



Annual efficiency and finance assessment of Network Rail 2018-19

26 July 2019

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Summary

Purpose of this document

This document explains our assessment of Network Rail's efficiency and wider financial performance across Great Britain as a whole and separately for Scotland, Wales and each of its routes in England. It covers the year ended 31 March 2019 (2018-19), the fifth year of Control Period 5 (CP5) and our cumulative assessment for the whole of CP5. It provides detailed support to our recent Network Rail Monitor publications¹.

This document is intended to help customers, funders and other interested parties gain a better understanding of Network Rail's efficiency and its financial performance compared with the financial assumptions that we set out in our 2013 periodic review (PR13) of Network Rail's access charges for CP5. It also provides important context for Control Period 6 (CP6), which started on 1 April 2019².

Unless otherwise stated, our analysis is shown in 2018-19 prices and refers to Network Rail's activities across Great Britain. Numbers may not sum due to rounding.

Key findings

The key findings from our assessment are:

1) Declining efficiency in CP5

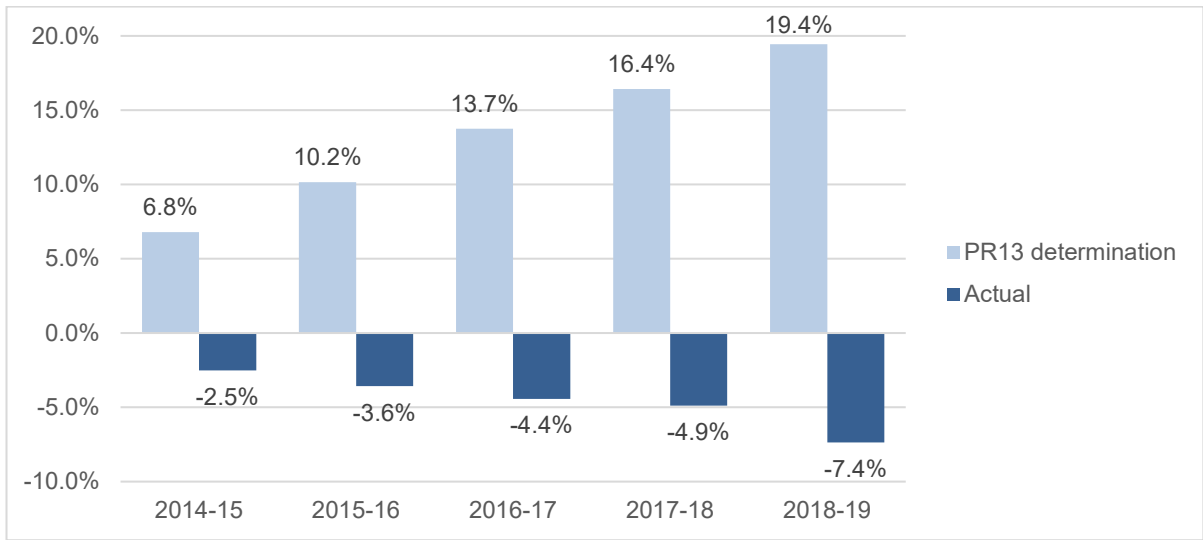
We assess changes to Network Rail's expenditure on its core business activities over time. These are its operations, support, maintenance and renewals (OSMR) activities. As shown in Figure 1, Network Rail's efficiency declined in each year of CP5. Using the CP5 efficiency measure, efficiency declined by 2.4% in 2018-19 and by 7.4% across CP5 as a whole. In contrast, our PR13 determination assumed that Network Rail could improve the efficiency of its core business activities by 19.4% in CP5.

Some of the expenditure increases on Network Rail's core business activities in 2018-19 were due to costs incurred on the additional stations for which it assumed management responsibility during the year, and from increased activities in preparation for CP6, most notably for maintenance. We consider that these cost increases could account for between £50m and £160m of increased costs in 2018-19. We have not adjusted for such factors in our previous CP5 annual efficiency and finance assessments. If these are taken into account, we consider that Network Rail's efficiency could be between 1.0% and 3.0% better in 2018-19 than stated above and shown in Figure 1.

¹ See <http://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/network-rail-monitor>.

² Network Rail's funding and requirements for CP6 were set out in our 2018 periodic review (PR18). This determined what Network Rail should deliver in respect of operating, maintaining and renewing its network, and the funding needed. CP6 runs from 1 April 2019 to 31 March 2024. See <http://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018> for further details.

Figure 1: Network Rail’s declining efficiency compared to the start of CP5



Network Rail’s declining efficiency in CP5 means that there is a need for significant improvement in CP6. Our 2018 periodic review (PR18) set a challenging but achievable efficiency target for Network Rail in CP6, which Network Rail has committed to deliver. We reported on Network Rail’s preparations to deliver efficiently from the start of CP6 in our recent Network Rail Monitors³.

2) Wider financial underperformance

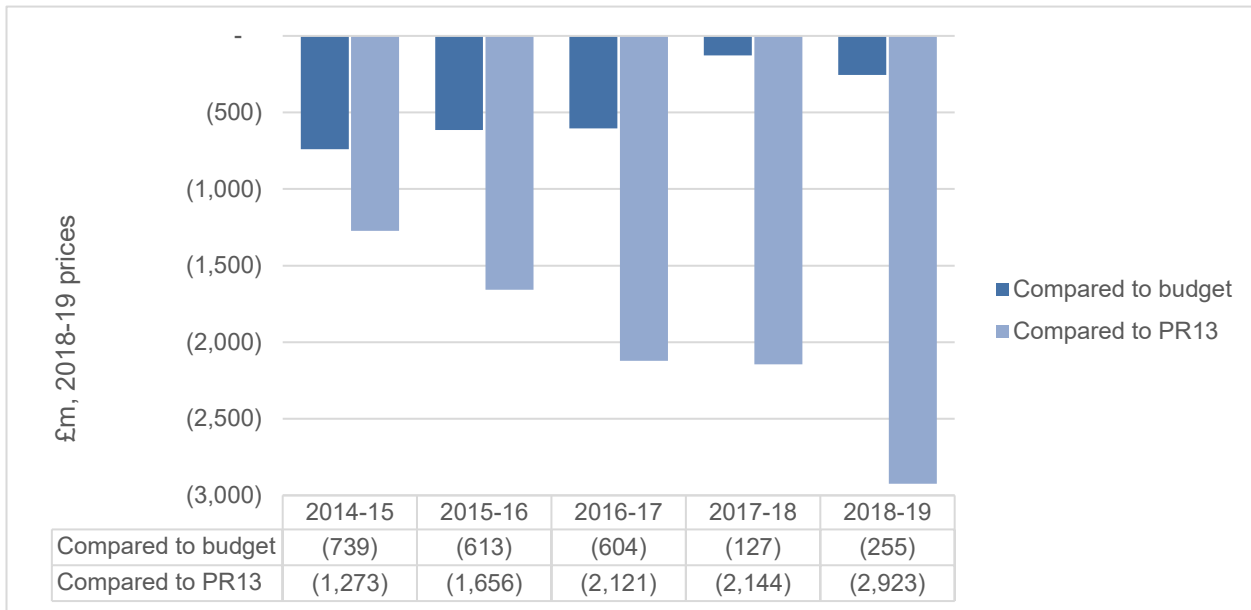
Our primary measure of Network Rail’s financial performance, the *financial performance measure* (FPM) covers most of Network Rail’s activities, not just OSMR⁴. It provides a better understanding of Network Rail’s financial performance than simple income and expenditure variances. FPM compares actual income and expenditure to Network Rail’s annual budgets, and then to the financial assumptions in our PR13 determination (which underpin the company’s funding). It ensures that Network Rail does not benefit from delaying work or not delivering required outputs. A positive FPM means that Network Rail has outperformed and vice versa.

As shown in Figure 2, Network Rail financially underperformed against its internal budget in each year of CP5. Network Rail’s financial performance compared to our PR13 financial assumptions was significantly worse than compared to Network Rail’s own internal budgets. Overall, Network Rail financially underperformed against our PR13 determination by £10.1 billion in CP5. This means that Network Rail spent £10.1 billion more than we thought that it should for the outputs that it delivered in CP5.

³ See <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/network-rail-monitor>.

⁴ For example, it includes expenditure on enhancements. It also excludes some income and expenditure that is not as controllable by Network Rail. This includes network grant, fixed track access charges, traction electricity income and costs, and business rates (see Annex A).

Figure 2: Network Rail’s annual financial underperformance in each year of CP5



The majority of Network Rail’s financial underperformance in CP5 was in renewals and enhancements, although Network Rail underperformed across most expenditure categories including maintenance and network operations. The reasons for this underperformance are examined in this document.

3) Regional differences in routes’ financial performance

There were significant differences in the financial performance of Network Rail’s routes compared to their internal budgets in 2018-19. Three routes (Scotland, Wales and South East) outperformed against budget in 2018-19 (by £32m, £14m and £3m respectively⁵). Scotland’s outperformance was mostly due to lower than budgeted Schedule 4 payments and renewals rates, partly offset by higher than budgeted Schedule 8 payments. The outperformance in Wales was mostly due to lower than budgeted Schedule 4 and Schedule 8 payments. South East’s outperformance was mostly due to lower than budgeted Schedule 4 payments, partly offset by underperformance on renewals.

Five routes underperformed against their internal budgets in 2018-19. Western and London North West (LNW) had the largest underperformance (£117m and £111m respectively). Western’s underperformance was largely due to overspend on the Great Western Electrification Programme. LNW’s underperformance was largely due to overspend on enhancement schemes and Schedule 8 costs.

The range of financial performance across routes reflects that although there are common drivers of performance across the network, local circumstances and performance can have a significant effect.

⁵ For Scotland and Wales, this includes the allocation of central costs as explained in chapter 2.

4) Significant enhancements in CP5, but overspent and delayed

Network Rail undertook a substantial amount of enhancements to its network in CP5. It spent £19.8bn on enhancements⁶, a 50% increase from CP4, and a 300% increase from CP3.

As reported in our previous annual efficiency and finance assessments, Network Rail experienced significant cost overruns and delays on its enhancements programme in the first two years of CP5. Following a review by Sir Peter Hendy in 2015, DfT agreed a revised profile for projects in England and Wales for the rest of CP5 with increased budgets and deferred milestones for the delivery of schemes⁷. For the enhancements that it delivered, Network Rail overspent by £1.5bn in CP5 compared to the expenditure profile that it agreed with its funders.

Over half of all enhancements expenditure was incurred on six major enhancements programmes / schemes: Great Western (£2.7bn), Crossrail (£2.3bn), Thameslink (£2.2bn), Northern Hub (£1.6bn), Electric Spine (£0.9bn) and the Edinburgh to Glasgow Improvement Programme (£0.6bn). These also represented the majority (85%) of financial underperformance on enhancements.

5) Increased debt and a change to borrowing from government in CP5

Network Rail's net debt increased by £21.1bn to £53.4bn in CP5. This increase was largely due to borrowing to cover its CP5 enhancements programme and also borrowing to cover OSMR underperformance. The inflation element of Network Rail's debt also increased.

Following its reclassification to the public sector in 2014, Network Rail agreed to borrow from the UK Government rather than through the issuance of debt. As part of this, Network Rail agreed fixed borrowing limits with DfT for its activities in England and Wales, and in Scotland for CP5⁸.

In previous annual efficiency and finance assessments, we expressed concern about Network Rail's processes for managing its cash position. We note that Network Rail made full use of its available government borrowing in CP5 without exceeding the limits and that it has formed a cash management group to oversee business performance and target improvements. Network Rail considers that its business forecasting has improved through clarifying accountabilities, benchmarking and best practice sharing. Routes developed overplan provisions in 2018-19 to mitigate the risk of slippage in their renewals programmes and developed options for the acceleration of CP6 works. These were brought into use as unused borrowing became available.

In CP6, Network Rail will no longer borrow other than to refinance existing debt, and it will be subject to more restrictive government budgetary processes. Maintaining this focus will be important given the limits on Network Rail's ability to move funding between years.

⁶ Including £2.8bn of third party funded enhancements.

⁷ The review did not cover Scotland and schemes governed by bespoke protocols such as Thameslink. See <https://www.railwaysarchive.co.uk/docsummary.php?docID=4895>

⁸ There were separate limits for England and Wales, and for Scotland.

Preparations for CP6 and changes to our monitoring approach

As part of PR18, we consulted on changes to the way that we will assess and report on Network Rail's efficiency and financial performance⁹. In CP6, we will make more informed forward-looking assessments of the efficiencies that Network Rail will likely deliver across the control period. We will also provide more rounded assessments of Network Rail's financial performance that draw out key messages about the drivers of performance, recognising that different audiences want different levels of technical detail.

To support these changes, Network Rail agreed to make changes to the information that it provides to us and is working with us to agree how this should work in practice. Network Rail has committed to:

- improve its communication of the reasons for cost changes due to changes to routes' efficiencies, the mix of work and external factors;
- provide a sharper focus on performance compared with delivery plans; and
- identify the most appropriate measures of routes' productivity and leading indicators of performance.

Our approach will be set out in CP6 regulatory accounting guidelines, which we will publish shortly.

