House of Commons

Committee of Public Accounts

Lessons from major rail infrastructure programmes

Twenty-eighth Report of Session 2014–15

Report, together with the formal minutes relating to the report

Ordered by the House of Commons to be printed 12 January 2015

HC 709
Published on 16 January 2015
by authority of the House of Commons
London: The Stationery Office Limited
£0.00

Committee of Public Accounts

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The current staff of the Committee is Sarah Petit (Clerk), Claire Cozens (Committee Specialist), James McQuade (Senior Committee Assistant), Sue Alexander and Jamie Mordue (Committee Assistants) and Janet Coull Trisic (Media Officer).

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Summary

The Department for Transport is responsible for a number of ambitious, expensive transport infrastructure programmes including the planned High Speed 2 programme. We are not convinced that these programmes are part of a clear strategic approach to investment in the rail network. In particular, recent proposals for a railway connecting cities in the north of England—a possible High Speed 3—suggest that the Department takes a piecemeal approach to its rail investment, rather than considering what would benefit the system as a whole and prioritising its investment accordingly. The Department told us it will deliver the full High Speed 2 programme within its overall funding envelope of £50 billion. However, this funding includes a generous contingency and we are concerned that, without appropriate controls, it could be used to mask cost increases. When it comes to the wider regeneration benefits, insufficient planning meant that regeneration benefits in Ebbsfleet did not flow from High Speed 1 as expected. Although the Department told us that it has learned and is applying these lessons on High Speed 2, it needs to set out clearly who is responsible for ensuring that benefits are realised, and how that work will be coordinated.

Introduction

Over the last 20 years the Department for Transport has overseen several large rail infrastructure programmes through which it aims to improve services to the public. We have reported on five such programmes over the last decade or so: the modernisation of the West Coast Mainline and the Channel Tunnel Rail Link (now known as High Speed 1), which are now complete; Crossrail and Thameslink which are under construction; and High Speed 2, which is being planned. The programmes are all expensive—costing between £3.6 billion for Thameslink and up to £50 billion for both phases of High Speed 2. They also take a long time to complete, with some taking nearly 30 years from planning to completion, and construction alone taking up to 10 years. The Department has faced a number of issues during its sponsorship of these programmes, such as setting out a clear case for investment, planning effectively, and evaluating and realising programme benefits. The Department is currently looking at further rail infrastructure programmes, including possible routes linking cities in the north of England, currently referred to as High Speed 3, and Crossrail 2.

Conclusions and recommendations

1. **The Department still lacks a clear strategic plan for the rail network, and it is unclear how the Department makes decisions about which programmes to prioritise for investment.** The Department acknowledged that one project can have an impact on other projects and routes, so it follows that programmes should be considered together. However, it did not provide a clear explanation for why an assessment of a high speed rail line between cities in the north of England (so-called High Speed 3) was not carried out before High Speed 2, to test whether improving connectivity in the north was a greater priority. We are also concerned that the Department continues to have a narrow geographical focus. For example, the Department is still to publish proposals for how Scotland will benefit from High Speed 2, including whether the route will be extended into Scotland.

   Recommendation*: The Department should set out a long term strategy covering the next 30 years for transport infrastructure in the UK, and use this strategy to inform decisions about investment priorities.*

2. **We remain concerned about the Department's ability to deliver on time and budget.** On some past programmes, including modernisation of the West Coast Mainline and Thameslink, the Department has needed to extend timescales and alter its approach to bring programmes back on budget and schedule. We also saw academic research which showed that the cost of delivering a kilometre of railway in the UK is higher than in other countries, and the Department acknowledges that it may be possible to make faster progress and considerable savings by adopting construction techniques used overseas. The Department acknowledges that good planning and preparation determine success on major programmes and there are some signs that this lesson is being applied. For example, the Department told us that

it is applying the governance structures used on Crossrail to High Speed 2, including the separation of the Department's role as sponsor from the delivery role of HS2 Limited. HS2 Limited is recruiting the people who will build the railway now, earlier than has been done on other programmes, and has appointed a Chief Executive for Construction from Network Rail. While we recognise the importance of good preparation, we note that the scale of expenditure on High Speed 2 before the High Speed Rail Bill has been passed is unusually large.

