



Annual efficiency and finance assessment of Network Rail 2014-15

16 October 2015

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Acronyms and abbreviations

Abbreviation / acronym	Meaning
AICR	Adjusted Interest Cover Ratio
AMCL	Asset Management Consulting Limited
AMEM	Asset Management Excellence Model
Arup	Ove Arup & Partners Limited
BP	Network Rail's business plan (financial implications of the delivery plan)
BTP	British Transport Police
CAM	Civils Adjustment Mechanism
Capex	Capital expenditure
CaSL	Cancellations and Significant Lateness
CP3	Control Period 3 (1 April 2004 - 31 March 2009)
CP4	Control Period 4 (1 April 2009 - 31 March 2014)
CP5	Control Period 5 (1 April 2014 - 31 March 2019)
CP6	Control Period 6 (This is likely to be 1 April 2019 - 31 March 2024)
CRI	Composite Reliability Index
CSI	Composite Sustainability Index
CSMM	Customer Service Maturity Model/Measure
DC	Direct Current
DfT	Department for Transport
DP	Network Rail's delivery plan (operational workplan of volumes & milestones)
EBSM	Efficiency Benefit Sharing Mechanism
ECAM	Enhancement Cost Adjustment Mechanism
ECML	East Coast Mainline
ECO	Electrical Control Operator
EGIP	Edinburgh Glasgow Improvement Programme
FGW	First Great Western
FIM	Financial Indemnity Mechanism
FPM	Financial Performance Measure
FTN	Fixed Telecom Network
FVA	Financial Value Added
GBP	Pounds sterling (£)
GRIP	Governance of Railway Investment Projects (how Network Rail manages projects)
HLOS	High Level Output Specification

LNE	London North East route
LNW	London North West route
MIP	Network Rail's Management Incentive Plan
NOS	Network Operating Strategy
OGC	Office of Government Commerce
ONS	Office of National Statistics
Opex	Operating expenditure
ORBIS	Offering Rail Better Information Services
ORR	Office of Rail and Road
OSTI	Other Single Till Income
P3M3	Project, Programme and Portfolio Management Maturity Model
PPM	Public Performance Measure
PR08	Periodic Review 2008 (covering CP4)
PR13	Periodic Review 2013 (covering CP5)
PR18	Periodic Review 2018 (covering CP6)
RAB	Regulatory Asset Base
RAGs	Regulatory Accounting Guidelines
REBS	Route Level Efficiency Benefit Sharing Scheme
RFOA	Rail Freight Operators Association
RM3	Railway Management Maturity Model (ORR's safety capability assessment framework)
RPI	Retail Prices Index (specifically the all items 'RPI CHAW' which includes the cost of Housing)
SBP	Network Rail's Strategic Business Plan
SCADA	Substation Control And Data Acquisition
SOMR	Support costs, network operations expenditure, maintenance expenditure and renewals expenditure
TOCs	Train Operating Companies (passenger)
TUPE	Transfer of Undertakings (Protection of Employment) Regulations

Executive summary

Introduction

1. In our 2013 periodic review (PR13) we determined the outputs Network Rail was required to deliver and the funding that we assumed the company needed for the five year period from April 2014 to March 2019 (control period 5 – CP5).

2. This 2015 publication of our annual efficiency and finance assessment reports on the main aspects of Network Rail's finances over this first year of CP5, from 1 April 2014 to 31 March 2015. It covers income and expenditure; financial performance; efficiency; route-level efficiency benefit sharing (REBS); the Regulatory Asset Base (RAB); debt, borrowing, financing costs and financial indicators. It also considers the quality of Network Rail's reporting which underpins these measures and its capability to deliver the regulatory requirements in CP5.

3. We have used some specific comparisons in this report. The expenditure and income comparisons are against our PR13 determination. We use a measure of financial performance which covers most areas of Network Rail's spend on its core business (excluding enhancements) and then make adjustments for deferrals and missed outputs to give an overview of how much it is costing to deliver its outputs compared to our PR13 determination. We also report on a measure for efficiency which covers Network Rail's expenditure on support, operations, maintenance and renewals.

4. The requirement that Network Rail now publishes information at the route level allows us to develop a more informed view of how Network Rail can deliver improved value for money for passengers and funders. Therefore, for the first time, we also consider data across the routes. This report covers Network Rail's performance across Great Britain as a whole and also looks at Scotland separately. Table 1 provides a high level summary.

5. In this document we report on some of the challenges Network Rail is facing. These issues have implications for Network Rail's plan for CP5, particularly as it is spending more money in CP5 than it originally expected and it has a fixed nominal borrowing limit with the Department for Transport (DfT), which limits its borrowing.

6. In view of those challenges, Network Rail is updating its plans for CP5. The Office of Rail and Road (ORR) is reviewing Network Rail's business plans as they develop to ensure that they are deliverable.

7. With ORR now also responsible for monitoring the strategic road network, we will, from 2015-16, be making an annual assessment of Highways England's performance.

Table 1: Summary of key financial information for Great Britain¹

£m, 2014-15 prices	2014-15			2013-14	
	Actual (A)	PR13 (B)	Variance (B-A)	Actual (D)	Variance (D-A)
Expenditure					
Network operations costs	489	445	-44	484	-5
Support costs	417	489	72	630	213
Traction electricity, industry costs and rates	561	520	-41	557	-4
Maintenance	1,186	1,143	-43	1,151	-35
Schedule 4 & 8 costs	308	217	-91	387	79
Renewals	2,949	2,625	-324	3,576	627
Enhancements	2,919	2,983	64	3,020	101
Financing costs	1,403	1,654	251	1,456	53
Corporation Tax (received)/paid	-4	4	8	-5	-1
Rebate payments ²	-	-	-	145	145
Total	10,228	10,080	-148	11,401	1,173
Income					
Franchised track access income	1,506	1,448	58	2,280	-774
Other single till income	776	800	-24	755	21
Grant income	4,164	4,137	27	3,855	309
Total	6,446	6,385	61	6,890	-444
Finance					
RAB	53,029	51,793	-1,236	50,077	-2,952
Net debt	36,505	35,393	-1,112	32,300	-4,205
DfT loan drawdown	6,450	n/a	n/a	n/a	n/a
Adjusted interest cover ratio	0.93	1.03	0.10	1.75	0.82
Gearing (net debt/RAB) ³	68.8%	68.3%	-0.5%	64.5%	-4.3%

Source: Network Rail's regulatory financial statements and our own analysis

Expenditure

8. Expenditure for Great Britain in 2014-15 compared to our PR13 assumptions and to 2013-14 is summarised in Table 1 and the variances are further explained in chapter 2.

9. Network Rail's total expenditure in 2014-15 was £10,228m, which was £148m (1.5%) more than we assumed in our PR13 determination. Of this £7,309m was spent on

¹ This table, and subsequent tables, reflects Network Rail's reclassification of some prior year expenditure in the 2014-15 regulatory accounts. This reclassification ensures that the expenditure is presented on a consistent basis with the categories as specified in the CP5 Regulatory Accounting Guidelines.

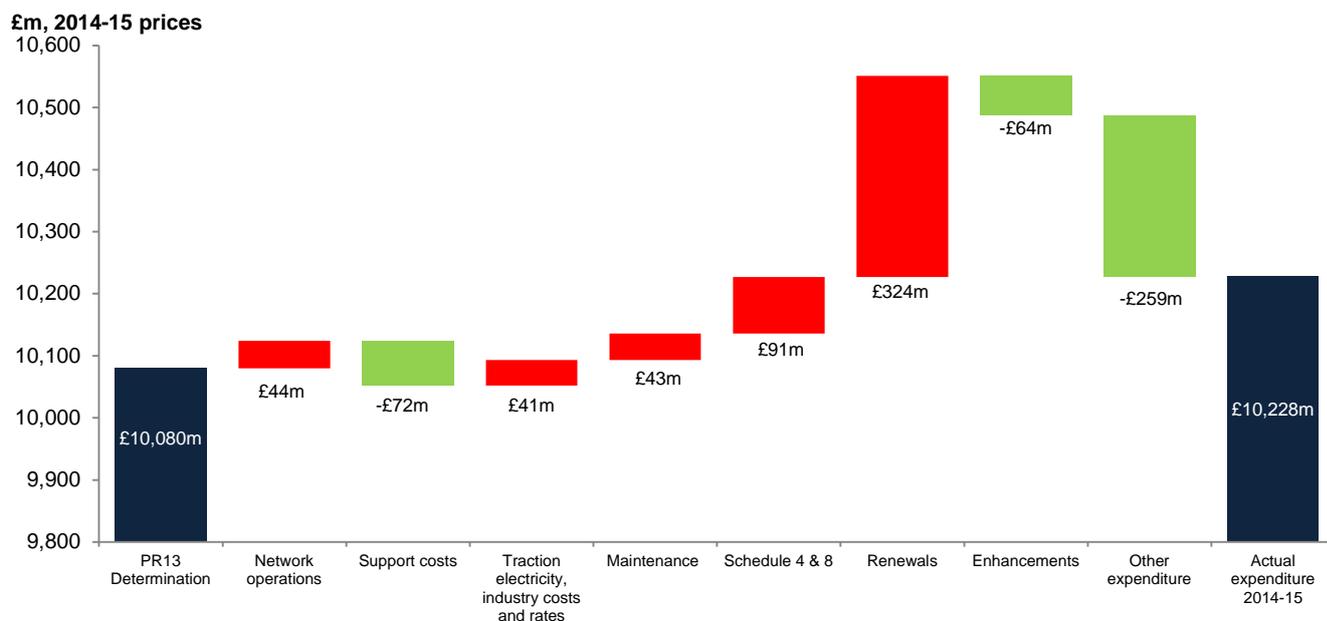
² In 2013-14, Network Rail returned money to the governments to allow them to share in Network Rail's financial outperformance of the regulatory settlement in the early years of CP4. Our [Annual efficiency and finance assessment 2013-14](#) (page 8) provides more information on these rebates. No such rebates were paid this year.

³ Note that where percentages appear in tables in this assessment, the variance shows 'percentage points', i.e. one percentage minus the other percentage, and not the proportional change.

operating, maintaining and renewing the network, schedule 4 & 8 costs and financing costs. This is £212m more than was assumed in our PR13 determination. This was mainly due to Network Rail's efficiency being lower than we assumed. At the same time many of the renewals projects not completed during CP4 continued to be worked on during this first year of CP5.

10. Network Rail spent £2,919m on enhancements to the network in 2014-15, which was £64m less than we assumed in our PR13 determination. However, the determination was a provisional sum because a number of projects were at an early stage of development at that time. We introduced the Enhancement Cost Adjustment Mechanism (ECAM) to allow the efficient funding to be determined once projects reached a more developed stage. After ECAM is complete and the PR13 baseline incorporating all of these revised assumptions is incorporated into Network Rail's regulatory financial statements, we will draw firmer conclusions on Network Rail's financial performance on enhancements.

Figure 1: Summary of expenditure variances for Great Britain compared with PR13



Source: Network Rail's regulatory financial statements and our own analysis

Note: A negative sign in the graph above denotes reduced expenditure compared to our determination

Regulatory Asset Base (RAB)

11. The Regulatory Asset Base is a key building block in our methodology for determining access charges as it forms the basis for calculating the level of allowed return and affects the allowance for amortisation within Network Rail's revenue requirement. It is our calculation of the value of Network Rail's assets.

12. In 2014-15, Network Rail's RAB in nominal terms increased from £50,077m at the end of 2013-14 to £53,029m largely due to inflation, and expenditure on renewals and enhancements. This movement of £2,952m is £1,236m higher than we assumed in our

PR13 determination largely because of an adjustment to the RAB in 2014-15 for additional capital expenditure in the last year of CP4.

Net debt and borrowing

13. In 2014-15, net debt increased by £4,205m from £32,300m to £36,505m (nominal prices). This was largely due to expenditure on renewals and enhancements. Closing net debt was £1,112m higher than we assumed in our PR13 determination, largely because the opening debt was £1,058m higher. Network Rail's borrowing from DfT in 2014-15 was £6,450m, which was in line with the annual notified amount (borrowing limit) agreed with DfT.

14. The net debt/RAB ratio, a key measure of financial sustainability for privately owned companies, was 68.8% at the end of 2014-15. This was 0.5 percentage points higher than our PR13 assumption of 68.3%.

Financial performance and efficiency⁴

15. Financial performance compares Network Rail's income and expenditure to the PR13 determination. If Network Rail can demonstrate that it has spent less whilst delivering its outputs then it can claim financial outperformance. Network Rail needs to show that it has not spent less by non-delivery of outputs or by simply deferring work or working in an unsafe or unsustainable way. If it spends more it is financially underperforming. This measure has replaced Financial Value Added (FVA), which was used in CP4.

Financial performance measure

16. Financial performance before adjusting for under-delivery of outputs is calculated by totalling Network Rail income and expenditure variances against PR13, removing those variances on categories that do not count for financial performance, removing amounts attributable to changes in timing (e.g. deferrals) and 75% of renewals and enhancements variances in accordance with our RAB roll forward policy. Finally an adjustment is then made to reflect under-delivery of outputs.

17. Financial underperformance before adjusting for the under-delivery of outputs was £386m for 2014-15 when compared with the financial assumptions underpinning our PR13 assessment of the funding Network Rail requires in CP5 (see Table 2 below).

18. Further background to the calculations and adjustments in Table 2 below is available in Annex A.

⁴ The financial performance and efficiency measures are described in Annex A. The financial performance measure encompasses most of Network Rail's activities whilst the efficiency measure focuses on the core activities that Network Rail undertakes to operate, maintain and renew the rail network.

Table 2: Financial performance measure for Great Britain⁵

£m, 2014-15 prices	Actual	PR13	Variance	FPM
Total income (from Table 1)	6,446	6,385	61	
Total expenditure (From Table 1)	10,228	10,080	-148	
Net costs	3,782	3,695	-87	
Remove variances on items excluded from FPM			-277	
Remove variances in volume of work			-689	
Final variance prior to application of the RAB roll forward policy				-1,053
Remove 75% of:				
Renewals variance ⁶	-744	x 75%	-558	
PR13 enhancements variance ⁷	-142	x 75%	-107	
				<u>-665</u>
Total financial underperformance prior to ORR adjustment				-389
ORR adjustment for alliance payments and civils volumes				<u>3</u>
Financial underperformance before adjusting for under-delivery of outputs and adjustments for other matters				-386
Adjustments for under-delivery of outputs:				
Public Performance Measures (PPM)			-70	
Cancellations & Significant Lateness (CaSL)			-21	
Missed enhancement milestones			-6	
				-97
ORR adjustment for under-delivery of outputs				<u>-1</u>
Total Financial Performance				-485

Source: Network Rail's regulatory financial statements. Note: Rows and columns may not sum due to rounding.

19. The financial underperformance was largely due to the following reasons (all the numbers quoted in paragraphs 19.a. to 19.d. appear in Network Rail's Regulatory Financial Statements: Statement 5a, see Annex A):

- a. renewals financial underperformance (£186m⁶) was mostly in track and signalling. In track, unit costs have been adversely affected by technical problems with new high output equipment and cost impacts from changes to the procurement framework;
- b. maintenance underperformance (£79m) was partly due to the Tidy Railway programme to reduce litter and clear excessive line side vegetation;

⁵ See Annex A for more information on the calculation of Finance Performance.

⁶ We make this adjustment because Network Rail is only exposed to 25% of risk in accordance with our RAB roll forward policy. So for renewals the RAB addition is £558m and the amount included in financial performance is £186m = £744m x 25%.

⁷ We make this adjustment because Network Rail is only exposed to 25% of risk in accordance with our RAB roll forward policy. So for enhancements the RAB addition is £107m and the amount included in financial performance is £36m = £142m x 25%.

- c. schedule 8 compensation payments to train operators were £105m higher than assumed in PR13 due to lower train performance; and
- d. enhancements underperformance was £47m (£36m PR13 enhancements⁷ and £11m non-PR13 enhancements) relating mainly to Thameslink (London Bridge), the Swindon to Kemble redoubling project and the Manchester Victoria redevelopment.

20. There is also a further £98m of deductions for under-delivery of regulatory output requirements that were funded in PR13. These adjustments are for unsatisfactory train performance in some areas and late delivery of some enhancement milestones and means that the total financial underperformance is £485m.

21. The financial performance measure (FPM) is a key part of Network Rail's executive bonus scheme, the Management Incentive Plan (MIP). Network Rail's Chief Executive waived any bonus after the King's Cross 2014 engineering works overruns and the Remuneration Committee concluded that as performance was significantly below the level specified in the business plan, no other executive directors would receive a bonus. Additionally, all eligible directors waived any entitlement to payments under the former Long-Term Incentive Plan.

22. Other members of staff remained eligible for bonuses, to be paid only where targets were achieved. So, the calculation of financial performance does still affect the bonuses for other staff at Network Rail and the bonuses were therefore reduced due to Network Rail not achieving a number of its targets.

Financial performance in Scotland

23. In Scotland the financial underperformance in 2014-15 was £9m. This included £5m of financial underperformance largely due to renewals and network operations expenditure being higher than we assumed and higher than assumed schedule 8 compensation payments to train operators, but partially offset by outperformance on schedule 4.

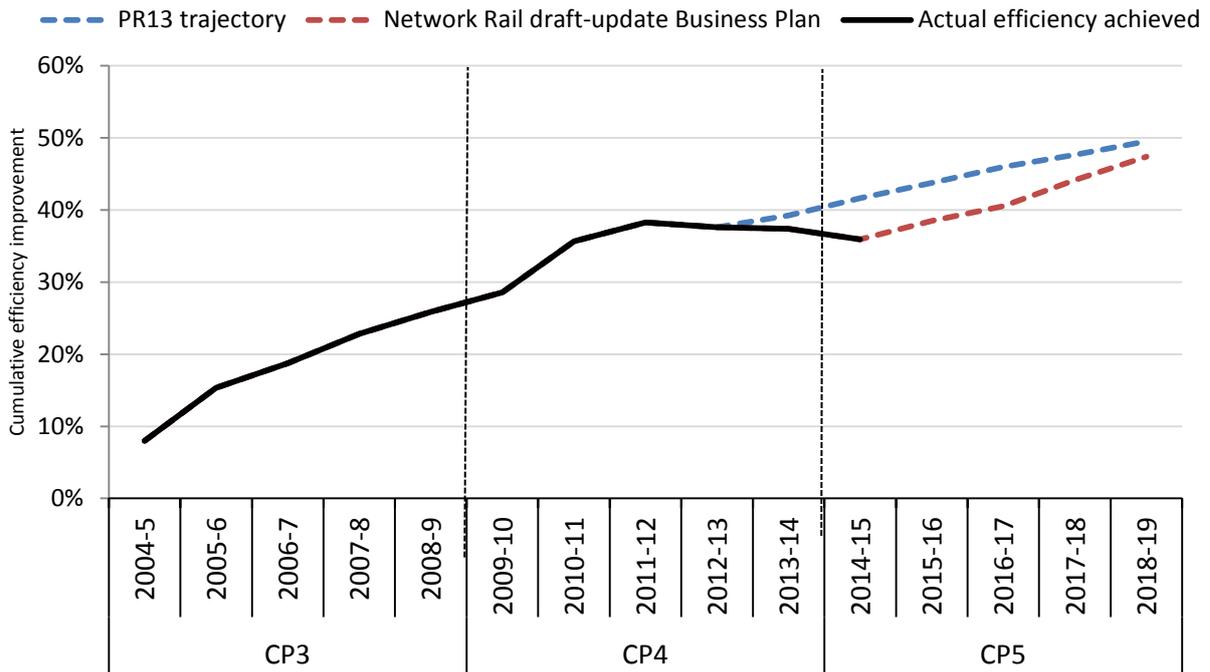
24. Our overall assessment included a further £4m of deductions for under-delivery of PR13 regulatory outputs. These adjustments were for worse train performance (90.5% PPM against a target of 92.0%) and late delivery of a key enhancement at Rutherglen & Coatbridge.

25. In 2014-15, within the Scotland network, there has been an increase in the level of ownership of finance issues and an improvement in the forecasting of the financial impacts of decisions related to the network's management and enhancement. We welcome this change but there is still more to do. We will therefore be working closely with Network Rail and Transport Scotland, to develop further improvements to financial reporting in Scotland.

Efficiency

26. As shown in Figure 2, Network Rail’s support, operations, maintenance and renewals efficiency improved considerably (by around 35-40%) over the first two control periods that the company was responsible for operating the national rail infrastructure. Network Rail now faces a significant challenge to deliver the further 19.4% efficiency savings that we have assumed it would achieve over the current control period (see PR13 trajectory in Fig 2).

Figure 2: Network Rail’s support, operations, maintenance and renewals efficiency savings for Great Britain

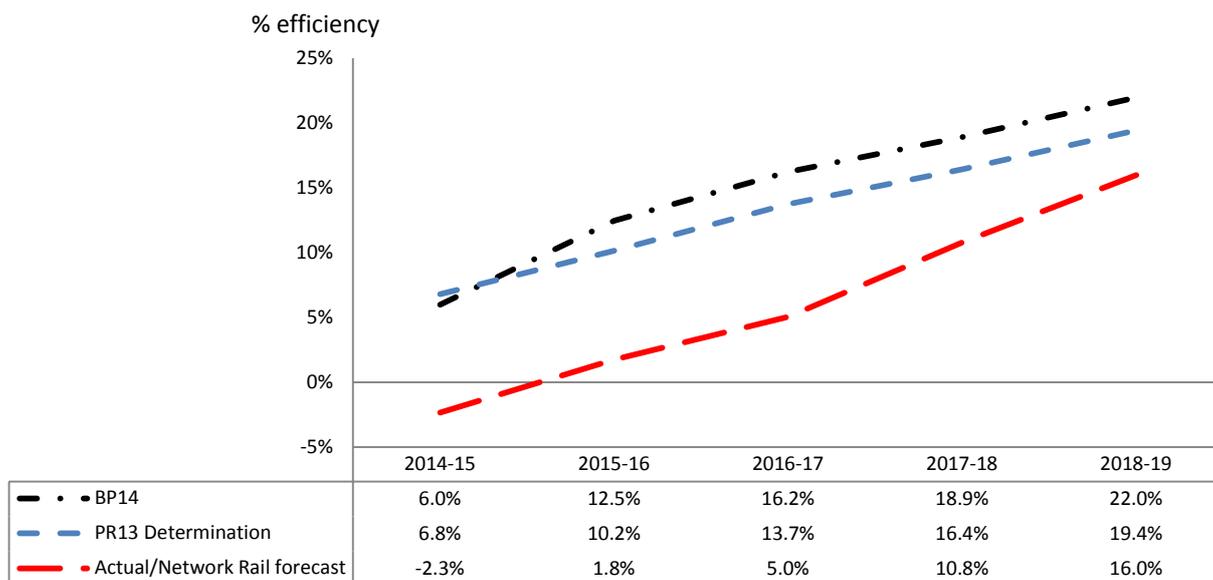


Source: Network Rail’s plans and submissions and our own analysis

Note: Our approach to measuring efficiency has changed over the period CP3 to CP5 and therefore efficiency is not directly comparable over this period

27. To achieve 19.4% efficiency in CP5, Network Rail’s 2014 Business Plan assumed lower efficiencies in 2014-15 of 6.0% compared to our assumption of 6.8%, but then projected higher efficiencies in the remaining four years, with a total over the whole of CP5 of 22.0%. However for 2014-15, Network Rail has reported an inefficiency of 2.3%, which was largely driven by the rising cost of renewals. As a result, it now expects to achieve only 16.0% efficiency in CP5, which is below our PR13 determination. These different projections are shown in Figure 3 below.

Figure 3: PR13 Determination of efficiency assumptions for CP5 and Network Rail forecasts



Source: Network Rail's plans and submissions and ORR analysis

Internal devolution

28. Network Rail has increasingly devolved operational responsibility to the operating routes in England & Wales and Scotland over the past four years. In our monitoring of Network Rail we have correspondingly increased our engagement with the company's route management teams. We welcome these changes and have had positive engagement with the route management teams.

29. We have found that the route management teams have taken on more responsibility and they are in some cases making more informed decisions as they have more autonomy to better respond to local requirements. Although Network Rail's corporate centre is still accountable for the performance of the routes, its processes for managing the business in this way are still being developed and this has led to some difficulty in coordinating the company's overall business plans.

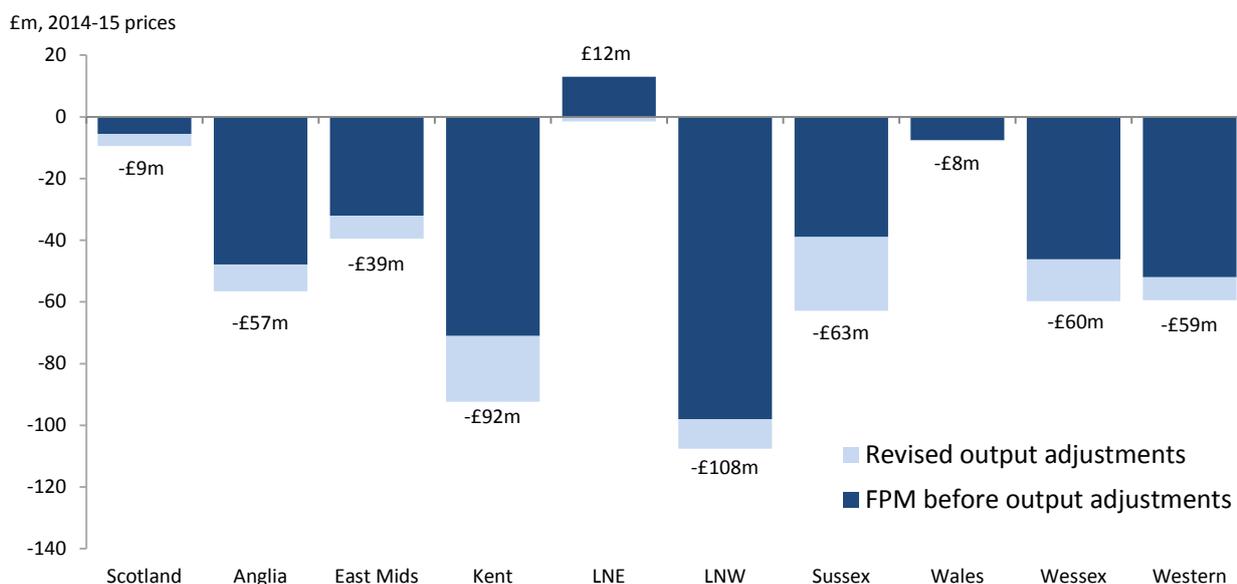
Route level financial performance

30. The chart below summarises Network Rail's financial performance across the routes. The data is not normalised to reflect differences in characteristics of routes, e.g. geography, frequency and types of services⁸. Therefore the differences in financial performance by route can in part be explained by the relative size and nature of each route. We will be developing this analysis during 2015-16.

⁸ Annex C provides some non-financial characteristics of Network Rail's routes which could be used to aid further understanding of financial performance at route level.

31. The figure below shows that there are differences in how well individual routes have responded to the challenges faced by the company in 2014-15. For example, the London North West route (largest route by train kms) had the highest level of underperformance due to issues common to all routes and the London North East route (second largest route by train kms) was the only route to outperform in 2014-15. For LNE this has largely been achieved through financial outperformance on variable income as a result of additional capacity charges as Network Rail supplied additional train paths in response to customer demand, lower schedule 4 costs from better planning of possessions and more schedule 8 income from train performance.

Figure 4: Financial performance by route in Great Britain in 2014-15



Source: Network Rail regulatory financial statements and ORR analysis

Route-level Efficiency Benefit Sharing (REBS) and alliancing

32. South West Trains was in a pain-gain sharing alliancing arrangement with Network Rail during 2014-15 on the Wessex route. The profit-sharing arrangements have ended but operational cooperation continues. Abellio ScotRail and Network Rail's Scotland route have recently announced their formation of the ScotRail alliance.

33. In CP5 we introduced the Route-level Efficiency Benefit Sharing mechanism (REBS) to encourage the train operators who are not in alliances to work together to improve productivity, reduce costs and deliver better value for its customers. This means that the operators share in the risks and rewards of parts of Network Rail's financial performance. Twelve passenger train operating companies (TOCs) were in REBS for 2014-15. In routes where Network Rail has underperformed in 2014-15, TOCs participating in REBS will make payments to Network Rail and in the route where Network Rail has outperformed TOCs will receive a payment from Network Rail.

Capability Assurance Programme

34. Network Rail has underperformed on its regulatory outputs in 2014-15. This will make it harder to deliver its regulatory requirements efficiently during the rest of CP5. Our review of Network Rail's Business Plan for 2015-16 also identified that although Network Rail had in some places more robust plans to deliver than in CP4, we were still concerned that Network Rail has not done enough to show that its plan is credible. In particular, there were some capability issues, which are affecting Network Rail's ability to deliver its regulatory requirements efficiently such as:

- a. under-delivery of work volumes in 2014-15 (which also makes it harder to deliver in the future);
- b. too much pressure on Delivery Unit resources, e.g. the vacancy rates are too high;
- c. the wider supply chain, e.g. there is currently a significant shortfall in the supply chain's ability to provide signalling resource; and
- d. asset data quality. Although some aspects of asset data quality have improved and Network Rail has met its regulatory milestones for developing systems to improve data collection and decision support through its ORBIS programme, there are still some significant issues with data quality, e.g. unclear reporting of maintenance volumes.

35. We have also reviewed Network Rail's capability against the frameworks set out in PR13, particularly for asset management and project management. We expect that these frameworks will be used at route level during CP5. In order to help ensure that Network Rail addresses the capability issues, we have set out in a letter to Network Rail the changes that we are requiring Network Rail to deliver⁹. This is called the capability assurance programme.

Changes to Network Rail's governance

36. Following a recent change to the European System of Accounts, Network Rail was reclassified from the private sector to the central government sector in the UK national accounts with effect from 1 September 2014¹⁰. Following this change, Network Rail agreed to stop issuing debt on the capital markets to fund its capital programme and instead borrows from the DfT at a commercial rate¹¹.

⁹ [Correspondence between ORR and Network Rail chief executives – capability improvement plan](#), Mark Carne (Network Rail); Richard Price (ORR), 27 July 2015

¹⁰ Office for National Statistics, [Classification of Network Rail under European System of Accounts 2010](#), 17 December 2013

¹¹ Department for Transport, [Network Rail loan agreement](#), 1 September 2014

37. The DfT borrowing facility is capped at £30,175m (revised from £30,300m)¹² for the whole of CP5, of which £3,300m relates to Scotland. Network Rail has drawn down £6,450m from this facility in 2014-15, of which £2,378m was used to pay back existing bonds and the remainder was largely used to fund capital expenditure. This was in line with the amount Network Rail told DfT that it would borrow in 2014-15.

¹² DfT subsequently provided some cash funding to Network Rail, which reduced the limit to £30,175m.

1.Introduction

Purpose of this document

1.1 The rail industry plays a key role in the British economy and society by facilitating economic growth, social connectivity and environmental sustainability, as well as providing services directly for passengers and freight customers. It is important that the industry delivers improvements in value for money to allow more of these benefits to be realised at a lower cost.

1.2 Network Rail operates and maintains the majority of railway infrastructure in Great Britain. Our annual efficiency and finance assessments of Network Rail are intended to help customers, funders and other interested parties gain a better understanding of the company's financial performance compared with our Periodic Review 2013 (PR13) determination for the period from 1 April 2014 to 31 March 2019 (control period 5, CP5)¹³, and over time.

