Briefing Update September 2013:

Public Accounts Committee Report

High Speed 2: a review of early programme preparation - Public Accounts Committee

The Rt Hon Margaret Hodge MP, Chair of the Committee of Public Accounts, today said:

"The Department for Transport has yet to present a convincing strategic case for High Speed 2.

"It has not yet demonstrated that this is the best way to spend £50 billion on rail investment in these constrained times, and that the improved connectivity will promote growth in the regions rather than sucking even more activity into London.

"The pattern so far has been for costs to spiral - from more than £16 billion to £21 billion plus for phase one – and the estimated benefits to dwindle.

"The Department has been making huge spending decisions on the basis of fragile numbers, out-of-data data and assumptions which do not reflect real life, such as assuming business travellers do not work on trains using modern technology.

"As usual with NAO reports, the Department had agreed the facts in the report as accurate before publication. However, as soon as the report was published, the media reported unnamed departmental sources as claiming that it contained errors and was based on out-of date analysis. These claims were quite unfounded.

"The Department has ambitious and, in our view, unrealistic, plans for passing the Bill for High Speed 2. The timetable is much tighter than for either High Speed 1 or Crossrail, despite the fact High Speed 2 is a much larger programme.

"In my Committee's experience, not allowing enough time for preparation undermines projects from the start. A rushed approach contributed to the failure of the InterCity West Coast franchise award.

"The Department has increased its High Speed rail team, but getting the right mix of skills is challenging and the Department lacks the commercial skills necessary to protect taxpayers' interest on a programme of this size."

Margaret Hodge was speaking as the Committee published its 22nd Report of this Session which, on the basis of evidence from the Department of Transport, examined the early preparation of the High Speed 2 programme.

1 **In January 2012 the Department announced its decision to proceed with High Speed 2**; the proposed Y-shaped high speed rail network linking London, the West Midlands and the North of England. Phase one, from London to Birmingham, is due to open in 2026 and phase two, from Birmingham to Leeds and Manchester, is due to open in 2033. The indicative budget for the network has now been increased to £42.6 billion plus £7.5 billion for rolling

stock. The Department is advised and assisted by HS2 Limited, a company that is wholly owned and funded by the Department. The Department plans to present the High Speed Rail Hybrid Bill, required to provide the necessary powers to construct and operate the line, to Parliament by the end of 2013, with the aim of receiving Royal Assent by the end of March 2015.

2 **The Department has not yet presented a convincing strategic case for High Speed 2.** The Department has yet to demonstrate that this is the best way to spend £50 billion on rail investment in these constrained times; that this is the most effective and economic way of responding to future demand patterns, that the figures predicting future demand are robust and credible and that the improved connectivity between London and regional cities will enhance growth and activity in the regions rather than sucking more activity into London.
Recommendation: The Department should publish detailed evidence which clearly shows why it considers High Speed 2 to be the best option for increasing rail capacity into London, improving connectivity between regional cities and rebalancing the economy.

3 **So far the Department has made decisions based on fragile numbers, out-of-date data and assumptions which do not reflect real life.** The overall budget for phase one, including all contingency, has risen from £16.3 billion to £21.4 billion. The Department has set HS2 Limited a target cost to deliver phase one of £17.16 billion. The estimated economic benefits have gone down, in part due to an error by consultants in 2010 when they double-counted expected benefits worth nearly £8 billion. On top of that we have concerns that the Department's calculation of benefits for business travellers is based on out-of-date survey information which is more than ten years old. It assumes business travellers cannot and do not work on trains using modern technology. Furthermore, the business case does not include a complete cost for the impact of disruption, for example, to local businesses during construction.
Recommendation: The Department's decision on phase two, due by the end of 2014, should be based on a business case for the Y-network prepared using up to date information and realistic assumptions, particularly on the benefits to business travellers.