Recommendation*: The Department should apply learning from its previous projects and from overseas to speed progress and improve value for money to all projects it sponsors, including High Speed 2.*

3. **We are sceptical about whether the Department can deliver value for money for the taxpayer on High Speed 2.** The Department told us that it is confident that it will deliver phase one of High Speed 2 within its available funding of £21.4 billion. However, the Department has included a generous contingency within that amount to give it 95% certainty that it can deliver within the available funding. Value for money will depend not only on the programme coming in within its funding, but also on the use of contingency funds being properly controlled. The Department is less confident about current cost estimates for phase two of High Speed 2 because it is at an earlier stage of development. Nonetheless, it told us that it will complete the whole of High Speed 2 within the overall funding envelope of £50 billion. This is despite the complexity of the programme, and uncertainty around, for example, future construction inflation. The Department and Transport for London used various means including a supplement to business rates in London to help pay for Crossrail. However, even though regional economic growth is one of the objectives of High Speed 2, from which businesses will presumably benefit, the Department considers that such measures to reduce the burden on the general taxpayer are not appropriate for High Speed 2.

   Recommendation*: The Department should set out how it will control use of contingency on High Speed 2 and other projects, to provide assurance that generous contingency funds will not be used to hide cost overruns.*

4. **There is a risk that industry does not have the capacity to deliver all current and proposed programmes.** David Higgins, the Chair of HS2 Limited, has stated his belief that High Speed 2 and High Speed 3 can be built at the same time. The Department, however, told us that it would need to carry out further work to establish whether this was feasible. One of the challenges in delivering multiple programmes is whether there are the skills and capacity to do so both within government and industry. The Department is taking steps to increase its own capacity and capability to sponsor programmes, and it told us that the most acute skills shortage facing the rail industry is in signalling.

   Recommendation*: The Department should work with industry and with other departments responsible for major infrastructure programmes to understand gaps in industry capacity, and put in place plans to manage any gaps to ensure all programmes can be delivered on schedule and within budget.*

5. **The Department has a long way to go to prove that it is being more active in realising benefits from major programmes.** There was insufficient planning for regeneration at Ebbsfleet in Kent, and the expected substantial economic benefits have not been delivered, despite High Speed 1 construction being completed seven years ago. The Government is only now putting in place an urban development corporation at Ebbsfleet to rectify this. The Department told us that it has learnt and is applying this lesson on High Speed 2, and that it has accepted 18 of the 19 recommendations of Lord Deighton's Growth Task Force for High Speed 2. The Department sees it as the role of local authorities to use their existing powers and budgets to plan for development around proposed High Speed 2 stations, although it told us that it is looking into establishing an organisation to work with local areas on this. However, we remain concerned about the scale of action and resources the Department is dedicating to secure regeneration benefits from this £50 billion programme.

   Recommendation*: The Department should set out who is responsible for ensuring that benefits are realised, and how that work will be coordinated.*

1 Planning for rail investment

1. Over the past 20 years or so the Government has overseen several major programmes to improve UK rail infrastructure and deliver improvements in transport benefits. Over the last few years we have taken evidence on the Department's sponsorship of five of these programmes: the modernisation of the West Coast Mainline and the Channel Tunnel Rail Link (now known as High Speed 1), which are now complete; Crossrail and Thameslink which are under construction; and High Speed 2, which is being planned. These programmes include both new lines and upgrades to existing lines and are all expensive. Costs range from £3.6 billion for Thameslink and up to £50 billion for both phases of High Speed 2. These rail infrastructure programmes also take a long time to complete, with some taking nearly 30 years from planning to completion, and construction alone taking up to 10 years.

2. The Department has faced a number of issues during its sponsorship of these programmes. For example it faced challenges such as setting out a clear case for investment, planning effectively, and evaluating and realising programme benefits. The Department is currently looking at further possible rail infrastructure programmes. These include proposals for new routes to including another new high speed line to link cities in the north of England, currently known as High Speed 3, and Crossrail 2, which would be a new underground line running north to south through London. On the basis of a Report by the Comptroller and Auditor General, which brought together lessons from these programmes, we took evidence from the Department for Transport on the steps it is taking to apply these lessons.[1]

3. The Department told us that it is a "long-term planning business" and that in rail it is important to have a portfolio of short, medium and long-term programmes to achieve its objectives. The Department provided the Committee with examples of work that is being carried out across the network in addition to its major programmes, such as electrifying lines in the north of England and buying new trains for the East Coast Mainline as part of the Intercity Express Programme. However, it did not point to a clear strategic vision for the railway, and did not provide a clear explanation for how it prioritises programmes in which it invests.[2]

4. We were concerned about the extent to which the Department appears to treat rail programmes for particular routes in isolation from each other. The Department is now putting together a report about options for a high speed line between cities in the north of England (currently known as High Speed 3), but it appeared to us that High Speed 3 could have been considered alongside High Speed 2, which is well into the detailed planning phase. The Department explained that with High Speed 2 it has been focusing on the key north to south routes that it claims are close to full capacity and that, on the West Coast Mainline, traffic and passenger volumes having trebled since completion of the West Coast Mainline modernisation programme. However, the Department could not fully explain why it had not considered High Speed 3 before, or at least alongside, High Speed 2—

