than an 18 year period according to DfT guidelines. Sir Rod Eddington is concerned about using this model for forecasting more than a ten year period.
- They did not use a forecasting model which takes into account cheaper alternative ways of making the same journey by rail; instead these were ignored.

Source: Review of the Consultation Business Case for HS2 v1.12 17 June 2011 Section 3.1:

<http://www.hs2aa.org/index.php/news/publications/category/11-business-case-post-consultation-launch-post-2822011>

Basing such a significant investment (phase 1: £16 billion, phase 2 £17 billion, plus rolling stock) on unreliable passenger volume forecasts is an enormous gamble. If passenger numbers have been 2 HS1 Lessons Learned overestimated, it will mean that other parts of the classic network which are in much greater need of investment (which would benefit millions more passengers) will have to wait tens of years before they are upgraded.

3. Ticket Prices

Ticket prices are 20% higher on HS1 compared to classic services eg Ashford to London. While this may be of little consequence for travellers making occasional journeys, it does make a very significant difference to regular travellers or season ticket holders. This is almost certainly a contributing factor to the lower than projected passenger volumes for HS1.

Most of the material provided for HS2 by the DfT indicated that there would be no premium for ticket prices compared to classic trains. However, close study of the Economic Case for HS2 (February 2011) section 6.1.5 implied a ticket price premium of 20%:

<http://highspeedrail.dft.gov.uk/sites/highspeedrail.dft.gov.uk/files/hs2-economic-case.pdf>

When questioned on this matter, the DfT said there had been a printing error in this section.

Bearing in mind that countries such as Holland, China, Japan and Korea charge a price premium for their high speed rail tickets, it would be a surprise not to see premium fare pricing on HS2. This would lower expected passenger volumes if premium pricing had not been part of the forecasting model.

4. *Changes to Classic Services*

It has been reported that classic train services in Kent have been slowed down and run less frequently since the Javelin high speed train service commenced. This has generated a large number of complaints from rail passengers and helped initiate a study by Canterbury City Council which confirmed these findings. See pages 120 and 121:

[http://www2.canterbury.gov.uk/committee/Published/C00000114/M00007535/AI00026597/\\$Executive2Feb2012HS1FinalReportDecember2011.docxA.ps.pdf](http://www2.canterbury.gov.uk/committee/Published/C00000114/M00007535/AI00026597/$Executive2Feb2012HS1FinalReportDecember2011.docxA.ps.pdf)

Whether this deterioration in service was necessary or an “incentive” to persuade travellers to use Javelin HS1 trains is hard to say. There have been other reports of the poorer classic train service and HS1 Javelin trains with low passenger numbers:

<http://www.telegraph.co.uk/journalists/andrew-gilligan/8423638/High-speed-rail-Britains-first-link-hasnt-worked-as-planned-say-critics.html>

http://www.kentonline.co.uk/kentonline/news/2010/march/11/trains_in_the_commons.aspx

In Holland, classic train services have been slowed down in an apparent attempt to drive passengers into using the high speed trains. A passenger group has taken the rail operator to a competition tribunal.:

<http://www.telegraph.co.uk/news/uknews/road-and-rail-transport/9000166/High-speed-rail-A-250m-lesson-for-Britains-rail-enthusiasts.html>

The DfT have claimed that by building HS2, the West Coast Main Line would be freed up so that more classic train services could be run. Emphasis is needed on the word “could” bearing in mind the experiences of Kent travellers above. One should also examine the HS2 Technical Appendix which was published in December 2009 which showed a deterioration in frequency and journey times for some existing services once HS2 is introduced. For example it is suggested that Coventry will have one fast train per hour (off peak) and two fast trains per hour (peak) when it currently has three fast trains per hour (peak and off peak). In addition the current journey time of 63 minutes will become 69 minutes. See Technical Appendix (Appendix 2), Page 17: 3 HS1 Lessons Learned:

<http://webarchive.nationalarchives.gov.uk/20110131042819/http://www.dft.gov.uk/pgr/rail/pi/highspeedrail/hs2ltd/technicalappendix/pdf/report.pdf>

There are other stations as well as Coventry which would be adversely affected.

It is also worth noting that in the Economic Case for HS2, £5 billion has been reduced from the subsidy currently provided to the UK rail system. Therefore classic train services are not very likely to be increased. See Table 8 beneath section 4.5.2:

<http://assets.dft.gov.uk/publications/hs2-economic-case-appraisal-update/hs2-economic-case-appraisal-update.pdf>

If it does transpire that services on classic trains are not improved when HS2 is introduced, the DfT will have been guilty of gross deception. By then it will be too late as the £30plus billion will have already been spent and it will be too late to hold anyone to account.

5. *Subsidy required*

As noted earlier, the cost of constructing HS1 was £5.8 billion. In November 2010 a thirty year concession for its operation was sold for £2.1 billion.

<http://www.railwaygazette.com/nc/news/single-view/view/high-speed-1-concession-awarded-to-canadian-pension-consortium.html>

It is therefore likely to take in excess of 60 years to recover the original investment, assuming that further concessions are sold. There is clearly an ongoing cost to servicing such a debt.

Several studies have indicated that the vast majority of high speed lines across the World require an ongoing subsidy, which runs into billions of pounds per year per country. Another report indicates that only two high speed rail lines in the world make a profit: Paris—Lyon and Tokyo—Osaka:

<http://www.cc-hsr.org/assets/pdf/bnote-6.pdf>

Private companies running high speed rail in Holland and Taiwan have both received government bailouts. See Problems with HSR:

<http://www.hs2actionalliance.com/index.php/news/publications/category/19-business-case-international-experience>

In February 2011, Florida's governor Rick Scott turned down a \$2 billion government incentive to develop a high speed rail link from Tampa to Orlando. He believed passenger numbers to be overestimated, and that the state would have to pick up the bill for subsidies because the line would be unable to pay for itself. His decision follows very similar decisions made in Ohio and Wisconsin. See previous link above.

An ongoing subsidy will be required for HS2 also. The DfT mistakenly suggests that shortening the journey time provides a benefit that can be costed. Their logic is based on the rationale that people do not work on trains and shortening a journey time will allow people to spend more time at work. As most of us are aware, many people do use laptops, smart phones and other means to work on trains. Secondly a shortened journey time is more likely to allow people to spend additional time at home rather than at work. Therefore the £10 billion benefit of journey time saving on the phase one section of HS2 should not be included. It then becomes questionable that HS2 would make a profit. See tables 10 and 15:

<http://assets.dft.gov.uk/publications/hs2-economic-case-appraisal-update/hs2-economic-case-appraisal-update.pdf>

The problem would be exacerbated if passenger numbers turn out to be less than forecast. 4 HS1 Lessons Learned.

The UK government has enough trouble now in managing its debt. It would be unwise to add to that debt issue on an ongoing basis when there are cheaper alternatives which would benefit far more people sooner. I draw your attention to the Optimised Alternative proposed by 51 million.

<http://www.51m.co.uk/sites/default/files/uploads/App%201%20-%20Optimised%20Alternative%20to%20HS2.pdf>

March 2012

Written evidence from STOP HS2

This submission is on behalf of STOP HS2. STOP HS2 was formed as a grassroots campaign to oppose HS2 (High Speed Two). In October 2011 we delivered a petition with 108,000 signatures to Downing Street.

This submission looks into whether the lessons learned from HS1 are being applied in the case of HS2. Our conclusion is that the lessons from HS1 are being ignored.

1.0 LIKE HS1, HS2 WILL OVERESTIMATE PASSENGER NUMBERS

Compared to the original 1995 forecasts for HS1, passenger numbers are a third of the forecast. Even with the Department for Transport's revised passenger forecasts from 1998, actual passenger numbers are 30% lower.

1.1 *The HS2 forecasts are unsound*

Each of the three economic cases for HS2, published by the Department for Transport in 2010, 2011 and 2012, have come up with a different date (2033, 2043 and 2037 respectively) for when they expect demand to double. To get such varying forecasts over within a short space time of time demonstrates that the forecasting method is unsound for the timescales involved.

