Annual efficiency and finance assessment of Network Rail 2013-14

1 October 2014

OFFICE OF RAIL REGULATION

Contents

Acronyms and abbreviations

Abbreviation / acronym	Meaning
AICR	Adjusted Interest Cover Ratio
AMCL	Asset Management Consulting Limited
AMIP	Asset Management Improvement Programme
Arup	Ove Arup & Partners Limited
ATOC	Association of Train Operating Companies
BTP	British Transport Police
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 (1 April 2019 - 31 March 2024)
Credo	Credo Business Consulting LLP
DfT	Department for Transport
DP	Network Rail's delivery plan
EBSM	Efficiency Benefit Sharing Mechanism
ECML	East Coast Mainline
ERTMS	European Rail Traffic Management System
FIM	Financial Indemnity Mechanism
FVA	Financial Value Added
GBP	Pound sterling (£)
GRIP	Guide to Railway Investment Projects
Halcrow	Halcrow Group Limited
HMT	Her Majesty's Treasury
IOPI	Infrastructure Output Price Index

LEK	LEK Consulting Limited
Network Rail	Network Rail Infrastructure Limited
NSIP	National Stations Improvement Programme
OM&R	Controllable operating expenditure, maintenance expenditure and renewals expenditure
ONS	Office of National Statistics
Opex	Operating expenditure
ORBIS	Offering Rail Better Information Services
ORR	Office of Rail Regulation
OSTI	Other Single Till Income
PPM	Public Performance Measure
PR08	Periodic Review 2008 (covering control period 4, 1 April 2009 - 31 March 2014)
PR13	Periodic Review 2013 (covering control period 5, 1 April 2014 - 31 March 2019)
PR18	Periodic Review 2018 (covering control period 6, 1 April 2019 - 31 March 2024)
PwC	PricewaterhouseCoopers
RAB	Regulatory Asset Base
REEM	Real Economic Efficiency Measure
RFOA	Rail Freight Operators Association
RPI	Retail Price Index (specifically RPI CHAW)
SBP	Network Rail's Strategic Business Plan
SCADA	Substation Control And Data Acquisition
TOCs	Train Operating Companies

Executive summary

Introduction

1. In our 2008 periodic review (PR08) we determined the outputs Network Rail was required to deliver and the funding that the company needed for the five year period from April 2009 to March 2014 (control period 4 - CP4).

2. This 2014 publication of our annual efficiency and finance assessment reports on the main aspects of Network Rail's financial performance over this period, covering expenditure and income, the Regulatory Asset Base (RAB), debt and gearing, efficiency, efficiency benefit sharing with train operators and Network Rail's own financial value added (FVA) measure. It also considers the quality of Network Rail's reporting which underpins all these measures.

3. Our assessment covers the final year of CP4, April 2013 to March 2014, and CP4 in total. It covers Network Rail's performance across Great Britain as a whole and separately in England & Wales and in Scotland. Table 1 provides a high level summary.

Table 1: Summary of key financial information for Great Britain

£bn, 2013-14 prices	2013-14 Actual	2013-14 PR08*	2013-14 Variance		Cumulative Actual	Cumulative PR08*	Cumulative Variance
	(A)	(B)	(B-A)		(C)	(D)	(D-C)
Expenditure							
Controllable opex	1.1	0.8	-0.3		5.1	4.3	-0.7
Maintenance	1.0	1.1	0.2		5.5	6.2	0.7
Renewals	3.7	2.2	-1.5		14.3	13.5	-0.8
Total OM&R expenditure	5.7	4.1	-1.6		24.9	24.0	-0.9
Non-controllable opex	0.5	0.5	-0.1		2.5	2.2	-0.2
Enhancements	3.0	0.7	-2.3		10.2	8.9	-1.4
Schedule 4 & 8 costs	0.4	0.1	-0.2		1.2	0.9	-0.3
Financing costs	1.4	1.7	0.3		7.7	7.8	0.2
Rebate payments	0.1	-	-0.1		0.3	-	-0.3
Total	**11.2**	**7.1**	**-4.0**		**46.8**	**43.8**	**-3.0**
Income **							
Franchised track access income	2.2	2.2	-		9.3	9.2	-0.2
Other single till income	0.7	0.8	-		3.6	3.6	-
Grant income	3.8	3.8	-		20.6	20.7	0.1
Total	**6.7**	**6.7**	**-**		**33.6**	**33.5**	**0.0**
Finance							
RAB	n/a	n/a	n/a		50.0	49.9	-0.1
Net debt (nominal prices)	n/a	n/a	n/a		32.3	31.5	-0.8
Adjusted interest cover ratio	1.75	1.69	-0.06		n/a	n/a	n/a
Gearing (net debt / RAB)	64.5%	62.7%	-1.9%		n/a	n/a	n/a

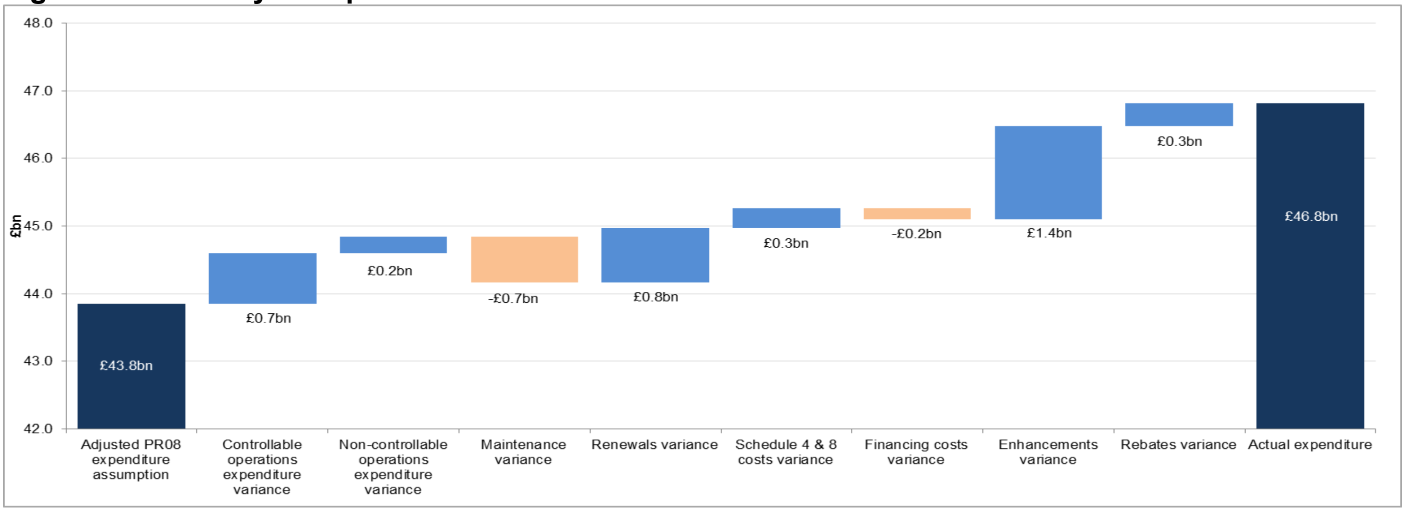
*Throughout this document PR08 refers to adjusted PR08, which includes adjustments that we have agreed with Network Rail, largely reflecting changes in circumstances. There might also be some differences in numbers in the tables due to rounding.
**A negative sign for this variance implies a higher income than assumed in our PR08 determination.

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

Expenditure

4. Expenditure for Great Britain in CP4 compared to our PR08 assumptions is summarised in Figure 1 and the variances are explained within this report.

Figure 1: Summary of expenditure variances for Great Britain in CP4



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

5. Network Rail spent £36.2 billion in CP4 on operating, maintaining and renewing the network, Schedule 4 & 8 costs and financing costs. This was £1.2 billion more than was assumed in our PR08 determination[1]. This difference was mainly due to Network Rail achieving lower efficiency improvements than we expected and additional costs incurred as Network Rail undertook more work towards the end of the control period to improve train punctuality and reliability. However, in Scotland where Network Rail mostly delivered its train punctuality and reliability outputs, the company spent £3,451 million on operating, maintaining and renewing the network, Schedule 4 & 8 costs and financing costs which was £136 million less than assumed in our PR08 determination.

6. Network Rail spent £10.2 billion on enhancements to the network in CP4, which was £1.4 billion more than assumed in our PR08 determination. This higher expenditure was mostly due to additional projects required by the governments that were not included in our PR08 determination, offset by deferral of some capital work to Control Period 5 (1 April 2014 - 31 March 2019) (CP5). These additional projects were funded through the investment framework.

7. Network Rail made rebate payments totalling £0.3 billion to the Department for Transport (DfT) and Transport Scotland in CP4. These payments were made because early in the control period, Network Rail was forecasting that it would financially outperform in CP4 and the governments built them into their financial plans. Our PR08 determination did not assume any rebate payments to the governments.

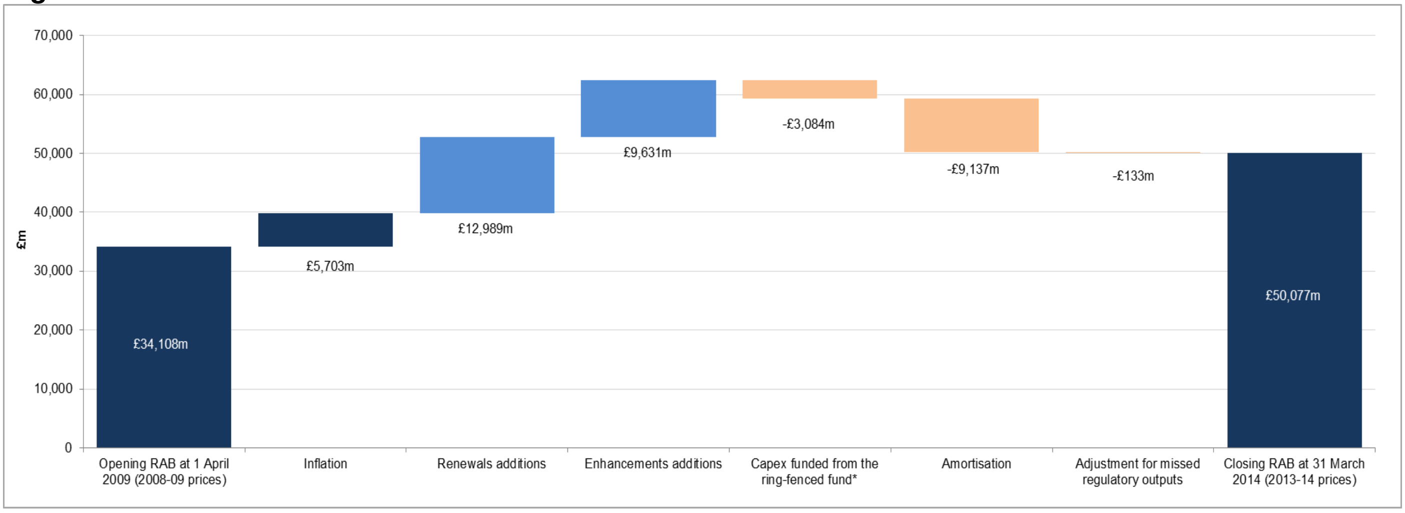
[1] All numbers are reported in 2013-14 prices except where stated.

[2] The increase is in nominal terms. The Regulatory Asset Base is a key building block in our methodology for determining access

Regulatory Asset Base (RAB)

8. As shown in Figure 2, Network Rail's RAB increased by £16.0 billion in CP4 to £50.1 billion at the end of CP4[2]. This increase was broadly in line with our PR08 assumptions (£0.1 billion variance). The main drivers of the increase in the RAB have been the significant renewals and enhancements programmes that Network Rail undertook in CP4, some of which were not included in our PR08 determination.

Figure 2: Movements in Network Rail's RAB in CP4



*Capex funded from the ring-fenced fund represents capex that is paid for on a pay-as-you-go basis rather than RAB-funded.
Source: Network Rail's regulatory financial statements and our own analysis.

9. As the economic regulator we decide what items of Network Rail's efficient expenditure can be added to its RAB[3] in a way that is consistent with the requirements of our PR08 determination[4]. This means that the RAB is indexed in line with inflation and most renewals and enhancements expenditure is added to the RAB subject to the risk sharing mechanism[5]. We then make a reduction for amortisation (depreciation) and output adjustments where appropriate.

[2] The increase is in nominal terms. 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 impacts on the allowance for amortisation within Network Rail's revenue requirement. It is our calculation of the value of Network Rail's assets.

[3] The addition to the RAB will not equal actual capital expenditure, as it is our PR08 determination assumption that it is added to the RAB and then is adjusted in accordance with our regulatory accounting guidelines, as shown in Statement 2b in Network Rail's 2013-14 regulatory financial statements.

[4] We have had concerns with some of the reporting that has been presented by Network Rail in relation to RAB additions in CP4. We discuss this further later in the executive summary. Quality of reporting is important as we ultimately approve the additions to the RAB. The concerns include matters identified by the independent reporter, Halcrow's, review of certain investment framework additions to the RAB. We undertook additional work to assure ourselves that the CP4 closing RAB is appropriate and we are requiring Network Rail to improve the quality of its reporting in CP5. An extract of Halcrow's 2013-14 report is available at: http://www.orr.gov.uk/__data/assets/pdf_file/0009/14787/halcrow-enhancement-assessment-investment-schemes-august-2014.pdf.

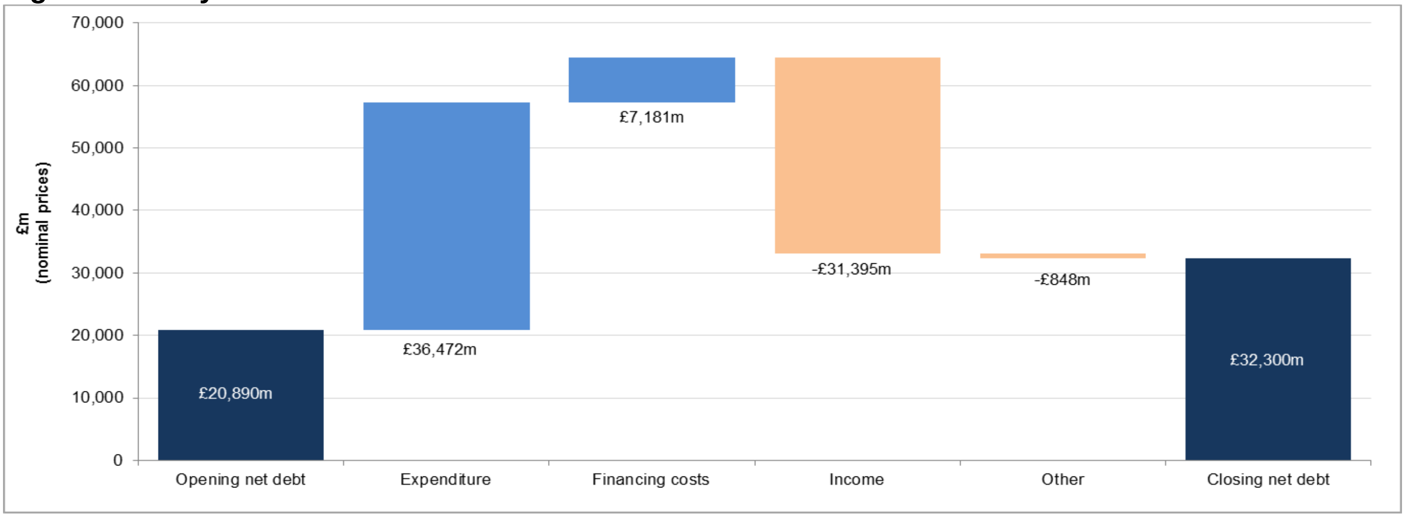
[5] Generally, under the risk sharing mechanism if Network Rail overspends compared to our PR08 expenditure assumption, 75% rather than 100% of this overspend is added to the RAB as long as that overspend is deemed efficient (any overspend that is deemed inefficient is not allowed to be added to the RAB). If Network Rail underspends compared to our PR08 expenditure assumption, then it only retains 75% of the underspend compared to the assumption.

10. Although the overall increase in the RAB was broadly in line with our PR08 determination assumption, the renewals and enhancements additions to the RAB were different to our PR08 assumptions. Renewals additions were lower mostly due to a RAB adjustment for input price inflation partly offset by expenditure on additional renewals schemes. Enhancement additions were higher than our PR08 determination assumption mostly due to the large amount of non-PR08 enhancements expenditure undertaken in CP4 (funded through the investment framework) partly offset by changes to the scope and timing of some PR08 funded enhancements. We have also reduced the CP4 closing RAB by £0.1 billion to take into account the under delivery of outputs that were set in our PR08 determination.

Net debt

11. As shown in Figure 3, Network Rail's net debt increased by £11.4 billion[6] in CP4 to £32.3 billion at the end of CP4. As part of our PR08 determination, Network Rail was directly funded for its efficient day-to-day operating and maintenance costs. However, enhancements and renewals are paid for by borrowing and then funded through the RAB mechanism which includes a renewals amortisation charge that was set in our PR08 determination. This means that the £11.4 billion increase in net debt was mostly due to spend on enhancements in CP4.

Figure 3: Analysis of the movement in Network Rail's net debt in CP4



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

12. Network Rail's net debt increased by £0.8 billion more in CP4 than we assumed in our PR08 determination (as shown in Table 1). The largest component of this increase was due to higher

[6] In nominal terms.

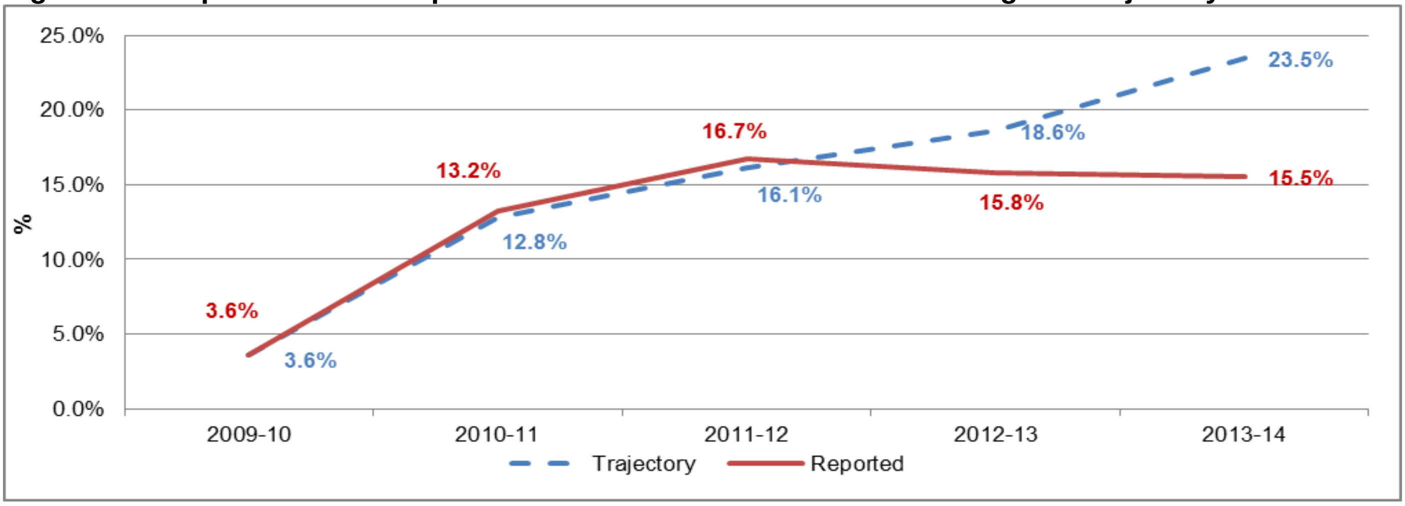
enhancements spend than anticipated because of additional projects required by the governments that were not included in our PR08 determination[7].

13. The net debt to RAB ratio is a key measure of financial sustainability and we set limits on this ratio in Network Rail's network licence. The ratio increased from 61.0% at the start of CP4 to 64.5% at the end of CP4 largely as a result of the CP4 renewals and enhancements programmes. In CP4, it remained well within the regulatory limit, which was 75.0% at March 2014.

Efficiency

14. As shown in Figure 4, Network Rail has reported 15.5% efficiencies on the day-to-day running costs (broadly operating, maintenance and renewals costs (OM&R)) of the railway in CP4. This is to the benefit of farepayers and funders but was also lower than the efficiency trajectory of 23.5%[8] that Network Rail agreed to deliver[9]. As explained in this report, we have concerns about Network Rail's reporting of efficiency improvements, in particular the exclusion of certain renewals spend (e.g. efficient overspend) and the quality of the reporting underpinning its calculations. In addition, Arup has said it is uncertain about the efficiencies claimed on certain categories of maintenance and renewals expenditure[10] and we have considered this in our assessment of financial performance and EBSM.

Figure 4: Comparison of the reported OM&R efficiencies in CP4 to the agreed trajectory



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

[7] This variance has many causes as it reflects all variances in expenditure from our PR08 determination assumption, offset by large accruals for capital expenditure at the end of the control period. The higher enhancements spend variance has the most significant impact on the variance in net debt.

[8] In determining what efficiency improvements could be made in CP4 it was necessary in our PR08 determination to assume Network Rail's expenditure in 2008-09, the final year of CP3. Network Rail subsequently made lower controllable opex efficiency savings in 2008-09 than we had expected, resulting in Network Rail starting CP4 in a worse position than we assumed in our PR08 determination. Consequently Network Rail's CP4 efficiency challenge was higher than the 21% efficiency improvements we assumed in our PR08 determination.

[9] This was highlighted in our 'success in CP4 letter', available at: http://www.rail-reg.gov.uk/upload/pdf/nr-cp4-success-010311.pdf.

[10] Arup's 2013-14 report is available at: http://www.orr.gov.uk/__data/assets/pdf_file/0005/14774/arup-nr-regulatory-accounts-review-2014.pdf.

15. Network Rail has said the efficiency shortfall from 23.5% to 15.5% related to lower than expected improvements in track renewal unit costs, the extra cost of work to improve train punctuality and reliability outputs and 'one-off' costs such as re-organisation costs and the effect of the financial penalty we imposed. The financial penalty was because train punctuality and reliability for long distance trains fell short of what Network Rail was required to deliver.

16. Network Rail's reported efficiency of 15.5% was mostly due to maintenance efficiencies and track renewal volume efficiencies. Network Rail has explained that the maintenance efficiencies have largely been generated through the initiative 'Phase 2b/c'. This initiative introduced a standard organisation structure for the maintenance organisation, changed terms and conditions and created work delivery teams allowing surplus resources to be re-assigned on a permanent or variable basis to capital expenditure. Track volume efficiencies have mostly been generated due to changes in asset policies.

17. At the time of our 2013 Periodic Review (PR13), in order to make assumptions about efficiency in CP5, we had to make an assumption about the level of efficiency that we thought Network Rail would achieve in CP4. We were already aware that Network Rail would not achieve the 23.5% trajectory, so we assumed in PR13 that Network Rail would achieve an efficiency improvement of 18%[11] by the end of CP4. The efficiency shortfall of 2.5 percentage points[12] in CP4 compared to our PR13 CP4 exit assumption means that Network Rail will now need to work harder to deliver the further 19.4% OM&R efficiency improvement that the company is aiming to deliver in CP5, as in total it will need to deliver around 22% of efficiencies in CP5.

18. In our PR08 determination we assumed approximately 5% input price inflation during CP4, i.e. that Network Rail's operating, maintenance and renewals costs would rise more quickly than general inflation. However, input prices during CP4 actually fell by around 6%, so Network Rail has probably benefitted by around 11% from input prices in CP4[13]. This is good news as it means Network Rail's costs (and hence the costs to customers and funders) were lower than they would otherwise have been, but it also means efficiency improvements would have been lower without this beneficial effect.

Efficiency Benefit Sharing Mechanism (EBSM)

19. We established the Efficiency Benefit Sharing Mechanism (EBSM) in our PR08 determination to incentivise passenger and freight operating companies to support Network Rail's efforts to outperform our PR08 determination, which would benefit customers, funders and taxpayers. Under the mechanism, actual expenditure on operating, maintenance, renewals and the Schedule 4 compensation regime as well as

[11] The equivalent amount in Network Rail's Strategic Business Plan (SBP) for PR13 was 20%.

[12] That is the difference between the reported CP4 efficiency of 15.5% compared to the assumption we made in PR13 of 18%.

[13] Assessing the impact of input prices is not straightforward and there is likely to be uncertainty in this analysis due to the difficulty in robustly identifying and measuring input price effects. For example, Network Rail may have taken actions which could reduce the effects of input prices on its cost base, which would not be reflected in our analysis.

actual income in areas such as retail and property, is compared to the assumptions we made in PR08 to determine outperformance or underperformance. Adjustments are then made to take account of deferral and whether outputs have been delivered and/or whether the network is being managed sustainably. Train operators receive 25% of the outperformance net of these adjustments, provided we are content with the underlying data supporting financial performance.

20. The EBSM calculation is done separately for England & Wales and for Scotland, reflecting the different funders. No payments will be made in England & Wales in 2013-14 as Network Rail did not outperform our assumptions for CP4, but the position in Scotland is different.

21. Train punctuality and reliability outputs were missed by a smaller margin in Scotland and the financial performance on maintenance and renewals was better than in England & Wales. Our assessment of cumulative financial performance in Scotland is that Network Rail has outperformed by £83 million[14] for EBSM purposes for CP4 as a whole, resulting in payments due to train operators of £20.9 million. Taking into account £14.0 million (in 2013-14 prices) of previous EBSM payments, payments of £6.9 million for 2013-14 will be shared between train operators in Scotland in proportion to variable usage charges paid to Network Rail[15].

22. Before there can be a pay-out under the EBSM mechanism, there is also a requirement for the operators to show that they have supported Network Rail to deliver the efficiency savings. An example of where the industry has worked together to deliver efficiencies is that there has been a more collaborative approach to access planning in Scotland in CP4. In particular, working collaboratively on a control period rather than annual basis has allowed works to be better packaged and has had less of an effect on access to the network.

Financial Value Added (FVA)

23. Network Rail established a measure called Financial Value Added (FVA) at the start of CP4 to measure its financial performance in CP4, compared to its 2009 delivery plan. As well as being a general measure of the business's financial performance, FVA is also used as an input to the bonus calculation for senior staff under the long term incentive plan.

24. FVA covers most items of income and expenditure and a positive FVA means that expenditure has been lower and/or income higher than Network Rail's own CP4 delivery plan. It is important for us as Network Rail's economic regulator to assess performance compared to the assumptions in our periodic

[14] We have had concerns with the lack of supporting information that has been presented by Network Rail in relation to the reporting of outperformance in Scotland. This is important as we ultimately sanction the payments under EBSM. We have done further work to assure ourselves that the outperformance in Scotland is appropriate and are working with Network Rail to improve the quality of this reporting in CP5.

[15] We are aware that DfT and Transport Scotland may seek to recover any EBSM payments where they are entitled to do so, for example, using the Clause 18.1 / Schedule 9 provisions in their franchise agreements.

reviews as that is the package we have challenged the regulated company to deliver. Therefore, we measure financial performance against our PR08 determination, not the delivery plan, which means that adjustments have to be made to reconcile the two[16].

25. Network Rail's calculation has two parts: (1) the initial assessment of financial performance (gross FVA); and (2) a modification for any missed outputs or concerns over the sustainability of the network or other matters, to produce net FVA. Network Rail has reported £1.0 billion of gross FVA. The company's calculation of net FVA is around £0.8 billion.

26. The FVA calculation is complex and involves considerable judgement. We form our own view on Network Rail's financial performance (compared in total to our PR08 determination) as measured by FVA, and in many areas we agree with Network Rail's calculation. In some areas we either disagree in principle or recognise that there may be a legitimate difference of view.

27. Two areas where we disagree in principle are the ways in which Network Rail's reported FVA excludes inflation accretion[17] and includes the effect of re-profiling capital expenditure within CP4. Two areas where we recognise there may be legitimate differences in views are around the treatment of efficient overspend and adjustments for the under delivery of outputs and asset sustainability concerns.

28. Adjustments for missed outputs and asset sustainability concerns are dominated by the size of the adjustment for missed train punctuality and reliability outputs, where the size of the adjustment is sensitive to the method used. Reflecting this, we have clarified the method for the next control period.

29. In summary our calculation of gross FVA is lower than Network Rail's and, since our adjustments are higher, our calculation of net FVA (compared to our PR08 determination) is also lower, at around £190m as the upper limit under certain assumptions, although there is a range. Accepting this uncertainty, Network Rail needs to be clear we do not agree with the size of its claimed FVA.

30. When Network Rail uses FVA as an input to its bonus calculations, it follows the rules set out in its internal staff manuals. This specifies how FVA is calculated for this purpose and then how FVA may be reduced to take account of 'modifiers' such as safety considerations, missed outputs or how well the company has done in managing its assets. The calculation of FVA for bonus purposes and the size of the modifiers do not necessarily mirror that of the FVA calculation of the company's overall financial performance, or how the ORR measures FVA for the purpose of assessing the company's overall financial performance.

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[16] We have addressed the complexity resulting from Network Rail's use of a different baseline for its own measurement of financial performance in CP4 by requiring Network Rail to report financial performance compared to our PR13 determination assumptions in CP5.

[17] Inflation accretion is the term used to describe the increase in the value of Network Rail's index-linked debt (i.e. debt that is linked to the level of inflation).

Quality of reporting

31. 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 2008 periodic review. Fundamental to this reporting is that variances from our determination should be clearly explained as it helps us understand how Network Rail is managing its business compared to the assumptions in our determination. This is particularly important given Network Rail's ownership structure and its corporate governance.

32. We recognise that Network Rail's reporting of financial performance has improved in CP4 but it is still not satisfactory and we and the independent reporters have raised concerns. In essence, Network Rail's financial performance in CP4 has not been explained in a sufficiently transparent and informative way and in 2013-14 we have needed to undertake a significant amount of additional work to satisfy ourselves that Network Rail's quality of reporting is robust. In particular, in our assessment of efficiency, EBSM, FVA and enhancement additions.

33. We recognise that some aspects of financial reporting are not straightforward as judgements need to be made, for example when identifying efficiencies, but the level of work we have needed to do is not acceptable.

34. Our key concerns with Network Rail's financial reporting in CP4 have been:

a. financial reporting in Scotland. Scotland has a separate determination and its financial reporting must reflect this. This means that Network Rail needs to ensure that it adequately explains its financial performance in Scotland at a much lower level of materiality than for Great Britain;

b. the explanation of key variances, especially quantifying the underlying reasons for the variance. Network Rail needs to be able to provide an adequate explanation of the underspend or efficiency it is claiming and how it has been achieved to help us decide how it should be treated. In the absence of such an explanation, underspend should not be assumed to represent efficiency or financial outperformance. Network Rail should build this thinking more fully into its financial reporting processes;

c. the process for providing information where some data was provided late by Network Rail; and

d. the RAB roll forward process, principally the robustness of the governance process in recording enhancement additions to the RAB.

35. We have received assurance on the quality of reporting from the independent reporters, Arup and Halcrow in CP4. Both independent reporters have identified issues with Network Rail's quality of reporting. Arup has said in relation to Network Rail's efficiency reporting that there were a number of areas where it

has either been unable to form an opinion based on the information Network Rail has provided or where it has concluded there were material uncertainties. The Arup report was delayed for two months mainly due to delays in the provision of information by Network Rail. Halcrow has observed that there was a general lack of evidence available to demonstrate that the framework guidance (which set out the guidelines for adding certain types of enhancement schemes to the RAB) has been fully complied with on a consistent basis.

36. One issue that we have also faced this year is that 2013-14 was the last year of a five year control period and our assessment needs to adequately explain Network Rail's performance over the whole period. To a certain extent it is inevitable that some issues are identified at the end of the control period and it may be difficult to fully explain some of those issues, as that may require going back a number of years to historic information. We have agreed a process to improve on this in CP5.

37. Network Rail has raised a number of concerns with providing explanations of variances between its actual results and the final determination to Arup and us. These include:

a. the final determination did not include detailed analysis of each cost category to support comparison to Network Rail's actual costs;

b. Network Rail's delivery plan at the start of the control period included some significant differences to the final determination, and there have been significant organisational changes during the control period that further complicate comparison to the final determination; and

c. Network Rail considers that the approach of providing evidence of positive management actions does not recognise that the business has changed since the last periodic review and that business performance is not managed by direct comparison to the final determination. Network Rail considers its system of management control reasonably focuses on comparison to current budgets and the need to drive continuous improvement rather than comparison to the final determination.

38. In responding to Network Rail's concerns, we do recognise that businesses change over time and that operationally they need to manage their business based on their own budgets. However the funding and determination are provided on a five year basis and it is critical for us, Network Rail, customers, funders, taxpayers and other interested parties that we understand how Network Rail has performed relative to the outputs it agreed to deliver and the funding that we assumed would be needed to deliver those outputs. Therefore the explanations are necessary and Network Rail needs to ensure in CP5 that it explains its performance in the context of the five year determination. As part of our work on CP5 reporting Network Rail has recognised that the baseline needs to be our determination and not, for example, its delivery plan. This will help ensure that its reporting in CP5 is better than in CP4.

39. As part of PR13, Network Rail generally produced more comprehensive analysis and supporting information than it did for the previous periodic review (PR08). Network Rail's approach to providing us with data to support PR13 reflected an improvement in the information and analysis that it provided in CP4. However, in our PR13 determination we noted the need for substantially better explanations of financial variances in general but particularly in Scotland - this need has been reinforced by the time it has taken us to be assured that the quality of reporting which underpins EBSM payments in Scotland is sufficiently robust. We want to see further improvements in other aspects of the quality of reporting, including efficiency reporting and RAB additions. In addition, we will require information to be provided on a more timely basis.

40. For CP5, we recognise that there has been constructive engagement between our teams on how financial reporting can work and we will build on the lessons learned in CP4 to deliver better financial reporting in CP5.

What we will do differently in the future

41. The key matters that we have considered for future reporting include improvements in the robustness of efficiency reporting, route disaggregation, use of statistical indicators and reclassification. These issues are discussed further below.

42. As outlined in PR13, between the publication of PR13 and the start of CP5 we undertook a programme of work with Network Rail to help improve the financial monitoring framework for CP5. The programme addressed two major concerns during CP4 - how to adjust financial performance for under delivery of outputs and how to improve the robustness of Network Rail's reporting of efficiency improvements, while not placing an unnecessary regulatory burden on Network Rail.

43. The objectives of the PR13 determination included increasing route disaggregation from that already reported in CP4 (in terms of reporting unit costs, RAB and debt) and improving the transparency of Network Rail financial reporting requirements. This will allow both us and other stakeholders to perform more detailed analysis of Network Rail's financial performance, which will allow us to better hold Network Rail to account in CP5, as well as informing the Periodic Review 2018 (PR18).

44. It is crucial that we are able to track Network Rail's progress with its regulated outputs and identify any potential issues before they impact on passengers or lead to inefficiencies. As part of this monitoring it is particularly important that we can see how Network Rail is progressing towards excellence in asset management, as that is key to the delivery of its regulated outputs.