We have already commenced our forward-looking assessments. Starting last year, we asked Network Rail to demonstrate that it is better prepared to deliver efficiently from the start of CP6, because poor planning for CP5 caused a number of the problems with its renewals delivery and efficiency in CP5. We have reported on Network Rail's progress in our recent Network Rail Monitors. Routes have not made the progress we expected with leading indicators over the past year and Network Rail has put an action plan in place to address our concerns about efficiency plans. We have seen some progress since the action plan was introduced. We have commissioned the independent reporter, Nichols, to review routes' efficiency and renewals workbank preparations. See our latest Network Rail Monitors for further details¹⁰.

⁹ See <http://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/pr18-consultations/our-approach-for-assessing-network-rails-efficiency-and-wider-financial-performance-in-control-period-6>.

¹⁰ Available at <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/network-rail-monitor>.

1. Introduction

- 1.1 Our annual efficiency and finance assessments provide a snapshot of how Network Rail is performing financially at the end of each year. This 2019 publication covers the fifth and final year of CP5, April 2018 to March 2019, and CP5 in total. It provides detailed support for our recent Network Rail Monitors¹¹, which also cover Network Rail's operational performance, including in respect of safety risk¹², train performance and asset management.
- 1.2 Chapter 2 reports on Network Rail's efficiency and wider financial performance. It also provides an analysis of the financial performance of the company's routes and of its income and expenditure. Consistent with our Network Rail Monitors, comparisons to Network Rail's internal budget are largely based on the company's Period 13 finance pack. Other financial information is based largely on Network Rail's regulatory financial statements¹³.
- 1.3 Chapters 3 and 4 report on Network Rail's financial performance, and income and expenditure in Scotland and Wales respectively.
- 1.4 Chapter 5 reports on Network Rail's regulatory finances. These are its borrowing, net debt, financing costs, the regulatory asset base (RAB) and financial indicators.
- 1.5 Annex A provides detailed financial tables for Network Rail's activities in Great Britain, and separately for Scotland and Wales. Annex B provides our analysis of England routes' and central services' financial performance. Annex C explains the linkage between the efficiency and financial performance measures used in our assessments, and Annex D the acronyms and abbreviations used in this report.
- 1.6 We will report on Network Rail's financial performance under the route-level efficiency benefit sharing (REBS) mechanism¹⁴ later this year.
- 1.7 Financial information in this document is presented in 2018-19 prices, with the exception of Network Rail's debt and borrowing which are presented in nominal (cash) prices, and the values for Network Rail's RAB in 2017-18, which are in 2017-18 prices.

¹¹ See <http://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/network-rail-monitor>.

¹² We also publish a more detailed annual health and safety report. See <http://orr.gov.uk/rail/health-and-safety/annual-health-and-safety-report>.

¹³ Network Rail has not yet finalised its 2018-19 regulatory financial statements. We will report on any material differences between the draft and final statements.

¹⁴ Route-level Efficiency Benefit Sharing (REBS) is a contractual arrangement for train operators to share a proportion of Network Rail's over/under financial performance in each of the ten original routes in CP5.

Route level financial analysis

- 1.8 Network Rail started CP5 with ten regional operating routes, though these were subsequently rationalised to eight¹⁵. Most of our route analysis is based on Network Rail's budgets for 2018-19 in accordance with the structure as at 31 March 2019. To aid comparability with Network Rail's CP5 business plan and our PR13 determination (including for REBS), Network Rail's regulatory financial statements are prepared for the ten routes and we have included analysis for the original ten routes where information is available. The eight route geographies are shown in Figure 1.1.
- 1.9 Network Rail is currently reorganising its internal structure. Network Rail's latest plan is that the eight routes will increase to 14, supported by five regions¹⁶.

Figure 1.1: Network Rail's route geography as at 31 March 2019



How we calculate Network Rail's financial performance

- 1.10 Network Rail's financial performance can be calculated in several ways. The factors to be considered when deciding how to carry out this calculation include:
- Do we compare the company's income and expenditure to its annual budget or to our 2013 Periodic Review (PR13) determination¹⁷?

¹⁵ Network Rail merged the Sussex and Kent routes to form the 'South East' route and the London North Eastern and East Midlands routes to form the 'London North Eastern and East Midlands' route.

¹⁶ See <https://www.networkrail.co.uk/who-we-are/putting-passengers-first/>.

¹⁷ See [PR13 Final determination of Network Rail's outputs and funding for 2014-19](#).

- (b) Adjusting for the amount of work undertaken.
- (c) Including or excluding some types of income and expenditure that may be less controllable such as the income and expenditure associated with traction electricity.
- (d) Adjusting for any under-delivery of required outputs such as the public performance measure (PPM) of train performance.
- (e) Aligning with the 25% regulatory asset base (RAB) financial incentive for renewals and enhancements.

1.11 To be as informative as possible, our primary measure of Network Rail's financial performance, the *financial performance measure* (FPM) takes each of the above matters into account. FPM compares Network Rail's income and expenditure to its annual budget and our PR13 determination. It adjusts for the amount of work done and excludes income and expenditure that is not controllable. FPM is shown both gross and net of the 25% RAB financial incentive for renewals and enhancements adjustments, and regulatory output adjustments. The CP5 regulatory accounting guidelines explain how FPM is calculated¹⁸.

Feedback

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

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Office of Rail and Road
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London WC2B 4AN
Email: contact.cct@orr.gov.uk

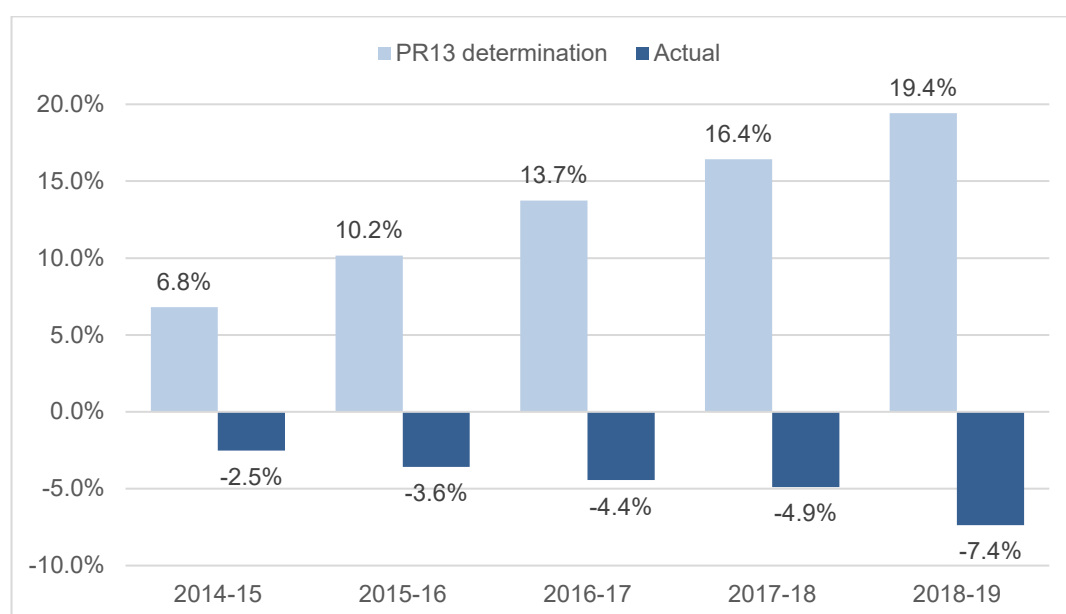
¹⁸ See <http://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/network-licence/regulatory-accounts>.

2. Efficiency and financial performance

Efficiency

- 2.1 We assess changes to expenditure on Network Rail's core business activities over time. These are its operations, support, maintenance and renewals (OSMR) activities.
- 2.2 In determining the funding that we thought Network Rail required to deliver its required outputs in CP5, we made an assessment of its efficient level of expenditure¹⁹. Our PR13 determination concluded that Network Rail should improve its efficiency by 19.4% by the end of CP5. This means that to deliver the same level of output, we expected Network Rail's costs in 2018-19 to be 19.4% lower than in 2013-14, the final year of CP4.

Figure 2.1: Actual and expected changes to cumulative efficiency from the start of CP5, Great Britain



Source: Network Rail and ORR analysis

- 2.3 As shown in Figure 2.1, using the CP5 efficiency measure, Network Rail's efficiency declined in each year of CP5. Efficiency declined by 2.4% in 2018-19 and by 7.4% across CP5 as a whole.
- 2.4 Some of the expenditure increases on core business activities in 2018-19 were due to costs incurred on the additional stations for which Network Rail took management responsibility during the year, and from increased activities in preparation for CP6, most notably for maintenance. We consider that these cost increases could account for between £50m and £160m of increased costs in 2018-19. We have not adjusted for such factors in our previous

¹⁹ The detailed assumptions underlying these projections were set out in our 2013 periodic review (PR13) final determination. See http://orr.gov.uk/data/assets/pdf_file/0015/456/fd-chapters-3-11.pdf.

CP5 annual efficiency and finance assessments. If these are taken into account, Network Rail's efficiency could be between 1.0% and 3.0% better in 2018-19 than stated above and shown in Figure 2.1.

Financial performance

2.5 Our primary measure of Network Rail's financial performance, the *financial performance measure* (FPM), provides a better understanding of Network Rail's financial performance than simple income and expenditure variances. FPM compares actual income and expenditure to Network Rail's annual budgets, and then to the financial assumptions in our PR13 determination (which underpin the company's funding)²⁰. The regulatory measure ensures that Network Rail does not benefit from delaying work to a later date if that work will still need to be done and it adjusts for the value of any outputs that Network Rail was funded to deliver, but has not delivered, such as reliability of train performance. A positive FPM means that Network Rail has outperformed and vice versa.

Financial performance in 2018-19

Table 2.1: Network Rail's financial performance in 2018-19, Great Britain

£m	Budget variance better / (worse)	Of which out / (under) performance
Turnover	21	(4)
Schedule 4	26	38
Schedule 8	(93)	(93)
Operations	(35)	(30)
Support	28	30
Maintenance	(12)	(8)
Capex – Renewals	(361)	(9)
Capex – Enhancements	536	(180)
Total	110	
Financial performance against budget²¹		(255)
Differences to PR13 baselines		(2,398)
Adjustments for missed regulatory outputs		(269)
Financial performance (regulatory)²²		(2,923)

Source: Network Rail and ORR analysis

²⁰ It excludes some income and expenditure that is not as controllable by Network Rail. This includes network grant, fixed track access charges, traction electricity income and costs, and business rates.

²¹ Neutral differences including deferral of work represent the £365m difference between the £110m of cumulative income and expenditure variances and the £255m of financial underperformance against budget.

²² This does not include the effect of the 25% RAB financial incentive for renewals and enhancements. Including those adjustments, the regulatory measure is an underperformance of £1,830m. See Network Rail's regulatory financial statements for further details.

- 2.6 Network Rail underperformed against its budget by £255m in 2018-19. The reasons for this underperformance are examined in the Income and Expenditure sections below.
- 2.7 Network Rail underperformed the regulatory financial performance measure by £2,923m in 2018-19 largely because its internal budget was £2,398m higher than our PR13 financial assumptions for the year²³. It underperformed against its own budget by £255m and the regulatory measure includes a £269m downward adjustment for train performance lower than the regulatory target.
- 2.8 We summarise the significant differences in routes' financial performance in Table 2.2. This reflects that although there are common drivers of performance across the network, local circumstances and performance can have a significant effect. Better understanding and learning from route comparisons can help all routes to improve their financial performance. Analysis for Scotland and Wales is covered in chapters 3 and 4 respectively. Analysis for England routes is covered in Annex B.

Table 2.2: Routes' financial performance compared to budget in 2018-19

£m	Financial performance better/(worse)	Percentage of budget
Anglia	(24)	(3%)
London North East & East Midlands	(26)	(1%)
London North West	(111)	(5%)
South East	3	0%
Western	(117)	(7%)
Wessex	(44)	(7%)
England	(319)	
Scotland ²³	23	2%
Wales ²³	(13)	(2%)
Central services ²⁴	54	
Great Britain	(255)	(2%)

Source: Network Rail

²³ Network Rail's internal budget was higher than our PR13 financial assumptions across most items of expenditure. Network Rail's budget for the year reflected inefficiencies that have accumulated in CP5. In contrast, PR13 assumed that Network Rail would achieve efficiency improvements in each year of CP5. See Annex C for further details.