1.2 The DfT are still not using the Passenger Demand Forecasting Handbook version 5.0, even though it has been available to them since 2010.

1.3 The Department for Transport blames the inaccuracy of its HS1 forecast on the rise of low cost airlines. However when HS2 Ltd set up challenge panels "to provide independent expert scrutiny" on the HS2 plans they did not include any aviation representative.¹²

1.4 Groups like Stop HS2 have raised the issue to the DfT that developments in technology—like telepresence videoconferencing—will reduce the demand for long-distance travel. The growth in teleconferencing is being led by businesses, and taken up by all government departments: it has clear benefits in both time saved and travel costs reduced.

Although the DfT is promoting initiatives like Anywhere Working, to encourage use of technology instead of travel, with respect to HS2, the DfT refuses to acknowledge any possible effect of technology, and does not appear to have made any effort to assess whether it will affect the viability of the HS2 project.

2.0 VALUE OF TIME SAVINGS

As with HS1, a significant proportion of the expected benefits from HS2 are expected to come from reducing the time of the journey.

¹² The Transport Select Committee report into High Speed Rail November 2011, vol 2, oral evidence. Also from report: "Of the three groups, currently comprising 22 people (all men), only the Analytical Challenge Panel contains any evident critic of high-speed rail. The Strategic Challenge Panel comprises eight transport and local government experts who are almost all publicly supportive of high-speed rail, including the Director of Yes to HS2, the Director of Greengauge 21 and the Chairman of Network Rail".

2.1 Stop HS2 have long argued that measuring the benefit of rail projects in terms of time saved is increasingly irrelevant for rail projects. Many passengers work on trains: modern trains are fitted with power plugs and wi-fi for passenger use.

2.2 Although this is beginning to be acknowledged by the Dft, the HS2 economic case does not take this into account.

2.3 The vast majority of HS2 passengers are expected to be using HS2 instead of conventional speed rail (65%) or to be new passengers (24%)¹³. If people are already working on a train, saving a few minutes in one stage of the journey will lead to no actual time saving benefit.

2.4 In addition the assumption that every minute on a train was wasted has led to premature rejection of options. For instance, HS2 Ltd rejected the idea of stations at Bicester and Milton Keynes because it would increase the journey times for HS2 passengers by a few minutes.

3.0 UNCLEAR OBJECTIVES FOR HS2

The primary objective of HS1 was clear from its original name, Channel Tunnel Rail Link.

3.1 However, there is no such clarity about the objective for HS2. The government has put forward a variety of reasons for building it before subsequently dropping them. These range from promoting a low carbon economy, to healing the north-south divide, to reshaping the economic geography of Britain and to providing extra capacity for commuters.

3.2 However HS2 has not been evaluated in comparison with other schemes that could fulfill these policy objectives. So even if HS2 might fulfill these objectives, it is not clear that spending £33 billion on a new railway is the best value for money method for doing so.

4.0 WHAT HS1 DID WELL, BUT HS2 IS DOING BADLY

4.1 HS1 runs next to motorways and major roads: 85% of the route was in tunnel or next to a railway or trunk road, including the M20 and the M26 and other dual carriageways.

In contrast, Stop HS2 calculations last year showed that only 37% of the HS2 was either in tunnels or next to what the HS2 consultation documents describe as “existing railway or road corridors”.¹⁴ Typical of these is the A413, which is a single carriageway road and not comparable to a motorway.

4.2 HS1 has intermediate stations at Stratford International, Ebbsfleet and Ashford. HS2 will have no stations between London and Birmingham, even though the distance is greater than with HS1.

5.0 CONCLUSION

It is our opinion that HS2 is likely to repeat a number of mistakes made by the development of HS1, especially with respect to passenger numbers.

April 2012

Written evidence from 51m

THE DEVELOPMENT OF THE HIGH SPEED 2 PROJECT (“HS2”)

I understand that the Committee will shortly be considering a report from the National Audit Office on value for money in relation to the “High Speed 1” rail line, and will at the same time examine expenditure to date on the proposed High Speed 2 (HS2) project.

51m is a group of 19 local authorities which has joined together to challenge HS2. The group is known as “51m” because HS2 will cost £51 million for every Parliamentary constituency.

We believe that the decision to develop HS2 was taken forward without a full, rational consideration of future capacity needs for Britain’s rail network, and of evaluation of alternative means of meeting future demand.

I enclose a submission to the Committee which summarises the key issues. We would be happy both to give evidence to the Committee and to supply any further information for your inquiry.

The development of HS2 was not based on a rigorous analysis of Britain’s future transport requirements, but originated from a high level political decision to take forward a north-south high speed rail route.

As a consequence of this approach, HS2 Ltd has already incurred major expenditure on route design and development, while in parallel seeking to develop a business case to justify the project. The published business

¹³ HS2 documents, Jan 2012. With modal shift from other modes, they say transferred from road 8%, and from air 3%.

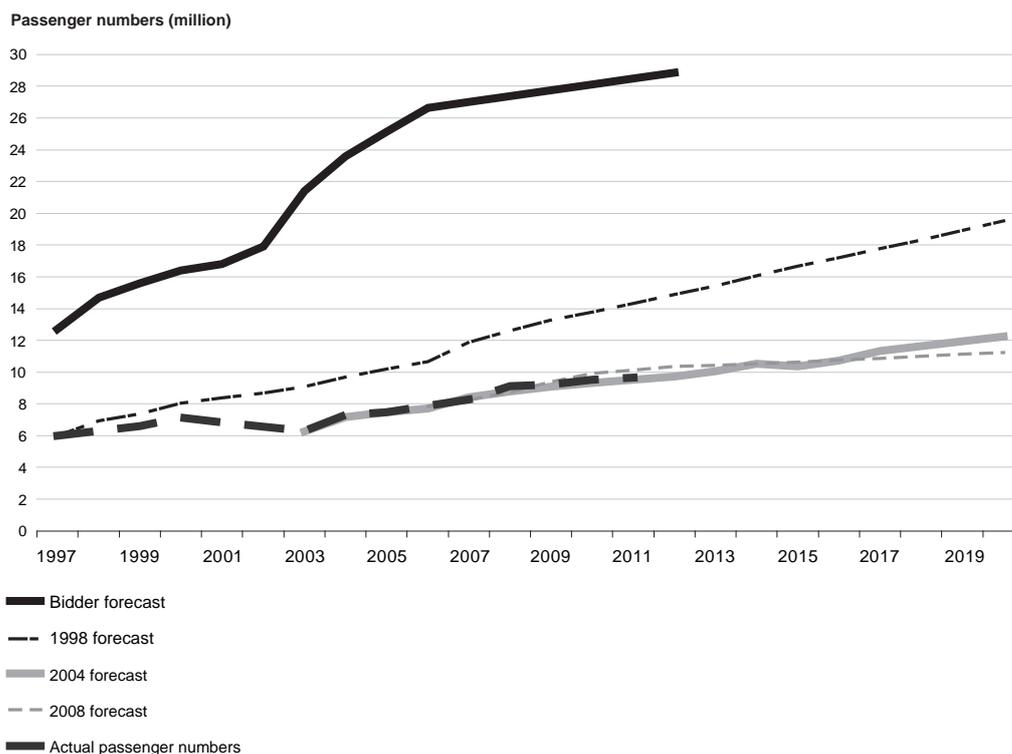
¹⁴ We acknowledge that this calculation will have changed slightly with the publication of the revised route in January 2012, but believe that it is still a reasonable representation.

case essentially projects current growth into the future, without considering the reasons for growth, potential future scenarios, or a rigorous evaluation of more cost effective options for meeting future demand.

FUTURE GROWTH FORECASTS

The National Audit Office report highlights the over-optimism of successive forecasts for Eurostar passenger numbers, with actual numbers between 2007 and 2011 on average only a third of the level forecast by London and Continental Railways in 1995, and 30% below the Department of Transport (DfT)'s 1998 forecasts.

Figure 2
Forecast and actual international passenger numbers



NOTE

1 Bidder forecast data taken from Comptroller and Auditor General, The Channel Tunnel Rail Link, Session 2000-01, HC 302, National Audit Office, March 2001, Figure 6.