4 **The programme's large contingency appears to be compensating for weak cost information.** The Department is 95% confident that it will stay within the £42.6 billion indicative budget it has agreed with HM Treasury for the full Y-network (excluding the £7.5 billion cost of trains). This figure includes £14.4 billion (a third of the total budget) for contingencies, although even this large contingency would not cover significant changes in scope, such as new stations or tunnels. The Department has allocated a higher level of contingency for phase two because its cost estimates are not as developed as those used in phase one.

Recommendation: The Department should allocate its contingency allowance to specific risks to the programme to justify the large amount it has set aside for unexpected costs. It should also set out the processes it will use to keep tight control over the use of the contingency allowance.

5 **The Department's aim to present the Hybrid Bill by the end of 2013 is ambitious and its timetable for receiving Royal Assent by the end of March 2015 appears to be**

unrealistic. The Department's timetable for planning and passing the Bill for High Speed 2 is significantly shorter than either High Speed 1 or Crossrail, even though it is a much larger programme. In our experience, not allowing enough time for preparation undermines projects from the start, something that was evident in the Department's rushed approach that contributed to the failure of the InterCity West Coast franchise award. The Department assesses that costs will grow by between £7 million and £10 million for every month of delay. Given the scale of this programme and the extremely challenging timetable, we remind the Accounting Officer that he has a responsibility to advise ministers on whether the work needed for both the Hybrid Bill and the programme as a whole can be delivered to the required quality within the existing timetable.
Recommendation: The Accounting Officer should assure himself and advise ministers on whether the Department and HS2 Limited can deliver both the Bill and the programme as a whole within the set timetables and to a high standard.

6 **The Department has a shortage of the commercial skills it needs to protect taxpayers' interests on a programme of the scale of High Speed 2.** The Department has significantly increased its high speed rail team with, at the time of our hearing, some 70 staff in post out of a target of 100. However, getting the right mix of skills is challenging and the Department has identified that it has a shortage of major projects expertise. This expertise is vital if it is to ensure that relationships and roles between the Department, HS2 Limited, and the many consultancies supporting the programme, are crystal clear.

Recommendation: The Department should set out how and by when it will secure the right level of resources and mix of expertise to enable it to oversee a programme of this magnitude, and challenge HS2 Limited and its contractors effectively.

Summary

The Department for Transport (the Department) has not yet presented a convincing case for the now £42.6 billion investment it is proposing to invest in High Speed 2. The estimates of costs and benefits are still far from finalised and the pattern so far has been for costs to increase and benefits to decrease. The Department's timetable for preparing and passing the legislation needed to build and operate the line appears unrealistic and overly ambitious, which raises concerns about the quality of the Department and HS2 Limited's preparation work, including the route design. The Department's shortages in major projects skills and commercial expertise to oversee the programme add to the growing risks facing the efficient and effective delivery of this major project.

When the C&AG's report on High Speed 2 was published, the media reported unnamed departmental sources as claiming that it was based on out-of-date analysis and contained errors. These claims were unfounded as the Department had agreed the facts in the report as accurate before publication. Manufactured public disagreements are not in the interest of transparency as they undermine effective accountability and hinder constructive public debate on High Speed 2.

Conclusions and recommendations

1. In January 2012 the Department announced its decision to proceed with High Speed 2; the proposed Y-shaped high speed rail network linking London, the West Midlands and the North of England. Phase one, from London to Birmingham, is due to open in 2026 and phase two, from Birmingham to Leeds and Manchester, is due to open in 2033. The indicative budget for the network has now been increased to £42.6 billion plus £7.5 billion for rolling stock. The Department is advised and assisted by HS2 Limited, a company that is wholly owned and funded by the Department. The Department plans to present the High Speed Rail Hybrid Bill, required to provide the necessary powers to construct and operate the line, to Parliament by the end of 2013, with the aim of receiving Royal Assent by the end of March 2015.

2. The Department has not yet presented a convincing strategic case for High Speed 2. The Department has yet to demonstrate that this is the best way to spend £50 billion on rail investment in these constrained times; that this is the most effective and economic way of responding to future demand patterns, that the figures predicting future demand are robust and credible and that the improved connectivity between London and regional cities will enhance growth and activity in the regions rather than drawing more activity into London.