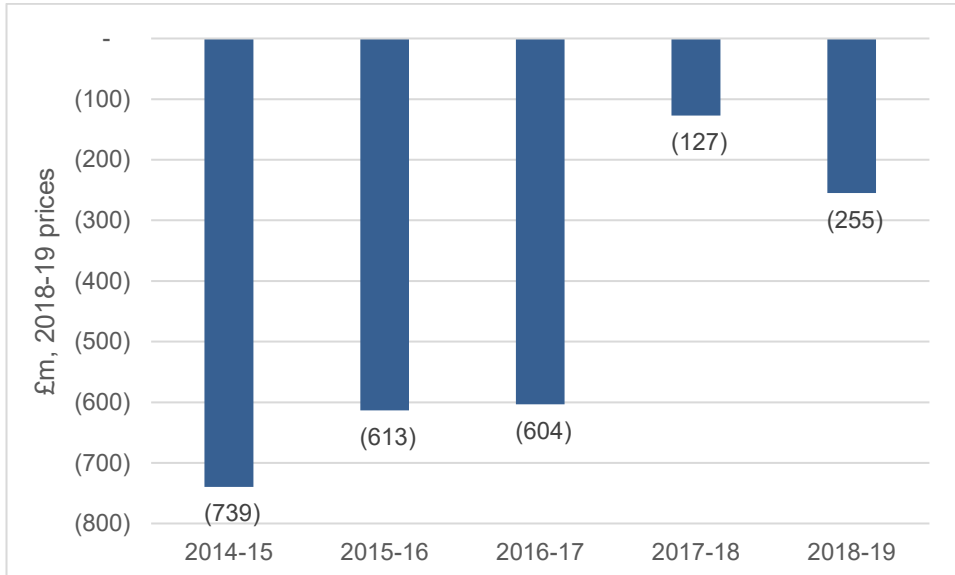
²⁴ Network Rail's internal budget analysis does not allocate central services to routes. Our analysis for Scotland and Wales in chapters 3 and 4 includes their portion of the costs of these activities. This results in differences between the analysis in chapters 3 and 4 and the financial performance of Scotland and Wales in this table.

Financial performance in CP5

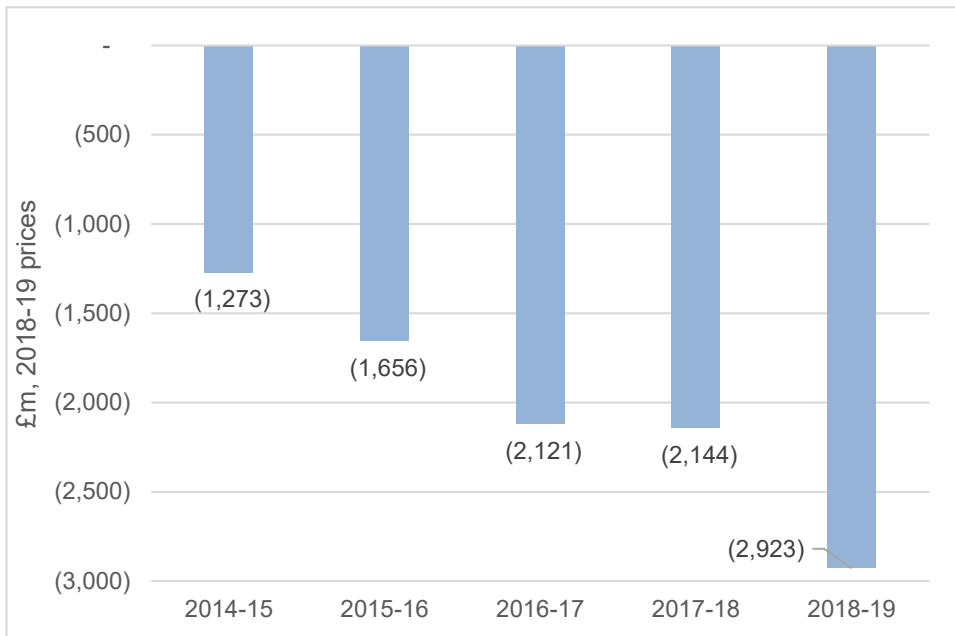
2.9 As shown in Figure 2.2, Network Rail financially underperformed against its internal budgets in each year of CP5. The majority of this underperformance was on renewals and enhancements to its network in the first three years of CP5.

Figure 2.2: Network Rail’s annual financial performance in CP5

Financial performance compared to Network Rail’s annual internal budgets



Financial performance compared to our annual PR13 financial assumptions



Source: ORR analysis of Network Rail data

2.10 Network Rail’s financial performance compared to our PR13 financial assumptions was significantly worse than compared with Network Rail’s own internal budgets. Overall, Network Rail financially underperformed against our PR13 determination by £10.1 billion in CP5. This

means that Network Rail spent £10.1 billion more than we thought that it should for the outputs that it delivered in CP5²⁵.

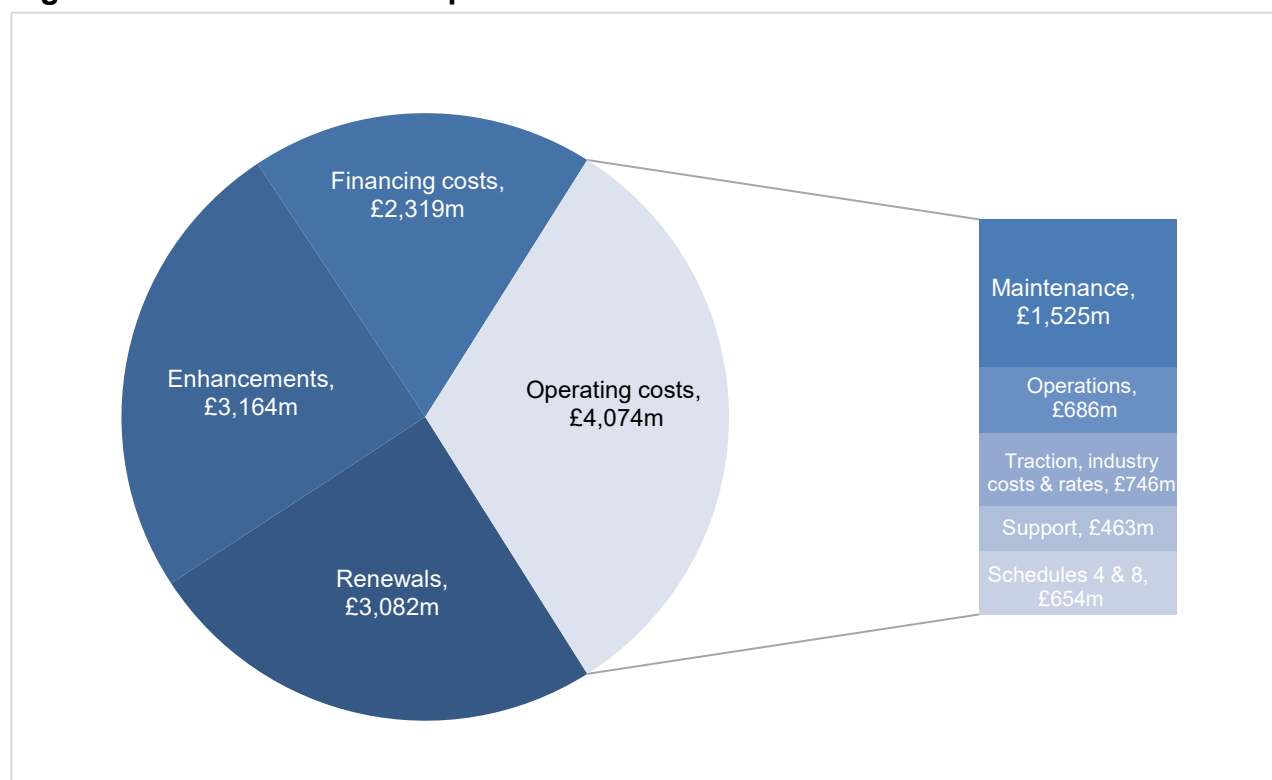
2.11 The majority of this underperformance was in renewals and enhancements, although Network Rail underperformed across most expenditure categories including maintenance and network operations (it outperformed on support costs). The reasons for this underperformance are examined in the Expenditure section below.

Expenditure

2.12 This section examines the main categories of Network Rail’s expenditure in 2018-19 and cumulatively for CP5 as a whole. It underpins the reporting of Network Rail’s efficiency and financial performance.

2.13 Network Rail spent £12.6bn in 2018-19. Figure 2.3 shows this split by the major expenditure categories. These are operating expenditure (covering operations, support, maintenance, Schedule 4 and 8 payments and other), renewals, enhancements and financing costs. Network Rail’s expenditure in these categories is summarised in Annex A and examined below.

Figure 2.3: Network Rail’s expenditure in 2018-19



Source: ORR analysis of Network Rail’s 2018-19 regulatory financial statements

²⁵ Network Rail also under delivered most of its regulatory outputs in CP5. See our recent Network Rail Monitors for further details; <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/network-rail-monitor>.

Renewals

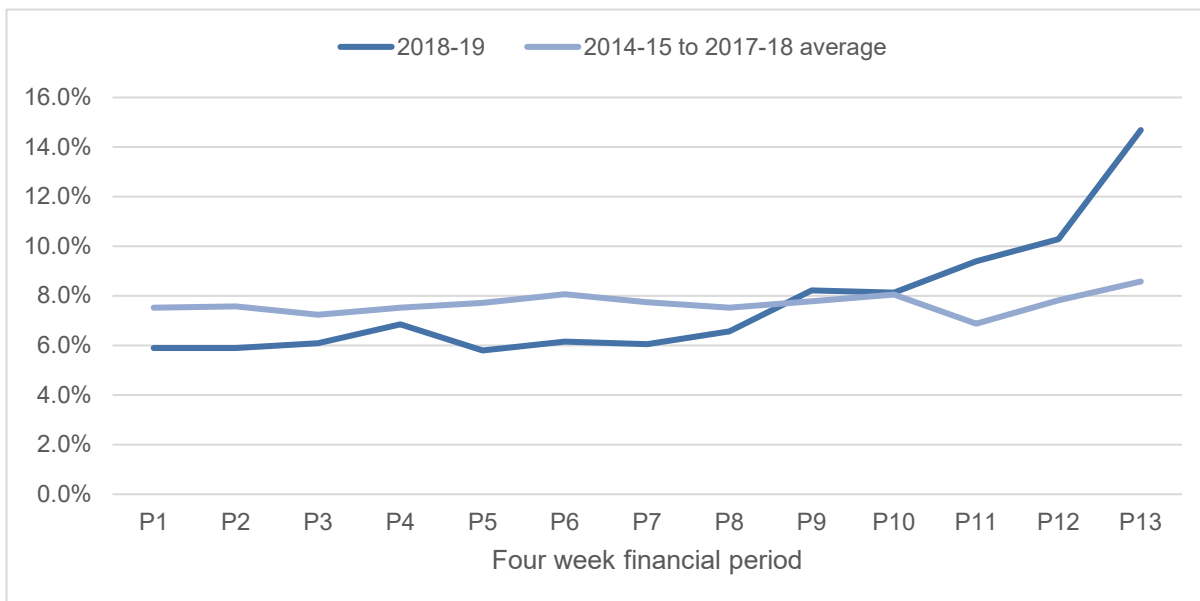
2.14 Renewals expenditure relates to activities to replace in whole, or in part, network assets that have deteriorated so that they can no longer be maintained economically. Renewal of an asset restores the original performance of the asset.

Renewals expenditure in 2018-19

2.15 Network Rail spent £3,082m renewing the rail network in 2018-19, £592m more than in 2017-18. It spent £361m more than its own budget, which Network Rail has attributed to undertaking greater work than planned due to acceleration of schemes from CP6 to make use of available funding. For the work that it delivered, Network Rail spent £9m more on renewing the network than budgeted.

2.16 Figure 2.4 shows the four-weekly profile²⁶ of Network Rail’s renewals expenditure in 2018-19. Renewals expenditure increased significantly in the last three periods of 2018-19 compared with previous periods within the year where expenditure did not vary much from period to period. In contrast, as shown in Figure 2.4, the average profile in the preceding four years of CP5 was smoother²⁷.

Figure 2.4: Network Rail’s four-weekly renewals expenditure profile



Source: ORR analysis of Network Rail’s management accounts

2.17 We understand from Network Rail that the main driver for the increased renewals expenditure in the last three periods of 2018-19 was a planned increase in activity as it prepared for CP6. Making use of available funds to catch up on the significant slippage of

²⁶ Network Rail’s management accounts divide a financial year into 13 four-week periods, rather than into 12 months.
²⁷ Renewals expenditure in the last three periods of 2018-19 was 48% higher than the average for the same three time periods in the preceding four years of CP5.

renewals earlier in CP5 may have been appropriate. However, we are concerned that the ‘hockey stick’ profile of increased activity over a short period may have been poor value for money.

- 2.18 Firstly, it increases volatility for Network Rail’s supply chain, which makes it harder for the supply chain to plan their own resources effectively.
- 2.19 Secondly, the increase in work occurred during the winter when poor weather and reduced daylight would have likely affected productivity. We have previously raised similar concerns about the uneven profile of Highways England’s renewals work²⁸.
- 2.20 This matter is important going forward into CP6 because, similar to Highways England, Network Rail is now subject to more restrictive government budgetary processes²⁹. Network Rail will need to make sure that these ‘use it or lose it’ budgetary restrictions do not result in an inefficient profile of renewals work towards the end of a financial year in order for the company to ensure that annual budgets are used up.

Renewals expenditure in CP5

- 2.21 Network Rail spent £15,181m renewing the rail network in CP5, £1,151m more than assumed in our PR13 determination. The largest overspend by asset category was track, which overspent by £949m (24.6%) largely due to Network Rail not achieving the efficiency improvements that were assumed in our PR13 determination.
- 2.22 We reported on the problems with Network Rail’s efficient delivery of renewals in CP5 in our 2018 annual efficiency and finance assessment³⁰. Because poor planning for CP5 caused a number of the problems with Network Rail’s renewals efficiency, an important part of our recent work has been to assess whether Network Rail’s routes have developed robust expenditure and efficiency plans for CP6. We have reported on Network Rail’s CP6 preparations in our Network Rail Monitors.