Source: National Audit Office analysis

Despite much lower than forecast passenger numbers, Eurostar has captured 80% of the London–Paris/Brussels market, but overall growth in the market has been much lower than expected. In contrast, rail already has the major share of journeys from the Midlands and the North of England to central London—HS2 Ltd only forecast 8% of its passengers transferring from road, and 3% from air—yet the business case for HS2 is predicated on rail volumes tripling. The volume forecast for HS2 can only be delivered if there is equivalent growth in total travel to and from central London—and the Eurostar results show this hasn't happened to Paris and Brussels.

The results for the more recent HS1 “domestic” services to Kent are no more positive. Whilst there are no published passenger forecasts for HS1 Kent services, it is clear that passenger numbers are also well below expected levels. The current timetable only requires 24 out of the 29 trains in daily use, against an original expected requirement of 26, and the number of trains in use is being further reduced to 22 in May. Many passengers on the routes affected have continued to use the cheaper, slower services on the existing routes, despite these trains having been slowed down as the result of additional stops. Yet the DfT business case ignores the likelihood of competition between HS2 and services on existing routes, even though there are three different operators between London and Birmingham today, with Chiltern and London Midland offering cheaper prices to compensate for longer journey times than Virgin.

When the Public Accounts Committee previously reviewed HS1, it reported that:

“The Department told us that it has now learned from all this experience, and that the next time it considered undertaking a major transport project, it would factor more severe downside assumptions into its business case analysis.”¹⁵

¹⁵ <http://www.publications.parliament.uk/pa/cm200506/cmselect/cmpubacc/727/72705.htm>

Unfortunately, the HS2 business case shows that these lessons have not been learned. On the contrary, DfT claim that comparison with Eurostar is misleading, as HS1 “*provided a completely new international service meaning there was less evidence on which to base passenger numbers*” (despite the existing mature air market between London and Paris and Brussels) and, “*in addition, services on HS1 began at around the same time as considerable changes in the aviation sector, which were not foreseen in the original demand forecasts.*”¹⁶ DfT therefore acknowledge that the development of low cost airlines was not foreseen, yet are apparently confident that their forecasts for long distance rail travel growth for the next 60 years are robust and conservative. It should also be noted that the current total air and rail market between London and Paris/Brussels is still considerably less than either the LCR 1995 and the DfT 1998 forecasts for Eurostar.

Over-optimistic demand forecasts are by no means just a British phenomenon. Research at Aalborg University in Denmark¹⁷ concluded that:

“For nine out of 10 rail projects, passenger forecasts are overestimated; average overestimation is 106%.”

Recent examples of projects elsewhere in the world include the new Amsterdam–Rotterdam–Antwerp high speed line, and the Taiwan high speed line; in both cases passenger volumes are much lower than forecast.

HS2’S POOR BUSINESS CASE

Even if the optimistic and risky forecasts for passenger numbers are accepted, the business case for HS2 is very weak.

For the first phase of the project from London to Birmingham, the Benefit Cost Ratio (“BCR”) without Wider Economic Impacts (WEI) has progressively declined from 2.4 in March 2010 to 1.4 now. The BCR with WEI is only 1.7 and as highlighted in the NAO report the DfT have stated that “*WEI by their very nature are difficult to observe and therefore evaluate*”, the report then goes on to say “*the DfT has started work to identify the method it will use to evaluate wider economic impacts and regeneration benefits.*”¹⁸

Far worse, it is quite clear that the BCR for HS2 is overstated; when the figures are adjusted for accepted risks buried deep in the HS2 documentation, such as the latest economic forecasts, updated forecasting methods and a more realistic value of the time saved by passengers, the return drops significantly below 1.0. As an example, by far the largest benefits (60%) come from the assumption that all time savings lead to additional productive time, in the same manner as for HS1 as highlighted in the NAO report,¹⁹ even though the DfT now accept that some time on trains is productive.²⁰

A BCR of less than 1.0 is way below the level usually required for rail schemes, and on the Department for Transport’s own criteria is “poor value for money”, indeed Philip Hammond, the then Secretary of State, told the Transport Committee “*If it were to fall much below 1.5, I would certainly be putting it under some very close scrutiny.*”²¹

The first phase will cost the taxpayer £13.5 billion over a 60 year project life, with an initial capital cost of £16.3 billion, and the full proposed “Y” scheme, with branches to Manchester and Leeds, is estimated to cost £32.7 billion. Despite the very high cost of the project, only a few major cities will see real benefits; many more towns and cities, for example Coventry and Stoke-on-Trent, will have fewer, slower services, once the major end to end flows have transferred to HS2. The published business case for the full scheme includes a saving of £5.1 billion (Net Present Value) for service reductions on existing routes, although DfT has declined a Freedom of Information Act request to provide details of the anticipated cuts.

MEETING FUTURE CAPACITY REQUIREMENTS

Increasing West Coast Main Line (WCML) capacity is not the highest priority

HS2 will primarily relieve the WCML route from Euston. However, long distance services from Euston currently have significant spare capacity; peak departures in the evenings are on average only 56% full and the Manchester trains are less than 45% full (results from a recent independently audited survey). These loadings are less than those from all other London terminals. There has been strong growth on WCML in the last few years, as would be expected after an investment of £9 billion and dramatic improvements to the service, but much of this growth have been in off peak periods, particularly at weekends, when the service had been very poor for many years as a result of upgrade work on the route.

¹⁶ *Review of the Government’s Strategy for a National High Speed Rail Network*, Page 12, para 3.3.14 <http://assets.dft.gov.uk/publications/hs2-review-of-strategy/hs2-review-of-strategy.pdf>

¹⁷ *Inaccuracy in Traffic Forecasts*. Bent Flyvbjerg, Mette K Skamris Holm and Soren L. Buhl, Department of Development of Planning, Aalborg University.

¹⁸ NAO report—*The Completion and Sale of HS1*: paragraphs 3.9 and 3.12.

¹⁹ NAO report—*The Completion and Sale of HS1*: paragraph 3.15.

²⁰ DfT Report January 2012—*Economic Case for HS2*, Updated Appraisal of Transport User Benefits & Wider Economic Impact: paragraph 10.5.3.

²¹ Transcript of Transport Select Committee oral hearing 13 September 2011.

Providing additional capacity on the West Coast Main Line is therefore not a priority for the rail network as a whole, and, given the enormous costs of HS2, there will inevitably be an opportunity cost, reducing potential major investment in other routes.

Cost effective approach for dealing with growth

51m would argue that options to provide additional capacity should be considered incrementally, starting with proposals which *prime facie* offer the best value for money. The options would include:

- Effective use of the capacity provided by Chiltern Railways as a result of the Evergreen 3 project, which now provides competitive journey times between Birmingham and London.
- Rolling stock reconfiguration, particularly conversion of some first class vehicles to standard class.
- More effective demand management, including when appropriate use of obligatory reservations.²²
- Operation of longer trains, to the extent that this is possible without major infrastructure expenditure.
- Targeted infrastructure investment to clear selected bottlenecks to enable frequencies to be increased.
- Construction of new infrastructure (ie HS2).

It is quite clear that DfT started with the proposal to build HS2, and has subsequently developed arguments to seek to sustain this decision.

51m alternative

51m has developed an Optimised Alternative (OA), based on the cost effective approach described above. The OA can provide a massive increase to existing capacity on WCML, and is low risk, as it principally involves lengthening existing trains. A detailed explanation of the OA is set out in Appendix 1 of 51m's response to the Transport Committee.²³ The main aspects of the OA are:

- Lengthen inter-city trains to 12 cars;
- Reconfigure one first class carriage to standard class; and
- Limited infrastructure works at just three specific locations.

The OA increases standard class capacity on the West Coast Main Line by 215% by a combination of longer trains, some reconfiguration from first to standard class and limited, specific infrastructure enhancements to enable some frequency increases. These improvements can be delivered more quickly and more flexibly than HS2, and fully meet the Government's long term demand forecasts. In contrast, HS2 is an "all or nothing" solution, delivering no benefits until 2026–33.