1 C&AG's Report, *Lessons from major rail infrastructure programmes*, Session 2014-15, HC 267, 29 October 2014

2 Qq 18, 19, 30-31

despite High Speed 3 having the potential to reduce demands on routes between the north and south, and those demands having been relevant to the business case for HS2. The Department acknowledged that there are interdependencies between different programmes, and that there is the potential for one project to impact on another, requiring the Department to revisit and review the benefit-cost ratios of its programme.[3]

5. The Department is only now—with preparations for High Speed 2 well underway—working with the Scottish Government and HS2 Limited on the question of whether or not the route should be extended to Scotland and, if not, how Scotland may benefit from the new railway. The Department was hoping to have the results of its appraisal of a range of options in the summer of this year, but that has now been delayed.[4]

6. We are pleased to see that the Department is now focusing on its role as sponsor of its major rail programmes, rather than the deliverer, and that it is putting similar governance arrangements in place on High Speed 2 to those on Crossrail. However, we have reported before on the capability of the Department to effectively sponsor its programmes.[5] The Department told us that it understands the need to increase its capability, and provided some examples of steps it has taken in this regard.[6] For example, it has set up a team to look specifically at joining up the infrastructure, rolling stock and operational elements of its rail programmes in major parts of the country.[7] The Department also told us that it is recruiting from the industry and has recently recruited staff from Network Rail and a train operating company. In addition, it has started a commercial fast-track scheme with which it aims to train graduates in the commercial skills the Department needs.[8]

7. With several rail infrastructure programmes either underway or proposed, the engineering industry also needs to have the skills and capacity required to build them all in a similar timeframe. Sir David Higgins, the Chair of HS2 Limited, has suggested that High Speed 2 and High Speed 3 could be built at the same time. When we asked whether the Department agreed with Sir David, it told us that it would need to carry out further work to establish whether it was feasible.[9] The Department told us that the area in which there is the scarcest resource is in signalling a crucial element of rail programmes.[10]

3 Qq 34, 73, 85, 100-101

4 Qq 115-130

5 Committee of Public Accounts, *High Speed 2: a review of early progress*, Session 2013-14, HC 478, 9 September 2013, paragraph 18, page 12

6 Q 102

7 Qq 96-97

8 Qq 49, 110-112, 161

9 Qq 98-99

10 Q 102, 107

2 Delivering value for money

8. Several of the Department's past projects have taken longer than was originally planned, partly in order to control costs. For example some major work on the West Coast Mainline modernisation programme was delayed by 18 months, and phase two of the Thameslink programme was extended by three years.[11]

9. The Department acknowledged that good planning and preparation determine success on major programmes, and told us that this is its current focus on High Speed 2. The Department expects that Royal Assent on the Hybrid Bill for phase one of the programme will now be achieved by December 2016. At the time of our September 2013 report *High Speed 2: a review of early programme preparation*, the Department was aiming to achieve this by March 2015. According to the Department, the revised timescale will allow it to get the planning right, and it still expects to begin construction in 2017 and complete phase one by 2026.[12]

10. The Department told us that it is important that HS2 Limited takes the time to get the planning right and does not rush towards the procurement and construction phase. It told us that it is taking steps to bring forward some activities that would normally take place once Royal Assent has been achieved to help get the programme ready for construction. For example, the Department and HS2 Limited are putting in place legal agreements now, which will set out the respective roles of the two organisations and establish the basis for how the Department will hold HS2 Limited to account. In addition, HS2 Limited has appointed a Chief Executive in charge of construction and is recruiting people for the construction phase of the programme. The Department explained it is taking these steps at an earlier stage than it did on Crossrail.[13]

11. The Department told us that it is confident that it will deliver phase one of High Speed 2 within its available funding of £21.4 billion and that it will complete the whole of High Speed 2, including buying the trains, within the overall funding envelope of £50 billion set by the Chancellor. £21.4 billion includes the generous contingency of £4-5 billion and we are concerned that the contingency has been pre-empted before construction has even started. The Department also acknowledged that there is currently less certainty about the costs on phase two. In addition, High Speed 2 is a highly complex programme, but the Department told us it is confident that it has taken account of challenges, such as the risk of flooding on the water courses that the route passes through.[14]

12. The Department's budget for High Speed 2 has a generous contingency, which the Department told us is based on an assessment and quantification of risks to the programme. This includes provision for likely inflation which is based on the Treasury's guidance on the rates to apply. However, construction costs can increase more quickly than general inflation. When the National Audit Office reported on High Speed 2 in 2013,

11 C&AG's report, para 4.3

12 Q 3; Committee of Public Accounts, *High Speed 2: a review of early progress*, Session 2013-14, HC478, 9 September 2013

13 Qq 41-49

14 Qq 54, 62-66

the Department estimated that phase one would cost between £15.4 billion and £17.3 billion.