Operating expenditure

- 2.23 Operating expenditure relates to operations, support costs, maintenance, Schedule 4 and 8 payments, and traction electricity, industry costs and rates. These expenditure items are examined below.

²⁸ See <https://orr.gov.uk/highways-monitor/publications/highways-monitor-annual-assessment-of-highways-englands-performance>.

²⁹ These are explained in our 2018 periodic review, see https://orr.gov.uk/data/assets/pdf_file/0004/39307/pr18-final-determination-financial-framework.pdf.

³⁰ See also <http://orr.gov.uk/rail/consultations/pr18-consultations/consultation-on-improving-network-rails-renewals-efficiency>.

Maintenance

- 2.24 Maintenance expenditure relates to activities that sustain the condition and capability of the existing infrastructure to the previously assessed standard of performance.
- 2.25 Network Rail spent £1,525m maintaining the rail network in 2018-19, £101m more than in 2017-18. Maintenance volumes increased in most areas, most notably in ballast cleaning and tamping. Network Rail has mostly attributed the increased volumes to a planned increase in activity as it prepared for CP6. It also undertook more maintenance activities to rectify the adverse impact on asset condition of the prolonged hot weather in the summer of 2018.
- 2.26 Network Rail spent £7,043m maintaining the rail network in CP5, £1,057m more than assumed in our PR13 determination. The largest overspend by asset category was track, by £662m (29.2%), although Network Rail also overspent on most asset categories. Network Rail has mainly attributed these overspends to:
- not achieving the efficiency improvements on its maintenance activities that were assumed in our PR13 determination;
 - additional maintenance activities that were required because of delivering lower renewals volumes than planned. The additional maintenance was required to maintain asset safety and performance capability; and
 - maintenance interventions to try to reduce the number and impact of signalling failures and so improve train performance.

Operations

- 2.27 Operations expenditure relates to activities to operate the rail network. These include signalling and running Network Rail managed stations.
- 2.28 Network Rail spent £686m operating the rail network in 2018-19, £71m more than in 2017-18. This increase was due to a number of factors including operating more managed stations (for which Network Rail also received supplementary income) and commercial claims. Following the findings of our independent inquiry into the May 2018 timetable disruption³¹, Network Rail increased expenditure on its System Operator function by £7m. This included employing more operational planners and establishing an industry programme management office to oversee future timetable changes.
- 2.29 Network Rail spent £3,025m operating the rail network in CP5, £745m more than assumed in our PR13 determination. The overspend was mostly due to:
- signaller expenditure was £314m (19.8%) higher. Network Rail has not achieved the efficiency improvements on its signaller expenditure that were assumed in our PR13

³¹ See https://orr.gov.uk/_data/assets/pdf_file/0018/39042/inquiry-into-may-2018-timetable-disruption-september-2018-findings.pdf.

determination. The largest contributor to the shortfall was the Network Operating Strategy (NOS) programme, which was designed to consolidate signalling activities into a smaller number of centralised Route Operating Centres (ROCs) to deliver staff savings and operational improvements. Network Rail has had to employ more highly-qualified (and so expensive) staff to operate the ROCs than expected. It has also incurred higher administration costs and dual running of sites through the transition; and

- non-signaller expenditure was £431m (61.7%) higher. Network Rail incurred additional managed stations costs as it assumed responsibility for Reading, Bristol, Guildford and Clapham Junction stations³². The redevelopment of Birmingham New Street, London Euston and London Bridge stations has also increased running costs (these additional costs are offset by supplementary income, see the Income section). Network Rail increased expenditure on operational performance improvement schemes, notably in the South East. Expected efficiency improvements on non-signaller expenditure were also not achieved.

Support costs

2.30 Support costs relate to activities that are generally centrally managed and facilitate Network Rail's core business. These include information management and corporate functions.

2.31 Support costs were £463m in 2018-19, £55m more than in 2017-18. Network Rail has attributed this increase to a number of factors including increased scope of activity in preparation for CP6 (including investment in its apprentice training programme and additional IT licences and equipment). Support costs were also adversely affected by increased utilities costs, commercial claims and favourable variances in 2017-18 that were not repeated in 2018-19 (including Thameslink stage payments). The additional costs in 2018-19 were partly offset by reduced insurance costs following a revised actuarial assessment of historical liabilities.

2.32 Network Rail spent £2,126m on support costs in CP5, £329m less than assumed in our PR13 determination. Network Rail has achieved substantial reductions in its support costs over CP5, outperforming the financial assumptions in our PR13 determination. The majority of these cost reductions were in human resources (mostly due to training costs moving from the centre to routes, which are reported elsewhere) and insurance, partly offset by increased expenditure in safety and sustainable development (where Network Rail developed a Business Critical Rules programme to improve safety and operational performance).

Traction electricity, industry costs and rates

2.33 Traction electricity provides power to electrically powered trains. Network Rail acquires electricity from providers and passes most of the costs onto train operating companies, retaining a small amount of the cost for electricity used by itself. Industry rates and other

³² This was partly offset by stations associated with the c2c franchise being transferred to the operator (this reduced Network Rail's running costs but also income).

costs include Network Rail's share of British Transport Police costs, business rates, the ORR licence fee and railway safety levy, and RSSB costs. Network Rail has limited control over these costs, which are either set by other government agencies, or by market prices in the case of traction electricity.

- 2.34 Traction electricity, industry costs and rates were £746m in 2018-19, £75m more than in 2017-18 mostly due to higher market rates for electricity. This increase was offset by increased traction electricity charges (see the Income section).
- 2.35 Traction electricity, industry costs and rates were £3,299m in CP5, £243m lower than assumed in our PR13 determination. This was mostly due to lower than assumed market rates for electricity (£370m)³³. The ORR licence fee and safety levy fee were £5m lower than assumed. These underspends were partly offset by British Transport Police costs (£76m higher) and business rates (£52m higher). Network Rail has explained that British Transport Police costs have increased following terrorist incidents near to major transport hubs. Business rates increased following a revaluation by the Valuation Office Agency.

Schedule 4 and Schedule 8 costs

- 2.36 The Schedule 4 regime compensates train operators for planned reductions to network availability. It incentivises Network Rail to plan engineering work early and efficiently to reduce disruption. The Schedule 8 performance regime compensates train operators for the impact of unplanned disruption to the availability of the network.
- 2.37 Schedule 4 costs were £335m in 2018-19, £108m higher than in 2017-18 and £26m lower than budget. Schedule 4 costs were lower than budget mostly due to less disruption on major programmes than anticipated.
- 2.38 Network Rail spent £1,297m on Schedule 4 costs in CP5, £94m more than assumed in our PR13 determination. The overspend was due to a number of factors including more renewals requiring network possessions than originally thought, problems implementing the May 2018 timetable change and compensation payments relating to extreme weather events.
- 2.39 Schedule 8 costs were £319m in 2018-19, £93m higher than in 2017-18 and £93m higher than budget due to train performance falling short of our regulatory targets (which increased in each year in CP5) and Network Rail's 2018-19 targets. This was due to a number of factors including increased unplanned disruption and the impact of hot weather in the summer of 2018 (such as temporary speed restrictions)³⁴.
- 2.40 Network Rail spent £983m on Schedule 8 costs in CP5, £960m more than assumed in our PR13 determination. Schedule 8 costs were higher than our PR13 determination because of higher levels of unplanned disruption to train services. Network Rail has attributed this

³³ This underspend was offset by lower traction electricity charges (see the Income section).

³⁴ Our recent Network Rail Monitor provides further information about train performance, see <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/network-rail-monitor>.

disruption to a number of factors including increased network traffic (which means that more services are affected by an incident), infrastructure failures, difficulties implementing the May 2018 timetable and the impact of hot weather over the summer of 2018.

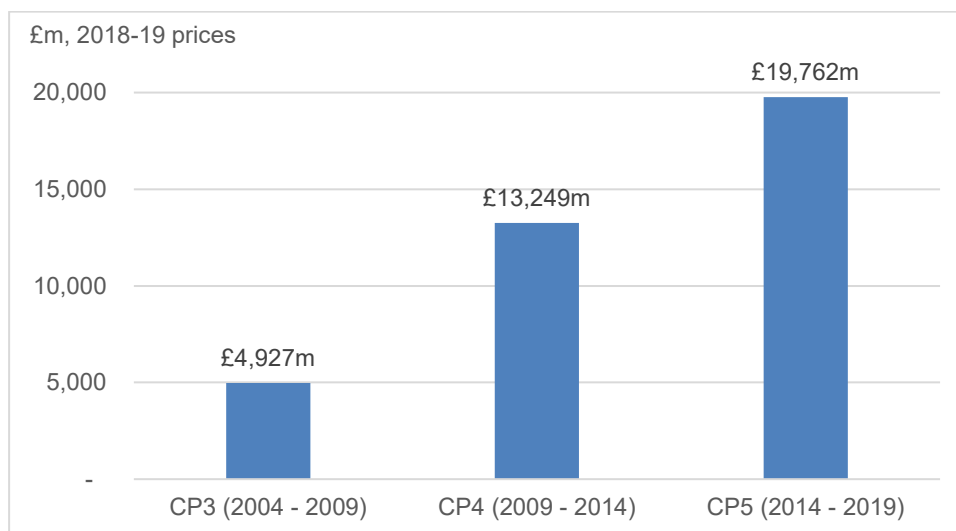
Enhancements

2.41 Enhancements are changes to improve network capacity or capability, for example enabling more train journeys or higher speeds.

2.42 Network Rail has undertaken a substantial amount of enhancements work in CP5. It spent £3,801m in 2018-19 and £19,762m in CP5 on enhancements to its network. This included around 700 individual schemes that had expenditure over £1m. Enhancements expenditure increased by 50% in CP5 compared to CP4, and by 300% compared to CP3.

2.43 The majority of enhancements were funded through PR13 (£2,964m in 2018-19 and £16,180m in CP5), with the rest funded through non-PR13 sources, including from third parties (see below).

Figure 2.5: Network Rail’s enhancements expenditure over the past three control periods



Source: ORR analysis of Network Rail’s regulatory financial statements

2.44 Table 2.3 summarises the main enhancements schemes (by expenditure) in 2018-19. Table 2.4 summarises the main enhancements schemes (by expenditure) in CP5.

2.45 Network Rail experienced significant cost overruns and delays on its enhancements programme in the first two years of CP5. Following a review of the affordability and deliverability of the England and Wales enhancements portfolio, DfT agreed a revised expenditure profile for the rest of CP5 in 2015. We subsequently monitored Network Rail against this revised baseline in England and Wales³⁵. The Enhancements Cost Adjustment

³⁵ Except for those schemes governed by bespoke protocols such as Thameslink.

Mechanism (ECAM)³⁶ remained in place in Scotland to adjust the PR13 assumptions when schemes reach a sufficient stage of maturity.

Enhancements expenditure in 2018-19

2.46 Expenditure on enhancements was £3,801m, £2,146m higher than the revised baselines agreed with governments. This comprised £438m of overspend on the work that was undertaken (negative FPM) and £1,071m of neutral overspend³⁷. The main variances by scheme are shown in Table 2.3.

Table 2.3: Enhancements expenditure in 2018-19, Great Britain

£m	Expenditure	PR13 variance better/(worse)	Neutral including (acceleration) / deferral	(Under) / out performance
Great Western Electrification	428	(98)	(1)	(97)
Electric Spine	325	(147)	(147)	0
Northern Hub	237	(19)	0	(19)
Thameslink	236	(106)	(34)	(72)
Crossrail	230	(147)	(31)	(116)
Rolling programme of electrification	140	65	92	(27)
Edinburgh to Glasgow improvements	55	(53)	(18)	(35)
Other PR13 enhancements	1,313	(804)	(747)	(57)
Total PR13 enhancements	2,964	(1,309)	(886)	(423)
Non-PR13 enhancements	200	(200)	(185)	(15)
Total Network Rail funded enhancements	3,164	(1,509)	(1,071)	(438)
Third party funded enhancements	637	(637)	n/a	n/a
Total enhancements	3,801	(2,146)	n/a	n/a

Source: Network Rail regulatory financial statements

2.47 The financial matters relating to key schemes are summarised below:

- **Great Western Electrification Programme (GWEP) (£428m expenditure in 2018-19):** Completion of electrification from Bristol to Cardiff has been pushed back to December 2019 in agreement with funders. For the work that was undertaken, GWEP overspent

³⁶ See <http://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2013/cp5-delivery-plan>

³⁷ At a simple level, this means work planned but not done. However, FPM recognises financial performance on the basis of the percentage of completion of each enhancement scheme. For a scheme that is forecast to overspend a proportion of the forecast overspend is recognised as negative FPM in the current year. The recognition of this FPM also results in a neutral timing difference as the additional cash has not yet been spent. This neutral difference is not the same as planned work in the current year not being delivered, but the result of recognising FPM over the life of enhancement schemes, rather than an annual basis.

by £97m. The main drivers for the overspend included access costs for a three-week blockade at Bristol Parkway and increased costs to align with the latest Balfour Beatty construction plan in Wales.