The illustrative service pattern for the OA provides an attractive all day stopping pattern, with improved journey times and intermediate journey opportunities. The timetable has been "proved" through external expert analysis, and has been accepted as deliverable by Network Rail. Rail expert advisers to Transport Select Committee also confirmed that the timetabling and capacity calculations are valid.²⁴

Most importantly, the 51m alternative costs less than 10% of HS2. This would allow major capital investment to be available to other, more overcrowded routes throughout the country.

DfT CONSIDERATION OF ALTERNATIVES TO HS2

Whilst DfT asked Network Rail to review the OA, it is clear that alternatives to HS2 have not been properly considered, even though 51m wrote to the Secretary of State asking for an objective evaluation of the OA under independent scrutiny. However, Network Rail made no attempt to engage with 51m, nor to clarify any aspects of the OA. As a result, its report contains significant errors and misunderstandings, which could easily have been resolved with even limited contact with 51m.

The Network Rail report raises two issues with the OA:

- Network Rail identify commuter capacity, particularly between London–Milton Keynes/ Northampton, as a key problem, and claim that the OA does not provide for it. But the OA was 51m's response to last year's consultation, which was entirely focussed on long distance travel, and Network Rail made no attempt to engage with 51m when they did their review. Subsequent work by 51m shows that the OA can provide capacity which fully meets forecast future commuter demand into Euston.

²² DfT recognise this issue, and initiated a consultation process on rail fares and ticketing in March 2012, including consideration of the case for using price signals to smooth demand at certain times of day on long distance services. (*Rail Fares and Ticketing Review: Initial Consultation*, March 2012, page 52, paragraph 134).

²³ <http://51m.co.uk/sites/default/files/uploads/App%201%20-%20Optimised%20Alternative%20to%20HS2.pdf>

²⁴ Transport Committee "High Speed Rail" 1 November 2011, Annex 2.

- Network Rail claim it would cause major disruption to WCML whilst being implemented. This is wrong: the OA works are similar to those currently being undertaken on this route and is not a rerun of the WCML upgrade. No work is required at Euston—in contrast to the massive disruption that will be caused by HS2 as a result of the complete reconstruction of Euston over an eight year period.

Despite its inherent bias, it is clear that, even on the basis on Network Rail’s report, there are no fundamental flaws in the OA. Network Rail acknowledge that the illustrative timetable is sound and that the additional passenger capacity calculations are valid. However, the degree of disruption as a result of the 51m proposals is greatly exaggerated, and the massive disruption as a result of the total reconstruction of Euston for HS2 is completely ignored.

A MUCH BETTER BUSINESS CASE

DfT asked consultants (Atkins) to carry out an analysis of the alternatives to HS2. This showed the OA as having the best “Benefit Cost Ratio” (BCR) of any of the alternatives,²⁵ and a dramatically better BCR than for HS2 itself, as set out in the table below:

<i>Alternative</i>	<i>BCR (excluding wider impacts)</i>	<i>BCR (including wider impacts)</i>
RP2 ²⁶	4.01	4.66
OA	5.17	6.06
HS2 (London–West Midlands) ²⁷	1.4	1.7
HS2 (Full “Y” network) ²⁸	1.6–1.9	1.8–2.5

CONCLUSIONS

- The National Audit Office report raises serious value for money issues in relation to HS1, particularly in respect of demand forecasts.
- Despite the Committee’s recommendations in its earlier (2006) report, OfT has not learned from the experience of HS1, and did not factor realistic downsides into its HS2 demand forecasts.
- The business case for HS2 is inherently poor; if accepted risks are properly evaluated, the Benefit Cost Ratio drops below 1.0.
- More cost effective alternatives for increasing capacity have not been properly evaluated, even though DfT’s own consultants show these have a much better business case.
- Significant expenditure has already been incurred on route design and development, despite the lack of a robust outline business case.

We believe that the Secretary of State’s decision to proceed with HS2 and reject the less risky and much less expensive 51m alternative is fundamentally flawed, and there is a critical need for an independent, dispassionate review of the HS2 project.

CARRINGTON DAVIDSON GRANT

REDUCING THE PUBLIC DEPENDENCY ON PLACE SERVICES

INTRODUCTION

This document sets out our proposal for the delivery of ADEPT’s research project “Reducing the Public Dependency on Place Services”. The aims of the project are as follows:

- To deliver a thought provoking and compelling piece of work, which looks at the potential future context for the delivery of place services; challenges current assumptions about how such services are delivered and; suggests a range of options for ensuring delivery into the future.
- To provide decision makers in Whitehall and local government a set of scenarios and potential ways forward to aid long term planning.
- To raise the credibility of ADEPT and help to secure its place as a key stakeholder for Whitehall.

This is a key piece of research that should generate National interest. In order to maximize the opportunities for this, we will engage key stakeholders in the project including DCLG and other key Whitehall Departments. Andrew Campbell of DCLG has already expressed an interest in participating in the project.

²⁵ High Speed Rail Strategic Alternatives Study Update following consultation (Atkins, January 2012) page 28 (<http://Uassets.dft.gov.uk/publications/hs2-strategic-alternatives-study-update/hs2-strategic-alternatives-study-update.pdf>)

²⁶ “Rail Package 2”, the best alternative developed by Atkins/DfT.

²⁷ “Economic Case for HS2: Updated appraisal of transport user benefits and wider economic benefits”, page 48 <http://assets.dft.gov.uk/publications/hs2-economic-case-appraisal-update/hs2-economic-case-appraisal-update.pdf>

²⁸ *ibid*, page 10.

PHASING

The project is divided into four phases:

- Scenario building;
- Research into Local Authority responses to the current budget constraints;
- Workshops with senior leaders to explore more deeply issues and potential future options; and
- Final report and presentation.

The methodology and timing for each phase is set out below.

Phase 1—Scenario Building

The purpose of this phase is to build a number of baseline scenarios for the future relating to how funding, demand and policy decisions might affect the context within which local authorities will be working. This will need to cover:

- Potential outcomes of CSR;
- Changes in the national and global economy in terms of growth/recession, as well as energy costs and major technological changes;
- Growing impact of LEPs;
- Changes in health policy;
- Changes in education policy;
- Changes in criminal justice, including the introduction of Police Commissioners; and
- Greater move towards outsourcing and commissioning models.

There are two options here. We will either seek input from relevant experts, such as government economists, academics, consultants operating in future scenario planning and pull together the scenarios ourselves, or we will commission one organisation/expert provider to pull together the scenarios for us. The decision on this will depend on which is the most cost effective and will deliver the best product. This will be established once preliminary meetings have been held with potential providers.

Output: A set of credible and well worked scenarios for the future which can form the foundation for the workshops in phase 3.

Costs:	Expert in put to build scenarios	£10,000
	Plus 4 days @ 650 per day	£2,600
Total:		£12,600

Phase 2—Research into how Local Authorities are responding to current budget cuts

The purpose of this phase is to investigate how Local Authorities are already responding to the current difficulties and how they are planning for the future. This phase does not need to happen after phase 1—it could run at the same time. This will require research skills, plus credibility and an ability to capture the attention of busy Chief Executives and Directors. We propose to carry out this phase ourselves, given our local authority networks and credibility in the sector. We would also call on the ADEPT network to support the work, in terms of responding to questionnaires and requests for telephone interviews.

In terms of methodology, we would design a short but highly focused questionnaire to be completed by all authorities. We would use the President's day to publicise and secure completed questionnaires, incentivised by a prize, in addition to using other networks and contacts to encourage completion. We would analyse the questionnaires and follow up a selection with telephone interviews.

Output: A readable, concise report of the various approaches of Local Authorities to addressing the issues, which identifies, in particular, any innovative or apparently successful interventions and any barriers to those interventions.

Costs:	6 days @ £650 per day	£3,900
	Printing costs, which are part of a global sum given at the end.	

