House of Commons

Committee of Public Accounts

Network Rail's 2014–2019 investment programme

Ninth Report of Session 2015–16

HC 473

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The Committee of Public Accounts

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Summary

The Department for Transport (the Department), Network Rail and the Office of Rail and Road (ORR) agreed an unrealistic programme of rail investments for 2014-2019. The programme contained too much uncertainty around the costs of many large projects when it was signed off. Since then Network Rail's work has cost more and taken longer than expected. We are concerned that the ORR, Network Rail's regulator, lacks the capability to robustly scrutinise Network Rail's plans and cost estimates. The severity of the planning and budgeting failures is especially clear in the programme to electrify the Great Western Main Line from London to Cardiff, which is now expected to cost up to £1.2 billion more than the £1.6 billion estimated only a year ago.

We make clear our substantial concerns in this report. We also look forward to Sir Peter Hendy's detailed review into how the investment programme can be delivered.

Introduction

Based on government requirements for the rail network, Network Rail sets out the work it will carry out in five yearly cycles. The Office of Rail and Road reviews these 5-year programmes, including the expected costs. In October 2013 the Department for Transport, Network Rail and the ORR agreed a £38.3 billion rail spending programme covering the period from April 2014 to March 2019. This spending included enhancements to the rail network, renewals of worn-out equipment and the costs of maintenance and operations. This report focuses primarily on the £12.8 billion plan for enhancements, of which 52% was at an early stage of development, with highly uncertain costs at the time the overall programme was agreed.

In September 2014 Network Rail was reclassified as a public sector body, with a government loan facility capped at £30.3 billion for the 2014–2019 period, which will be used to pay for enhancements and to refinance existing debt. Previously Network Rail borrowed from the financial markets, supported by government guarantee. It did not have a fixed limit on the amount it was permitted to borrow under the old arrangements.

In June 2015 the Government, concerned that the programme of work was costing more and taking longer than planned, announced three reviews into Network Rail and rail infrastructure investment. One of these, led by Sir Peter Hendy, the new chairman of Network Rail, is looking at how the enhancements programme can be put back on a sustainable footing.

Conclusions and recommendations

1. **The 2014–2019 rail investment programme could not have been delivered within the budget which the Department, Network Rail and the Office of Rail and Road agreed.** Shortly before signing up to the programme, the then Chief Executive of Network Rail described it as "unbalanced and unrealistic". The scope and costs of projects making up 52% of enhancement costs (spending on improving the network), including the large electrification projects, were highly uncertain at the start of the period. The scope of electrification work on the Great Western Main Line was agreed in September 2014, at which time it was expected to cost £1.6 billion, but Network Rail now expects this programme to cost between £2.5 billion and £2.8 billion. Network Rail also committed to deliver £600 million of efficiency savings (meaning a 20% reduction in costs) in renewals work to replace worn out parts of the network such as signalling, even though it did not know how it could achieve that level of savings. To date, Network Rail has failed to deliver the target savings on renewals work. Network Rail still does not know how much more the total programme will cost.

   Recommendation: *For the next planning round for rail investment, and in all future investment planning, the Government must assure itself that its plans can be delivered. For all rail spending decisions the Department, Network Rail and the Office of Rail and Road must assess and explain how uncertainty in key projects could affect the plan's overall costs and schedule.*

2. **The Office of Rail and Road's approach to reviewing the efficiency of Network Rail's costs is unconvincing and it was not robust enough in scrutinising Network Rail's plans.** In September 2014 the ORR decided that the 'efficient cost' for the Great Western electrification programme, should be £1.6 billion. Since then the expected costs have increased by up to £1.2 billion. It is not clear whether this is due to Network Rail inefficiency, ORR lacking a full understanding of the work needed, or a combination of both. The ORR identified risks in Network Rail's plans at the start of the 2014–2019 programme, but it failed to act aggressively enough to ensure that Network Rail addressed those risks.

   Recommendation: *The Department should carry out a fundamental review of the regulator's role and effectiveness in rail infrastructure planning.*

3. **The rail investment planning and funding model is not adequate for major enhancement work such as the current electrification schemes.** Five-year funding cycles are appropriate for ongoing operations, maintenance and renewals. But they are not suitable for major investment projects, the scope and costs of which may be highly uncertain when funding is set. Network Rail and the Department have been more successful in delivering big infrastructure projects, such as Thameslink and Crossrail, when they have handled them separately from the rolling programme of five-year funding cycles. The Department told us that the current reviews of rail planning and funding were looking at this.