45. In CP5, Network Rail will be required to report on more statistical indicators, often at a greater level of disaggregation, which we will use to monitor Network Rail's progress through CP5. These indicators will include renewal and maintenance volumes, the public performance measure (PPM) and network availability. We will monitor these indicators systematically during the year. If the trends, including

projections, then show the company isn't on course, we will be able to intervene early and support Network Rail.

46. Network Rail was reclassified as a central government body by the Office of National Statistics on 1 September 2014. We are planning to implement a number of further changes to our monitoring of the company in CP5 to reflect this reclassification, which we have discussed with Network Rail, DfT, Transport Scotland and HM Treasury. These changes include additional work around the monitoring of financial projections over the control period to provide assurance to funders and users of the railway and to hold Network Rail to account in CP5.

Conclusion

47. Network Rail has implemented a number of initiatives to reduce its costs of operating, maintaining and renewing the national rail infrastructure in CP4. Whilst these initiatives represent a positive outcome for Network Rail's funders, the 15.5% efficiencies reported by Network Rail compared to the start of the control period were 8.0 percentage points lower than the 23.5% efficiency savings that Network Rail agreed to deliver in CP4. The efficiency shortfall of 2.5 percentage points in CP4 compared to our PR13 CP4 exit assumption, means that Network Rail will now need to work harder to deliver the further 19.4% OM&R efficiency savings that the company is aiming to deliver in CP5, as in total it will need to deliver around 22% of efficiency savings in CP5.

48. In CP4, Network Rail has spent £1.2 billion more on operating, maintaining and renewing the network, Schedule 4 & 8 costs and financing costs than we assumed in our PR08 determination. Network Rail also spent an additional £1.4 billion on enhancements to the network than we assumed in our PR08 determination. However, Network Rail has reported £1.0 billion of FVA for CP4. We consider that Network Rail's reported FVA overstates the company's financial performance. Largely, this is because we do not recognise as outperformance, costs that Network Rail may have avoided incurring as a result of, either not having delivered the outputs that it was funded to deliver in our PR08 determination or not managing its assets sustainably. We also have a different view of how Network Rail has performed on financing costs. Although we recognise that judgement is required in considering the financial impact of these matters, our conclusion is that overall Network Rail has not financially outperformed our PR08 determination for CP4 by as much as it has claimed and actually may have not financially outperformed at all.

49. Network Rail's financial performance in Scotland was better than for Great Britain as a whole and given that its required outputs were mostly delivered for Scotland, we consider that the company's reported financial performance for Scotland is appropriate. Accordingly, we have sanctioned £20.9 million of payments to be made to train operators under the EBSM in Scotland across the control period with £6.9 million due for 2013-14 as £14.0m (in 2013-14 prices) was paid in 2012. Before there can be a pay-out under the EBSM mechanism, there is also a requirement for the operators to show that they have supported Network Rail to deliver the efficiency savings. An example of where the industry has worked

together to deliver efficiencies is that there has been a more collaborative approach to access planning in Scotland in CP4. In particular, working collaboratively on a control period rather than annual basis has allowed works to be better packaged and has had less of an effect on access to the network.

1. Introduction

Purpose of this report

1.1 Network Rail operates and maintains the majority of railway infrastructure in Great Britain. One of our key roles as a regulator is to set the charges that Network Rail can levy for access to this infrastructure. We do this in periodic reviews of charges (sometimes called price controls). The periodic review that applied to the period from 1 April 2009 to 31 March 2014 (control period 4, CP4) was called the Periodic Review 2008 (PR08) determination.

1.2 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.

1.3 It is important that the rail industry delivers significant improvements in value for money. The 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. Improvements in value for money allow more of these benefits to be realised at a lower cost. This is particularly important given the current economic climate, and the financial pressures it brings for households, businesses and on the public purse.

1.4 Our annual assessments are intended to help customers, funders and other interested parties gain a better understanding of Network Rail's financial performance compared with the CP4 financial assumptions that we set out in our PR08 determination of Network Rail's access charges[18]. Our assessments provide a snapshot based on the best available information at a point in time.

1.5 This 2014 publication covers the final year of CP4, April 2013 to March 2014 as well for CP4 as a whole and separately covers Great Britain, England & Wales and Scotland. It contains information and commentary on Network Rail's expenditure and its efficiency compared to our PR08 determination, its income, regulatory asset base (RAB), debt, financing costs and financial indicators. Our assessment underpins the calculation of whether payments are due to passenger and freight operating companies

[18] Our PR08 determination is available at: http://www.rail-reg.gov.uk/upload/pdf/383.pdf.

under the Efficiency Benefit Sharing Mechanism (EBSM), which provided train operators with an incentive to help improve Network Rail's efficiency in return for a share of any resulting savings. We also assess the value of Network Rail's RAB, because the RAB reflects the extent to which Network Rail has spent money to renew or improve its network as well as other adjustments in accordance with our PR08 determination. Our views should be taken into account by Network Rail's Remuneration Committee in its decisions about management bonuses, under both the company's annual and long term incentive plans.

1.6 We also monitor Network Rail's operational performance, including in respect of safety risk, train performance, asset performance and planning. These assessments were included in our 2014 Health and Safety report and our 2013-14 Q4 Network Rail Monitor publication[19]. Monitoring operational performance is important in helping us to verify that Network Rail has delivered its obligations in return for the money it has received from train operators and the governments, and that it only retains the benefit of the savings that it has genuinely achieved, which is the focus of this report.

1.7 The information contained within this report has been compiled from Network Rail's 2013-14 regulatory and statutory financial statements, Network Rail's 2013-14 annual return, our PR08 determination, our PR13 determination, Network Rail's 2009 delivery plan (DP09) for CP4 and updates to that plan, and the conclusions of independent reporters and other sources as specified.

1.8 Network Rail's move towards regionally devolved management and the development of alliancing arrangements with train operators is placing increasing importance on route level financial information. As with previous years, further analysis of Network Rail's 2013-14 financial information will be included in our GB Rail Industry Financial Information 2013-14 publication early next year[20] which includes more detailed information at an operating route level.

Structure of this report

1.9 Chapter 2 presents our analysis of Network Rail's expenditure and efficiencies, income, RAB, debt, financing costs and financial indicators.

1.10 Chapter 3 reports on the Efficiency Benefit Sharing Mechanism (EBSM) for 2013-14.

1.11 Chapters 4 and 5 present separate analysis for England & Wales and Scotland. We explain variances only where the reasons for the variances differ from that of Great Britain.

[19] Our 2014 Health and Safety report is available at: http://orr.gov.uk/__data/assets/pdf_file/0009/14130/health-safety-report-2014.pdf and the 2013-14 Q4 Network Rail Monitor is available at: http://orr.gov.uk/__data/assets/pdf_file/0004/13792/network-rail-monitor-2013-14-q4.pdf.

[20] Our 2012-13 GB Rail Industry Financial Information Report is available at: http://orr.gov.uk/publications/reports/gb-rail-industry-financial-information-2012-13.

1.12 Annex A explains our adjustment to Network Rail's reported financial performance for the under delivery of train punctuality and reliability outputs.

1.13 Annex B explains how we monitor Network Rail's efficiency in more detail.

1.14 Annex C provides supporting information for the EBSM calculation.

1.15 Unless otherwise stated, all financial figures in this report are in 2013-14 prices. There might be some differences in numbers in the tables due to rounding.

Feedback

1.16 We welcome comments on the content of this report. These should be sent to:

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Office of Rail Regulation
One Kemble Street
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WC2B 4AN

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2. Great Britain

Summary

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

(a) expenditure and efficiency;

(b) income;

(c) RAB;

(d) debt and financing costs; and

(e) financial indicators.

2.2 Our analysis relies primarily on information within Network Rail's 2013-14 regulatory financial statements and our PR08 determination. Where appropriate, we also draw upon other sources of information including Network Rail's financial performance in prior years, the company's DP09 and delivery plan updates (which set out Network Rail's own expected performance), statutory financial statements and the conclusions of the independent reporters and other sources as specified.

Overview

2.3 Key variances in Network Rail's expenditure in CP4 compared to our PR08 financial assumptions are shown in Figure 2.1.

Figure 2.1: Summary of expenditure variances for Great Britain in CP4

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

2.4 Our assessment shows that compared to the assumptions that we made in our PR08 determination six years ago, Network Rail has spent £1.2 billion more on operating, maintaining and renewing the network, Schedule 4 & 8 costs and financing costs than we assumed in our PR08 determination. In addition, Network Rail has spent £1.4 billion more on enhancements and £0.3 billion more on rebates than we assumed in our PR08 determination.

2.5 The principal reasons for Network Rail spending £1.2 billion more on operating, maintaining and renewing the network, Schedule 4 & 8 costs and financing costs were:

a. *£1.0 billion of additional operating expenditure*

   Operating expenditure includes controllable and non-controllable expenditure. Controllable operating expenditure (controllable opex) includes network operations (including signaling and timetabling) and support function costs. Network Rail categorises costs associated with a number of operating activities as non-controllable opex. The most significant of these were traction electricity, cumulo (i.e. business) rates and British Transport Police (BTP) costs. Although we treated some of these costs in a similar way to support costs in our PR08 determination, i.e. by applying an efficiency challenge to them, they were referred to as "non-controllable" in our PR08 determination[21].

   Controllable opex was £0.8 billion higher than our PR08 assumption mostly due to Network Rail not delivering the efficiency gains that it agreed to deliver in CP4, one-offs (e.g. the financial penalty for under delivery of outputs) and spend in CP4 that will generate savings in CP5. Network Rail has reported a cumulative -0.9% inefficiency for controllable opex across CP4 compared to the 15.3% cumulative efficiency gain that we agreed Network Rail would deliver. Non-controllable operating expenditure was £0.2 billion higher than our PR08 assumption principally due to higher traction electricity costs, most of which are passed on to train operators.

b. *£0.7 billion of lower maintenance expenditure*

   Maintenance expenditure relates to activities that sustain the condition and capability of Network Rail's existing infrastructure.

   Network Rail has reported a cumulative 29.1% efficiency for maintenance expenditure across CP4 compared to the agreed 25.5% cumulative efficiency gain that we expected Network Rail would deliver. Network Rail has explained that the maintenance efficiencies have mostly been generated through the initiative 'Phase 2b/c'. This introduced a standard organisation structure for the maintenance organisation, changed terms and conditions and created work delivery teams allowing surplus resources to be re-assigned on a permanent or variable basis to capital works.

[21] We consider that some aspects of these costs are controllable and we refer to them as industry costs and rates in our PR13 determination. For consistency with our PR08 determination we refer to these costs in this report as "non-controllable".

However, Arup has said it is uncertain about the claimed efficiency on certain maintenance categories.

c. *£0.8 billion of additional renewals capital expenditure*

Renewals expenditure is incurred in replacing ageing assets with equivalent modern replacements but does not result in any change of the performance of the original asset.

Network Rail spent an additional £0.8 billion on renewals to the network compared to our PR08 assumption. A number of factors contributed to this variance:

- Network Rail undertook £1.0 billion of renewals work that was not funded as part of PR08 (for example the Offering Rail Better Information Services (ORBIS) programme to improve its asset information, the purchase of the Milton Keynes head office to reduce leasing costs and the additional civils work following the UK Government's 2010-11 autumn statement);
- there was also an additional £0.2 billion of work that was deferred from CP3;
- this was partly offset by £0.2 billion of net deferral of work to CP5 and £0.3 billion of work that was assumed to be renewals in our PR08 determination but was re-allocated to enhancements;
- Network Rail also achieved lower renewals efficiency savings during CP4 than we assumed that it could deliver. Network Rail has reported a cumulative renewals efficiency of 15.3% compared to the 25.2% cumulative saving that we expected the company would deliver by 2013-14. Our view is that Network Rail's cumulative renewals efficiency is more likely to be at least 2% lower because Network Rail has excluded some renewals spend from its calculation that we think should be included in the assessment, however we recognise this as a legitimate difference of view. In addition, Arup has said it is uncertain about the efficiencies claimed on plant and machinery renewals.

d. *£0.3 billion of additional Schedule 4 & 8 costs*

Schedule 4 and Schedule 8 are compensation regimes by which train operators are compensated for planned (Schedule 4) and unplanned (Schedule 8) delays and cancellations of train services.

The additional expenditure compared to our PR08 determination was mostly due to additional Schedule 8 payments (£0.5 billion) resulting from adverse train punctuality and reliability compared to the outputs we set in our PR08 determination for most of the control period, offset by lower Schedule 4 costs (£0.2 billion). Lower Schedule 4 costs were because there was a lower amount of planned disruption to services than was forecast during PR08 - mostly as a result of the lower track volumes than we assumed in our PR08 determination, which was mostly due to the changes in asset policies. Consequently train operators did not get paid as much Schedule 4 compensation for revenue losses and replacement bus costs than was envisaged in our PR08 determination.

e. *£0.2 billion of lower financing costs*

Financing costs represent interest expenses on nominal debt, index-linked debt and the Financial Indemnity mechanism (FIM).

The £0.2 billion of lower than assumed financing costs was mostly due to two main factors being: (1) on average, borrowing during CP4 was lower than we expected as Network Rail largely undertook capital expenditure later in CP4 than we assumed; and (2) interest rates were lower than anticipated as a result of the economic conditions being different to our assumptions.

2.6 The principal reasons for Network Rail spending £1.4 billion more on enhancements[22] and £0.3 billion more on rebates than we assumed in our PR08 determination were:

a. Network Rail spent an additional £1.4 billion on enhancements compared to our PR08 assumption largely due to undertaking an additional £3.0 billion of schemes that were not funded in our PR08 determination, for example, Crossrail and electrification. £0.3 billion of renewals expenditure was also re-allocated to enhancements during the control period. These additions were partly offset by £1.3 billion of PR08 funded work that has been deferred to CP5 (in particular Thameslink, which had an underspend of £0.9 billion) and £0.6 billion of agreed reductions to the scope of PR08 projects after the start of the control period.

b. Network Rail made payments totalling £0.3 billion to the Department for Transport (DfT) and Transport Scotland in CP4, which we did not foresee in our PR08 determination.

Expenditure and efficiency

2.7 Network Rail's cumulative total expenditure in CP4 was £46,800m, which was £2,944m (6.7%) higher than we assumed in our PR08 determination, as summarised in Table 2.1.

2.8 Network Rail's total expenditure in 2013-14 was £11,161m. This was £4,019m (56.3%) higher than we assumed in our PR08 determination. The variance was mostly due to renewals and enhancements overspends. There was £1,513m of higher spend on renewals and £2,276m of higher spend on enhancements than we assumed in our PR08 determination, largely due to the catch-up of earlier re-phasing of capital expenditure within CP4 and additional capital projects not funded in our PR08 determination.

[22] Enhancements expenditure is incurred in making changes to the rail network, for example, to improve capacity.

Table 2.1: Analysis of expenditure (Great Britain)

£m, 2013-14 prices	Actual	PR08*	PR08 variance	Actual 2012-13	Prior year variance
	(A)	(B)	(B-A)	(C)	(C-A)
Cumulative					
Controllable opex	5,088	4,346	-742		
Maintenance	5,501	6,168	667		
Renewals	14,292	13,495	-797		
Sub-total (OM&R)	24,881	24,009	-872		
Non-controllable opex	2,472	2,232	-240		
Enhancements (PR08)	7,187	8,850	1,663		
Enhancements (non-PR08)	3,033	-	-3,033		
Total enhancements	10,220	8,850	-1,370		
Schedule 4 & 8 costs	1,189	893	-296		
Financing costs	7,686	7,846	160		
Corporation tax	7	26	19		
Rebates	345	-	-345		
Total expenditure	**46,800**	**43,856**	**-2,944**		
2013-14					
Controllable opex	1,071	793	-278	964	-107
Maintenance	952	1,141	189	1,025	73
Renewals	3,701	2,188	-1,513	2,833	-868
Sub-total (OM&R)	5,724	4,122	-1,602	4,822	-902
Non-controllable opex	546	468	-78	510	-36
Enhancements (PR08)	1,570	686	-884	1,555	-15
Enhancements (non-PR08)	1,392	-	-1,392	545	-847
Total enhancements	2,962	686	-2,276	2,100	-862
Schedule 4 & 8 costs	364	145	-219	265	-99
Financing costs	1,428	1,711	283	1,536	108
Corporation tax	-5	10	15	-	5
Rebates	142	-	-142	36	-106
Total expenditure	**11,161**	**7,142**	**-4,019**	**9,269**	**-1,892**

*Throughout this report PR08 refers to adjusted PR08, which includes adjustments that we have agreed with Network Rail, largely reflecting changes in circumstances.

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

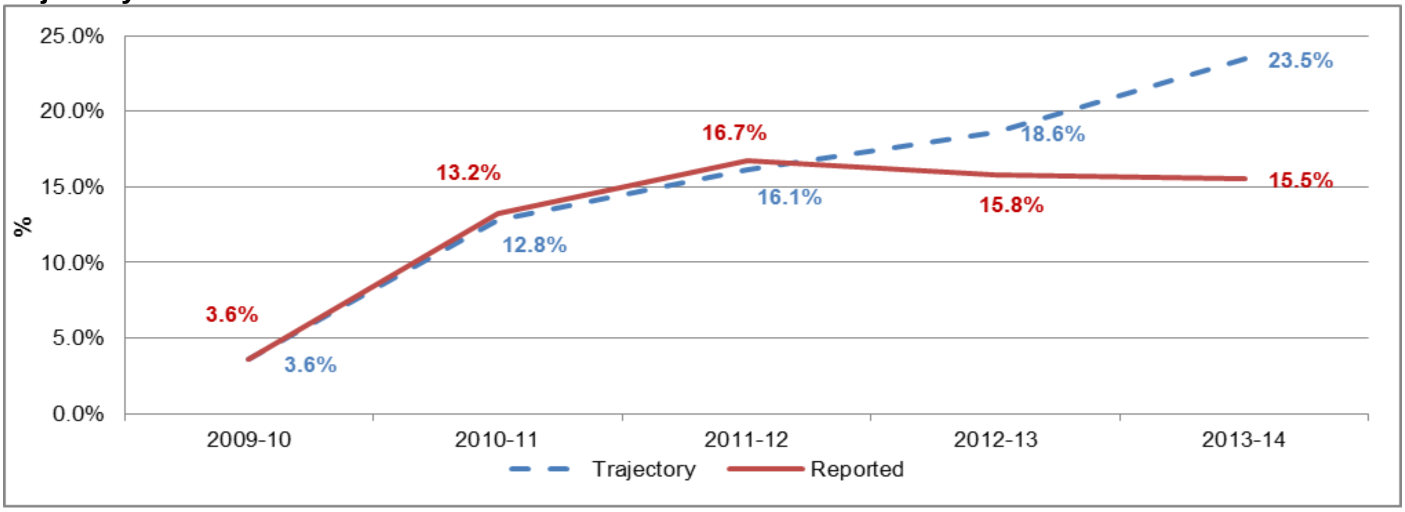
2.9 Figure 2.2 shows Network Rail's cumulative controllable operating, maintenance and renewals (OM&R) efficiency improvements compared to Network Rail's Real Economic Efficiency Measure (REEM) trajectory of agreed efficiency improvements that Network Rail was to deliver in CP4[23]. Network Rail has reported OM&R efficiencies of 15.5% by the end of CP4 compared to the start of the CP4. This was 8.0 percentage points behind the 23.5% efficiencies that Network Rail aimed to achieve in order to deliver the OM&R efficiency that we expected it would achieve by the end of CP4. While Network Rail has reported efficiencies of 15.5%, we have concerns about the exclusion of certain renewals spend (e.g. efficient overspend on renewals) and the quality of the reporting underpinning this calculation. It is our view that

[23] See Annex B for further details. Network Rail's agreed CP4 efficiency trajectory was set out in a letter from ORR to Network Rail in March 2011. A copy of this letter is available at: http://www.rail-reg.gov.uk/upload/pdf/nr-cp4-success-010311.pdf.

efficiency is likely to be at least 2% lower taking into account the exclusion of certain renewals, but we recognise this is a legitimate difference of view. In addition, Arup has said it is uncertain about the efficiencies claimed on certain categories of maintenance and renewals expenditure.

2.10 The 15.5% reported efficiency represents a deterioration in cumulative efficiency of 0.3% compared to 2012-13 when Network Rail reported 15.8% cumulative savings. This contrasts with the agreed 4.9% improvement in cumulative efficiency we expected in the final year of CP4, compared to 2012-13.

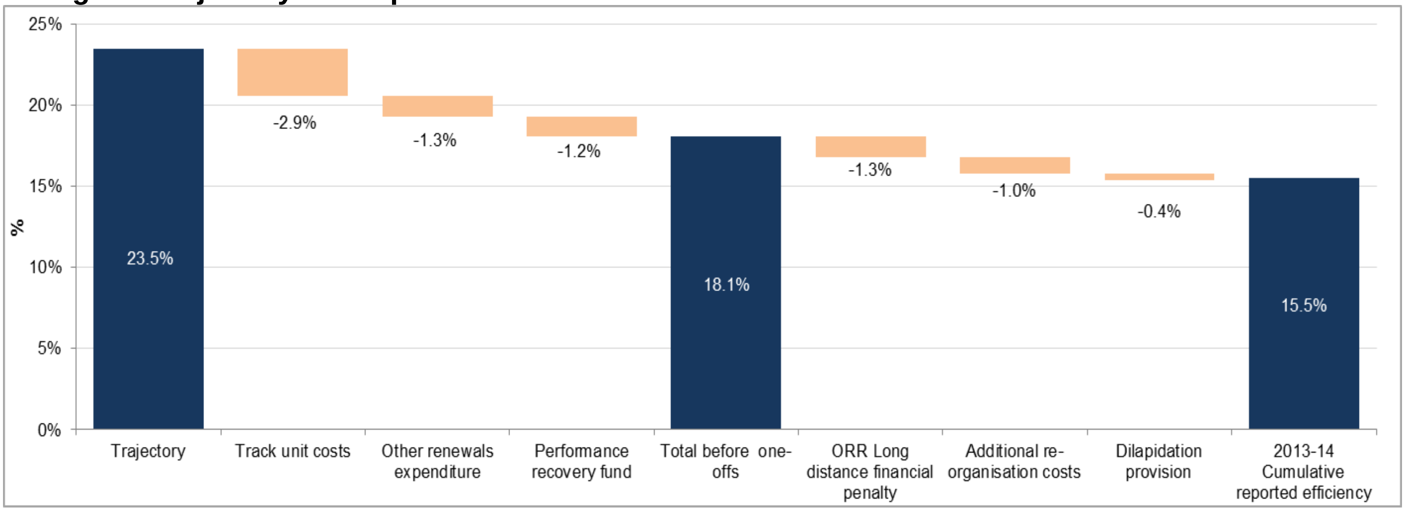
Figure 2.2: Comparison of the reported OM&R efficiencies for Great Britain in CP4 to the agreed trajectory



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

2.11 Network Rail has analysed the reasons for the gap in cumulative efficiency in 2013-14, reconciling the 23.5% to the 15.5%. This is set out in Figure 2.3.

Figure 2.3: Network Rail's analysis of the reasons for the cumulative efficiency shortfall between the agreed trajectory and reported 2013-14 efficiencies achieved



Source: Network Rail's own analysis.

2.12 Network Rail has provided an explanation of the reductions compared to the trajectory for each of the components of Figure 2.3:

a. Track renewals. The track unit costs were around 35% higher (£158m) than Network Rail had planned for 2013-14. This reduced REEM by 2.9%;

b. Other renewals. The majority of this reduction of 1.3% was due to Network Rail not achieving a significant amount of the renewals efficiencies it assumed it would achieve. For example, almost half of the signalling renewals assumed efficiencies were not achieved;

c. Performance recovery fund. As a result of the shortfall against the train punctuality and reliability outputs, Network Rail created a performance fund to support increased expenditure to improve train performance. Network Rail spent £70m on this in 2013-14. This reduced REEM by 1.2%;

d. ORR penalty for missed outputs. Network Rail estimated that the long distance financial penalty would be £77m. This reduced REEM by 1.3%;

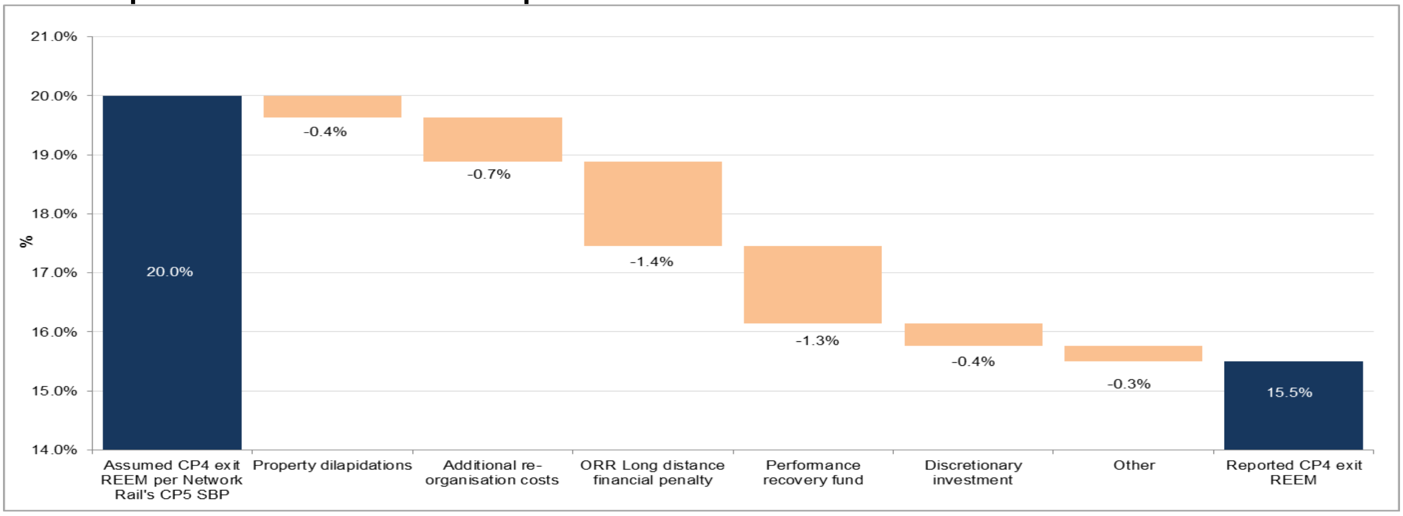
e. Additional re-organisation costs. Network Rail implemented a Management Efficiency Programme in 2013-14 to enable it to reduce on-going management costs. As a result, it has incurred nearly £60m of redundancy and other re-organisation costs to achieve on-going savings of 15% in its management staff costs. This reduced REEM by 1.0%; and

f. Property dilapidation costs (£22m). This reduced REEM by 0.4%.

Implications for CP5

2.13 Figure 2.4, although it shows similar variances to those shown in Figure 2.3, is different because it outlines the reasons for the variance in reported efficiency achieved at the end of CP4 compared to the efficiency assumption in Network Rail's CP5 Strategic Business Plan (SBP)[24].

Figure 2.4: Network Rail's analysis of the reasons for the reported efficiency shortfall at the end of CP4 compared to the CP4 exit assumption in the CP5 SBP



[24] There is a time difference of approximately 15 months between the publication of Network Rail's SBP and the end of the control period.

Source: Network Rail's own analysis.

2.14 Our PR13 determination assumed a CP4 exit efficiency of 18%. This was lower than Network Rail's CP5 SBP assumption of 20% due to us completing the work for our PR13 determination around nine months after the SBP and taking a different view based on more up to date information. Network Rail's analysis in Figure 2.4 suggests that the reason for the CP4 shortfall compared to the CP5 SBP was due to one-offs and discretionary expenditure not assumed at the time of the SBP.

2.15 The efficiency shortfall of 2.5 percentage points[25] in CP4 compared to our PR13 CP4 exit assumption of 18%, means that Network Rail will now need to work harder to deliver the further 19.4% OM&R efficiency improvement that the company is aiming to deliver in CP5, as in total it will need to deliver around 22% of efficiencies.

2.16 However, Network Rail, in saying that it is aiming to meet the CP5 efficiency target, has raised concerns over track unit costs in PR13, so it will need to make further efficiencies elsewhere in order to meet the overall 22% efficiency it now needs to achieve by the end of CP5.

Controllable opex

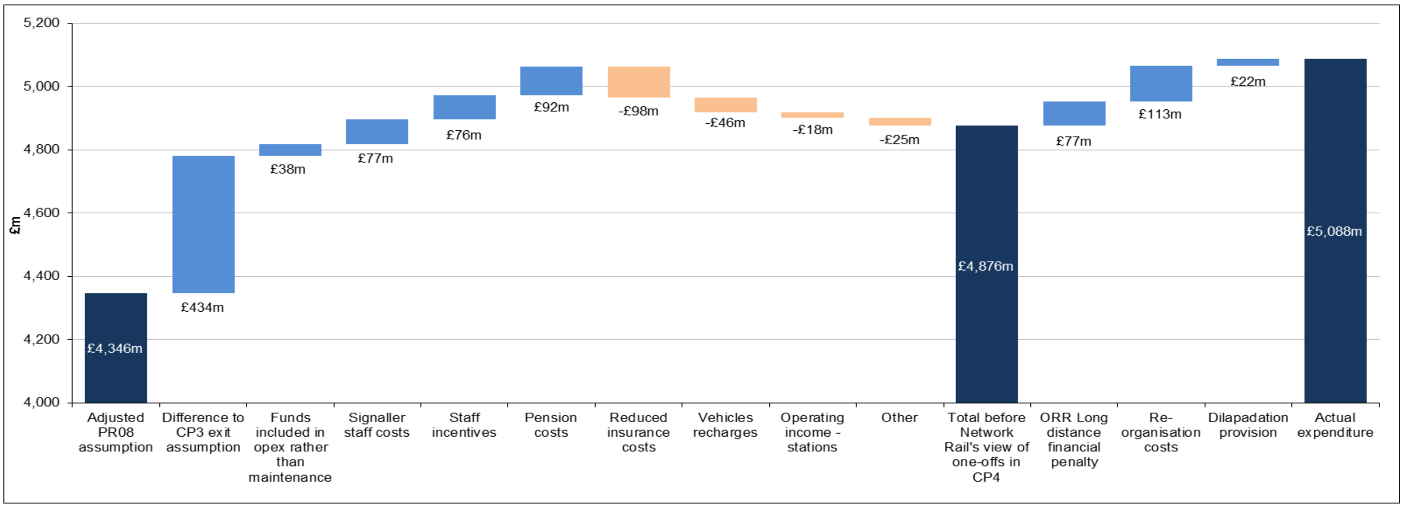
2.17 Controllable operating expenditure (controllable opex) includes network operations and support function costs. Network operations encompass activities that directly relate to the operation of the network such as signalling and timetabling. Support functions include activities that largely do not directly affect the running of the network such as information management, human resources and finance.

Controllable opex - expenditure in CP4

2.18 Total controllable opex in CP4 was £5,088m, which was £742m (17.1%) higher than we assumed in our PR08 determination, the main reasons for the variance are shown in Figure 2.5.

[25] That is the difference between the 18% assumed in PR13 and the 15.5% reported efficiencies achieved at the end of CP4.

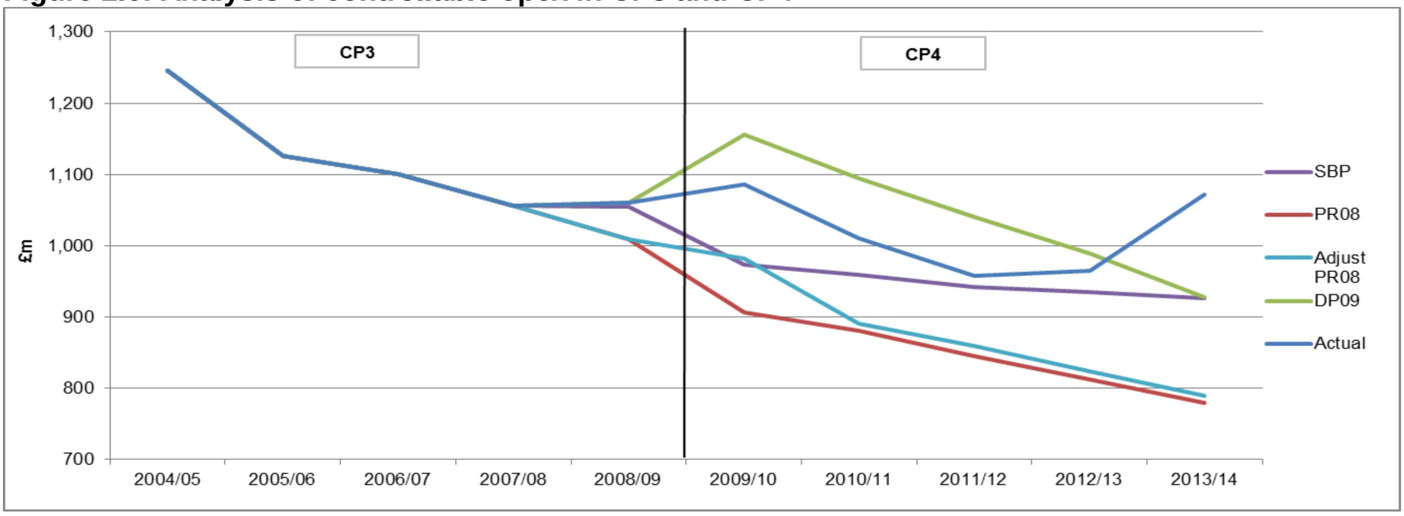
Figure 2.5: Analysis of the variance between PR08 and actual controllable opex expenditure in CP4



Source: Network Rail's own analysis.

2.19 As shown in Figure 2.5, Network Rail has said approximately £434m of the net £742m overspend on controllable opex compared to our PR08 determination for CP4 mostly related to it not achieving our assumed CP3 exit position on controllable operational expenditure. This is demonstrated in Figure 2.6 by the gap in 2008-09 (final year of CP3) between our PR08 assumption and actual expenditure, which has a knock on effect on expenditure throughout CP4. This means that even if Network Rail had achieved the efficiency improvement that we assumed it would achieve in CP4, Network Rail would still not have achieved our PR08 assumption for controllable opex in CP4.

Figure 2.6: Analysis of controllable opex in CP3 and CP4[26]



Source: Network Rail's own analysis and our own analysis.

2.20 Network Rail's analysis in Figure 2.5 shows other variances including higher employee costs as a result of higher signalling staff costs, staff incentives and pensions. Although additional costs associated

[26] The line representing 'Adjust PR08' in Figure 2.6 takes into consideration two reclassifications between controllable opex and maintenance. One adjustment was moving utilities and plant costs from maintenance to controllable opex, and the other, almost offsetting adjustment, was a reclassification of pensions costs from controllable opex to maintenance.

with signalling staff costs[27], staff incentives[28] and pensions, were respectively reported in Network Rail's 2013-14 regulatory financial statements, they were not consistent with the £77m, £76m and £92m used by Network Rail in Figure 2.5. Our analysis suggests that some of the £434m variance shown in Figure 2.5 (difference to CP3 exit assumption) may also relate to these issues.

2.21 The increased staff costs compared to our PR08 determination were offset by lower than assumed insurance costs, lower than assumed vehicle costs and higher than assumed operational income from stations.

2.22 Insurance costs have reduced when compared to the assumption in our PR08 determination by £98m as a result of a change in policy to increase the level of excess in Network Rail's insurance arrangements. Whilst this reduced insurance premiums and hence controllable opex, this may have resulted in increased costs elsewhere within the business.