1.3 We now require Network Rail to publish a significant amount of information on its finances and performance across the routes in its regulatory financial statements. For the first time in our document we have included a section on route-level performance, which draws out simple comparisons of financial performance and expenditure (operations, maintenance and renewals) across the routes. This is an important change as being able to better understand Network Rail's performance at a more disaggregated route level will allow us to develop a more informed view of how Network Rail can deliver improved value for money for passengers and funders.

1.4 Following our review of Network Rail's business plan for 2015-16 and its performance in 2014-15, we had some concerns with its capability to deliver its regulatory requirements efficiently. We have therefore required Network Rail to improve its capability to deliver through a capability assurance programme and in this document we outline some of our concerns.

1.5 Our assessment also takes into account our separate assessments on health and safety, and operational performance¹⁴. This is because monitoring operational performance is important in helping us to verify whether Network Rail has delivered its

¹³ One of our key roles as a regulator is to set the charges that Network Rail can levy train operators for access to this infrastructure. We do this in periodic reviews of charges (sometimes called price controls). A key element of a periodic review is the assessment of what activities Network Rail needs to undertake to efficiently operate, maintain, renew and enhance its infrastructure, and what the efficient cost of these activities should be. In doing this, we challenge Network Rail to improve its efficiency.

¹⁴ Our [2015 Health and Safety report](#) and [Network Rail Monitor](#) publications are available on our website.

obligations in return for the funding that it has received, and that the company only retains the benefit of the savings that it has genuinely achieved, which is the focus of this report.

1.6 In this document we have assessed Network Rail's financial performance in 2014-15 and we report on some of the challenging issues it is facing. These issues have implications for Network Rail's plan for CP5, particularly as it is spending more money in CP5 than it originally expected and it has a fixed nominal borrowing limit with DfT, which limits its borrowing.

1.7 Network Rail is taking account of that performance and the challenging issues it is facing in delivering its CP5 outputs in its plan for CP5, which it is updating. ORR is reviewing Network Rail's business plans as they develop to ensure that they are deliverable.

1.8 More broadly, it is important to note that this document is our assessment of Network Rail's efficiency and finance for 2014-15. This is different to the reviews that are being published in 2015-16, including the Bowe review of the planning of Network Rail's enhancement programme for 2014-19, the Hendy review of Network Rail's programme of rail investment, and the Shaw review of Network Rail's longer-term future shape and financing.

Structure of this report

1.9 Chapter 2 reports on Network Rail's expenditure, income, financial performance, efficiency, RAB, debt, borrowing, financing costs and financial indicators.

1.10 Chapter 3 presents a separate analysis for Scotland. We explain variances only where the reasons for the variances differ from that of Great Britain.

1.11 Chapter 4 presents our analysis of Network Rail's expenditure, income, financial performance, asset reliability and sustainability at a route level.

1.12 Chapter 5 presents our assessment of route-level financial performance for the Route-level Efficiency Benefit Scheme.

1.13 Chapter 6 considers Network Rail's capability.

1.14 Annex A provides further background on how we monitor Network Rail's financial performance and efficiency improvements.

1.15 Annex B provides non-financial performance information on Network Rail's routes.

1.16 Annex C provides some non-financial route characteristics.

1.17 Unless otherwise stated, all financial figures in this report are in 2014-15 prices. There might be some differences in numbers in the tables due to rounding.

2. Great Britain

Introduction

2.1 This chapter presents our analysis across Great Britain as a whole and covers:

- a. governance and funding of Network Rail;
- b. changes in presentation of financial information;
- c. expenditure;
- d. income;
- e. financial performance and efficiency;
- f. RAB;
- g. debt and borrowing; and
- h. financing costs.

Governance and funding of Network Rail

2.2 Following a decision by the Office for National Statistics, Network Rail was reclassified to the central government sector, with effect from 1 September 2014¹⁵. As set out in its framework agreement with the Department for Transport¹⁶, Network Rail may no longer borrow on the capital markets. Its sole source of new financing is a 5-year loan facility with the Department for Transport (DfT)¹⁷.

2.3 The Scottish and UK Governments agreed a Memorandum of Understanding (MoU) defining the role of the Scottish Ministers in Network Rail's governance following reclassification, in particular those areas of governance, reporting and financial management which may have a direct or indirect impact on the running of the rail network in Scotland.

2.4 Reclassification enhances the role of both the DfT and Transport Scotland. Reclassification also brings additional duties on Network Rail, such as the appointment of its Chief Executive as an Accounting Officer responsible to Parliament for the stewardship

¹⁵ Office for National Statistics, [Classification of Network Rail under European System of Accounts 2010](#), December 2013

¹⁶ [Network Rail Framework Agreement](#), September 2014. The framework agreement sets out how the DfT and Network Rail will interact in terms of corporate governance and financial management

¹⁷ [Network Rail loan agreement](#), July 2014

of public funds in accordance with Managing Public Money¹⁸. The National Audit Office will have greater access to undertake value for money studies, reporting to the Public Accounts Committee, and will be the company's financial auditor from 2015-16.

2.5 As a company limited by guarantee, Network Rail had Public Members, who undertook the "shareholder" role. On 25 June 2015, the Secretary of State made a statement to Parliament on the performance of Network Rail¹⁹. As part of that statement, he ended the role of the 46 Public Members with effect from 1 July 2015. He also appointed a new Chair (Sir Peter Hendy) and, for the first time, exercised the power to appoint a Special Director (Richard Brown) to the Board of Network Rail. The Secretary of State is the sole Special Member.

Changes in presentation of financial information

2.6 Our analysis relies primarily on information within Network Rail's 2014-15 regulatory financial statements²⁰ and our PR13 determination²¹. Where appropriate, we also draw upon other sources of information including Network Rail's delivery plan and business plan 2014 and subsequent updates, Network Rail's statutory financial statements and the conclusions of independent reporters and other sources as specified.

2.7 In this year's assessment, we split the components of the category previously known as "total controllable operating expenditure" into "network operations expenditure" and "support costs", in line with the PR13 determination. In PR13, we also renamed "Non-Controllable Operating Expenditure" as "Traction electricity, industry costs and rates" to be consistent with PR13.

2.8 Network Rail's regulatory financial statements contain some significant one-off adjustments. Some expenditure in our determination that was assumed to be a central expense, e.g. human resources costs have now been transferred to "other corporate functions" within support costs as it is now a route based cost. This means that in some places a direct comparison to our determination cannot be made. Where this is significant we have highlighted these issues and will continue to work with Network Rail to draw out these issues in its 2015-16 regulatory financial statements.

¹⁸ [Managing Public Money](#), 7 August 2015

¹⁹ [Network Rail's performance, DfT, 25 June 2015](#)

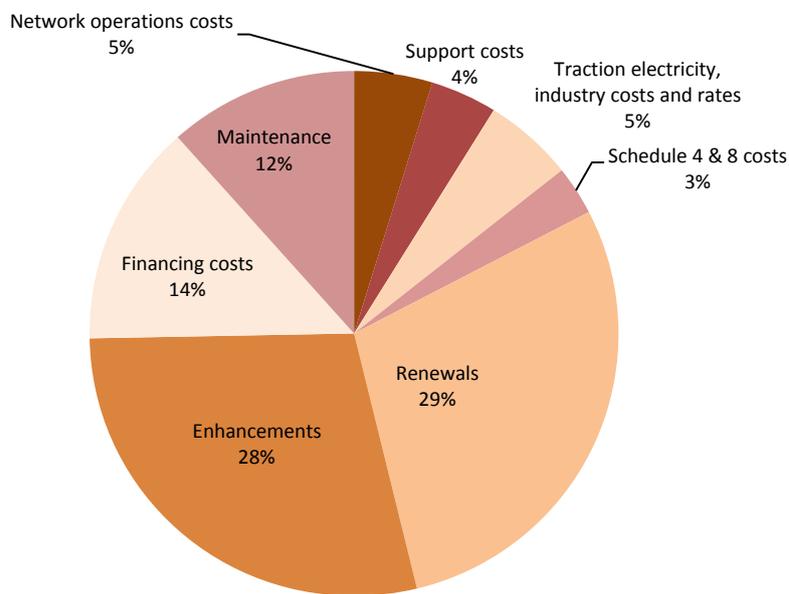
²⁰ Network Rail, [Regulatory financial statements 2014-15](#)

²¹ ORR, [Periodic Review 2013: Final determination of Network Rail's outputs and funding for 2014-19](#), October 2013

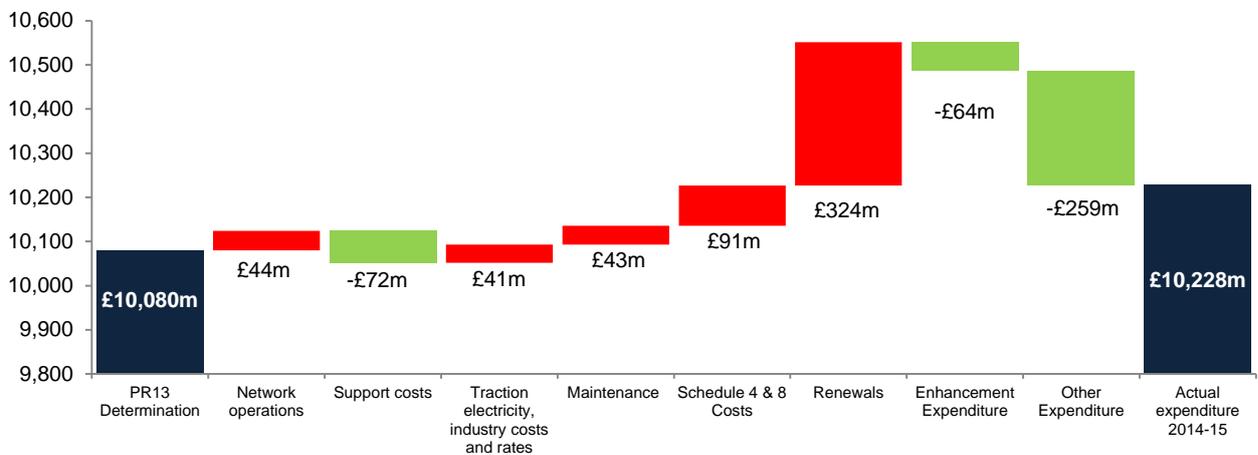
Expenditure Overview

2.9 Network Rail's total expenditure was £10,228m in 2014-15, which was £148m (1.5%) higher than our PR13 financial assumption of £10,080m. The main reason for the variance was the £324m higher expenditure on renewals, which was partly offset by £251m lower finance costs. The lower finance costs were largely because inflation on index-linked debt was lower than we had assumed in PR13. Figure 2.1 below is an illustration showing the share of expenditure for each cost category and the reasons for the variance between actual expenditure and our PR13 determination.

Figure 2.1: Great Britain, summary of expenditure and the expenditure variances compared with PR13



£m (2014-15 prices)



Source: Network Rail's regulatory financial statements

Note: The corporation tax element is £8m

2.10 We highlight below, by type of expenditure, the major variances compared to both the PR13 determination and to the prior year (2013-14).

Table 2.1: Total expenditure, Great Britain

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(B-A)	(D)	(D-A)
Operating expenditure					
Signaller expenditure	337	309	-28	330	-7
Other network operations expenditure	152	136	-16	154	2
Total network operations expenditure	489	445	-44	484	-5
Support costs (Table 2.2)	417	489	72	630	213
Traction electricity, industry costs and rates (Table 2.3)	561	520	-41	557	-4
Maintenance	1,186	1,143	-43	1,151	-35
Schedules 4 & 8 compensation payments (Table 2.4)	308	217	-91	387	79
Total operating expenditure	2,961	2,814	-147	3,209	248
Capital expenditure					
Renewals	2,949	2,625	-324	3,576	627
PR13 enhancement	2,776	2,983	207	1,601	-1,175
Non-PR13/PR08 enhancement	143	0	-143	1,419	1,276
Total enhancements	2,919	2,983	64	3,020	101
Total capital expenditure	5,868	5,608	-260	6,596	728
Other expenditure					
Financing costs (Figure 2.12)	1,403	1,654	251	1,456	53
Corporation tax (received)/paid	-4	4	8	-5	-1
Rebates	-	-	-	145	145
Total other expenditure	1,399	1,658	259	1,596	197
Total expenditure	10,228	10,080	-148	11,401	1,173

Source: Network Rail regulatory financial statements

Network operations expenditure

2.11 In 2014-15, Network Rail spent £44m (10%) more on operating the network than we assumed in our PR13 determination. This was largely because:

- a. signaller costs started CP5 7% (£21m) higher than we assumed in our PR13 determination as the efficiency initiatives that Network Rail had been planning to carry out at the end of CP4 were delayed and some Network Operating Strategy²² (NOS) schemes that were planned for 2014-15 have also been delayed;

²² The Network Operating Strategy consolidates local signalling boxes into a small number of regional operating centres.

- b. there were £9m of additional costs for operating Bristol and Reading stations that were not included in our PR13 determination. This reflected the transfer of the management of Bristol Temple Meads and Reading stations from First Great Western to Network Rail. The cost is offset by increased property income (as explained in the Other single till income section below); and
- c. higher than expected pay awards (£3m).

2.12 Compared to 2013-14, Network Rail spent £5m (1%) more on operating the network. This was largely because of the £9m additional costs for operating Bristol and Reading stations (see 2.11.b) and that Network Rail made higher than inflation pay awards (£3m). These higher costs were offset by reduced expenditure on operations projects in 2014-15.

Support costs

2.13 Table 2.2 summarises Network Rail's expenditure on support costs in 2014-15 compared to our PR13 determination and 2013-14.

Table 2.2: Total support costs, Great Britain

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(B-A)	(D)	(D-A)
Human resources	41	62	21	63	22
Safety and sustainable development	24	11	-13	15	-9
Other corporate functions	36	4	-32	28	-8
Information management	67	64	-3	60	-7
Finance	18	29	11	18	0
Accommodation	82	76	-6	78	-4
Utilities	43	43	0	46	3
Insurance	48	50	2	37	-11
Other core support costs ²³	55	64	9	65	10
Asset management services	35	43	8	46	11
Network rail telecoms	49	47	-2	50	1
National delivery service	0	6	6	3	3
Infrastructure projects	-19	0	19	-57	-38
Commercial property	-4	-3	1	25	29
Group costs	-58	-7	51	153	211
Total support costs	417	489	72	630	213

Source: Network Rail regulatory financial statements

²³ Other core support costs include: Government and Corporate Affairs, Group Strategy, Business services, and Legal.

2.14 In 2014-15, Network Rail spent £72m (15%) less on support costs than we assumed in our PR13 determination. This is largely due to the impact of one-off events and the release of accruals from the previous year that, with hindsight, were more cautious than were required and more corporate cost recharges to other parts of the business.

2.15 The variance of £19m on infrastructure projects is due to the corporate costs recharge of £19m being shown separately from where the cost was incurred. This represents the additional recharge to Infrastructure Projects compared to our PR13 determination assumptions.

2.16 A net credit in group costs of £51m includes the following one-off issues:

- a. in 2013-14, £25m was accrued to be paid to senior staff in 2014-15 as incentive payments. Overall levels of performance falling short of expectations, compared to Network Rail's CP4 Business Plan, led to Network Rail not making payments, meaning that in 2014-15 this accrual was released; and
- b. the £23m unused element of the cost included in 2013-14 for the penalties Network Rail paid for missing CP4 train performance targets, as discussed below²⁴.

2.17 Network Rail has recategorised, amongst others, the following costs:

- a. devolution of central staff and activities to routes has transferred costs from human resources (£21m) and finance costs (£11m) to other corporate functions; and
- b. some of the activities now included in the safety and sustainable development category were, in previous years, included within asset management services.

2.18 Compared to 2013-14, Network Rail spent, including one-off events and reversals of previous accruals, £213m (34%) less on support costs. This was largely because:

- a. Commercial property costs were lower by £29m because 2013-14 included one-off costs relating to a commercial claim for the renovation of Buchanan House, Scotland;
- b. the variance of £38m on Infrastructure Projects compared to 2013-14 is largely due to £25m of accommodation and support costs having been recharged to the accommodation and support recharge account in 2014-15 within group costs. The £25m recharge has no overall effect on total support costs. The remaining net £13m variance reflects the reduced workload of infrastructure projects this year resulting in lower capitalisation;

²⁴ Network Rail's 2014-15 regulatory financial statements do not include the financial penalty imposed in the year as this was not known at the time the accounts were prepared. We are currently consulting on a proposed penalty of £2m.

- c. £30m less spent on senior staff long term incentive payments than in the prior year. This was because no payments were made in respect of 2014-15 and there was an unused accrual of £25m as previously mentioned (see 2.15);
- d. £102m lower penalties in 2014-15 compared to 2013-14. This was because £79m was included in 2013-14 for penalties but the penalty we imposed was £56m. This meant there was an unused element of the 2013-14 accrual that was released as a credit in 2014-15 of £23m. So, in 2013-14 there was a cost of £79m and in 2014-15 there was a credit of £23m, with a net difference of £102m (£79m less -£23m); and
- e. re-organisation costs were £52m lower than in 2013-14. In 2014-15, £17m was spent compared to £69m in 2013-14. The 2013-14 amount included significant amounts set aside to cover staff redundancies including additional costs associated with the move to the National Centre in Milton Keynes. In 2014-15, the re-organisation costs were reduced by the reversal of £16m of the 2013-14 accrual, and in 2014-15, fewer staff exited.

Traction electricity, industry costs and rates

2.19 The table below summarises Network Rail's expenditure on traction electricity, industry costs and rates in 2014-15 compared to our PR13 determination and 2013-14.

Table 2.3: Traction electricity, industry costs and rates, Great Britain

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(B-A)	(D)	(D-A)
Traction electricity	292	259	-33	292	-
Business rates	156	155	-1	156	-
British transport police costs	83	74	-9	79	-4
RSSB costs	11	9	-2	9	-2
ORR licence fee and railway safety levy	17	18	1	21	4
Reporters fees	1	3	2	-	-1
Other industry costs	1	2	1	-	-1
Total traction electricity, industry costs and rates	561	520	-41	557	-4

Source: Network Rail's regulatory financial statements

2.20 In 2014-15, Network Rail spent £41m (8%) more on traction electricity, industry costs and rates than we assumed in our PR13 determination. This was largely because of:

- a. higher electricity charges, which were recovered from the train operators²⁵; and

²⁵ The higher electricity charges attributable to operators were passed on to them by Network Rail. See offsetting income (£35m) in Franchised Track Access Income, Table 2.7.

- b. the costs of British Transport Police have been increasing whereas we assumed in our PR13 determination that the costs would remain stable to the end of 2014-15 and then reduce by 3% to 4% through to the end of CP5. The main reason for the increase was the additional cost of a dedicated cable theft team within BTP.

2.21 Compared to 2013-14, Network Rail spent £4m (0.7%) more on traction electricity, industry costs and rates.

Maintenance expenditure

2.22 These costs include activities that sustain the condition and capability of Network Rail's existing infrastructure.

2.23 In 2014-15, Network Rail spent £43m (4%) more on maintaining the network than we assumed in our PR13 determination and £35m (3%) more than in 2013-14.

2.24 Overall, this variance was largely driven by expenditure on individual schemes and initiatives, including:

- a. £17m tidying the line side areas; and
- b. £20m reducing the level of vegetation near the railway to reduce train delays.

2.25 Compared to our PR13 determination assumptions, Network Rail spent materially more on track (14%) and other network operations (28%)²⁶, and materially less on civils (21%) and buildings (29%).

2.26 Network Rail has largely met, or exceeded its forecast maintenance volumes in track and electrical power and fixed plant, but it has not delivered its forecast maintenance volumes in civils and buildings.

2.27 Overall Network Rail has increased its average permanent (full time equivalent) maintenance headcount by 0.5%, from 15,813 in 2013-14 to 15,895 in 2014-15 (both numbers exclude agency staff). Network Rail employed on average, in total (including agency staff), 16,195 maintenance people in 2014-15²⁷.

Schedules 4 & 8 payments

2.28 Schedule 4 and schedule 8 are compensation regimes by which train operators are compensated for planned line possessions (schedule 4) and unplanned service delays and cancellations (schedule 8). The table below summarises Network Rail's expenditure on

²⁶ Includes expenditure on specific projects to tidy up the railway.

²⁷ While a useful indicator, Network Rail's staffing numbers are not directly comparable to its maintenance costs. We do not have information on the number of agency staff in 2013-14.

these schedule 4 and schedule 8 costs in 2014-15 compared to our PR13 determination and 2013-14²⁸.

Table 2.4: Schedule 4 & 8 compensation payments, Great Britain

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(B-A)	(D)	(D-A)
Schedule 4	199	213	14	170	-29
Schedule 8	109	4	-105	217	108
Total schedule 4 & 8	308	217	-91	387	79

Source: Network Rail's regulatory financial statements

2.29 In 2014-15, Network Rail spent £91m (42%) more on schedule 4 and 8 payments to train operators than we assumed in our PR13 determination. These payments were mainly driven by schedule 8 payments because train performance fell short of the regulatory targets for 2014-15.

Renewals

2.30 Renewals expenditure relates to activities where an existing infrastructure asset has deteriorated so that it can no longer be maintained economically but has to be replaced in whole or in part. Such expenditure does not result in any change or enhancement of the performance of the original asset.

2.31 In 2014-15, Network Rail spent £324m (12%) more on renewing the network compared to our determination. This is despite deferring renewals work of a net £420m to later in CP5. Therefore, Network Rail has overspent on what it is delivering but has delivered less than expected in our PR13 determination.

2.32 This significant overspend of £744m²⁹ was largely due to higher unit costs on assets such as track and signalling, where there were some supply chain issues (see 2.34 b. below).

2.33 Table 2.5 shows how the £744m of overspend has been calculated and also that the net deferral of £420m is made up of £195m of work rolled over³⁰ from 2013-14 and £615m work deferred from 2014-15 to later in CP5. We do not consider that this under-delivery has a sufficiently significant effect on sustainability for us to adjust financial performance at this early stage in the control period. However, we will be monitoring the

²⁸ PR13 used different sets of rates for schedules 4 & 8 compared to those used in CP4. Therefore the expenditure can be meaningfully compared to the PR13 assumption, but not to 2013-14.

²⁹ Of the higher renewals costs that are regarded as efficient overspend, 75% are eligible for addition to the RAB under the RAB roll forward policy, as explained in chapter 4 of our [CP5 Regulatory Accounting Guidelines](#)

³⁰ Rollover refers to work that was deferred after our determination for the control period had been finalised.

situation closely and under-delivery is one aspect of Network Rail's capability that we are also considering (see chapter 6 for more information).

Table 2.5: Calculation of renewals overspend in Great Britain for 2014-15

£m, 2014-15 prices		Variance
PR13 determination	2,625	
Actual expenditure 2014-15	<u>2,949</u>	
2014-15 overspend before adjusting for net deferrals		-324
Adjust for net deferrals:		
CP4 rollover	195	
Deferred ³¹ to later in CP5	<u>-615</u>	
Net deferrals		<u>-420</u>
Total overspend		-744

Source: Network Rail's regulatory financial statements and our own analysis

2.34 Our PR13 determination assumed that £308m less would need to be spent on renewals during 2014-15 compared to Network Rail's PR13 strategic business plan (SBP). We have not allocated this re-profiling across the asset categories, so it is included in Network Rail's regulatory financial statements as -£308m of "other renewals". For next year's regulatory financial statements we will allocate that year's re-profiling adjustment across the asset categories, which will provide a more meaningful comparison.

2.35 The total overspend against our PR13 determination was largely because:

- a. there was an increase in plain line unit costs, which meant the starting rates for CP5 were 25% above the rates assumed in our PR13 determination;
- b. higher track costs for both plain line and switches & crossings were driven by supply chain issues including contractor disputes, lower than expected efficiencies from high output plant ("factory trains") due to machinery failures, and the effect of bringing some contractor staff in-house;
- c. in signalling, there were increases in the costs of some large multi-year re-signalling projects such as in the Cardiff and Watford projects due to expanding scope;
- d. in civils, there were increased amounts of emergency and remedial work to repair Network Rail's infrastructure from the severe weather in 2013-14;
- e. there was increased spending on major structures such as the Selby Swing Bridge on the LNE route, to rectify worse than expected asset conditions;

³¹Network Rail deferred £615m of other work from 2014-15 to later in CP5 specifically in signalling; electrical power and fixed plant; wheeled plant and machinery and also in other renewals (asset information strategy).

overspending on Chelsea Bridge (Sussex), and more unplanned painting work (LNW); and

- f. Network Rail invested more on information technology projects within the “spend to save” framework³² which aims to deliver future savings.

2.36 Compared to 2013-14, there was £627m lower expenditure. This largely reflects the re-profiling of expenditure during CP4, where significant deferrals were made from the early part of CP4 to 2013-14 and there was deferral of work from 2014-15 (the first year of CP5) to later in CP5, which more than offset the higher unit costs in that year.

2.37 The main reasons for the lower expenditure in 2014-15 compared to 2013-14 were³³:

- a. **Track.** There was £144m (14%) lower expenditure due mainly to lower volumes being delivered in 2014-15, but also due to 2013-14 expenditure being unusually high as 25% of the total CP4 expenditure on track activity was delivered in 2013-14;
- b. **Buildings.** After adjusting for work of £35m rolled over from CP4, the net lower expenditure of £68m (24%) was largely due to unexpected renewals costs in 2013-14 from the redevelopment of Birmingham New Street station;
- c. **Civils.** The main reasons for the £158m (22%) lower expenditure in 2014-15 than in 2013-14, were the inclusion of expenditure in 2013-14 relating to the UK Government’s fiscal stimulus package, which accelerated spending from CP5 to CP4, and higher than normal emergency works in 2013-14 due to severe weather;
- d. **Telecoms.** Expenditure on telecom projects should be lower in CP5, everything else being equal, as the major programme of work on the Fixed Telecom Network (FTN) which ran throughout CP4 is completed. £41m of the work on the FTN project did rollover from CP4 into 2014-15, but overall expenditure on telecoms was still £80m lower than in 2013-14, the last full year of spend;

³² This is where Network Rail spent more than we assumed in our determination to reduce expenditure or increase income. This approach was set out in our PR13 determination, and for 2014-15 Network Rail was able to add 80% of the expenditure on spend to save schemes to the RAB.

³³ The numbers we are comparing in this section have been adjusted to take account of work rolled over from CP4 and included by Network Rail in its 2014-15 regulatory financial statements in “other” renewals (£195m) instead of against the assets that they relate to. This provides a more meaningful comparison. For example, the actual spend in 2014-15 for Buildings was £183m in Network Rail’s regulatory financial statements, against £286m in 2013-14. Adding back £35m to the actual spend to account for CP4 project expenditure rolled over, reduces this £103m variance to £68m.

- e. **Information Technology.** In 2014-15, Network Rail spent £56m (53%) more than in 2013-14 on information technology, reflecting the higher investment in projects under the spend to save framework; and
- f. **Other Renewals.** After adjusting for the 2014-15 CP4 rollover adjustment of £195m, there was £179m (60%) less expenditure on other renewals than in 2013-14. The 2013-14 figure includes some large expenditure that did not continue into CP5 including the Performance Recovery Fund to improve train performance (£71m); project work on West Coast including engineering access and expenditure rolled over from CP3 (£60m); and acceleration work at a number of rail operating centres, including building the centres and signalling (£46m).

Enhancements

2.38 Total expenditure in 2014-15 on enhancements, excluding third party funded schemes³⁴, was £2,919m (see Table 2.1). This included £2,776m on PR13 funded enhancements, compared to our adjusted PR13 assumption of £2,983m³⁵. This variance of £207m (7%) is largely due to deferrals, offset by accelerated work and current year overspends, as detailed below.

2.39 During the year there were net deferrals of £349m. This means that although Network Rail has spent less than our PR13 determination, it has also delivered less than expected in 2014-15. On a comparable basis the net position is an overspend of £142m.

Table 2.6: Breakdown of enhancements overspend Great Britain 2014-15

£m, 2014-15 prices	Variance
Adjusted PR13 determination (incl CP4 rollover)	2,983
Actual expenditure 2014-15 (incl CP4 rollover)	<u>2,776</u>
2014-15 underspend before adjusting for net deferrals	207
Deferrals (net)	<u>-349</u>
Total overspend	-142

Source: Network Rail's regulatory financial statements and our own analysis

2.40 To some extent this net deferral within the control period reflects the complexity of the portfolio and that Network Rail is still developing its plans in more detail. This also

³⁴ £474m that Network Rail spent on third party funded schemes is not eligible for RAB addition as it received direct payments from the third parties.

³⁵ The PR13 baselines for certain enhancements have been adjusted in 2014-15 to reflect project rollovers from CP4 into CP5 and the cash funding of some projects by DfT.

includes variances approved via ECAM, but not yet included in the baseline³⁶. The updated PR13 baseline will be incorporated in Network Rail's regulatory financial statements once ECAM is complete and at that point we will draw firmer conclusions on Network Rail's financial performance.

2.41 The £207m of underspend in the above table includes the following key elements:

- a. **Network Rail spent £122m less on funds³⁷** than we had assumed within our determination. Funds are not subject to ECAM and, although Network Rail is treating this underspend as a deferral to later within CP5, there is a risk that these funds will not achieve the benefits they were intended to within the Control Period;
- b. **£565m of underspend on other projects**, e.g. Edinburgh Glasgow Improvement Plan (EGIP) (£109m), and NW Electrification (£63m);
- c. **Network Rail has reported an overspend of £58m** on the Thameslink programme, largely due to the works associated with London Bridge. There are still three years of work remaining on the Thameslink programme and we expect Network Rail to work to try and recover this overspend by the end of the Control Period at which point a final assessment of its performance will be made in line with the bespoke arrangements³⁸; and
- d. **£422m of overspend on other projects**, e.g. East West Rail (£109m) and Northern Hub (£77m). The variances for East West Rail and Northern Hub are due to a re-profiling of works within the control period.

2.42 Looking ahead to the remainder of CP5, there are considerable affordability challenges for Network Rail on enhancements. For example, we have only completed ECAM reviews on some 50% of the current ECAM portfolio (by SBP value), but the efficient funding we have determined already adds up to about 80% of the total assumed in the determination. Following reclassification, Network Rail now has a maximum borrowing limit for CP5 and the Hendy review is considering how to manage within this constraint, e.g. some work may be deferred to later control periods.

2.43 As well as the expenditure on PR13 enhancements, Network Rail has spent £143m on non-PR13 enhancement projects funded through the Investment Framework or as

³⁶ ORR, [Enhancements Cost Adjustment Mechanism](#) (infographic)

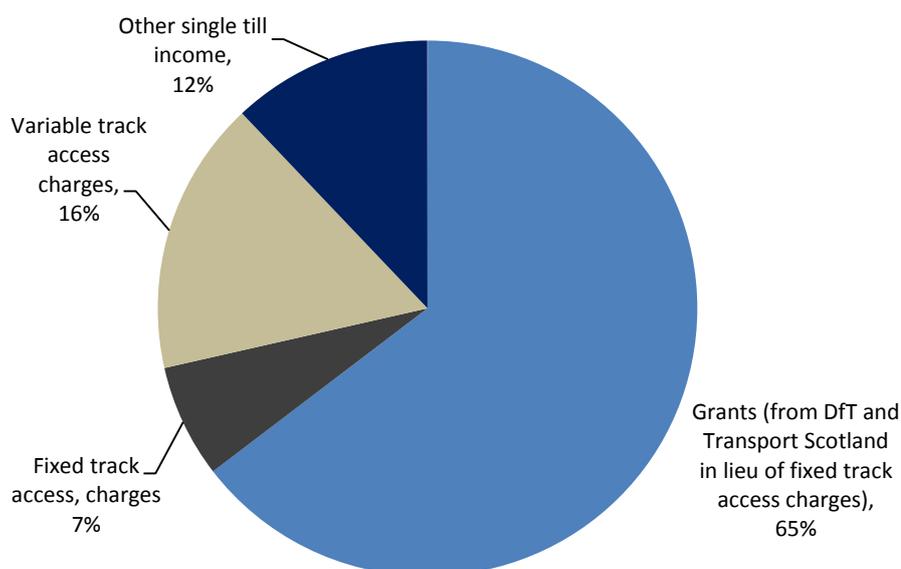
³⁷ A PR13 capped fund is a specific amount of money earmarked to improve the network.