- *Thameslink (£236m)*: For the work completed, the Thameslink Programme overspent by £72m in 2018-19. Costs increased in the year largely due to higher than expected contract costs relating to the close out of the programme and additional costs relating to the traffic management system.
- *Crossrail (£230m)*: Financially underperformed by £116m due to changes to contractors including the collapse of Carillion, and other factors. Crossrail enabling works experienced slippage partly offset by the reclassification of some third party funded expenditure. These do not affect FPM.
- *Other PR13 enhancements (£1,313m)*: Network Rail undertook other enhancements schemes in the year that were specified in PR13. This included:
 - *Ring-fenced funds (£384m)*: PR13 included funding for Network Rail to invest in improvements to the overall capability, performance and capacity of its network but which were not linked to a specific output or scheme.
 - *Dr Days to Filton Abbey Wood capacity improvements (£69m)*: This project increased the railway between Dr Days junction (Bristol) and Filton Abbey Wood station from a two to a four-line railway. £22m of financial underperformance was recognised in 2018-19 partially due to increased contractor costs, design and access problems and signalling issues.
- *Other schemes (£837m)*: These were enhancement schemes that were funded from outside the PR13 funding settlement, including £637m of third party funded schemes.

Enhancements expenditure in CP5

2.48 Network Rail spent £19,762m on enhancements in CP5, £3,580m more than our revised baseline³⁸. The main variances are summarised in Table 2.4.

³⁸ As noted above, following a review of the affordability and deliverability of the England and Wales enhancements portfolio, DfT agreed a revised expenditure profile for the rest of CP5 in 2015. We subsequently monitored Network Rail against this revised baseline in England and Wales except for those projects governed by bespoke protocols such as Thameslink. ECAM remained in place in Scotland to adjust the PR13 assumptions when projects reached a sufficient stage of maturity.

Table 2.4: Enhancements expenditure in CP5, Great Britain

£m, 2018-19 prices	Expenditure	PR13 variance better/(worse)	Neutral including (acceleration) / deferral	(Under) / out performance
Great Western Electrification	2,658	90	187	(97)
Crossrail	2,277	(492)	(95)	(397)
Thameslink	2,158	(283)	125	(408)
Northern Hub	1,630	(63)	114	(177)
Electric Spine	904	159	166	(7)
Edinburgh to Glasgow improvements	648	(77)	121	(198)
Rolling programme of electrification	413	(32)	2	(34)
Other PR13 enhancements	5,492	700	849	(149)
Total PR13 enhancements	16,180	2	1,469	(1,467)
Non-PR13 enhancements	816	(816)	(781)	(35)
Total Network Rail funded enhancements	16,996	(814)	688	(1,502)
Third party funded enhancements	2,766	(2,766)	n/a	n/a
Total enhancements	19,762	(3,580)	n/a	n/a

Source: Network Rail regulatory financial statements

2.49 The financial matters relating to key schemes are summarised below:

- **Great Western Electrification (£2,658m expenditure in CP5):** Network Rail's largest enhancement scheme in CP5 was the continuing electrification of the railway between South Wales and London Paddington. Over CP5, £97m of financial underperformance was recognised on the work done. The scheme made slower progress than expected in CP5 which Network Rail has attributed to a variety of factors including working around endangered species and listed buildings, using more electricity masts than planned, rising subcontractor costs necessitating re-designing works to something more cost-effective and difficulty acquiring long enough track access windows to undertake work³⁹.
- **Crossrail (£2,277m):** Network Rail's second largest enhancement scheme in CP5 was the connection of its network to the new Crossrail infrastructure through central London. Over CP5, £397m of financial underperformance was recognised on the work done. Financial underperformance was largely driven by additional costs as a result of the assets being in poorer condition than expected, delays to design works, problems in accessing the network, contractor problems, additional stations costs and additional compliance costs for the overhead line equipment.

³⁹ Network Rail's initial estimate was that GWEP would cost £1.8bn. The latest forecast is £3.0bn and the project milestones were delayed compared to Network Rail's 2014 plan. See <https://www.nao.org.uk/report/modernising-the-great-western-railway/>

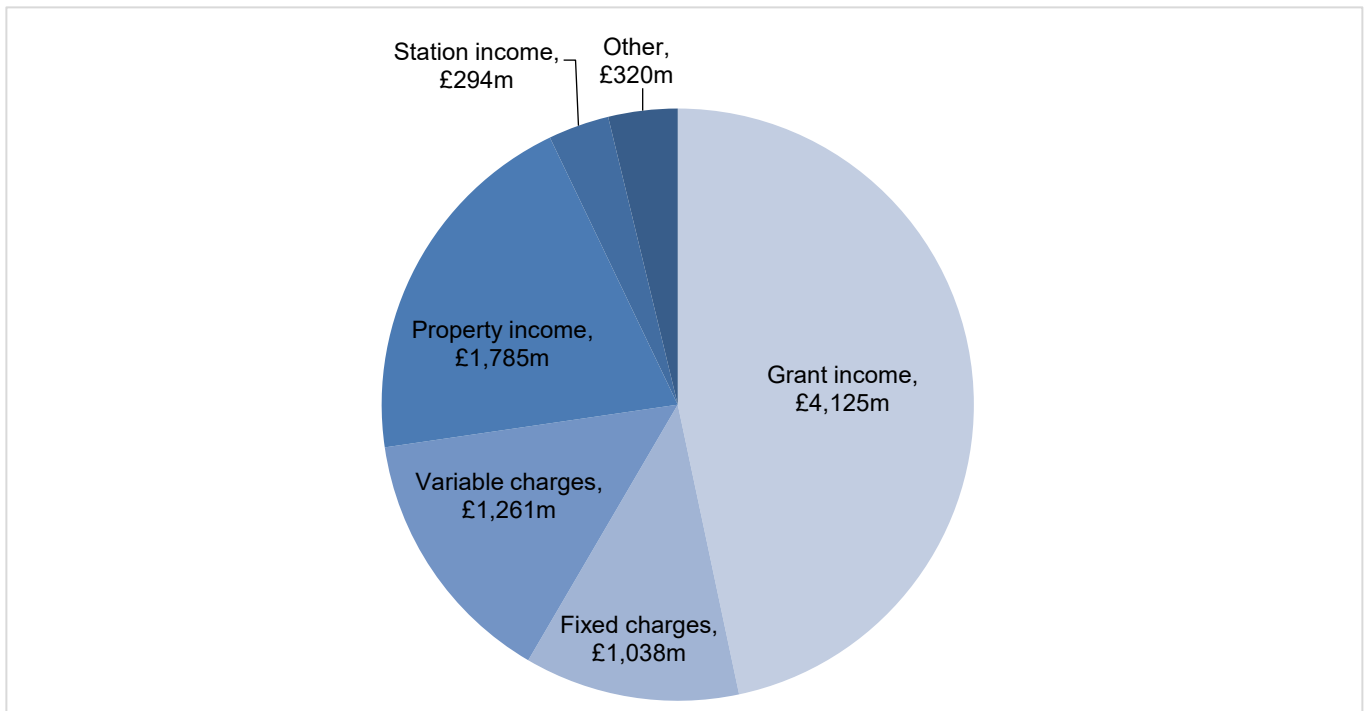
- *Thameslink (£2,158m)*: This programme involves changes to track layout, signalling and station upgrades to create new connections and increase capacity for north-south journeys through London. Over CP5, £408m of financial underperformance was recognised on the work done. The Thameslink programme is nearing completion with most major milestones achieved in CP5 and some minor works at London Bridge due for completion in CP6. The financial underperformance was largely caused by complications with the work around London Bridge (relating to track, signalling and station works), increased expenditure relating to the traffic management system, additional signalling costs at Hither Green as a result of a complex signalling layout and higher than expected contractor close out costs at London Bridge.
- *Northern Hub (£1,630m)*: This comprises a number of schemes to increase network capacity in the north of England, such as rail electrification, the building of the Ordshall Chord in Manchester and station improvements. Over CP5, £177m of financial underperformance was recognised on the work done. Financial underperformance was largely caused by poor planning, design issues, contractual and commercial issues (including Carillion) and unplanned work following the discovery of mine shafts in work areas.
- *Electric spine (£904m)*: This comprised a number of schemes relating to the electrification of the Midland Mainline and related upgrades. Over CP5, £7m of financial underperformance was recognised on the work done. Parts of the programme were deferred due to funding pressures elsewhere in the CP5 enhancements portfolio, uncertainty around the electrification schemes and increased costs due to design changes.
- *Edinburgh Glasgow improvement programme (EGIP) (£648m)*: This includes electrifying the line between Edinburgh and Glasgow via Falkirk, introduction of new rolling stock, shorter journey times and a major upgrade of Glasgow Queen Street station. Over CP5, £198m of financial underperformance was recognised on the work done. EGIP experienced cost overruns due to a number of problems including complications around electrification compliance, higher than expected contractor costs, problems with the design and scope of work and planning delays relating to Glasgow Queen Street.
- *Other PR13 enhancements (£5,492m)*: Network Rail undertook over 50 other enhancements schemes in CP5 that were specified in PR13 (as well as completing enhancements started in the previous control period). This included:
 - *Ring-fenced funds (£1,074m)*: PR13 included funding for Network Rail to invest in improvements to the overall capability, performance and capacity of its network but which were not linked to a specific output or scheme. Specific funds included the strategic rail freight network fund, East Coast connectivity, the level crossing safety fund, the Scottish network improvement fund and Stations Access for All. Expenditure was £27m lower than the revised baseline.

- *Income generating income schemes (£442m)*: PR13 included funding for investment opportunities to boost property revenue. Expenditure was £100m more than the revised CP5 baseline and notable schemes in year were purchases around East Croydon and Clapham Junction stations.
 - *Waterloo (£466m)*: Waterloo station is undergoing upgrades to increase capacity including bringing the old international terminal into use. Expenditure was in line with the revised CP5 baseline.
 - *IEP programme (£419m)*: The inter-city express programme is making improvements to the network to accommodate new inter-city trains commissioned by the Department for Transport. Expenditure was £29m lower than the revised CP5 baseline largely because of contractor issues and changes to the scope of the project which meant that work has been re-profiled into future years.
 - *East West Rail (£464m)*: This scheme will provide a direct link between Oxford/Aylesbury and Milton Keynes/Bedford. £464m was spent on the scheme (£311m from the PR13 funding settlement and £153m from other funders). £27m of financial underperformance has been recognised due to contractor claims, additional costs from fitting noise barriers and delays to the scheme.
- *Other schemes (£3,582m)*: These were enhancement schemes that were funded from outside the PR13 funding settlement, notable schemes include the HS2 development works, Gospel Oak to Barking electrification and the West Anglia mainline capacity improvement works.

Income

2.50 Network Rail received £8,823m of income in 2018-19. Figure 2.6 shows this split by major income category. The majority of income was from government grants (£4,125m). It received £2,299m from track and other access charges from franchised train operators and £2,399m from Other Single Till Income (OSTI) and the opex memorandum account. OSTI comprises income from Network Rail's properties and stations, freight and open access charges, and from other sources.

Figure 2.6: Network Rail's income in 2018-19



Source: Network Rail and ORR analysis

2.51 Network Rail's income increased by £1,459m (19.8%) in 2018-19 compared to 2017-18 mostly due to increased property income from the disposal of its commercial property portfolio (see the asset disposals section below). Fixed track access charges paid by franchised train operators increased by £502m, offsetting a £498m decrease in government grants. The change from government grants to fixed track access charges was consistent with our PR13 determination and reflected governments' policy to reduce the grant funding of Network Rail in that year.

Income in CP5

2.52 Network Rail received £37,799m of income in CP5. This was £978m higher than assumed in PR13.

2.53 The main favourable variances were:

- £1,401m of additional property income mostly from the disposal of significant parts of its commercial property estate (see the next section). These disposals were not assumed in our PR13 determination;
- stations and depots income was £130m higher than assumed in our PR13 determination. This was largely due to extra income earned from running Reading, Bristol, Clapham Junction and Guildford stations that transferred from train operators to Network Rail. This was partly offset by stations associated with the c2c franchise being transferred to the operator (this reduced Network Rail's income but also running costs).

Stations and depots income also increased following the redevelopment of Birmingham New Street, Euston and London Bridge stations, and Reading depot; and

- fixed track access charges were £126m higher than assumed in our PR13 determination, this included additional services on the LNW route and the connecting sections to the Crossrail line.

2.54 The main adverse variances were:

- traction electricity charges were £312m lower than assumed in our PR13 determination due to lower market electricity prices;
- facility and financing charges were £234m lower than assumed in our PR13 determination. Lower financing charges were due to a different funding arrangement for work connecting Crossrail to the main rail network and changes to the electrification of Welsh valley lines (as this work did not go ahead in the way that was expected, Network Rail has not received the related income); and
- freight income was £164m lower than assumed in our PR13 determination. Freight traffic was affected by reduced coal haulage as coal-fired electricity generation in the UK has declined more than expected. Other freight traffic was also lower than assumed including international steel haulage and wood pellet haulage to Drax power station.

Asset disposals

2.55 In 2015, Sir Peter Hendy, Chairman of Network Rail, undertook a review into Network Rail's CP5 enhancement programme cost and time overruns, and the replanning and reprogramming necessary to deliver those plans⁴⁰. The Hendy review concluded that Network Rail should help to address its CP5 funding shortfall by asset disposals totalling around £1.8 billion through divestment of non-core assets. This included considering options for the sale of property assets (including retail units in managed stations and the commercial estate), spare capacity on its telecommunications network and non-core rail assets such as depots⁴¹.