2.23 The purchase of vehicles instead of leasing them has resulted in a reduction in controllable opex of £46m. However, renewals expenditure on vehicles has been more than our PR08 determination assumption as this change in policy to buy rather than lease was not included in our PR08 determination.

2.24 Network Rail's analysis in Figure 2.5 included a -£25m variance described as 'other', which Network Rail has not appropriately explained. Our own analysis suggests that this variance may be due to a number of factors (both positive and negative) including additional operating income of £308m (£330m excluding the £18m for stations) offset by other issues such as expenditure on railhead treatment and additional IT expenses.

Controllable opex - expenditure in 2013-14

2.25 Controllable opex was £1,071m in 2013-14, which was £278m (35.1%) higher than we assumed in our PR08 determination and £107m (11.1%) higher than in 2012-13. Network Rail has explained that the higher costs in 2013-14 compared to our PR08 determination are due to:

a. Network Rail estimated that the financial penalty would be £77m and assumed that there would be no adjustment for weather[29];

b. re-organisation/redundancy costs of £58m were due to a downsizing programme intended to achieve efficiencies in CP5; and

[27] There have been above inflation increases in staff costs, e.g. Network Rail agreed to increase operational staff salaries by Retail Price Index (RPI) + 0.5% in 2013-14.

[28] Our PR08 determination did not assume that Network Rail would outperform our determination and therefore no provision was made for bonuses.

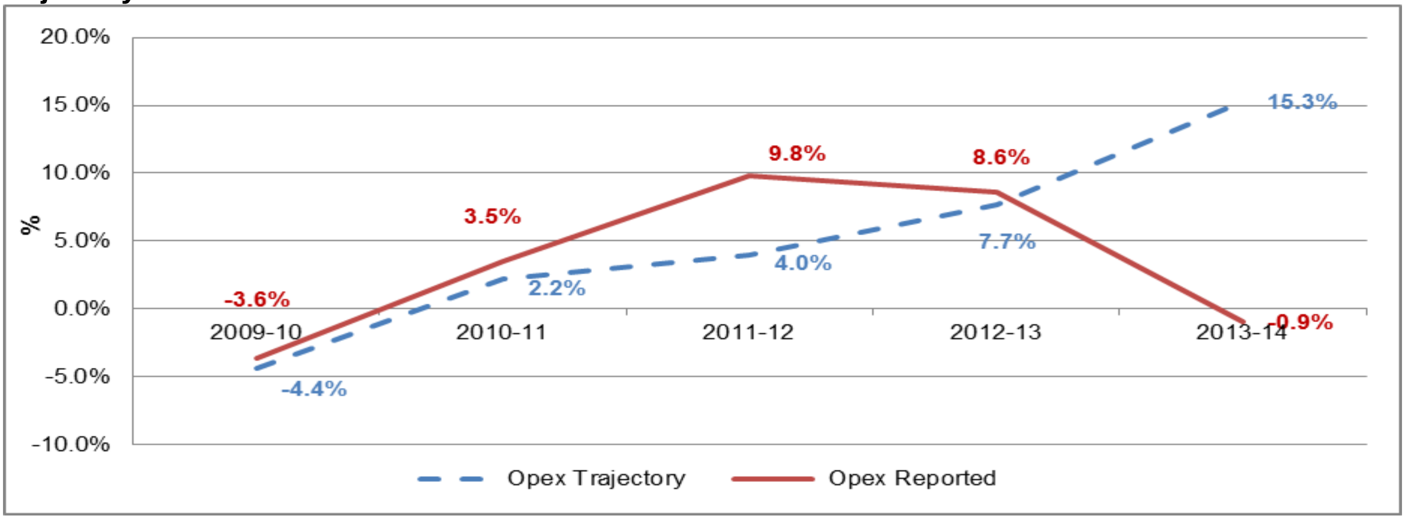
[29] Network Rail's estimate was based on our statement that the financial penalty would be £1.5m per 0.1% of Public Performance Measure (PPM), before adjusting for weather. On 7 July 2014, we reported that the financial penalty, after adjusting for weather, was £53.1m.

c. Network Rail estimated that its property dilapidations costs would be £22m.

Controllable opex - efficiencies in CP4

2.26 As shown in Figure 2.7, Network Rail has reported cumulative controllable opex efficiencies of -0.9% by the end of CP4 compared to the start of CP4. This was 16.2 percentage points behind the 15.3% efficiencies that Network Rail aimed to achieve by the end of CP4.

Figure 2.7: Comparison of the reported controllable opex efficiencies in CP4 to the agreed trajectory



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

2.27 Network Rail has explained that the majority of its controllable opex efficiency savings shortfall of £169m compared to the trajectory is due to the same reasons as the overspend compared to our PR08 determination in 2013-14 as explained above.

2.28 Network Rail has reported some efficiencies around signal box closures, organisation rationalisation and increasing productivity, but although efficiencies have been achieved in relation to 'volumes' of work, this has been offset by much higher unit costs, i.e. higher salary costs.

2.29 Input prices have increased by less than we assumed in our PR08 determination for the current year and the control period for Network Rail's controllable opex activities. As discussed elsewhere within this Chapter, this may have had a beneficial effect on the company's controllable opex costs.

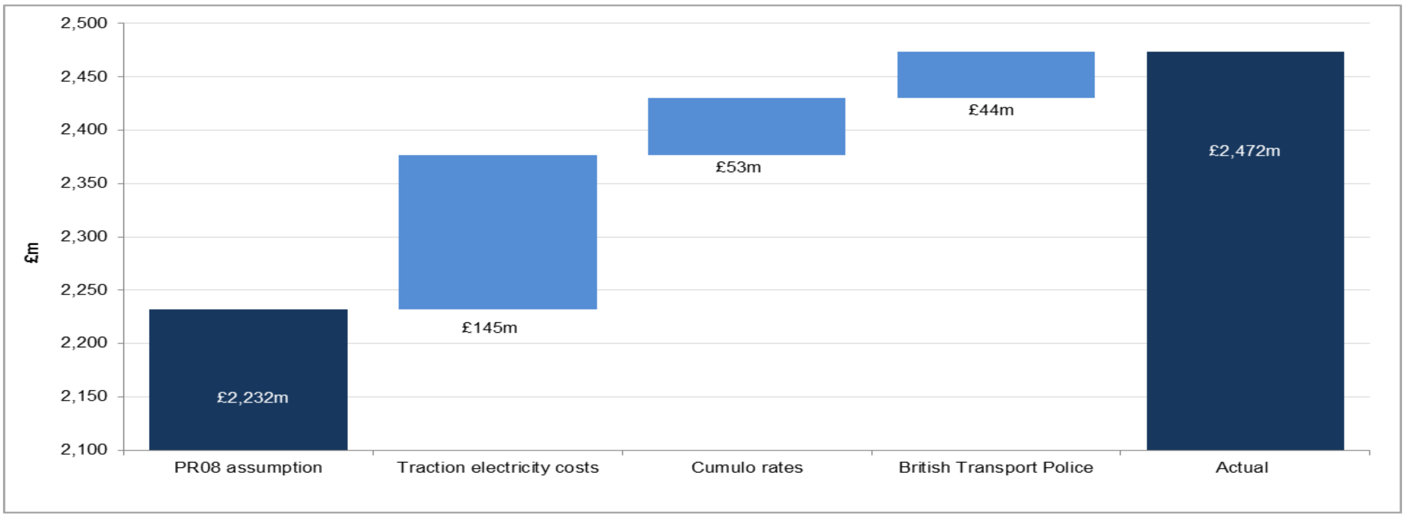
Non-controllable opex

2.30 Network Rail categorises costs associated with a number of operating activities as non-controllable opex. The most significant of these were traction electricity, cumulo (i.e. business) rates and British Transport Police (BTP) costs. Although we treated some of these costs in a similar way to support costs in our PR08 determination, i.e. by applying an efficiency challenge to them (e.g. for BTP), they were referred to as "non-controllable" in our PR08 determination.

Non-controllable opex - expenditure in CP4

2.31 Cumulative non-controllable opex was £2,472m in CP4, which was £240m (10.8%) higher than we assumed in our PR08 determination. As shown in Figure 2.8, for CP4 the key variances compared to our PR08 determination were higher market electricity prices (£145m) affecting traction electricity costs, higher cumulo rates (£53m) and higher BTP costs (£44m).

Figure 2.8: Analysis of the variance between PR08 and actual non-controllable opex expenditure in CP4



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

Non-controllable opex - expenditure in 2013-14

2.32 Non-controllable opex was £546m in 2013-14, which was £78m (16.8%) higher than we assumed in our PR08 determination and £36m (7.0%) higher than in 2012-13. Network Rail has said the reasons for the higher costs in 2013-14 compared to our PR08 determination are due largely to the same reasons as for CP4 as a whole (higher market electricity prices affecting traction electricity (£34m) and higher cumulo rates (£39m)).

2.33 The traction electricity cost increase was mostly offset by higher traction electricity income received from train operators, which is included in other single till income.

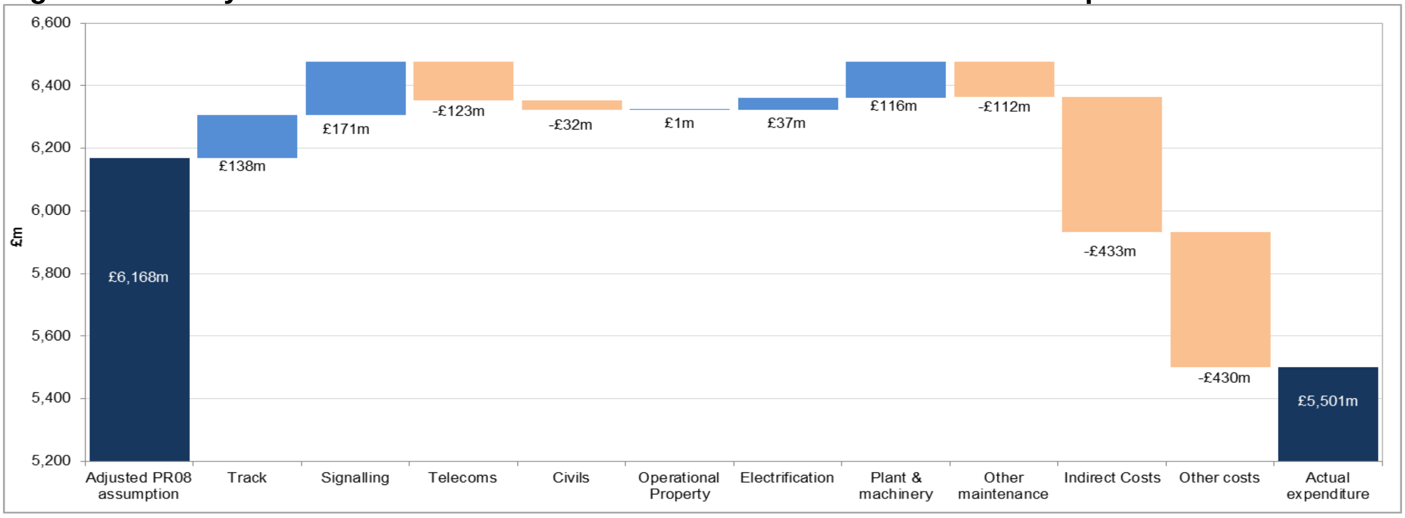
Maintenance

2.34 Maintenance expenditure relates to activities that sustain the condition and capability of existing infrastructure to the previously assessed standard of performance.

Maintenance - expenditure in CP4

2.35 Cumulative maintenance expenditure was £5,501m in CP4, which was £667m (10.8%) lower than we assumed in our PR08 determination with the key areas of the variance highlighted in Figure 2.9.

Figure 2.9: Analysis of the variance between PR08 and actual maintenance expenditure in CP4



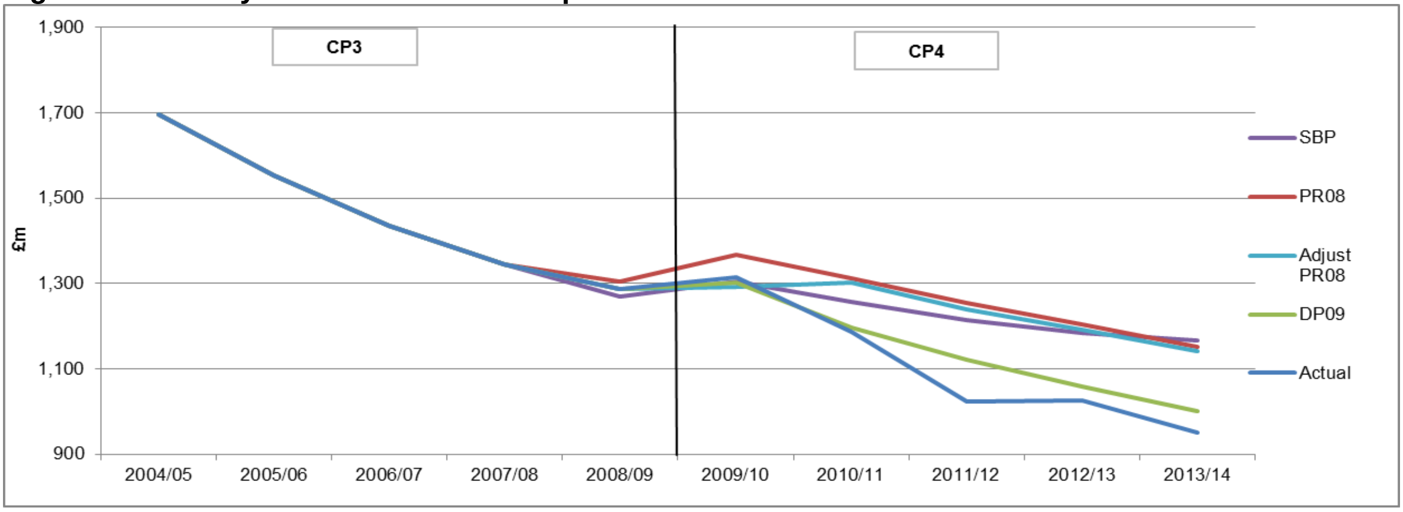
Source: Network Rail's regulatory financial statements and our own analysis.

2.36 As highlighted in Figure 2.9, Network Rail's underspend was mostly due to two main categories of expenditure - indirect costs and other costs. Network Rail has not provided a detailed breakdown of the reasons for the variances in these categories but has suggested it was mostly to do with four main reasons: (1) a different CP4 starting assumption (this is outlined in the paragraphs below); (2) our PR08 assumption for maintenance including £196m of expenditure on funds, (this is also outlined in the paragraphs below); (3) a large reduction in indirect headcount during the control period; and (4) the reclassification of costs between core maintenance and non-core maintenance as a result of changes to the way Network Rail allocates its central maintenance costs to specific work programs.

2.37 In order to help explain the variance between PR08 and actual maintenance spend for CP4, Figure 2.10 shows a comparison of maintenance assumptions (SBP, PR08, and DP09) and actual expenditure during CP3 and CP4[30].

[30] PR08 included a higher level of funding than the SBP because Network Rail requested additional funding after submitting its SBP, to cover the costs of introducing revised terms and conditions, and for some specific funds. We decided to include this additional funding in our PR08 determination, partially offset by a more challenging efficiency assumption than in the SBP.

Figure 2.10: Analysis of maintenance expenditure in CP3 and CP4[31]

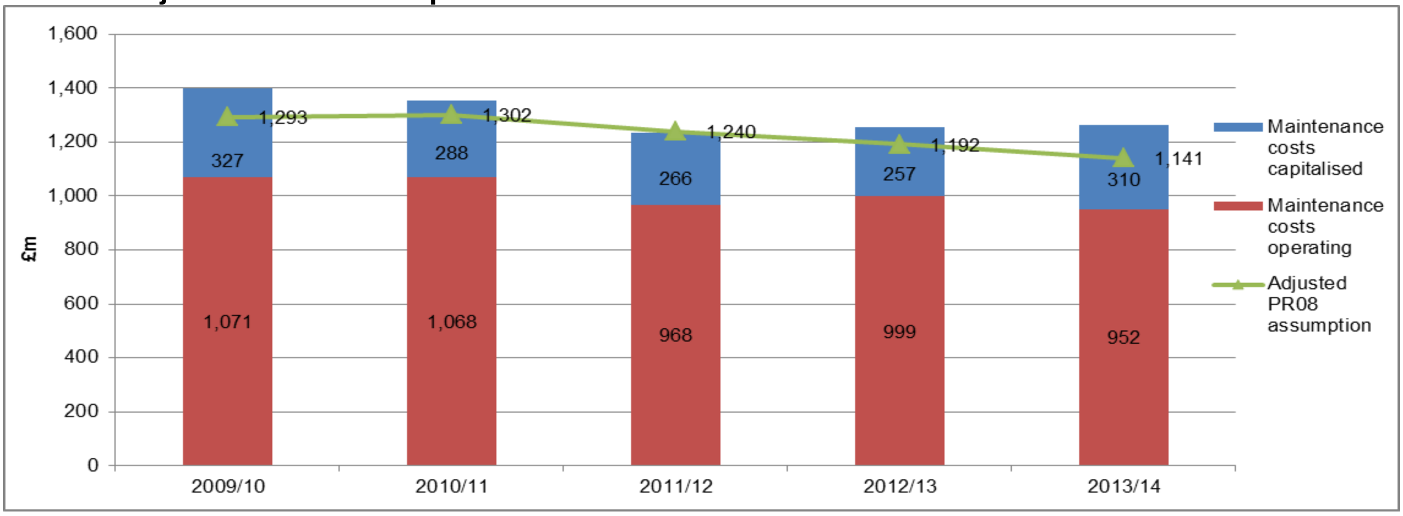


Source: Network Rail's own analysis and our own analysis.

2.38 Network Rail planned a significantly lower level of maintenance expenditure in its DP09 than we assumed in our PR08. This was largely due to its 'Phase 2b/c' efficiency initiative to introduce a standard organisational structure for maintenance, revised terms and conditions, and retraining and deployment of some resources to capital works.

2.39 The use of the maintenance workforce on capital works can be seen in Figure 2.11, which shows how the actual expenditure on maintenance headcount was split between day-to-day maintenance operations and deployment on capital works, compared with the total adjusted PR08 expenditure.

Figure 2.11: Maintenance capitalised costs and maintenance operating costs analysis compared to the total adjusted PR08 assumption in CP4



Source: Network Rail's regulatory financial statements, Network Rail's submission to us and our own analysis.

[31] A complication in comparing PR08 with actual expenditure was that Network Rail re-allocated some expenditure between controllable opex and maintenance, including spend on utilities and plant, and pensions. In Figure 2.10 the 'adjusted PR08' line accounts for these re-allocations.

2.40 As shown in Figure 2.10, actual expenditure was lower than Network Rail forecast in DP09. This was partly because some of the additional specific[32] funds we included in our PR08 determination for maintenance were not spent, and some were spent on controllable opex (£38m) and capital works, resulting in a £196m variance in maintenance during CP4.

2.41 In analysing Network Rail's reported savings we need to be satisfied that the savings have not been achieved at the expense of insufficient maintenance work being delivered. In making this assessment we have considered the following factors:

a. as reported in Network Rail's 2013-14 annual return and Arup's 2013-14 report, asset condition and performance indicators suggest the network is in a better state than at the start of the control period;

b. as reported in our 2014 Health and Safety report, we have identified shortcomings in some areas through our safety inspection work, suggesting more would have been done if more resources had been made available; and

c. Arup, the independent reporter has concerns and has qualified its opinion around two areas of maintenance savings.

2.42 Through analysis of these factors, we have concluded that Network Rail has achieved significant savings in maintenance through CP4, but that they are probably less than Network Rail has claimed because we think there were areas where Network Rail could have done more work, to the benefit of the safety, performance and condition of the network. Therefore in considering FVA and EBSM we have decided to adjust the level of maintenance savings back to the level planned in DP09, which is still significantly more than we expected in our PR08 determination.

Maintenance - expenditure in 2013-14

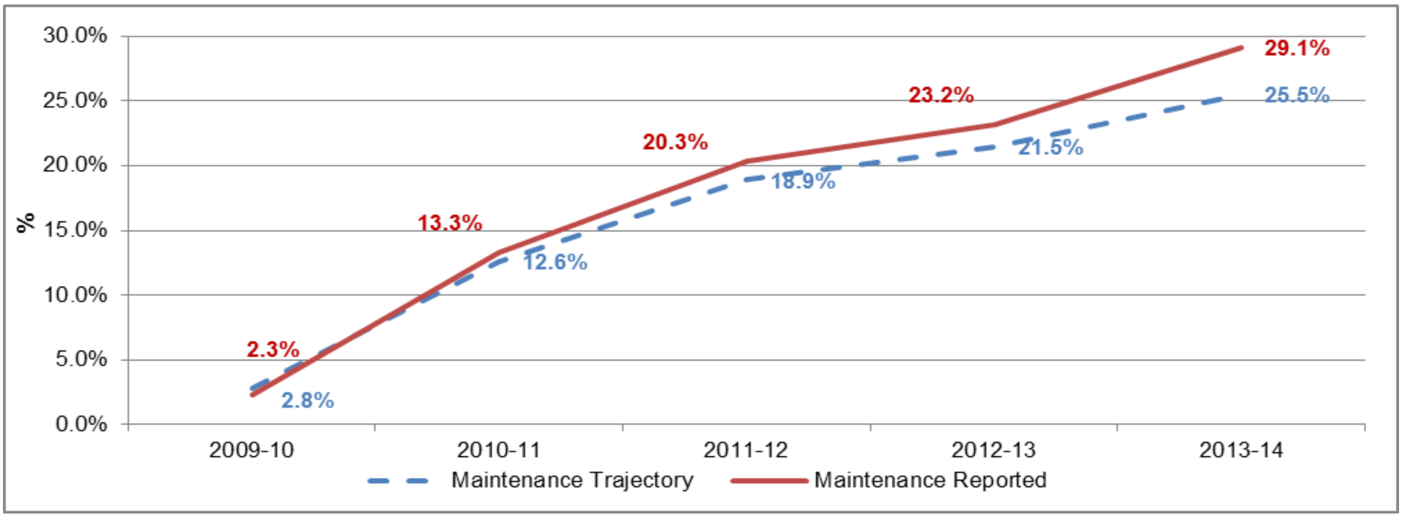
2.43 Maintenance expenditure was £952m in 2013-14, which was £189m (16.6%) lower than we assumed in our PR08 determination and £73m (7.2%) lower than in 2012-13.

Maintenance - efficiencies in CP4

2.44 As shown in Figure 2.12, Network Rail has reported substantial efficiencies of 29.1% in its maintenance of the network by the end of CP4 compared to the start of CP4. This was 3.6 percentage points ahead of the 25.5% efficiencies that Network Rail aimed to achieve by the end of CP4.

[32] National Stations Improvement Programme (NSIP), seven day railway and performance fund.

Figure 2.12: Comparison of the reported maintenance efficiencies in CP4 to the agreed trajectory



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

2.45 Network Rail has said the majority of its cumulative maintenance efficiency savings of 29.1% or £389m by the end of CP4 related to staff cost savings from the continuing re-organisation of its maintenance functions, which started earlier in CP4. Maintenance headcount in 2013-14 was 15,813 and has reduced by 2,169 staff (12%) compared to 2009-10. Network Rail considers that the re-organisation's standardisation of working practices and terms and conditions has enabled better roster planning (including reduced overtime) which led to the reduction in headcount. However, Arup has raised concerns regarding uncertainty in reported maintenance efficiencies [33].

2.46 Arup has noted there were a number of areas where it has either been unable to form an opinion based on the information Network Rail has provided or where it has concluded there were material uncertainties. This is the fourth year in a row that Arup has provided a qualified opinion for Network Rail's regulatory financial statements. In particular it has said there was not sufficient evidence to demonstrate how the maintenance efficiencies have been realised, in particular with regard to track and electrification assets. This has caused us significant concern and we have taken Arup's views into account in our assessment of financial performance and EBSM.

2.47 Arup concluded that a large proportion (£267m or 67%) of Network Rail's reported maintenance efficiencies (£388m) may be uncertain. While we recognise Network Rail's concerns around the methodology of substantiating efficiencies, this percentage of uncertain efficiencies is significant. As explained above, Network Rail set itself a challenging maintenance expenditure assumption in its delivery plan which was much lower than our PR08 determination assumption. We have taken a pragmatic approach in assessing Network Rail's reported maintenance efficiencies, Arup's 2013-14 report and our concerns about the level of maintenance expenditure Network Rail has spent in CP4 by concluding that the

[33] Arup's 2013-14 report is available at: http://www.orr.gov.uk/__data/assets/pdf_file/0005/14774/arup-nr-regulatory-accounts-review-2014.pdf.

main area of concern is the efficiencies Network Rail is claiming in excess of the efficiencies assumed in the delivery plan. Therefore we have made an adjustment to Network Rail's reported FVA of £179m which represents the underspend against the delivery plan (i.e. the adjustment is for the additional efficiencies in excess of the delivery plan).

2.48 Input prices have increased by less than we assumed in our PR08 determination for Network Rail's maintenance activities in the current year and for the control period. As examined elsewhere within this Chapter, this may have had a beneficial effect on the company's maintenance costs.

Schedule 4 and Schedule 8

2.49 Schedule 4 and Schedule 8 are compensation regimes by which train operators are compensated for planned (Schedule 4) and unplanned (Schedule 8) delays and cancellations of train services.

Schedule 4&8 - expenditure in CP4

2.50 Cumulative Schedule 4 & 8 expenditure was £1,189m in CP4, which was £296m (33.2%) higher than we assumed in our PR08 determination.

2.51 The additional expenditure on these compensation regimes was mostly due to additional Schedule 8 payments of £482m (PR08 assumed £0m as we assumed Network Rail would meet its train punctuality and reliability outputs) resulting from adverse train punctuality and reliability compared to the regulatory outputs for most of the control period. The overspend on Schedule 8 costs is offset by lower Schedule 4 costs. Cumulative Schedule 4 costs of £707m were £186m lower than we assumed in our PR08 determination. Schedule 4 costs were lower than we assumed because there was a lower amount of planned disruption to services than was forecast during PR08 due to a lower level of engineering possessions as a result of changes to asset policies. Consequently train operators did not get paid as much Schedule 4 compensation for revenue losses and replacement bus costs than we assumed in our PR08 determination.

Schedule 4&8 - expenditure in 2013-14

2.52 Overall, Schedule 4 & 8 expenditure was £364m in 2013-14, which was £219m (150.5%) higher than we assumed in our PR08 determination and £99m (37.4%) higher than in 2012-13.

2.53 The variance compared to our PR08 determination is mostly due to the Schedule 8 variance of £197m for the same reasons as CP4 in total.

2.54 The variance compared to 2012-13 of £99m is partially due to a Schedule 4 cost variance of £42m as a result of more renewals work being done in 2013-14 and partially due to a greater difference on actual train punctuality and reliability outputs when compared to the requirement in 2013-14 resulting in a variance of £57m compared to 2012-13.

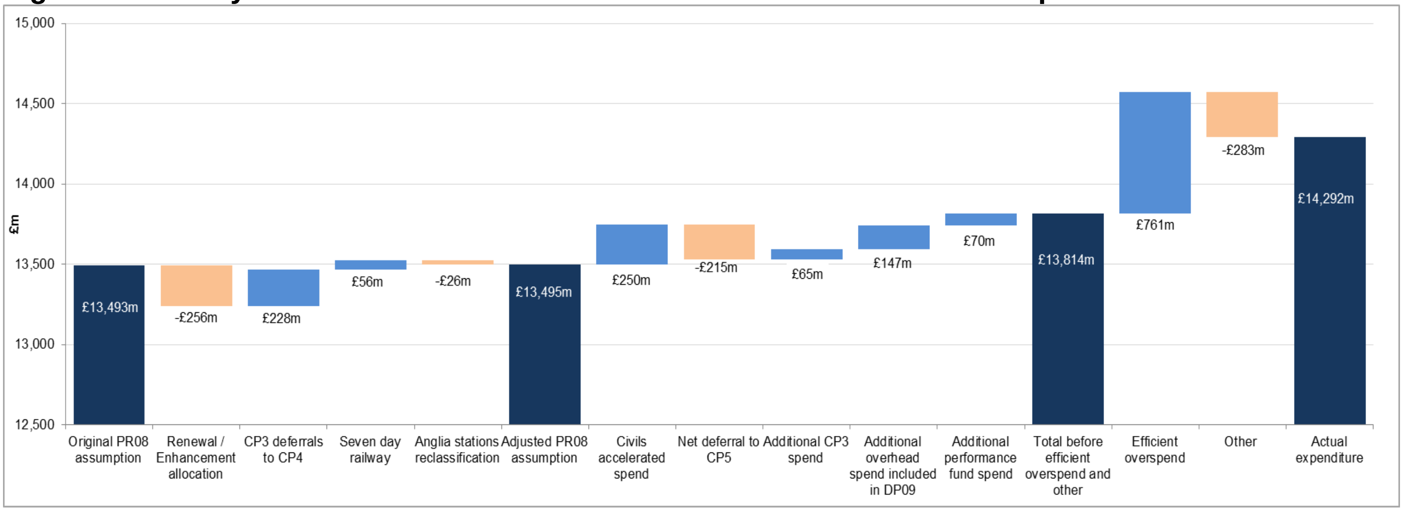
Renewals

2.55 Renewals expenditure comprises work to replace assets which have usually reached, or are nearing, the end of their useful lives, with the modern equivalent asset. Renewals expenditure is treated as capital and added to the RAB as discussed separately in this Chapter. Track, signalling and civils account for nearly two-thirds of all renewals expenditure. The other main categories of renewals expenditure are telecommunications, electrification, plant and machinery and operational property.

Renewals - expenditure in CP4

2.56 Cumulative renewals expenditure was £14,292m in CP4, which was £797m (5.9%) higher than we assumed in our adjusted PR08 determination assumption. Figure 2.13 shows the reasons for the differences in actual spend compared to our original PR08 determination.

Figure 2.13 Analysis of the variance between PR08 and actual renewals expenditure in CP4



Source: Network Rail's regulatory financial statements, submissions to us and our own analysis.

2.57 The variances between the original PR08 determination and actual expenditure as outlined in Figure 2.13 were due to a combination of factors:

a. the first four adjustments in Figure 2.13 were adjustments to our PR08 determination that have been agreed between us and Network Rail. These were due to a re-allocation of spend between renewals and enhancements, deferral of certain renewals schemes from CP3 to CP4, funding for seven day railway and the removal of funding for Anglia stations because the stations were transferred from Network Rail to the Train Operating Companies (TOCs) (after PR08 was published). In Network Rail's 2013-14 regulatory financial statements (Statements 1, 9a and 9b), these adjustments were included in the 'PR08 column';

b. £250m related to the fiscal stimulus for civils assets in England & Wales announced by the UK Government in its 2011 autumn statement;

c. Network Rail has also deferred some work from CP4 into CP5, and in relation to track, beyond CP5. The work deferred from CP4 to CP5 related to buildings (£11m), electrification (£100m), and telecommunications (£46m). The projects that have been deferred are:
   - for buildings, work on the roof of Paddington station;
   - for electrification, renewal of Substation Control And Data Acquisition (SCADA) and works on the Wessex / Sussex / Kent DC programme; and
   - for telecommunications, completion of the national telecommunications programme.

   In addition, Network Rail will need to spend more than we assumed in PR13 for:
   - the Great Eastern overhead line programme as a result of the revised delivery approach that was developed towards the end of CP4, which resulted in additional work being required during CP5; and
   - the ORBIS programme (which was incremental expenditure compared to our PR08 determination) reflecting some slippage in expenditure from 2013-14 into CP5.

   The track renewal work that was not delivered as planned in DP10[34] during CP4 (£184m) will now be delivered during CP5, but it will be done instead of a similar volume of other track renewals that Network Rail had planned to do during CP5. Most of that work will now be deferred until CP6. This is because there is a limit to the volume of work that can be done on the network without risking excessive disruption to train services;

d. offsetting the deferral from CP4 to CP5, the acceleration of spend from CP5 to CP4 includes work brought forward from CP5 for signalling renewals assets of £125m;

e. overspend incurred on deferral from CP3 that was not allowable for RAB addition. This amounts to £65m;

f. capitalised overhead expenditure not included in our PR08 determination but included in Network Rail's DP09 and included in actual expenditure. This amounts to £147m;

g. expenditure on the performance recovery fund (£70m);

h. efficient overspend[35] of £761m refers to projects Network Rail delivered over and above those funded in CP4. Examples include the new national centre in Milton Keynes (£142m), the

[34] As explained later in this report, DP10 included the effect of Network Rail's revised asset policies.

[35] Overspend relating to additional volumes of work for renewals will only be added to the RAB if Network Rail can justify that the increase in volumes is efficient and could not reasonably have been foreseen at the time of the periodic review. For example, the company would need to demonstrate that the increase in volumes related to (a) improvements in asset policies that demonstrate optimisation of whole life costs. Network Rail would need to set out its starting volume assumption based on the regulatory determination and then set out and justify the incremental volume; (b) systemic issues with asset condition that could not reasonably have been foreseen at the time of the periodic review. This makes the strong assumption that Network Rail's asset information is compliant with its network licence; (c) unanticipated increases in traffic volume on a particular part of the network resulting in a need for increased renewals, in line with asset policies; (d) Network Rail would need to demonstrate that the associated costs were greater than any additional revenues received in track access charges and payments under the volume incentive; (e) work brought forward in order to minimise total cost. For example, we would generally expect to allow for the bringing

management decision to purchase fleet vehicles rather than lease them (£107m), the ORBIS programme (£94m) as well as a number of other smaller projects (£420m); and

i. other savings of £283m. We think that other savings are made up of two offsetting issues. Firstly, Network Rail has benefitted significantly from input prices being lower than we anticipated in our PR08 determination. Secondly, as highlighted in the renewals efficiency section below, Network Rail has not achieved its efficiency trajectory and this shortfall has contributed to actual spend being higher than our PR08 determination.

2.58 Table 2.2 shows the variance between actual expenditure and our PR08 determination, by asset category. This is then adjusted for efficient overspend by category and also for deferral and acceleration, to provide a net number for reconciliation to Network Rail's assessment of FVA for renewals.

Table 2.2: Analysis of the variances between PR08 and actual renewals expenditure by asset category in CP4

£m, 2013-14 prices	Variance reported in regulatory financial statements*	Efficient overspend	Deferral and acceleration**	Variance after adjustments*
	A	B	C	D=A-B-C
Cumulative				
Track	-104	-	-184	80
Structures	463	57	250	156
Signalling	32	-	125	-93
Telecoms	34	71	-46	8
Electrification	-161	-	-100	-61
Plant and machinery	79	107	-	-28
Operational property	-42	85	-11	-116
Other renewals				
Information management	12	-	-	12
Corporate offices	156	142	-	14
Discretionary investment	15	11	-	4
West Coast CP3 rollover	54	-	-	54
ORBIS	93	94	-	-1
Other	166	193	-	-27
Total other renewal	496	440	-	56
Total renewals	**797**	**761**	**34**	**2**

*A negative number in column A and D indicates an underspend.
**A negative number in column C indicates a deferral.
Source: Network Rail's regulatory financial statements, submissions to us and our own calculations.

forward of work based on a material change to policy concerning the way in which work is packaged where Network Rail can demonstrate whole life cost effectiveness. We would need to be convinced that the packaging of work and the bringing forward of the work (rather than deferring) was justified; and (f) external factors that could not reasonably have been taken into account at the periodic review. Any insurance payments received would be netted off allowed capex costs. Where the design specification and asset management policies should mean that failure should not have occurred, we would not expect to allow the costs of renewals to be logged up.