³⁸ Schemes with bespoke arrangements are funded by direct agreement between DfT and Network Rail and have a separate regulatory treatment. These are sometimes referred to as "tailored protocols" or "fixed price agreements".

discretionary investment³⁹. These schemes were not included in PR13 and therefore there is no PR13 baseline to compare them to. Instead they are approved for RAB addition based on the criteria set out in the Investment Framework guidelines. Within this total, £87m has been spent on government sponsored schemes including Swindon-Kemble redoubling, the Sheffield-Rotherham Tram Train Project and the Stations Commercial Project Facility.

Income

Figure 2.2: Sources of Network Rail's income 2014-15



Source: Network Rail's regulatory financial statements and our own analysis

2.44 Network Rail receives income from four primary sources; government grants, fixed and variable track access charges, and other single till income (OSTI). As shown in Table 2.7, Network Rail's total income was £6,446m in 2014-15.

2.45 This was £61m (1.0%) higher than our PR13 financial assumptions, largely due to higher electricity prices and to the difference between the inflation rate assumptions used to calculate the actual grant payments and those used to adjust PR13 assumptions in Network Rail's regulatory financial statements.

2.46 Total income is £444m (6.4%) less than in 2013-14 mainly due to the decision to remove some of the risk-buffer from Network Rail's funding settlement in CP5, which everything else being equal, reduced the revenue Network Rail would receive as it can use

³⁹ Discretionary investments relate to work funded from Network Rail's financial outperformance in the early part of CP4.

its balance sheet to deal with financial risk in CP5⁴⁰. In concluding the balance between grants and track access income, we, in consultation with the governments, agreed to increase the grant element of Network Rail's income and there was an offsetting reduction to fixed track access charges.

Table 2.7: Overview of total income, Great Britain

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(A-B)	(D)	(A-D)
Grant income	4,164	4,137	27	3,855	309
Franchised track access income	1,506	1,448	58	2,280	-774
Other Single Till income	776	800	-24	755	21
Total income	6,446	6,385	61	6,890	-444

Source: Network Rail's regulatory financial statements

2.47 The key variances to our PR13 determination were:

- a. £27m more grant income. This was due to different inflation assumptions as explained above; and
- b. £58m more from franchised track access charges. This comprises £43m favourable income from variable charges, and £15m favourable income from fixed charges, paid by franchised train operators. More than 80% of the variable charge difference (£35m) was due to more income from traction electricity charges as a result of higher market electricity prices⁴¹. The favourable variance on fixed charge income compared to PR13 was driven by lower inflation than assumed in our PR13 determination.

These variances were offset by £24m less Other Single Till Income – see Table 2.8 below.

⁴⁰ Further explanation is available in [Periodic Review 13: Final determination of Network Rail's outputs and funding for 2014-19](#)

⁴¹ Traction electricity charges are passed on by Network Rail to the train and freight operators. Traction electricity, industry costs and rates include a largely offsetting increase of £33m in traction electricity costs.

Table 2.8: Other Single Till Income, Great Britain

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(A-B)	(D)	(A-D)
Property income	283	290	-7	285	-2
Freight income	74	77	-3	75	-1
Open access income	27	26	1	26	1
Stations income	258	249	9	260	-2
Facility and financing charges	53	81	-28	32	21
Depots Income	65	63	2	63	2
Other income	16	14	2	14	2
Total other single till income	776	800	-24	755	21

Source: Network Rail's regulatory financial statements

2.48 Other Single Till Income was lower than our PR13 determination by £24m but £21m higher than in 2013-14. The main reason for the variance to our PR13 determination is that in PR13 we assumed that Crossrail Ltd would provide £30m to fund borrowing costs that Network Rail was expected to incur in delivering the infrastructure for the Crossrail programme. In the event, no interest charges were incurred as Crossrail provided funding directly to Network Rail. This negative variance in Crossrail income is offset by a saving in interest charges and there is no overall impact on Network Rail's total financial performance (both variances are excluded from the calculation of financial performance).

2.49 The negative variance on Crossrail income is offset by the £9m increase in stations income following the transfer of Bristol and Reading franchised stations into managed stations. This additional income is almost exactly offset by the increase in the operating costs of managed stations (£9m), included as an overspend variance within other network operations expenditure (Table 2.1).

Financial performance and efficiency

2.50 Regulatory reporting of Network Rail's financial performance and efficiency is intended to help us, Network Rail's customers, funders, taxpayers and other interested parties gain a better understanding of Network Rail's performance compared with the financial assumptions set out in our 2013 periodic review.

2.51 Our measure of efficiency is intended to be a simple measure of the reduction over time in core support, operations, maintenance and renewals expenditure. It is effectively a restatement of the Financial Performance Measure (FPM) as a percentage improvement for those categories of expenditure. However, in addition, the Financial Performance Measure also includes other items of Network Rail's income and expenditure, e.g. enhancements and it is adjusted to take account of under-delivery of outputs.

Financial performance measure

2.52 FPM has replaced Financial Value Added (FVA), which was used in CP4. It compares most of Network Rail's income and expenditure to the PR13 determination. If Network Rail can demonstrate that it has spent less whilst delivering its outputs then it can claim financial outperformance. Network Rail needs to show that it has not spent less by non-delivery of outputs or by simply deferring work or working in an unsafe or unsustainable way. If it spends more, it is financially underperforming.

2.53 Financial performance before adjusting for under-delivery of outputs is calculated by totalling Network Rail income and expenditure variances against PR13, removing those variances on categories that do not count for financial performance, removing amounts attributable to changes in timing (e.g. deferrals) and 75% of renewals and enhancements variances in accordance with our RAB roll forward policy. Finally an adjustment is then made to reflect under-delivery of outputs.

2.54 Network Rail's initial assessment of financial underperformance before output adjustments was £389m for 2014-15 when compared with the financial assumptions underpinning our PR13 assessment of the funding Network Rail required in CP5. However, upon review this was adjusted to £386m of financial underperformance before output adjustments⁴². Further explanation of the calculations and adjustments in Table 2.9 below is available in Annex A.

2.55 FPM is a key part of Network Rail's executive bonus scheme (the Management Incentive Plan (MIP)). Network Rail's Chief Executive waived any bonus after the King's Cross Christmas 2014 engineering works overruns and the Remuneration Committee concluded that as performance was significantly below the level specified in the business plan, no other executive directors would receive a bonus. Additionally, all eligible directors waived any entitlement to payments under the former Long-Term Incentive Plan. However, the calculation of financial performance does still affect the bonuses for other staff at Network Rail.

⁴² We adjust for variances in civils volumes, which are outside the scope of financial performance. We have also adjusted for alliance payments, which are within the scope of financial performance but were excluded from Network Rail's calculation.

Table 2.9: Financial performance measure for Great Britain⁴³

£m, 2014-15 prices	Actual	PR13	Variance	FPM
Total income (from Table1)	6,446	6,385	61	
Total expenditure (From Table1)	<u>10,228</u>	<u>10,080</u>	<u>-148</u>	
Net costs	3,782	3,695	-87	
Remove variances on items excluded from FPM			-277	
Remove variances in volume of work			<u>-689</u>	
Final variance prior to application of the RAB roll forward policy				-1,053
Remove 75% of:				
Renewals variance ⁴⁴	-744	x 75%	-558	
PR13 enhancements variance ⁴⁵	-142	x 75%	-107	
				<u>-665</u>
Total financial underperformance prior to ORR adjustment				-389
ORR adjustment for alliance payments and civils volumes				<u>-3</u>
Financial underperformance before adjusting for under-delivery of outputs and adjustments for other matters				-386
Adjustments for under-delivery of outputs:				
Public Performance Measure (PPM)			-70	
Cancellations and Significant Lateness (CaSL)			-21	
Missed enhancement milestones			-6	
				-97
ORR adjustment for under-delivery of outputs				<u>-1</u>
Total financial Performance				-485

Source: Network Rail's regulatory financial statements. Rows and columns may not sum due to rounding.

2.56 The financial underperformance before adjusting for under-delivery of outputs was largely due to:

- a. renewals financial underperformance (£186m⁴⁴) was mainly in: track (£86m), where unit costs have been adversely affected by technical problems with new high output equipment and cost impacts from changes to the procurement framework; in signalling (£37m), affected by cost increases and added scope for certain large schemes such as Watford, Wolverhampton, Cardiff and Bristol; and in civils (£22m), where there were cost overruns on a number of projects including additional costs resulting from adverse weather events;

⁴³ See Annex A for more information on the calculation of financial performance.

⁴⁴ We make this adjustment because Network Rail is only exposed to 25% of risk in accordance with our RAB roll forward policy. So for renewals, the RAB addition is £558m and the amount included in financial performance is £186m = £744m x 25%.

⁴⁵ We make this adjustment because Network Rail is only exposed to 25% of risk in accordance with our RAB roll forward policy. So for enhancements, the RAB addition is £107m and the amount included in financial performance is £36m = £142m x 25%.

- b. maintenance underperformance (£79m). This includes £37m on the Tidy Railway programme to reduce litter and a project to clear excessive line side vegetation;
- c. schedule 8 compensation payments to train operators were £105m higher than assumed in PR13 due to a combination of lower train performance and changes to the schedule 8 rates payable to individual train operators; and
- d. enhancements underperformance of £47m (£36m PR13 enhancements⁴⁵ and £11m non-PR13 enhancements) relating mainly to Thameslink (London Bridge) and also increasing costs on the Great Western electrification programme, Birmingham New Street and West Coast Power Supply upgrade.

2.57 Network Rail's initial assessment included a further £97m of deductions for under-delivery of regulatory output requirements that were funded in PR13. However, upon review of Network Rail's calculation, we adjusted this to a £98m deduction for underperformance. The overall deduction for underperformance is because train performance in some areas was below the regulatory target and there was late delivery of some enhancements milestones, which means that the total financial underperformance is £485m (summarised in Table 2.9). The total financial performance is disaggregated at a route level in Figure 2.3 below.

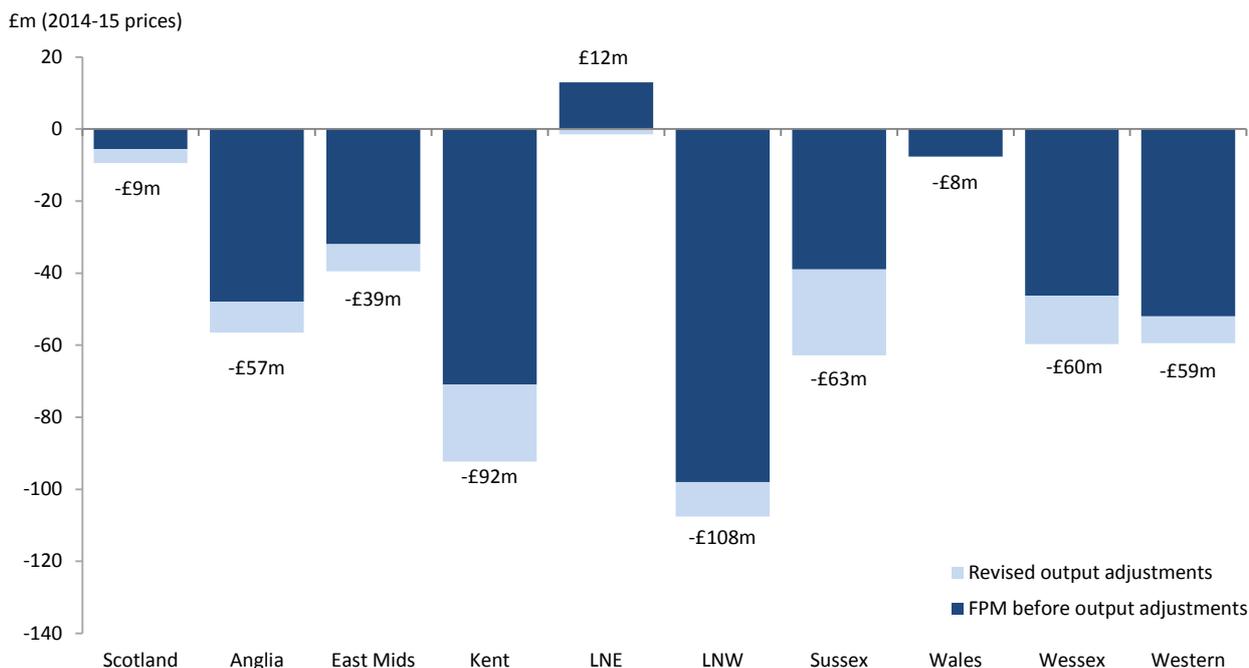
2.58 Network Rail has assumed an adjustment of £6m for missed enhancement milestones both in relation to financial performance and the RAB. We have not finalised our assessment of Network Rail's performance on enhancements and as it is still early in the control period, it is hard to determine what the impact of missing some of the milestones is on customers. This will affect whether we make a RAB/financial performance adjustment and, if we do, the level of that adjustment.

2.59 Due to the significant number of enhancements milestones missed so far this control period we launched a formal investigation into the delivery of Network Rail's enhancement programmes⁴⁶. On 6 August 2015 we wrote to Network Rail⁴⁷ setting out our preliminary findings. On 22 September we decided that Network Rail was in current breach of its licence. The ORR Board will decide what action to take after reviewing any response from Network Rail.

⁴⁶ ORR, [Investigation into Network Rail's overall planning, management and delivery of its enhancements programme](#), 31 March 2015

⁴⁷ ORR, [Possible breach of condition 1 of Network Rail's network licence with regard to its delivery of its enhancement programmes](#), 6 August 2015

Figure 2.3: Financial Performance Measure performance by route



Source: Network Rail's regulatory financial statements

Note: Direct comparison at the moment cannot be made between routes due to their different characteristics

Efficiency

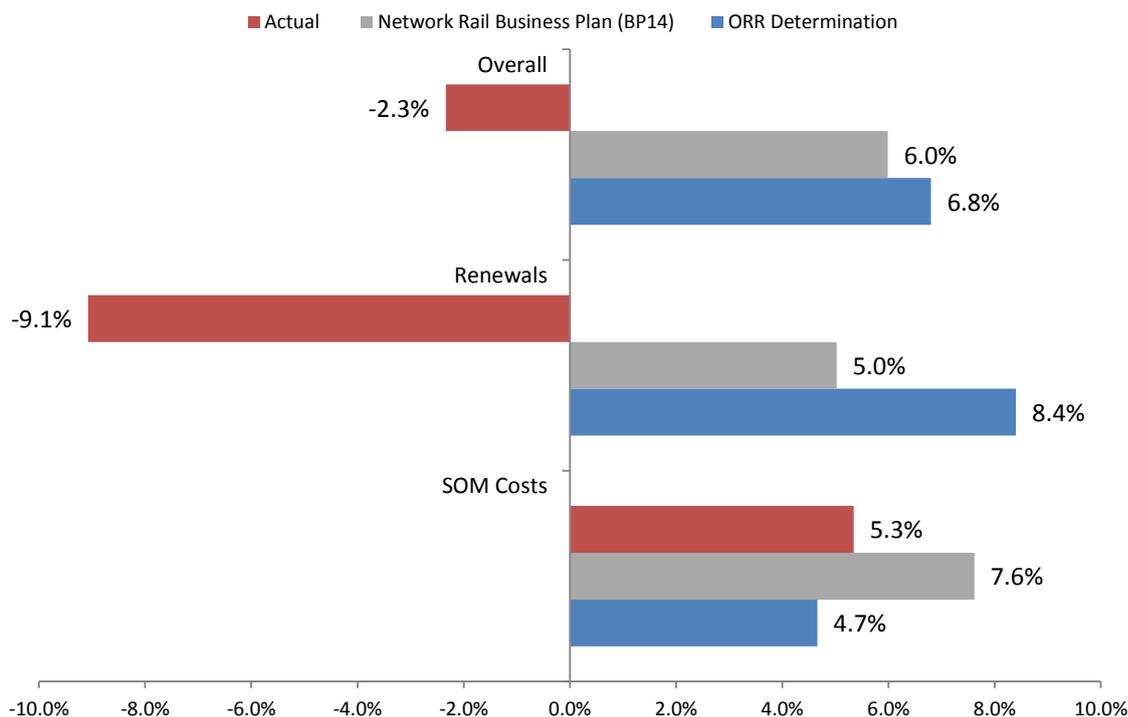
2014-15

2.60 In 2014-15 Network Rail's support, operations, maintenance and renewals ('SOMR') efficiency has deteriorated by 2.3% overall⁴⁸. This is largely driven by the rising cost of renewals, which for 2014-15 is showing negative efficiency of 9.1%, on an adjusted BP14 baseline.

2.61 Excluding renewals, the support, operations and maintenance ("SOM") efficiencies are higher than our PR13 efficiency assumption but, in fact, our efficiency assumption was lower because it assumed that higher savings would have already been achieved by Network Rail before 2014-15, e.g. in 2013-14. This was not the case and Network Rail's figures, at the later business plan date, show a 5.3% efficiency improvement in SOM on an adjusted BP14 baseline.

⁴⁸ Efficiency refers to the percentage decrease in Network Rail's costs as compared to our PR13 assumptions. It is neither allocative efficiency (producing the right thing), nor productive efficiency (producing the same thing for less money).

Figure 2.4: PR13 determination of efficiency assumptions for 2014-15 compared to actuals and to the 2014 Business Plan



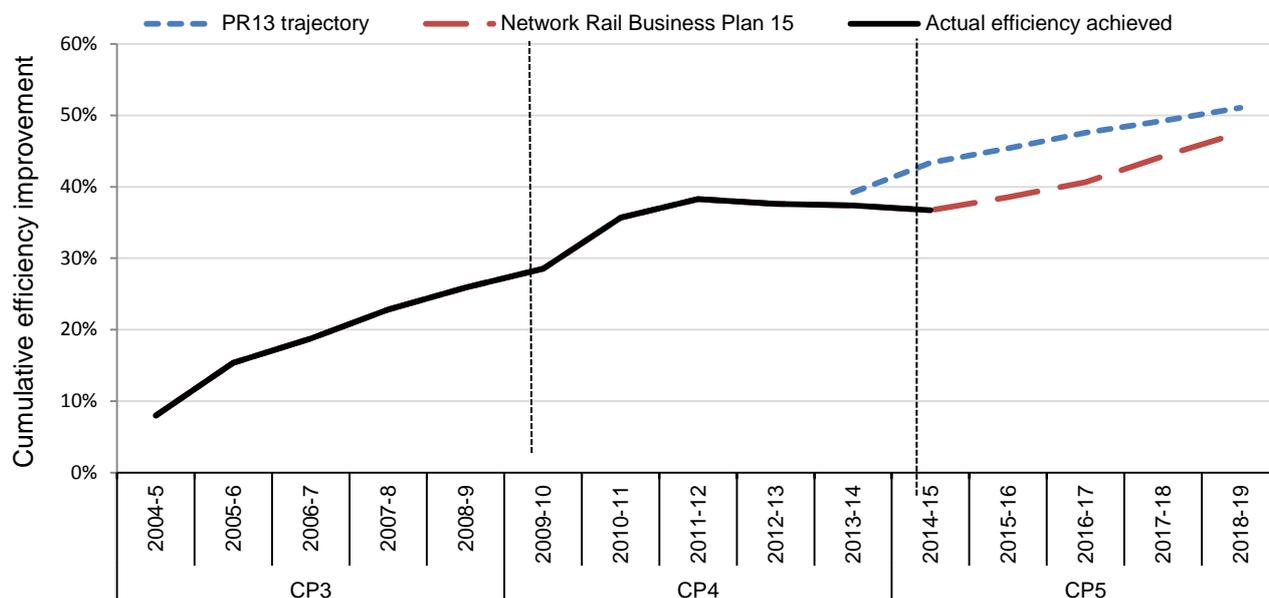
Source: ORR PR13 determination, Network Rail’s plans and submissions. The actual efficiency numbers are based on an adjusted BP14 baseline

CP5

2.62 Our PR13 determination set Network Rail an efficiency improvement target of 19.4% for CP5. However, since Network Rail started the control period from a lower level of efficiency than we had assumed in PR13, by the end of CP5, Network Rail will need to deliver an efficiency improvement of 22.0%⁴⁹ compared to the end of CP4, in order to achieve the same efficiency position at the end of CP5. Figure 2.5 shows the cumulative efficiency improvement.

⁴⁹ 19.4% had been assumed in our PR13 determination. Subsequently Network Rail said it would achieve 22.0% by the end of CP5 to take into account the efficiency savings it did not achieve in the last year of CP4 assumed in our PR13 determination.

Figure 2.5: Network Rail’s support, operations, maintenance and renewals efficiency savings



Source: Network Rail’s regulatory financial statements and our own analysis

2.63 The significantly higher unit cost of track renewals at the end of CP4, and the challenge on efficiency in 2014-15, such as contractor productivity issues⁵⁰, has led Network Rail at the end of 2014-15 to re-forecast a cumulative efficiency of just over 16.0% at the end of CP5, which is well below the assumed level.

Regulatory Asset Base, debt, borrowing, financing costs and financial indicators

2.64 This section assesses movements in Network Rail’s regulatory asset base (RAB), debt, borrowing, financing costs and financial indicators in 2014-15. We report on Network Rail’s borrowing as it introduces a material constraint on Network Rail’s ability to finance itself.

2.65 Reclassification as a public sector body from September 2014 changed the way Network Rail raises debt to fund its business activities. It no longer raises new debt from capital markets and instead borrows from DfT under a loan agreement that will run until the end of CP5. This change was not included in PR13 as it came into force after PR13 was concluded. The loan agreement with the DfT specified a fixed, nominal borrowing limit of £30,300m that Network Rail must not exceed, of which £3,300m related to Scotland.

⁵⁰ See commentary on Statement 5b, Page 47 of Network Rail’s regulatory financial statements 2014-15.

DfT subsequently provided some cash funding to Network Rail, which reduced the limit to £30,175m⁵¹. The Scotland element remained unchanged.

2.66 Network Rail is financially underperforming, so given the scale of the challenge in the core business, this means there will be pressure on the borrowing headroom in the later years of CP5. Network Rail is now reviewing its activities as part of its business planning process and we are monitoring this work closely.

Regulatory asset base

2.67 The regulatory asset base (RAB) is a key building block in our methodology for determining access charges, acting as a store of value that is remunerated over time through the amortisation charge. The RAB functions as a proxy for the value of the rail network.

2.68 As shown in Figure 2.6, the RAB increased by £2,952m, from £50,077m to £53,029m, in 2014-15. This comprises an increase of £993m due to indexation⁵², an increase of £92m for the final IOPI⁵³ adjustment, an increase of £2,754m for renewals additions, and an increase of £2,854m for enhancements additions. The RAB has also been reduced by £1,346m for the corporation tax double count⁵⁴, £2,389m for the amortisation charge, and by £6m for missed regulatory output adjustments.

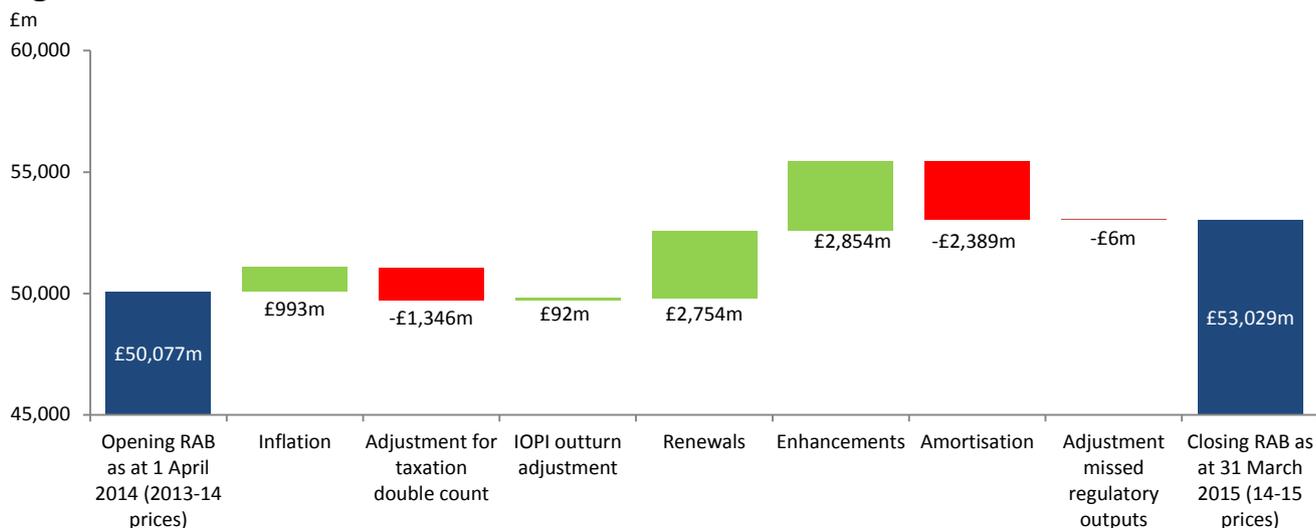
⁵¹ £155.5m was provided by the DfT to fund £125m of work on the Great Western electrification and £30.5m to cover Network Rail's contribution toward the new station at Gatwick Airport (which was not included in our PR13 determination). In order that the funding of £125m should not have any impact on the overall capital spending plans for CP5, the loan facility total was reduced by £125m to £30,175m in February 2015.

⁵² In line with our RAB roll forward policy, we index the RAB each year for November – November RPI. This ensures the value of the RAB remains constant with respect to inflation.

⁵³ At the end of CP4 we adjusted the RAB for movements in input prices. The adjustment was based on movements in the infrastructure output price index (IOPI).

⁵⁴ See paragraph 12.355 of the PR13 determination for further details.

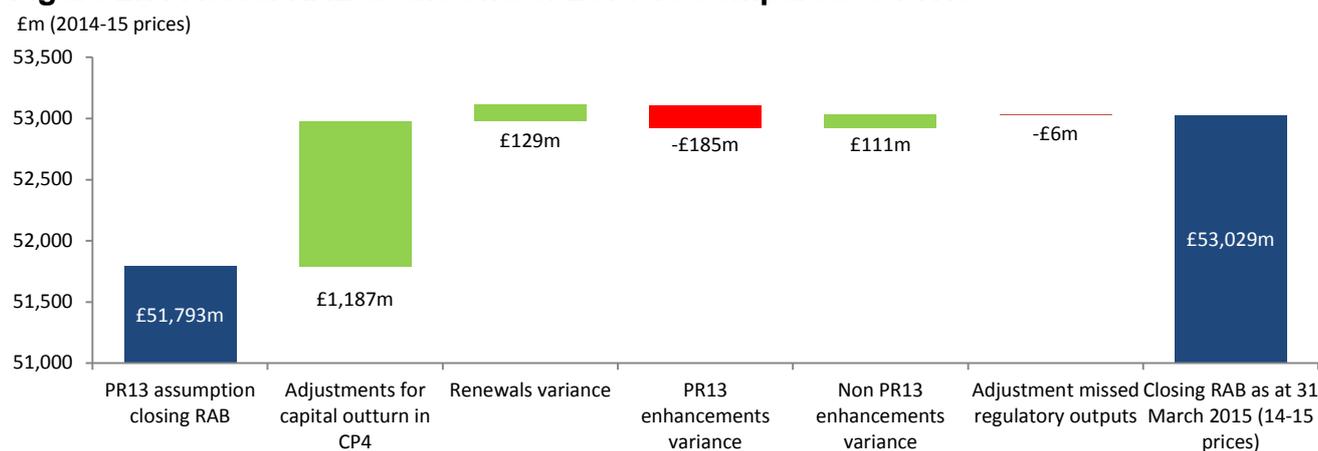
Figure 2.6: RAB movement in 2014-15⁵⁵



Source: Network Rail's regulatory financial statements

2.69 The reasons for the difference of £1,236m between the actual closing RAB at 31 March 2015 of £53,029m and our determination assumption of £51,793m is shown in Figure 2.7 (i.e. in PR13 we assumed the RAB would increase by £1,716m but the actual increase was £2,952m). The variance includes an adjustment as actual capital expenditure in CP4 was £1,187m higher than we assumed in the determination, and there was £129m higher expenditure on renewals than we assumed. There were also partially offsetting variances of £185m less spent on PR13 enhancements than we assumed in our determination, and £111m spent on non-PR13 enhancements, for which there was not a corresponding PR13 assumption.

Figure 2.7: Actual RAB at the end of 2014-15 compared to PR13



Source: Network Rail regulatory financial statements

⁵⁵ The addition to the RAB will not equal actual capital expenditure in Table 2.1, as it is our PR13 determination assumption that is added to the RAB and it is then adjusted in accordance with our regulatory accounting guidelines, as shown in statement 2b in Network Rail's regulatory financial statements.

Renewals variances

2.70 Our PR13 determination assumption for renewals expenditure was adjusted upwards by £231m for the deferral (and associated capitalised financing) of renewals projects from CP4 into CP5. These deferrals related to expenditure that was rolled over from CP4 into CP5. These adjustments were agreed by ORR as the assumed cost for the schemes. As Network Rail spent more on these schemes than assumed, a portion of the rollover spend is included within 'Adjustments for overspend'⁵⁶.

2.71 The largest variance was a downward adjustment of £706m for the deferral of expenditure from the first year of the control period to later in CP5. This is because Network Rail has decided to profile its expenditure in a different manner than assumed in PR13. This deferral is around 25% of the total adjusted PR13 renewals assumption for 2014-15, and recognises the challenges faced by Network Rail in delivering its renewals programme. Wherever it takes decisions on the profile of its expenditure, Network Rail must satisfy us that it will not impact the long term sustainability of the network, or compromise safety.

2.72 Network Rail also spent £744m more than assumed in PR13 on the renewals volumes it undertook in 2014-15, driven by higher than expected unit costs on track renewals. As this expenditure was not manifestly inefficient⁵⁷, 75% of the overspend (£558m) has been added to the RAB.

2.73 An additional £48m in renewals expenditure was added to the RAB to account for additional spend to save expenditure. This was where Network Rail spent more than was assumed in our determination in order to provide benefits at a later date. This approach was set out in our PR13 determination, and for 2014-15 Network Rail is able to add 80% of the expenditure on spend to save schemes to the RAB.

2.74 The RAB also reduced by £2m in the year, to adjust for reduced capitalised financing in the year.

Enhancement variances

2.75 PR13 funding was increased by a total of £69m after the determination was published. This was because there were a number of schemes for which we approved a deferral of funding from CP4 to CP5, partially offset by a downward adjustment to our

⁵⁶ Generally, under the risk sharing mechanism, if Network Rail overspends compared to our PR13 expenditure assumption, 75% rather than 100% of this overspend is added to the RAB as long as that overspend is not deemed manifestly inefficient. If Network Rail underspends compared to our PR13 determination, it only retains 75% of the underspend compared to the assumption.

⁵⁷ Manifestly inefficient is defined as overspend that is not: (a) within the scope of Condition 4.1 of the licence; (b) within the scope of the HLOS requirements (if relevant); (c) meeting a customer reasonable requirement; or (d) adding economic value to the railway, as defined in section 3.20 of the CP5 Regulatory accounting guidelines.

PR13 determination assumption because DfT cash funded some elements of enhancements expenditure that we had assumed would be RAB funded.