13. The Department has now revised the budget for phase one and considers that it is 95% likely that it will deliver phase one within the allocated £21.4 billion of funding. The earlier cost estimates were set with a 50% likelihood that the programme would be delivered within the available funding. To achieve this increased confidence, the Department increased the required contingency provision by between £4 billion and £5 billion. The Department told us that it is not assuming that it will spend all its contingency, but that it has already spent some on, for example, concessions made to petitioners to the Hybrid Bill.[15]

14. We have seen academic research by the Omega Centre for Mega Projects in Transport and Development—part of University College London—which suggested that the cost of delivering a kilometre of railway varies significantly from country to country. The research stated that the cost per kilometre of the Channel Tunnel Rail Link was much higher than the Valence-Marseille line in France and the Köln-Rhein line in Germany. The Department told us that it is interested in learning from construction techniques that are used overseas to reduce costs, and it cited examples from France such as the laying of tarmac along the route of the new railway to make it easy for lorries to bring supplies to build the next section of railway.[16]

15. In addition to funding from the general taxpayer, the Department and Transport for London used various means, including a supplement to business rates in London, to help pay for Crossrail. However, the Department told us that the benefits from Crossrail are concentrated in London, and that a rate supplement to reduce the burden on the general taxpayer would not be appropriate for High Speed 2, because the benefits are spread very widely. However, economic benefits, from which businesses will presumably benefit, remain central to the rationale for High Speed 2. The Department did accept that there may be potential to raise some private finance for some elements of the programme such as development around stations.[17]

16. Economic benefits and regeneration have been central to the objectives of a number of the programmes we have looked at before; High Speed 1, Crossrail and High Speed 2 in particular. Seven years after High Speed 1 was completed there has been good progress in regenerating areas around King's Cross and Stratford. The Department conceded that there had been insufficient planning for benefits from High Speed 1 Ebbsfleet in Kent, which was one of the main areas where substantial benefits were expected. It also acknowledged that there had been very little progress in Ebbsfleet and that it would have liked to have seen regeneration there much earlier.[18] The Department told us that the government is now putting in place an urban development corporation at Ebbsfleet, and

15 Qq 50-72; Committee of Public Accounts, *High Speed 2: a review of early progress*, Session 2013-14, HC478, 9 September 2013, paragraph 13 and Q 40

16 Qq 69, 157-160; http://www.omegacentre.bartlett.ucl.ac.uk/studies/cases/hsr-ctrl_2.php

17 Qq 145-151

18 Qq 73-4, 84, 146; C&AG's report, figure 2

there is also a mayoral development corporation planned for Old Oak Common, which is on the Crossrail route.[19]

17. The Department has accepted 18 of the 19 recommendations of Lord Deighton's Growth Task Force for High Speed 2, which emphasised the need for a more active approach to make sure that regeneration happens. The Department is currently considering how to take these recommendations forward.[20] The Department sees it as the role of local authorities to use their existing powers and budgets to plan for development around proposed High Speed 2 stations. However, it also told us that it is looking into establishing an organisation to work with local areas on, for example, land assembly and specialist planning around the stations to drive the regeneration. So far, however, on a £50 billion programme, the Department has earmarked only £2.5 million of funding to support local areas. This funding will go to Birmingham and Solihull to help them plan for development around stations.[21]

19 Q 83

20 Q 74

21 Qq 79-81, 73-74

Formal Minutes

Monday 12 January 2015

Members present:

Mrs Margaret Hodge, in the Chair

Mr Richard Bacon	Meg Hillier
Guto Bebb	Stewart Jackson
Mr David Burrowes	Dame Anne McGuire
Stephen Hammond*	Austin Mitchell
Chris Heaton-Harris	Stephen Phillips

Draft Report (Lessons from major rail infrastructure programmes), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 17 read and agreed to.

Conclusions and recommendations agreed to.

Summary agreed to.

Resolved, That the Report be the Twenty-eighth 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.

[Adjourned till Wednesday 14 January at 2.00pm

* *Stephen Hammond was not a Member of the Committee when it took evidence in relation to this Report.*

Witnesses

Monday 10 November 2014

The following witnesses gave evidence. Transcripts can be viewed on the Committee's inquiry page at www.parliament.uk/pac.

Philip Rutnam, Permanent Secretary, Department for Transport, **David Prout**, Director General, High Speed 2 Group, DfT and **Clare Moriarty**, Director General, Rail Executive, DfT Q1–168

Published written evidence

The following written evidence was received and can be viewed on the Committee's inquiry web page at www.parliament.uk/pac. LRP numbers are generated by the evidence processing system and so may not be complete.

1 Civil Engineering Contractors Association (LRP0001)

2 Department For Transport (LRP0002)

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.

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