Recommendation: ***The Department should publish detailed evidence which clearly shows why it considers High Speed 2 to be the best option for increasing rail capacity into London, improving connectivity between regional cities and rebalancing the economy.***

3. So far the Department has made decisions based on fragile numbers, out-of-date data and assumptions which do not reflect real life. The overall budget for phase one, including all contingency, has risen from £16.3 billion to £21.4 billion. The Department has set HS2 Limited a target cost to deliver phase one of £17.16 billion. The estimated economic benefits have gone down, in part due to an error by consultants in 2010 when they double-counted expected benefits worth nearly £8 billion. On top of that we have concerns that the Department's calculation of benefits for business travellers is based on out-of-date survey information which is more than ten years old. It assumes business travellers cannot and do not work on trains using modern technology. Furthermore, the business case does not include a complete cost for the impact of disruption, for example, to local businesses during construction.

Recommendation: ***The Department's decision on phase two, due by the end of 2014, should be based on a business case for the Y-network prepared using up to date information and realistic assumptions, particularly on the benefits to business travellers.***

4. The programme's large contingency appears to be compensating for weak cost information. The Department is 95% confident that it will stay within the £42.6 billion indicative budget it has agreed with HM Treasury for the full Y-network (excluding the £7.5 billion cost of trains). This figure includes £14.4 billion (a third of the total budget) for contingencies, although even this large contingency would not cover significant changes in scope, such as new stations or tunnels. The Department has allocated a higher level of contingency for phase two because its cost estimates are not as developed as those used in phase one.

Recommendation: ***The Department should allocate its contingency allowance to specific risks to the programme to justify the large amount it has set aside for unexpected costs. It should also set out the processes it will use to keep tight control over the use of the contingency allowance.***

5. The Department's aim to present the Hybrid Bill by the end of 2013 is ambitious and its timetable for receiving Royal Assent by the end of March 2015 appears to be unrealistic. The Department's timetable for planning and passing the Bill for High Speed 2 is significantly shorter than either High Speed 1 or Crossrail, even though it is a much larger programme. In our experience not allowing enough time for preparation undermines projects from the start, something that was evident in the Department's rushed approach that contributed to the failure of the InterCity West Coast franchise award. The Department assesses that costs will grow by between £7 million and £10 million for every month of delay. Given the scale of this programme and the extremely challenging timetable, we remind the Accounting Officer that he has a responsibility to advise ministers on whether the work needed for both the Hybrid Bill and the programme as a whole can be delivered to the required quality within the existing timetable.

Recommendation: ***The Accounting Officer should assure himself and advise ministers on whether the Department and HS2 Limited can deliver both the Bill and the programme as a whole within the set timetables and to a high standard.***

6. The Department has a shortage of the commercial skills it needs to protect taxpayers' interests on a programme of the scale of High Speed 2. The Department has significantly increased its high speed rail team with, at the time of our hearing, some 70 staff in post out of a target of 100. However, getting the right mix of skills is challenging and the Department has identified that it has a shortage of major projects expertise. This expertise is vital if it is to ensure that relationships and roles between the Department, HS2 Limited, and the many consultancies supporting the programme, are crystal clear.

Recommendation: ***The Department should set out how and by when it will secure the right level of resources and mix of expertise to enable it to oversee a programme of this magnitude, and challenge HS2 Limited and its contractors effectively.***

1 Strategic objectives and estimated benefits

1. In January 2012, the Department decided to proceed with a high speed rail network from London to the West Midlands, Manchester and Leeds. Its objectives for the line (High Speed 2) are to increase rail capacity to meet growing demand, encourage regional economic growth and reduce carbon emissions. Trains are expected to run at up to 225 miles an hour and the Department estimates there will be 270,000 passenger journeys a day to or from London on High Speed 2 by 2037, plus additional trips between the other places on the network.