2.76 The largest variance to the adjusted PR13 determination was a net downward adjustment of £362m for the deferral of expenditure to later in CP5. This arose as Network Rail decided to profile its expenditure in a different manner than assumed within PR13.

2.77 Across the PR13 schemes, which are included in the calculation of financial performance, the net overspend was £142m. This largely consists of £72m on schemes subject to a 25% pain-gain mechanism and £66m arising from overspend on the Thameslink programme, which has bespoke arrangements. When adjusted for the pain-gain mechanism, £54m and £55m would be added to the RAB, respectively. We are reviewing the net overspend to ensure it meets the criteria for RAB addition.

2.78 There is also £4m of additional enhancements expenditure added to the RAB to account for additional spend to save expenditure, which is subject to its own incentive mechanism. We will need to clarify Network Rail's treatment of property related income generating schemes, which may result in a correction to this figure in next year's Network Rail's regulatory financial statements.

2.79 There was an additional £109m expenditure added to the RAB to account for enhancements which Network Rail has undertaken in the year that were not funded in PR13, but have been approved for RAB addition under the Investment Framework. This addition excludes the overspend on the Swindon-Kemble project, which has not met the criteria for RAB addition.

2.80 The RAB also reduced by £3m in the year, to adjust for reduced capitalised financing in the year.

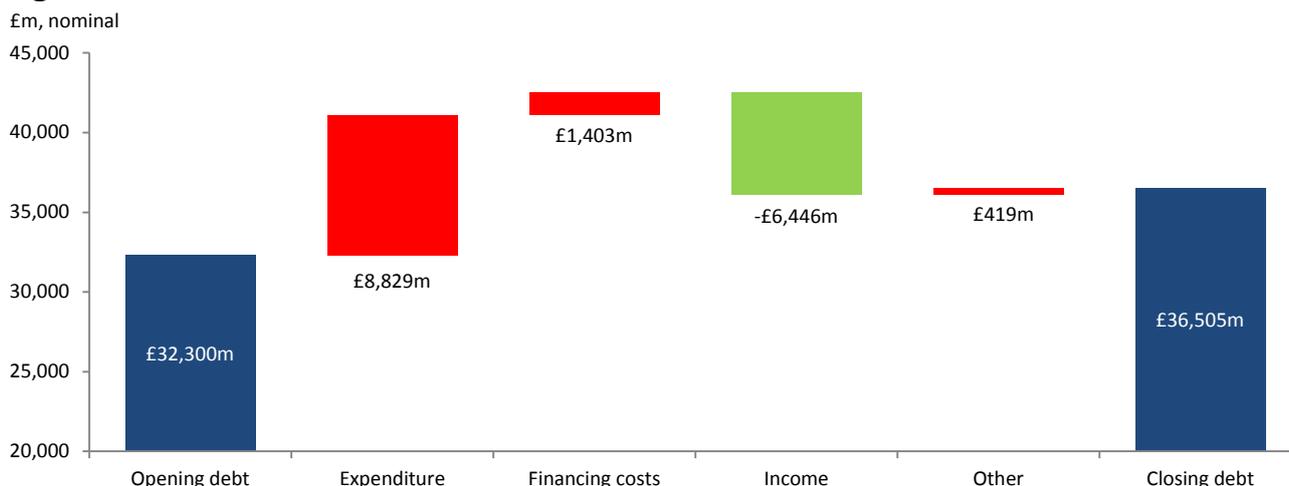
2.81 **Assessment:** Network Rail has confirmed that in some instances the spend it capitalised in the year on non-PR13 enhancements should have been treated as operating expenditure. We will require Network Rail to adjust its RAB downwards for any expenditure that is ineligible for a RAB addition in next year's regulatory financial statements. There is no effect on financial performance as non-PR13 enhancements are not included.

Debt

2.82 Network Rail is a company limited by guarantee without shareholders. It raises debt to fund those business activities not funded by network grant or access charges. In practice in CP5, access charges and the network grant fund day to day expenditure and renewals, while debt is used to fund enhancements. As a result of reclassification, it no longer raises new debt on capital markets, and instead raises new borrowing from the Department for Transport.

2.83 Network Rail's debt has increased by £4,205m to £36,505m in 2014-15. The reasons for this increase are summarised in Figure 2.8.

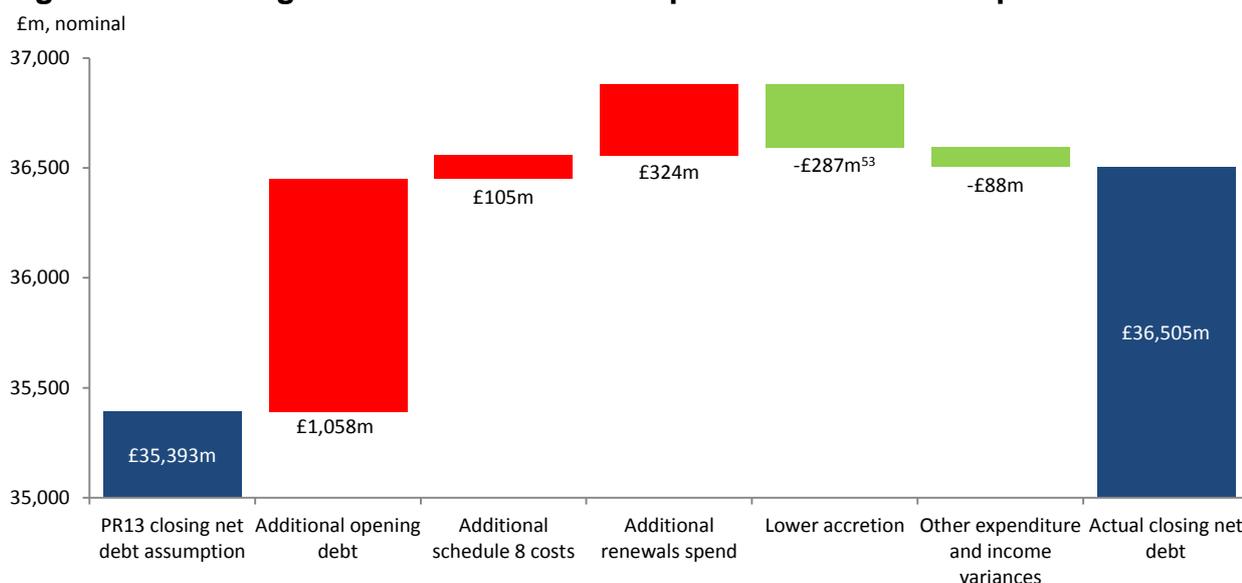
Figure 2.8: Movements in debt in 2014-15



Source: Network Rail regulatory financial statements

2.84 The individual variances driving this increase are discussed elsewhere in our assessment. Compared to PR13, Network Rail’s net debt at 31 March 2015 was around £1,100m higher than we assumed⁵⁸. The reasons for this are summarised in Figure 2.9:

Figure 2.9: Closing net debt in 2014-15 compared to PR13 assumption⁵⁹



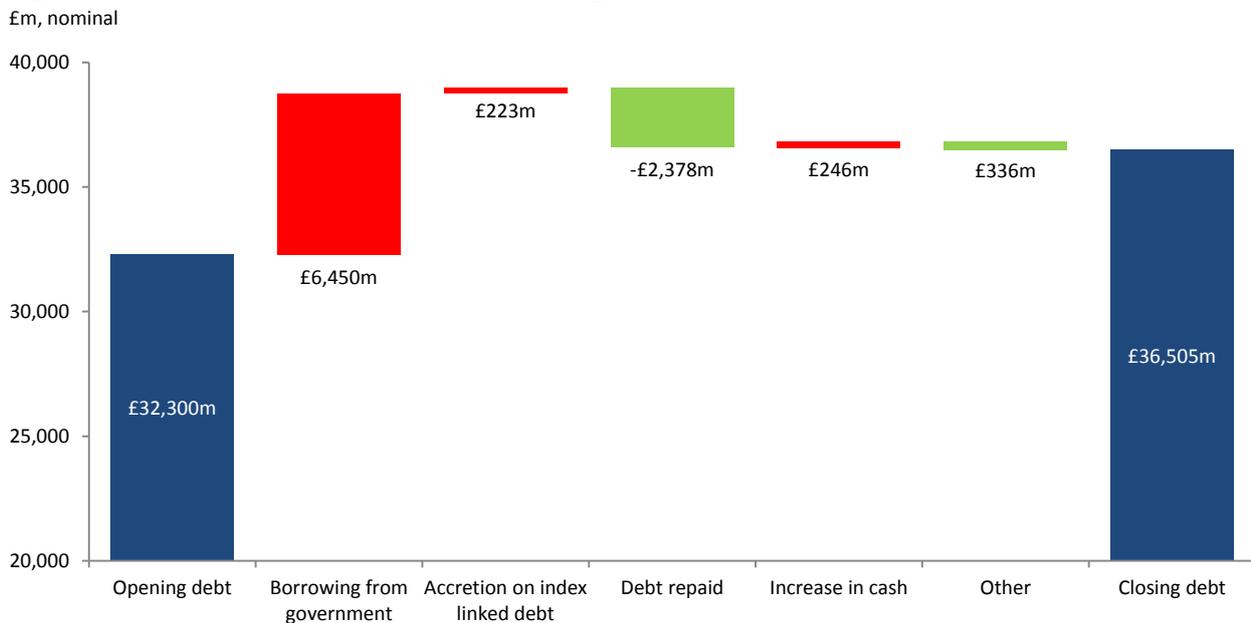
Source: Network Rail regulatory financial statements

⁵⁸ Statement 4 in Network Rail’s 2014-15 regulatory financial statements presents our PR13 assumption of closing net debt as £36,393m based on our information. This is the gross debt position, prior to deduction of an average cash balance assumed in the determination (£1,000m). In the figure above we have shown the PR13 assumption for net debt of £35,393m.

⁵⁹ Our PR13 determination included a debt assumption for each year of CP5 in nominal prices. This assumption was calculated using our forecast of inflation at the time we published the document in October 2013. However, to improve comparability with the rest of our annual efficiency and finance assessment, where we have inflated the PR13 assumptions from 2012-13 prices using actual inflation in 2013-14 and 2014-15, we have also inflated the PR13 debt assumptions by actual inflation. This means that the debt assumption in the figure is £427m lower than our PR13 assumption.

2.85 As can be seen in Figure 2.9, these variances are driven by £1,058m higher opening debt than assumed in PR13⁶⁰, £105m additional schedule 8 costs, £324m additional renewals costs and offset by £287m lower accretion⁶¹ and £88m lower expenditure and income variances. Figure 2.10 shows how Network Rail has funded the movement in debt in 2014-15.

Figure 2.10: Movements in debt funding in 2014-15



Source: Network Rail regulatory financial statements

2.86 Previously, Network Rail raised nominal and index-linked debt in a range of currencies and maturities, much of which is still in issue. Network Rail's new borrowing is nominal sterling debt from the DfT only. This has changed the mix of debt held by Network Rail, as summarised in Table 2.10. This shift also affects the maturity profile of Network Rail's debt, as shown in Table 2.11. Post-reclassification, a greater proportion of Network Rail's debt matures between two and five years, reflecting the terms of the loan agreement.

⁶⁰ This higher opening debt is because Network Rail did more work in the last year of CP4 (year ending 31 March 2014) than we assumed in PR13, which was published October 2013.

⁶¹ Accretion of index-linked debt occurs when the principal amount borrowed increases in line with inflation each year and is paid in cash to debt-holders at the end of a loan period. Network Rail's bonds were linked to RPI, so if RPI is lower than expected, accretion will be lower than expected.

Table 2.10 Debt mix

£m, nominal prices	As at 31 March 2015		As at 31 March 2014	
	£m	% of total borrowing	£m	% of total borrowing
Nominal borrowings (GBP)	7,497	20%	9,000	27%
Nominal borrowings (Foreign currency)	5,942	16%	7,174	22%
<i>Total nominal borrowings</i>	<i>13,439</i>	<i>36%</i>	<i>16,174</i>	<i>49%</i>
Index-linked borrowings (GBP)	17,405	47%	17,161	51%
Borrowings from Government	6,450	17%	0	0%
Total regulatory borrowings	37,294	100%	33,335	100%
Net cash balances ⁶²	-789		-1,035	
Regulatory net debt as at 31 March	36,505		32,300	

Source: Network Rail regulatory financial statements

Table 2.11 Network Rail debt maturity

£m, nominal prices	2015
On demand or within one year	2,280
Due within one to two years	2,393
Due within two to five years	8,151
Due in more than five years	23,681
Total debt	36,505

Source: Network Rail submissions to ORR

Borrowing

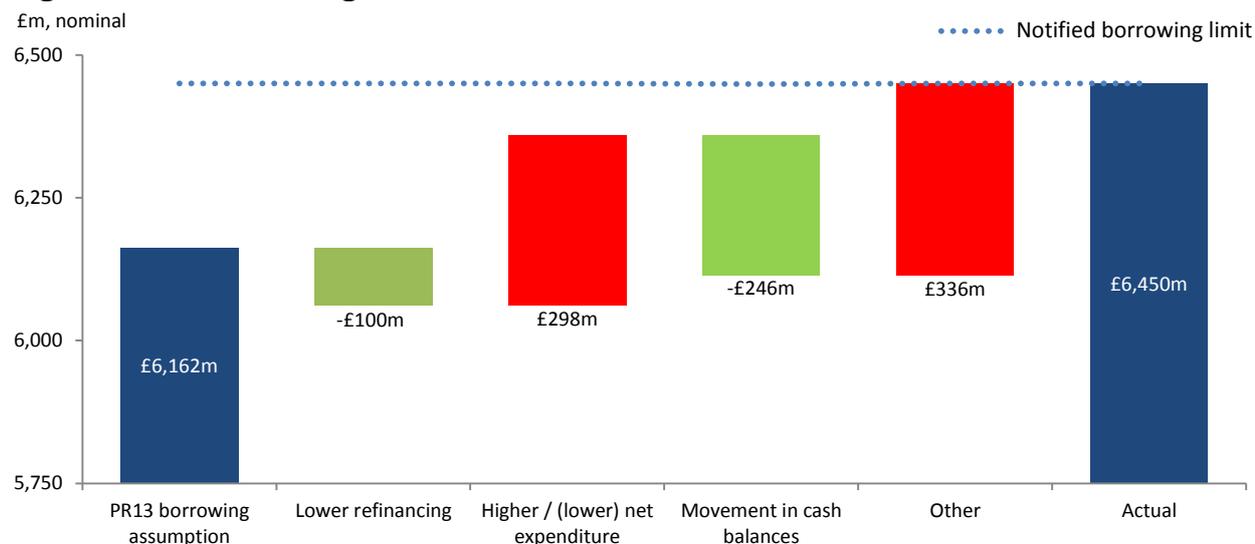
2.87 As a result of the loan agreement between Network Rail and DfT, there is now a fixed, nominal borrowing limit in place for CP5 which Network Rail must not exceed. Movements in borrowing are closely related to movements in debt, however it includes borrowing arising from refinancing existing debt, and excludes increases in debt arising from accretion on index-linked bonds.

2.88 Figure 2.11 shows Network Rail's borrowing variances in the year compared to the PR13 borrowing assumption, relative to the notified amount (the amount Network Rail told DfT it would borrow in 2014-15⁶³).

⁶² Net cash balances refer to the cash and cash equivalents held by Network Rail at year end include the collateral posted against the value of derivatives at the year end.

⁶³ The terms of the loan agreement between DfT and Network Rail require Network Rail to notify HMT at the start of the financial year the amount of borrowing it requires for that year.

Figure 2.11: Borrowing variances in 2014-15



Source: Network Rail regulatory financial statements and ORR analysis

2.89 In 2014-15, Network Rail borrowed around £300m more than we assumed in PR13, £7m less than it assumed in its 2014 business plan and it borrowed £6,450m, which was equal to the notified borrowing limit.

2.90 At 31 March 2015, Network Rail had a portfolio of financial instruments to hedge its position and to limit its risk from movements in the financial markets⁶⁴. Some derivatives require Network Rail to post collateral against the fair value of the instrument. The effect of posting this collateral is to reduce the cash Network Rail has available to spend elsewhere in the business at that moment in time⁶⁵.

2.91 Prior to reclassification, Network Rail was hedged heavily to control its exposure to risk. As a result of reclassification, Network Rail cannot enter into new hedges but it has retained those it had at the time of reclassification and is in the process of managing them down in accordance with the framework agreement with the DfT. This will, for example, increase Network Rail's exposure to changes in interest rates and movements in exchange rates.

Financing costs

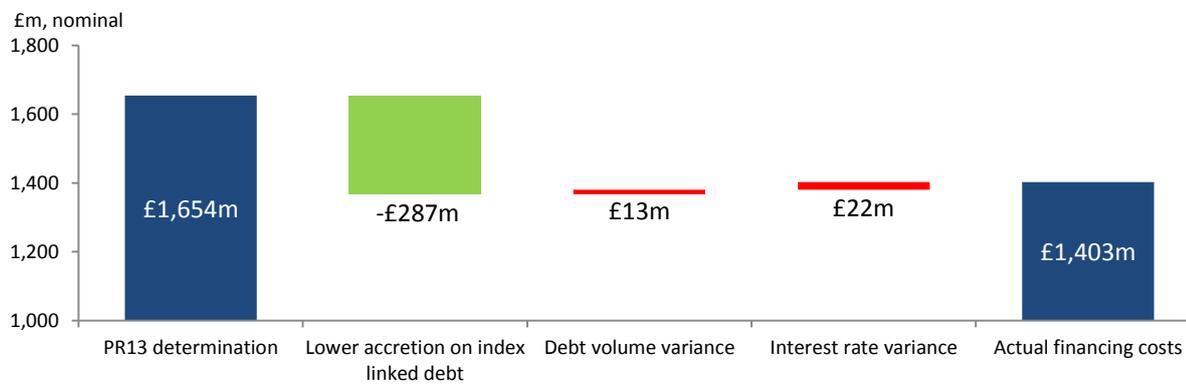
2.92 Network Rail incurs financing costs on its debt, which includes both cash interest costs paid to debt holders in 2014-15 and accretion on index-linked debt.

⁶⁴ Network Rail uses derivatives specifically to reduce currency, interest rate and inflation risks.

⁶⁵ As at 31 March 2015, the value of the collateral posted by Network Rail was £476m. Due to the nature of this balance, it will vary with the value of the derivatives held. For comparison, in the first five months of financial year 2015-16, the amount of collateral has ranged between £275m and £476m.

2.93 In 2014-15, Network Rail's financing costs were £1,403m, compared to £1,654m assumed in the determination, a favourable variance of £251m (15%). The main reasons for this variance are shown in Figure 2.12.

Figure 2.12: Actual financing costs compared to our PR13 assumptions in 2014-15



Source: Network Rail regulatory financial statements and ORR analysis

Note: A negative sign in the graph above denotes reduced expenditure compared to our determination

2.94 The £251m variance between the PR13 assumption of £1,654m and the actual financing costs of £1,403m is mainly due to £287m of lower accretion on index-linked debt driven by lower inflation than we assumed in PR13. There were also £13m higher interest costs due to a higher volume of debt being issued in the year largely as a result of higher renewals expenditure and additional schedule 8 costs, and £22m higher interest costs due to higher average interest rates on debt than we assumed.

2.95 Table 2.12 shows how Network Rail's average interest rates have changed in 2014-15, relative to both the PR13 assumption and 2013-14 actuals. The FIM fee paid by Network Rail increased from 0.8% to 1.1% in line with PR13, while the average interest rate on nominal debt was higher than assumed in PR13, but lower than in 2013-14.

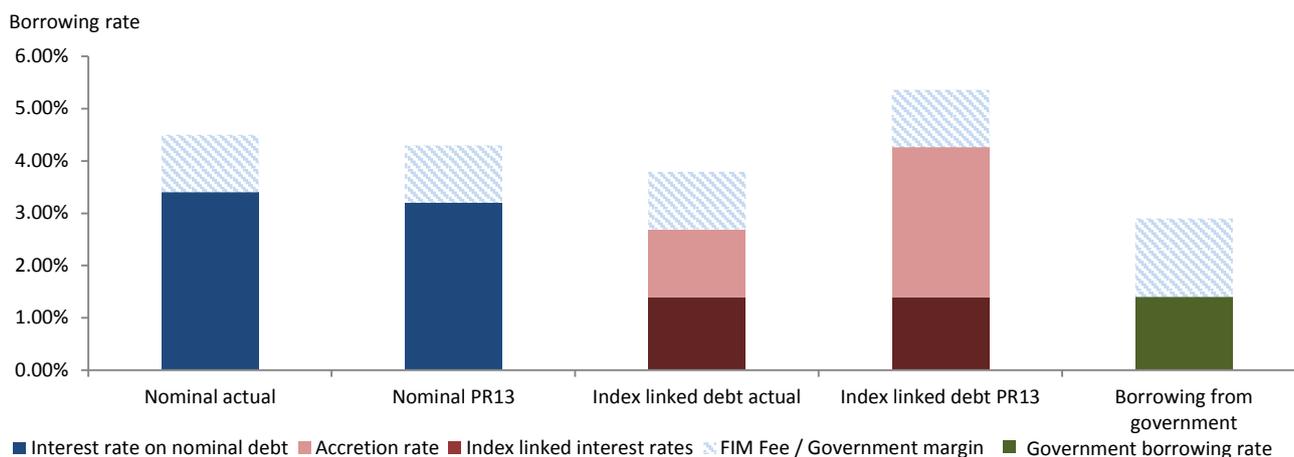
2.96 The overall driver of average interest rate changes compared to PR13 is the change in market rates since our assessment of borrowing costs in PR13. Inflation has also been lower than forecast, which has reduced accretion on index-linked debt. Network Rail's financing costs have also been affected by the move to borrow directly from the UK Government, as our PR13 determination made a fixed assumption for each year of CP5, and UK Government rates are more reflective of current market rates.

Table 2.12 Average interest rates on Network Rail's Government debt

	2014-15 actual	2014-15 PR13 assumption	2013-14 actual
On nominal debt – FIM covered	3.4%	3.2%	4.7%
On index-linked debt – FIM covered (excl. inflation accretion)	1.4%	1.4%	1.4%
FIM fee	1.1%	1.1%	0.8%
On government debt - no FIM fee	2.9%	n/a	n/a

Source: Network Rail regulatory financial statements

Figure 2.13 Average interest rates in 2014-15



Source: Network Rail regulatory financial statements

Note: Network Rail does not pay a FIM fee for government borrowing. Instead, it pays a margin in addition to the National Loans Fund interest rate. This figure includes inflation accretion on index-linked debt to aid comparability

Financial indicators

2.97 Monitoring and reporting Network Rail’s financial indicators helps ORR meet its statutory duty, as set out under section 4 of the Railways Act 1993, to ensure it is not unduly difficult for Network Rail to finance railway activities.

2.98 Our PR13 determination included forecasts of a number of financial indicators, including the debt/RAB ratio and the adjusted interest cover ratio (AICR) in order for us to incentivise Network Rail to maintain an appropriate financial position. We report these below in Table 2.13.

Table 2.13 Financial indicators in 2014-15

	Actual 2014-15	PR13	Actual 2013-14
Adjusted interest cover ratio (AICR)	0.93	1.03	1.75
Net debt/RAB ratio	68.8%	68.3%	64.5%

Source: Network Rail regulatory financial statements

2.99 In 2014-15, the AICR⁶⁶ ratio decreased by 0.82 index points compared to 2013-14. This is mainly due to the decision to remove some of the risk-buffer from Network Rail’s funding settlement in CP5, which everything else being equal, reduced the revenue Network Rail would receive as it can use its balance sheet to deal with financial risk in CP5, and it also reduced the AICR.

⁶⁶ The adjusted interest cover ratio is the net funds from operations divided by net interest payments. An AICR greater than 1 indicates an entity generates sufficient cash from its business operations to meet its cash interest costs.

2.100 Compared to PR13, the AICR ratio has decreased by 0.10 index points. This is because Network Rail has overspent on renewals and operating expenditure in 2014-15, however this has been partly offset by lower interest costs.

2.101 The net debt/RAB ratio increased by 4.3 percentage points between 2013-14 and 2014-15 to 68.8%. The material drivers of this increase are the £2,776m of enhancements in 2014-15 that are debt-funded and the decision by ORR to reduce the RAB by £1,346m for the corporation tax double count as set out in the PR13 determination.

2.102 The net debt/RAB ratio in 2014-15 is 0.5 percentage points higher than our PR13 assumption. This is because Network Rail was less efficient in the year than we assumed in PR13 and there was more capital expenditure than we assumed in PR13. This is partially offset by lower financing costs.

3. Scotland

Introduction

3.1 This chapter summarises Network Rail’s actual expenditure, income, financial performance and efficiency in Scotland, including variances compared to our PR13 determination and 2013-14. The chapter also covers the Regulatory Asset Base, debt and financial indicators. We do not cover borrowing because there is not a separate notified borrowing limit for Scotland in 2014-15. Also, we do not cover financing costs in this chapter because Network Rail’s interest rates on its debt are the same in Great Britain and Scotland.

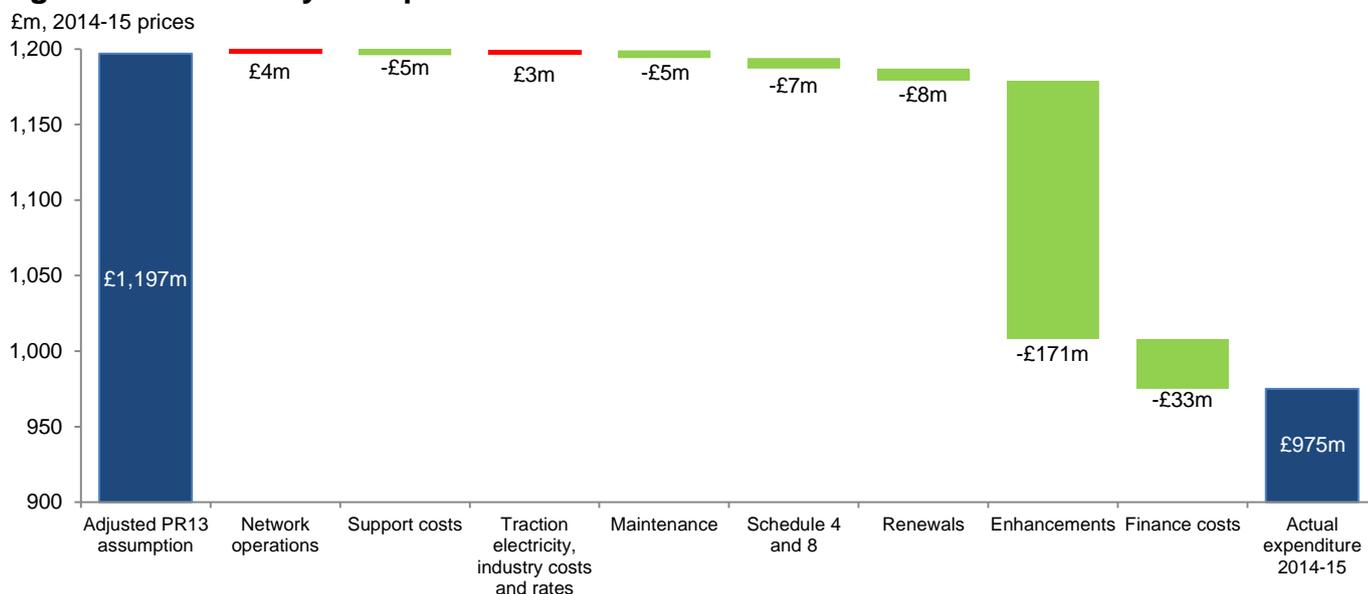
3.2 We identify the factors where the variances in Scotland are significantly different to those in Great Britain overall⁶⁷.

Expenditure

Overview

3.3 Network Rail’s total expenditure in Scotland in 2014-15 was £975m. This was £222m (18.5%) lower than we assumed in our PR13 determination.

Figure 3.1: Summary of expenditure variances for Scotland



Source: Network Rail’s regulatory financial statements and our own analysis.

Note: A negative sign in the graph above denotes reduced expenditure compared to our determination

⁶⁷ The Scotland route is approximately 10% of the size of the Great Britain network. This can be used as a sense check to determine whether variances are significant relative to those in Great Britain as a whole. Our analysis in this section focuses only on material variances.

Table 3.1: Summary of key financial information for Scotland

£m, 2014-15 prices	2014-15			2013-14	
	Actual	PR13	Variance	Actual	Variance
	(A)	(B)	(B-A)	(D)	(D-A)
Expenditure					
Network operations	45	41	-4	43	-2
Support costs	44	49	5	59	15
Traction, electricity, industry costs and rates	46	43	-3	55	9
Maintenance	106	111	5	115	9
Schedule 4 & 8 costs	14	21	7	10	-4
Renewals	270	278	8	312	42
Enhancements – PR13	315	493	178	21	-294
Enhancements – non-PR13	7		-7	245	238
Financing costs	128	161	33	123	-5
Rebate payments ⁶⁸	-	-	-	33	33
Total	975	1,197	222	1,016	41
Finance					
RAB	5,318	5,564	246	5,035	-283
Net debt	3,336	3,542	206	2,965	-371
Adjusted interest cover ratio	1.23	1.02	-0.21	2.64	1.41
Gearing (net debt / RAB)	62.7%	63.7%	1.0%	58.9%	-3.8%

Source: Network Rail's regulatory financial statements

Network operations

3.4 Adjusted for inflation, our assessment shows that compared to the assumptions that we made in our PR13 determination, Network Rail spent £4m (9.8%) more on network operations. This was due to higher signaller staffing costs because of a higher spend at the end of CP4 than we assumed that continued into CP5, and delays in implementing efficiency initiatives. Expenditure is £2m higher than in 2013-14, mainly due to pay awards being above inflation.

Support

3.5 Expenditure on support costs was £5m (10.2%) less than our PR13 determination due to one-off savings. The underlying costs are in line with the determination. Expenditure is £15m (25.4%) less than in 2013-14 due to one-off movements for the same reasons as for Great Britain.

Traction electricity, industry costs and rates

3.6 In Scotland, expenditure was £3m (7.0%) higher than our PR13 determination for the same reasons as for Great Britain. Expenditure is £9m (16.4%) lower than in 2013-14

⁶⁸ In 2013-14, Network Rail returned amounts to governments to allow them to share in Network Rail's outperformance of the regulatory settlement in the early years of CP4. No such rebates were paid this year.

because of a change in Network Rail assumptions in PR13 about how much of the income and costs arising from traction electricity should be attributed to different routes.

Maintenance

3.7 Maintenance expenditure in Scotland in 2014-15 was £5m (4.5%) less than our PR13 determination. This is largely due to a lower level of reactive maintenance expenditure than was assumed in PR13 in particular on civils and buildings as a result of external factors and conditions that meant some of the expenditure was not required. It was partly offset by investment in initiatives such as the Tidy Railway programme where most of the expenditure fell in 2014-15.

3.8 Expenditure was £9m (7.8%) lower than in 2013-14 because of a lower level of reactive maintenance expenditure on civils and electrical power and fixed plant. This was partially offset by higher spending on the Tidy Railway and vegetation clearance programmes in addition to more investment in local asset management teams as planned for CP5 and reflected in our PR13 expenditure assumptions.

Schedules 4 & 8

3.9 Expenditure on schedule 4 and 8 in 2014-15 was £7m (33.3%) lower than our determination. This included a £10m favourable variance on schedule 4 due to more efficient planning of possessions and deferral of renewals activities. This was partially offset by a £3m higher spend on schedule 8 because train performance did not meet the PR13 targets in 2014-15. Expenditure was £4m (40.0%) higher than in 2013-14. However both schedule 4 and 8 rates changed significantly between CP4 and CP5 therefore 2014-15 cannot be compared with 2013-14 in a meaningful way.