2.59 The difference between the £797m overspend and the £296m reported FVA by Network Rail on renewals is a combination of:

a. efficient overspend is removed from the variance to PR08 (£761m (as shown in Table 2.2));

b. deferral and acceleration are taken into account by Network Rail by adjusting the baselines (£34m (as shown in Table 2.2));

c. this results in a minor overspend of £2m as shown in Table 2.2;

d. spend on structures of £156m is then excluded from FVA as shown in Table 2.2;

e. included in the FVA baseline (which was an adjustment in DP09) was additional capital overheads which were not included in our PR08 determination (£147m (as shown in Figure 2.13)); and

f. other minor adjustments to convert real to nominal prices.

2.60 Table 2.2 above shows the majority of the FVA that Network Rail has reported occurred in three main categories - signalling, electrification and operational property. This is detailed further in the renewals efficiencies section below.

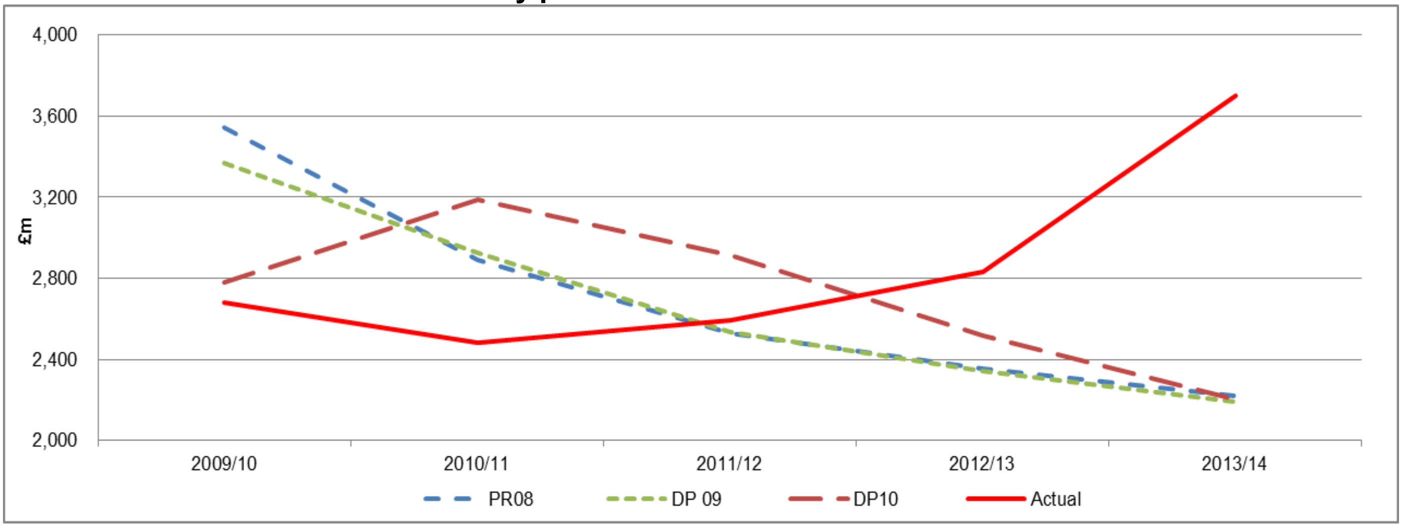
Renewals - expenditure in 2013-14

2.61 Renewals expenditure was £3,701m in 2013-14, which was £1,513m (69.1%) higher than we assumed in our PR08 determination and £868m (30.6%) higher than in 2012-13. These variances were primarily due to Network Rail's continually changing profile of planned renewals work, which is different to the assumptions in our PR08 determination. This changing profile has resulted in a significant deferral of work from earlier in CP4 to later in CP4, i.e. Network Rail did less work early in CP4 and had to do more work later in the control period to catch-up.

Deferral of renewals work in CP4

2.62 Network Rail published a CP4 delivery plan in 2009 (DP09), which set out how the company intended to deliver its outputs over the control period. This delivery plan had a different profile of renewals expenditure across CP4 than we assumed in our PR08 determination. Network Rail then revised its asset policies in 2010 resulting in further changes to its planned profile of renewals. As shown in Figure 2.14, this resulted in a significant deferral of renewals expenditure during CP4 compared to what we assumed in our PR08 determination. The line representing actual expenditure in Figure 2.14 shows a catch-up towards the end of the control period of the deferral earlier in the control period. However, this is not the full picture as there was work delivered that was not in our PR08 determination and also there was work in our PR08 determination that was deferred to CP5.

Figure 2.14: Profile of CP4 renewals actual expenditure compared to our PR08 determination and Network Rail's 2009 and 2010 delivery plans

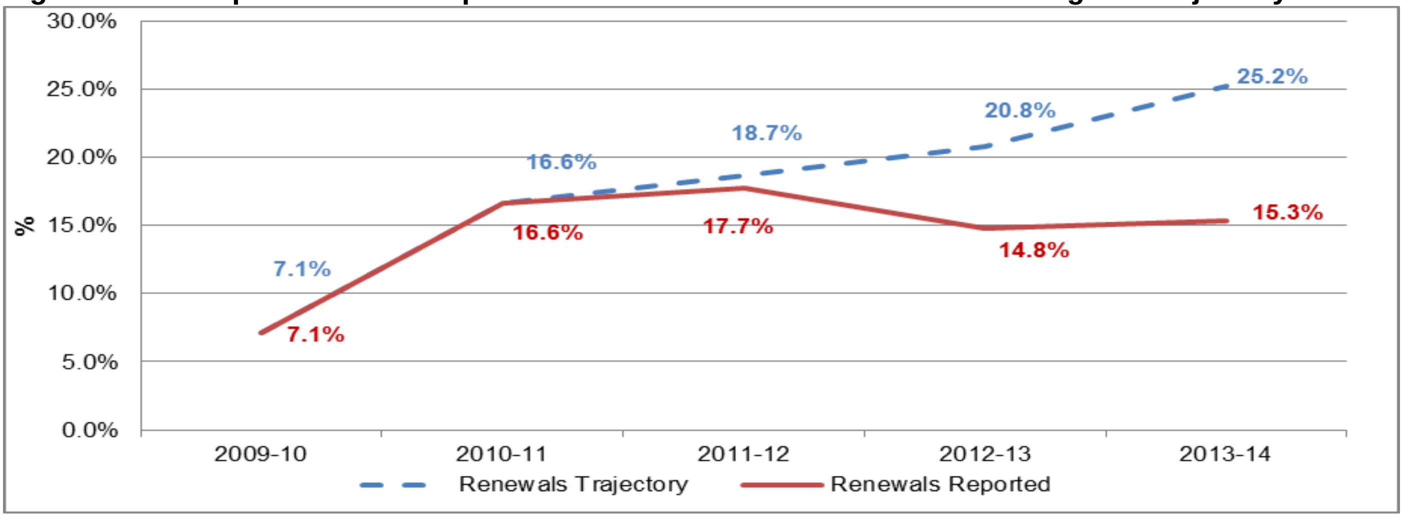


Source: Our PR08 determination and Network Rail's 2009 and 2010 delivery plans and Network Rail's regulatory financial statements.

Renewals - efficiencies in CP4

2.63 Network Rail has reported cumulative renewals efficiencies of 15.3% or £451m by the end of CP4 compared to the start of CP4 as shown in Figure 2.15. However, this was 9.9 percentage points behind the 25.2% or £877m efficiencies that Network Rail aimed to achieve by the end of CP4. While Network Rail has reported efficiencies of 15.3%, we have concerns about the exclusion of certain renewals spend (e.g. efficient overspend) and the quality of the reporting underpinning this calculation. It is our view that efficiency is more likely to be at least 2% lower taking these factors into account. In addition, Arup has said it is uncertain about the efficiencies claimed on plant and machinery renewals expenditure.

Figure 2.15 Comparison of the reported renewals efficiencies in CP4 to the agreed trajectory



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

2.64 The majority of the 15.3% or £451m savings reported by Network Rail were in track (£98m), electrification (£93m), signalling (£78m) and plant and machinery (£65m). Network Rail has identified the following key savings:

a. £98m of track savings, mostly due to volumes savings (£184m) as a result of the new track asset management policy that Network Rail introduced in 2010, which prioritises track renewals on high usage sections of the network with the aim of improving network performance whilst reducing overall required volumes of work. However inefficiencies have arisen in non-volume[36] (£73m) and track unit costs (£13m);

b. £93m savings in electrification. Network Rail has said £33m of these savings related to management actions, including improvements in the way the work has been contracted, procured and delivered. Yet approximately £8m of this £33m was due to projects that will be delivered in CP5 and therefore are subject to a high amount of uncertainty. The remaining efficiency claimed has no specific interventions attached to it. Arup believe some of it may be a change in classification from deferral to efficiency from earlier in the control period. Nevertheless, Arup were satisfied there were no robustness and sustainability issues as asset condition measures have been met at the end of CP4 and the level of faults on electrification assets does not seem to have been effected by the underspend;

c. £78m of signalling savings, was mostly due to two main categories, Guide to Railway Investment Projects (GRIP) stages 5-8 (projects later in their lifecycle) (£100m) and GRIP stages 1-4 (£24m) (projects earlier in their lifecycle), offset by inefficiencies in other areas (non-volume, level crossing, modular signalling and European Rail Traffic Management System (ERTMS) (-£47m). Arup has reported that the volume saving from GRIP stages 5-8 projects (£32m), has arisen from design or scope changes which enabled fewer units to be replaced than had been originally planned. Unit cost savings for GRIP stages 5-8 projects were attributed across six categories, on a project by project basis. The unit cost efficiency of £68m[37] was due to:
   - use of solid state interlocking and other technology, £20m;
   - remodelling and rationalisation, £39m;
   - alignment with other assets through contract packaging and co-ordinated planning with other works, £11m;
   - policy, including a condition-based approach enabling greater retention / re-usage of some existing assets, £4m; and
   - an inefficiency of -£8m, being adjustments for savings claimed in previous years.

[36] For the majority of cost categories and asset types only a cost (and no volumes) were agreed in CP4. Delivery volumes were agreed for some network operations and maintenance costs, and some categories of track and signalling renewals, against which delivery is reported. These categories report a volume efficiency based on actual or accrued renewals and maintenance activity as reported in Network Rail's asset information systems.

[37] Network Rail recognises its efficiencies on an earned value basis. This means it claims a proportion of the forecast savings it expects to achieve on a project, according to the amount it has spent to date. This differs from when it recognises the delivery of units within a project which occurs when the work is commissioned. Therefore, some of the efficiency savings claimed were on projects which will be commissioned in CP5.

However, Arup in its report has raised the issue that, given the early stage of the projects, efficiencies reported for projects in GRIP stages 1-4, have the potential not to be realised and therefore were uncertain, although Arup concluded this was not material; and

d. £65m of plant and machinery efficiencies were reported to have come from initiatives such as changes to the way the work was contracted and delivered but these initiatives have not been quantified. Similar to concerns raised in relation to maintenance, Arup's review of the 2013-14 regulatory financial statements has raised concerns about the quality of the evidence supporting these claimed efficiencies and we have made an adjustment to FVA and EBSM to reflect this.

2.65 As in 2012-13, Network Rail has excluded structures (civils) renewals from its efficiency reporting due to uncertainty about the sustainability of its structures renewals work in CP4. Network Rail has now spent £463m more than was assumed in our PR08 determination on structures renewals. £250m of this was due to the fiscal stimulus package.

2.66 Input prices have increased by less than we assumed in our PR08 determination for Network Rail's renewals activities in the current year and for the control period as a whole. As discussed elsewhere within this Chapter, this may have had a beneficial effect on the company's renewals costs.

Enhancements

2.67 Enhancements expenditure includes work to improve network capacity or capability, for example, enabling higher line speeds or station capacity. It is treated as capital and, together with renewals expenditure, is added to the RAB as described in the Regulatory Accounting Guidelines (RAGs)[38].

Enhancements - expenditure in CP4

2.68 Cumulative enhancements expenditure was £10,220m in CP4. This included £7,187m of PR08 funded schemes and £3,033m of schemes not included in our PR08 determination[39].

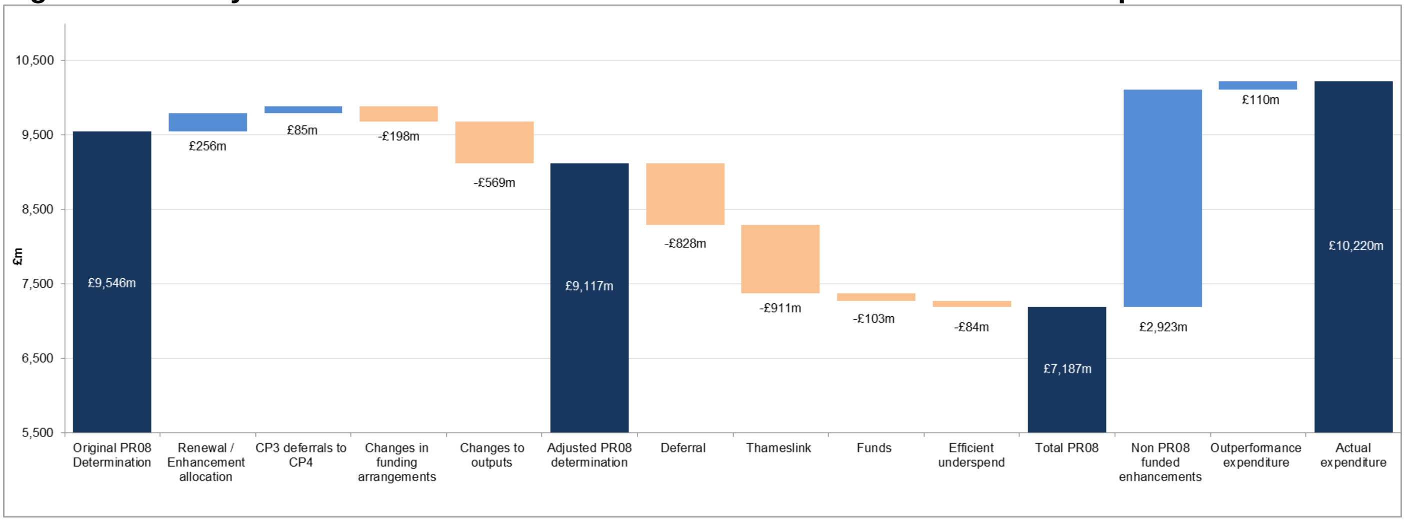
2.69 Cumulative expenditure on PR08 funded schemes was £1,663m (18.8%) lower than we assumed in our adjusted PR08 determination of £8,850m[40]. The principal reasons for the variance from the original PR08 assumption are outlined in Figure 2.16.

[38] Our CP4 regulatory accounting guidelines are available at: http://orr.gov.uk/publications/guidance/regulatory-accounts.

[39] Network Rail also undertook £1,516m of work on third party funded enhancement schemes. These schemes are not included in our analysis and were also reported separately by Network Rail in its 2013-14 regulatory financial statements.

[40] The £8,850m of expenditure shown in Table 2.1 largely represents the £9,117m adjusted PR08 determination in Figure 2.16 above, less the deferral of enhancement schemes assumed in PR13 of £252m.

Figure 2.16 Analysis of the variance between PR08 and actual enhancements expenditure in CP4



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

2.70 The variances between our PR08 determination and actual enhancements expenditure as outlined in Figure 2.16 were due to a combination of factors:

a. at the start of CP4, £256m was re-allocated from renewals to enhancements funding (the opposing effect is shown in Figure 2.13);

b. £85m was deferred from CP3 into CP4 for completion of the CP3 West Coast, ERTMS and cab fitment programmes (this was agreed with us at the start of CP4);

c. DfT has cash-funded £198m of ring-fenced fund expenditure that we assumed would be RAB-funded in our PR08 determination. This largely comprises of Access for All schemes from 2011 (£103m), 2013 (£20m) and 2014 (£40m) and National Stations Improvement Programme schemes from 2011 (£20m) and 2014 (£12m);

d. -£569m of the variance to our PR08 determination was due to changes to the outputs Network Rail were required to deliver in CP4 in agreement with funders. The principal cause of this variance was due to changes in outputs for the Stafford Area Improvement Programme and the West Coast Power Supply Upgrade Project in line with an altered service specification (-£536m);

e. these four adjustments give an adjusted PR08 assumption of £9,117m, which is £15m different to the adjusted PR08 amount of £9,102m[41] reported in Statement 2b in Network Rail's 2013-14 regulatory financial statements;

f. -£828m of assumed funding in our PR08 determination has been deferred as follows:

[41] This was due to insufficient information provided by Network Rail at the time of preparation of the 'PR08 column' in Network Rail's 2013-14 regulatory financial statements.

- £252m of expenditure on PR08 schemes that were intended to complete in CP4 has been deferred into CP5 and this was approved as part of the PR13 final determination;
- since the PR13 final determination Network Rail has requested an additional £221m of funding deferral into CP5, which we have not yet approved[42]; and
- a further £355m of assumed funding in our PR08 determination has not been spent but was excluded from the efficiency calculations as the underspend was not the result of efficiency as it was mainly due to changes to the UK Government's plans for procurement of rolling stock, e.g. some of the outputs for the Intercity express programme were deferred into CP5 whilst the CP4 outputs for Northern Urban Centres were reduced.

g. £911m of the variance to our PR08 determination was due to the Thameslink project, where re-phasing of the programme has led to expenditure being deferred from CP4 to CP5;

h. the underspend on funds was £103m compared to the assumptions made in our PR08 determination and after changes in funding arrangements;

i. £84m of the variance to our PR08 determination was due to Network Rail delivering the outputs required more efficiently. This was principally due to savings on the delivery of the Reading project (£68m) and East Coast Main Line Improvements Programme (£58m) offset by inefficient overspend on other projects such as the Power Supply Upgrade programme (£40m); and

j. £3,033m (the sum of the final two variances in Figure 2.16) of expenditure was spent in CP4 on enhancements projects that were not included in our PR08 determination, but which were funded through the investment framework. As such, there was no PR08 baseline to compare these schemes to. The £3,033m of additional non-PR08 enhancements expenditure includes £1,925m of government sponsored schemes (principally Crossrail, Electrification, Edinburgh-Glasgow Improvement Programme (EGIP) and the Borders Railway scheme), £471m of Network Rail sponsored schemes to generate future income and £297m of schemes promoted by third parties (principally Evergreen 3 railway improvements in Oxfordshire). The £3,033m variance also includes £340m of expenditure that Network Rail has excluded from the RAB as it does not meet the requirements for RAB addition in accordance with the RAGs. The £340m includes adjustment for income generating schemes and facility fees (£214m)[43], use of outperformance expenditure as defined in the RAGs (£110m)[44] and schemes that were not eligible for RAB addition under the investment framework (£16m).

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[42] However, we have significant concerns about the lateness of these requests, which could not be reflected in the 'PR08 column' in Network Rail's 2013-14 regulatory financial statements.

[43] This is the amount offsetting the gross capital cost under the investment framework for schemes completed in the current control period.

[44] This money was spent because early in the control period, Network Rail was forecasting that it would financially outperform in CP4. Our PR08 determination did not assume that it would outperform in CP4.

Enhancements - expenditure in 2013-14

2.71 Enhancements expenditure was £2,962m in 2013-14, which was £2,276m (331.8%) higher than we assumed in our PR08 determination and £862m (41.0%) higher than in 2012-13. These variances were primarily due to Network Rail's different profile of planned enhancements work than we assumed in our PR08 determination and the significant programme of work that was not included in our PR08 determination. This changing profile has resulted in a significant deferral of work from earlier in CP4 to later in CP4, i.e. Network Rail did less work early in CP4 and had to do more work later in the control period.

Rebates

2.72 Network Rail made rebate payments totalling £345m in CP4. This included payments to the DfT and Transport Scotland as well as payments under the EBSM mechanism. The rebate payments were made because early in the control period, Network Rail was forecasting that it would financially outperform in CP4 and the governments built those rebate assumptions into their financial plans. Our PR08 determination did not assume any rebate payments to the governments or outperformance resulting in EBSM payments as we assumed Network Rail would meet our PR08 determination assumptions.

The effect of input price inflation on Network Rail's efficiencies in CP4

2.73 It is important that we appropriately incentivise Network Rail to manage inflation efficiently. We incentivised Network Rail in CP4 to manage input price inflation by largely exposing it to movements in input prices[45]. When we set our PR08 determination, there was considerable uncertainty about the state of the economy. This meant that our inflation assumptions were also uncertain. In making our decisions we assumed that Network Rail would have faced 5.1 percentage points higher OM&R inflation than RPI by the end of 2013-14.

2.74 Although it is difficult to accurately measure input price inflation, we estimate that input prices have risen by around 6.3 percentage points lower than RPI during CP4[46]. Therefore, Network Rail may have experienced 11.4 percentage points lower input prices than we assumed in our PR08 determination across CP4. As shown in Figure 2.17, if the estimated effect of input prices is excluded, we think that Network Rail may have achieved a 9.2% efficiency improvement across CP4[47]. This reduction in the costs of Network Rail's inputs (labour and materials) will ultimately benefit Network Rail's customers and funders. As

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[45] As part of this policy we also adjust Network Rail's RAB for movements in the Infrastructure Output Price Index (IOPI). Input price variations are also possible modifiers that Network Rail's Remuneration Committee will consider in determining management's long term bonuses.

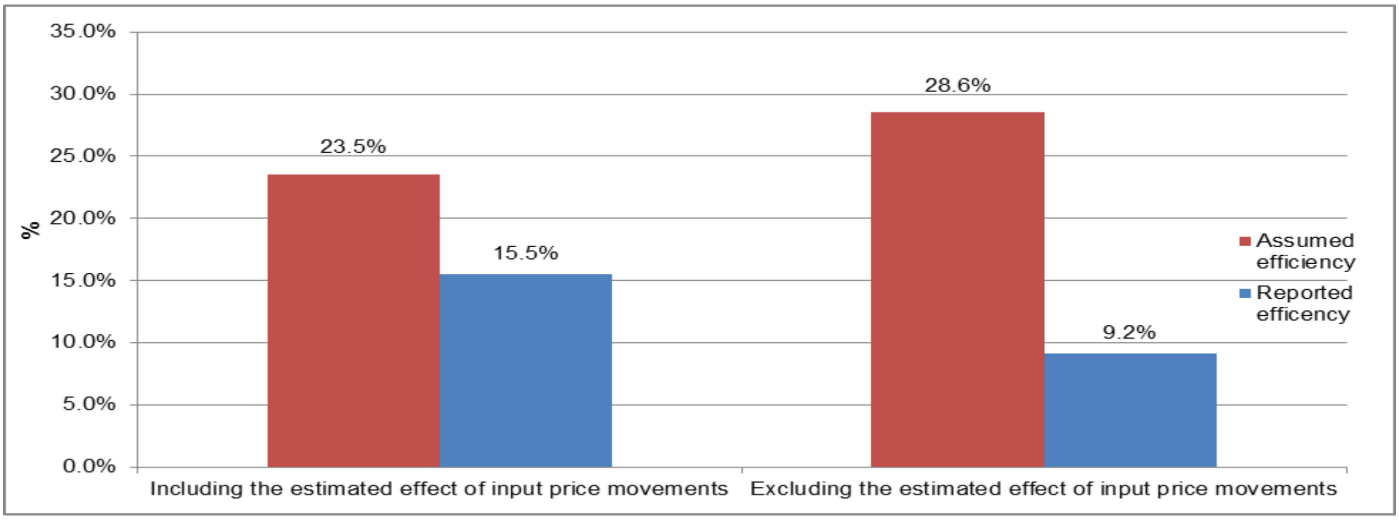
[46] Network Rail commissioned a study by LEK Consulting Limited (LEK) to examine the key input price trends which influence the company's OM&R expenditure and has subsequently updated and simplified LEK's PR08 input price model for Network Rail. This is the basis of the calculation that input prices have been 6.3% lower than RPI during CP4.

[47] This is just adjusted for input prices, not the other issues that we have identified with reported efficiencies.

explained in the RAB section in this Chapter, Network Rail's RAB has been significantly adjusted down by £853m[48] for movements in the Infrastructure Output Price Index (IOPI).

2.75 Assessing the impact of input prices is not straightforward and there is likely to be uncertainty in this analysis due to the difficulty in robustly identifying and measuring input price effects. For example, Network Rail may have taken actions which could reduce the effects of input prices on its cost base, which would not be reflected in our analysis (e.g. the setting of contract prices upfront would lock in input prices at a previously assumed rate).

Figure 2.17: Possible effect of input prices on Network Rail's CP4 efficiency improvements



Source: Network Rail's regulatory financial statements, submissions to us and our own analysis.

2.76 The effect of input prices having risen by less than we assumed in our PR08 determination on Network Rail's cumulative OM&R efficiency improvements is summarised in Table 2.3.

[48] Including the impact of capitalised financing.

Table 2.3: The effect of input prices on Network Rail's cumulative efficiency improvements

	Reported (A)	Assumed (B)	Variance (A-B)
Total OM&R			
Trajectory / reported efficiency	15.5%	23.5%	-8.0%
Effect of input prices (PR08 assumed and actual estimated) *	-6.3%	5.1%	-11.4%
Efficiency adjusted for estimated effect of movements in input prices	**9.2%**	**28.6%**	**-19.4%**
Controllable opex			
Trajectory / reported efficiency	-0.9%	15.3%	-16.2%
Effect of input prices (PR08 assumed and actual estimated) *	-2.5%	8.1%	-10.6%
Efficiency adjusted for estimated effect of movements in input prices	**-3.4%**	**23.4%**	**-26.8%**
Maintenance			
Trajectory / reported efficiency	29.1%	25.5%	3.6%
Effect of input prices (PR08 assumed and actual estimated) *	-6.8%	6.6%	-13.4%
Efficiency adjusted for estimated effect of movements in input prices	**22.3%**	**32.1%**	**-9.8%**
Renewals			
Trajectory / reported efficiency	15.3%	25.2%	-9.9%
Effect of input prices (PR08 assumed and actual estimated) *	-7.2%	3.4%	-10.6%
Efficiency adjusted for estimated effect of movements in input prices	**8.1%**	**28.6%**	**-20.5%**

* A positive number implies input prices higher than RPI. A negative number implies input prices lower than RPI.

Source: PR08 determination, Network Rail's regulatory financial statements, submissions to us and our own calculations.

2.77 In CP5, we have assumed no input price inflation above general inflation[49]. Also, as part of PR13, we commissioned a study by Credo Business Consulting LLP (Credo) to consider the efficiency of Network Rail's management of inflation. As a result of that study, we made adjustments to our CP5 efficiency assumptions to reflect the impact on Network Rail's costs from an improvement in Network Rail's management of inflation.

Income

2.78 Network Rail receives income from three primary sources; government grants, track access charges and other single till income (OSTI).

Income - CP4 total

2.79 Total income in CP4 was £33,552m as shown in Table 2.4. There was a small favourable variance of £39m or 0.1% over the control period, when compared to our PR08 determination.

[49] In addition, in relation to renewals additions to the RAB, we will not be applying the adjustment for IOPI in CP5.

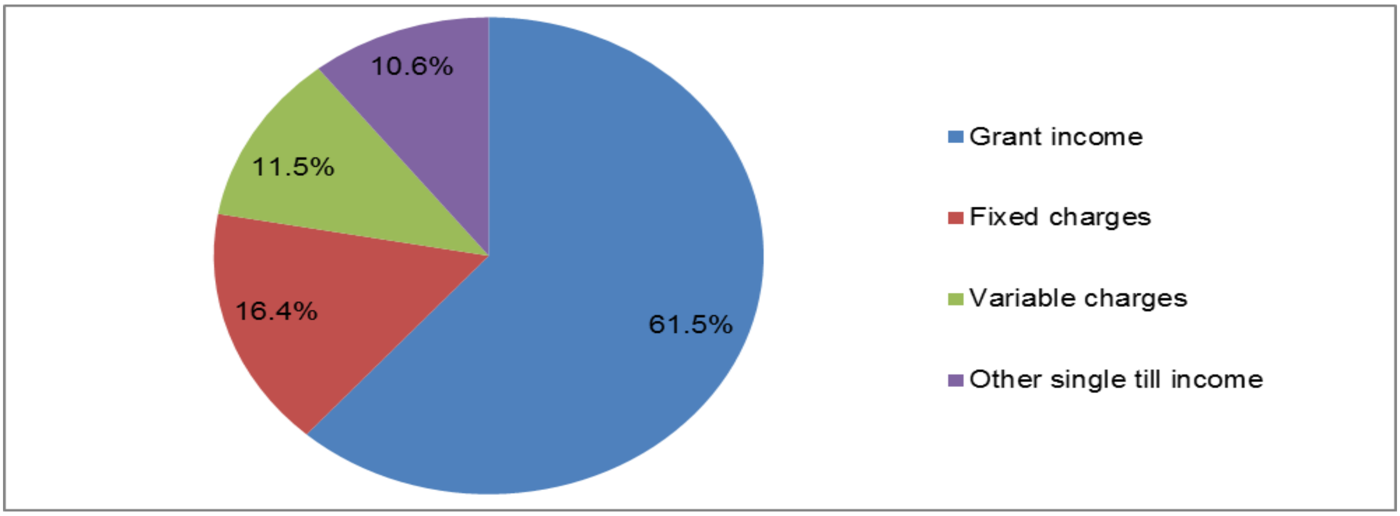
Table 2.4: Analysis of total income in CP4

£m, 2013-14 prices	Actual	PR08	Variance
	(A)	**(B)**	**(A-B)**
Grant income	20,643	20,718	-75
Franchised track access income	9,339	9,180	159
Other single till income	3,570	3,615	-45
Total income	**33,552**	**33,513**	**39**

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

2.80 In relation to Network Rail's total income in CP4, as shown in Figure 2.18, 61.5% of the income was from grants paid by the DfT and Transport Scotland[50]. Franchised track access charges comprised 27.8% of income. These include fixed charges (16.4%) and variable charges (11.5%) paid by franchised train operators[51]. The remaining 10.6% of income was derived from other single till income, which includes income earned from Network Rail's stations, depots and its property portfolio, and also from track access charges from freight and open access train operators. Figure 2.19 analyses the variance between PR08 and actual income in CP4.

Figure 2.18: Sources of Network Rail's income in CP4

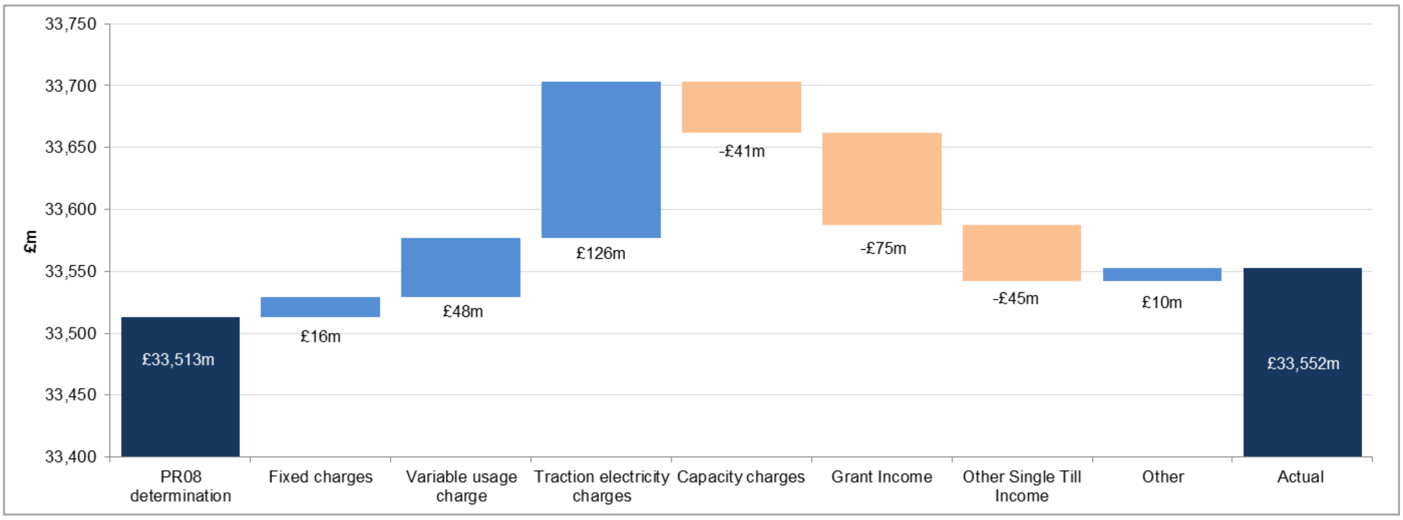


Source: Network Rail's regulatory financial statements and our own calculations.

[50] Network Rail receives grants from the DfT and Transport Scotland 'in lieu of' fixed track access charges in return for delivering the strategic outputs specified in the two governments' High Level Output Specifications (HLOSs) for CP4.

[51] Variable charges include traction electricity, Schedule 4 income, variable usage charges and capacity charges.

Figure 2.19: Analysis of the variance between PR08 and actual income in CP4



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

2.81 The variances between our PR08 determination and actual income, which is outlined in Figure 2.19, were due to a combination of factors:

a. fixed charges were £16m higher than we assumed in our PR08 determination. The increase compared to our PR08 determination was the result of additional facilities and services provided to train operating companies which generate extra revenue for Network Rail. This has been offset by different inflation assumptions and payments under alliancing arrangements;

b. variable usage charges were £48m higher than we assumed in our PR08 determination mostly due to the increased number of paths for franchised train operators to run more services and better availability of the network due to better planning of maintenance and capital works;

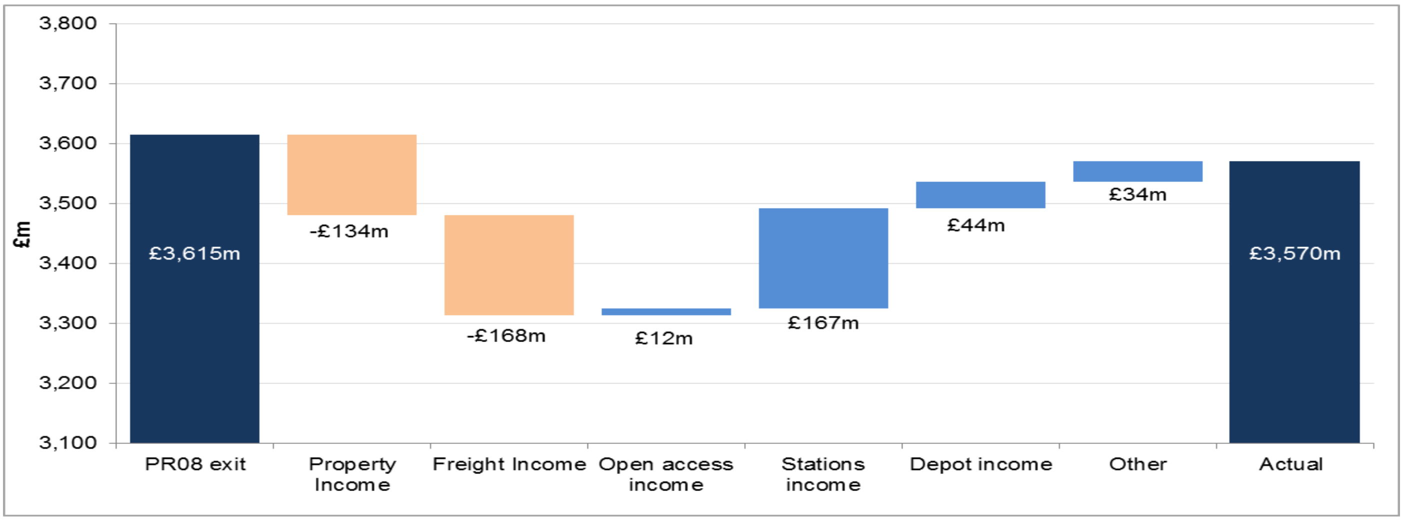
c. additional traction electricity charges of £126m were mostly due to higher market electricity prices than assumed in our PR08 determination. The higher associated cost is highlighted in Figure 2.8;

d. capacity charges were £41m lower than our PR08 determination. Our PR08 determination did not include the weekend discounts offered to train operators. We have corrected this error by reimbursing Network Rail through the opex memorandum account (approximately £50m in CP4). Taking this error into consideration, Network Rail has financially outperformed our CP4 capacity charges determination by £9m;

e. grant income was £75m lower than we assumed in our PR08 determination. This was due to different inflation assumptions; and

f. OSTI was £45m lower than we assumed in our PR08 determination. Figure 2.20 outlines the reasons for these variances.