2. The Department expects that the construction of phase one will be publicly funded. It has not yet decided how the line will be operated, but predicts that it will run at a surplus, with revenue exceeding operating costs. Construction is planned to begin in 2016 or 2017, but this depends on the High Speed Rail Hybrid Bill, required to build and operate the line, gaining Royal Assent by the end of March 2015. On the basis of a Report by the Comptroller and Auditor General, we took evidence from the Department for Transport on its preparations for High Speed 2.

3. The Department told us that its first objective for High Speed 2 is to relieve a shortage of capacity on the West Coast Main Line, which it forecasts will have reached full capacity by the mid-2020s. The Department anticipates that unless capacity is increased, commuters will not be able to get onto trains to travel to London at stations on the southern half of the line and inter-city travellers will be deterred from travelling by rail. The Department considers that the most effective way to increase capacity is to build a new railway line and that when doing so it makes sense to make it high-speed as the extra benefits are large and the additional costs are modest. The Department also expects phase two, from the West Midlands to Manchester and Leeds, to relieve pressure on the East Coast Main Line.

4. The Department told us that, while recognising that the cost of building a new line is significant, it is looking to maximise benefits from the line for the whole country through improved connections, regional economic growth and regeneration. We questioned the Department about the impact of the line on regional economies, in particular, on whether high speed rail tends to pull economic activity to the capital city because, for example, companies no longer need branch offices. The Department and HS2 Limited stated that there is good evidence that intermediate stations in particular can benefit from development if this is well planned. They pointed to Lyon Part-Dieu station and Lille as being examples of the development that high speed rail can bring.

5. The Department has not conducted a detailed study looking at whether local infrastructure projects might deliver additional rail capacity into London, improve connectivity and assist with regional economic growth sooner and more cost-effectively than High Speed 2. The Department's conclusion that High Speed 2 is the best option for meeting its strategic objectives was based on two studies by its consultants, Atkins, and a joint study by Atkins and Network Rail on alternative

options. Some alternatives looked at in these studies had better cost-benefit ratios than High Speed 2 but fewer wider economic benefits. The Department told us that the rail industry is generally supportive of High Speed 2 but we note it has an interest in High Speed 2 going ahead as it will benefit from work developing, building and running the network.

6. The Department's estimates of costs have gone up while expected benefits have gone down. Some of the reductions in estimated benefits are as a result of mistakes made by industry consultants working for the Department and HS2 Limited. For example, in 2010 double-counting during modelling work by Atkins led to the economic benefits of High Speed 2 being over-estimated by £8 billion. The realism of the current estimates of costs and benefits are also open to question, for example, the Department has not included the full cost of disruption from construction to businesses around Euston station in its business case.

7. The majority of the forecast transport benefits in the economic case for High Speed 2 are expected to be denied from journey time savings for business travellers because their time is valued over five times that of other passengers. This is high compared to some other countries where business travellers' time it is valued at three or four times that of other travellers. The Department's estimate of the value of business travellers' time is based on survey data of incomes which is over 10 years old. The Department told us that it expects to have an up-to-date value for business travellers' time for the next High Speed 2 business case, due in the autumn of 2013.

8. The Department uses a range of simplifying assumptions to estimate time saving benefits, including an assumption that travellers do not work on trains. This is absurd given the advances in technology and the improvement in facilities in trains. The Department is looking at improving its methodology in this area, but told us that it has not yet found a way to improve on the methods it uses, which it considers to be on a par with international best practice.

9. Up to and including its revised economic case published in August 2012, the Department used the Passenger Demand Forecasting Handbook version 4.1 as its source for the relationships between demand and other factors, such as changes in GDP growth. It will use version 5 to prepare the business case due in autumn 2013. Version 5 was developed in 2009 by a council with members from industry and government. In version 5 passenger numbers are not expected to grow by as much when GDP increases, as was expected in the previous version. There is therefore uncertainty on whether the forecast growth in passenger demand on which the High Speed 2 case is based remains valid.