Renewals

3.10 Renewals expenditure in Scotland in 2014-15 was £270m. This was £8m (2.9%) lower than we assumed in our PR13 determination and £42m (13.5%) lower than in 2013-14. Although Network Rail's renewals expenditure was lower than our PR13 assumption by £8m, once that number has been adjusted for timing issues then Network Rail has overspent by £44m.

3.11 As in Great Britain, the overspend in 2014-15 of £44m is largely due to higher than assumed unit costs.

Table 3.2: Calculation of renewals overspend in Scotland for 2014-15

£m, 2014-15 prices	Variance 2014-15	
PR13 determination	278	
Actual expenditure 2014-15	<u>270</u>	
2014-15 underspend before adjusting for net deferrals		8
Adjust for net deferrals:		
CP4 rollover	7	
Deferred to later in CP5	<u>-59</u>	
Net deferrals		<u>-52</u>
Total overspend		-44

Source: Network Rail's regulatory financial statements and our own analysis

3.12 The main variances are largely due to:

- a. in signalling, there was an overspend on the Motherwell North, Pomadie-Rutherglen and Inverness schemes. There were also higher Network Operating Strategy (NOS) costs and delays in completion impacting operational savings and performance improvements; and
- b. in civils, earthworks is higher than the PR13 assumption due to more activity in rock and soil cuttings in response to emerging asset condition and needs, and Bridgeguard 3⁶⁹ was overspent because PR13 assumed no expenditure would be incurred.

3.13 Compared to 2013-14 there was £42m lower expenditure. As in Great Britain, this largely reflects the re-profiling of expenditure during CP4, where significant deferrals were made from the early part of CP4 to 2013-14, and there was deferral of work from 2014-15 (the first year of CP5) to later in CP5, which more than offset the higher unit costs.

Enhancements

3.14 Total enhancements expenditure for Scotland in 2014-15 was £322m. This includes £315m of PR13 enhancement expenditure and £7m of other enhancement expenditure not included in our PR13 determination.

3.15 Actual expenditure on PR13 enhancements was £178m (36.1%) lower than our adjusted PR13 determination in 2014-15. The largest part of this variance, £109m (53.3% lower than PR13) was due to Network Rail assuming a different profile of programme delivery for the Edinburgh Glasgow Improvement Programme (EGIP) to that in PR13.

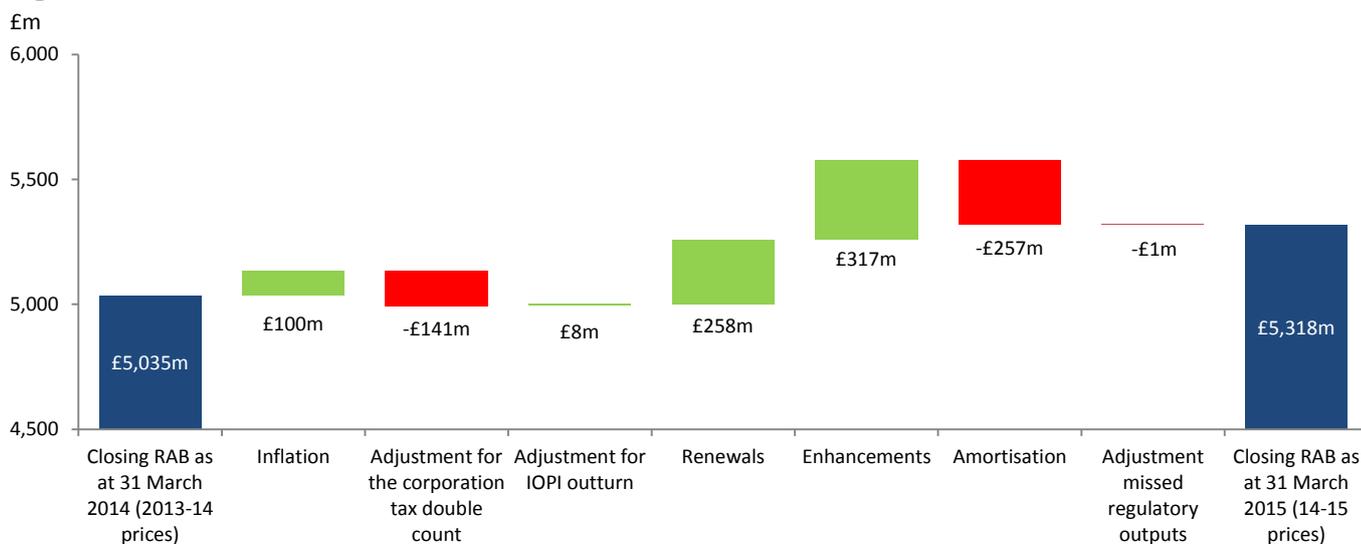
⁶⁹ This is a programme fulfilling the requirements of the Government's response to the EU directive on specification of road-over-rail bridges.

3.16 Other significant variances to PR13 included £24m (72.7%) on funds due to slower delivery than anticipated and re-profiling of expenditure to later in CP5 compared to our PR13 assumption. In addition, in line with Network Rail’s internal plan there was much lower expenditure on some specific schemes including the Aberdeen-Inverness journey time improvements and Highland main line journey time improvements (phase 2) due to rephasing of these works.

Regulatory Asset Base

3.17 As shown in Figure 3.2, the regulatory asset base (RAB) for Scotland increased by £283m from £5,035m to £5,318m in 2014-15. This was made up of an increase of £100m due to indexation⁷⁰, a -£141m adjustment for the corporation taxation double count, an adjustment for IOPI outturn of £8m in CP4, RAB additions of £258m for renewals and £317m for enhancements, and a reduction of £257m for the amortisation charge. There was also a -£1m adjustment for missed regulatory outputs reflecting Network Rail’s estimate of the adjustment we will make for the impact of missed enhancement milestones.

Figure 3.2: RAB movement in 2014-15 in Scotland

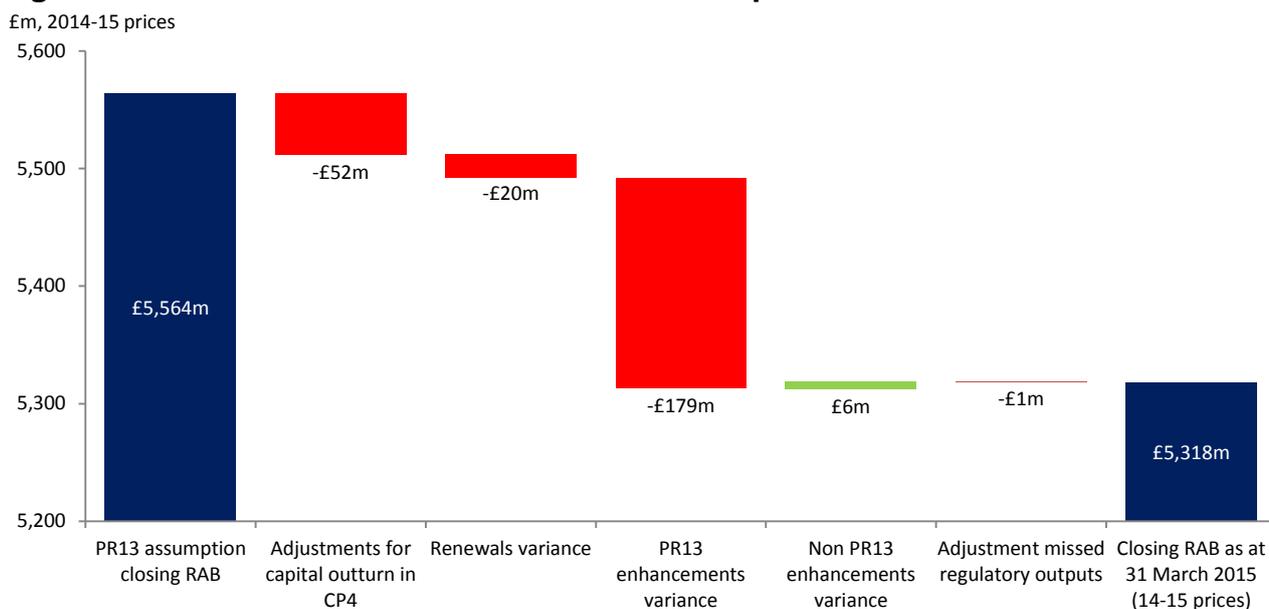


Source: Network Rail’s Regulatory Financial Statements

⁷⁰ In line with our RAB roll-forward policy, we index the RAB each year for November – November RPI. This ensures the value of the RAB remains constant with respect to inflation.

3.18 The reasons for the difference of £246m between the actual closing RAB at 31 March 2015 of £5,318m and our determination assumption of £5,564m are shown in Figure 3.3 (i.e. in PR13 we assumed the RAB would increase by £529m in 2014-15, £246m more than the actual increase of £283m). The variance includes an adjustment for actual capital expenditure in CP4 being £52m lower than we assumed in our determination, £20m lower additions to the RAB for renewals expenditure, £179m lower additions to the RAB for PR13 enhancements expenditure, £6m of expenditure on non-PR13 enhancements, and a downwards adjustment for a missed regulatory output of £1m.

Figure 3.3: Actual RAB at the end of 2014-15 compared to PR13 in Scotland



Source: Network Rail's regulatory financial statements

Renewals variances

3.19 The largest reason for the lower renewals RAB addition of £20m was a £65m deferral of expenditure from the first year of CP5 to later in the control period because Network Rail has profiled its expenditure in a different way to that assumed within PR13.

3.20 This was partly offset by Network Rail spending £44m more than assumed in PR13 on the renewals volumes it undertook in 2014-15, largely driven by higher unit costs on track renewals at the end of CP4 than we had assumed in PR13. As this expenditure was not manifestly inefficient, 75% of the overspend (£33m) is added to the RAB.

Enhancements variances

3.21 The main reason for the enhancements expenditure being significantly below our PR13 assumption is that Network Rail has re-profiled expenditure on significant projects including EGIP, Aberdeen-Inverness journey time improvements and Highland main line journey time improvements (Phase 2).

Net debt

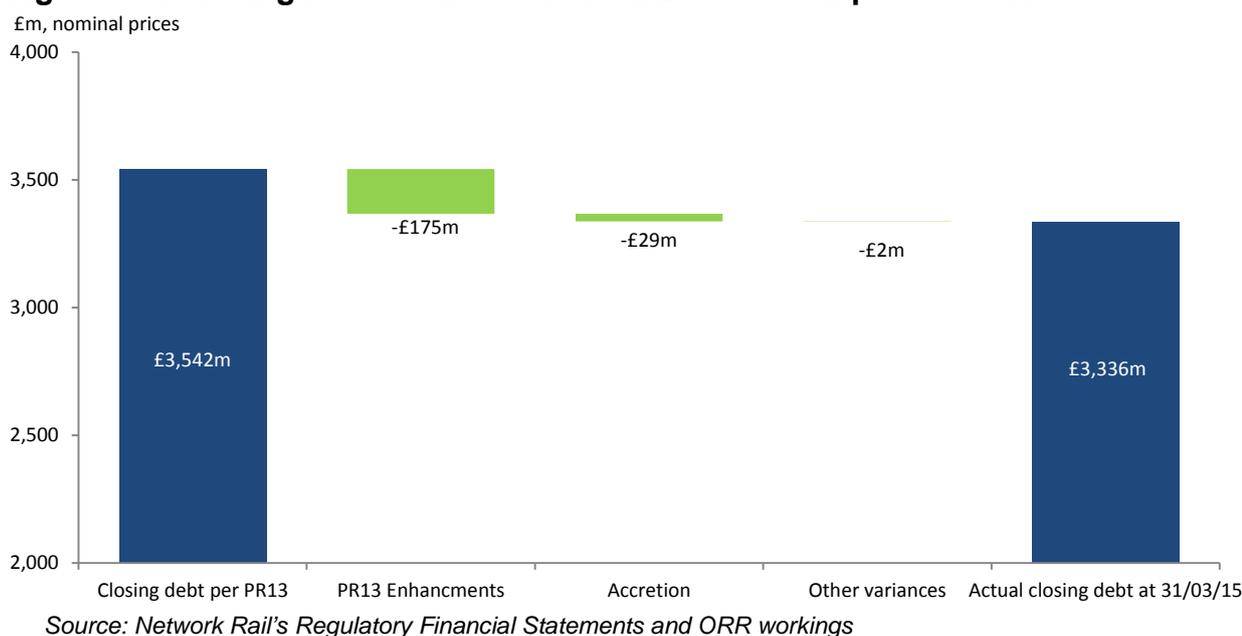
3.22 Network Rail's debt in Scotland increased by £371m from £2,965m to £3,336m in 2014-15. The reasons for this are summarised in Figure 3.4 and are for the same reasons as discussed in the income and expenditure section.

Figure 3.4: Movement in net debt in Scotland in 2014-15



3.23 Compared to our PR13 determination of £3,542m, Network Rail's actual closing debt in Scotland was £3,336m, £206m lower than we assumed. The reasons for this are summarised in Figure 3.5.

Figure 3.5: Closing net debt in Scotland in 2014-15 compared to PR13



3.24 These variances are driven by £175m lower enhancement expenditure, £29m lower accretion and £2m other variances including a lower opening net debt assumption due to enhancements and renewals rollover.

Income

3.25 As shown in Table 3.3, total income in 2014-15 for Scotland was £643m. For the same reasons as Great Britain this was £7m (1.1%) higher than we assumed in our PR13 determination and £87m (11.9%) lower than in 2013-14.

Table 3.3: Overview of total income - Scotland

£m, 2014-15 prices	2014-15	PR13	Variance	2013-14	Variance
Income	(A)	(B)	(B-A)	(D)	(D-A)
Grant income	426	424	-2	294	-132
Franchised track access income	163	158	-5	381	218
Other single till income	54	54	0	55	1
Total	643	636	-7	730	87

Source: Network Rail's regulatory financial statements

3.26 The reduction in income compared to 2013-14 reflects the removal of the risk-buffer from Network Rail's funding in CP5 (as it is now expected to manage risk through its balance sheet) and the efficiencies Network Rail is required to make in CP5.

Financial performance and efficiency

Financial performance measure

3.27 As shown in Table 3.4 below, Network Rail's initial assessment of financial underperformance before output adjustments was £8m for 2014-15 when compared with the financial assumptions underpinning our PR13 assessment of the funding Network Rail requires in CP5. However, upon review this was adjusted to £6m of financial underperformance before output adjustments⁷¹.

⁷¹ Network Rail in its regulatory financial statements did not remove financial underperformance caused by civils volumes, which are out of the scope of financial performance. We have now adjusted for this issue.

Table 3.4: Financial performance measure for Scotland⁷²

£m, 2014-15 prices	Actual	PR13	Variance	FPM
Total income (from Table 3.3)	643	636	7	
Total expenditure (From Table 3.1)	<u>975</u>	<u>1,198</u>	<u>222</u>	
Net costs	332	562	229	
Remove variances on items excluded from FPM			-37	
Remove variances in volume of work			<u>-233</u>	
Final variance prior to application of the RAB roll forward policy				-41
Remove 75% of:				
Renewals variance ⁷³	-44	x 75%	-33	
PR13 enhancements variance	0	x 75%	0	
				<u>-33</u>
Total financial underperformance prior to ORR adjustment				-8
ORR adjustment for civils volumes				<u>2</u>
Financial underperformance before adjusting for under-delivery of outputs and adjustments for other matters				-6
Adjustments for under-delivery of outputs:				
Public Performance Measures (PPM)		-4		
Missed enhancement milestones		<u>-1</u>		
				-5
ORR adjustments for under-delivery of outputs				<u>1</u>
Total Financial Performance				-9

Source: Network Rail's regulatory financial statements. Rows and columns may not sum due to rounding.

3.28 The financial underperformance of £6m (before adjusting for under-delivery of outputs and adjustments for other matters) was largely due to the following reasons:

- renewals financial underperformance (£11m⁷³) was mostly in track, where unit costs have been adversely affected by technical problems with new high output equipment and the cost impact from changes to the procurement framework;
- network operations underperformance (£4m) due to Network Rail not achieving the efficiencies at the end of CP4 assumed in our PR13 determination;
- schedule 8 underperformance (£3m) due to lower than expected train performance partly as a result of a worse CP4 outturn and the impact of additional traffic during the Glasgow Commonwealth Games putting a greater demand on the network and adversely affecting PPM; and

⁷² See Annex A for more information on the calculation of Finance Performance.

⁷³ We make this adjustment because Network Rail is only exposed to that amount of risk in accordance with our RAB roll forward policy. Renewals: £11m = £44m x 25%. This is the amount left in financial performance after the adjustment shown in the table above.

- d. schedule 4 outperformance (£7m) is due to more efficient planning of possessions and favourable settlements of commercial claims.

3.29 Network Rail's overall assessment included a further £5m of deductions for under-delivery of regulatory output requirements that were funded in PR13. This was revised to a £4m deduction after our review⁷⁴. These adjustments were for worse train performance (90.5% PPM against a target of 92.0%) and late delivery of an enhancement milestone.

3.30 Whilst the financial underperformance in Scotland was broadly for the same reasons as in Great Britain, in relative terms, the level of financial underperformance in Scotland was not as significant as for Great Britain as a whole. This was because the underperformance on maintenance, renewals and enhancements was proportionately smaller for the reasons outlined in this chapter.

Efficiency

3.31 In Scotland, Network Rail has reported a reduction in efficiency of 1.1% in 2014-15 which (as in Great Britain as a whole) is largely driven by the rising costs of renewals. In 2014-15 there was a negative efficiency of 5.0% on renewals.

3.32 By the end of CP5 Network Rail expects to achieve efficiency of 20.5%. This compares favourably to the position for Great Britain overall.

Financial indicators

3.33 Our PR13 determination included forecasts of a number of financial indicators, including the net debt/RAB ratio and the adjusted interest cover ratio (AICR). We report these below in Table 3.5.

Table 3.5: Financial indicators in 2014-15 for Scotland

	Actual 2014-15	PR13	Actual 2013-14
Adjusted interest cover ratio (AICR)	1.23	1.02	2.64
Net debt/RAB ratio	62.7%	63.7%	58.9%

Source: Network Rail regulatory financial statements

3.34 In 2014-15, the AICR⁷⁵ ratio decreased by 1.41 index points compared to 2013-14. This is mainly due to Network Rail in Scotland in 2013-14 having a high AICR, largely because the PR08 determination assumption for 2013-14 was 1.88 and that Network Rail underspent in 2013-14 on SOMR and financing costs. It also reflects the decision to

⁷⁴ Our review of Network Rail's financial performance calculation changed the way the underperformance at a GB level is apportioned to Network Rail routes to better reflect the way individual operators and routes contributed to underperformance.

⁷⁵ The adjusted interest cover ratio is the net funds from operations divided by net interest payments. An AICR greater than 1 indicates an entity generates sufficient cash from its business operations to meet its interest costs.

remove some of the risk-buffer from Network Rail's funding settlement in CP5, which, everything else being equal, reduced the revenue Network Rail would receive as it can use its balance sheet to deal with financial risk in CP5, and it also reduced the AICR.

3.35 The AICR ratio is 0.21 index points higher than our PR13 assumption. This is because Network Rail had £33m lower financing costs in 2014-15, largely due to deferrals of renewals and enhancements.

3.36 The net debt/RAB ratio increased by 3.8 percentage points between 2013-14 and 2014-15 to 62.7%. The material drivers of this increase are the £315m of enhancements in 2014-15 that are debt-funded and the decision by ORR to reduce the RAB by £141m for the corporation tax double count.

3.37 The net debt/RAB ratio in 2014-15 is 1.0 percentage points lower than our PR13 assumption. This is because there was lower capital expenditure and financing costs than we assumed in PR13. This is partially offset by Network Rail being less efficient in the year on SOMR.

4 Great Britain route analysis

Introduction

4.1 This chapter summarises Network Rail's actual expenditure, income and financial performance at route level including variances compared to our PR13 determination.

Purpose

4.2 In a company as large as Network Rail, it is difficult to fully understand issues at an aggregate level, so some form of disaggregation is essential. Since 2011-12 we have required Network Rail to publish route-based statements as part of its regulatory financial statements. Route-based data allows us to understand Network Rail's performance at a more granular level, improves our overall understanding and provides additional information for external stakeholders.

4.3 In particular, we are mindful of the Welsh Government's wish for greater transparency on Network Rail's activities in Wales and we will enhance our assurance to the Welsh Government by providing disaggregated route data for Wales in our Annual Efficiency and Finance Assessment and in our six monthly Network Rail Monitor.

4.4 This section provides a simple comparison of route expenditure compared to PR13 in 2014-15. The data is not normalised to reflect differences in characteristics of routes, such as length of track, electrification, geography and types of services. Therefore, this analysis cannot be used at the moment to draw conclusions about the relative performance of the routes. But it can highlight particular issues at a route level of the differing impact of challenges faced by Network Rail. We have focused on variances that differ in scale or nature to Great Britain as a whole. This analysis will be refined over time and some further route-based analysis will be included within our six monthly Network Rail Monitor publication.

4.5 We have also included a section on asset reliability and sustainability. From a financial point of view understanding asset reliability and sustainability at a route level improves our understanding of the financial variances on renewals.

Internal governance

4.6 Network Rail has increasingly devolved operational responsibility to the operating routes in England & Wales over the past four years to enable quicker and more responsive decision making, reduce costs and improve engagement with customers. In our monitoring of Network Rail we have correspondingly increased our engagement with the company's route management teams. We welcome these changes and have engaged positively with the route management teams.

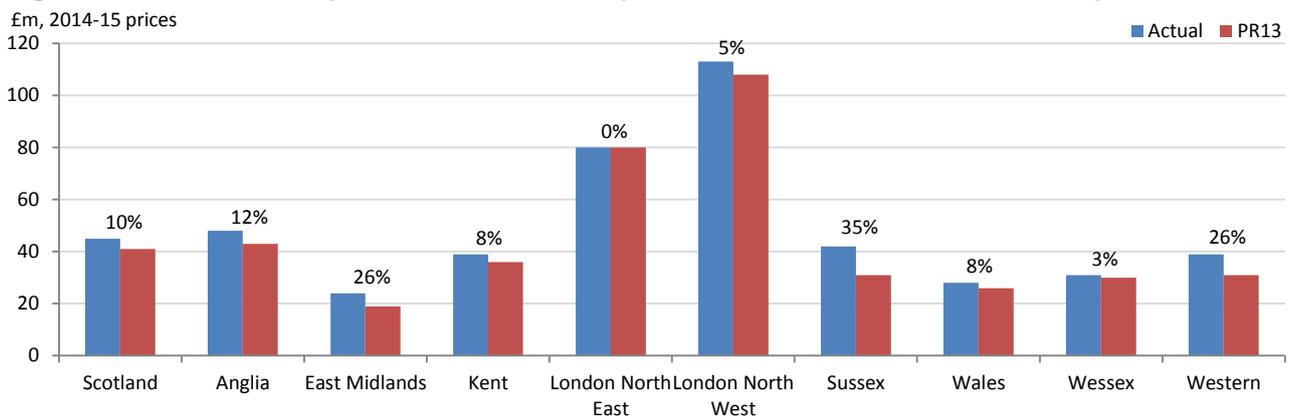
4.7 We have found that the route management teams have taken on more responsibility and they are in some cases making more informed decisions as they have more autonomy to better respond to local requirements. Although the centre is still accountable for the performance of the routes, its processes for managing the business in this way are still being developed and this has led to some difficulty in coordinating the company's overall business plans.

Expenditure and income

Network operations

4.8 As set out in paragraph 2.11, in 2014-15, due to delays in implementing efficiency initiatives in CP4 all routes spent more than our PR13 assumption other than London North East where expenditure was in line with PR13 due to greater efficiencies being made relative to the other routes. In percentage terms the largest variances were in Sussex (35%), East Midlands (26%) and Western (26%). In Sussex, one of the major reasons for the variance was a delay in implementing efficiency initiatives in CP5 such as the East Sussex re-signalling programme.

Figure: 4.1 Network operations actual expenditure and our PR13 assumptions



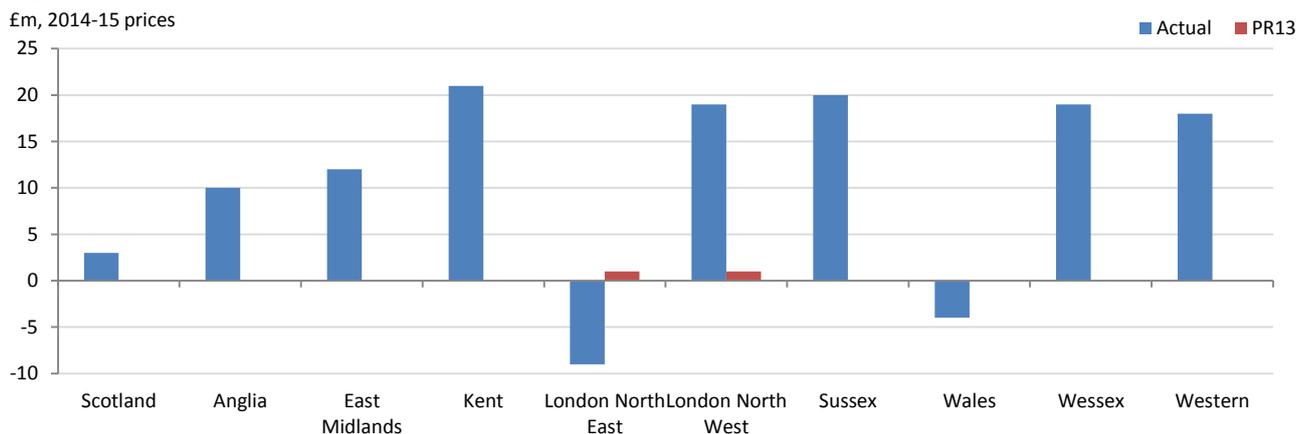
Source: Network Rail's Regulatory Financial Statements and our own analysis

Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

Schedule 8

4.9 All routes other than London North East and Wales underperformed against the PR13 assumptions. Some underperformance was anticipated by Network Rail in the early years of CP5 and this was reflected in its 2014 Business Plan. The outperformance in the London North East route was due to fewer delays than our PR13 assumption and was achieved by Network Rail focusing on critical assets, vegetation management and limiting the impact of possession overruns. In Wales, the favourable variance is due to better performance than expected on the long-distance elements of the route because of closer working with Arriva Trains Wales through a Valley Recovery Taskforce.

Figure 4.2: Schedule 8 actual expenditure and our PR13 assumptions⁷⁶



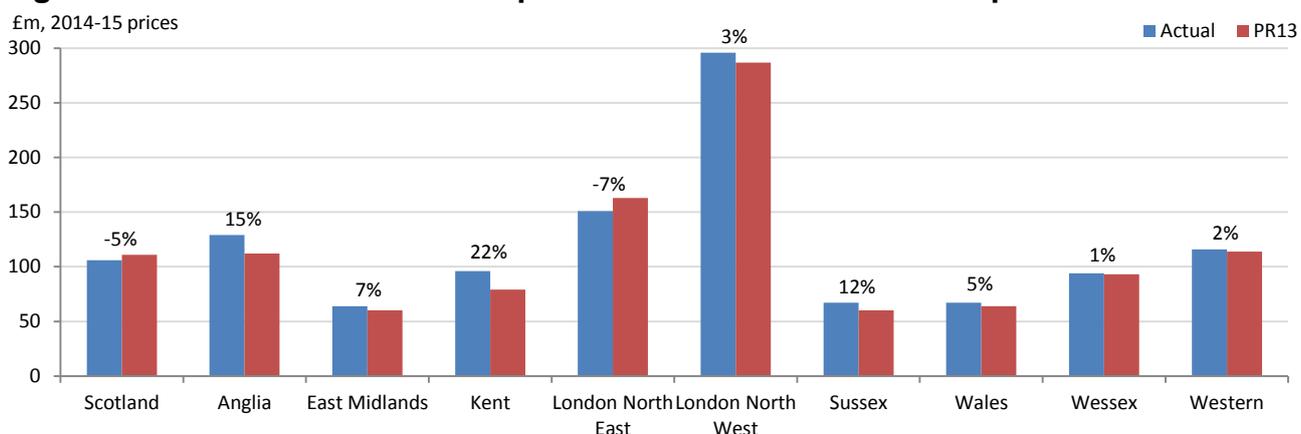
Source: Network Rail's Regulatory Financial Statements

Note: Positive variances are payments from Network Rail to operators. Negative variances are payments by Operators to Network Rail

Maintenance

4.10 For the reasons set out in the Great Britain section of this report, all routes spent more than our PR13 assumption other than London North East and Scotland. In these routes the reasons for lower expenditure was a lower level of reactive maintenance in 2013-14 than assumed in PR13, in particular on buildings and civils. Expenditure in all routes was affected by additional originally unplanned (non-recurring) investment in the Tidy Railway programme (which benefits workforce safety), and reducing the level of vegetation (which reduces train delays). In percentage terms the largest variance was for Kent (22%) where there was additional expenditure on winter resilience to mitigate train performance issues and expenditure relating to a commercial claim for the costs of restoring a property held by Network Rail on a long-term lease.

Figure 4.3: Maintenance actual expenditure and our PR13 assumptions



Source: Network Rail's Regulatory Financial Statements and our own analysis

Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

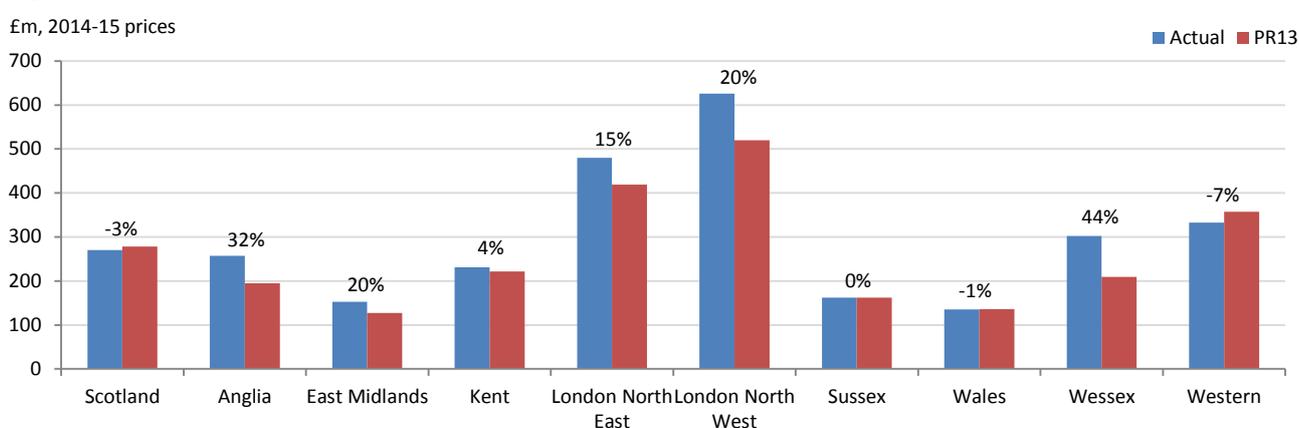
⁷⁶ Our PR13 assumption was that schedule 8 was revenue neutral other than £3.8m to meet the expected costs of schedule 8 Network Rail cancellation payments to freight operators.