   Recommendation: *The Department, Network Rail and the Office of Rail and Road should put in place sharper accountability arrangements for major enhancement projects, such as the Great Western Main Line electrification. They should also agree* *principles on when it is appropriate to fund and manage these projects outside the five year rail funding cycle, and build in strong accountability mechanisms to avoid costly overruns.*

4. **Network Rail's reclassification as a public body has brought reduced flexibility to borrow to cover cost increases.** Before reclassification in 2014, Network Rail covered cost increases through borrowing from the financial markets, but now it can only borrow from government, with a loan cap of £30.3 billion. Network Rail therefore needs a much stronger focus on accurate project costing at the planning stage, and on controlling the costs of the work as it is done. Network Rail welcomed the new 'capital discipline' that should come with tighter restrictions on its ability to borrow.

   Recommendation: *Network Rail must embed much tighter project planning, costing and cost control throughout the organisation and be clearer with the Department about what can and cannot be afforded. We want to see clearer accountability for project costs and project management.*

5. **Cost increases on the Great Western Main Line electrification programme are staggering and unacceptable.** Network Rail estimates that the Great Western Main Line electrification programme will cost between £2.5 and £2.8 billion, £1.2 billion more than the £1.6 billion which the Office of Rail and Road said it should cost, a year ago. The Department could not tell us when the programme will be completed, but said that delays to the previously announced schedule, which would have seen sections completed between 2016 and 2018, were highly likely. New electric trains for the Great Western Main Line are due to be delivered from February 2018 and the Department is liable to pay for these trains whether electrification is complete or not.

   Recommendation: *The Department and Network Rail should publish an updated schedule and cost forecast for the Great Western Main Line electrification programme, a full account of what has caused the cost increases to date and proposals for controlling future costs, including the liabilities associated with the new electric trains.*

6. **Without active engagement and management of the supply chain, skills shortages in key areas pose serious risks to Network Rail delivering its plans.** The scale and volume of work planned requires a strong supply chain with enough capacity and skills, particularly in electrification where there is a shortage of skilled workers. Network Rail told us it is engaging with its supply chain to provide clarity on its work programme so that industry can invest to provide the skills needed. Network Rail told us it is also encouraging industry to take on apprentices and has a large apprentice scheme of its own. There is a real opportunity to create skilled British jobs in this sector as well as ensure delivery of important and long awaited projects. With proper planning, a skills shortage should be no excuse for delivery failure or delay.

   Recommendation: *The Department and Network Rail should publish a rail skills strategy for the industry with milestones for delivery.*

7. **There is still far too much uncertainty on costs and eventual delivery dates for the other two major rail electrification programmes in the 2014-2019 programme.** Electrification of both the TransPennine route and the Midland Main Line will now be delayed into the next five year planning period (2019–2024). TransPennine electrification could be completed by 2022, though this depends on the results of a two-year detailed design phase, and Midland Main Line is expected to be completed in 2023. Sir Peter Hendy's review of these and the other rail enhancement planned for 2014-2019, which is to be published towards the end of this year, will bring more bad news on costs.

   Recommendation: *The Department and Network Rail, drawing on the Hendy review, should publish a revised programme of rail electrification improvements, including the rationale for prioritisation between projects, with updated cost and delivery forecasts.*

8. **There is a risk that more projects will be delayed in order to balance Network Rail's budget.** Over promising what can be delivered leads to inevitable delays and cost overruns; and simply delaying projects further as a budget management mechanism is not good financial planning.

   Recommendation: *The Department and Network Rail need to have a clear and agreed public strategy about which rail projects are deliverable. Deadlines for key milestones must be clear, realistic, and transparent to passengers and the public.*

1 Planning the rail investment programme

1. On the basis of a memorandum by the Comptroller and Auditor General, we took evidence from the Department of Transport (the Department), Network Rail and Network Rail's regulator, the Office of Rail and Road (the ORR) on the planning and delivery of Network Rail's 2014–2019 rail investment programme.[1] Network Rail's work is planned in five-year programmes, starting from government requirements for the rail network. The Office of Rail and Road reviews the programme, including its expected costs. The current programme, agreed in October 2013, runs from April 2014 to March 2019, during which time Network Rail planned to spend £38.3 billion on Britain's rail infrastructure.[2]

2. The 2014–2019 plan included £12.8 billion for 'enhancements' work to improve the network, such as the electrification of the Great Western Main Line. Over half of the enhancement projects had uncertain costs when the plan was agreed. The plan also included £12.1 billion for 'renewals' work to replace worn out assets with new ones. Network Rail's ability to deliver the enhancement and renewals elements of the plan has been called into question because of cost escalations, missed milestones and poor project management. In June 2015 the government, concerned that the plan was costing more and taking longer, announced three reviews into Network Rail and rail infrastructure investment. One of these, led by Sir Peter Hendy, the new chairman of Network Rail, is looking at how the enhancements programme can be put back on a sustainable footing.[3]