2 Estimating and controlling costs

10. The estimated costs of High Speed 2 have increased substantially. This is due, in part, to more detailed information being available as the route design develops and to changes in scope. When the public was consulted in 2011 on the strategic case for High Speed 2, the estimated cost of phase one in the consultation documents was £16.8 billion. The phase one cost estimates increased by £2.1 billion between February 2011 and August 2012. On 26 June 2013 the Department announced an indicative budget for phase one of £21.4 billion.

11. The plans for Euston station provide an example of how cost estimates have increased. The cost estimate has risen by £400 million from £1.2 billion in January 2012 to £1.6 billion in 2013, even though the proposed scheme is now simpler as it no longer involves demolishing the entire station and rebuilding it with the platforms at a lower level. The changes in the plan for Euston are due in part to a greater understanding of the effects of trying to keep the station open during construction. In HS2 Limited's view the £400 million under-estimate was a reflection of the level of the design at the time rather than a mistake by Arup, who advised HS2 Limited on the Euston cost estimates. The largest three cost increases on Euston station are due to: additional allowances for continuing operations (£205 million), increased unit rates (£205 million) and increased contractors' set-up costs (£280 million).

12. The Department's indicative budget for the full Y-network, including phases one and two, is now £42.6 billion compared to £32.7 billion in January 2012. Neither of these figures includes the cost of rolling stock, which the Department estimates will be £7.5 billion. The £42.6 billion includes £14.4 billion contingency, a third of the overall budget.

13. The Department told us that the contingency for phase one is based on a sophisticated quantified risk assessment carried out by some of the world's leading engineering consultancies. The Department is 95% confident that it can deliver within the indicative budgets for both phases given the levels of contingency it has included. It had lower levels of confidence in its previous estimates. Despite the huge contingency provision, the indicative budget does not, however, allow for any major changes in scope, for example, those that may be required by Parliament such as route changes or additional stations.

14. The Department has set a target cost for HS2 Limited for phase one of £17.16 billion, which includes contingency of around 10%. The Department told us that the actual cost will depend on the incentives it puts in place for HS2 Limited and the contractors that work on High Speed 2, and the controls it places around releasing contingency.

15. HS2 Limited has spent about £185 million on consultants to date, mostly on the development of phase one, including the route design and the environmental statement. It expects to have spent just over £500 million on consultants by the end of March 2016. Its main consultants are its development partner, CH2M Hill, and its professional services consultants.

---

3 The Department's role in overseeing High Speed 2

16. The Department plans to begin construction of phase one in 2016 or 2017. This depends on it presenting the Hybrid Bill to Parliament by the end of 2013 and it receiving Royal Assent by March 2015. The Department told us that preparing for the Hybrid Bill is a huge undertaking and that there are factors outside its control that may prevent it being presented on time. Even if the Bill is presented by the end of 2013 the Department accepts that receiving Royal Assent by March 2015 depends on how Parliament deals with the Bill. HS2 Limited told us that, subject to gaining Royal Assent to the Hybrid Bill in March 2015, it is confident that phase one will open in 2026. The Department estimates that each month of delay to the date of Royal Assent would increase costs by around £7 million to £10 million.

17. The Department's timetable for planning and passing the Bill for High Speed 2 is significantly shorter than either High Speed 1 or Crossrail, even though it is a much larger programme. The Department's own documents set out that the tight timetable for introducing the Hybrid Bill to Parliament increases risks relating to managing opposition to the scheme, including obtaining access for land surveys, and of legal challenge.

18. The Department has reorganised its high speed rail team, appointing a Director General for High Speed Rail, who is also the senior responsible owner of High Speed 2. The Department has increased his team to include three directors, with a target size for the team of 100. It currently has 70 staff in post but expects to increase this to 80 by the end of July 2013. The Department admitted that it continues to face a challenge in making sure that it has the right mix of skills, particular commercial and major projects expertise. It told us that its administrative costs limit is key to ensuring that it has adequate resources to deliver not just High Speed 2 but also its other major programmes such as Thameslink. It is in the process of finalising this costs limit with HM Treasury.