Renewals

4.11 As discussed from paragraph 2.30 to 2.37 Network Rail as a whole spent more on renewals than our PR13 assumption.

4.12 Six routes spent more than we assumed in PR13 and four routes spent the same or less. In percentage terms the Anglia and Wessex routes had the largest variances compared to PR13 due to overspends on track and civils, and also in signalling for the Anglia route. The largest routes, LNE and LNW, also had significant variances mainly on track and also signalling for LNW. Scotland and Western spent less than our assumption as shown below.

Figure 4.4: Renewals – total actual expenditure and our PR13 assumptions



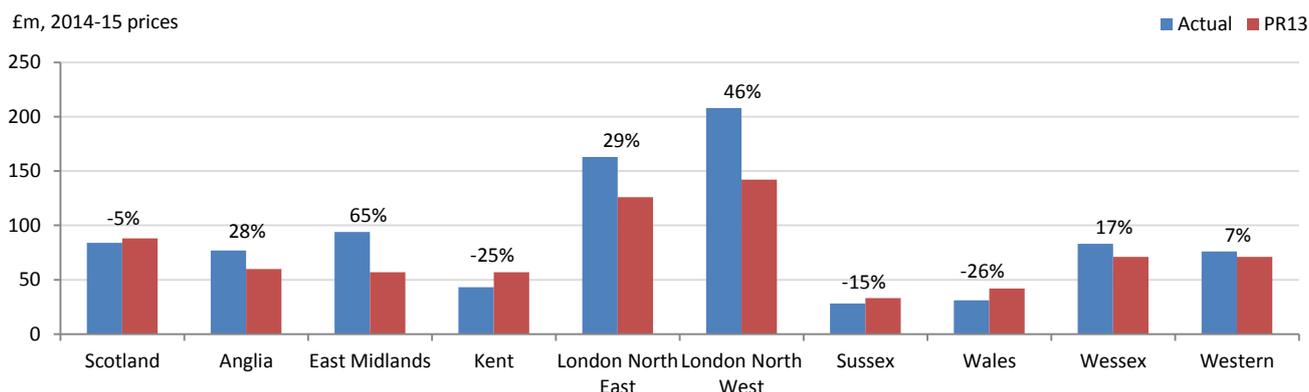
Source: Network Rail's Regulatory Financial Statements and our own analysis

Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

4.13 On track renewals, the largest variances were in the East Midlands and London North West and London North East routes. In East Midlands off-track⁷⁷ works costs were higher than expected in order to maintain asset quality and functionality. In LNW the variance was due to expected contractor savings not materialising, planned efficiencies from improved working practices not yet yielding the benefits it expected and costs on the Watford re-signalling programme were higher than anticipated. The variance in LNE is largely for the same reasons as given for Great Britain as a whole (higher unit costs due to supply chain issues).

⁷⁷ Off-track works include inspection, maintenance and renewal of level crossings, fencing, drainage, vegetation management and access.

Figure 4.5: Renewals - track actual expenditure and our PR13 assumptions

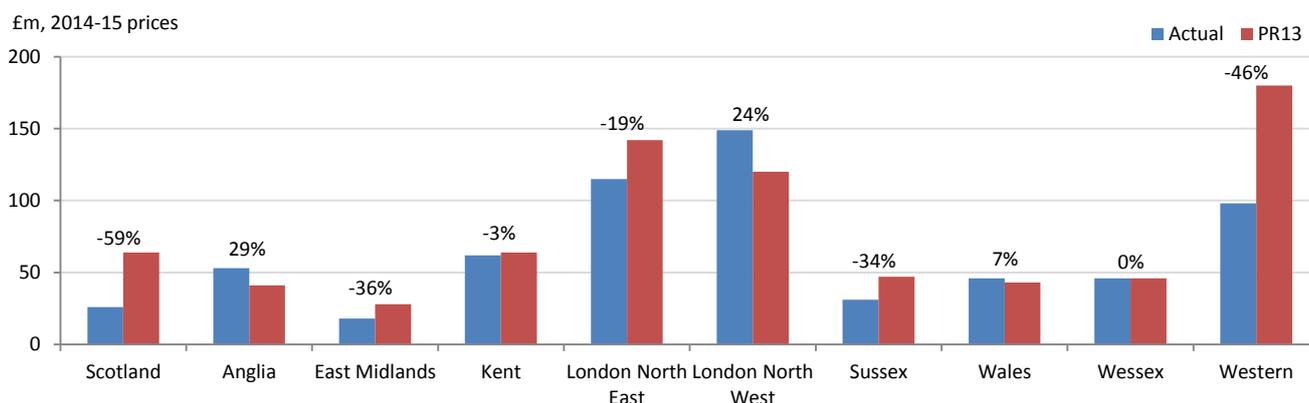


Source: Network Rail's Regulatory Financial Statements and our own analysis

Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

4.14 In general there were some large positive and negative variances across the routes on signalling renewals. In particular in Scotland and Western actual expenditure was significantly below our assumption in PR13. This was due to deferrals of particularly large signalling projects (including an element of NOS programmes) in these routes.

Figure 4.6: Renewals - signalling actual expenditure and our PR13 assumptions

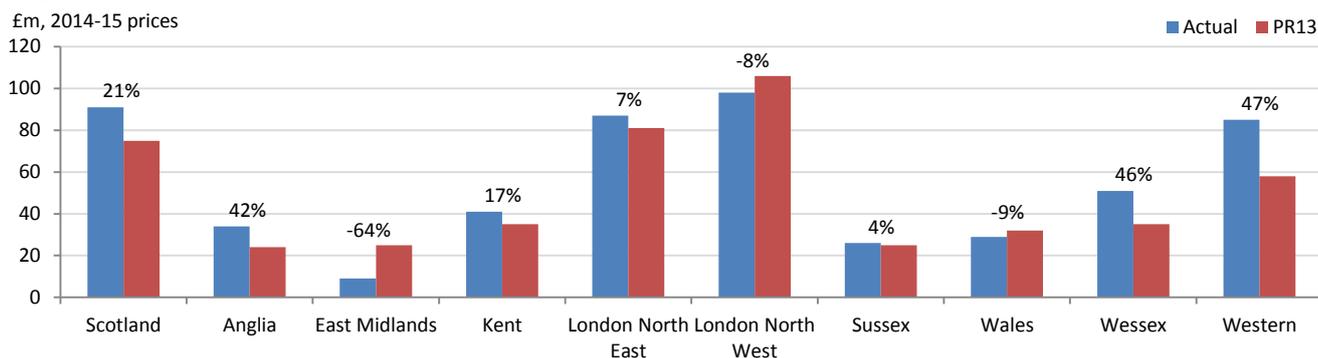


Source: Network Rail's Regulatory Financial Statements and our own analysis

Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

4.15 In general there were some large positive and negative variances across the routes on civils renewals. In seven routes civils renewals were higher than our PR13 assumptions and in three routes civils renewals expenditure was below our PR13 assumptions. The largest variance was on the East Midlands route where civils expenditure was 64% below PR13, which in addition to the re-profiling of volumes of underbridges (as in all routes), was also due to re-profiling of earthworks volumes.

Figure 4.7: Renewals civils actual expenditure and our PR13 assumptions



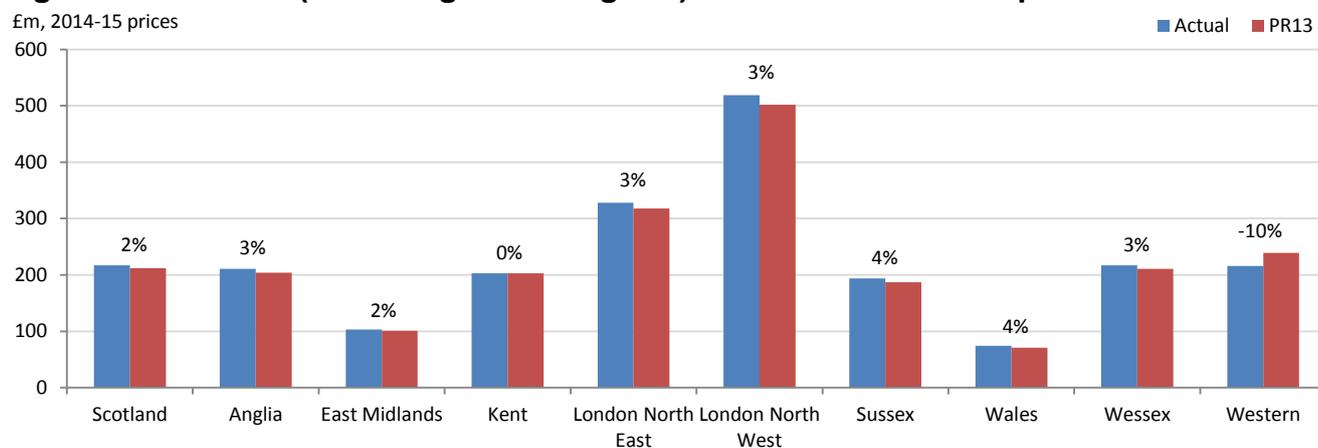
Source: Network Rail Regulatory Financial Statements and our own analysis

Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

Income

4.16 In the Western route, income was 10% below our PR13 assumption because in PR13 we assumed Network Rail would receive income from Crossrail. The income we assumed would have covered the borrowing costs Network Rail would incur in raising debt to deliver the investment as part of the Crossrail programme⁷⁸. Instead, Network Rail received the funding for the investment directly from Crossrail. As Network Rail was not required to borrow to fund investment in Crossrail, and did not incur any interest costs, it did not receive any income in the year for finance costs.

Figure 4.8: Income (excluding network grant) and our PR13 assumptions



Source: Network Rail Regulatory Financial Statements and our own analysis

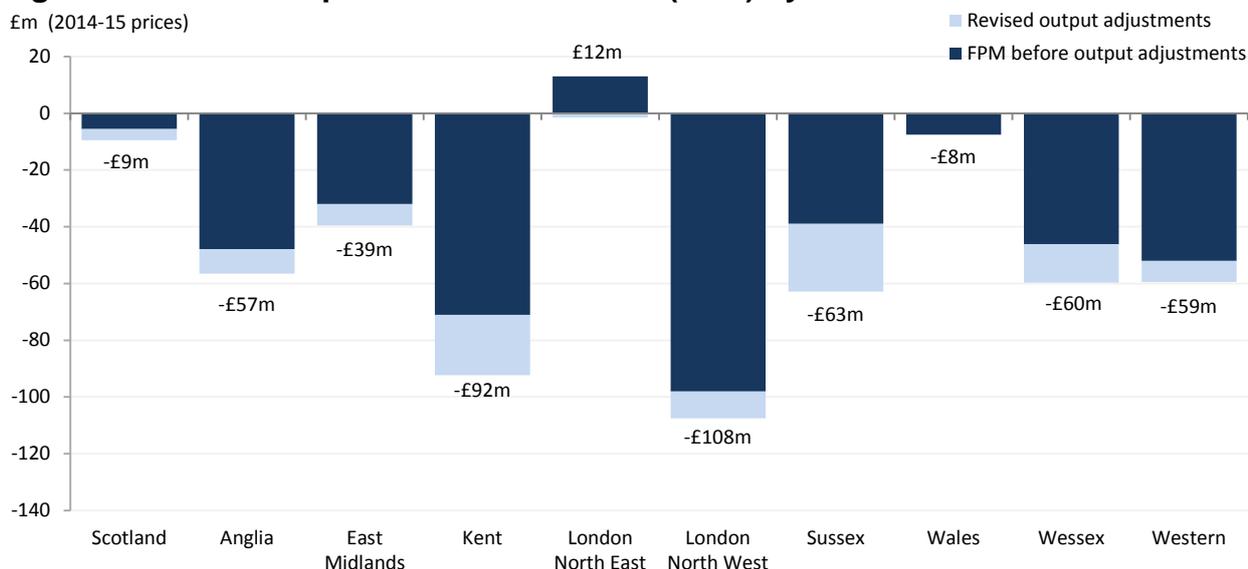
Note: The above %'s represent routes' variance in spend compared to our PR13 assumption

⁷⁸ This is because Network Rail debt funds enhancement expenditure, and it receives income to fund the efficient interest costs on this debt.

Financial Performance Measure

4.17 As shown in Table 2.9 financial underperformance for Great Britain as a whole measured by FPM was £485m, comprising £386m underperformance before adjustments for under-delivery of outputs and £98m of output adjustments.

Figure 4.9: Financial performance measure (FPM) by route



Source: ORR adjustments to Network Rail's regulatory financial statements

4.18 Each route's contribution to the Great Britain total varies considerably, with the London North East (LNE) route financially outperforming by £12m and London North West (LNW) route underperforming by £108m (c25% of the GB total).

4.19 For LNE, this has largely been achieved through financial outperformance on variable income as a result of additional capacity charges as Network Rail supplied additional train paths in response to customer demand, lower schedule 4 costs from better planning of possessions and more schedule 8 income from train performance. In particular on the East Coast main line Network Rail focused on critical assets, vegetation management and limiting the impact of possession overruns.

4.20 The LNW underperformance reflects a number of the issues common to all routes but with a greater impact because it is the busiest route (measured by train kms). On maintenance, LNW had the highest financial underperformance £19m (24% of £79m GB total). Anglia and Kent had similar levels of underperformance on maintenance as LNW, but they are much smaller routes.

4.21 On renewals, LNW had the highest financial underperformance of £42m (23% of GB) this is comparable to the position across Great Britain on a relative basis. For PR13 enhancements, LNW was responsible for £19m of underperformance (53% of GB). This is mainly attributable to delays on the West Coast power supply update, Birmingham New Street Gateway and Manchester Victoria redevelopment.

Figure 4.10: Detailed analysis of FPM by route

£m	Scotland	Anglia	East Mids	Kent	LNE	LNW	Sussex	Wales	Wessex	Western	E&W	GB
Income												
Fixed Income ¹	0	0	0	0	0	0	0	0	-1	0	-1	-1
Variable Income	2	-1	3	-2	7	0	0	1	-1	-1	6	8
Other Single Till Income	0	3	-4	-5	1	-1	1	1	4	7	7	7
Opex memorandum account	1	1	0	0	1	2	1	1	1	2	9	10
Expenditure												
Network operations	-4	-5	-5	-3	0	-5	-11	-2	-1	-8	-40	-44
Support costs	3	6	3	4	7	10	6	2	6	2	46	49
Industry costs and rates	-2	-1	-1	0	-1	-2	0	-1	-1	0	-7	-9
Traction electricity	1	-2	-1	1	-1	4	-1	0	1	0	1	2
Network maintenance	-2	-18	-9	-17	-2	-19	-1	-5	-4	-2	-77	-79
Schedule 4 costs	7	-3	6	0	8	-8	-1	5	-4	-4	-1	6
Schedule 8 costs	-3	-10	-12	-21	10	-18	-20	4	-18	-17	-102	-105
Renewals	-11	-18	-11	-17	-17	-42	-13	-14	-27	-16	-175	-186
PR13 Enhancements	0	0	-1	-11	0	-19	0	0	-1	-4	-36	-36
Non PR13 Enhancements	0	0	0	0	0	0	0	0	0	-11	-11	-11
Total:	-8	-48	-32	-71	13	-98	-39	-8	-46	-52	-381	-389
ORR adjustments to financial out / under performance	2	0	0	0	0	0	0	0	0	0	0	3
Financial out / (under) performance before adjusting for under-delivery of outputs and adjustments for other matters	-6	-48	-32	-71	13	-98	-39	-8	-46	-52	-381	-386
Less adjustments for under-delivery of outputs and reduced sustainability												
Under-delivery of train performance (PPM)	-4	-8	-4	-9	-1	-17	-8	-1	-10	-7	-66	-70
Under-delivery of train performance (C&SL)	0	-3	-1	-3	-1	-5	-3	0	-3	-2	-21	-21
Missed Enhancement milestones	-1	0	-2	0	0	-1	0	-1	-1	0	-5	-6
Total adjustment for under-delivery outputs	-5	-11	-7	-12	-2	-23	-11	-2	-14	-9	-92	-97
ORR adjustments to adjustments for under-delivery of outputs and reduced sustainability	1	2	0	-9	1	13	-13	2	0	2	-2	-1
Financial out / (under) performance recognised	-9	-57	-39	-92	12	-108	-63	-8	-60	-59	-475	-485

1. We adjust for changes in civils volumes, which are outside the scope of financial performance. We have also adjusted for alliance payments, which are within the scope of financial performance but were excluded from Network Rail's calculation.

Source: Network Rail's regulatory financial statements

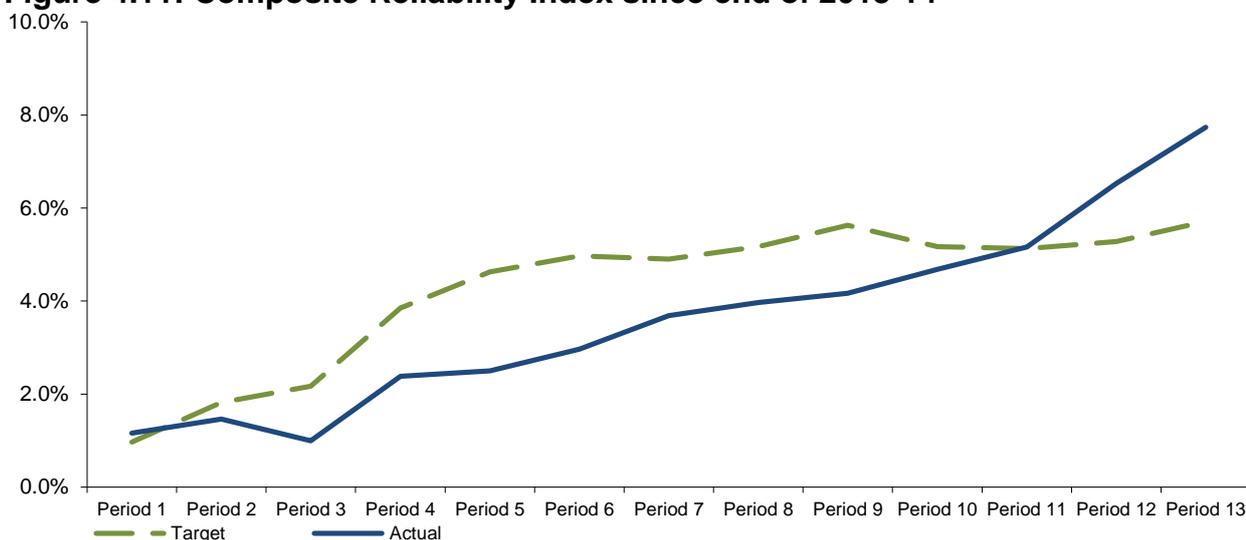
Asset reliability

4.22 Analysis of asset reliability can be used to help assess whether Network Rail is doing enough maintenance work. Network Rail measures asset reliability based on the number of incidents that have occurred, weighted by their impact on the network if an incident occurs. The reliability indices are produced for each type of asset at route level, relative to the number of asset failures at CP4 exit. The indices are rolled up into Composite Reliability Indices (CRI) for each asset class, each route and the network as a whole.

4.23 The number of incidents caused by Network Rail infrastructure failure has decreased over 2014-15⁷⁹. This overall improvement is because of more targeted interventions on the more critical parts of the network. However, the average delay minutes due to infrastructure incidents has increased (see Annex B).

4.24 As Figure 4.11 shows, the network-wide CRI has improved by 7.7% since CP4 exit. Within that overall figure, Wales as a route has seen a decrease in CRI, mostly driven by a 65.5% decrease in the track reliability index. Signalling and points reliability indices have both improved significantly in Anglia, resulting in an improved route CRI of 10.2%. Despite a fall in the earthworks reliability index of 14.2% in Wessex, there has been a 26.6% increase in the route's track reliability index, resulting in an 18.7% increase in the Wessex CRI.

Figure 4.11: Composite Reliability Index since end of 2013-14



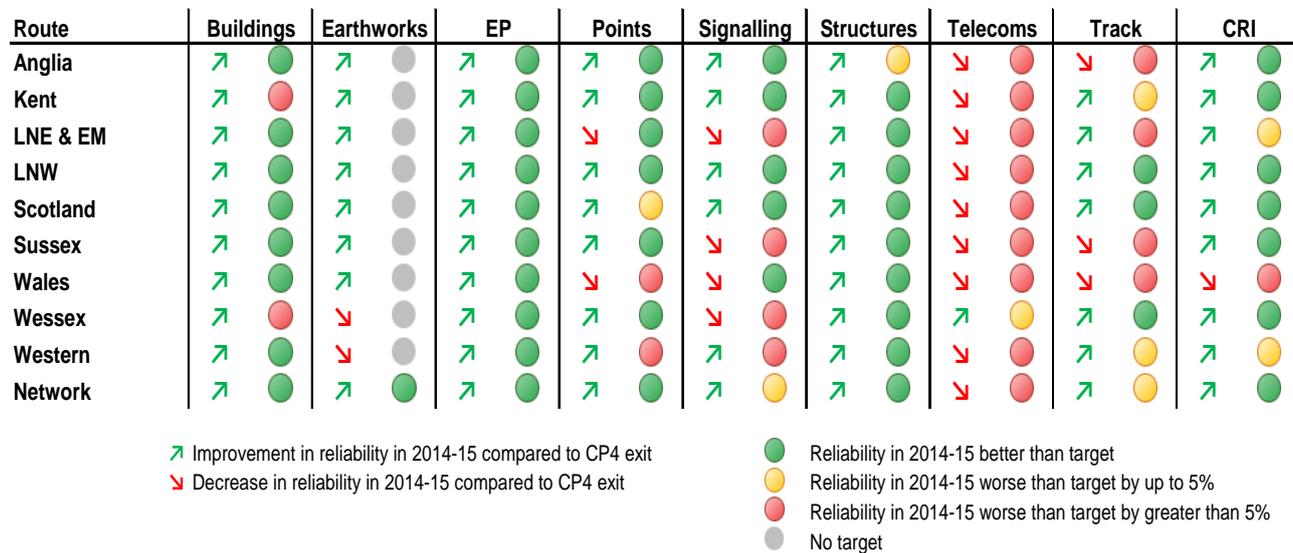
Source: Network Rail CRI report, Period 13 2014-15

4.25 However at asset class level (Figure 4.12), telecoms has deteriorated in performance (a fall in the reliability index of 49.3% across the network) and is worse than target for all routes. Deferrals in signalling schemes have resulted in signalling reliability being below target for the network as a whole, although some routes have met their

⁷⁹ ORR, [Network Rail Monitor, Q3-4, 2014-15](#), 12 June 2015

targets⁸⁰. Despite underperformance against the targets for signalling, telecoms and track, the network-wide composite reliability index ended the year two percentage points better than target.

Figure 4.12: Change in reliability indices by asset type and route since over 2014-15



Source: ORR analysis of Network Rail CRI report, Period13 2014-15

Note: Earthworks have a network-wide target but do not have route-level targets. LNE and East Midlands are presented together for management purposes

Sustainability

4.26 Network Rail is required to demonstrate that it is managing its assets on a sustainable basis by doing sufficient and appropriate maintenance and renewal work to counter wear, degradation and ageing of assets over time. This applies to network assets and stations.

4.27 As part of our annual assessment of Network Rail, we check whether it is maintaining its assets sustainably. One of the ways we do this is to check that its maintenance and renewal work is consistent with asset policies which we have agreed with Network Rail. These asset policies require that:

- assets are maintained in a safe condition;
- PR13 output targets can be achieved for a forecast level and mix of use; and
- whole life costs are minimised.

4.28 Good asset maintenance requires good asset knowledge and asset management skills. We report separately on Network Rail’s progress against the Asset Management Excellence Model in Chapter 6.

⁸⁰ Earthworks only have a target reliability index at network level.

4.29 Sustainability can be measured by using indicators for asset condition and remaining asset life. These indicators are combined and then weighted by the replacement cost of the asset to calculate sustainability indices for asset classes, which contribute to an overall Composite Sustainability Index (CSI). In general, the Composite Sustainability Index is a slow-moving measure.

4.30 Overall movements in the CSI in 2014-15 have been small, with a Network-wide degradation of 0.208% (Figure 4.13). This small movement at the aggregate level is not a concern. Where we have specific concerns, we have taken enforcement action⁸¹. At an asset level, the largest contribution to degradation has been from signalling. This is consistent with the significant deferral in signalling work in 2014-15⁸².

Figure 4.13: Change in sustainability indices by asset type and route over 2014-15

Asset	Anglia	EM	Kent	LNE	LNW	Scotland	Sussex	Wales	Wessex	Western	Network
Track	-0.101% ↓	0.251% ↑	0.046% ↑	0.043% ↑	-0.016% ↓	-0.113% ↓	-0.317% ↓	-0.152% ↓	-0.189% ↓	-0.008% ↓	-0.034% ↓
Signalling	-0.185% ↓	0.211% ↑	0.118% ↑	-0.150% ↓	-0.397% ↓	-0.020% ↓	-0.015% ↓	-0.452% ↓	-0.296% ↓	-0.323% ↓	-0.182% ↓
Telecoms	-0.022% ↓	-0.010% ↓	-0.011% ↓	-0.013% ↓	-0.030% ↓	-0.044% ↓	0.047% ↑	-0.050% ↓	-0.014% ↓	-0.040% ↓	-0.024% ↓
E&P	-0.089% ↓	-0.196% ↓	-0.061% ↓	-0.224% ↓	-0.205% ↓	-0.159% ↓	-0.040% ↓	0.000% ↑	-0.024% ↓	-0.020% ↓	-0.127% ↓
Buildings	0.019% ↑	0.002% ↑	0.002% ↑	0.030% ↑	0.001% ↑	0.014% ↑	-0.022% ↓	0.012% ↑	0.022% ↑	0.001% ↑	0.013% ↑
Structures	-0.192% ↓	-0.018% ↓	0.008% ↑	0.041% ↑	-0.066% ↓	-0.019% ↓	-0.031% ↓	-0.284% ↓	-0.004% ↓	-0.027% ↓	-0.046% ↓
Earthworks	-0.459% ↓	0.207% ↑	-0.287% ↓	-1.138% ↓	2.380% ↑	-1.658% ↓	0.174% ↑	0.301% ↑	0.117% ↑	1.938% ↑	0.206% ↑
Drainage	0.000% ↑	0.000% ↑	-0.002% ↓	-0.045% ↓	-0.023% ↓	0.036% ↑	0.000% ↑	0.000% ↑	-0.106% ↓	0.000% ↑	-0.015% ↓
CSI	-1.030% ↓	0.447% ↑	-0.187% ↓	-1.455% ↓	1.646% ↑	-1.964% ↓	-0.203% ↓	-0.625% ↓	-0.495% ↓	1.521% ↑	-0.208% ↓

Key

- ↑ Positive contribution to route sustainability at year end 2014-15 compared with CP4 exit (2013-14)
- ↓ Negative contribution to route sustainability at year end 2014-15 compared with CP4 exit (2013-14)

Source: Network Rail Composite Sustainability Index report, Period13 2014-15

4.31 The largest degradation in the sustainability index at route level has been in Scotland (1.964%), which is mostly driven by earthworks. At a more granular level, we note that more earthworks assets are in better condition in Scotland than last year but these have been the less expensive ones. The more expensive ones, which have a bigger weighting in the index, have degraded in condition and therefore the overall route index for these assets has degraded. In Western, both the overall condition (by number of earthworks) and the weighted index have improved. At the network level, the condition of earthworks has improved, reflecting the benign winter weather in 2014-15.

4.32 As part of PR13, we set up the Civils Adjustment Mechanism (CAM) to review and decide on efficient costs for civils (structures and earthworks) for years 3-5 of CP5. This was because there was insufficient asset and financial information for a full determination for civils in those years. On 31 March 2015, Network Rail submitted a bottom-up, costed

⁸¹ ORR, [Health and safety enforcement action taken](#)

⁸² In financial terms, the deferral was £279m.

workbank. We are broadly satisfied that the workbank is consistent with the condition of these assets and its asset policies. However, Network Rail was unable to provide sufficient certainty about the costs of the work for us to decide on the efficient costs⁸³.

4.33 **Assessment:** We have not made any sustainability adjustments to the Financial Performance Measure. Its relatively small degradation on some routes is not inconsistent with the asset policies we have agreed with Network Rail. These policies seek to maintain assets in a safe condition while meeting output targets and minimising whole life costs.

4.34 Stations are a key passenger interface and a determinant of passenger satisfaction on the railway. Station condition is also a potential safety concern and poorly maintained stations can present a risk to passengers. Our determination set Station Stewardship Measure targets for each year of CP5⁸⁴.

4.35 **Assessment:** Network Rail has achieved the 2014-15 Station Stewardship Measure targets for all categories of station. No financial performance adjustment is required.

⁸³ [Network Rail's submission under the Civils Adjustment Mechanism](#), letter from Alan Price (ORR) to Paul Plummer (Network Rail), 19 May 2015

⁸⁴ Table 10.7 in [Network Rail Annual Return 2015](#). A lower number indicates a better asset condition

5. Route-level efficiency benefit sharing

Introduction

5.1 This chapter presents our conclusion on route-level efficiency benefit sharing performance for each route.

5.2 The Route-level Efficiency Benefit Sharing (REBS) mechanism was introduced in CP5 to incentivise train operators to work with Network Rail to improve both financial and network performance. REBS replaces the Efficiency Benefit Sharing Mechanism (EBSM) used in CP4 and has the following key features:

- a. it operates at a Network Rail operating route level, rather than at a national (England & Wales and Scotland) level;
- b. it provides operators with both upside (25% share) and downside (10% share) exposure to Network Rail's cumulative financial performance over the control period, rather than just upside as with EBSM;
- c. it has payments that are capped for both outperformance and underperformance, which are set at the start of CP5 relative to REBS baselines;
- d. it provides train operators with an opt-out from the mechanism (by route) at the start of CP5 and in certain circumstances during CP5;
- e. it reflects the incentives that Network Rail faces in relation to its renewals expenditure; and
- f. it covers a large subset of Network Rail's costs in a similar way to the calculation of financial performance. Although it does not include enhancements and financing costs it is subject to adjustments for non-delivery of outputs.

5.3 REBS is based on Network Rail's ten operating routes as set out in our PR13 determination: Anglia, East Midlands, Kent, London North East, London North West, Scotland, Sussex, Wales, Western and Wessex. Since the determination, LNE and East Midlands have merged, as have Sussex and Kent. However, we continue to monitor the routes in accordance with our determination. Under Network Rail's devolution process, Route Managing Directors run each route but overall policies are set centrally.

5.4 Train operators (franchised passenger services, open access operators and freight) are opted in by default, unless they opt out. For newer franchises in England & Wales, train operators must have the consent of the Secretary of State to opt out. Operators may

also opt out if a material alliance is formed on a route that they use. Further details on the background and process are set out in our guidance⁸⁵.