3. Network Rail told us that it had made the decision to accept the regulatory settlement even though there were aspects of the 2014–2019 rail investment programme which it did not see how it could deliver. The then Chief Executive of Network Rail described it as "unbalanced and unrealistic" and the organisation did not know how it would achieve the £600 million of efficiencies on renewals outlined in the plan.[4] Network Rail still does not know how much more the programme will cost, compared to the £38.3 billion agreed at the time.[5]

4. Network Rail also told us that it only accepted the settlement because it included a mechanism which was intended to allow it to manage increases in enhancement costs by borrowing more (the Enhancements Cost Adjustments Mechanism). Early in 2014, Network Rail identified that the enhancements plan presented an 'affordability challenge' — it would not be able to carry out the planned work at the agreed cost.[6]

5. The Enhancements Cost Adjustment Mechanism was introduced because more than half of the projects the Department asked Network Rail to deliver were at a very early stage of development, and the best way to deliver them had not been decided. The Mechanism allowed the regulator to decide what a project 'ought to cost, delivered in an efficient way by an efficient company' at a later stage (the 'efficient cost').[7] The Office of

1 C&AG's Memorandum, Planning and delivery of the 2014-2019 rail investment programme, Session 2015-16, HC 473, 21 October 2015
2 C&AG's Memo pages 4, 9, 10
3 C&AG's Memo pages 3-6, 9-14, 20
4 Q 117
5 Q 42
6 Qq 52-53
7 Q 14

Rail and Road assumed that across the whole portfolio this 'efficient cost' would be higher on some projects and lower on others, which would mean that the overall portfolio of enhancements could be delivered for the allocated amount. This assumption was far too optimistic: the 'efficient cost' of electrification projects turned out to be 'systematically higher than anticipated'.[8]

6. The Office of Rail and Road told us that at the start of the 2014–2019 plan it had identified planning and cost estimation risks associated with the enhancement programme. The regulator told us that addressing these risks was so important it could have ruled that Network Rail had breached its licence to operate the rail network at the start of the planning period. In spite of this, it did not take this step until October 2015, well after the risks had materialised. It now recognises that it could have done more to ensure that Network Rail was addressing the risks it had identified, and that some have still not been addressed.[9] It told us it is now working with Network Rail to help it develop an enhancement improvement plan, which it expects will address weaknesses in Network Rail's approach to estimating costs and risks.[10]

7. We questioned whether the Office of Rail and Road's approach to reviewing Network Rail's cost estimates for enhancement projects was meaningful and added value, or whether it was too theoretical. By the time the Office of Rail and Road determined the efficient cost of Great Western electrification to be £1.6 billion, in September 2014, Network Rail had started construction activity.[11] Network Rail's current estimate of the Great Western costs is between £2.5 billion and £2.8 billion.[12] However, the Office of Rail and Road told us that its assessment of efficient cost was based on assessing what Network Rail could have done from the beginning of the programme, when Network Rail was in a position to fully survey the network and plan works accordingly.[13]

8. When the 2014–2019 plan was agreed, many of the costs within the plan were uncertain.[14] Network Rail told us that at that time 52% of all of the projects in the plan, and all of the major electrification projects, were at an early stage in the project management cycle, where scope and plans were not defined and costs were not clear.[15] Network Rail felt it had been able to deal with this uncertainty because the Enhancements Cost Adjustment Mechanism allowed for costs to be determined once the scope was clear and it was able to borrow in the financial markets to cover 'efficient' increases in these projects' costs. However, when Network Rail was reclassified as a public sector body in September 2104 it lost this flexibility as it could only borrow a capped amount of up to £30.3 billion from government (which is also used to refinance existing debt).[16] Instead, 'trade-offs have to be made if one project increases in cost'.[17]

9. Network Rail, the Office of Rail and Road and the Department all acknowledged that there could be a case for treating big enhancement projects as stand alone projects, separately from the five-year planning period. Network Rail said the five-year cycle was

8 Q 30
9 Qq 63-68
10 Letter from the Office of Rail and Road to the Committee, 23 October 2015
11 Q 39
12 Letter from Network Rail to the Committee, 19 October 2015
13 Q 120
14 C&AG Memo pages 3, 14
15 Q 50
16 C&AG Memo pages 15, 16
17 Network Rail letter to the Committee dated 2 November 2015

a good way of funding ongoing operations, maintenance and renewals but questioned its use for major projects.[18] The Office of Rail and Road told us that treating such projects separately could 'give a better, longer term focus on the delivery of those projects'.[19] The Department said that both the Bowe Review and the Shaw Review will look into lessons around planning on a five year timescale. It believes that the legislation which sets out the five year planning framework did not need to be a constraint and that its management of Crossrail and Thameslink bilaterally with Network Rail had led to a satisfactory relationship and outcomes.[20]