Figure 2.20: Analysis of the variance between PR08 and actual OSTI income in CP4



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

2.82 The key variances in OSTI were largely due to:

a. higher station, depot and other income than we assumed in our PR08 determination. Stations income was £167m higher than our PR08 determination due to better than expected business performance at managed stations and the income generated from investment framework projects. Depots income was £44m higher than our PR08 determination due to incremental charges for additional facilities provided. Other income was £34m higher than our PR08 determination as a result of more ancillary services provided by Network Rail; and

b. these positive variances were offset by property and freight income being lower than we assumed in our PR08 determination (£134m and £168m respectively). Network Rail has said these shortfalls related to difficult market conditions and challenging assumptions.

Income - 2013-14 total

2.83 As summarised in Table 2.5, total income in 2013-14 for Great Britain was £6,741m. This was £6m (0.1%) higher than we assumed in our PR08 determination, and £28m (0.4%) higher than 2012-13.

Table 2.5: Analysis of income 2013-14

£m, 2013-14 prices	Actual 2013-14	PR08	Actual 2012-13	PR08 variance	Prior year variance
	(A)	(B)	(C)	(A-B)	(A-C)
Grant income	3,780	3,777	4,105	3	-325
Fixed charges	1,464	1,454	1,138	10	326
Variable charges	772	732	751	40	21
Total franchised track access income	2,236	2,186	1,890	50	346
Other single till income	725	772	719	-47	6
Total income	**6,741**	**6,735**	**6,713**	**6**	**28**

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

2.84 The 2013-14 variances to our PR08 determination and 2012-13 were due to a combination of factors:

a. grant income was broadly in line with our PR08 determination assumption. Grant income was £325m (7.9%) lower than 2012-13 (in line with the movement in our PR08 determination), with fixed charges being higher as a result;

b. fixed charges were £10m (0.7%) higher than we assumed in our PR08 determination and £326m (28.6%) higher than in 2012-13. The increase compared to our PR08 determination was due to the same reasons for CP4 as a whole as explained above. Fixed charge income was higher than 2012-13 in line with the increase in our PR08 determination;

c. variable charges were £40m (5.5%) higher than we assumed in our PR08 determination and £21m (2.7%) higher than 2012-13 mostly due to the same reasons for CP4 as a whole as explained above; and

d. OSTI was £47m (6.1%) lower than we assumed in our PR08 determination and £6m (0.9%) higher than 2012-13. The key variances in OSTI in 2013-14 compared to our PR08 determination were:
    - higher station, depot and other income than we assumed in our PR08 determination. Stations income was £35m (9.3%) higher, depots income was £11m (19.0%) higher and other income was £6m (75.0%) higher than our PR08 determination due to the same reasons for CP4 as a whole as explained above; and
    - these positive variances were offset by property and freight income being lower than assumed in our PR08 determination (£64m (30.0%) and £36m (38.3%) respectively). Network Rail has said these shortfalls related to difficult market conditions and challenging assumptions.

Our assessment of Network Rail's financial performance

2.85 Network Rail established a measure called Financial Value Added (FVA) at the start of CP4 to measure its financial performance in CP4, compared to its 2009 delivery plan. As well as being a general measure of the business's financial performance, FVA is also used as an input to the bonus calculation for senior staff under the long term incentive plan.

2.86 FVA covers most items of income and expenditure and a positive FVA means that expenditure has been lower and/or income higher than the delivery plan. We measure financial performance against our

PR08 determination, not the delivery plan, which means that adjustments have to be made to reconcile the two[52].

2.87 Network Rail's calculation has two parts: (1) the initial assessment of financial performance (gross FVA); and (2) a modification for any missed outputs or concerns over the sustainability of the network or other matters, to produce net FVA.

Network Rail's financial performance in Great Britain

Gross FVA

2.88 Although Network Rail has incurred £2,944m (in 2013-14 prices) of additional expenditure in CP4 than assumed in our PR08 determination, the company has reported £984m of positive FVA in Great Britain. The overall difference of £3.8bn is mostly due to:

a. exclusion of non-PR08 enhancement schemes (+£3.0bn);

b. additional deferral to CP5 (mostly enhancements) (-£1.8bn);

c. exclusion of efficient overspend (+£0.7bn);

d. exclusion of civils overspend (+£0.4bn);

e. exclusion of rebates (+£0.3bn); and

f. Network Rail's treatment of inflation accretion[53] (+£0.9bn).

2.89 Network Rail's view of FVA principally comprises of £724m from lower financing costs, £441m from lower operating, maintenance and renewals costs, £135m from lower enhancements expenditure, partly offset by £254m in relation to a net Schedule 4 and 8 overspend and £22m of lower income.

2.90 The FVA calculation is complex and involves considerable judgement. We form our own view on Network Rail's financial performance as measured by FVA, and in many areas we agree with Network Rail's calculation. In some areas we either disagree in principle or recognise that there may be a legitimate difference of view.

2.91 Two areas where we disagree in principle are the ways in which Network Rail's reported FVA excludes inflation accretion and includes the effect of re-profiling capital expenditure within CP4. An area

[52] It is important for us as Network Rail's economic regulator to assess performance compared to the financial assumptions in our periodic reviews. We have addressed the complexity resulting from Network Rail's use of a different baseline for its own measurement of financial performance in CP4 by requiring Network Rail to report financial performance compared to our PR13 determination assumptions in CP5.

[53] Inflation accretion is the term used to describe the increase in the value of Network Rail's index-linked debt (i.e. debt that is linked to the level of inflation).

where we recognise there may be legitimate differences in views is around the treatment of efficient overspend.

a. *Inflation accretion and the effect on financing costs of re-profiling capital expenditure within CP4 - disagreement in principle*

   As shown in Table 2.6, Network Rail's financing costs were £229m lower than we assumed in our PR08 determination (in nominal prices), as reported in its 2013-14 regulatory financial statements. This underspend includes both Network Rail's CP4 cash interests costs and inflation accretion on index-linked debt. Network Rail has made a number of adjustments to this underspend to reflect its view of how financial performance on financing costs should be calculated for CP4. After these adjustments, Network Rail has reported £724m of positive FVA in relation to financing costs.

   Some of these adjustments we agree with (e.g. removing the cost of funding the additional debt incurred in relation to non-PR08 enhancements) and some we do not agree with. In particular, we do not agree with Network Rail's calculation, where it is not consistent with our PR08 determination. To reflect the complexity of calculating financial performance on financing costs, we think that Network Rail's performance in this area is best shown as a plausible range.

   At the low end of our range (-£105m) we have adjusted the £229m underspend for volume issues in relation to financing costs (net adjustment of -£334m). The main issues included in this adjustment are that we have removed the financing costs effect of:

   - capital expenditure deferrals. This reduces financial performance by- £616m. The main issue that we have adjusted for here is that it is not consistent with our PR08 determination to include the benefit from deferring work within CP4 in a calculation of financial performance. Network Rail agree with some aspects of this adjustment, e.g. the adjustment for financing costs on capital expenditure being deferred to CP5 but do not agree in principle with adjusting for the re-profiling of capital expenditure within CP4; and
   - additional non-PR08 enhancements. This increases financial performance by +£282m and Network Rail agree with the principle of making this adjustment.

   In the low end of our range, unlike Network Rail, we have not removed all inflation accretion on index-linked debt as that would not be consistent with our PR08 determination, which treated a pound of spend on inflation accretion in the same way as a pound of spend on cash interest costs. This is because the choice between issuing nominal debt and index-linked debt is made by Network Rail and is therefore controllable by Network Rail.

   At the high end of our range (+£84m) we have adjusted the £229m underspend for the same volume issues in relation to financing costs as at the low end of our range (net adjustment of -£334m). But instead of including all inflation accretion in our calculation of financial performance, we have only included inflation accretion on debt issued in CP4 (i.e. we have excluded inflation accretion on debt issued before the start of CP4 (+£189m)). We have done this because an argument could be made that the inflation accretion on the index-linked debt that Network Rail had in place at the start of CP4, was not as controllable by Network Rail as the decision to take out that debt was made in CP3 and refinancing that debt may not have been straightforward.

Our range of Network Rail's financial performance on financing costs in CP4 and the adjustments we have made to FVA, are set out in Table 2.6.

Table 2.6: ORR calculation of Network Rail's financial performance on CP4 financing costs

£m, nominal prices	Low	High
Underspend as per Statement 4 in the regulatory financial statements	229	229
Adjustment for volume issues	-334	-334
Inflation accretion on embedded debt	-	189
Net (under)/over performance	**-105**	**84**

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

In simple terms, the reason that Network Rail in the high end of our range is outperforming our PR08 determination is that, generally, interest rates have been lower in CP4 than we expected and Network Rail has benefited from other issues, such as a change to its lease costs. At the low end of our range Network Rail is underperforming our PR08 determination because the underspend on interest rates has been more than offset by the overspend on inflation accretion on index-linked debt.

The difference between our assessment of Network Rail's financial performance on financing costs and Network Rail's calculation is, as explained above, due to differences in the treatment of inflation accretion on index-linked debt and the effect on financing costs of re-profiling capital expenditure within CP4. Although Network Rail has provided analysis to support its calculations, its analysis is unclear. Therefore, we carried out our own analysis to calculate our assessment of Network Rail's financial performance on financing costs and it is not possible to clearly explain the quantified difference between our assessment and Network Rail's.

b. *Renewals expenditure excluded from FVA - legitimate differences in views*

Network Rail has excluded some items of renewals expenditure totalling £289m from its calculation of FVA which we do not consider appropriate. These include £85m of additional renewals expenditure at Birmingham New Street Station following the identification of structural problems during enhancements work to the station and other items of renewals expenditure which Network Rail considers was not included in our PR08 determination. While we recognise this is a legitimate difference in view and have not included the adjustment in the upper end our range of FVA, we consider these activities to be normal renewals activities and our view is that it is not appropriate to exclude this expenditure from an assessment of Network Rail's financial performance, so we have included it at the lower end of our FVA range[54].

Net FVA

2.92 We do not recognise as outperformance costs that Network Rail may have avoided incurring as a result of not having delivered the outputs that it was funded to deliver in our PR08 determination or not managing its assets sustainably.

2.93 Adjustments for missed outputs and asset sustainability concerns are dominated in Great Britain by the size of the adjustment for missed train punctuality and reliability outputs, where the size of the adjustment is sensitive to the method used. Reflecting this, we have clarified the method for the next control period. However we see that there are legitimate differences of views in applying the methodology used in CP4.

c. *Under delivery of regulatory outputs and concerns regarding sustainability - legitimate differences in views in methodology*

Whilst we recognise that judgement is required in considering the financial impact of these matters, we have estimated that Network Rail may have plausibly avoided £709m[55] of costs in not fully delivering its train punctuality and reliability outputs at the lower end of our FVA range[56], £103m[57] from not undertaking sufficient work to ensure the sustainability of drainage and fencing assets[58] which is included at both the upper and lower ends of our range, £30m associated with the robustness of renewals efficiencies[59] on plant and machinery which is included at both the upper and lower ends of our range and £5m from having not delivered some enhancements milestones on time which is included at both the upper and lower ends of our range. In considering the adjustments and using a different methodology that considers averages the impact across the control period, Network Rail has estimated - (1) it may have plausibly avoided £214m of costs in

[54] Generally, our determination does not fund specific renewals projects and there will be some areas of its activities where Network Rail has underspent compared to our determination and it will claim those underspends as an efficiency. Network Rail thinks that the projects that we have included in the £289m go beyond what had originally been envisaged for normal renewal activity and delivery of them has improved value for railway funders in the future.

[55] The methodology used to calculate the train punctuality and reliability outputs adjustment is consistent with 2012-13. In our assessment of the adjustment for train punctuality and reliability in the EBSM calculation, we have taken into consideration the extreme weather in 2013-14, which results in an adjustment of £509m. For further information refer to Annex A.

[56] At the upper end of our FVA range, recognising a legitimate difference in view on methodology we have included Network Rail's calculation of this adjustment of £214m.

[57] This adjustment remains the same as in the prior year but we have adjusted it for inflation in 2013-14. However, due to Network Rail providing additional information, we do not consider that the other sustainability adjustments raised last year in relation to track, level crossings, electrification and civils are required in the cumulative assessment for CP4. Therefore we have reversed these adjustments in 2013-14. However, this does not have a major overall impact on FVA as these sustainability adjustments were offset by the double-count adjustment, i.e. we thought the effect of these issues would be double-counting the train punctuality and reliability outputs adjustment.

[58] Which is offset through a double-count adjustment as we thought the effect of this would be double-counting the train punctuality and reliability outputs adjustment.

[59] This calculation is on the same basis as for 2012-13 (i.e. it does not allow for the efficiencies included in the calculation of FVA to be greater than our PR08 determination assumption for renewals efficiencies, where Arup has raised concerns about robustness).

not fully delivering its train punctuality and reliability outputs, (2) there should be an adjustment of £50m for not undertaking sufficient work to ensure the sustainability of drainage assets and (3) consistent with us, £5m from having not delivered some enhancements milestones on time.

d. *Robustness of maintenance efficiencies - legitimate difference in view*

As explained above in the maintenance section, as part of its review of the regulatory financial statements, Arup concluded that a large proportion (£267m or 67%) of Network Rail's reported maintenance efficiencies (£388m) may not be robust. We have taken a pragmatic approach in assessing Network Rail's reported maintenance efficiencies, Arup's 2013-14 report and our concerns about the level of maintenance expenditure Network Rail has spent in CP4 by concluding that the main area of concern is the efficiencies reported by Network Rail in excess of the efficiencies assumed in the delivery plan. Therefore we have made an adjustment of £179m at the lower end of our FVA range which represents the underspend against the delivery plan. After discussing this issue with Network Rail we do not think that we need to include this adjustment in the calculation of the double-count adjustment. Network Rail does not agree with our adjustment for maintenance efficiencies and thinks that its claimed efficiency is appropriate and therefore this is seen as a legitimate difference of view and is not included as an adjustment in the upper end of our FVA range.

2.94 In summary our calculation of gross FVA is lower than Network Rail's and, since our adjustments are higher, our calculation of net FVA is also lower, at around £190m as an upper limit under certain assumptions, although there is a range. At the lower end of the range, FVA could be -£1,020m. This would mean that Network Rail has not financially outperformed in CP4. Accepting this uncertainty, Network Rail needs to be clear we do not agree with the size of its claimed FVA.

Network Rail's financial performance in Scotland

2.95 Network Rail has reported £228m of FVA for its operations in Scotland which included £174m positive FVA in relation to its operating, maintenance and renewals activities.

2.96 Relative to its scale of operations, Network Rail's financial performance in Scotland was better than across Great Britain as a whole and its required outputs were mostly delivered for its customers in Scotland. However, we have in our assessment of FVA for Scotland made the following adjustments:

a. £9m for under delivery of train punctuality and reliability outputs (which was first adjusted for in 2011-12);

b. £10m for sustainability concerns associated with drainage and fencing (which was first adjusted for in 2012-13);

c. an adjustment for maintenance efficiencies claimed in Scotland on the same basis as those for Great Britain (which is an additional adjustment in 2013-14). This results in an adjustment of £34m for maintenance in Scotland in CP4; offset by

d. an adjustment of -£9m for a potential double-count between the train punctuality and reliability outputs adjustment and the sustainability adjustment.

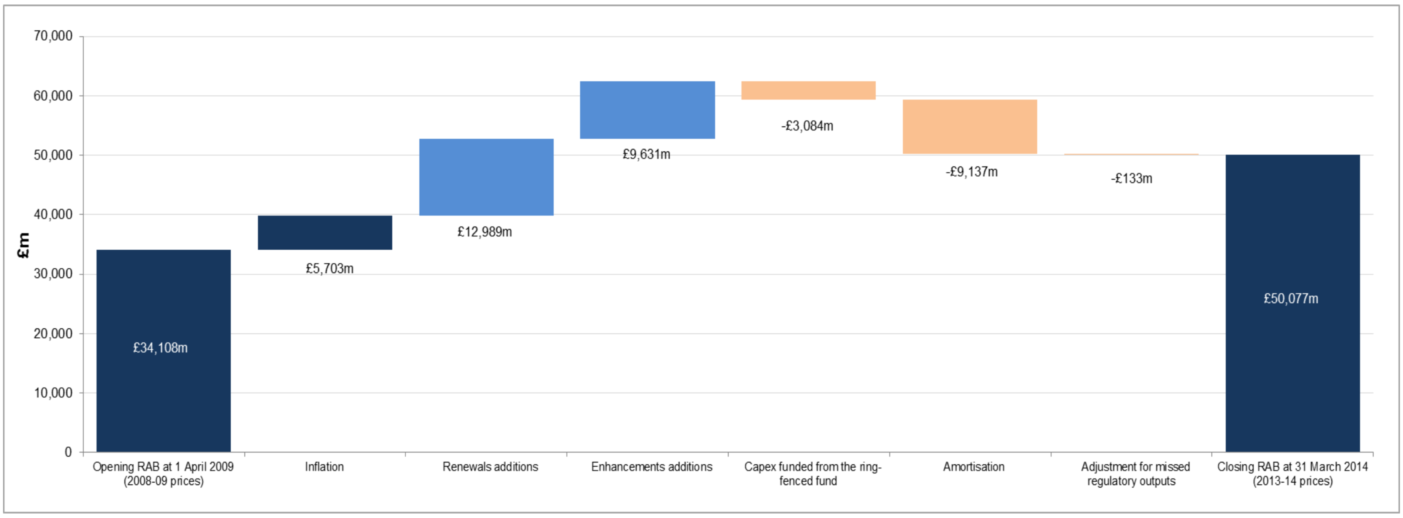
2.97 Therefore, taking into consideration the total net adjustments of £44m, the range of financial performance in Scotland is between +£180m and +£220m[60]. This recognises legitimate differences of views.

Regulatory Asset Base

2.98 The RAB is a key building block for determining Network Rail's revenue requirement[61]. This section reviews movements in the RAB in CP4 as a whole and in 2013-14.

2.99 As shown in Figure 2.21, Network Rail has reported a value of the RAB at 31 March 2014 of £50,077m. This was an increase of £15,970m compared to the start of CP4 (including the effect of indexing the RAB for inflation).

Figure 2.21: Movements in Network Rail's RAB in CP4



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

2.100 The variance between our PR08 assumption for the RAB at the end of CP4 and the actual outturn was £128m and is shown in Table 2.7.

[60] This takes into consideration the Scottish apportionment of Network Rail's adjustments at a Great Britain level.

[61] Our treatment of the regulatory asset base is set out in Chapter 15 of our PR08 determination and also in our CP4 RAGs.

Table 2.7: Analysis of RAB movements in CP4

£m, 2013-14 prices unless otherwise stated	Actual	PR08	Variance
	(A)	(B)	(A-B)
Opening RAB at 1 April 2009 (2008-09 prices)	**34,107**	**34,165**	**-58**
Additions to the RAB:			
Indexation	5,704	5,665	39
Renewals additions	12,989	13,495	-506
Enhancements additions	9,631	8,850	781
Reductions to the RAB:			
Capex funded from the ring-fenced fund*	-3,084	-3,086	3
Amortisation	-9,137	-9,139	1
Adjustment for missed outputs	-133	-	-133
Closing RAB at 31 March 2014 (2013-14 prices)	**50,077**	**49,949**	**128**

*Capex funded from the ring-fenced fund represents capex that is paid for on a pay-as-you-go basis rather than RAB-funded.

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

2.101 The largest components of the variance of £128m are shown in Table 2.8 below[62], which shows what renewals and enhancements expenditure has been added to the RAB in CP4[63]. The remaining variances to the RAB assumed in our PR08 determination include:

a. The indexation adjustment as shown in Table 2.7 uplifts the opening RAB to the relevant price base. This adjustment was higher than assumed in our PR08 determination due to actual inflation being higher than assumed in our PR08 determination. This was mostly offset by the RAB being lower than assumed for most of the control period; and

b. The other large variance was the adjustment for missed outputs. Our PR08 determination stated that where Network Rail has underspent on its capex programme but this is due to an under delivery of required outputs, we will, at the beginning of CP5 reduce the level of the RAB to reflect this. Therefore, Network Rail has included a £133m reduction to the RAB to reflect its under delivery of required train punctuality and reliability outputs in CP4. Statement 2a in Network Rail's 2013-14 regulatory financial statements shows how this adjustment has been calculated by Network Rail. We think that Network Rail's calculation of the output adjustment is materially correct.

[62] It is normally unlikely that the actual value of the RAB would be similar to our determination assumption as there are a number of factors that affect its value, e.g. adjustments for under and over spend.

[63] Note it is our determination assumption that is added to the RAB which is then adjusted in accordance with our RAB roll forward procedures. The actual expenditure is not added to the RAB.

RAB - additions in CP4

Table 2.8: Calculation of RAB additions in CP4

£m, 2013-14 prices	Renewals	Enhancements
PR08 determination	**13,493**	**9,546**
Adjustments to PR08 assumed expenditure	19	-462
Adjusted PR08 determination*	**13,512**	**9,084**
IOPI index adjustment	-853	-
Adjustments for over/under spend**	518	-174
Deferrals to CP5	-220	-1,780
Adjustments for acceleration / deferral in CP4	-218	-374
Non-PR08 expenditure	-	2,875
Other adjustments	250	-
Total additions to RAB in CP4	**12,989**	**9,631**

*The difference between this line and the 'PR08 column' in Table 2.7 above (i.e. for renewals £13,495m v £13,512m and for enhancements £8,850m v £9,084m) is mainly due to two reasons. Firstly, capitalised financing associated with the adjustments (including the capitalised financing of the fiscal stimulus adjustment) is included in Table 2.8, which is not included in the 'PR08 column' in Table 2.7. Secondly, Table 2.7 shows the amount for PR08 enhancements after deferral to CP5 (£252m) assumed in PR13. This deferral is included in the 'Deferrals to CP5' row in Table 2.8.
**Including the 25% retention adjustment for the RAB roll forward policy.

Source: Network Rail's regulatory financial statements, submissions to us and our own calculations.

Renewals adjustments to the RAB

2.102 As shown in Table 2.8, Network Rail has added £12,989m to the RAB for renewals expenditure for CP4, compared to our original PR08 assumption of £13,493m. This variance was due to a number of factors:

a. PR08 assumed expenditure was increased by £19m[64] for the control period after the final PR08 determination was published. This net increase takes account of additional funding for Seven Day Railway schemes, which were partly offset by a re-allocation of some renewals expenditure to enhancements and maintenance expenditure, and the transfer of some stations in the Anglia operating route to the franchised train operator;

b. our PR08 determination required renewals additions to the RAB to be adjusted for the effect of input price inflation through an IOPI adjustment[65]. Lower than assumed input prices meant the RAB was reduced by -£853m (including the effect of capitalised financing);

c. Network Rail has included £518m of RAB additions for efficient over/under spend (after the 25% retention adjustment for the RAB roll forward policy), mostly in relation to expenditure on its ORBIS project and expenditure in relation to the relocation of some business functions to its national operations centre in Milton Keynes;

[64] Including the capitalised financing associated with these adjustments.

[65] See Chapter 15 of our PR08 determination for further details about how the IOPI adjustment is calculated.

d. Network Rail has deferred work from CP4 to later control periods (net -£220m as Network Rail also accelerated signalling renewals)[66];

e. Network Rail has made a -£218m adjustment for the impact of capitalised financing on renewals that were deferred from earlier in the control period; and

f. there has been an acceleration of civils work from CP5 relating to the UK Government's fiscal stimulus package (£250m).

Enhancements adjustments to the RAB

2.103 Network Rail has added £9,631m for the control period to the RAB for enhancements expenditure, compared to our original PR08 assumed addition of £9,546m as shown in Table 2.8. The variance for the control period was mostly due to:

a. during the control period Network Rail made a number of adjustments agreed with us to take into consideration transfers between renewals and enhancements, deferrals from CP3, changes in funding arrangements and reductions in funding associated with changes in outputs. This reduction amounted to -£462m (including capitalised financing);

b. a reduction to the RAB of -£174m for underspend. This includes -£71m for efficient underspend (after including the 25% retention of efficient underspend) and -£103m for underspend on funds (which does not qualify for the 25% retention of efficient underspend);

c. a -£1,780m adjustment for the deferral of enhancements expenditure to CP5 and underspend not recognised as outperformance. -£911m was for Thameslink, the remaining adjustment includes the Northern urban centres (-£151m), Intercity express (-£168m), the Birmingham New Street Gateway Project (-£105m) and East Coast Mainline (ECML) Improvements Programme (-£97m), Platform lengthening - southern (-£81m), Midlands improvement programme (-£55m), Power Supply Upgrade Programme (-£52m) and -£160m on other projects;

d. a -£374m reduction, which Network Rail has made to adjust the RAB for the impact of capitalised financing on enhancements that were deferred from earlier in the control period; and

e. additional expenditure of £2,875m for the control period on projects that were not funded in our PR08 determination (see 'Enhancements' section above). The £2,875m includes £1,925m of government sponsored schemes, £471m of expenditure on Network Rail income generating schemes and £297m of third party schemes, which are regulated under the investment framework.

[66] Table 2.2 shows the asset categories where these deferrals and accelerations of work have occurred.

2.104 As part of our normal review of investment framework schemes, we asked Halcrow Group Limited (Halcrow[67]), an independent reporter, to review a representative sample of the income generating schemes. In addition, in 2013-14 we asked Halcrow to review a sample of third party promoted schemes that Network Rail has included for RAB addition during the control period[68].

2.105 In these reviews, Halcrow found that there was a general lack of evidence available to demonstrate that the investment framework guidance (which sets out the guidelines for adding certain enhancements schemes to the RAB) has been fully complied with on a consistent basis. For example, Halcrow was unable to gain access to supporting business cases, option selection criteria and procurement approaches for the third party schemes. It was also identified that certain additions were added to the RAB above the allowable limit. There were also inconsistencies in the application of our regulatory accounting guidelines to the facility charge calculation. Ultimately we have reviewed these issues and the differences were not material enough to adjust the RAB, but we have escalated this issue with Network Rail as Network Rail should have a better process for accounting for this expenditure.

Adjustments to financial performance for Enhancements in CP4

2.106 During CP4 there have been a small number of projects where the regulated milestone was missed. The projects include the St Pancras-Sheffield line speed improvements programme, Strategic Freight Network, Western Improvement Programme and elements of EGIP. These projects have missed milestones that impacted upon customers. We have assessed each of these projects to determine the impact to customers and a £1m adjustment to the RAB has been made[69].

RAB - additions in 2013-14

2.107 Renewals and enhancements additions to the RAB in 2013-14 (£3,284m and £2,875m respectively) are reported in Table 2.9 and Table 2.10. The variances to our PR08 determination were mostly due to Network Rail's decisions to re-phase capex to later in the control period and a change to the adjustment for under delivery of regulatory outputs. This is highlighted in Table 2.10 in the row 'Adjustments for acceleration / deferral in CP4' which shows the amount of additional work done in 2013-14 to catch up from earlier deferral in the control period.

[67] Halcrow is now called CH2MHILL, but we have chosen to refer to them as Halcrow in this report as this was the company that was awarded the independent reporter contract for investment framework schemes.

[68] An extract of Halcrow's 2013-14 report is available at: http://www.orr.gov.uk/__data/assets/pdf_file/0009/14787/halcrow-enhancement-assessment-investment-schemes-august-2014.pdf.

[69] The adjustment was based on between 2% and 5% of the cost of each project which missed a milestone and where there was an impact on customers.

Table 2.9: Analysis of RAB movements in 2013-14

£m, 2013-14 prices unless otherwise stated	Actual 2013-14	PR08	Variance
	(A)	(B)	(A-B)
Opening RAB at 1 April 2013 (2012-13 prices)	**44,938**	**48,319**	**-3,381**
Additions to the RAB:			
Indexation for the year	1,190	1,279	-89
Renewals additions	3,284	2,188	1,096
Enhancements additions	2,875	688	2,187
Reductions to the RAB:			
Capex funded from the ring-fenced fund	-697	-697	-
Amortisation	-1,828	-1,828	-
Adjustment for missed regulatory outputs	315	-	315
Closing RAB at 31 March 2014 (2013-14 prices)	**50,077**	**49,949**	**128**

Source: Network Rail's regulatory financial statements, submissions to us and our own calculations.

Table 2.10: Calculation of RAB additions in 2013-14

£m, 2013-14 prices	Renewals	Enhancements
PR08 determination	**2,208**	**1,384**
Adjustments to PR08 assumed expenditure	206	-178
Adjusted PR08 determination	**2,414**	**1,206**
IOPI index adjustment	-171	-
Adjustments for efficient over/under spend*	265	-161
Deferrals to CP5	-220	-1,780
Adjustments for acceleration / deferral in CP4	993	2,183
Non-PR08 expenditure	-	1,427
Other adjustments	9	-
Total additions to RAB in 2013-14	**3,284**	**2,875**

*Including the 25% retention adjustment for the RAB roll forward policy.

Source: Network Rail's regulatory financial statements, submissions to us and our own calculations.

Debt and financing costs

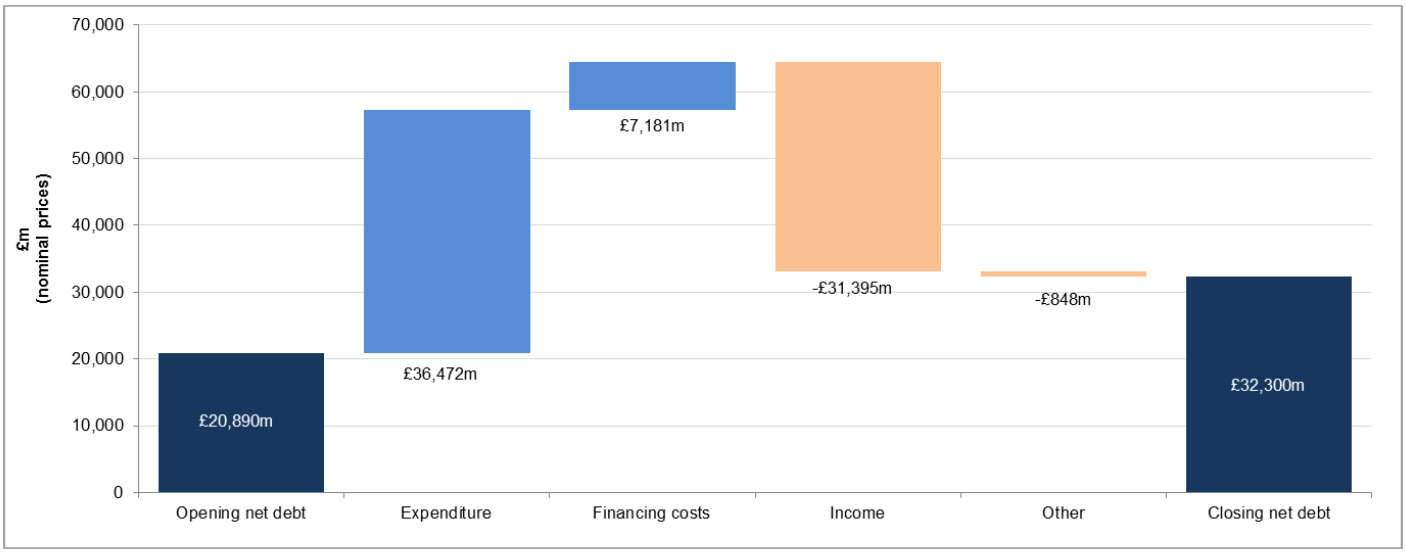
Debt

2.108 As Network Rail is a company limited by guarantee without shareholders, it is almost entirely dependent on issued debt and bank loans for its sources of funding[70].

2.109 Network Rail's net debt has increased by £11,410m to £32,300m during the control period. The reasons for this increase are summarised in Figure 2.22.

[70] However, since July 2014, Network Rail no longer borrows from the capital markets and instead borrows funds from DfT under a loan agreement that currently runs until the end of CP5. As a result, Network Rail's new borrowings will no longer require the financial indemnity mechanism (FIM) provided by the UK government (FIM guarantee). Under the FIM, the UK government received an 80 basis point (0.8%) fee in CP4 for providing this credit enhancement.