Phase 3—Workshops

The purpose of this phase is to develop an in-depth understanding of issues and options, building upon quantitative and qualitative outputs from Phase 2, and to stimulate creative and innovative approaches to the potential scenarios which face the sector. This will demand a number of workshops around the country, marketed in such a way as to attract thought leaders and facilitated in such a way as to encourage creative thinking.

We envisage three workshops—one in the south, one in the midlands and one in the north. To keep costs down, we could use venues owned by ADEPT members. We need to bear in mind, however, the relationship between creativity and environment and will need to take a view on the suitability of the venue for the kind

of workshop we envisage versus the cost. We propose to engage an experienced facilitator to run the workshops. It is important the workshops are run in a way that encourages people to leave their current assumptions and ways of working behind and enables them to step out of their normal patterns of thinking. We want people to leave the workshops feeling that it has been an invigorating and highly enjoyable event and that it was well worth the time spent, regardless of the outcome of the overall piece of work.

Output: A set of highly interactive and successful workshops, with the outputs of those workshops captured, analysed and interpreted.

Costs:	Independent facilitator	£5,000
	Venue and refreshments	£4,000
	*9 days @ £650 per day	£5,580
Total:		£14,850

*This allows for two of us at each workshop in support of the facilitator, which should help to reduce the facilitator's support costs.

Phase 4—Recommendations and Final Output

The purpose of this phase is to finish with a thought provoking piece of work that can be presented to Whitehall to contribute to thinking on the CSR, to provoke different approaches from Whitehall including a more joined up response to the issues L.As face, and to enhance the reputation of ADEPT and hence its lobbying power with Government.

We will complete this, working closely with the ADEPT Project Sponsor and, if we can engage them throughout the project, DCLG and other Whitehall colleagues.

Output: A written output, which captures the essence of the whole piece of work in a way that sparks the imagination of Whitehall, in terms of the new approaches and innovative thinking it has produced. May also include a proposal for how to introduce and spread the work around Whitehall.

Costs:	*8 days @ 650 per day	£5,200
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*This allows for both of us to present to ADEPT at the November conference and both of us to present to Whitehall.

Overall Costs

Printing and marketing	£500
Phase 1	£12,600
Phase 2	£3,900
Phase 3	£14,850
Phase 4	£5,200
Total:	£37,050

*This does not include travel expenses etc, which would be in addition to this sum and will be contained within the overall project budget.

4 April 2012

Written evidence from AGAHST

CONTEXT: HS1'S DISMAL PERFORMANCE

The recent NAO report emphasises that HS1 did not represent value for money. The main factor in HS1's financial outcome was the failure of demand levels from passengers to materialise, and yet the inadequacies of demand modelling methods have been ignored by the Department for Transport and HS2Ltd in planning for HS2. In reviewing the performance of HS1, it is striking to note the many profound differences between the two projects, which point to vastly more advantageous conditions for HS1 to succeed than exist for HS2. HS1 was considered within a unique set of circumstances, namely its link with the Channel Tunnel and the Continent.

As a first principle, this linkage represents alternative revenue sources such as cross channel travel and freight or regional commuter services. No such supplementary revenue streams would exist for HS2.

HS2 is predicated entirely on very long-term demand for long distance journeys made by affluent passengers (note, this conclusion is entirely consistent with DfT's own analysis).

HS1 offered a reconciliation of travel speeds to those of the section from Calais to Paris. This alone may have been viewed as a non-monetisable but significant benefit, albeit purely in terms of foreign perceptions. No such potential rationale exists for HS2. Eurostar was also viewed, with reasonable justification, as offering modal shift from air travel, with resulting carbon reductions. HS2Ltd's analysis, by contrast, suggests that new journeys would account for 24% of HS2 usage, with an attendant increase in carbon emissions.

Eurostar and its French extension meant a rational basis for bias against a classic service upgrade. No rational basis exists for the bias towards an HSR line as a solution primarily for future commuter overcrowding out of Euston. By the DfT's own analysis, alternative schemes offer a minimum of three times better value for money than HS2.

None of the potential benefits considered in HS1's planning phase are applicable to HS2. This takes on further significance in light of the massive sums required to build and subsidise HS2 as well as the opportunity cost associated with such an expenditure. In addition, unlike HS1, HS2 would have serious and permanent implications for the entire UK rail network.

1. *Financial differences between HS2 and HS1, can HS1 be a good guide?*

1.1 HS2's capital cost is now £65.5 billion (2011 private sector prices) with 75%, £49.35 billion, being spent up to 2033. This compares to a historic cost for HS1, second stage, of £6.6 billion for a relatively short line.

1.2 The debt element, which has proved to be so problematical with HS1, has had no consideration.

1.3 Financial planning for HS2 has made use of two sources of positive bias:

- (1) on passenger numbers (HS1 shows that forecasting of passenger numbers is very uncertain); and
- (2) on inflation of economic benefits to make the benefit cost ratio (BCR) as favourable as possible.

1.4 Note: all FoI requests and representations from MPs for detailed financial calculations supporting the economic case document released in January 2012 have been refused. This submission accordingly uses 2009 detailed data as updated in 2011 and notes changes in relation to the top-level 2012 figures which are based on 2011 prices. This is confusing but inevitable because of DfT obduracy.

1.5 HS1 uses lower line speeds than HS2 proposes so the track will have been cheaper. HS2 specification relies upon faster High-Speed trains than are currently in service using signalling systems which do not exist and a power supply infrastructure which will have to be constructed.

1.6 HS2 requires a more highly specified and straighter route than HS1 and will traverse much more challenging topographies. This will lead to far greater costs in both construction and maintenance, as well as mitigation measures.

1.7 HS1 effectively serves three major capital cities: London, Brussels and Paris. There are intermediate stations at Ashford and Lille and two UK stations, used only by commuters. HS2 will only serve six cities: London, Birmingham, Manchester, East Midlands (Nottingham and Derby on a greenfield site), possibly Sheffield, and Leeds. London and Birmingham each get two stations but Birmingham centre is only served by a spur so will receive few trains. Yet demand for HS2 is projected at well above HS1 levels.

1.8 Compared to HS1 which links three capital cities and is highly competitive with flying times, HS2 would serve six cities and have minimal competition from air services. HS2 will have to compete with alternative viable transport modes including "classic" rail. Unforeseen competition is cited as one reason for HS1's failure to attract forecast passenger numbers.

1.9 The conclusion in terms of similarities between the projects is that HS1 should be a more viable financial and economic proposition than HS2; yet HS2 will have much greater costs and is thus far more financially dependent on achieving the forecast passenger volumes.

2. *Methodology*

2.1 *Public vs private debt*: Traditionally, DfT cites costs at public sector prices (excluding tax) but uses private sector prices to calculate the BCR to ensure comparability with benefits. We note that costs are invoiced at private sector rates and will be in inflated prices, that many components (trains) will be imported and that some contractors may not pay UK tax. Hence, private sector prices have been used. The HS2 tax yield, whatever it is, will be gained by the Treasury but is not a separate accounting item.

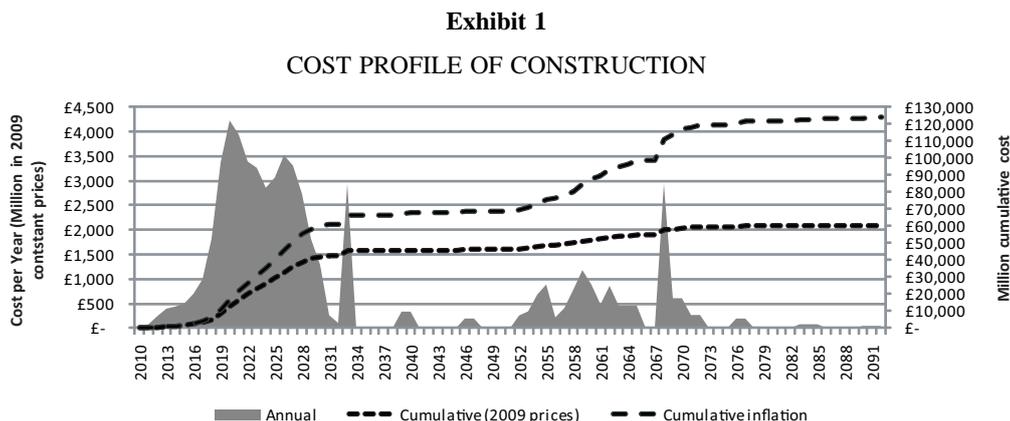
2.2 *Discount rates*: this is a technical area but we note that the rates used, from the 2004 Green Book, are social. That is, they are a perception of money. True financial discount rates would include the long-term return demanded of the project (*including the cost of debt*) plus a large element to offset major financial risks and huge forecasting uncertainties.