10. Network Rail told us that it welcomes its reclassification as a public sector body and the greater 'capital discipline' which comes with the loan cap, though 'implementing new control systems and changing behaviours is taking some time'. It said that, previously enhancement projects could start from a point of uncertainty which was then managed through market borrowing. It said that it would be far better to do upfront design, arrive at greater certainty on scope and costs and then make an informed decision as to whether the project should proceed. In its words, 'the degree of scope change and scope creep that has occurred since [2014–2019] costs were essentially frozen makes delivery within prematurely set cost constraints impossible'.[21]

18 Q 51
19 Q 114
20 Qq 127-129, C&AG's Memo page 20
21 Q 123; Network Rail letter to the Committee dated 2 November 2015

2 Programme delivery and skills

11. We heard from Network Rail that it expects the cost to electrify the Great Western Main Line route between London and Cardiff will be between £2.5 billion and £2.8 billion (in 2012 prices). In September 2014, the Office of Rail and Road determined that, done efficiently, the programme should cost £1.6 billion (in 2012 prices) — Network Rail's new estimate suggests that the cost could be £1.2 billion more than this.[22]

12. Network Rail had planned to complete electrification of the Great Western Main Line from London to Oxford and Bristol Parkway in 2016, to Cardiff in 2017 and to Swansea by 2018. The Department said that it is not currently in a position to update this schedule, but that it is highly likely that the previous schedule will not be met.[23]

13. The Department has procured new trains powered by electricity for the Great Western Main Line. These trains will be delivered from February 2018. Delays to the completion of the electrification programme will put public money at risk since the Department will have to pay to rent these trains if electrification is not completed in time. This would cost up to £400,000 per day. It told us that mitigating this risk was 'right at the top of the Department's priority list' and it is currently investigating its technical and commercial options.[24]

14. There were two other major electrification schemes in the 2014–2019 plan: the electrification of parts of the Midland Main Line and parts of the TransPennine route.[25] These were 'paused' on 25 June 2015 because of cost pressures across all three of the major electrification programmes. On 30 September 2015 the Department announced that work would resume, although they will now be completed later than originally planned. The Department expects the Midland Main Line to be electrified to Sheffield by 2023, and the TransPennine electrification project to be completed in 2022. Much of the cost will therefore fall in the next planning period, which will start in 2019. The Department told us that the TransPennine project is still at an early design stage and detailed design work will not be completed until 2017.[26]

15. Network Rail accepted that Sir Peter Hendy's review will 'undoubtedly' reveal further cost increases in the enhancement programme. It said that there were "material cost challenges" on the electrification programmes and "significant cost pressures" in the wider portfolio of projects. However, it claimed that by the end of the year (2015), it will have a "high level of confidence" in the forecast costs of its infrastructure improvement work since 85-90% of the projects will have reached a key design milestone. We intend to hold Network Rail to its claim that costs should be stable from this point.[27]

16. Network Rail has very limited recent experience in planning, costing and delivering electrification work. Since 1997 it has only electrified some 60 miles of existing track, and the plan for 2014–2019 included the electrification of 850 miles of track.

22 Qq 1-3
23 Qq 103, 105
24 Qq 43-46, 117
25 C&AG's Memo pages 6, 12
26 Qq 26-28
27 Qq 117-119

There is a recognised shortage of skilled electrification workers in the rail industry and, in 2014, Network Rail identified that these electrification plans would require twice as many skilled workers as there were in the industry at that time.[28]

17. Network Rail recognises that the industry supply chain needs clarity on future work so that it can recruit, develop and train people to develop the skills needed. It believes that it is now very clear with industry on its future work programme and that it engages closely with the supply chain and keeps them informed of developments, for example when work needs to be re-phased and industry will be impacted.[29] It agreed that it must do more to embrace innovation and new technology, but feels that it is making progress in this area.[30] It said that it encourages the supply chain to employ and develop apprentices and also has its own apprentice scheme which recruits 200 apprentices a year.[31]

28 C&AG's Memo page 14
29 Qq 57-59, 97
30 Qq 84-85
31 Qq 96-97

Formal Minutes

Monday 16 November 2015

Members present:

Mr Richard Bacon	David Mowat
Kevin Foster	John Pugh
Mr Stewart Jackson	Karin Smyth

Draft Report (*Network Rail's 2014-2019 investment programme*), 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 Ninth 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 18 November at 2.00 pm

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the Committee's inquiry web page.

Wednesday 21 October 2015

Question number

Philip Rutnam, Permanent Secretary, Department for Transport, **Mark Carne**, Chief Executive, Network Rail, and **Richard Price**, Chief Executive, Office of Rail and Road Q1-139

Published written evidence

The following written evidence was received and can be viewed on the Committee's inquiry web page. NRI numbers are generated by the evidence processing system and so may not be complete.

1 Network Rail (NRI0002)

2 Office of Rail and Road (NRI0001)

3 Department for Transport (NRI0003)

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the Committee's website at www.parliament.uk/pac.

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

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