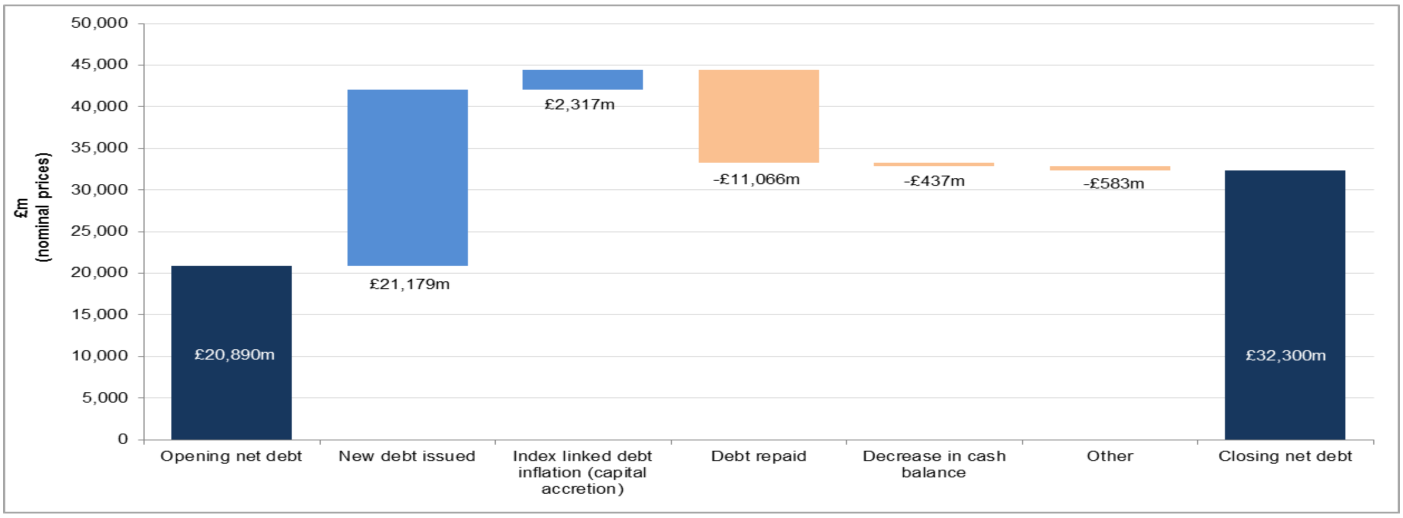
Figure 2.22: Causes of movement in Network Rail's net debt in CP4



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

2.110 Figure 2.23 shows how this increase in net debt has been funded in CP4.

Figure 2.23: The movement in Network Rail's net debt in CP4



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

2.111 Network Rail has issued debt in a number of currencies and with a range of maturities over recent years. Some of this debt had a fixed interest rate and some a floating interest rate. Also some of the debt that was issued was index-linked. Network Rail uses financial derivatives to reduce its exposure to the foreign exchange and interest rate risks that arise from these financing activities. As shown in Table 2.11, there has been little change to Network Rail's mix of funding in 2013-14 compared to 2012-13.

2.112 As shown in Table 2.11, Network Rail's net cash balance decreased in 2013-14. Network Rail has explained that new debt was issued towards the end of 2012-13 improving its cash balances to benefit from favourable market conditions and was used to fund planned expenditure in 2013-14.

Table 2.11: Sources of Network Rail's funding as at 31 March 2014

	As at 31 March 2014		As at 31 March 2013	
£m, nominal prices	£m	% of total borrowing	£m	% of total borrowing
Nominal borrowings (GBP)	9,000	28%	8,595	27%
Nominal borrowings (Foreign currency)	7,174	22%	7,235	23%
Total nominal borrowings	16,174	49%	15,830	49%
Index-linked borrowings (GBP)	17,161	51%	16,258	51%
Total regulatory borrowings	**33,335**	**100%**	**32,088**	**100%**
Net cash balances	-1,035		-3,158	
Regulatory net debt as at 31 March	**32,300**		**28,930**	

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

Debt - Movements in net debt compared to PR08 in CP4

2.113 Closing net debt was £32,300m, which was £772m (2.3%) higher than we assumed in our PR08 determination as shown in Table 2.12. The two main variances are an increase of +£2,275m[71] in expenditure which is explained elsewhere in this Chapter and a -£1,187m negative variance in 'other' which was due to an increase in Network Rail's working capital[72].

Table 2.12: Analysis of the movements in net debt in CP4

£m, nominal prices	Actual	PR08	Variance
	(A)	**(B)**	**(A-B)**
Regulatory net debt at 1 April 2009	**20,890**	**21,267**	**-377**
Total income	-31,395	-31,375	-20
Total expenditure	36,472	34,197	2,275
Financing costs	7,181	7,410	-229
Corporation tax	7	26	-19
Rebates	329	-	329
Other	-1,184	3	-1,187
Regulatory net debt at 31 March 2014	**32,300**	**31,528**	**772**
Movement in the period	**11,410**	**10,261**	**1,149**
Represented by:			
New debt issued	21,179		
Index-linked debt inflation (capital accretion)	2,317		
Debt repaid	-11,066		
Change in net cash balances	-437		
Other	-583		

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

[71] Most of this increase is in relation to investment framework projects and additional renewals spend, offset by deferral and re-scoping in enhancements.

[72] Movements in working capital arise due to timing differences between the recording of income or expenditure on an accruals basis and the actual receipt or payment of the cash. Network Rail did a significant amount of capital work in the final months of the control period leading to a large accrual balance at the end of CP4. This resulted in a large reconciling item between recorded expenditure and the debt balance.

Debt - Movements in net debt compared to PR08 in 2013-14

2.114 Network Rail's debt increased by £3,370m in 2013-14, which was £2,177m (182.5%) higher than we assumed in our PR08 determination.

2.115 Network Rail issued £5,104m of nominal and index-linked debt in 2013-14 to fund net expenditure, and refinance the £3,975m debt that matured. Also, accretion on the capital component of index-linked bonds increased by £298m[73] in 2013-14. This is shown in Table 2.13.

Table 2.13: Analysis of the movements in net debt in 2013-14

£m, nominal prices	Actual 2013-14	PR08	Variance
	(A)	(B)	(A-B)
Regulatory net debt at 1 April 2013	**28,930**	**30,335**	**-1,405**
Total income	-6,741	-6,735	-6
Total expenditure	9,596	6,206	3,390
Financing costs	1,428	1,711	-283
Corporation tax	-5	10	-15
Rebates	142	-	142
Other	-1,050	1	-1,051
Regulatory net debt at 31 March 2014	**32,300**	**31,528**	**772**
Movement in the year	**3,370**	**1,193**	**2,177**
Represented by:			
New debt issued	5,104		
Index-linked debt inflation (capital accretion)	298		
Debt repaid	-3,975		
Change in net cash balances	2,123		
Other	-180		

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

2.116 Table 2.14 shows the maturity profile of Network Rail's gross debt at 31 March 2014 compared to 31 March 2013.

Table 2.14: Maturity profile of Network Rail's gross debt as at 31 March 2014

£m, nominal prices	2014	2013
On demand or within one year	2,401	1,004
Due within one to two years	3,036	2,508
Due within two to five years	5,564	5,527
Due in more than five years	22,239	21,319
Total debt	**33,240**	**30,358**

Source: Network Rail's submission to us.

Financing costs

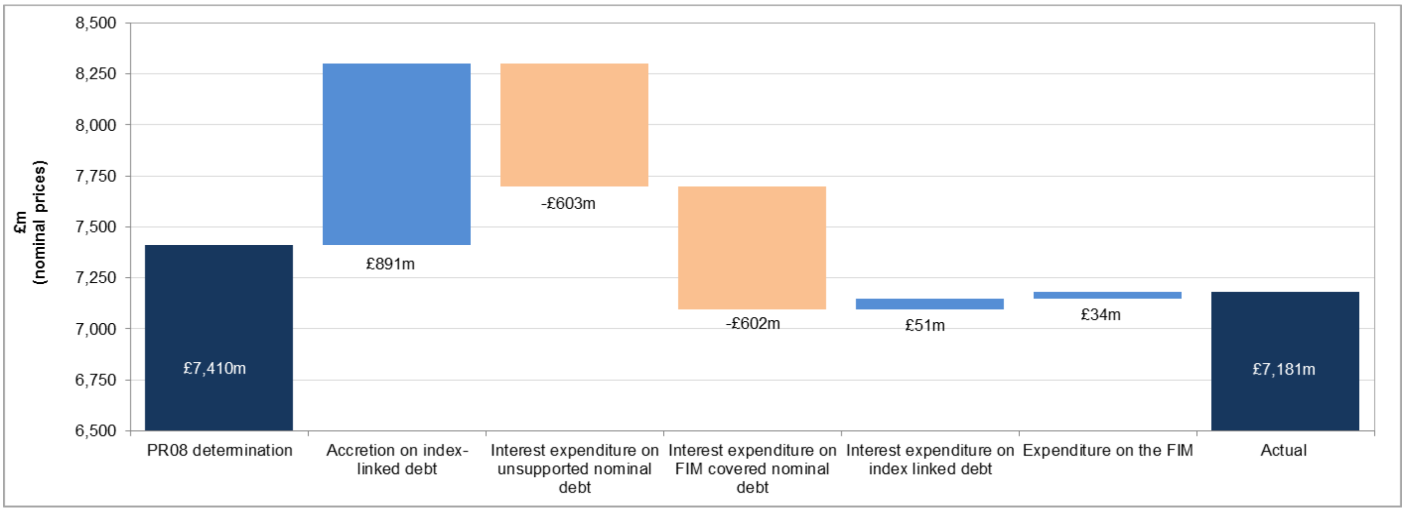
2.117 Financing costs represent interest expenses on nominal debt, index-linked debt and the Financial Indemnity Mechanism (FIM).

[73] The capital component of these bonds increases (accretes) with the Retail Price Index (RPI).

Financing costs - expenditure in CP4

2.118 Total financing costs in CP4 was £7,181m in nominal prices. This was £229m lower than assumed in our PR08 determination, which is shown in Figure 2.24.

Figure 2.24: Variances in financing costs in CP4 (Great Britain)



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

2.119 This variance between actual financing costs and our PR08 assumption in CP4 was due to a number of factors including:

a. a higher amount of index-linked debt was issued, coupled with higher inflation than we assumed in our PR08 determination;

b. Network Rail has not issued unsupported debt in CP4 (which would have incurred a higher rate of interest). This has reduced interest costs;

c. interest costs have generally been lower due to interest rates being lower than assumed;

d. overall, Network Rail spent less than we assumed in the early years of control period due to deferral of renewals and enhancements to later in the control period and into CP5; and

e. FIM payments were higher than we assumed in our PR08 determination due to Network Rail having not issued unsupported debt[74].

Financing costs - expenditure in 2013-14

2.120 As summarised in Table 2.15, Network Rail's financing costs of £1,428m in 2013-14 were £283m (16.5%) lower than we assumed in our PR08 determination.

[74] We expected Network Rail to issue unsupported debt in CP4, i.e. debt issued without the guarantee of the UK Government's Financial Indemnity Mechanism (FIM). However, given the economic conditions and volatility in the financial markets Network Rail has not issued any unsupported debt.

Table 2.15: Summary of financing costs in 2013-14 (Great Britain)

£m, nominal prices	Actual 2013-14	PR08	Actual 2012-13	PR08 variance
	(A)	(B)	(C)	(B-A)
Interest on nominal debt - FIM covered	658	698	584	40
Interest on IL debt - FIM covered	232	232	209	-
FIM fee	240	215	218	-25
Total interest costs	**1,130**	**1,145**	**1,011**	**15**
Accretion on IL debt - FIM covered	298	354	485	56
Interest on nominal debt - unsupported	-	212	-	212
Total financing costs	**1,428**	**1,711**	**1,496**	**283**

Source: Network Rail's regulatory financial statements, Network Rail submissions to us and our own calculations.

2.121 Table 2.16 summarises the average interest rates on Network Rail's debt in 2013-14 in comparison to our PR08 determination and 2012-13[75].

Table 2.16: Summary of average interest rates

£m, nominal prices	Actual 2013-14	PR08	Actual 2012-13	PR08 variance
	(A)	(B)	(C)	(B-A)
Average interest rate on nominal debt - FIM covered	4.7%	5.0%	4.8%	0.9%
Average interest rate on nominal debt - unsupported	n/a	6.7%	n/a	n/a
Average interest rate on IL debt - FIM covered	1.4%	1.8%	1.4%	0.4%
Accretion on IL debt - FIM covered	2.7%	2.8%	3.0%	0.1%
FIM fee rate	0.8%	0.8%	0.8%	0.0%

Source: Network Rail's regulatory financial statements, Network Rail submissions to us and our own calculations.

Financial indicators

2.122 In CP4 we used two primary financial indicators, the Adjusted Interest Cover Ratio (AICR) and the net debt to RAB ratio (gearing) as shown in Table 2.17, to help assess Network Rail's ability to service its debt obligations and raise additional funds. One of the trigger points in the access charges contracts for Network Rail's access review to be potentially re-opened is the AICR. Network Rail's network licence also places limits on the company's overall level of the net debt to RAB ratio.

2.123 These financial indicators are also used by lenders and credit rating agencies. The AICR is a measure of Network Rail's ability to cover its interest costs and the net debt to RAB ratio is used to measure the value of Network Rail's net debt against the value of its RAB, i.e. Network Rail's notional gearing[76].

[75] Network Rail raises debt on a Great Britain basis, so these average interest rates also apply for England & Wales and Scotland.

[76] The definitions of each financial indicator are set out in our RAGs, available at: http://orr.gov.uk/__data/assets/pdf_file/0017/11591/regulatory-accounting-guidelines-2014.pdf.

Table 2.17: Summary of the key financial indicators in 2013-14 (Great Britain)

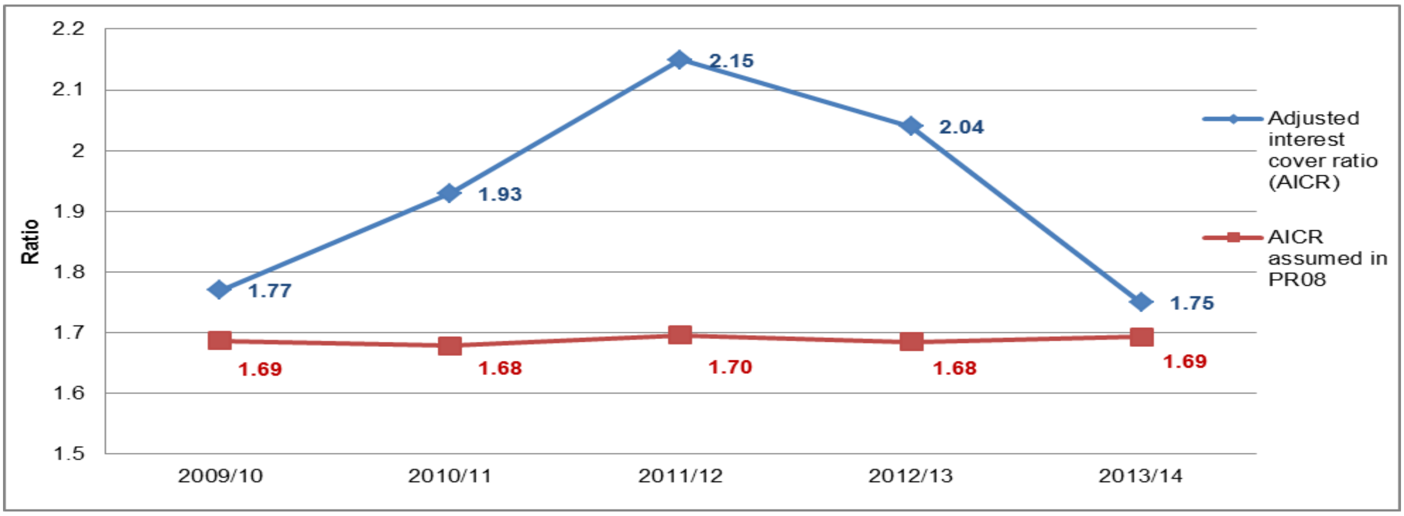
	Actual 2013-14	PR08	Actual 2012-13
Adjusted interest cover ratio (AICR)	1.75	1.69	2.04
Net debt/RAB ratio	64.5%	62.7%	64.4%

Source: Network Rail's regulatory financial statements and our PR08 determination.

2.124 The AICR in 2013-14 was higher than we assumed in our PR08 determination, but lower than in 2012-13 largely due to the impact of the re-phasing of capital expenditure on Network Rail's borrowing levels within CP4.

2.125 The movement in the AICR during the control period is shown in Figure 2.25. During CP4, the actual AICR was above the 1.40 trigger level in the access charges contracts, which means that Network Rail was above the threshold level at which we could consider re-opening of our PR08 determination.

Figure 2.25: Movements in AICR in CP4 (Great Britain)



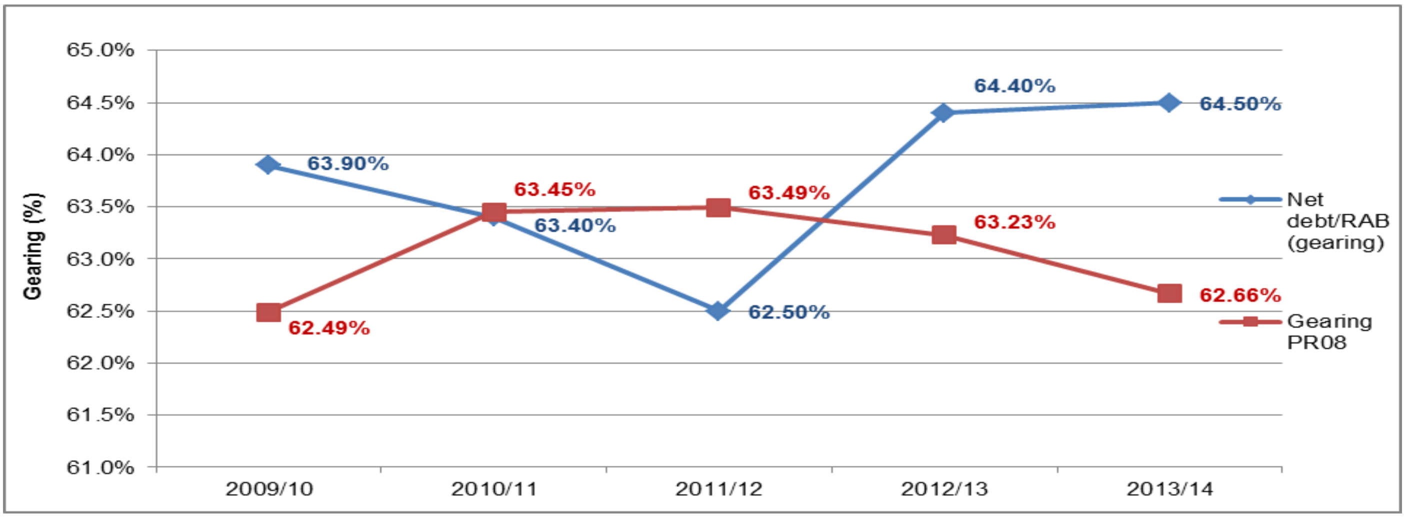
Source: Network Rail's regulatory financial statements.

2.126 The net debt to RAB ratio at the end of 2013-14 was 64.5%. This was 1.6 percentage points higher (worse) than our PR08 determination of 62.7%, largely due to the lower than expected level of expenditure allowable for RAB addition in the control period mostly due to the IOPI adjustment (offset partly by the efficient overspend) and Network Rail's RAB adjustment of £133m for missed regulatory outputs.

2.127 The movement in the net debt to RAB ratio for the control period is shown in Figure 2.26. The ratio was within the 75.0% limit in Network Rail's network licence for 2013-14[77], and throughout CP4 it was within the relevant limit for each year.

[77] Table 3.1 of the network licence granted to Network Rail Infrastructure Limited states the financial indebtedness limits for each year of CP4.

Figure 2.26: Movements in the net debt to RAB ratio (gearing) in CP4



Source: Network Rail's regulatory financial statements.

Quality of reporting

2.128 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 2008 periodic review. Fundamental to this reporting is that variances from our determination should be clearly explained as it helps us understand how Network Rail is managing its business compared to the assumptions in our determination. This is particularly important given Network Rail's ownership structure and its corporate governance.

2.129 We recognise that Network Rail's reporting of financial performance has improved in CP4 but it is still not satisfactory and we and the independent reporters have raised concerns. In essence, Network Rail's financial performance in CP4 has not been explained in a sufficiently transparent and informative way and in 2013-14 we have needed to undertake a significant amount of additional work to satisfy ourselves that Network Rail's quality of reporting is robust. In particular, in our assessment of efficiency, EBSM, FVA and enhancement additions.

2.130 We recognise that some aspects of financial reporting are not straightforward as judgements need to be made, for example when identifying efficiencies, but the level of work we have needed to do is not acceptable.

2.131 Our key concerns with Network Rail's financial reporting in CP4 have been:

a. financial reporting in Scotland. Scotland has a separate determination and its financial reporting must reflect this. This means that Network Rail needs to ensure that it adequately explains its financial performance in Scotland at a much lower level of materiality than for Great Britain;

b. the explanation of key variances, especially quantifying the underlying reasons for the variance. Network Rail needs to be able to provide an adequate explanation of the underspend or efficiency it is claiming and how it has been achieved to help us decide how it should be treated. In the absence of such an explanation, underspend should not be assumed to represent efficiency or financial outperformance. Network Rail should build this thinking more fully into its financial reporting processes;

c. the process for providing information where some data was provided late by Network Rail; and

d. the RAB roll forward process, principally the robustness of the governance process in recording enhancement additions to the RAB.

2.132 We have received assurance on the quality of reporting from the independent reporters, Arup and Halcrow in CP4. Both independent reporters have identified issues with Network Rail's quality of reporting. Arup has said in relation to Network Rail's efficiency reporting that there were a number of areas where it has either been unable to form an opinion based on the information Network Rail has provided or where it has concluded there were material uncertainties. The Arup report was delayed for two months mainly due to delays in the provision of information by Network Rail[78]. Halcrow has observed that there was a general lack of evidence available to demonstrate that the framework guidance which set out the guidelines for adding certain types of enhancement schemes to the RAB has been fully complied with on a consistent basis.

2.133 One issue that we have also faced this year is that 2013-14 was the last year of a five year control period and our assessment needs to adequately explain Network Rail's performance over the whole period. To a certain extent it is inevitable that some issues are identified at the end of the control period and it may be difficult to fully explain some of those issues, as that may require going back a number of years to historic information. We have agreed a process to improve on this in CP5.

2.134 Network Rail has raised a number of concerns with providing explanations of variances between its actual results and the final determination to Arup and us. These include:

a. the final determination did not include detailed analysis of each cost category to support comparison to Network Rail's actual costs;

b. Network Rail's delivery plan at the start of the control period included some significant differences to the final determination, and there have been significant organisational changes during the control period that further complicate comparison to the final determination; and

[78] As explained in Arup's 2013-14 report, according to the original schedule agreed with Arup information from Network Rail was due to be provided for review by 10 May 2014. However, Network Rail did not finish providing the information until 21 July 2014. As a result, provision of Arup's initial report was delayed from the original proposed date of 30 May 2014 to 27 July 2014 and the release of the final report, was delayed from 30 June 2014 to 22 September 2014.

c. Network Rail considers that the approach of providing evidence of positive management actions does not recognise that the business has changed since the last periodic review and that business performance is not managed by direct comparison to the final determination. Network Rail considers its system of management control reasonably focuses on comparison to current budgets and the need to drive continuous improvement rather than comparison to the final determination.

2.135 In responding to Network Rail's concerns, we do recognise that businesses change over time and that operationally they need to manage their business based on their own budgets. However the funding and determination are provided on a five year basis and it is critical for us, Network Rail, customers, funders, taxpayers and other interested parties that we understand how Network Rail has performed relative to the outputs it agreed to deliver and the funding that was made available to deliver these outputs. Therefore the explanations are necessary and Network Rail needs to ensure in CP5 that it explains its performance in the context of the five year determination. As part of our work on CP5 reporting Network Rail has recognised that the baseline needs to be our determination and not, for example, its delivery plan. This will help ensure that its reporting in CP5 is better than in CP4.

2.136 As part of PR13, Network Rail generally produced more comprehensive analysis and supporting information than it did for the previous periodic review (PR08). Network Rail's approach to providing us with data to support PR13 reflected an improvement in the information and analysis that it provided in CP4. However, in our PR13 determination we noted the need for substantially better explanations of financial variances in general but particularly in Scotland - this need has been reinforced by the time it has taken us to be assured that the quality of reporting which underpins EBSM payments in Scotland is sufficiently robust. We want to see further improvements in other aspects of the quality of reporting, including efficiency reporting and RAB additions. In addition, we will require information to be provided on a more timely basis.

2.137 For CP5, we recognise that there has been constructive engagement between our teams on how financial reporting can work and we will build on the lessons learned in CP4 to deliver better financial reporting in CP5.

What we will do differently in the future

2.138 The key matters that we have considered for future reporting include improvements in the robustness of efficiency reporting, route disaggregation, the use of statistical indicators and reclassification. These issues are discussed further below.

2.139 As outlined in PR13, between the publication of PR13 and the start of CP5 we undertook a programme of work with Network Rail to help improve the financial monitoring framework for CP5. The programme addressed two major concerns during CP4 - how to adjust financial performance for under delivery of outputs and how to improve the robustness of Network Rail's reporting of efficiency improvements, while not placing an unnecessary regulatory burden on Network Rail.

2.140 The objectives of the PR13 determination included increasing route disaggregation from that already reported in CP4 (in terms of reporting unit costs, RAB and debt) and improving the transparency of Network Rail financial reporting requirements. This will allow both us and other stakeholders to perform more detailed analysis of Network Rail's financial performance, which will allow us to better hold Network Rail to account in CP5, as well as informing the Periodic Review 2018 (PR18).

2.141 It is crucial that we are able to track Network Rail's progress with its regulated outputs and identify any potential issues before they impact on passengers or lead to inefficiencies. As part of this monitoring it is particularly important that we can see how Network Rail is progressing towards excellence in asset management, as that is key to the delivery of its regulated outputs.

2.142 In CP5, Network Rail will be required to report on more statistical indicators, often at a greater level of disaggregation, which we will use to monitor Network Rail's progress through CP5. These indicators will include renewal and maintenance volumes, the Public Performance Measure (PPM) and network availability. We will monitor these indicators systematically during the year. If the trends, including projections, then show the company isn't on course, we will be able to intervene early and support Network Rail.

2.143 Network Rail was reclassified as a central government body by the Office of National Statistics on 1 September 2014. We are planning to implement a number of further changes to our monitoring of the company in CP5 to reflect this reclassification, which we have discussed with Network Rail, DfT, Transport Scotland and HM Treasury. These changes include additional work around the monitoring of financial projections over the control period to provide assurance to funders and users of the railway and to hold Network Rail to account in CP5.

3. Efficiency Benefit Sharing Mechanism (EBSM)

Introduction

3.1 We established the Efficiency Benefit Sharing Mechanism (EBSM) in our PR08 determination to incentivise passenger and freight operating companies to support Network Rail's efforts to outperform our PR08 determination. The EBSM is designed to operate at the national level with separate schemes for England & Wales and Scotland.

3.2 If Network Rail performs better than our PR08 determination, under the EBSM mechanism, passenger and freight operators share 25% of cumulative outperformance on a number of elements of expenditure and revenue with each operator receiving a pay-out in proportion to their variable track access charges. For items of expenditure, cumulative outperformance is measured as the amount that actual cumulative expenditure is less than the cumulative post-efficient assumed expenditure in CP4, adjusted for deferral. Likewise for revenue items, cumulative outperformance is measured as the amount that actual cumulative revenue is greater than the cumulative post-efficient assumed revenue in CP4.

EBSM calculation in CP4

3.3 As summarised in Table 3.1, our assessment of Network Rail's cumulative financial performance in CP4 shows that the company has not financially outperformed[79] in England & Wales (-£1,042m). We have therefore assessed that no EBSM payments should be made to passenger and freight operators in England & Wales.

3.4 As summarised in Table 3.2, our assessment of Network Rail's cumulative financial performance in CP4 shows that the company has financially outperformed in Scotland (£83m). We have therefore assessed that EBSM payments of (£20.9m) should be made to passenger and freight operators in

[79] Financially outperformed in this context refers to the subset of expenditure and revenues categories outlined in Table 3.1.

Scotland for CP4 as a whole. Deducting the 2011-12 payments of £14.0m (in 2013-14 prices[80]) gives a net payment of £6.9m to passenger and freight operators in 2013-14[81].

Table 3.1: EBSM calculation for England & Wales

£m, 2013-14 prices	Cumulative (CP4 total)			
	Actual	PR08	Adjustments	Out-performance
Expenditure				
Controllable opex	4,613	3,944	38[1]	-631
Non-controllable opex - BTP	360	323	-	37
Non-controllable opex - RSSB	42	45	-	3
Maintenance	5,020	5,581	-196[1]	365
Renewals	12,784	11,875	694[2]	-215
Schedule 4 costs	667	839	-	172
Total expenditure outperformance / (underperformance)				**-343**
Income				
Advertising income	99	104	-	-5
Retail income	383	327	-	56
Concessions income	95	63	-	32
Other property income	546	573	-	-27
Property sales	119	229	-	-110
Total income outperformance / (underperformance)				**-54**
Further adjustments[3]				
Under delivery of train punctuality and reliability outputs			-500	-500
Concerns about sustainability of drainage and fencing assets			-93	-93
Concerns about renewals efficiencies that have not passed our robustness test			-30	-30
Possible double-count within the above adjustments			120	120
Concerns about maintenance efficiencies that have not passed our robustness test			-144	-144
Net financial outperformance / (underperformance)				**-1,042**
EBSM payable (25% share)				**-**
Less previous payments				3
Payment due				**-**

[1] These adjustments are as a result of re-profiling within the control period.
[2] This is a combination of a number of adjustments explained later in this Chapter.
[3] These adjustments are as a result of the under delivery of regulatory outputs, sustainability concerns, and uncertainty about Network Rail's claimed efficiency improvements.

Source: Network Rail's regulatory financial statements, our PR08 determination and our own analysis.

[80] £14.0m is equal to £13.2m in 2011-12 prices uplifted by 5.7% to 2013-14 prices.

[81] We are aware that the DfT and Transport Scotland may seek to recover any EBSM payments from train operators where they are entitled to do so, for example, under the Clause 18.1 / Schedule 9 provisions in some franchise agreements.

Table 3.2: EBSM calculation for Scotland

£m, 2013-14 prices	Cumulative (CP4 total)			
	Actual	PR08	Adjustments	Out-performance
Expenditure				
Controllable opex	475	391	-	-84
Non-controllable opex - BTP	39	34	-	-5
Non-controllable opex - RSSB	5	5	-	-
Maintenance	481	591	-	110
Renewals	1,508	1,622	-23[1]	91
Schedule 4 costs	40	54	-	14
Total expenditure outperformance / (underperformance)				**126**
Income				
Advertising income	4	-	-	4
Retail income	32	34	-	-2
Concessions income	2	5	-	-3
Other property income	36	34	-	2
Property sales	5	4	-	1
Total income outperformance / (underperformance)				**2**
Further adjustments [2]				
Under delivery of train punctuality and reliability outputs			-9	-9
Concerns about sustainability of drainage and fencing assets			-10	-10
Concerns about renewals efficiencies that have not passed our robustness test			-	-
Possible double-count within the above adjustments			9	9
Concerns about maintenance efficiencies that have not passed our robustness test			-34	-34
Net financial outperformance / (underperformance)				**84**
EBSM payable (25% share)		25%		**20.9**
Less previous payments				**14.0**
Payment due				**6.9**

[1] This is a combination of a number of adjustments explained later in this Chapter.
[2] These adjustments are as a result of the under delivery of regulatory outputs, sustainability concerns, and uncertainty about Network Rail's claimed efficiency improvements.

Source: Network Rail's regulatory financial statements, our PR08 determination and our own analysis.

EBSM adjustments

Exclusion of civils renewals expenditure

3.5 As explained in Chapter 2, expenditure on civil structures (bridges, tunnels etc.) has been excluded from the reporting of renewals efficiency savings due to uncertainty about the sustainability of civils work in CP4.

Re-profiling of expenditure

3.6 Our assessment of financial performance involves assessing the extent to which underspend is related to efficiency gains beyond those we assumed in our PR08 determination rather than the deferral of expenditure.

Re-profiling of operating and maintenance expenditure

3.7 Our PR08 determination included funding for three specific improvement schemes in CP4 (the National Stations Improvement Programme (NSIP), HLOS performance fund and Seven Day Railway). Network Rail has undertaken less work on these schemes in CP4 than was assumed in our PR08 determination, resulting in a cumulative net -£158m adjustment for England & Wales[82]. Our assessment of financial performance has been adjusted for this issue.

Re-profiling of renewals expenditure

3.8 Our assessment of renewals expenditure involves assessing two matters. Firstly it is important we assess the extent to which Network Rail has outperformed only on renewals work assumed in our PR08 determination that it has actually undertaken, (i.e. excluding deferral of work from CP3 to CP4 and CP4 to CP5 and also accelerated work from CP5 to CP4). Secondly it involves the adjustment for work outside the scope of our PR08 determination (referred to as efficient overspend elsewhere in this report).

3.9 The most practical way to measure 'adjusted' renewals outperformance is to use Network Rail's REEM for renewals. Renewals REEM is a measure of efficiency improvements since the start of the control period on work done, i.e. it is adjusted for deferral and renewals expenditure considered to be efficient overspend. Comparing Network Rail's renewals REEM to the efficiency improvements we assumed in our PR08 determination provides a measure of renewals outperformance[83]. Using this approach we have assessed that Network Rail's cumulative renewals financial performance is -£215m in England & Wales and £91m in Scotland (before other adjustments explained below).

Issues with Network Rail's reported financial performance (EBSM further adjustments)

Adjustment for under delivery of train punctuality and reliability outputs

3.10 As explained in this report we have assessed the extent to which Network Rail's underspend in CP4 may be due to the company's under delivery of train punctuality and reliability outputs.

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[82] Note that these are England & Wales schemes, so there is no adjustment for Scotland. The £196m of maintenance spend assumed in our PR08 determination for these schemes was not spent. Instead, the only expenditure on these schemes was £38m in controllable opex. The adjustment of -£158m is for the net of our PR08 assumption of £196m and the actual spend of £38m. Allocating this adjustment in the ESBM calculation in this way does not affect the overall calculation, which is a measure of total outperformance across a number of items of expenditure and revenue including controllable opex and maintenance.

[83] The renewals REEM baseline is a combination of our PR08 determination pre-efficient assumed expenditure for some assets, and PR08 determination pre-efficient volumes multiplied by 2008-09 unit costs for other assets, such as track. To be consistent with our PR08 determination an adjustment was applied for the EBSM calculation to use PR08 pre-efficient unit costs rather than 2008-09 actual unit costs where these were separately identifiable.

3.11 Using the same methodology as we have used in previous years, we have estimated that the amount of PR08 funding that Network Rail received for train punctuality and reliability outputs which have not been delivered in 2013-14 is -£500m for England & Wales and nil for Scotland. This takes into account our view of the effect of the exceptionally poor weather in the winter of 2013-14. Consistent with the methodology previously agreed with Network Rail in 2011-12, the -£9m train punctuality and reliability outputs adjustment for Scotland in 2011-12 has been retained[84].

Adjustment for uncertainty about the sustainability of drainage and fencing work in CP4

3.12 As explained in Chapter 2, we do not accept underspend as financial outperformance where Network Rail has not shown that reductions in expenditure below the level of our PR08 determination will not adversely affect the serviceability and sustainability of the network in the short, medium and long term. We consider that Network Rail may not have financially outperformed in respect of renewals of drainage and fencing assets, i.e. money has not been spent on renewing these assets in CP4 that should have been. As explained in Chapter 2, we have adjusted our view of financial performance by -£103m for this (-£93m for England & Wales, and -£10m for Scotland)[85].

Adjustment for claimed renewals efficiencies that have not passed our robustness test

3.13 As part of its review of the 2013-14 regulatory financial statements, the independent reporter, Arup, concluded that a proportion of Network Rail's reported renewals efficiencies were uncertain. This is discussed further in Chapter 2. We have taken Arup's conclusions into account by removing the amount of efficiency above the agreed CP4 efficiency trajectory reported by Network Rail for the plant and machinery renewal category resulting in a -£30m adjustment for England & Wales and no adjustment for Scotland[86]. This is because in Scotland, the efficiency percentage that Network Rail has reported for plant and machinery in 2013-14 was less than the REEM trajectory assumed for 2013-14.