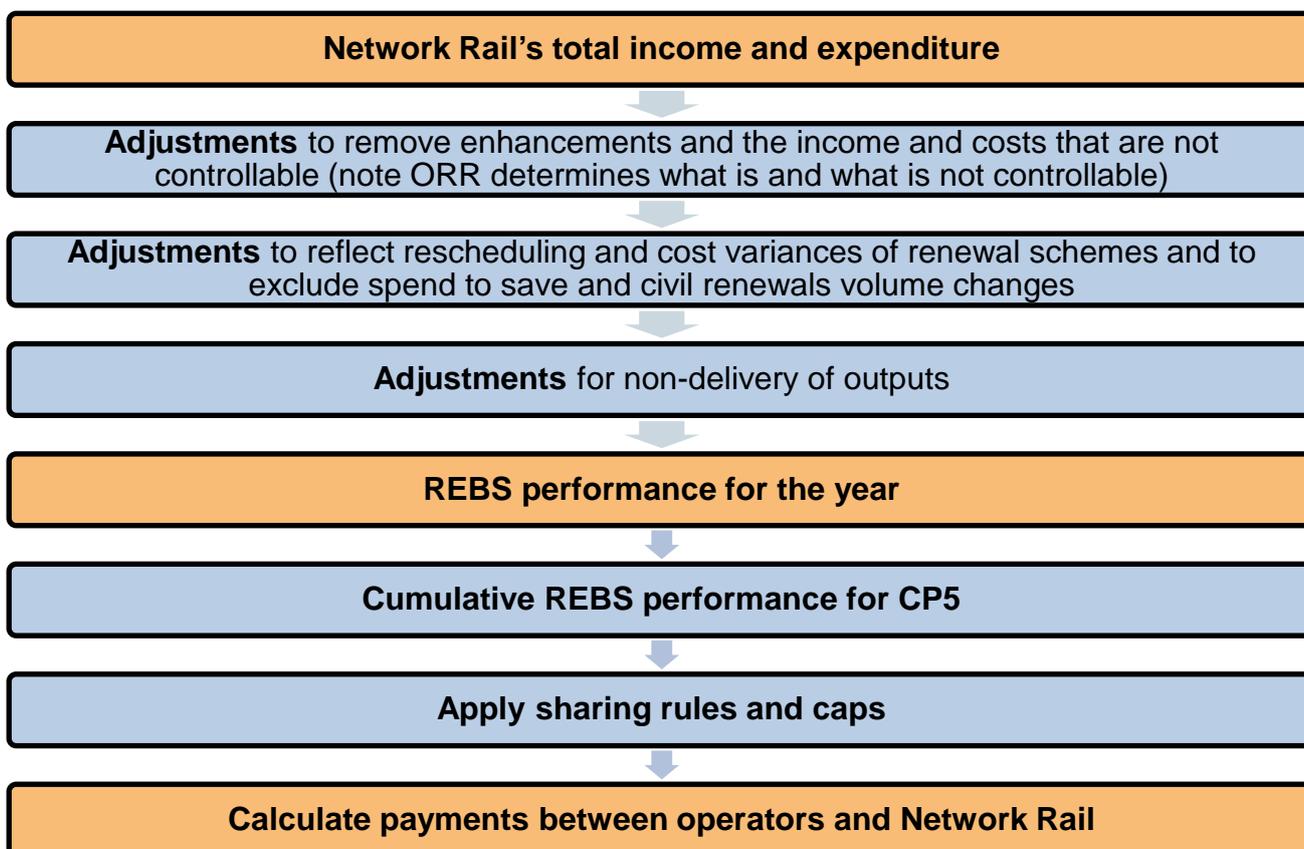
5.5 Material alliances are essentially an enhanced version of REBS and therefore any payments between the alliance partner and Network Rail are netted off from the route's REBS performance. South West Trains was in a pain/gain sharing material alliance with Network Rail during 2014-15 on the Wessex route. The profit-sharing arrangements ended in June 2015 but operational cooperation continues⁸⁶.

5.6 **Assessment:** Abellio ScotRail and Network Rail's Scotland route have recently announced an alliance. The details of the commercial arrangements are not yet clear enough for us to determine whether ScotRail is a material alliance.

REBS performance in 2014-15

5.7 REBS performance before our regulatory adjustments is published for each route in Network Rail's regulatory financial statements. The overall calculation process is set out in Figure. 5.1. Further details are in our published guidance.

Figure 5.1: REBS payment calculation process



⁸⁵ ORR, [Route-level efficiency benefit sharing \(REBS\) mechanism](#)

⁸⁶ Network Rail, [New future for the South West Trains – Network Rail alliance](#), 12 June 2015 (press release)

5.8 **Assessment:** The REBS income and expenditure for each route is published in Statement 5d of Network Rail's regulatory financial statements. We have made adjustments to these numbers for variances in civils volumes, which are outside the scope of financial performance. We have also adjusted for alliance payments, which are within the scope of financial performance but were excluded from Network Rail's calculation and we have revised the output adjustments for non-delivery of PPM and CaSL outputs, to better reflect the underlying substance of the adjustments and to use finalised train performance data. Network Rail's figures initially used delay minutes, whereas the revised process uses "number of trains on time" data, as defined by the PPM and CaSL metrics. Final capped route REBS performance figures are shown in Table 5.1. This shows actual performance relative to the baselines.

5.9 The performance of all train operators is used in the calculation process. Further information on operator performance is contained in Annex B.

5.10 There were several participants in REBS in 2014-15. The share of capped route REBS performance is allocated amongst operators based on their share of variable usage charges (VUC) on that route and, for part-year participants, on the timing of their operator contract commencing or expiring. Some of the REBS participants either did not incur any charges on routes for which they were in REBS, or operated only for diversionary purposes and therefore incurred negligible VUCs, which translates into very small payments.

5.11 Network Rail's assessment of the amounts payable under the REBS mechanism for 2014-15 has not yet been finalised. Payments between operators and Network Rail will be due within 56 days of their publication at a later date.

Table 5.1: REBS route performance

sign convention: out / (under) performance	REBS route performance									
	Anglia	E. Mids	Kent	LNE	LNW	Sussex	Wales	Wessex	Western	Scotland
REBS performance per Network Rail regulatory financial statements 2014-15 (£'000), 2014-15 prices:										
Income										
Variable usage charge	1,107	-757	-631	1,036	-1,540	687	1,091	-1,332	308	1,216
Capacity charge	-1,033	841	-1,951	6,052	-1,197	-440	775	-1	-1,191	1,405
EAUC ⁸⁷	-37	49	-87	-2	-291	40	-	126	-74	127
Property income	3,736	-258	-2,674	-4,476	2,155	4,392	-159	339	-278	-217
Expenditure										
Network operations	-7,316	-6,492	-5,241	-2,922	8,301	-12,171	-3,997	-2,832	-8,138	-3,402
Support costs	5,195	3,540	8,325	8,666	7,990	3,660	2,075	5,136	1,374	2,481
RSSB and BT Police	-1,134	-680	-611	-1,995	-2,795	-258	-2,813	-313	1,382	-1,471
Maintenance	-14,638	-6,937	-12,318	-818	-30,576	-2,938	853	-9,782	135	-2,699
Schedule 4 & 8 costs	-13,401	-4,805	-20,833	16,370	-25,451	-21,027	9,536	-23,373	-20,940	3,421
Renewals	-17,826	-10,236	-16,404	-17,437	-42,379	-13,394	-14,145	-26,988	-16,352	-10,770
REBS performance before adj.	-45,347	-25,736	-52,424	4,475	-85,783	-41,448	-6,783	-59,021	-43,775	-9,910
Less adjustments for under-delivery of outputs and reduced sustainability										
PPM	-7,993	-3,825	-9,119	-1,167	-8,172	-17,237	-1,415	-9,702	-7,372	-3,750
CaSL	-2,543	-1,217	-2,901	-371	-5,484	-2,600	-450	-3,087	-2,346	-
Total adjustment for under-delivery of outputs and reduced sustainability	-55,882	-30,778	-64,444	2,937	-108,505	-52,221	-8,648	-71,810	-53,492	-13,660
ORR adjustments 2014-15 (£), 2014-15 prices										
Regulatory reporting adjustments										
Alliance receipts	-	-	-	-	-	-	-	1,405	-	-
Alliance payments	-	-	-	-	-	-	-	-2,367	-	-
Civils volume adjustment	118	-	-	-	-	-	365	750	-	2,435
Output adjustments										
PPM	3,421	-413	-8,405	614	9,265	-9,847	1,415	-142	1,041	1,151
CaSL	-1,058	-85	-949	-75	4,188	-2,993	450	616	542	-36
Freight delivery metric (FDM)	-	-	-	-	-	-	-	-	-	-
Asset sustainability	-	-	-	-	-	-	-	-	-	-
Asset management (AMEM)	-	-	-	-	-	-	-	-	-	-
Data quality	-	-	-	-	-	-	-	-	-	-
ORBIS milestones	-	-	-	-	-	-	-	-	-	-
Network availability PDI - Passengers	-	-	-	-	-	-	-	-	-	-
Network availability PDI - Freight	-	-	-	-	-	-	-	-	-	-
Network capability	-	-	-	-	-	-	-	-	-	-
Total ORR adjustments	2,481	-498	-9,354	539	13,453	-12,839	2,229	263	1,583	3,550
Net REBS performance for 2014-15	-53,401	-31,276	-73,798	3,476	-95,052	-65,060	-6,419	-71,547	-51,910	-10,109
Share mechanism and upside and downside caps										
25% upside share	-	-	-	869	-	-	-	-	-	-
10% downside share	-5,340	-3,128	-7,380	-	-9,505	-6,506	-642	-7,155	-5,191	-1,011
Upside cap	4,864	2,940	3,992	7,904	11,387	2,246	3,913	3,735	5,194	6,111
Downside cap	-1,946	-1,176	-1,597	-3,162	-4,555	-898	-1,565	-1,494	-2,078	-2,445
Capped route REBS performance	-1,946	-1,176	-1,597	869	-4,555	-898	-642	-1,494	-2,078	-1,011

⁸⁷ EAUC is the electricity asset utilisation charge.

6. Capability

Introduction

6.1 Our PR13 determination set Network Rail the challenge of delivering a major investment programme while also making efficiencies and improving operational performance. This is during a time of continued growth in passenger numbers⁸⁸ and also with a view to increasing freight moved by rail⁸⁹.

6.2 We reviewed Network Rail's business plan for 2015-16 during May and June 2015. This included route-level reviews. We identified a number of issues around capability and the need for a strong corporate centre to provide leadership, coordination and direction, coupled with route-level autonomy to adapt to local needs and constraints. For example, we identified that volumes of work reported to us by the corporate centre did not include all of the work being done in the routes. We also found that maintenance delivery units were under a lot of pressure and, in some cases, had high vacancy rates.

6.3 Network Rail's performance in respect of passenger services on Southern, Govia Thameslink Railway (GTR), and in Scotland was below expectations and it missed regulatory punctuality targets in 2014-15. In August 2015, following our investigations, we determined that Network Rail had breached its network licence in respect of operational performance of passenger services to Southern and GTR, and to Scotland⁹⁰. For Southern and GTR, we found that there were serious weaknesses in the data which informed the December 2013 timetable. Network Rail was overly optimistic in estimating and assessing the impact of the new timetable on performance and it significantly underestimated the impact of the Thameslink programme on performance, which was further exacerbated by a timetable that was not robust. These issues resulted in very severe disruptions and frustrations for passengers using London Bridge station. Also, the company did not engage adequately with the train operators to understand what impact the new timetables would have on their passengers and services. In relation to Scotland, we found that there were errors in the December 2014 timetable caused by a number of factors including a lack of quality assurance and detailed planning.

6.4 ORR's findings from these breaches highlighted the need for the company to adopt better planning and quality assurance processes before new timetables are implemented. ORR has proposed a £2m financial penalty in relation to Network Rail's impact on GTR and Southern services. Network Rail has the opportunity to offer reparations for affected

⁸⁸ ORR, [Passenger rail usage 2014-15 Q4 statistical release](#), 4 June 2015, shows that passenger kilometres increased by 4.5% in 2014-15, compared with the previous year

⁸⁹ ORR, [Freight rail usage 2014-15 Q4 statistical release](#), 21 May 2015, shows that total annual freight moved in 2014-15 is the second highest recorded at 22.2 billion net tonne kilometres; the highest recorded being the year before with 22.7 billion net tonne kilometres

⁹⁰ ORR, [Enforcement relating to operational performance](#)

passengers, instead of having to pay the penalty. For Scotland, while fewer passengers were disrupted and performance has improved since the end of 2014-15, this represented the third occasion in recent years in which timetabling issues have caused performance issues.

6.5 In August 2015 we identified a potential licence breach by Network Rail in respect of its delivery of enhancement programmes. Areas of concern were:

- project development;
- project and major complex programme delivery; and
- management of CP5 investments as a portfolio⁹¹.

6.6 In September 2015 we found that Network Rail was in current breach of its licence in respect of enhancements. Network Rail's response was received on 8 October 2015 and our view of that response will be published on our website⁹².

Capability assessment frameworks

6.7 In PR13, we said that we want Network Rail to become more focused on developing the capability and innovation needed to sustain and improve its performance over the longer term. Capability can be considered using a modified version of a model developed by the Cabinet Office⁹³:

- Leadership - having effective governance, evidence-based direction from senior managers, employing competent people who want to learn and improve and having appropriate policies;
- Strategy - being good at identifying and planning to achieve long-term outcomes for system operation, encouraging innovation and driving value for money across Network Rail's portfolio and the industry for passengers and other customers; and
- Delivery - having the right accountabilities internally and to customers to ensure that outputs and outcomes are delivered, with the right controls and assurances that these are being achieved safely, sustainably and cost-effectively.

6.8 PR13 set out a number of frameworks that we would use to assess Network Rail's progress in developing its capability:

⁹¹ [Possible breach of condition 1 of Network Rail's network licence with regard to its delivery of its enhancement programmes](#), Alan Price (ORR) to Paul Plummer (Network Rail), 6 August 2015

⁹² ORR, [Enforcement relating to enhancements](#)

⁹³ Cabinet Office, [Civil Service Model of Capability](#)

- Safety management maturity (Railway Management Maturity Model - RM3);
- Customer service maturity (developed by Network Rail during 2014-15);
- System operator capability (currently under consultation by ORR and Network Rail);
- Asset Management Excellence Model (AMEM); and
- Portfolio, programme and project management maturity model (P3M3).

6.9 Capability in each of these areas relies on having relevant, well-defined, reliable and timely data to measure performance and to take corrective action. Allied to this is the performance regime that encourages staff to meet business objectives. We reported on some aspects of capability in our most recent Monitor but provide a broader and deeper view in this report⁹⁴.

6.10 We agree that Network Rail should conduct its own capability assurance reviews in the first instance. The company should test that it is meeting its policies, that it is using reliable information and that planning assumptions are reasonable. This will allow the company, its customers, funders and ORR to be confident that it will meet its objectives. Network Rail has established processes in some business areas, such as internal audit and external audit for financial controls, but assurance activities in other areas are newer. In a devolved structure, the route-level assurance process should be led by the corporate centre and learning should be shared between routes. Network Rail has submitted a draft capability improvement plan to ORR. It outlines Network Rail's existing and planned assurance and improvement activities and is being discussed with us⁹⁵.

Safety, customer service and system operation

6.11 Our assessment of Network Rail's safety management capability against our Railway Management Maturity Model (RM3) is reported separately⁹⁶. In summary, we found significant variation in safety management capability across routes. We found improved collaboration on safety between Network Rail and train operators, resulting in the continued low level of Potentially High Risk Train Accidents. However, we continue to have concerns around poor track geometry, which has resulted in an increase in freight train derailments. Where necessary, we continue to take enforcement action on workforce and contractor safety.

6.12 Network Rail has developed and implemented its customer service maturity measure (CSMM) this year. CSMM performance is rated from 0 to 5, with higher numbers being better. Performance for the final quarter of 2014-15 ranged from 2.40 in Anglia to a

⁹⁴ ORR, [Network Rail Monitor, Q3-4, 2014-15](#), 12 June 2015

⁹⁵ [Correspondence between ORR and Network Rail chief executives – capability improvement plan](#) Mark Carne (Network Rail); Richard Price (ORR), 27 July 2015

⁹⁶ [ORR Health and safety report for 2014-15](#), July 2015 (see page 10)

high of 3.62 in Scotland⁹⁷. The suite of measures and the relative weightings of them in CSMM are bespoke to each route, reflecting the priorities of customers (passenger operators and freight operators). Although this may be a good thing from the customer perspective, it means that the scores are not directly comparable between routes. In future years we will be able to compare year-on-year changes for individual routes.

6.13 System operation is the set of functions that supports efficient planning and delivery of the network and helps realise the benefits of its use, including to the wider economy and society. This is distinct, for example, from responsibility for delivering investment projects or maintaining assets. System operation typically relates to functions where coordination and the fair treatment of customers are particularly important. The concept is not unique to the railway⁹⁸. In the short term it includes signalling and managing the impact of disruptions. In the medium term, it is about capacity identification and allocation (e.g. timetabling and franchise specification). In the long term it is about identifying future requirements, managing demand and planning for related network expansion and enhancement.

6.14 We are currently consulting to test our understanding of what system operation means in rail and what good system operation looks like in terms of the outcomes it could help deliver for users, taxpayers and funders⁹⁹. Network Rail is also consulting on how it measures and reports its network system operator activities¹⁰⁰.

Asset Management Excellence Model (AMEM)

6.15 The Asset Management Excellence Model (AMEM) measures an organisation's asset management maturity in 39 subjects forming six groups¹⁰¹. Scores over 70% are considered "excellent". We recognised that some subjects might have stronger or weaker performances within an AMEM group. Our PR13 determination set Network Rail a regulated output target of 72% for each group, to be achieved by the time of the PR18 Strategic Business Plan submission. The timing of the target is designed to incentivise Network Rail to have excellent asset management capability to support that submission.

⁹⁷ Network Rail, [Annual Return 2015](#). CSMM scores are in "Figure 6.2: Benchmarks, current scores and trajectories by route" at that link.

⁹⁸ System operation is a feature which has been explored in many network industries. The management of the network is a distinct operational area in the electricity and gas industries and air traffic control. It is treated separately to infrastructure maintenance or the sale of services.

⁹⁹ ORR, [System operation: a consultation on making better use of the railway network](#), August 2015. Consultation closes 16 October 2015.

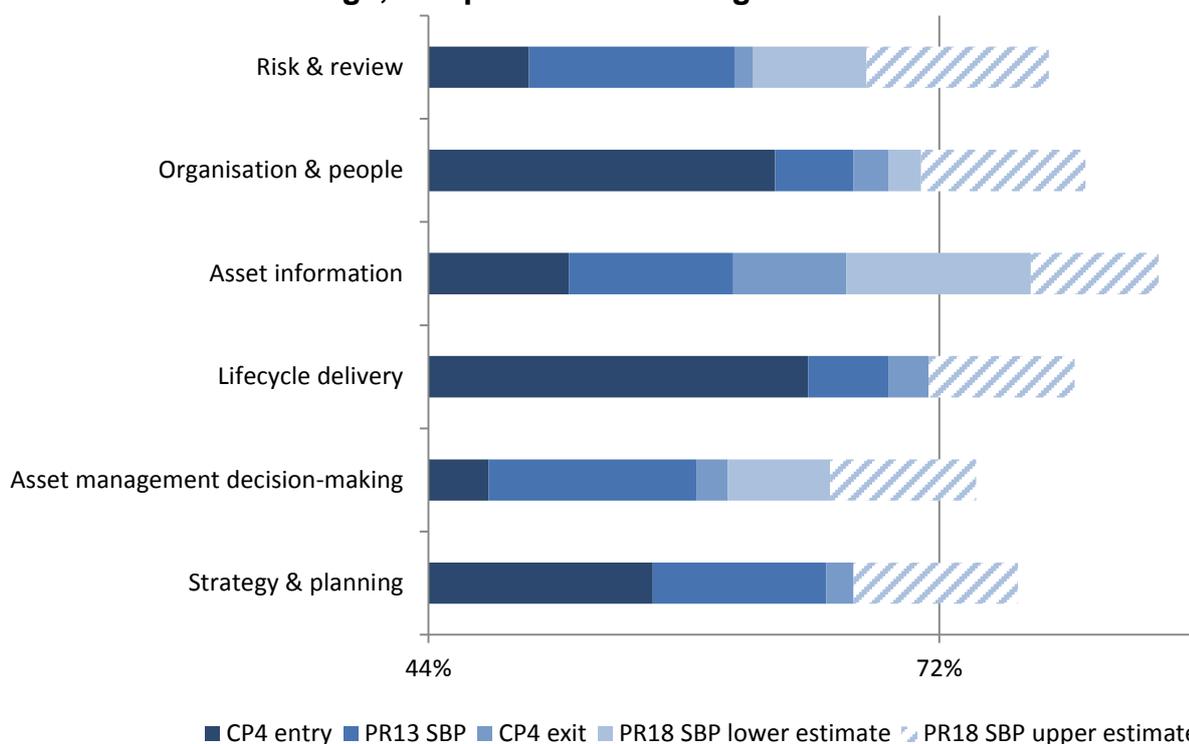
¹⁰⁰ Network Rail, [Improved reporting of our network system operator activities – an NSO Dashboard](#). Consultation closes 16 October 2015.

¹⁰¹ At PR13 there were 23 subjects in six groups, reflecting the Asset Management Landscape first edition, produced by the Global Forum for Maintenance and Asset Management. The latest assessment is based on the second edition.

There will be a negative adjustment to the financial performance measure if the AMEM targets are not achieved.

6.16 AMCL conducted a network-level review during CP4, to support the production of the PR13 SBP. The most recent review compared Network Rail’s CP5 Asset Management Roadmap¹⁰² with the AMEM model, based on more recent evidence gathered during the CP4 exit assessment¹⁰³. The review found that Network Rail is likely to achieve the PR18 SBP target if it meets all of the scope of its Roadmap. However, if the full scope is not met or risks crystallise, Network Rail will only meet the 72% target in the Asset Information category and will miss the target in the five other categories (Figure 6.1)¹⁰⁴.

Figure 6.1 AMEM assessment scores – actual progress in each time period and PR18 SBP forecast range, compared with the target



Source: ORR analysis of AMCL reports

Note: Lifecycle delivery performance does not improve between the CP4 exit and the PR18 SBP lower estimate, so the lower estimate element is not shown.

6.17 Route-level “AMEM Lite” assessments have also been trialled for the first time. These were simplified versions of the full AMEM assessments and were conducted as

¹⁰² Network Rail, [Asset Management Strategy](#), October 2014. The “roadmap” is the set of timelines in Appendix B.

¹⁰³ AMCL, [AMEM End of CP4 and CP5 trajectories report](#), July 2013

¹⁰⁴ AMCL, [Review of CP5 Asset Management Roadmap, Final Report](#), 10 March 2015

self-assurance exercises by routes, with AMCL oversight¹⁰⁵. The AMEM Lite route-level assessments found generally lower scores against all areas compared with the corporate centre. Although some key individuals in the routes have good asset management capability, Network Rail recognises that it must extend this to all levels of seniority if maturity scores are to improve. In broad terms, the AMEM Lite assessments found that the larger, more complex routes (LNE, LNW, Scotland and Kent) had better overall asset management capability than smaller or less complex routes. The qualitative findings and action points are sufficiently detailed to enable meaningful improvements both in the AMEM Lite process and for AMEM maturity.

6.18 **Assessment:** AMCL's review indicates that Network Rail is likely to meet the AMEM targets that we set if it meets the full scope of its Roadmap. In general, the corporate centre had better scores than the routes, reflecting the concentration of professional heads of technical disciplines at the corporate centre. AMEM scores at route level are very variable. Our view is that Network Rail must ensure that all route-level scores should be improved consistently.

Project, programme and portfolio management

6.19 Network Rail has a combination of business as usual activities (such as signalling and maintenance) and project activities, which are temporary in nature. In broad terms:

- a. portfolio management includes choosing which programmes and projects should be done, coordinating all maintenance, renewals, enhancements and system operation activities at a strategic level, and allocating resources optimally to achieve organisational objectives;
- b. programmes are about delivery of outcomes and business benefits arising from inter-related projects; and
- c. projects are about delivery of outputs or products.

6.20 The Project, Programme and Portfolio Management Maturity Model (P3M3) is a framework that organisations can use to assess their current performance in these disciplines and to plan for improvements¹⁰⁶. P3M3 can be used to assess projects, programmes and portfolios independently, as well as to assess the relationships between them. P3M3 examines seven areas, known as "perspectives" (Figure 6.2).

¹⁰⁵ AMEM Lite assessments require about 15% of the resources required by a full AMEM assessment. There is no regulated output for AMEM Lite scores.

¹⁰⁶ P3M3 was originally developed by the Office of Government Commerce, at that time part of HM Treasury. OGC's project management functions have since transferred to the Major Projects Authority in the Cabinet Office. P3M3 is now owned by Axelos, a joint venture between HM Government and Capita.

Figure 6.2 Seven perspectives of P3M3

Perspective	Overview
Management control	Keeping projects on track and ensuring that the project board has appropriate stop/go decision points
Benefits management	Ensuring that business outcomes have been defined, are measured and delivered
Stakeholder management	Planning and identifying effective communications to ensure that the project's objectives are achieved
Risk management	Systematic identification and management of threats and opportunities
Finance management	Capturing, categorising and controlling costs at all stages, from business case and over the project lifecycle
Resource management	Providing human resources, buildings, equipment, supplies, information, tools and support
Organisational governance	Aligning a project with the organisation's strategic direction, at a higher level than management control

6.21 As part of PR13, we commissioned a study into continuous improvement at Network Rail¹⁰⁷. The study found that Network Rail had established project management processes but was less strong at programme and portfolio management. In our PR13 determination we described P3M3 as an “enabler” for measuring progress in project, programme and portfolio management maturity. Recognising the impact of these capabilities on the successful and efficient delivery of works on the operational railway, Network Rail undertook in its delivery plan¹⁰⁸ to commission two phases of P3M3 assessments, covering different areas of the business:

- i. Assessment of Infrastructure Projects and Network Strategy & Planning; and
- ii. Operational Routes, Asset Management and Group Business Services.

6.22 The Phase 1 assessments were completed during 2014 and Network Rail is implementing the recommendations. The Phase 2 assessments are in progress¹⁰⁹.

6.23 Network Rail has a long-established project management process, known as Governance for Railway Investment Projects (GRIP). This is well recognised around the business and has 8 stages¹¹⁰. In 2014-15, 16 out of 44 enhancement milestones at GRIP

¹⁰⁷ Nichols, [Project and Programme Management Capability Improvement Study, Summary Report](#), October 2013. Independent Reporter (Part C) Mandate CN/025 Office of Rail Regulation and Network Rail

¹⁰⁸ Network Rail, [Delivery Plan for Control Period 5](#), 31 March 2014 with subsequent updates (see page 200)

¹⁰⁹ P3M3 assessments were completed by Outperform, an independent and accredited assessor. Its reports are commercially confidential.

¹¹⁰ [Governance for Railway Investment Projects](#)

3 (single option development) were missed by an average of 6 months. At GRIP 6 (construction, testing and commissioning), 14 out of 40 enhancement milestones were missed by an average of 7 months. Some of these missed milestones may have little or no impact on passengers or freight customers. We are therefore in the process of consulting on and quantifying the impacts of these missed milestones, which will form the basis for our adjustments to Network Rail's financial performance measure in 2015-16. The output adjustments for enhancements reported by Network Rail are based on its assumption of our adjustment¹¹¹. Some of the missed milestones in 2014-15 relate to projects that started in CP4.

6.24 In CP5, Network Rail's initial obligation is to develop each project to GRIP 3. At this stage there will be a further funding submission to ORR for each project. Once GRIP 3 is completed and funding is established, the project definition undergoes change control to refine and add detail, where appropriate, to the scope obligation and to make the GRIP 6 milestone a regulated output. We are doing this so that adequate time is taken to define project scope before Network Rail sets subsequent milestones and progresses to detailed design and construction.

6.25 Although the GRIP project management process was Network Rail's most mature area in the P3M3 assessment, it was weaker in programme management and weaker still in portfolio management.

6.26 Programme management teams were not supplied with the optimum tools to give an appropriate view of governance processes (e.g. GRIP stage), progress or benefits. The assessment found that high calibre people were employed to run programmes. It was their determination to make it work, often using local procedures and despite a lack of support from the corporate centre, which allowed them to monitor what was happening. In particular, resource management (such as allocation of staff and equipment) was generally perceived as a weakness.

6.27 The portfolio management assessment of Network Rail's Strategy and Planning directorate found that strategy development is a key strength but portfolio management practices need to be improved. There was a lack of coordination of the portfolio because of poor management information. There was no "big picture" of the entire portfolio, which meant that there was sometimes a lack of coordination. Benefits tracking was poor, so the directorate did not know fully whether its actions had improved network capability. Cost tracking at the aggregate level was good but unit cost data was not as good quality. Information management practices were poor, which also meant that it was difficult to learn from one periodic review to the next. Network Rail is addressing all of these issues.

6.28 **Assessment:** We recognise that Network Rail Infrastructure Projects has led on this work to date, with a focus on major works. However, the more devolved structure of

¹¹¹ Network Rail, regulatory financial statements 2014-15, Statement 5a

Network Rail requires a stronger corporate centre to coordinate capability and resourcing across all routes and all works, including maintenance. A portfolio management approach would reduce the lifecycle cost of the network and we agree that:

- a. Network Rail should have a single point of accountability for its P3M3 maturity across both change and infrastructure projects, programmes and portfolios across the whole company;
- b. Network Rail needs to deliver its P3M3 improvement initiative and measurably improve its P3M3 capability by the end of CP5. Portfolio management should be more mature to assist the development of the CP6 Strategic Business Plan; and
- c. Network Rail will commission further assessments in 2016. These should include route-based assessments.

Skills

6.29 The P3M3 assessments highlighted resource management as a key weakness. Network Rail has only a limited choice of specialist contractors, which has the potential to add cost and schedule risk to projects. During our route meetings, we found that there was high demand for specialist resources for renewals work and on enhancements such as Crossrail, London Underground upgrades and HS2, as well as on international projects.

6.30 Signalling Testers in Charge are a critical resource. The Institution of Railway Signal Engineers (IRSE) licensing scheme allows some design, installation, testing and maintenance activities to be done under mentorship and supervision but a review found that it was not clear whether full advantage was being taken of this flexibility¹¹². IRSE has since issued further guidance, to ensure that employers (including Network Rail) and contractors have confidence in undertaking licensable work without all personnel necessarily being licensed, provided that there is adequate supervision¹¹³.