2.56 Network Rail subsequently decided that some of the options for disposal would be inappropriate as the assets needed to be retained for railway purposes. Other disposal options included leasing rather than sale, which would not count for the government's deficit reduction rules.

2.57 Network Rail disposed of a significant part of its commercial property estate in 2018-19 to Telereal Trillium and Blackstone Property Partners, raising £1.4 billion of revenue from the

⁴⁰ The review did not cover Scotland and schemes governed by bespoke protocols such as Thameslink.

⁴¹ See http://www.railwaysarchive.co.uk/documents/NR_HendyReport2015.pdf.

sale⁴². The disposal comprised around 5,200 leasehold properties in England and Wales. The majority of these properties are converted railway arches and are not used in the operation of the railway. Network Rail also disposed of some freight, logistics and other sites for around £0.1 billion. These disposals were consistent with its network licence obligations⁴³.

⁴² See <https://property.networkrail.co.uk/commercial-estate-sale/> for further details.

⁴³ The network licence includes conditions relating to land disposals. See <https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/network-licence>.

3. Scotland

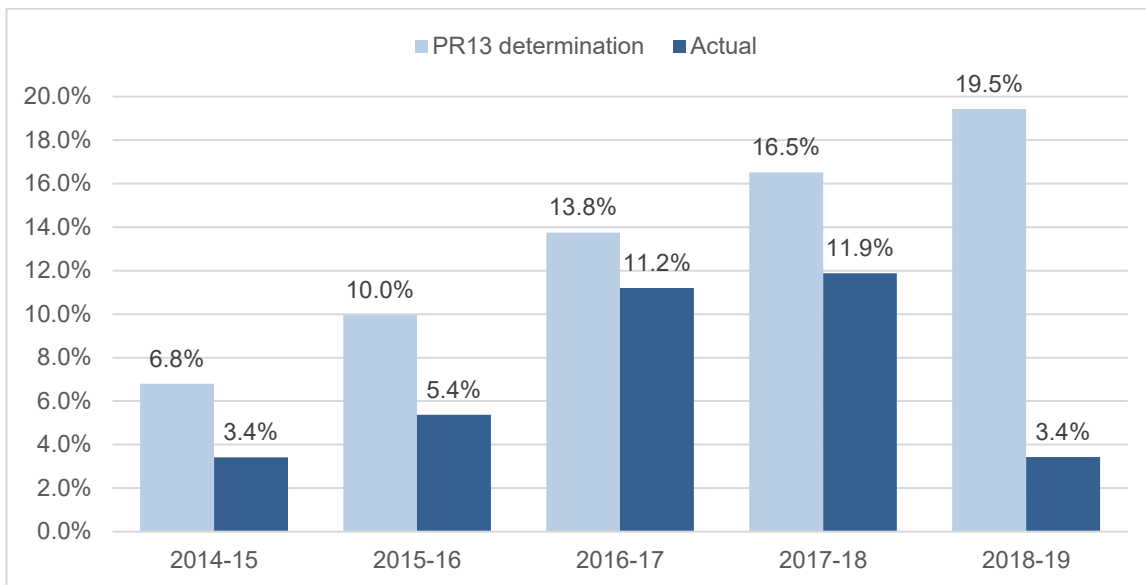
3.1 This chapter covers efficiency, financial performance, expenditure and income for Network Rail in Scotland.

Efficiency

3.2 We assess changes to the efficiency of Network Rail's core business activities in Scotland. These are its operations, support, maintenance and renewals (OSMR) activities.

3.3 In determining the funding that we thought Network Rail required to deliver its required outputs in CP5, we assessed its efficient level of expenditure⁴⁴. Our PR13 determination concluded that Network Rail should improve its efficiency by 19.5% by the end of CP5 in Scotland. This means that to deliver the same level of output, we expected Network Rail's costs in Scotland in 2018-19 to be 19.5% lower than in 2013-14, the final year of CP4.

Figure 3.1: Actual and expected changes to cumulative efficiency in Scotland from the start of CP5



Source: Network Rail and ORR analysis

3.4 As shown in Figure 3.1, using the CP5 efficiency measure, Scotland's efficiency improved in CP5, though not by as much as assumed in our PR13 determination. Efficiency increased by 3.4% in CP5, though declined substantially in 2018-19.

3.5 Some of the expenditure increases on Scotland's core business activities in 2018-19 were due to costs incurred from increased activities in preparation for CP6, most notably for maintenance. We consider that these cost increases could account for between £13m and

⁴⁴ The detailed assumptions underlying these projections were set out in our 2013 Periodic Review (PR13) final determination. See http://orr.gov.uk/data/assets/pdf_file/0015/456/fd-chapters-3-11.pdf.

£39m of increased costs in 2018-19. We have not adjusted for such factors in our previous CP5 annual efficiency and finance assessments. If these are taken into account, Scotland's efficiency could be between 1.9% and 5.7% better in 2018-19 than stated above and shown in Figure 3.1. The Expenditure section below provides further details.

Financial performance

3.6 Our primary measure of Network Rail's financial performance, the *financial performance measure* (FPM) provides a better understanding of financial performance than simple income and expenditure variances. FPM compares actual income and expenditure to Network Rail's annual budgets in Scotland, and then to the financial assumptions in our PR13 determination (which underpin the company's funding)⁴⁵. The regulatory measure ensures that Network Rail does not benefit from delaying work to a later date if that work will still need to be done and adjusts for the value of any outputs that it was funded to deliver but has not delivered, such as reliability of train performance. A positive FPM means that Network Rail in Scotland has outperformed and vice versa⁴⁶.

Table 3.1: Network Rail's financial performance in Scotland in 2018-19

£m	Variance to budget better/(worse)	Of which out / (under) performance
Turnover	(5)	0
Schedule 4	13	15
Schedule 8	(11)	(11)
Operations	1	1
Support	8	8
Maintenance	5	3
Capex – Renewals	(13)	15
Capex – Enhancements	28	1
Total	26	
Financial performance against budget		32
Differences to PR13 baselines		(279)
Adjustments for missed regulatory outputs		(15)
Financial performance (regulatory)⁴⁷		(262)

⁴⁵ It excludes some income and expenditure that is not as controllable by Network Rail. This includes network grant, fixed track access charges, traction electricity income and costs, and business rates.

⁴⁶ Annex C explains the linkage between Network Rail's financial performance and its efficiency.

⁴⁷ This does not include the effect of the 25% RAB financial incentive for renewals and enhancements. Including that adjustment, the regulatory measure is an underperformance of £155m. See our regulatory accounting guidelines and Network Rail's regulatory financial statements for further details.

Source: Network Rail and ORR analysis

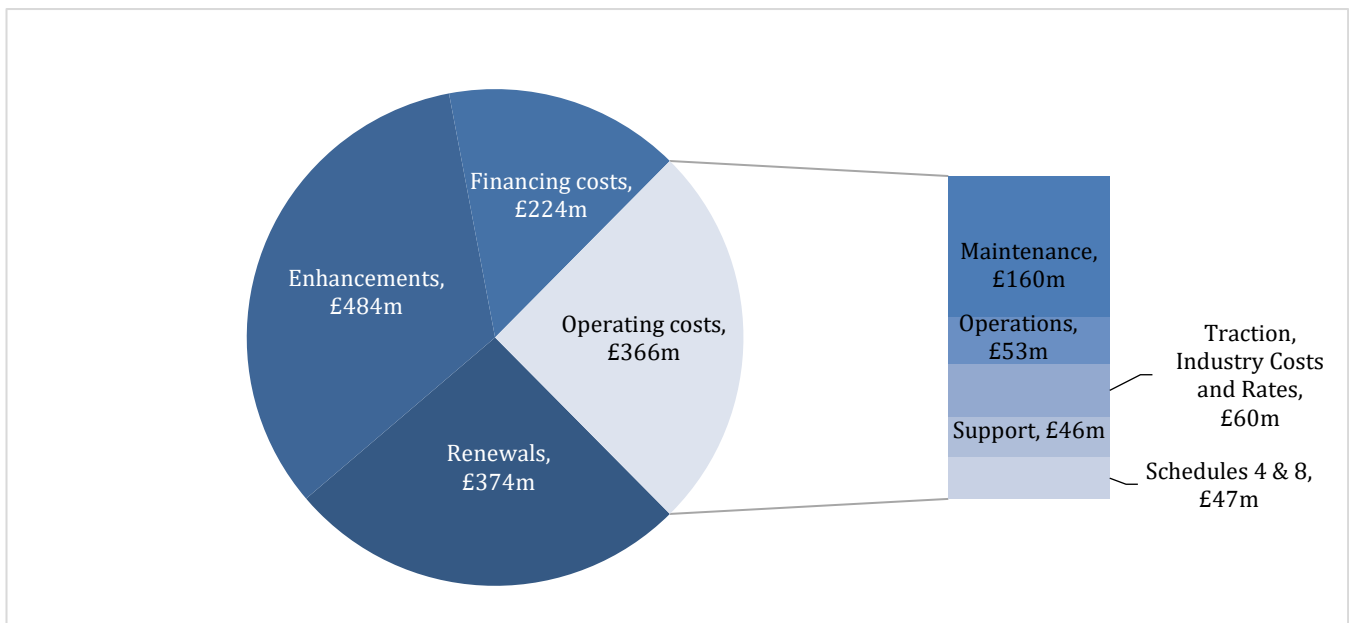
3.7 Network Rail outperformed against its internal budget in Scotland by £32m in 2018-19⁴⁸. This outperformance was largely because of lower than budgeted renewals rates and Schedule 4 costs, partly offset by higher than budgeted Schedule 8 costs.

3.8 Network Rail in Scotland underperformed the regulatory financial performance measure in Scotland by £262m largely because its internal budget was £279m higher than our PR13 financial assumptions for the year. The regulatory measure also includes a £15m downward adjustment for train performance lower than the regulatory target.

Expenditure

3.9 Network Rail spent £1.4bn in Scotland in 2018-19. Figure 3.2 shows this split by the major expenditure categories. These are operating expenditure (covering operations, support costs, maintenance, Schedule 4 and 8 payments and other), renewals, enhancements and financing costs. In Scotland, Network Rail's expenditure in these categories is examined below.

Figure 3.2: Expenditure in 2018-19, Scotland



Source: Network Rail and ORR analysis

Renewals

3.10 Renewals expenditure relates to activities to replace in whole, or in part, network assets that have deteriorated so that they can no longer be maintained economically. Renewal of an asset restores the original performance of the asset.

3.11 Network Rail spent £374m renewing the rail network in Scotland in 2018-19, £11m more than in 2017-18. It spent £13m more than its own budget, which Network Rail has attributed to

⁴⁸ This analysis includes a portion of Network Rail's central costs. Central costs are shown separately in Table 2.2.

undertaking greater work than planned due to acceleration of schemes from CP6 to make use of available funding. For the work that it delivered, Network Rail in Scotland spent £15m less on renewing the network than budgeted.

- 3.12 Signalling renewals decreased by £23m (mostly due to the completion of two major schemes in 2017-18) and track renewals decreased by £12m due to reduced workbanks across most track renewals activities. The net increase was mostly due to £18m of additional work on buildings (specifically improvements to franchised stations to improve passenger facilities) and £38m in other renewals categories (IT, small plant and other).
- 3.13 Network Rail spent £1,756m renewing the rail network in Scotland in CP5, £202m more than assumed in our PR13 determination. The largest overspends by asset category were track and civils (by £168m and £78m respectively), partly offset by £41m of underspend on signalling renewals. The overspend was largely due to Network Rail not achieving the efficiency improvements assumed in our PR13 determination for Scotland. However, it also deferred renewals in CP5 (across all asset classes). Compared to our PR13 assumptions, Network Rail in Scotland deferred £88m of work and overspent by £290m on the work that was undertaken.
- 3.14 We reported on the problems with Network Rail's efficient delivery of renewals in CP5 in our 2018 annual efficiency and finance assessment⁴⁹. Because poor planning for CP5 caused a number of the problems with Network Rail's renewals efficiency, an important part of our recent work has been to assess whether Network Rail's routes have developed robust expenditure and efficiency plans for CP6. We have reported on Network Rail's CP6 preparations in our Network Rail Monitors.

Operating expenditure

- 3.15 Operating expenditure relates to operations, support costs, maintenance, Schedule 4 and 8 payments, and traction electricity, industry costs and rates.

Maintenance

- 3.16 Maintenance expenditure relates to activities that sustain the condition and capability of the existing infrastructure to the previously assessed standard of performance. Network Rail spent £160m maintaining the rail network in Scotland in 2018-19, £32m more than in 2017-18. This was broadly in line with its internal budget for the year. Network Rail in Scotland has attributed the increase to an enhanced maintenance regime (to improve the prediction and prevention of asset failures, and the ability to respond more quickly to incidents on the network) and a range of small-scale investments (including the purchase of new plant and equipment, conversion of signal heads from filament to LED, and construction of new access points to the network).

⁴⁹ See also <http://orr.gov.uk/rail/consultations/pr18-consultations/consultation-on-improving-network-rails-renewals-efficiency>.