Adjustment for double-count within the above adjustments

3.14 We consider that the above adjustments may have an element of double-count and we have assessed this separately for England & Wales and Scotland by comparing the adjustment for robustness of renewal efficiencies and sustainability concerns to the train punctuality and reliability outputs adjustment and taking the smaller number as the double-count adjustment.

Adjustment for claimed maintenance efficiencies that have not passed our robustness test

3.15 As part of its review of the 2013-14 regulatory financial statements, Arup also concluded that a proportion of Network Rail's reported maintenance efficiencies were uncertain. We have taken Arup's

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[84] See our 2011-12 annual efficiency and finance assessment for further details, available at: http://orr.gov.uk/__data/assets/pdf_file/0012/3153/nr_annual_asessment_2011-12.pdf.

[85] The split between England & Wales and Scotland is based on analysis provided by Network Rail.

[86] The split between England & Wales and Scotland is based on a comparison of the actual reported REEM for each renewals asset category (where there is outperformance of the REEM percentage) compared to the trajectory for year five of CP4. It is analysed separately for England & Wales and Scotland for the categories of assets where Arup has raised concerns regarding the uncertainty of the claimed efficiencies.

conclusions into account by removing the amount of additional financial outperformance claimed by Network Rail above the CP4 delivery plan. This results in a -£144m adjustment for England & Wales and a -£34m adjustment for Scotland[87]. After discussing this issue with Network Rail we do not think that we need to include this adjustment in the calculation of the double-count adjustment.

Other issues

3.16 One of the main areas of Network Rail's reported financial outperformance in Scotland was on track renewals (£60m). This financial outperformance is partly due to the introduction in 2010 of its new track asset management policy for Great Britain, which prioritises track renewals on high usage sections of the network with the aim of improving network performance whilst reducing the overall required volumes of work.

3.17 It requires considerable judgement to decide whether a renewals underspend is an efficiency or simply represents the avoidance of work that Network Rail should have undertaken and it is ultimately a subjective decision. After our review of these issues for Scotland in CP4, we think that we do not need to separately adjust Network Rail's reported financial performance for track renewals in Scotland.

Industry participation

3.18 The Association of Train Operating Companies (ATOC) and Rail Freight Operators Association (RFOA) have previously written to us explaining ways in which their members have helped to improve Network's Rail's efficiency in CP4. Recently further analysis has been provided to us explaining how operators have helped improve Network Rail's efficiency. This fulfils the requirement of our PR08 determination to show that the operators have supported Network Rail to deliver the efficiency savings in CP4. Examples that have been provided include:

a. there has been a more collaborative approach to access planning in Scotland in CP4. In particular, working collaboratively on a control period rather than an annual basis has allowed works to be better packaged and has had less of an effect on access to the network; and

b. in relation to stations, the establishment of Local Delivery Groups has brought together Network Rail managers with station responsibilities with their counterparts in train operators to identify ways of reducing costs through better integration of programmes, and giving the party with the lowest cost, responsibility for the delivery of station renewals and enhancements.

[87] The calculation of the adjustment has been based on the actual claimed outperformance of the 2009 delivery plan separately for England & Wales and Scotland.

4. England & Wales

Summary

4.1 This Chapter summarises Network Rail's actual overall financial performance in England & Wales including variances compared to our PR08 determination and to the prior year. The Chapter separately covers expenditure and efficiency, income, Regulatory Asset Base, debt and financial indicators.

4.2 We provide explanations only where the reasons for variances differ from that of Great Britain. Please refer to the relevant sections of Chapter 2 for this information.

Expenditure and efficiency

4.3 Network Rail's total expenditure in England & Wales in CP4 was £42,366m, which was £2,578m (6.5%) higher than we assumed in our PR08 determination as summarised in Table 4.1.

4.4 Network Rail's total expenditure in England & Wales in 2013-14 was £10,165m. This was £3,647m (56.0%) higher than we assumed in our PR08 determination and was £1,714m (20.3%) higher than in 2012-13. The factors that have contributed to this higher spend were largely similar to those for Great Britain.

Table 4.1: Analysis of expenditure (England & Wales)

£m, 2013-14 prices	Actual	PR08	PR08 variance	Actual 2012-13	Prior year variance
	(A)	(B)	(B-A)	(C)	(C-A)
Cumulative					
Controllable opex	4,613	3,955	-658		
Maintenance	5,020	5,578	558		
Renewals	12,784	11,875	-909		
Sub-total (OM&R)	22,417	21,408	-1,009		
Non-controllable opex	2,268	2,049	-219		
Enhancements (PR08)	6,708	8,370	1,662		
Enhancements (non-PR08)	2,609	-	-2,609		
Total enhancements[88]	9,317	8,370	-947		
Schedule 4 & 8 costs	1,136	839	-297		
Financing costs	6,956	7,097	141		
Corporation tax	6	25	19		
Rebates	266	-	-266		
Total CP4 expenditure	**42,366**	**39,788**	**-2,578**		
2013-14					
Controllable opex	973	725	-248	878	-95
Maintenance	868	1,031	163	934	66
Renewals	3,364	1,948	-1,416	2,530	-834
Sub-total (OM&R)	5,205	3,704	-1,501	4,342	-863
Non-controllable opex	492	430	-62	462	-30
Enhancements (PR08)	1,549	678	-871	1,542	-7
Enhancements (non-PR08)	1,152	-	-1,152	451	-701
Total enhancements	2,701	678	-2,023	1,992	-709
Schedule 4 & 8 costs	355	137	-218	260	-95
Financing costs	1,307	1,559	252	1,392	85
Corporation tax	-5	10	15	-	5
Rebates	110	-	-110	3	-107
Total 2013-14 expenditure	**10,165**	**6,518**	**-3,647**	**8,451**	**-1,714**

Source: Network Rail's regulatory financial statements and our PR08 determination.

4.5 Figure 4.1 shows Network Rail's cumulative controllable operating, maintenance and renewals (OM&R) efficiency improvements in England & Wales compared to Network Rail's Real Economic Efficiency Measure (REEM) trajectory of efficiency improvements that Network Rail was to deliver in CP4[89]. Network Rail has reported OM&R efficiencies of 14.1% in England & Wales by the end of CP4 compared to the start of the CP4. This was 9.7 percentage points behind the 23.8% efficiencies that Network Rail aimed to achieve in order to deliver the OM&R efficiency that we expected it would have achieved by the end of CP4. While Network Rail has reported efficiencies of 14.1%, we have concerns about the exclusion of

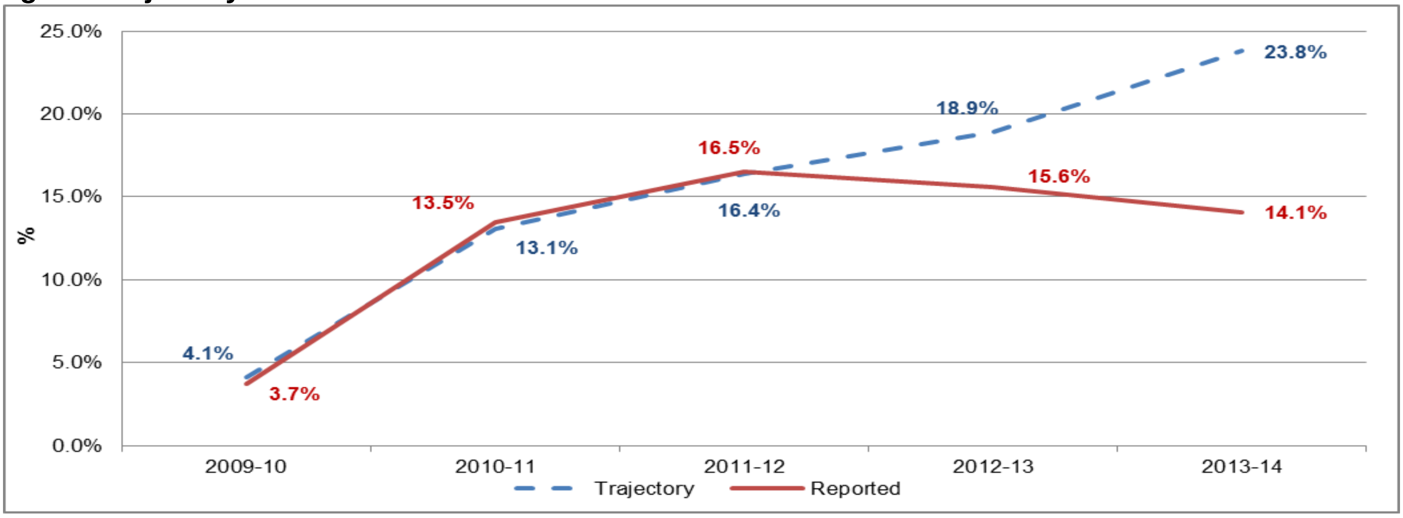
[88] This includes all Network Rail funded enhancements but excludes third party funded schemes (£1,471m) which are funded by external parties on a pay-as-you-go basis.

[89] See Annex B for further details. Network Rail's agreed CP4 efficiency trajectory was set out in a letter from ORR to Network Rail in March 2011. A copy of this letter is available at: http://www.rail-reg.gov.uk/upload/pdf/nr-cp4-success-010311.pdf.

certain renewals spend (e.g. efficient overspend) and the quality of the reporting underpinning this calculation. In addition, Arup has said it is uncertain about the efficiencies claimed on certain categories of maintenance and renewals expenditure. It is our view that efficiency is likely to be at least 2% lower taking into account these issues, but we recognise this is a legitimate difference of view.

4.6 The 14.1% reported efficiency represents a deterioration in cumulative efficiency of 1.5 percentage points compared to 2012-13 when Network Rail reported 15.6% cumulative efficiency. This is compared to the agreed trajectory that assumed a 4.9 percentage point improvement in cumulative efficiency in the final year of CP4.

Figure 4.1: Comparison of the reported OM&R efficiencies for England & Wales in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

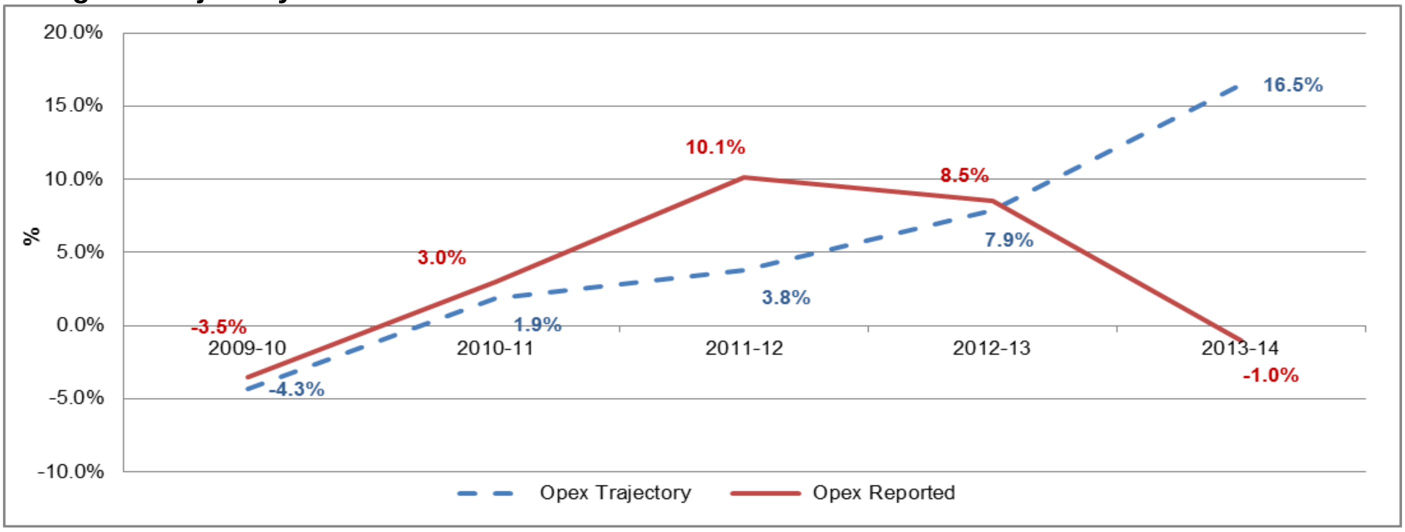
Controllable opex

4.7 Cumulative controllable opex in CP4 in England & Wales was £4,613m, which was £658m (16.6%) higher than we assumed in our PR08 determination.

4.8 Controllable opex in England & Wales in 2013-14 was £973m. This was £248m (34.2%) higher than we assumed in our PR08 determination and £95m (10.9%) higher than in 2012-13. This was largely due to the same reasons as for Great Britain.

4.9 As shown in Figure 4.2, on a REEM basis, Network Rail reported cumulative controllable opex efficiencies of -1.0% at the end of CP4 compared to the start of CP4. This was 17.5 percentage points behind the 16.5% savings in Network Rail's REEM trajectory.

Figure 4.2: Comparison of the reported controllable opex efficiencies for England & Wales in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

Non-controllable opex

4.10 Cumulative non-controllable opex in England & Wales was £2,268m in CP4, which was £219m (10.7%) higher than we assumed in our PR08 determination.

4.11 Non-controllable opex in England & Wales in 2013-14 was £492m. This was £62m (14.4%) higher than we assumed in our PR08 determination and £30m (6.5%) higher than in 2012-13. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

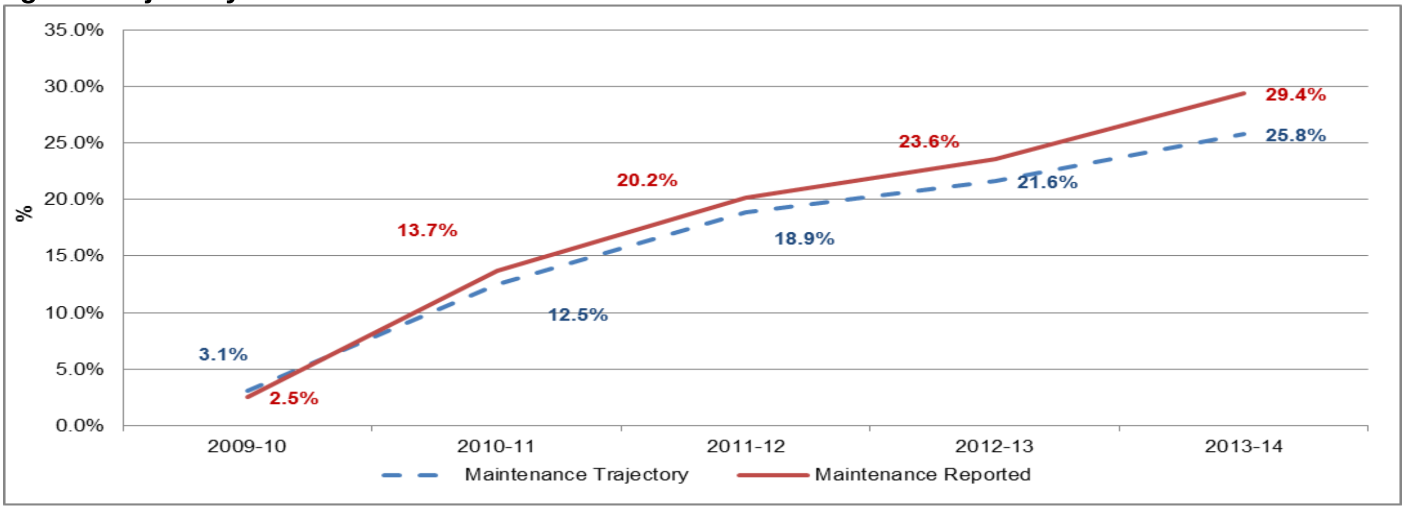
Maintenance

4.12 Cumulative maintenance expenditure in England & Wales was £5,020m in CP4, which was £558m (10.0%) lower than we assumed in our PR08 determination. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

4.13 Maintenance expenditure in England & Wales in 2013-14 was £868m. This was £163m (15.8%) lower than we assumed in our PR08 determination and £66m (7.1%) lower than 2012-13. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

4.14 As shown in Figure 4.3, on a REEM basis, Network Rail reported cumulative maintenance efficiencies of 29.4% at the end of CP4 compared to the start of CP4. This was 3.6 percentage points ahead of the 25.8% efficiencies in Network Rail's REEM trajectory. However, as reported in Chapter 2, Arup has raised concerns regarding the efficiencies claimed by Network Rail in relation to maintenance and we have considered this in our assessment of financial performance and EBSM.

Figure 4.3: Comparison of the reported maintenance efficiencies for England & Wales in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

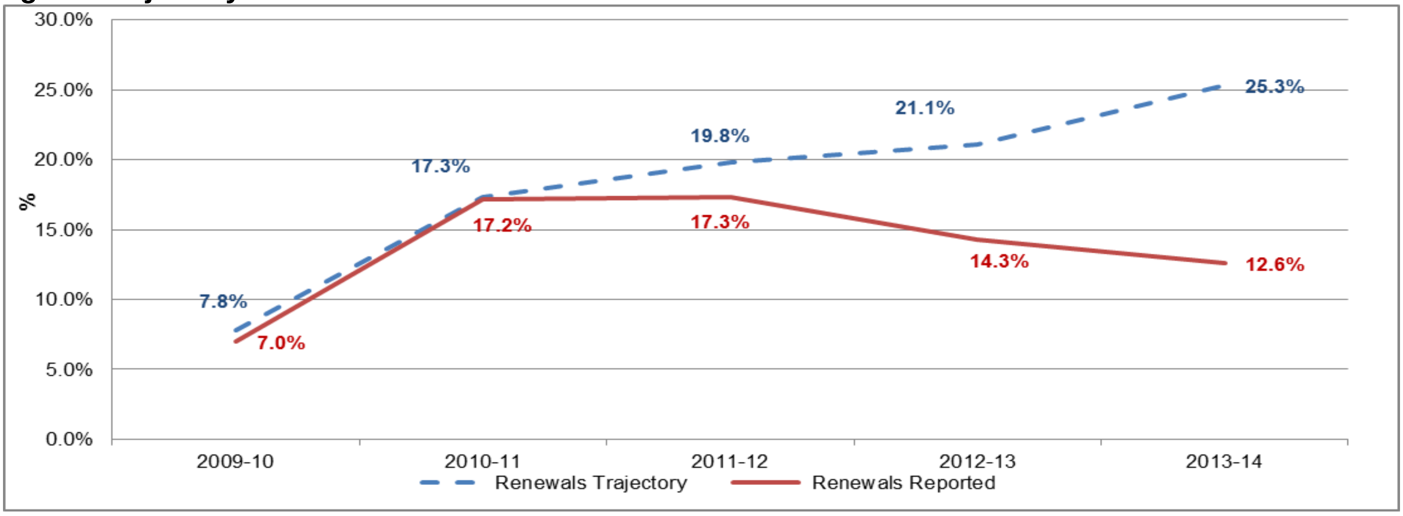
Renewals

4.15 Cumulative renewals expenditure was £12,784m in CP4, which was £909m (7.7%) higher than we assumed in our PR08 determination. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

4.16 Renewals expenditure in England & Wales in 2013-14 was £3,364m. This was £1,416m (72.7%) higher than we assumed in our PR08 determination and £834m (33.0%) higher than in 2012-13. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

4.17 As shown in Figure 4.4, on a REEM basis, Network Rail reported cumulative renewals efficiencies of 12.6% at the end of CP4 compared to the start of CP4. This was 12.7 percentage points behind the 25.3% efficiencies in Network Rail's REEM trajectory. As reported in Chapter 2, Arup has raised concerns regarding the efficiency claimed in relation to the plant and machinery renewals asset category and we have taken this into consideration in our adjustments to financial performance and EBSM.

Figure 4.4: Comparison of the reported renewals efficiencies for England & Wales in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

Enhancements

4.18 Cumulative total enhancements expenditure in England & Wales was £9,317m in CP4. Cumulative actual PR08 enhancements expenditure was £6,708m, which was £1,662m (19.9%) lower than our adjusted PR08 determination. Cumulative non-PR08 enhancements expenditure was £2,609m[90]. The variances, compared to our adjusted PR08 determination, were largely due to the same reasons as for Great Britain.

4.19 Total enhancements expenditure for England & Wales in 2013-14 was £2,701m. This includes £1,549m of PR08 enhancement expenditure and £1,152m of other Network Rail enhancement expenditure[91]. Actual expenditure in 2013-14 on PR08 enhancements was £871m (128.5%) higher than our adjusted PR08 determination and £7m (0.5%) higher than in 2012-13. The variances, compared to our adjusted PR08 determination, were largely due to the same reasons as for Great Britain.

Income

4.20 As shown in Table 4.2, total income in CP4 for England & Wales was £30,164m. This was £44m (0.15%) higher than we assumed in our PR08 determination. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

[90] This includes £326m of expenditure not meeting our requirements for RAB addition in accordance with the regulatory accounting guidelines (RAGs). The £326m includes adjustment for income generating schemes and facility fees (£209m), outperformance expenditure as defined in the RAGs (£101m) and schemes with a payback period within the control period (£16m). Network Rail also undertook £1,471m of work on third party funded enhancement schemes in CP4. These schemes are not included in our analysis.

[91] Network Rail also undertook £233m of work on third party funded enhancement schemes in England & Wales in 2013-14. These schemes are not included in our analysis.

Table 4.2: Comparison of income in CP4 (England & Wales)

£m, 2013-14 prices	Actual	PR08	Variance
	(A)	(B)	(A-B)
Grant income	18,764	18,829	-65
Fixed charges	4,464	4,444	19
Variable charges	3,640	3,522	118
Total franchised track access income	8,104	7,966	138
Other single till income	3,296	3,325	-30
Total income	**30,164**	**30,120**	**44**

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

4.21 As shown in Table 4.3, total income in 2013-14 for England & Wales was £6,025m. This was £1m (0.02%) higher than we assumed in our PR08 determination and £8m (0.1%) higher than in 2012-13. The variances in income, compared to our PR08 determination, were largely due to the same reasons as for Great Britain.

Table 4.3: Comparison of income in 2013-14 (England & Wales)

£m, 2013-14 prices	Actual 2013-14	PR08	Actual 2012-13	PR08 variance	Prior year variance
	(A)	(B)	(C)	(A-B)	(A-C)
Grant income	3,492	3,487	3,794	5	-302
Fixed charges	1,142	1,132	858	10	284
Variable charges	719	691	702	28	17
Total franchised track access income	1,861	1,823	1,560	38	301
Other single till income	672	714	663	-42	9
Total income	**6,025**	**6,024**	**6,017**	**1**	**8**

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

Regulatory Asset Base

Movements in the Regulatory Asset Base (RAB) for England & Wales in CP4 compared to our PR08 determination are summarised in Table 4.4. The value of the RAB at 31 March 2014 was £45,042m, which was £125m (0.3%) lower than we assumed in our PR08 determination. The variances, compared to our PR08 determination, were largely due to the same reasons as for Great Britain. Table 4.5 shows the calculation of RAB additions in CP4 in England & Wales. The reasons for the variance in the additions in CP4 in England & Wales were largely due to the same reasons as for Great Britain.

Table 4.4: Comparison of movements in the RAB in CP4 (England & Wales)

£m, 2013-14 prices unless otherwise stated	Actual	PR08	Variance
	(A)	(B)	(A-B)
Opening RAB at 1 April 2009 (2008-09 prices)	**30,603**	**30,667**	**-64**
Additions to the RAB			
Indexation for the period	5,120	5,063	56
Renewals additions	11,526	11,875	-349
Enhancements additions	8,730	8,370	360
Reductions in the RAB			
Capex funded from the ring-fenced fund	-2,761	-2,761	-
Amortisation	-8,046	-8,048	2
Adjustment for missed regulatory outputs	-130	-	-130
Closing RAB at 31 March 2014 (2013-14 prices)	**45,042**	**45,167**	**-125**

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

Table 4.5: Calculation of RAB additions in CP4 (England & Wales)

£m, 2013-14 prices	Renewals	Enhancements
PR08 determination	**11,880**	**9,057**
Adjustments to PR08 assumed expenditure	10	-450
Adjusted PR08 determination*	**11,890**	**8,607**
IOPI index adjustment	-757	-
Adjustments for over/under spend**	514	-170
Deferrals to CP5	-193	-1,776
Adjustments for acceleration / deferral in CP4	-182	-371
Non-PR08 expenditure	-	2,440
Other adjustments	254	-
Total additions to RAB in CP4	**11,526**	**8,730**

*The difference between this line and the 'PR08 column' in Table 4.4 above (i.e. for renewals £11,875m v £11,890m and for enhancements £8,370m v £8,607m) is mainly due to two reasons. Firstly, capitalised financing associated with the adjustments (including the capitalised financing of the fiscal stimulus adjustment) is included in Table 4.5, which is not included in the 'PR08 column' in Table 4.4. In addition, Table 4.4 shows the amount for PR08 enhancements after deferral to CP5 assumed in PR13. This £252m is included in the 'Deferrals to CP5' row in Table 4.5.
**Including the 25% retention adjustment for the RAB roll forward policy.

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

Debt and financing costs

4.22 Network Rail issues debt at a group level for the company as a whole. As with other aspects of its business activities for regulatory purposes, Network Rail disaggregates its debt to England & Wales, and Scotland. Our analysis of debt and financing costs in this report, except for movements in net debt, is at the Great Britain level and is covered in Chapter 2.

4.23 As shown in Table 4.6, closing net debt for England & Wales at 31 March 2014 was £29,335m. This was £527m (1.8%) higher than we assumed in our PR08 determination. The variance in net debt, compared to our PR08 determination, was largely due to the same reasons as for Great Britain.

Table 4.6: Analysis of the movements in net debt in CP4 (England & Wales)

£m, nominal prices	Actual	PR08	Variance
	(A)	(B)	(A-B)
Opening net debt at 1 April 2009	**18,809**	**19,149**	**-340**
Total income	-28,219	-28,192	-27
Total expenditure	33,073	31,122	1,951
Financing costs	6,496	6,703	-207
Corporation tax	6	25	-19
Rebates	253	-	253
Other	-1,083	1	-1,084
Movement in net debt during the period	**10,526**	**9,659**	**867**
Closing net debt at 31 March 2014	**29,335**	**28,808**	**527**

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

Financial indicators

4.24 As shown in Table 4.7, the actual AICR of 1.67 in 2013-14 in England & Wales was similar to the level of 1.68 that we assumed in our PR08 determination. The reasons for this variance were the same as for Great Britain overall. The actual AICR is higher than the 1.40 trigger level in the access charges contracts, which means it did not meet the threshold level for a re-opener to be considered.

4.25 The net debt to RAB ratio at the end of 2013-14 was 65.1% in England & Wales. This was 2.0 percentage points worse than our PR08 determination assumption of 63.1%, largely due to the same reasons as for Great Britain. It is lower than the 75.0% limit in Network Rail's network licence for 2013-14, and throughout CP4 it was within the relevant limit for each year.

Table 4.7: Summary of the key financial indicators in 2013-14 (England & Wales)

	Actual 2013-14	PR08	Actual 2012-13
Adjusted interest cover ratio (AICR)	1.67	1.68	1.99
Net debt/RAB ratio	65.1%	63.1%	64.8%

Source: Network Rail's regulatory financial statements and our PR08 determination.

5. Scotland

Summary

5.1 This Chapter summarises Network Rail's actual overall financial performance in Scotland including variances compared to our PR08 determination and to the prior year. The Chapter separately covers expenditure and efficiency, income, Regulatory Asset Base, debt and financial indicators.

5.2 We provide explanations only where the reasons for variances differ from that of Great Britain. Please refer to the relevant sections of Chapter 2 for this information.

Expenditure and efficiency

5.3 Network Rail's cumulative total expenditure in Scotland in CP4 was £4,434m, which was £366m (9.0%) higher than we assumed in our PR08 determination, as summarised in Table 5.1.

5.4 Network Rail's total expenditure in Scotland in 2013-14 was £996m. This was £372m (59.6%) higher than we assumed in our PR08 determination and was £178m (21.7%) higher than in 2012-13. Where the factors that have contributed to Scotland's higher spend compared to our PR08 determination differ from Great Britain, these have been identified in the rest of this Chapter[92].

[92] The Scottish network is approximately 10% of the size of the Great Britain network and therefore, as a sense check, when analysing variances, we focus on those variances that were different than approximately 10% of the Great Britain variances.

Table 5.1: Analysis of expenditure (Scotland)

£m, 2013-14 prices	Actual	PR08	PR08 variance	Actual 2012-13	Prior year variance
	(A)	(B)	(B-A)	(C)	(C-A)
Cumulative					
Controllable opex	475	391	-84		
Maintenance	481	590	109		
Renewals	1,508	1,620	112		
Sub-total (OM&R)	2,464	2,601	137		
Non-controllable opex	204	183	-21		
Enhancements (PR08)	479	480	1		
Enhancements (non-PR08)	423	-	-423		
Total enhancements[93]	903	480	-423		
Schedule 4 & 8 costs	53	54	1		
Financing costs	730	749	19		
Corporation tax	1	1	-		
Rebates	79	-	-79		
Total CP4 expenditure	**4,434**	**4,068**	**-366**		
2013-14					
Controllable opex	98	68	-30	86	-12
Maintenance	84	110	26	91	7
Renewals	337	240	-97	303	-34
Sub-total (OM&R)	519	418	-101	480	-39
Non-controllable opex	54	38	-16	48	-6
Enhancements (PR08)	21	8	-13	13	-8
Enhancements (non-PR08)	240	-	-240	94	-146
Total enhancements	261	8	-253	108	-153
Schedule 4 & 8 costs	9	8	-1	5	-4
Financing costs	121	152	31	144	23
Corporation tax	-	-	-	-	-
Rebates	32	-	-32	33	1
Total 2013-14 expenditure	**996**	**624**	**-372**	**818**	**-178**

Source: Network Rail's regulatory financial statements and our PR08 determination.

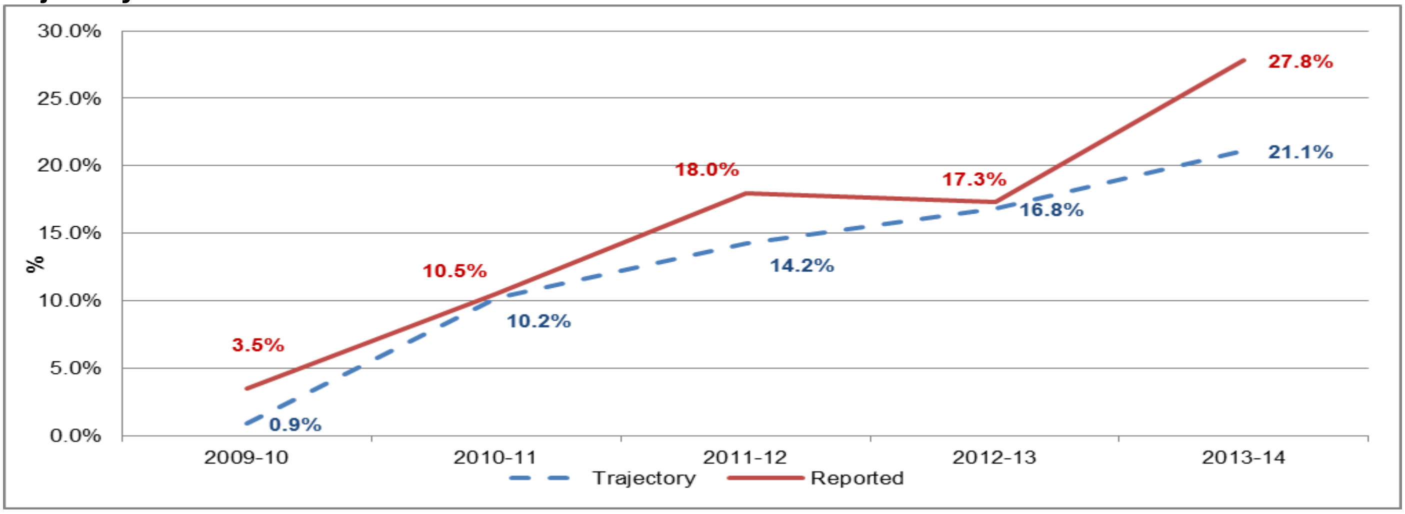
5.5 Figure 5.1 shows Network Rail's cumulative controllable operating, maintenance and renewals (OM&R) efficiency improvements in Scotland compared to Network Rail's Real Economic Efficiency Measure (REEM) trajectory of efficiency improvements that Network Rail was to deliver in CP4[94]. Network Rail has reported OM&R efficiencies of 27.8% in Scotland by the end of CP4 compared to the start of the CP4. This is 6.7 percentage points ahead of the 21.1% efficiencies that Network Rail aimed to achieve in order to deliver the OM&R efficiency that we expected it would have achieved by the end of CP4. While Network Rail has reported efficiencies of 27.8%, we have concerns about the exclusion of certain renewals spend

[93] This includes all Network Rail funded enhancements but excludes third party funded schemes (£45m) which are funded by external parties on a pay-as-you-go basis.

[94] See Annex B for further details. Network Rail's agreed CP4 efficiency trajectory was set out in a letter from ORR to Network Rail in March 2011. A copy of this letter is available at: http://www.rail-reg.gov.uk/upload/pdf/nr-cp4-success-010311.pdf.

and the quality of the reporting underpinning this calculation. In addition, Arup has said it is uncertain about the efficiencies claimed on certain categories of maintenance expenditure. It is our view that efficiency is likely to be at least 2% lower taking into account these issues, but we recognise this is a legitimate difference of view.

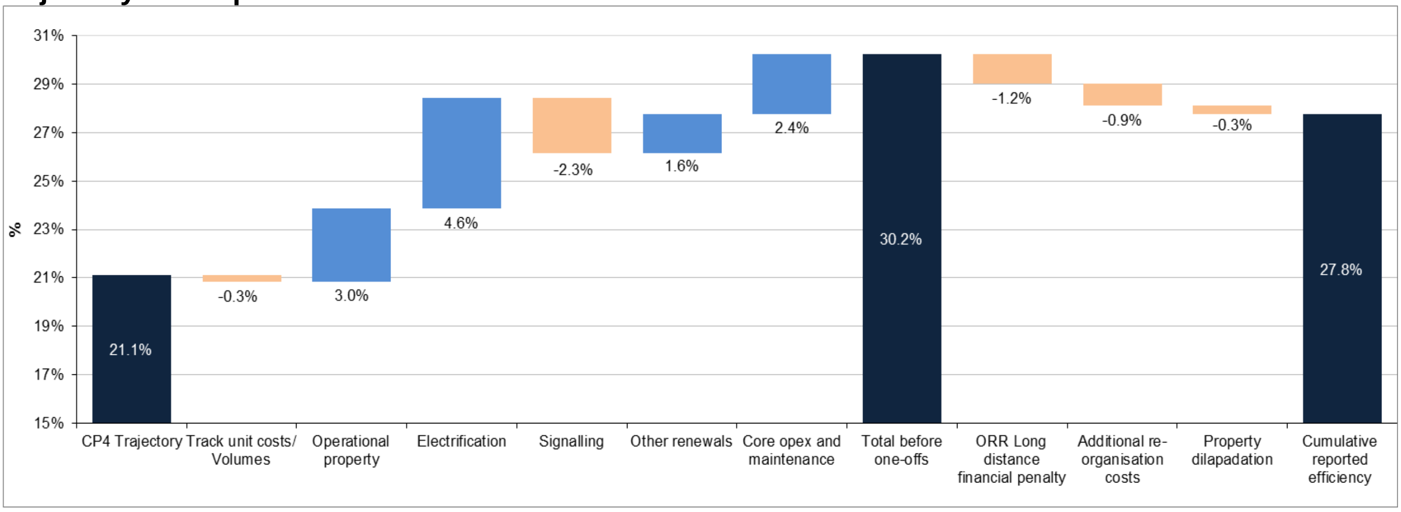
Figure 5.1: Comparison of the reported OM&R efficiencies for Scotland in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

5.4 Figure 5.2 shows the reasons for the difference between the trajectory and the reported efficiency achieved, with the majority of the additional efficiency being generated in operational property renewals and electrification renewals which is discussed further in this Chapter.