6.31 We commissioned a rail industry skills forecast from NSARE, which reported in January 2013¹¹⁴. This identified that, depending on retirement ages, between 7,600 and 10,000 new technical people will be required over the 5 year period from 2013 to 2017 (Figure 6.2). Of the four categories identified in the study, electrification and plant (E&P) has the biggest impact on Network Rail. Although the number of new people needed looks relatively low, it represents between 26% and 31% of the workforce at that time (Figure 6.3). Furthermore, around 38% of the E&P workforce is located in London and the South

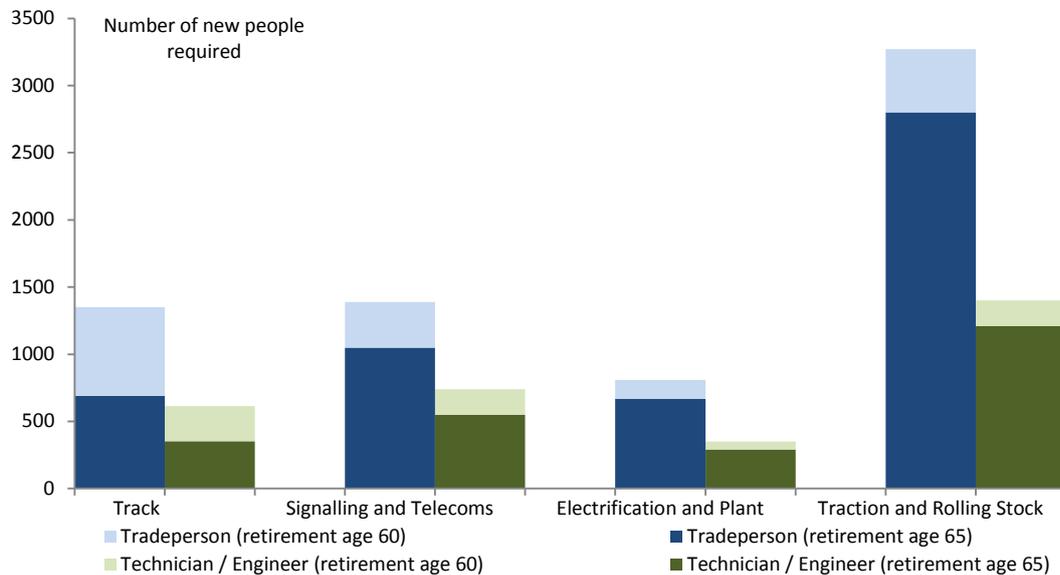
¹¹² IRSE, Report on improving the licensing scheme to help address the shortage of signal engineering resource, June 2014 (unpublished)

¹¹³ IRSE, [Guidance on the application of the IRSE licensing scheme](#), July 2015

¹¹⁴ National Skills Academy for Railway Engineering, [Forecasting the skills challenge](#), January 2013

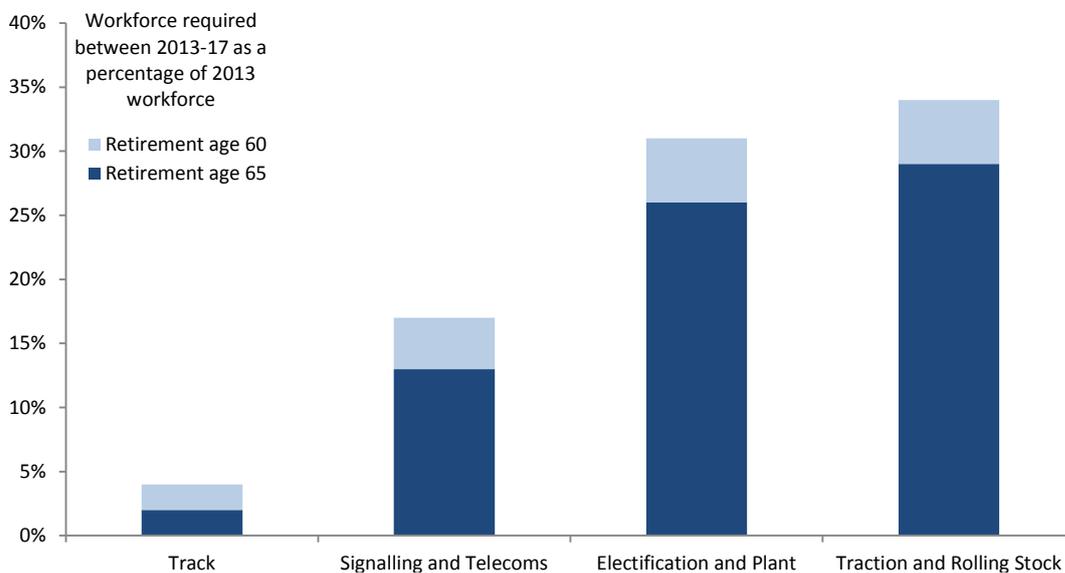
East, where they undertake maintenance of existing electrified lines, rather than new electrification projects.

Figure 6.2: Thousands of new people required over 2013-17 by skillset



Source: National Skills Academy for Railway Engineering (NSARE)

Figure 6.3: New people required in 2013-17 as percentage of current workforce



Source: National Skills Academy for Railway Engineering (NSARE)

6.32 A more detailed update for signal engineering, commissioned by Network Rail, reported in July 2014¹¹⁵. The study estimated that in 2015-16, the signalling renewals and enhancements projects need a workforce of some 7,300 individuals. At the time of the

¹¹⁵ NSARE, [Signal Engineering Resources Review Summary Report](#), July 2014

report, there was a shortfall of between 1,100 and 2,300. A further 300-500 would be needed by 2019 to replace those reaching retirement age.

Management information and efficiency benchmarking

6.33 Network Rail recognises that it needs to have good quality information to manage its business. This applies to both financial and asset data. In his most recent Budget statement, the Chancellor said that the Government had asked Network Rail to drive comparative benchmarking of the efficiency and effectiveness of the routes to improve network performance. He also announced that the government will establish a dedicated body to focus on pursuing opportunities to realise value from public land and property assets in the rail network¹¹⁶. Both require good quality information for effective oversight.

6.34 Although the routes have very different characteristics (see Annex C) and some benchmarking techniques can be complex, informed comparison can improve the information available to ORR, funders and other stakeholders. In PR08 and PR13, we undertook extensive benchmarking at the company level, using international comparators¹¹⁷. In PR13, we were able to identify an efficiency gap, which we used to set Network Rail's efficient funding. For PR18, we anticipate developing this approach, making greater use of comparisons between routes. This will rely on having appropriately disaggregated and quality assured financial, volume and asset data.

6.35 Other aspects of Network Rail's business (such as administrative office provision) are simpler to benchmark and comparisons can also be made more readily with other sectors. With our encouragement, Network Rail has joined the property benchmarking service run by the Government Property Unit¹¹⁸. The company's administrative offices will be assessed for their efficiency and environmental performance. In the longer term, we anticipate that Network Rail's operational and investment properties will be added to this service, as well as assessment of the company's Property Asset Management capability¹¹⁹.

Cost and volume data

6.36 In our 2013-14 assessment¹²⁰, we raised several concerns about the quality of the data provided by Network Rail which prevented adequate explanation of its performance and how reported underspend and efficiencies had been achieved. Additionally there were

¹¹⁶ HM Treasury, [Summer Budget 2015](#), paragraph 4.2

¹¹⁷ ORR, [Efficiency benchmarking of Network Rail](#)

¹¹⁸ Government Property Unit, [Property benchmarking service and e-PIMS](#). GPU is part of the Cabinet Office.

¹¹⁹ Government Property Profession, [Property Asset Management Capability Assessment Model \(PAMCAM\)](#) GPP is organised by GPU but is the professional grouping of property specialists across government.

¹²⁰ ORR, [Annual efficiency and finance assessment of Network Rail 2013-14](#), 1 October 2014, pages 15-17

significant differences between the PR08 determination and Network Rail's CP4 delivery plan, making meaningful comparison difficult.

6.37 Network Rail has made good progress in 2014-15 but there is still more to be done, particularly around volume and unit cost reporting. The improvements included:

- a. in-year periodic reporting has been on a route basis and has been accompanied by more thorough narrative;
- b. the regulatory financial statements compare actual performance to our determination and not to a different delivery plan;
- c. more detail has been provided around efficiency reporting and RAB additions;
- d. there has been some improvement in the provision of requested information on a more timely basis, though there is still room for further improvement; and
- e. use of an agreed measure of financial performance, reflecting the work we carried out with Network Rail at the end of 2013-14.

6.38 Under a joint independent reporter mandate issued by us and Network Rail, Arup was engaged to determine the reliability and accuracy of the information presented in certain sections of Network Rail's regulatory financial statements¹²¹. Arup found that the financial performance measure (FPM) was reasonably well understood and that there was clear guidance available in a handbook. There was also an effective review process led by central finance to finalise numbers at year end, consisting of challenge meetings between central finance and professional heads of asset management and their respective counterparts in the routes.

6.39 However, the level of quantitative supporting evidence was variable and lacking in detail in a number of areas. For renewals FPM, although one route was able to provide a detailed project-level build-up of cost variances feeding into calculations and adjustment totals, other routes sampled provided more high-level calculations without the same degree of project-level detail. Where renewals work had been deferred, this had not been underpinned by detailed analysis. For maintenance and other opex categories, routes have presented high-level comparisons of total expenditure but without any further breakdown.

¹²¹ Arup, [Review of Network Rail regulatory financial statements 2014-15](#), 24 September 2015. The review covers Statements: 5a - Total financial performance (FPM), 5b - renewals variance analysis in FPM, 5c - Enhancements variance analysis in FPM, 5d - REBS performance, 12 - Volume incentive, 13 - Maintenance volumes, unit costs and expenditure and 14 - renewals volumes, unit costs and expenditure.

6.40 Management should know the drivers of financial performance, so that it can focus attention on the right areas. It will be difficult for Network Rail to meet its efficiency targets if it doesn't have this information. A particular area for improvement is differentiation between scope-driven performance and cost-driven performance. Scope-driven performance is where more or less work is needed than originally anticipated. Cost-driven performance is where the same work is needed but it has been done at a different price than originally anticipated.

6.41 **Assessment:** Renewals volumes, unit costs and expenditure were given a confidence grading of A1, indicating both a good process and data accuracy within 1%. Network Rail is developing a more refined approach to a costs database, which will allow the scale of works to be better factored into cost estimates. We are monitoring that work closely because it will be used to develop estimates for PR18.

6.42 **Assessment:** Maintenance volumes, unit costs and expenditure were given a confidence grading of C3, reflecting significant process shortcomings and data accuracy within 10%. This is a worsening of performance since last year, which was graded B2 (reflecting a better process and data accuracy within 5%). There were inadequate input data validation checks. Over a period of 9 months, there were recurrent system problems which meant that data could not be transferred between different systems. There were issues around recording of volumes (for example, due to a change in units from miles to kilometres), which would have been picked up with input data checks or effective review during the year. At year end, manual adjustments were required to correct errors. A particular concern is that incorrect asset maintenance data might falsely indicate that work has been done when it has not.

6.43 **Assessment:** There is an inconsistency between Network Rail's reporting of financial and volume data. Whereas costs and income are reported to us each period as they are accrued, volume data are reported on a different basis¹²². For example, whereas a track volume is recognised when a relatively small job is completed, signalling equivalent units are only reported on commissioning, which may take a number of months or years, depending on the nature of the work. Although this is helpful for the tracking of benefits (project outcomes), it makes it more difficult for us to monitor progress and unit costs. We will work with Network Rail to develop its reporting to us to reflect work in progress, as well as completed volumes.

6.44 Our financial performance measure assists our tracking of changes in costs and scope. Earned value management (EVM) combines cost and scope at a more granular level¹²³. Network Rail Infrastructure Projects has a standard on using EVM, particularly for

¹²² Network Rail, Cost and Volume Handbook, v3, May 2015 (unpublished)

¹²³ Wiley, [Earned value management terms and formulas for project managers](#)

projects lasting more than 6 railway periods¹²⁴. We would like to see its more widespread use in the company.

6.45 In the longer term, we would prefer to place reliance on Network Rail's own assurance processes. Its Safety, Technical and Engineering (STE) function has undertaken a pilot audit of cost and volume data in 2014-15. The audit sample covered 12% of projects across track, signalling, structures, earthworks, buildings, electrification and fixed plant renewals. Tests covered the project lifecycle from investment approval, through to generation of workbanks, recording of costs and volumes and project close-out.

6.46 The concentration of expertise at the corporate centre and its relative independence from the routes is likely to have added credibility to the review and applied a consistent approach across all routes. The audit has identified a number of recommendations, including completeness of data, checking of claimed volumes, change control and project close-out. These will be taken forward in a much fuller route-level STE audit programme during 2015-16.

Asset data

6.47 Network Rail undertook data quality checks on three asset types during 2014-15. Of these, signalling had the best quality data overall¹²⁵. However, asset data was not consistently good in all areas. In particular, track data was not good and structures data needs much work. This is largely because structures (such as bridges and tunnels) have a much higher degree of variability in design, as well as being older. The challenge for 2015-16 will be to undertake similar reviews for other asset types and to improve data quality.

6.48 Network Rail is starting to use more data input validation tools, to prevent errors from being entered into databases. Much of this work is part of the ORBIS programme, which is a combination of digital technology and business change activities to improve asset information¹²⁶. We are monitoring asset data quality work closely.

6.49 Data quality targets are a regulatory output with a target date of April 2017¹²⁷. If targets are not met at that date, we will make an adjustment to the financial performance measure.

¹²⁴ Network Rail standard, Earned Value Reporting – Guidance on definitions and acceptable practices, v2, 4 December 2010 (unpublished)

¹²⁵ Network Rail, [Annual Return 2015](#). (Table 9.4: Data quality reports – March 2015). A lower number indicates a better asset condition

¹²⁶ [Offering Rail Better Information Services](#), with regulated outputs documented in Network Rail, [Annual Return 2015](#), Table 10.1: ORBIS milestones

¹²⁷ ORR, [Periodic Review 2013: Final determination of Network Rail's outputs and funding for 2014-19](#), October 2013 (see para 3.164 – asset data quality)

6.50 **Assessment:** Network Rail met the scope and timings for its ORBIS programme milestones due in 2014-15. Therefore no output adjustments to the financial performance measure were needed for ORBIS.

Non-core activities

6.51 Network Rail is funded to operate, maintain and renew the mainline railway network in Great Britain. We include financial ring-fence conditions in its network licence to protect Network Rail's funders and customers from the company being exposed to risks that are not part of its core role. Network Rail must seek our consent to undertake any non-core activities if they are above a *de minimis* level¹²⁸.

6.52 During 2014-15, Network Rail applied for consent to acquire the Grand Central shopping centre above Birmingham New Street station. We did not consent to that scheme, largely due to a lack of independent due diligence and a lack of business case stress-testing¹²⁹. Network Rail used the *de minimis* provision to enter into a joint venture to set up Duddle¹³⁰, a company providing parcel collection and return facilities for online shoppers. An application was also made for a non-property project but this was withdrawn.

6.53 Network Rail developed these schemes to generate income to meet our PR13 determination. Although we recognise the commercial benefits that some projects can bring, we have been clear that Network Rail's managers must focus on delivering the core business plan and on improving the company's capability for the benefit of the railway and its users.

¹²⁸ [Network Rail network licence](#) (condition 4, financial ring-fence)

¹²⁹ ORR, [Network licence condition 4 \(financial ring-fence\): acquisition of Grand Central shopping centre](#), 8 July 2014

¹³⁰ [Duddle website](#)

Annex A: Further information on how financial performance and efficiency is reported

Reporting of Network Rail's financial performance is intended to help Network Rail's customers, funders and other interested parties gain a better understanding of Network Rail's performance compared with the financial assumptions set out in our PR13 determination.

Financial performance

In CP5 we measure Network Rail's ability to manage the costs and income it can control using the Financial Performance Measure (FPM). Under the FPM approach:

- adverse or favourable variances from our PR13 assumptions do not 'count' against the measure if they are just due to the expenditure/income occurring at a different point in the control period compared to our assumptions. For example, lower expenditure from a deferral of work to later in the control period will not count towards the measure; and
- because PR13 spending assumptions are based on Network Rail deliverables for a specified level of outputs an adjustment is made to FPM to reflect under-delivery of regulatory outputs. The burden of proof is on Network Rail to show that any claimed financial outperformance is allowable.

Any adjustments made will not have a direct financial impact on Network Rail as these adjustments do not in themselves affect the funding available to Network Rail in CP5. However, Network Rail's financial performance does have links to the route-level efficiency benefit sharing mechanism (REBS), the value of Network Rail's regulatory asset base, the restrictions on its financial indebtedness in its licence and is also linked to Network Rail's Remuneration Committee's decisions about management bonuses.

Calculation of FPM

Network Rail presents its own assessment of its FPM performance in its regulatory financial statements. We have shown below the modified Statement 5a from Network Rail's 2014-15 Regulatory Statements to illustrate how the calculation works¹³¹ and the references below relate to that illustration.

¹³¹ Statement 5a as issued in Network Rail's 2014-15 regulatory financial statements contained an error in the renewals figure in column E which appeared as -420 instead of +420. This in turn led to an incorrect total for that column. This has been corrected in the following illustration.

FPM is calculated as follows:

1. For each income/expenditure item the variance to PR13 is determined (column C).
2. Exclude those variances not controllable by Network Rail (column D).
3. Adjust for changes in volumes of work done compared to PR13 (column E).
4. Exclude 75% of variances relating to renewals and enhancements and reporters' fees¹³² (column H).
5. Total Variances, gives total financial out/underperformance before adjusting for under-delivery of outputs and adjustments for other matters.
6. Adjust the total financial out/underperformance for under-delivery of outputs and reduced sustainability.
7. Adjust for other relevant matters.

Efficiency

Our measure of efficiency¹³³ is intended to be a simple measure of the reduction over time in core support, operations, maintenance and renewals expenditure. It is effectively a restatement of the FPM as a percentage improvement for those categories of expenditure.

However, in addition, the Financial Performance Measure also includes other items of Network Rail's income and expenditure, e.g. enhancements and it is adjusted to take account of under-delivery of outputs.

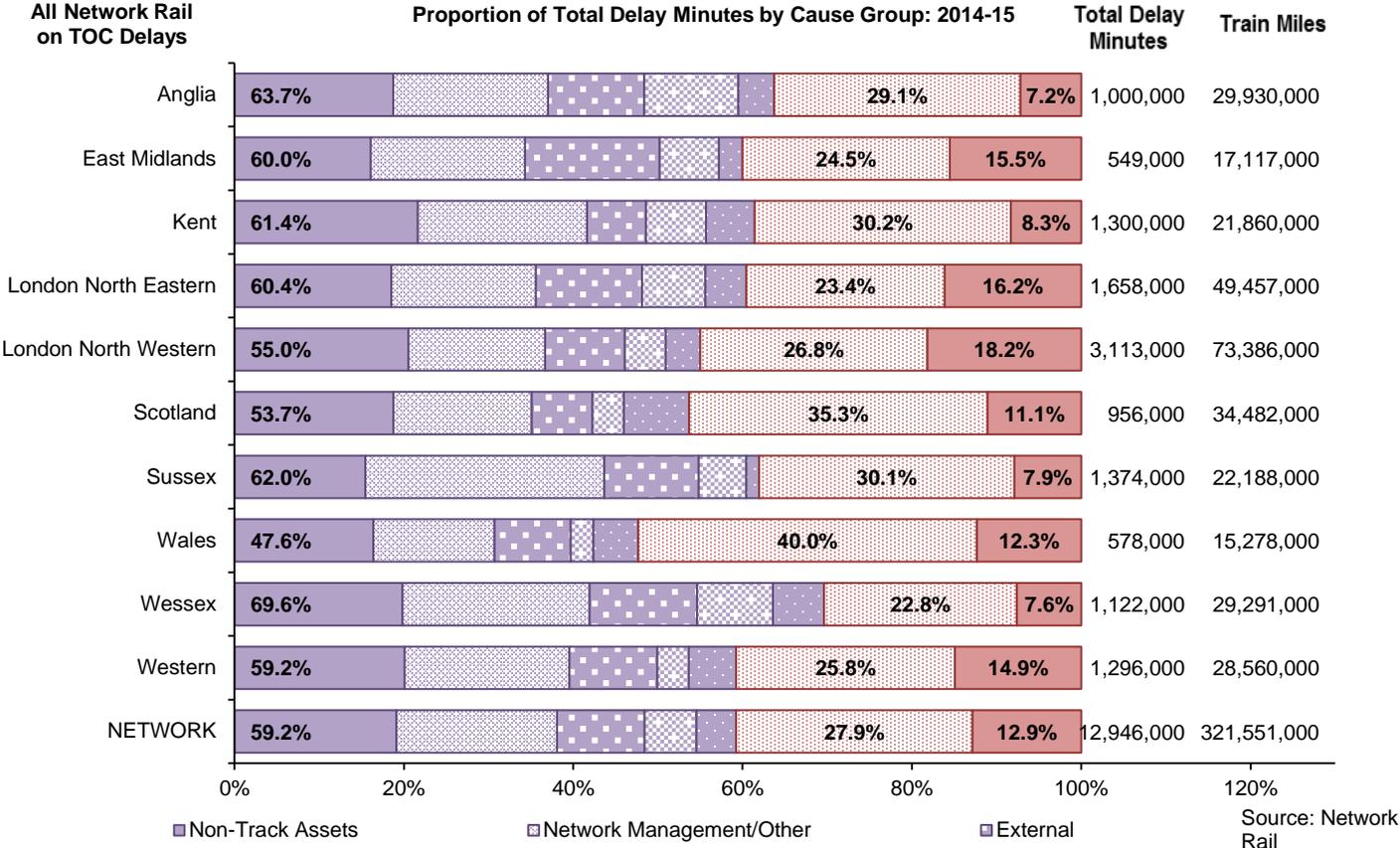
¹³² The recognition of 25% for renewals and enhancements is because it aligns with Network Rail's financial reward/penalty for renewals and enhancements expenditure through the RAB roll forward mechanism. Reporters' fees are included at 25% to recognise that overspend or underspend may not be fully within Network Rail's control because we may require Network Rail to engage Independent Reporters to undertake a piece of work.

¹³³ The measure we refer to as "efficiency" is neither productive nor allocative efficiency. 'Allocative efficiency' is concerned with producing the right thing and 'productive efficiency' is about producing something at the least cost.

Modified¹³¹ extract from Network Rail regulatory financial statements – Statement 5a: Total financial performance, Great Britain

	Actual	Adjusted PR13	Variance to adjusted PR13	Due to:	Variance not included in total financial performance	Variances in volume of work	Other adjustments to PR13	Final Variance G = C - D - E - F	Financial out / (under) performance H = G or H = G+25%
	A	B	C		D	E			
Income									
Grant Income	4,164	4,137	27		27	-	-	-	-
Fixed Income	440	425	15		16	-	-	(1)	(1)
Variable Income	791	783	8		-	-	-	8	8
Other Single Till Income	776	800	(24)		(31)	-	-	7	7
Opex memorandum account	-	-	-		(10)	-	-	10	10
Total Income	6,171	6,145	26		2	-	-	24	24
Expenditure									
Network operations	489	445	(44)		-	-	-	(44)	(44)
Support costs	417	489	72		23	-	-	49	49
Industry costs and rates	268	258	(10)		(1)	-	-	(9)	(9)
Traction electricity	17	19	2		-	-	-	2	2
Reporter's fees	1	3	2		2	-	-	-	-
Network maintenance	1,186	1,143	(43)		-	36	-	(79)	(79)
Schedule 4 costs	199	213	14		-	8	-	6	6
Schedule 8 costs	109	4	(105)		-	-	-	(105)	(105)
Renewals	2,949	2,625	(324)		-	420	-	(744)	(186)
PR13 Enhancements	2,776	2,983	207		-	349	-	(142)	(36)
Non PR13 Enhancements	143	-	(143)		-	(132)	-	(11)	(11)
Financing Costs	1,403	1,654	251		251	-	-	-	-
Compensation	-	-	-		-	-	-	-	-
Corporation tax	(4)	4	8		-	8	-	-	-
Total Expenditure	9,953	9,840	(113)	-	275	689	-	(1,077)	(413)
Total:			(87)		277	689	-	(1,053)	(389)
Total financial out / (under) performance before adjusting for under-delivery of outputs and adjustments for c									(389)
Less adjustments for under-delivery of outputs and reduced sustainability									
Under-delivery of train performance requirements (PPM)									(70)
Under-delivery of train performance requirements (CaSL)									(21)
Missed Enhancement milestones									(6)
Total adjustment for under-delivery outputs									(97)
Less adjustments for other matters									
[For example] Inadequate explanation to support financial outperformance									-
Total adjustments for other matters									-
Total financial out / (under) performance to be recognised									(486)

Annex B: Performance data for routes and operators



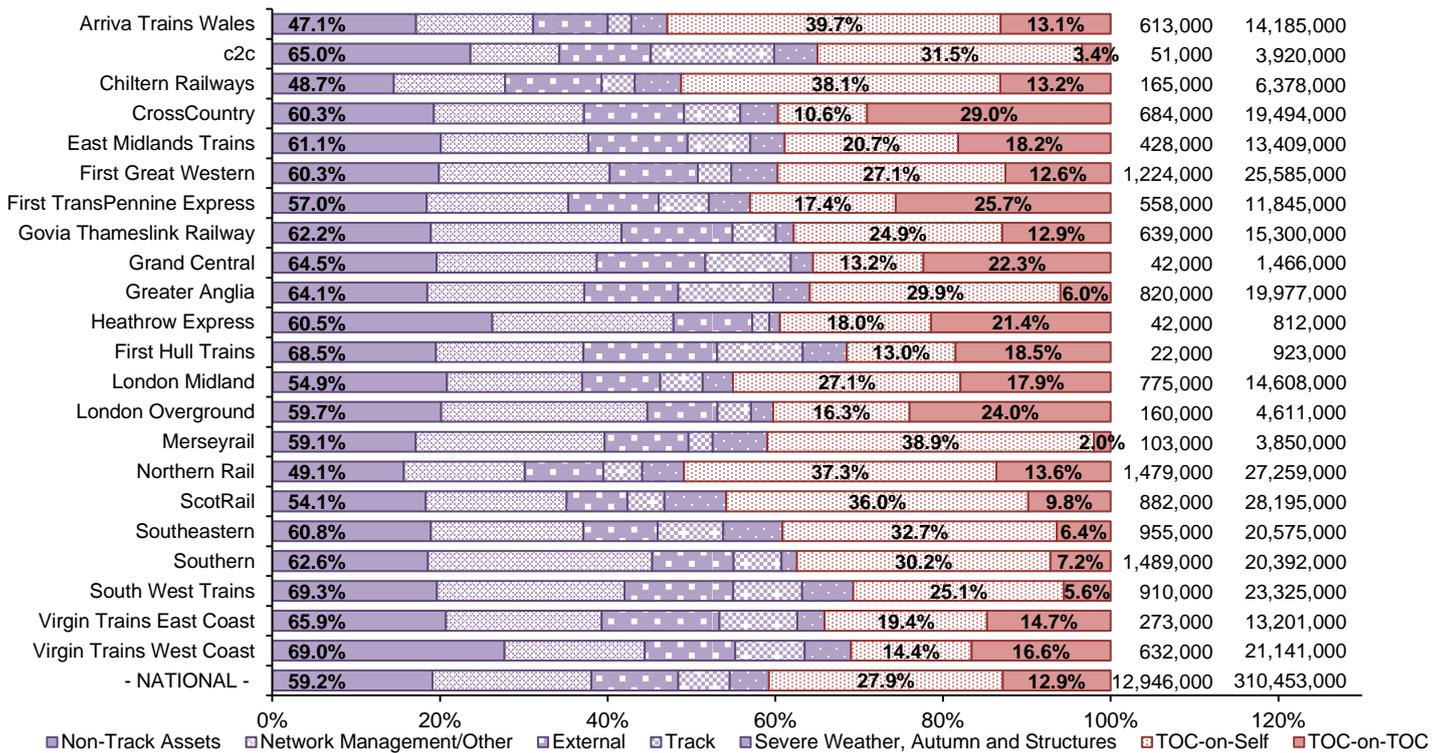
Delay Cause Definitions:

- Non-Track Assets: Delays due to points, signals and power supply failures.
- Network Management/Other: Operational and possession overrun delays.
- External: Delays due to fatality and trespass incidents, bridge strikes and external fires.
- Track: Delays due to track faults such as broken rails; also includes delays as a result of temporary speed restrictions due to track condition.
- Severe Weather, Autumn and Structures: Delays due to landslips, severe weather beyond the design capability of the infrastructure and leaf fall.

All Network Rail on TOC Delays

Proportion of Total Delay Minutes by Cause Group: 2014-15

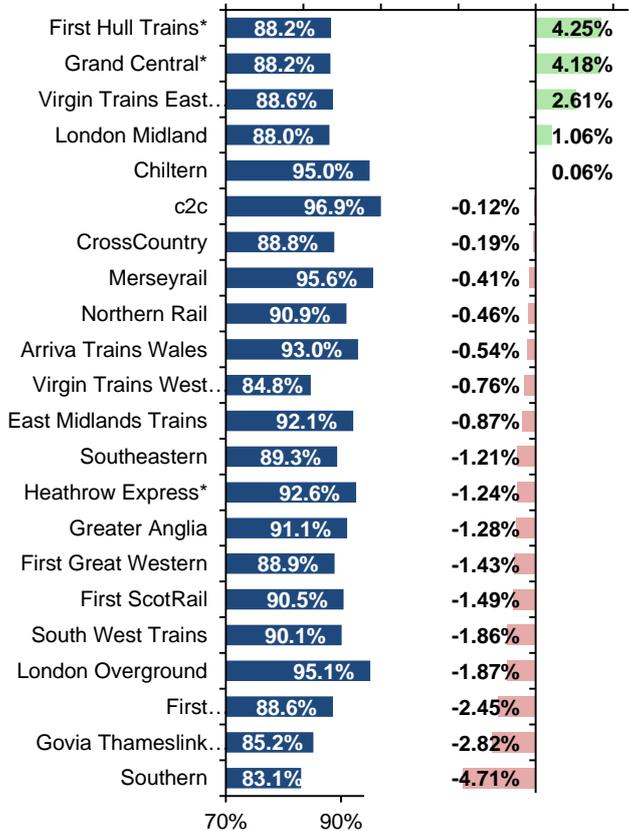
Source: Network Rail



PPM MAA 2014-15 Period 13

Variance to Performance Strategy Target

-5% 0% 5%

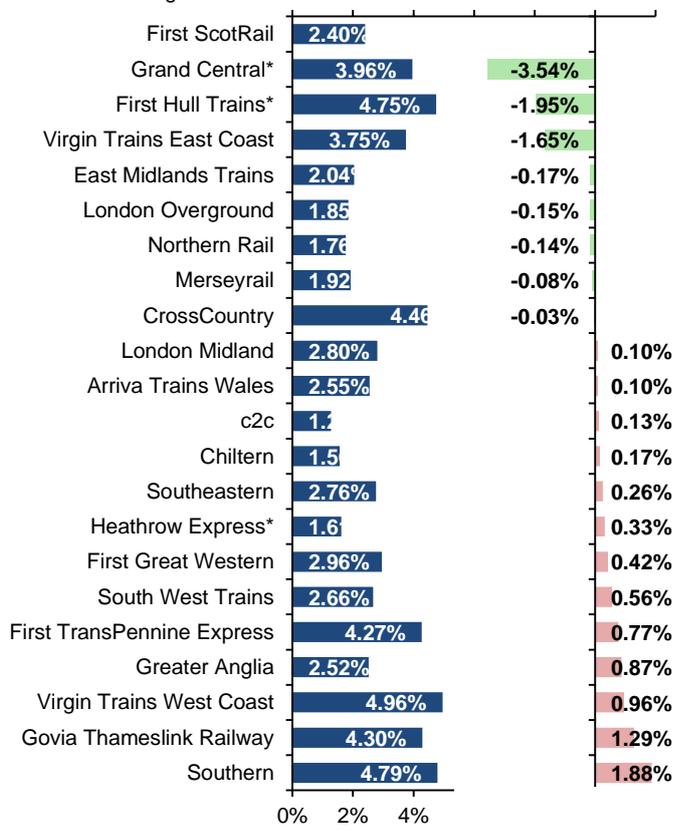


* Open Access Operators PPM MAA

CaSL MAA 2014-15 Period 13

Variance to Performance Strategy Target

-2% 0% 2%



* Open Access Operators CaSL MAA

Annex C: Route characteristics

The following table provides non-financial characteristics of each route which could be used for normalisation of expenditure, income and financial performance data. The percentages represent the proportion of the Great Britain total applicable to that route.

	Scotland	Anglia	East Midlands	Kent	London North East	London North West	Sussex	Wales	Wessex	Western	Great Britain
Track length (track km)	4,240 14%	2,279 7%	1,745 6%	1,732 6%	5,688 18%	6,670 21%	1,129 4%	2,458 8%	2,084 7%	3,094 10%	31,119 100%
Route length (route km)	2,690 17%	1,185 8%	698 4%	809 5%	2,702 17%	3,053 19%	512 3%	1,490 9%	844 5%	1,763 11%	15,746 100%
Stations (numbers)	349 14%	234 9%	79 3%	174 7%	322 13%	541 21%	184 7%	243 10%	207 8%	187 7%	2,520 100%
Direct route staff	2,315 9%	2,279 9%	1,148 5%	1,557 6%	4,315 18%	6,517 27%	1,251 5%	1,321 5%	1,706 7%	2,130 9%	24,538 100%

Source: Network Rail



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