3.17 Network Rail spent £656m maintaining the rail network in Scotland in CP5, £60m more than assumed in our PR13 determination. This overspend was largely due to it not achieving the efficiency improvements for its maintenance activities assumed in our PR13 determination and additional expenditure that was incurred in 2018-19 as Network Rail in Scotland increased maintenance activities as part of its CP6 preparedness.

Operations

3.18 Operations expenditure relates to activities to operate the rail network. These include signalling and running managed stations.

3.19 Network Rail spent £53m operating the rail network in Scotland in 2018-19, £8m more than in 2017-18. The increase in operations costs included some performance improvement initiatives to reduce delays across the network, the development of a larger System Operator team and some one-off credits offsetting operational costs in 2017-18 that have not been repeated in 2018-19.

3.20 Network Rail spent £249m operating the rail network in Scotland in CP5, £40m more than assumed in our PR13 determination largely due to Network Rail in Scotland not achieving the efficiencies that we expected. The largest contributor was the Network Operating Strategy (NOS) programme. This was designed to consolidate signalling activities in a smaller number of centralised Route Operating Centres (ROCs). NOS has not delivered the expected staff savings and operational improvements.

Support costs

3.21 Support costs relate to activities that are largely centrally managed by Network Rail and facilitate the core business. These include information management and corporate functions. Some of the costs were incurred by central functions of which a proportion were allocated to Network Rail in Scotland.

3.22 Support costs were £46m, £4m higher than in 2017-18. Consistent with other routes, costs increased slightly across most support activities.

3.23 Support costs were £230m in CP5, £15m lower than our PR13 assumption. The main variance was Human Resources (£17m lower) which was due to cost reductions in central services from the devolution of activities to routes⁵⁰.

Traction electricity, industry costs and rates

3.24 Traction electricity provides power to electrically powered trains. Network Rail acquires electricity from providers and passes most of the costs on to train companies, retaining a small amount of the cost for the electricity used by the organisation. In Scotland this was £25m, £4m higher than in 2017-18.

⁵⁰ For example, Network Rail considers that the transfer of training budgets to routes led to improved decision making on the most cost effective way to develop and train staff, resulting in more internal, peer-led training programmes rather than using external training courses.

- 3.25 Industry costs and rates in 2018-19 included business rates (£23m), British Transport Police costs (£9m), ORR licence fee and railway safety levy (£2m), and RSSB⁵¹ costs (£1m). These costs were £35m in 2018-19, £2m higher than in 2017-18.
- 3.26 Traction electricity, industry costs and rates were £276m in CP5, £8m lower than assumed in our PR13 determination largely due to lower rates for traction electricity.

Schedule 4 and Schedule 8 costs

- 3.27 The Schedule 4 regime compensates train operators for reduced network availability due to planned engineering work. It incentivises Network Rail to plan engineering work early and efficiently, reducing disruption. The Schedule 8 performance regime compensates train operators for the impact of unplanned disruption.
- 3.28 Schedule 4 costs in Scotland were £17m in 2018-19, £2m more than in 2017-18 and £13m lower than budget. Schedule 4 costs were lower than budget due to better use of network possessions than planned. Schedule 4 costs were £117m in CP5, £19m lower than assumed in our PR13 determination. Network Rail has attributed this to a combination of undertaking fewer renewals and more effective use of network possessions.
- 3.29 Schedule 8 costs in Scotland were £30m in 2018-19, £8m more than in 2017-18 and £11m higher than budget. Train performance was affected by the hot weather in summer 2018 and problems with the introduction of the May 2018 timetable. Schedule 8 payments were also higher partly due to our train performance targets increasing each year in CP5. Schedule 8 costs were £56m in CP5, £54m higher than assumed in our PR13 determination, largely due to train performance falling significantly short of our targets.

Enhancements

- 3.30 Enhancements are changes to improve network capacity or capability, for example enabling more train journeys or higher speeds.
- 3.31 Network Rail has undertaken a portfolio of enhancement schemes in Scotland in CP5, spending £497m in 2018-19 and £1,896m in CP5. For the work delivered, these schemes overspent by £65m in 2018-19 and by £240m in CP5.

⁵¹ Rail Safety and Standards Board (RSSB).

Table 3.2: Enhancements expenditure in 2018-19, Scotland

£m	Expenditure	PR13 variance better/(worse)	Neutral including (acceleration) / deferral	(Under) / out performance
Rolling programme of electrification	140	65	92	(27)
Aberdeen to Inverness journey time improvements and other enhancements	124	(10)	(7)	(3)
Edinburgh to Glasgow Improvement Programme	55	(53)	(18)	(35)
Other PR13 enhancements	163	(104)	(104)	0
Total PR13 enhancements	482	(102)	(37)	(65)
Non-PR13 enhancements	2	(2)	(2)	0
Total Network Rail funded enhancements	484	(104)	(39)	(65)
Third party funded enhancements	13	(13)	n/a	n/a
Total enhancements	497	(117)	n/a	n/a

Source: Network Rail's regulatory financial statements

Table 3.3: Enhancements expenditure in CP5, Scotland

£m	Expenditure	PR13 variance better/(worse)	Neutral including (acceleration) / deferral	(Under) / out performance
Edinburgh to Glasgow Improvement Programme	648	(77)	121	(198)
Rolling programme of electrification	413	(32)	2	(34)
Aberdeen to Inverness journey time improvements and other enhancements	254	14	22	(8)
Other PR13 enhancements	484	109	109	0
Total PR13 enhancements	1,799	14	254	(240)
Non-PR13 enhancements	16	(16)	(16)	0
Total Network Rail funded enhancements	1,815	(2)	238	(240)
Third party funded enhancements	81	(81)	n/a	n/a
Total enhancements	1,896	(83)	n/a	n/a

Source: Network Rail's regulatory financial statements

3.32 The financial aspects of the key projects are summarised below:

- *Edinburgh Glasgow improvement programme (EGIP) (£648m expenditure in CP5):* This includes electrifying the line between Edinburgh and Glasgow via Falkirk, introduction of new rolling stock, shorter journey times and a major upgrade of Glasgow Queen Street station. £198m of financial underperformance was recognised in CP5. EGIP experienced cost overruns due to a number of problems including complications around

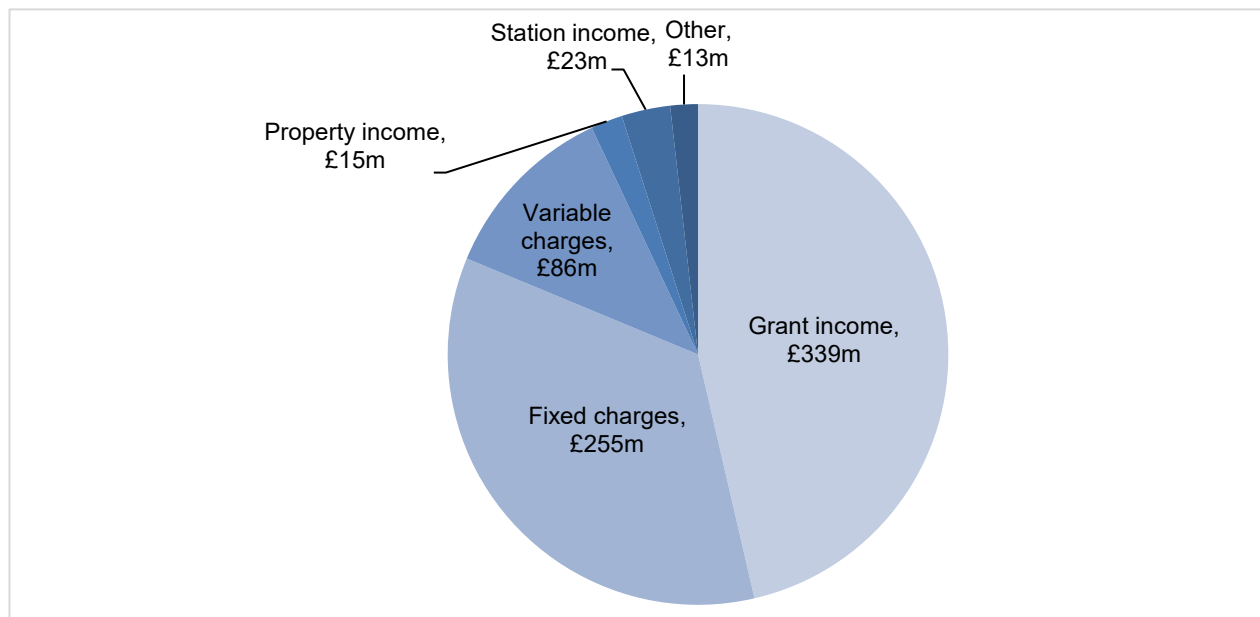
electrification compliance, higher than expected contractor costs, problems with the design and scope of work and planning delays relating to Glasgow Queen Street.

- *Rolling Programme of Electrification (£413m)*: This is the electrification of the routes to Stirling, Dunblane and Alloa, and the Schotts line. £34m of financial underperformance was recognised in CP5. The overspend was caused by higher than expected contractor costs, delays in delivery to parts of the project and disputes with landowners over access.
- *Aberdeen to Inverness journey time improvements (£254m)*: Network Rail is upgrading the route to improve connectivity, increase capacity and improve journey times (such as platform extensions, signalling upgrades etc.). £8m of financial underperformance was recognised in CP5 partially because the scope of the project was increased to improve asset quality.
- *Other PR13 enhancements*:
 - *Ring-fenced funds (£207m)*: PR13 included funding for Network Rail to invest in improvements to the overall capability, performance and capacity of its network but which were not linked to a specific output or scheme. Specific funds included the Scottish network improvement fund, the Scottish stations fund and the Scottish strategic rail freight investment fund. Expenditure was £33m more than the revised baseline, largely due to £56m of additional expenditure on the Scottish network improvement fund, which was agreed by Transport Scotland. This was partly offset by £20m of lower expenditure on the Scottish strategic rail freight investment fund, Scottish Stations Fund and the Future Network Development Fund.
 - *Borders Railway Project (£201m)*: This project provides a new rail route between Newcraighall and Tweedbank. Expenditure was in line with the funding baseline.
 - *Highland mainline journey time improvements (phase 2) (£46m)*: This project upgrades the Highland mainline to enable more frequent and faster services. Expenditure was £92m less than the CP5 baseline as work has been deferred in line with the overall rail strategy in Scotland.
- *Other schemes (£97m)*: These schemes were funded by grants received from outside the PR13 funding settlement, including the Polmadie & Rutherglen project, expenditure on train depot work and Access for All schemes.

Income

3.33 Network Rail received £731m of income in Scotland in 2018-19. Figure 3.3 shows this split by major income category. The majority of its income was from track and other access charges (£341m), with £339m from government grant and £51m from Other Single Till Income (OSTI).

Figure 3.3: Income in 2018-19, Scotland



Source: Network Rail and ORR analysis

3.34 Network Rail's income in Scotland is relatively fixed in the short to medium term. Consistent with our PR13 determination, government grants decreased by £100m in 2018-19, mostly offset by a £93m increase in fixed track access charges paid by franchised train operators. The change from government grants to fixed track access charges was consistent with our PR13 determination and reflected governments' policy to reduce the grant funding of Network Rail in that year.

3.35 OSTI decreased by £5m in 2018-19, mostly due to a £4m reduction in property income. This included £2m of reduced property sales (there were no property sales in Scotland in 2018-19).

4. Wales

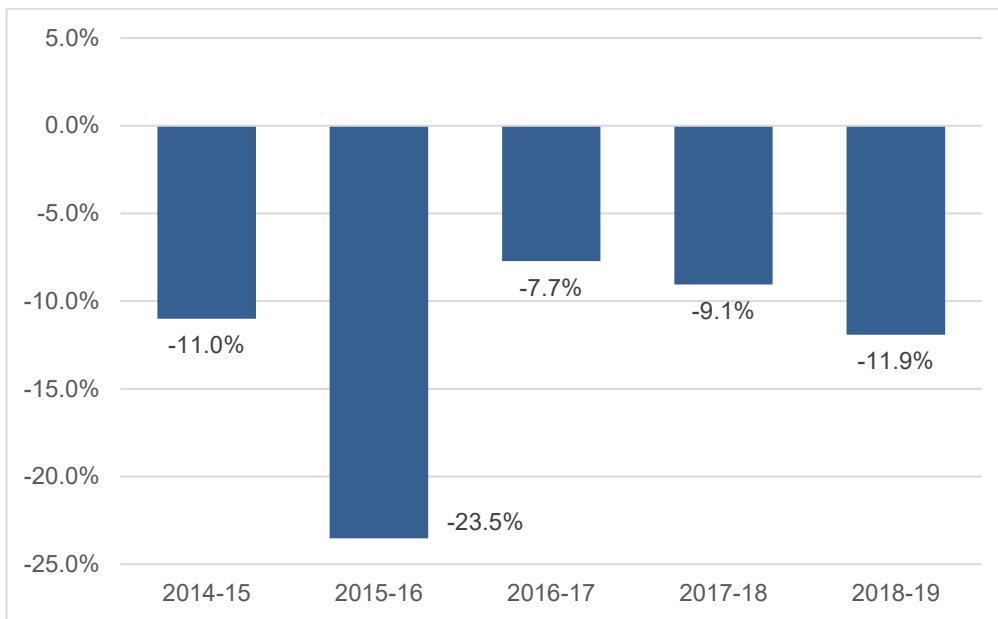
4.1 This chapter covers efficiency, financial performance, expenditure and income for Network Rail in Wales.