Figure 5.2: Network Rail's analysis of the reasons for the efficiency difference between the agreed trajectory and reported CP4 efficiencies in Scotland



Source: Network Rail's own analysis.

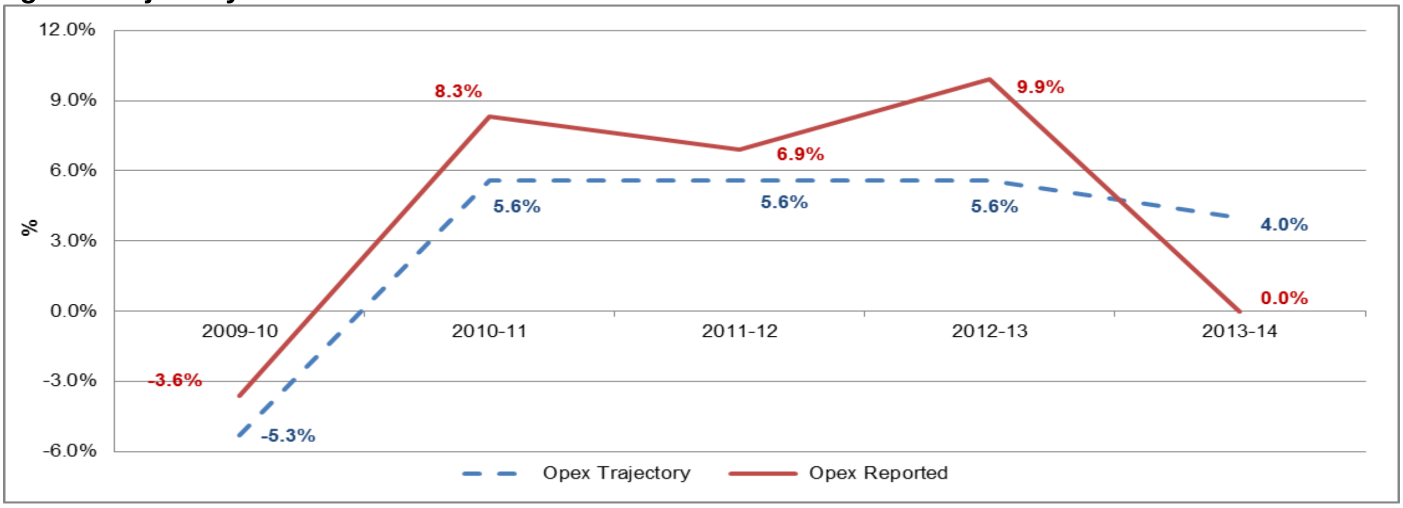
Controllable opex

5.5 Cumulative controllable opex in CP4 in Scotland was £475m, which was £84m (21.4%) higher than we assumed in our PR08 determination (the variance in Great Britain was an overspend of £742m). The variances in controllable opex were largely due to the same reasons as for Great Britain, except that savings in insurance costs were not achieved in Scotland but they were achieved in Great Britain (-£98m)[95], offset by a greater proportional saving in accommodation and property in Scotland (-£8m) compared to an overspend in Great Britain (+£38m).

5.6 Controllable opex in Scotland in 2013-14 was £98m. This was £30m (44.1%) higher than we assumed in our PR08 determination and £12m (13.7%) higher than in 2012-13.

5.7 As shown in Figure 5.3, on a REEM basis, Network Rail has achieved 0.0% cumulative controllable opex efficiencies at the end of CP4 compared to the start of CP4. This was 4.0 percentage points below the 4.0% efficiencies in Network Rail's REEM trajectory.

Figure 5.3: Comparison of the reported controllable opex efficiencies for Scotland in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

Non-controllable opex

5.8 Cumulative non-controllable opex in Scotland was £204m in CP4, which was £21m (11.3%) higher than we assumed in our PR08 determination (the variance in Great Britain was an overspend of £240m). The variance, relative to our PR08 determination, mainly reflects a +£17m higher spend on traction electricity costs and a +£5m higher spend on British Transport Police (BTP).

5.9 The most significant difference relative to Great Britain is in cumulo rates, which was higher than our PR08 determination by approximately +£53m in Great Britain, but for Scotland, was largely in line with our PR08 determination assumption (-£1m variance).

[95] The Scottish network is approximately 10% of the size of the Great Britain network and therefore, as a sense check, when analysing variances, we focus on those variances that were different than approximately 10% of the Great Britain variances.

5.10 Non-controllable opex in Scotland in 2013-14 was £54m. This was £16m (42.1%) higher than we assumed in our PR08 determination and £6m (11.9%) higher than in 2012-13.

Maintenance

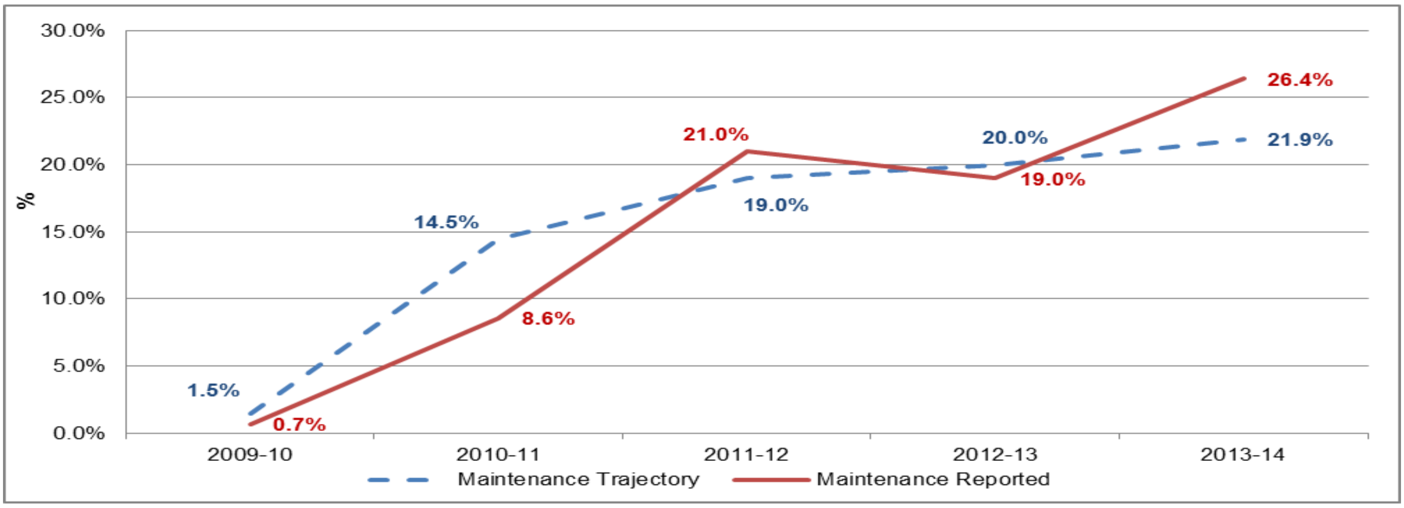
5.11 Cumulative maintenance expenditure in Scotland was £481m in CP4, which was £109m (18.5%) lower than we assumed in our PR08 determination (the variance in Great Britain was an underspend of £667m). Of the £109m lower spend, approximately 72% was due to non-core maintenance costs with the remaining 28% being on core maintenance.

5.12 The main difference between the Scotland variance (18.5%) and the Great Britain variance (10.0%) was on core maintenance. The main difference on core maintenance between Great Britain, where there was an overspend (+£196m), and Scotland, where there was an underspend (-£31m), is that there was a large underspend on track maintenance in Scotland (-£15m), but there was an overspend in Great Britain (+£138m). Network Rail has checked the difference in track maintenance between the variance in Great Britain and the variance in Scotland and has said that it is satisfied that the difference reflects a larger level of efficiencies in Scotland as the expenditure in Scotland is c8.7% of the expenditure in Great Britain, which is consistent with its revised asset policy.

5.13 Maintenance expenditure in Scotland in 2013-14 was £84m. This was £26m (23.6%) lower than we assumed in our PR08 determination and £7m (8.1%) lower than in 2012-13.

5.14 As shown in Figure 5.4, on a REEM basis, Network Rail reported cumulative maintenance efficiencies of 26.4% at the end of CP4 compared to the start of CP4 which is 4.5 percentage points ahead of the 21.9% efficiencies in Network Rail's REEM trajectory. As reported in Chapter 2, Arup has raised concerns regarding the efficiency claimed in relation to maintenance and we have considered this in our assessment of financial performance and EBSM.

Figure 5.4: Comparison of the reported maintenance efficiencies for Scotland in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

Renewals

5.15 Cumulative renewals expenditure in Scotland was £1,508m in CP4, which was £112m (6.9%) lower than we assumed in our PR08 determination (i.e. an underspend). This compares to an overspend in Great Britain of +£773m. The majority of the lower spend compared to our PR08 determination was on track (-£60m), electrification (-£37m), and operational property (-£42m) offset by smaller overspends in other categories.

5.16 The main areas where there was greater underspend in Scotland than Great Britain was in the areas of track, structures, electrification, operational property and other renewals:

a. track - there was greater proportional underspend (-£60m) in Scotland compared to Great Britain (underspend (-£104m)). This was due to performance on unit costs and volumes. In particular, Network Rail in Scotland outperformed the unit cost assumptions in our PR08 determination, whereas in Great Britain it underperformed them. In CP4 Scotland and Great Britain had different unit cost baselines;

b. structures - Network Rail has slightly overspent in Scotland (+£8m) on structures, but not to the same extent as in Great Britain (+£463m). The Great Britain variance includes accelerated spend in relation to the fiscal stimulus package in England & Wales as well as some spend on specific issues that arose in England & Wales due to the wet weather in 2013-14;

c. electrification - Network Rail has said the underspend in electrification in Scotland (-£37m) was mostly due to:
   - -£7m due to Protection Relay Renewals not required due to better reliability and performance of relays;
   - -£8m from a reduction in Campaign Changes as condition review of Overhead Line Equipment did not highlight any issues that required significant renewals spend;
   - -£4m of funding not required for Structure Painting as condition assessments did not highlight this requirement; and
   - -£4m through the slippage of the national Substation Control And Data Acquisition (SCADA) scheme;

d. operational property - the regulatory target for Station Condition was 2.39 with the actual CP4 end level of 2.23 being lower (which was a better result). Network Rail has claimed that due to meeting the target any underspend in Scotland (-£42m) should be classed as efficiency. The Great Britain underspend of -£42m was wholly generated in Scotland; and

e. other renewals costs included in the renewals category ‘other’ - for Great Britain the variance was an overspend of +£166m, whereas in Scotland the variance was an underspend compared to our PR08 determination of -£11m. The difference is largely due to two in main reasons. Firstly, Great

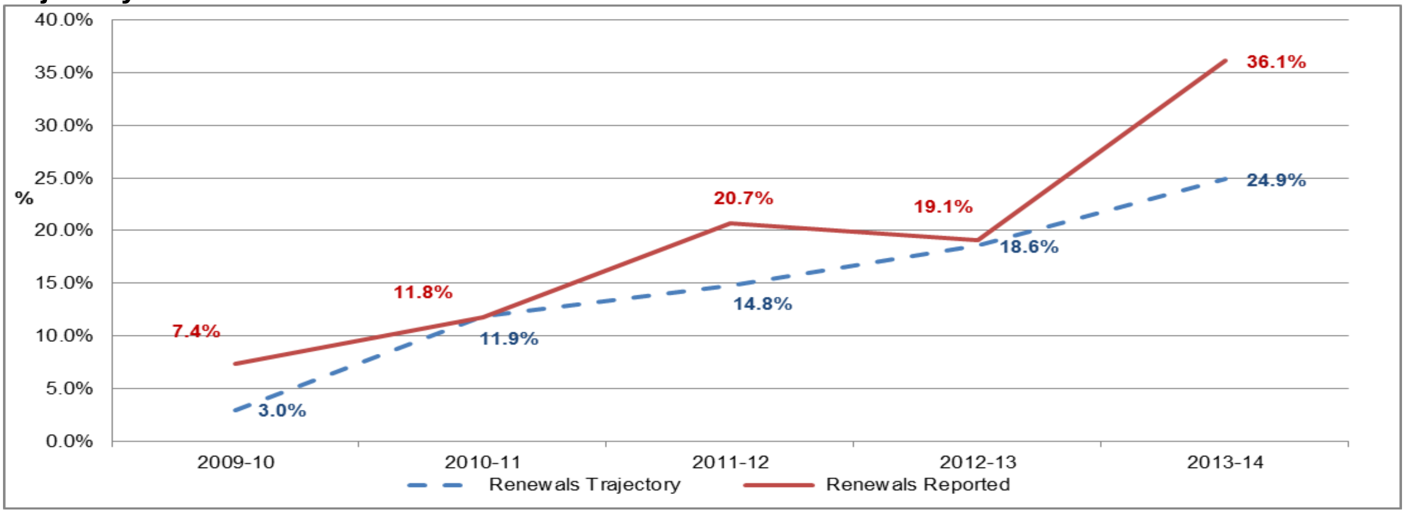
Britain overspend includes £70m for the Performance Recovery Fund which was invested in England & Wales. Due to the better train punctuality and reliability in Scotland, a separate fund was not set-up in Scotland. In addition, the other main reason for the variance is that PR08 assumed that 12% of Great Britain total commercial property renewals would have occurred in Scotland, but only a small amount has actually been spent in Scotland in CP4.

5.17 Renewals expenditure in Scotland in 2013-14 was £337m. This was £97m (40.4%) higher than we assumed in our PR08 determination and £34m (11.3%) higher than in 2012-13.

5.18 The majority of the higher spend compared to our PR08 determination was on structures (£46m), signalling (£13m), telecoms (£12m) and operational property (£11m). However, the actual spend above our PR08 determination in 2013-14 in Scotland (40.4%) was not as high when compared to Great Britain (66.7%). This was mostly due to overspend on track renewals in Great Britain, (where there was underspend in Scotland) and the overspend in Great Britain on the performance fund as mentioned above.

5.19 As shown in Figure 5.5, on a REEM basis, Network Rail reported cumulative renewals efficiencies of 36.1% at the end of CP4 compared to the start of CP4 which is 11.2 percentage points above the 24.9% efficiencies in Network Rail's REEM trajectory.

Figure 5.5: Comparison of the reported renewals efficiencies for Scotland in CP4 to the agreed trajectory



Source: Network Rail's regulatory financial statements and our own analysis (see Annex B).

Enhancements

5.20 Cumulative total enhancements expenditure in Scotland was £903m in CP4. Cumulative actual PR08 enhancements expenditure was £479m, which was £1m (0.1%) higher than our adjusted PR08 determination. Cumulative non-PR08 enhancements expenditure was £423m[96]. Unlike Great Britain where

[96] This includes £14m of expenditure not meeting our requirements for RAB addition in accordance with the Regulatory Accounting Guidelines (RAGs). The £14m includes adjustment for income generating schemes and facility fees (£5m) and outperformance

the variance was 18.8% on cumulative PR08 enhancements expenditure, Scotland actual PR08 enhancement expenditure was consistent with our adjusted PR08 determination (0.1%).

5.21 Total enhancements expenditure for Scotland in 2013-14 was £261m. This includes £21m of PR08 enhancement expenditure and £240m of other enhancement expenditure not included in our PR08 determination[97].

5.22 Actual expenditure on PR08 enhancements was £13m (162.5%) higher than our adjusted PR08 determination for 2013-14 and £8m (57.4%) higher than in 2012-13. The actual additional spend on PR08 enhancements compared to our adjusted PR08 determination and compared to 2012-13 was because of the Paisley corridor improvements and spend on the small projects fund.

5.23 Expenditure on non-PR08 funded schemes was £146m (154.1%) higher than in 2012-13 due to additional spend on Borders (approximately £80m) and additional spend on Edinburgh Glasgow Improvements Programme (approximately £50m).

Income

5.24 As shown in Table 5.2, total income in CP4 for Scotland was £3,388m. This was £5m (0.2%) lower than we assumed in our PR08 determination. The variance in income, compared to our PR08 determination, was different to Great Britain principally in relation to variable charges and OSTI as explained below.

Table 5.2: Comparison of income in CP4 (Scotland)

£m, 2013-14 prices	Actual	PR08	Variance
	(A)	(B)	(A-B)
Grant income	1,879	1,889	-10
Fixed charges	1,000	1,004	-4
Variable charges	235	210	25
Total franchised track access income	1,235	1,214	21
Other single till income	274	290	-16
Total income	**3,388**	**3,393**	**-5**

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

5.25 On variable charges, the difference between the Scotland variance (£25m or 29.3%) and the Great Britain variance (£143m or 5.5%) was driven by two main factors: variable usage charge and capacity charge. The variable usage charge is proportional to the number of train paths. Firstly, although both Great Britain and Scotland had more train paths than forecast in our PR08 determination, Scotland had

expenditure as defined in the RAGs (£9m). Network Rail also undertook £45m of work on third party funded enhancement schemes. These schemes are not included in our analysis.

[97] Network Rail also undertook £3m of work on third party funded enhancement schemes in Scotland. These schemes are not included in our analysis.

proportionally more train paths than England & Wales resulting in a variance of £8m in Scotland and £48m in Great Britain. Secondly, the adverse capacity charge variance in Great Britain (-£41m) related to new discounts offered by England & Wales operators for weekend travel. Scottish operators did not introduce new discounts in PR08. The variance for the capacity charge in Scotland was +£2m.

5.26 On OSTI, the difference between the Scotland variance (-£16m or -8.6%) and the Great Britain variance (-£45m or -6.1%) was driven by three factors which mostly offset each other: property sales income, managed stations income and freight income. On property sales the adverse Great Britain variance (-£109m) related to delayed disposals of major schemes around Victoria and Euston (£74m in total for the two schemes). Both of these schemes related wholly to England & Wales. In Scotland, there was little variance on property sales as Network Rail performed in line with our PR08 determination (£1m variance). On stations income, the favourable Great Britain variance in stations income (£167m) related to additional stations income received from operators who were funding Network Rail for supplementary, incremental work. There was less of this incremental work in Scotland, and hence the -£4m variance to our PR08 determination in Scotland was relatively smaller. Freight income in Great Britain was below the level we expected in our PR08 determination due to actual traffic levels being below what was forecast in CP4. In Scotland, however, traffic levels were more adverse than in the rest of Great Britain resulting in variances of -£21m and -£168m respectively and therefore having a higher proportional impact on Scotland.

5.27 As shown in Table 5.3, total income in 2013-14 for Scotland was £716m. This was £5m (0.1%) higher than we assumed in our PR08 determination and £19m (2.8%) higher than 2012-13. The variance compared to 2012-13 was due to the way our PR08 determination profiled grant income and fixed charges across CP4.

Table 5.3: Comparison of income in 2013-14 (Scotland)

£m, 2013-14 prices	Actual 2013-14	PR08	Actual 2012-13	PR08 variance	Prior year variance
	(A)	(B)	(C)	(A-B)	(A-C)
Grant income	288	290	311	-2	-23
Fixed charges	322	322	280	-	42
Variable charges	53	41	49	12	4
Total franchised track access income	375	363	329	12	46
Other single till income	53	58	56	-5	-3
Total income	**716**	**711**	**697**	**5**	**19**

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

Regulatory Asset Base

5.28 Movements in the RAB for Scotland compared to our PR08 determination are summarised in Table 5.4. The value of the RAB at 31 March 2014 was £5,035m, which was £253m (5.3%) higher than we assumed in our PR08 determination. The variance of 5.3% compared to the variance in Great Britain of 0.3%, was largely due a higher percentage variance in the enhancements expenditure in Scotland than Great Britain[98], offset slightly by a greater relative negative variance in renewals in Scotland.

Table 5.4: Comparison of movements in the RAB in CP4 (Scotland)

£m, 2013-14 prices unless otherwise stated	Actual	PR08	Variance
	(A)	(B)	(A-B)
Opening RAB at 1 April 2009 (2008-09 prices)	**3,503**	**3,497**	**6**
Additions to the RAB:			
Indexation for the year	585	601	-17
Renewals additions	1,463	1,620	-157
Enhancements additions	901	480	421
Reductions to the RAB:			
Ring-fenced fund	-323	-326	3
Amortisation	-1,091	-1,091	-
Penalty for missed outputs	-3	-	-3
Closing RAB at 31 March 2014 (2013-14 prices)	**5,035**	**4,782**	**253**

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

5.29 Table 5.5 shows the calculation of RAB additions in CP4 in Scotland. The main difference to Great Britain was that there was a net underspend on renewals (£159m) where for Great Britain there was a net overspend on renewals (-£491m). In addition, for Great Britain, there was a large deferral to CP5 for enhancements (-£1,780) compared to a relatively smaller deferral in Scotland (-£3m).

Table 5.5: Calculation of RAB additions in CP4 (Scotland)

£m, 2013-14 prices	Renewals	Enhancements
PR08 determination	**1,613**	**489**
Adjustments to PR08 assumed expenditure	9	-12
Adjusted PR08 determination*	**1,622**	**477**
IOPI index adjustment	-96	-
Adjustments for over/under spend**	4	-1
Deferrals to CP5	-27	-4
Adjustments for acceleration / deferral in CP4	-36	-3
Non-PR08 expenditure	-	435
Other adjustments	-4	-3
Total additions to RAB in CP4	**1,463**	**901**

*Difference between this line and the 'PR08 column' in Table 5.4 above (for renewals £1,620m v £1,622m and for enhancements £480m v £477m) is due to capitalised financing associated with the adjustments which is not included in the 'PR08 column' in Table 5.4.
**Including 25% retention.

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

[98] In Scotland as Network Rail broadly spent in line with PR08 on PR08 funded enhancements, the additional spend on non-PR08 enhancements contributed to a higher variance against our PR08 baseline compared to Great Britain. In Great Britain, as Network Rail underspent on PR08 enhancements, this partially offset some of the non-PR08 enhancements additional spend, resulting in a lower variance to our PR08 determination for enhancements when compared to Scotland.

Debt and financing costs

5.30 Network Rail issues debt at a group level for the company as a whole. As with other aspects of its business activities for regulatory purposes, Network Rail disaggregates its debt to England & Wales and Scotland. Our analysis of debt and financing costs in this report, except for movements in net debt, is at the Great Britain level and is covered in Chapter 2.

5.31 As shown in Table 5.6, closing net debt for Scotland at 31 March 2014 was £2,965m. This was £245m (9.0%) higher than we assumed in our PR08 determination. The variance in net debt, compared to our PR08 determination, was relatively higher in percentage terms (9.0%) compared to Great Britain (2.4%) mostly due to the larger relative additional spend on enhancements in Scotland.

Table 5.6: Analysis of the movements in net debt (Scotland)

£m, nominal prices	Actual	PR08	Variance
	(A)	(B)	(A-B)
Opening net debt at 1 April 2009	**2,081**	**2,118**	**-37**
Total income	-3,176	-3,183	7
Total expenditure	3,399	3,075	324
Financing costs	685	707	-22
Corporation tax	1	1	-
Rebates	76	-	76
Other	-101	2	-103
Movement in net debt during the period	**884**	**602**	**282**
Closing net debt at 31 March 2014	**2,965**	**2,720**	**245**

Source: Network Rail's regulatory financial statements and own calculations.

Financial indicators

5.32 As shown in Table 5.7, the actual AICR of 2.64 in 2013-14 in Scotland was better than the 1.88 we assumed in our PR08 determination. The reason for this variance to our PR08 determination was the underspend on OM&R costs in Scotland and the underspend on interest costs. The main reason that the AICR in Scotland is better than in England & Wales, is that Network Rail in Scotland, has spent less on OM&R (-5.3%) relative to its funding whereas there was an overspend on OM&R in England & Wales (+4.7%).

5.33 The actual AICR in Scotland is higher than the 1.40 trigger level in the access charges contracts, which means it did not meet the threshold level for a re-opener to be considered.

5.34 The net debt to RAB ratio at the end of 2013-14 was 58.8%. This was 0.8 percentage points worse than our PR08 determination of 58.0%. It was lower than the 75.0% limit in Network Rail's network licence for 2013-14, and throughout CP4 it was within the relevant limit for each year.

Table 5.7: Summary of the key financial indicators (Scotland)

	Actual 2013-14	PR08	Actual 2012-13
Adjusted interest cover ratio (AICR)	2.64	1.88	2.53
Net debt/RAB ratio	58.8%	58.0%	60.3%

Source: Network Rail's regulatory financial statements and our PR08 determination.

Annex A: Adjustments to financial performance for under delivery of train punctuality and reliability outputs

Network Rail's under delivery of train punctuality and reliability outputs

As outlined in our PR08 determination, our framework for assessing Network Rail's financial performance involves determining whether the company has delivered its required train punctuality and reliability outputs for each of the five years within CP4. Where it has not done this, we assess the extent to which any underspend is related to the company's under delivery of the required outputs. There are punctuality and cancellation requirements (PPM and CaSL)[99] for the long distance, London & South East, regional and Scotland passenger sectors, as well as delay minute targets for the passenger and the freight sectors. There are also targets for minimising disruption to passengers and freight from planned engineering works.

As explained in our 2013-14 Q4 Network Rail Monitor, Network Rail has not delivered many of the train punctuality and reliability outputs that it was funded to deliver in CP4. As documented in our 2012-13 Annual Efficiency and Finance Assessment, we concluded for the period to the end of 2012-13 that Network Rail may have avoided £436m of expenditure in not delivering its requirements for 2012-13 and £9m for Scotland (attributable to 2011-12). Using this same approach[100], we have assessed that Network Rail may have avoided £500m-£700m of expenditure in not delivering its requirements to the end of 2013-14, all wholly attributable to England & Wales[101]. Our adjustment has therefore increased from £445m[102] to £709m (not including the impact of weather) at the higher end of our range for the train punctuality and reliability outputs adjustment (lower end of our range for FVA) to reflect the further deterioration of train punctuality and reliability in 2013-14 in England & Wales.

Network Rail has argued that its under delivery of train punctuality and reliability outputs in 2013-14 was at least in part due to exceptionally poor weather and other factors largely beyond its control, such as cable theft. Network Rail therefore considers that our approach overstates the costs that it may have avoided. We recognise there may be different views on how we take account of the consequences of weather in our

[99] The Public Performance Measure (PPM) and Cancellations and Significant Lateness (CaSL) measure.

[100] The approach to the calculation uses the CP4 performance fund as a means to identify an estimated cost per percentage point of performance and then multiplying this by the gap between actual performance and required performance.

[101] Scotland mostly met the train punctuality and reliability outputs in 2013-14.

[102] £445m is the sum of £436m in 2012-13 for England & Wales plus the £9m attributable to Scotland 2011-12.

assessment and that it is a very subjective decision. Weather is a normal business risk and in accepting our PR08 determination Network Rail agreed to bear the financial risks associated with delivering its required outputs, including for example the financial consequences of both good and bad weather. It could be argued that, unlike 2012-13, 2013-14 included a period of bad weather that was exceptional enough for us to adjust our calculation. In our assessment of the train punctuality and reliability outputs for EBSM we have included a reduction of £200m to reflect this. On the other hand the view could be taken that the weather was not exceptional enough, as our PR08 determination put Network Rail on risk for weather and it did not say that at a certain level of weather Network Rail would not be at risk.

The other area where we recognise there may be a legitimate difference of view in relation to train punctuality and reliability outputs is in the methodology and the use of averaging rather than taking the worst year. In 2011-12, at our request, Network Rail estimated that the amount of PR08 funding that it received for required outputs which had not been delivered in 2011-12 may be £172m (in 2011-12 prices) before adjusting for weather, i.e. this amount should be netted off any financial outperformance. It was agreed at that time that should it be necessary, we would use the same methodology to assess the underspend associated with any further deterioration in the required train punctuality and reliability outputs in the final two years of CP4. We noted at the time that we would not make any change to our assessment of the £172m (in 2011-12 prices) adjustment in the event that performance remained the same or improved.

However in 2012-13, Network Rail adjusted its methodology for the train punctuality and reliability outputs adjustment to take into consideration the average performance during the control period rather than taking the worst year. We recognise there are judgements needed to be made in the calculation and therefore think this is a legitimate difference of view.

Annex B: Efficiency and Real Economic Efficiency Measure (REEM)

Introduction

Improving efficiency is essential if the railway is to provide value for money for customers and funders, so the reporting of economic efficiency fulfils an important function explaining Network Rail's financial performance to stakeholders and providing a key input into the calculation of Network Rail's management bonuses through its management incentive plan. It also provides a key input into the EBSM and assists in setting our determinations.

In our PR08 determination we challenged Network Rail to make progressive efficiency savings in the work that it undertakes in CP4 to operate, maintain and renew its infrastructure. As summarised in Table B1, we assumed that Network Rail could achieve cumulative savings of 21.0% compared to the expenditure that we expected Network Rail to incur in 2008-09, the final year of Control Period 3 (CP3).

Table B1: Efficiency improvements assumed in our PR08 determination (net of input price assumptions)

	2009-10	2010-11	2011-12	2012-13	2013-14
Controllable opex					
Annual efficiency	2.8%	2.8%	4.0%	4.0%	4.0%
Cumulative efficiency	*2.8%*	*5.5%*	*9.3%*	*12.9%*	*16.4%*
Maintenance					
Annual efficiency	3.2%	3.2%	4.0%	4.5%	4.5%
Cumulative efficiency	*3.2%*	*6.3%*	*10.1%*	*14.1%*	*18.0%*
Renewals					
Annual efficiency	5.0%	5.0%	5.5%	5.5%	5.5%
Cumulative efficiency	*5.0%*	*9.8%*	*14.7%*	*19.4%*	*23.8%*
Total					
Annual efficiency	4.2%	4.1%	4.7%	4.9%	4.9%
Cumulative efficiency	*4.2%*	*8.2%*	*12.5%*	*16.8%*	*21.0%*

Source: PR08 final determination Table 8.4.

Measuring efficiency

In determining what efficiency improvements could be made in CP4 it was necessary in our PR08 determination to make an assumption about the level of expenditure that Network Rail would incur in 2008-09, the final year of CP3. Network Rail subsequently made lower controllable opex efficiency savings in 2008-09 than we had expected resulting in Network Rail starting CP4 in a worse position than we assumed in our PR08 determination. Consequently Network Rail's CP4 efficiency challenge was higher than the efficiency improvements we assumed in our PR08 determination and summarised in Table B1.

Network Rail uses a REEM measure for reporting on efficiency improvements in CP4 compared to actual expenditure in the final year of CP3, rather than the costs that we expected when setting the PR08 determination for CP4. REEM also reflects Network Rail's re-profiling of expenditure in CP4 compared to the profile we assumed in our PR08 determination. The main differences between REEM and the PR08 determination measure are:

a. for controllable opex and maintenance expenditure, the REEM baseline is the 2008-09 actual expenditure plus adjustments for inflation and other exogenous factors, e.g. changes in traffic and required outputs. Whereas the comparison to our PR08 determination measure compares actual expenditure to the level of pre-efficient expenditure we assumed in our PR08 determination;
b. for some renewals categories, such as track, the REEM baseline is calculated by multiplying the PR08 determination implied volumes by 2008-09 unit costs; and
c. for other renewals categories, such as plant and machinery, the REEM baseline is the level of pre-efficient expenditure in our PR08 determination.

Network Rail's own REEM trajectory for CP4 is shown in Table B2. If Network Rail had achieved its trajectory to deliver 23.5% cumulative REEM savings in CP4 it would have delivered the 21.0% efficiency improvements we assumed in our PR08 determination. The difference between 23.5% and 21.0% is mostly due to Network Rail achieving lower efficiency savings in the final year of CP3 than we expected.

Table B2: Network Rail's trajectory for cumulative improvements in real economic efficiency (net of input price assumptions)

	2009-10	2010-11	2011-12	2012-13	2013-14
Controllable opex					
Annual efficiency	-4.4%	6.3%	1.8%	3.9%	8.2%
Cumulative efficiency	*-4.4%*	*2.2%*	*4.0%*	*7.7%*	*15.3%*
Maintenance					
Annual efficiency	2.8%	10.1%	7.2%	3.2%	5.1%
Cumulative efficiency	*2.8%*	*12.6%*	*18.9%*	*21.5%*	*25.5%*
Renewals					
Annual efficiency	7.1%	10.2%	2.5%	2.6%	5.6%
Cumulative efficiency	*7.1%*	*16.6%*	*18.7%*	*20.8%*	*25.2%*
Total					
Annual efficiency	3.6%	9.5%	3.8%	3.0%	6.0%

	2009-10	2010-11	2011-12	2012-13	2013-14
Cumulative efficiency	*3.6%*	*12.8%*	*16.1%*	*18.6%*	*23.5%*

Source: Network Rail's cumulative REEM trajectory was published in a 2010 letter titled 'Success in CP4'[103].

[103] A copy of this letter is available at: http://www.rail-reg.gov.uk/upload/pdf/nr-cp4-success-010311.pdf.

Annex C: EBSM supporting information

Items of expenditure and revenue included within the EBSM calculation

Our PR08 determination set out that financial outperformance would be measured on (i) all operating, maintenance and renewals expenditure; and (ii) a number of revenue elements (variable track access charges associated with additional traffic, retail and property rental income and Schedule 4).

Following the conclusion of our PR08 determination, we considered we could better incentivise the industry by making the following adjustments and clarifications to the policy:

a. to exclude variable track access charges from the calculation. The EBSM rewards operators for their contribution to the financial outperformance of Network Rail against our PR08 determination. Variable track access charges are a means for Network Rail to recover the ‘wear and tear’ cost to the network it incurs through additional network traffic. This means if Network Rail pays out additional variable charge income as outperformance it will be out of pocket. We therefore decided that these elements should not be included in the calculation of outperformance;

b. to exclude traction electricity, business rates, the licence fee and the safety levy from operating expenditure in the calculation. Unlike other items of operating expenditure, these are considered to be largely outside of the control of both Network Rail and train operators;

c. that property sales income should be included as this is an area of revenue that train operators should be able to influence; and

d. that Schedule 4 should refer to Schedule 4 payments rather than revenues. Schedule 4 payments are made by Network Rail to train operators in compensation for planned engineering works which affect network availability. As we wanted to encourage improvements to these working arrangements we considered it more appropriate for the mechanism to include Schedule 4 costs and not Schedule 4 revenues[104].

[104] Schedule 4 revenues are transfers between two industry members. They have little or no incentive effect on performance improvements.