2.3 *Effect of applying true discount rates*: this can be done on the 2011 figures if requested; the 2012 figures are withheld. The effect of a rate of realistically, 15–25% annually would be to make the construction costs proportionately much larger relative to benefits in the BCR. It would reduce to negligible amounts the very long term (30 years +) value of the benefits claimed. This is correct since the costs are relatively certain whereas the benefits from the middle of the 21st century onwards are highly uncertain. Treasury Green Book social discount rates minimise costs and emphasise benefits over very long time scales. Even then, a further, hidden but utterly crucial enhancement is required.

3. What are HS2's real costs?

3.1 Ministers quote the *Present Value* of the costs as this is a relatively low number. What they are citing is the calculated “*social perception value*” of the costs, not the actual bill amount. The public sector cost of construction is now £32.6 million at 2011 prices. There is then an additional £8.15 billion for trains (these will be imported as there is no UK manufacturer). In private sector terms, this totals £49.35 billion cash in 2011 prices.

3.2. The invoiced cost of constructing HS2 in 2009 money²⁹ is shown in Exhibit 1. Including renewal costs (£15 billion), this is £60.25 billion at 2009 prices (£65. billion in 2011 prices) before inflation. Inflation could push costs to over £72 billion by 2033 in 2011 money.



3.3 The cost per Parliament is shown in Exhibit 2. This uses 2009 prices and also shows an inflation adjusted price—the Treasury budget. Note that the cash cost for this Parliament announced in December 2010 was £750 million.

3.4 The HS2 predicted expenditure will average £3.5 billion annually from 2019 though to 2028 in 2011 money. The budget is £45.1 billion in 2009 money and £49.35 in 2011 terms.

Exhibit 2
POTENTIAL HS2 EXPENDITURE (£ MILLION) BY PARLIAMENTARY TERM
(NOTE 2009 MONEY)

Parliament	2009 costs	Inflated costs
2010-15	£1,357	£1,636
2015-20	£9,866	£12,761
2020-25	£16,886	£24,041
2025-30	£13,249	£21,214
2030-35	£3,744	£6,818
	£45,101	£66,471

3.5 In 2009 money, the cost of Stage 1 is £20.3 billion (£22 billion in 2011 terms) The Y-arms are c 50% longer than Stage 1, yet costs are 27.5% lower at £14.7 billion (£16 billion in 2011 money). This excludes the £3.7 billion (£4.2 billion 2011 money) Heathrow link. With no details of the Y-route till late 2012 or 2013, these values cannot be scrutinised. This is a major risk. HS1 shows that realistic costing is essential.

3.6 Research pinpoints the worldwide average escalation of costs from origination of (rail) projects at 45%, with cost escalations occurring in 9 out of 10 projects.¹

3.7 The DfT’s own prospectus asserts that no HSR project can be successful without proper integration with local transport, yet no integrating programmes are accounted for in costings.

4. Debt—the ignored issue

4.1 It is not clear how the DfT proposes to handle the debt element of the project. In HS1, the Department assumed that it would not be required to honour its guarantee at the inception of the project. This was not a correct assumption. The Department appears to making the assumption again that money is free and unencumbered by future obligations.

4.2 Exhibit 3 shows a possible cashflow for HS2. The average surplus cashflow from 2043 is £425 million on the 2011 figures (2009 money).

²⁹ 2009 figure are used as the detail is available; the profile in 2011 costs will be similar but 8.9% higher per year.

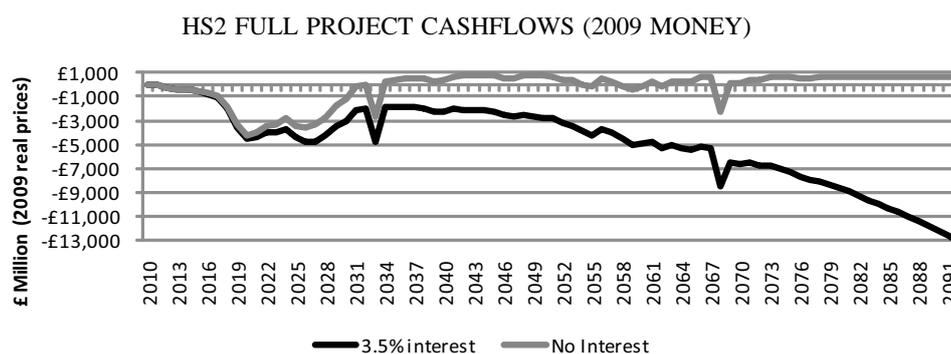
4.3. HS2 cannot cover the debt interest—so an interest-free subsidy will be needed. Even with interest paid from general taxation, HS2 would still “owe” c £20 billion by 2092 (in 2009 money).

4.4 What has happened to the HS1 debt that was written out of accounts but still exists? A similar situation might apply to HS2.

4.5 Even if debt is apparently written off in 2035 and vanishes from the HS2 Limited accounts, the increased national debt remains.

4.6 If a pension fund bought the revenues in 2043 (as with HS1), they might pay £8 billion requiring a £76 billion debt write off (assuming 3.5% debt interest). This would be only £8.7 billion in 2011 money.

Exhibit 3



5. Demand

5.1 A key factor in the planning of HS1 and the subsequent problems has been the weak demand relative to both the proposer and the DfT models. In HS2’s case, very high demand is being forecast.

5.2 The January 2012 documents (without any background spreadsheet release to date) assume 270,000 passengers a day travelling to and from London (up from 240,000 assumed in 2011 projections) and add a further 100,000 passengers travelling on the HS2 “network” between the few other destinations.

5.3 This demand forecast uses the outdated, but still current, PDFH 4.1 equation. This is known to over forecast the demand for long-distance journeys by 34%. This is a very similar error to HS1 forecasts.

5.4 HS2 demand projections depend on a sustained GDP per capita growth of 1.91% with no recessions from 2011 to 2037.

5.5 *HS2’s business case requires about 93 million leisure passengers per year and 28 million business passengers. This indicates a range of between 121 million and 128 million passengers annually by 2037, compared with the HS1 figure of under 10 million annually between three capital cities.*

5.6 If demand fell by 34%, the BCR of the Y-case (excluding economic benefits) could fall to 0.81 from 1.78. This is a 2011 figure. As the BCR is significantly worse on 2012 figures, the project fails all normal tests.

5.7 The definitive research available on global HSR demand forecasts indicates that as yet no project has ever met its projections. The numbers have been consistently inaccurate by an average of 51.4%.ⁱⁱ

5.8 The research upon which DfT guidance for projecting costs is based, also proscribes the use of reference class forecasting as the most effective method for controlling what are often wildly inflated demand forecasts. This has not been undertaken by the DfT. A reference class would position HS2 demand projections in the context of its nearest comparables, such as the most recent HSR projects in Spain, Portugal, and of particular similarity, the Netherlands. The last has recently been “bailed out” by Dutch taxpayers to avoid bankruptcy.

5.9 In reality no demand model can be sufficiently robust or realistic in the absence of the primary determinant, price. HS1 tickets average a minimum 20% premium. Due to HS2’s greater costs, its premium is likely to be higher. Depending on yield management techniques, tickets are likely to be prohibitively expensive for much of the population.

6. Wealth and benefits

6.1 The GDP growth rate is one line on one sheet of the complex HS2 Ltd calculations. Yet this line governs the entire viability of the project.

6.2 The benefits are mostly intangible time savings and these increase markedly as passengers get richer.

6.3 The HS2 business passengers need to become four times richer due to the steady 1.91% rise in GDP of average salaries. In 2009 money, by 2092 a HS2 passenger will earn around £250,000: a £272,000 salary in

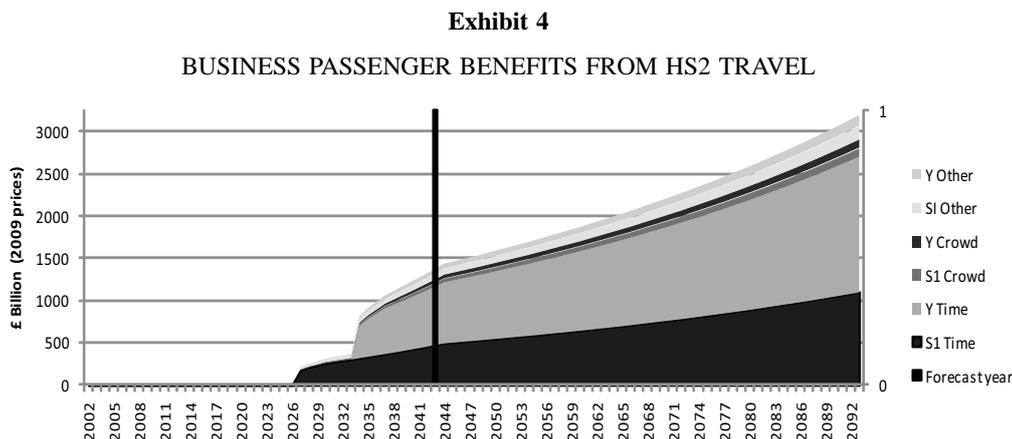
2011 terms. Note that major demographic changes after 2050 make any forecasts, already unreliable, purely speculative.

6.4 Average UK income will need to be £114,093 in 2011 money to make HS2 work financially.

6.5 If the value of time was kept constant from 2011, the BCR becomes 0.89.

6.6 If passenger numbers also fall by 34% (because demand is fuelled by GDP growth): the BCR is 0.41.

6.7 Exhibit 4 shows the pattern of benefits in real 2009 money forecast from HS2 on the 2011 detailed forecast.



6.8 DfT’s own analysis show the 51 million “Optimised Alternative” would represent a minimum of three times better value for money than HS2.

6.9 A key component of the BCA is the quantification of WEIs, however such benefits are particularly subject to uncertainty, difficult to monetise and therefore vulnerable to distortion and manipulation.

6.10 Agglomeration benefits, for example, are assumed as constant when in fact studies show that such benefits are decreasing due to the advent of web technology, which can act as a proxy or substitute for geographic agglomeration.

6.11 Negative economic impacts are not factored into the BCA. Examples are 1. those impacts suffered in areas directly along the route, 2. competitive disadvantage that arises in cities not served by HSR. Much of the economic activity attributed to HSR is in fact not new, endogenous growth but merely relocated businesses from neighbouring cities and towns. In other words, for each city directly advantaged by HSR, there will be neighbouring cities whose growth rates are more likely to decline. 3. Disruption caused by construction, some of which will spur permanent resettlement patterns.

6.12 There is no tangible evidence that HS2 would aid economic growth. No evidence exists for HSR reducing the North-South divide. Globally, only very immediate areas around HSR stations have enjoyed tangible benefits in the form of increased retail activity serving passengers and property development, but again, much of the associated activity is merely displaced from elsewhere.

6.13 The disbenefit of delaying congestion relief until 2026 is not accounted for.

CONCLUSIONS

The mistakes made that accounted for the dismal financial outcome of HS1 are being repeated in planning HS2, but on a far larger scale. To be financially viable, HS2 is far more dependent on achieving the forecasts of demand, which were grossly overestimated for HS1 and have been shown to be consistently inflated in virtually all HSR projects worldwide.

The costs associated with HS2 are such that the project poses a significant risk to DfT balance sheets, which will inevitably lead to reduced resources being available for other projects, many of which would in fact represent far higher value for money. This danger was one of the main reasons for the Eddington Report’s recommendation that HSR be rejected in Britain. The Transport Select Committee echoed this concern, and called for the government to demonstrate that HS2 proceeding would not be at the expense of improvements to the rest of the network. The government, in its response, was unable to make any such assurances. Beyond transport, there are other policy areas and departments that could institute economic growth stimulus initiatives for similar or lesser sums and whose impact would be immediate. The diversion of enormous sums to a high risk, low return project would be difficult to justify at any time; at a time when it means forgoing opportunities to induce immediate growth and thus reduce government debt, it must be strenuously challenged.

NOTE: the authors are happy to provide verbal evidence if required.

REFERENCES

ⁱ B Flyvbjerg, M Garbuio, D Lovallo. “Delusion and Deception in Large Infrastructure Projects: Two Models for Explaining and Preventing Executive Disaster” *California Management Review*, Winter 2009, p. 172 <http://eureka.bodleian.ox.ac.uk/688/1/36866390.pdf>

ⁱⁱ B Flyvbjerg. “From Nobel Prize to Project Management: Getting Risks Right”, *Project Management Journal*, August 2006, p. 6 <http://flyvbjerg.plan.aau.dk/Publications2006/Nobel-PMJ2006.pdf>

6 April 2012

Written evidence from the Department for Transport

CORRECTIONS TO THE TRANSCRIPT

- **Question 28** was answered by Mike Fuhr rather than Philip Rutnam.
- The final section of the answer given by Steve Gooding to **Question 41** should read “successively 09 and 10–11” rather than “successively, 09 and 10 and 11”.
- The answer given by Mike Fuhr to **Question 90** should read “This should read a southerly route *for* what was then the Channel tunnel rail link”.
- The answer to **Question 107** should read “I have talked to David Higgins, who has recently appointed a transparency director at Network Rail” rather than “I have talked to David Higgins, who was recently appointed transparency director at Network Rail”.

HS2 CONSULTANCY COSTS

Costs incurred to date

The expenditure incurred on HS2 consultancy up to the end of March 2012 was £31.2 million.

Future planned consultancy costs

The planned consultancy costs for the remaining of the Spending Review period are:

- 2012–13—£134.9 million
- 2013–14—£139.9 million
- 2014–15—£176.0 million

HS2 DEMAND FORECASTING AND CAP YEAR

Summary

1. The economic case for HS2 Ltd assumes that demand for long distance rail travel saturates at roughly double the level observed in 2008; this is described as the “demand cap”. As a consequence of changing assumptions regarding the economy, fuel prices, competition from other modes, service levels (on HS2 and “classic” rail) etc, the point in time at which demand is assumed to saturate varies between updates to the economic case for HS2.

2. The two most significant influences on the demand cap have been:

- March 2010—February 2011: Significant downward revisions to GDP forecasts following the recent economic crisis. These pushed the point at which demand saturates *further* into the future; and
- February 2011—January 2012: Updating the base forecast year to reflect significant increases in long distance rail demand that had already by then taken place. This reduced the amount of growth required to meet the demand cap and hence moved the point at which demand saturates *closer* to the present.

Background

3. This note sets out the nature of the HS2 demand cap before describing the economic forecasts and other major assumptions that have affected the demand cap through successive iterations of the economic case for HS2.

Table 1
CHANGES TO THE HS2 DEMAND CAP

<i>Date</i>	<i>Release</i>	<i>Cap Year</i>
Mar 2010	High Speed Rail: Command Paper	2033
Feb 2011	High Speed Rail: Investing in Britain's Future—Consultation	2043
Jan 2012	High Speed Rail: Investing in Britain's Future—The Government's Decisions	2037 ³⁰

The Approach to Capping Demand

4. Given the uncertainty about long-term demand growth, we have taken the decision to place a cap on growth. We have used a cap level, rather than assuming demand will stop growing at a specific time, as we think that is probably closer to how market saturation might work in practice. The level we have chosen is to cap demand growth at the point at which long distance rail demand reaches roughly double the level seen in 2008.

5. We think this is a prudent assumption. Even though the key drivers of demand such as population, employment and GDP are forecast to continue growing beyond that point, by de-linking these drivers from rail demand we assume no further growth in rail travel beyond that point, and this provides us with a consistent starting point from which to assess both HS2 and the potential alternatives.

6. In undertaking updates to the economic case, changes may need to be made to these input assumptions, such that *either* rail demand is projected to grow faster than previously and the demand cap reached sooner, *or* growth is slower and the demand cap is reached later.

The Economic Case for HS2

7. The demand forecasts prepared by HS2 Ltd are based on the Passenger Demand Forecasting Handbook (PDFH) methodology recommended in DfT guidance. They distinguish between the impact of influences outside the direct control of the rail industry (income, employment, population, competition) and those within its sphere of influence (journey times, capacity, punctuality etc.) The demand cap applies to the net impact of those influences outside the control of the rail industry, known as “background growth”.

8. The PDFH methodology also distinguishes between the impacts of individuals becoming more wealthy (measured by GDP per capita) and increases in the number of individuals (measured by population). While population forecasts have changed relatively little between updates of the economic case for HS2, the economic outlook has varied considerably. Chart 1 demonstrates the GVA/capita inputs used in the economic case for HS2.

³⁰ A technical issue was subsequently identified which would bring this forward by two years to 2035.

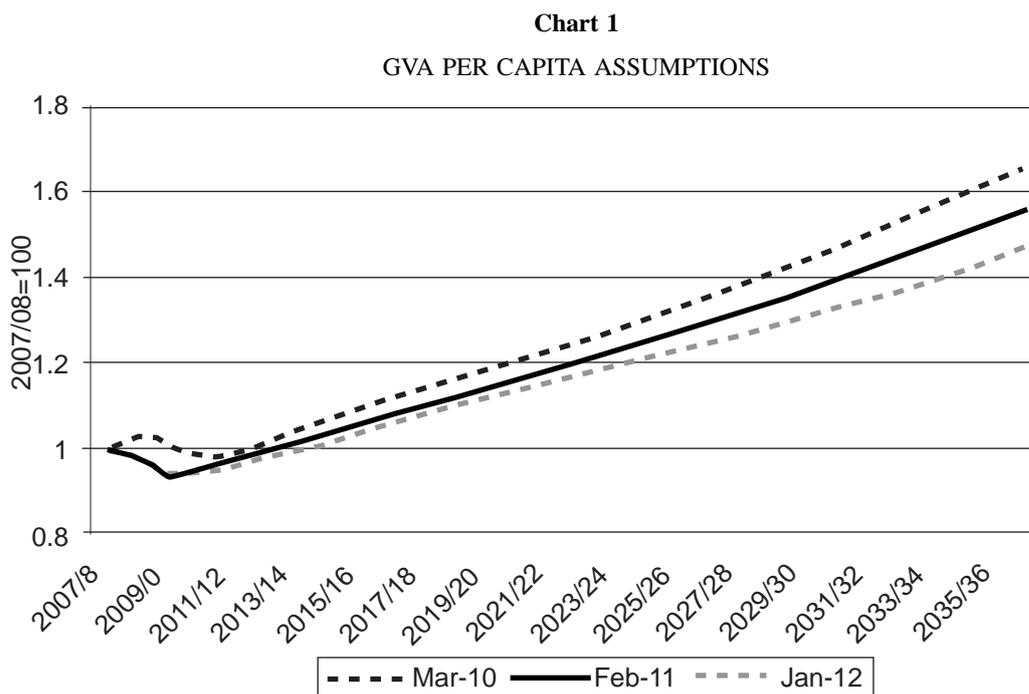


Chart 1: GVA per capita assumptions
Source: See 'additional information' below

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9. Between March 2010 and February 2011 projections of GDP per capita fell by a total of 5.5% over the period to 2032–33. At the same time forecasts of employment growth were downgraded and assumptions regarding fares were amended to reflect changes to fares policy (moving from RPI + 1% to RPI + 3% for three years). The net impact of all changes to assumptions was to suppress the rate of background rail demand growth so that the demand cap was met in 2042–43.

10. Between February 2011 and January 2012 the economic outlook was further downgraded. All other things equal this would suggest slower rail passenger demand growth and hence imply that the demand cap would be met much later than 2042–43. Over the same period, however, HS2 Ltd implemented a range of other updates, the most significant of which involved updating the year from which their forecasts were based.

11. The economic case for HS2 published in February 2011 predicted a significant fall in rail demand as a consequence of the economic crisis. In practice this was not observed and rail demand (particularly long-distance rail) continued to grow over the period 2008–11 (see chart 2). Indeed, one third of the growth previously forecast to occur on the West Coast main Line between 2008 and 2043 was achieved between 2008 and 2011. By increasing the number of trips in the base year there is subsequently less growth needed to reach an approximate doubling of 2008 demand. This feature of the January 2012 update is a major contributor to the revision of the demand cap to 2036–37 (amended to 2034–35 in April 2012).

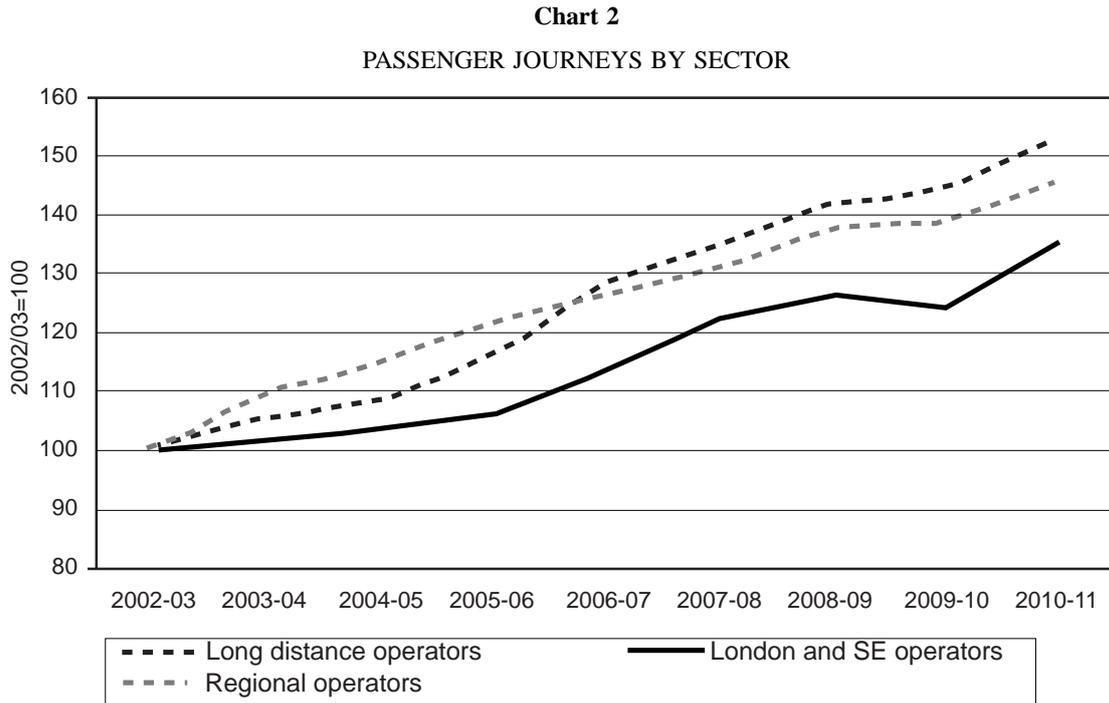


Chart 2: Passenger Journeys by Sector
Source: National Rail Trends, ORR

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Additional Information

12. The source of the figures provided in chart 1 is summarised in table 2 below.

	<i>Short-run</i>	<i>GDP</i> <i>Long-run</i>	<i>Population</i>
March 10	HM Treasury (Apr 09)	HMT trend growth (Apr 09)	OEF and TEMPRO v5.4
February 11	Office for Budget Responsibility (Jun 10)	HMT long-run projection (Jun 10)	OEF and TEMPRO v5.4
January 12	Office for Budget Responsibility (Apr 11)	OBR Fiscal Sustainability Report (Jul 11)	OEF and TEMPRO v6.2

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