Efficiency

4.2 We assess changes to the efficiency of Network Rail’s core business activities in Wales. These are its operations, support, maintenance and renewals (OSMR) activities.

4.3 In determining the funding that we thought Network Rail required to deliver its required outputs in CP5, we made an assessment of its efficient level of expenditure⁵². Our PR13 determination concluded that Network Rail should improve its efficiency by 19.4% by the end of CP5 in England and Wales in 2018-19. This means that to deliver the same level of output, we expected Network Rail’s costs in England and Wales in 2018-19 to be 19.4% lower than in 2013-14, the final year of CP4.

Figure 4.1: Changes to cumulative efficiency in Wales from the start of CP5



Source: Network Rail and ORR analysis

4.4 As shown in Figure 4.1, Network Rail’s efficiency in Wales declined in CP5. Efficiency declined by 2.6% in 2018-19 and by 11.9% across CP5 as a whole.

4.5 Some of the expenditure increases on core business activities in 2018-19 were due to costs incurred from increased activities in preparation for CP6, most notably for maintenance. We consider that these cost increases could account for between £2m and £7m of increased costs

⁵² The detailed assumptions underlying these projections were set out in our 2013 Periodic Review (PR13) final determination. See http://orr.gov.uk/data/assets/pdf_file/0015/456/fd-chapters-3-11.pdf.

in 2018-19. We have not sought to adjust for such factors in our previous CP5 annual efficiency and finance assessments. If these are taken into account, Wales route's efficiency could be between 0.8% and 2.5% better in 2018-19 than stated above and shown in Figure 4.1.

Financial performance

4.6 Our primary measure of Network Rail's financial performance, the *financial performance measure* (FPM) provides a better understanding of financial performance than simple income and expenditure variances. FPM compares actual income and expenditure to Network Rail's annual budgets in Wales, and then to the financial assumptions in our PR13 determination (which underpin the company's funding)⁵³. The regulatory measure ensures that Network Rail does not benefit from delaying work to a later date if that work will still need to be done and adjusts for the value of any outputs that it was funded to deliver but has not delivered, such as reliability of train performance. A positive FPM means that Network Rail in Wales has outperformed and vice versa⁵⁴.

Table 4.1: Network Rail's financial performance in Wales in 2018-19

£m	Variance to budget better/(worse)	Of which out / (under) performance
Turnover	0	0
Schedule 4	6	8
Schedule 8	5	5
Operations	(1)	(1)
Support	(1)	(1)
Maintenance	(1)	(1)
Capex – Renewals	(31)	4
Capex – Enhancements	6	0
Total	(17)	
Financial performance against budget⁵⁵		14
Differences to PR13 baselines		(151)
Adjustments for missed regulatory outputs		0
Financial performance (regulatory)⁵⁶		(137)

⁵³ It excludes some income and expenditure that is not as controllable by Network Rail. This includes network grant, fixed track access charges, traction electricity income and costs, and business rates.

⁵⁴ Annex C explains the linkage between Network Rail's financial performance and its efficiency.

⁵⁵ The difference to the (£13m) in Table 2.2 is mostly due to unused centrally held contingency for the Great Western Electrification Programme (GWEP). This is included in this table.

⁵⁶ This does not include the effect of the 25% RAB financial incentive for renewals and enhancements. Including that adjustment, the regulatory measure is an underperformance of £65m. See our regulatory accounting guidelines and Network Rail's regulatory financial statements for further details.

Source: Network Rail and ORR analysis

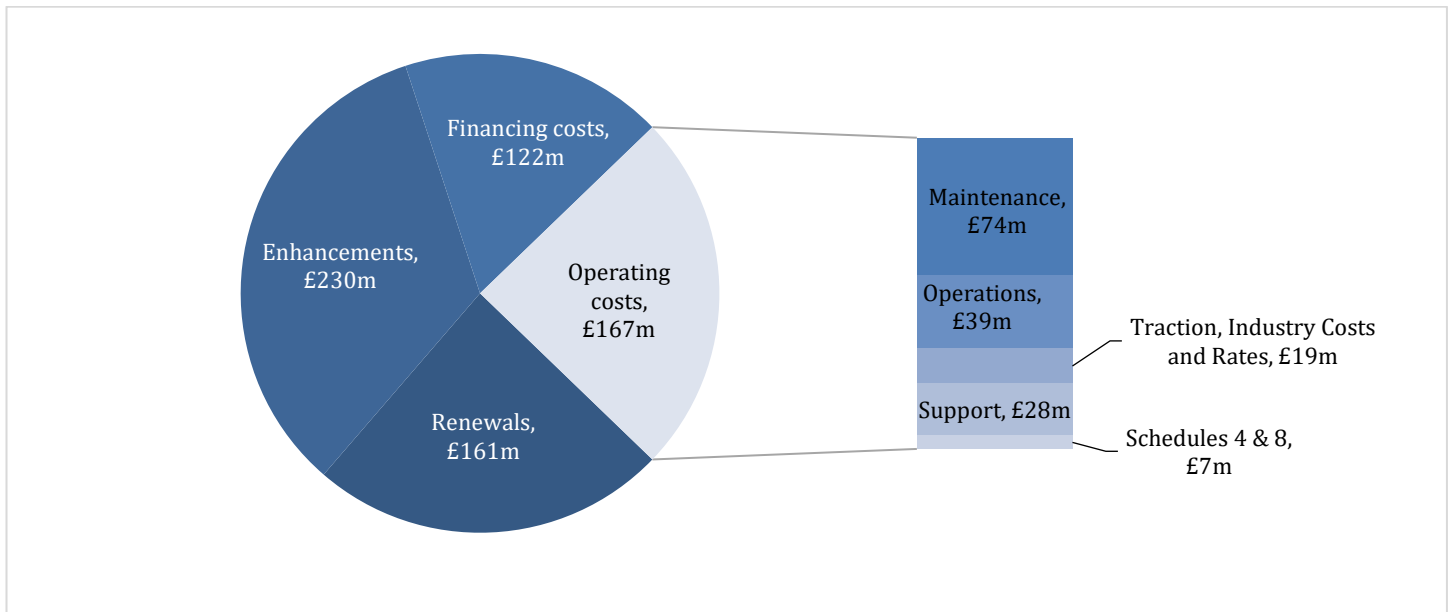
4.7 Network Rail outperformed against its internal measure by £14m in Wales in 2018-19⁵⁷. This has largely been driven by lower Schedule 4 and Schedule 8 costs. Network Rail has largely attributed these to the successful delivery of the Port Talbot resignalling renewal project and reduced track problems in the autumn due to improved rail head treatment.

4.8 Network Rail underperformed the regulatory financial performance measure by £137m in Wales largely because its internal budget was £151m higher than our PR13 financial assumptions for the year.

Expenditure

4.9 Network Rail spent £680m in Wales in 2018-19. Figure 4.2 shows this split by the major expenditure categories. These are operating expenditure (covering operations, support costs, maintenance, Schedule 4 and 8 payments and other), renewals, enhancements and financing costs. Network Rail in Wales's expenditure in these categories is examined below.

Figure 4.2: Expenditure in 2018-19, Wales



Source: Network Rail and ORR analysis

Renewals

4.10 Renewals expenditure relates to activities to replace in whole, or in part, network assets that have deteriorated so that they can no longer be maintained economically. Renewal of an asset restores the original performance of the asset.

⁵⁷ This analysis includes a portion of Network Rail's central costs. Central costs are shown separately in Table 2.2.

- 4.11 Network Rail spent £161m renewing the rail network in Wales in 2018-19, £31m less than in 2017-18. The decrease was mostly due to significantly higher than usual signalling renewals expenditure in 2017-18 (on the North Wales Coast Phase 1 programme). Network Rail in Wales spent £31m more than its own budget, which it has mainly attributed to improved delivery of track volumes (reduced slippage and acceleration of projects from CP6). Network Rail in Wales has attributed the £4m of renewals financial outperformance in 2018-19 to reduced unit rates for this extra work.
- 4.12 Network Rail spent £904m renewing the rail network in Wales in CP5, £151m more than assumed in our PR13 determination. The largest overspends by asset category were track and signalling (by £93m and £69m respectively). This was largely due to Network Rail in Wales not achieving our PR13 efficiency assumptions for renewals.
- 4.13 We reported on the problems with Network Rail's efficient delivery of renewals in CP5 in our 2018 annual efficiency and finance assessment⁵⁸. Because poor planning for CP5 caused a number of the problems with Network Rail's renewals efficiency, an important part of our recent work has been to assess whether Network Rail's routes have developed robust expenditure plans for CP6. We have reported on Network Rail's CP6 preparations in our Network Rail Monitors.

Operating expenditure

- 4.14 Operating expenditure relates to operations, support costs, maintenance, Schedule 4 and 8 payments, and traction electricity, industry costs and rates.

Maintenance

- 4.15 Maintenance expenditure relates to activities that sustain the condition and capability of the existing infrastructure to the previously assessed standard of performance. Network Rail spent £74m maintaining the rail network in Wales in 2018-19, £3m more than in 2017-18. This was broadly in line with its internal budget for the year.
- 4.16 Network Rail spent £369m maintaining the rail network in Wales in CP5, £29m more than assumed in our PR13 determination. As with renewals, the largest overspends by asset category were track and signalling (by £37m and £12m respectively). This overspend was largely due to Network Rail in Wales not achieving our PR13 efficiency assumptions for maintenance.

Operations and support costs

- 4.17 Operations expenditure relates to activities to operate the rail network. These include signalling and running managed stations. Support costs relate to activities that are largely centrally managed by Network Rail and facilitate the core business. These include information management and corporate functions.

⁵⁸ See also <http://orr.gov.uk/rail/consultations/pr18-consultations/consultation-on-improving-network-rails-renewals-efficiency>.

- 4.18 Network Rail spent £39m on operations in Wales in 2018-19, £3m more than in 2017-18. Support costs in Wales were £28m, £9m higher than in 2017-18.
- 4.19 Network Rail spent £173m on operations in Wales in CP5, £40m more than assumed in our PR13 determination (mostly due to the Network Operating Strategy (NOS) programme not achieving the savings that we expected). Support costs in CP5 in Wales were £110m, which was the same as our PR13 assumption.

Traction electricity, industry costs and rates

- 4.20 Traction electricity provides power to electrically powered trains. Network Rail acquires electricity from providers and passes most of the costs onto train companies, retaining a small amount of the cost for electricity used by the organisation. Traction electricity costs in Wales were £3m in 2018-19 (£2m higher than in 2017-18), and £4m in CP5.
- 4.21 Industry costs and rates in 2018-19 included business rates (£10m), British Transport Police costs (£4m), ORR licence fee and railway safety levy (£1m), and RSSB costs (£1m).
- 4.22 Traction electricity, industry costs and rates were £78m in CP5, £18m higher than assumed in our PR13 determination, mostly due to increased British Transport Police costs.

Schedule 4 and Schedule 8 costs

- 4.23 The Schedule 4 regime compensates train operators for reduced network availability due to planned engineering work. It incentivises Network Rail to plan engineering work early and efficiently, reducing disruption. The Schedule 8 performance regime compensates train operators for the impact of unplanned disruption.
- 4.24 Schedule 4 costs in Wales were £7m, the same as in 2017-18 and £6m lower than budget, largely due to the efficient delivery of signalling works at Port Talbot. Schedule 4 costs were £38m in CP5, £36m lower than assumed in our PR13 determination. Network Rail has attributed this to improved network possessions planning, including utilising possessions required for GWEP to undertake other work, and to making fewer late changes to possession plans.
- 4.25 Schedule 8 costs in Wales were £0m, £3m lower than in 2017-18 and £5m lower than budget, largely due to better performance in Autumn 2018. Schedule 8 costs were £2m in CP5, compared to the £1m cost assumed in our PR13 determination.

Enhancements

- 4.26 Enhancements are changes to improve network capacity or capability, for example enabling more train journeys or higher speeds.
- 4.27 Network Rail has undertaken a portfolio of enhancement schemes in Wales in CP5, spending £237m in 2018-19 and £899m in CP5. For the work delivered, £27m of financial underperformance has been recognised in CP5, of which £25m was in 2018-19.

Table 4.2: Enhancements expenditure in 2018-19, Wales

£m	Expenditure	PR13 variance better/(worse)	Neutral including (acceleration) / deferral	(Under) / out performance
Great Western Electrification	218	(40)	(14)	(26)
Stations - Access for All (AfA)	0	(5)	(4)	(1)
Other PR13 enhancements	5	3	0	3
Total PR13 enhancements	223	(42)	(18)	(24)
Non-PR13 enhancements	7	(7)	(6)	(1)
Total Network Rail funded enhancements	230	(49)	(24)	(25)
Third party funded enhancements	7	(7)	n/a	n/a
Total enhancements	237	(56)	n/a	n/a

Source: Network Rail's regulatory financial statements

Table 4.3: Enhancements expenditure in CP5, Wales

£m	Expenditure	PR13 variance better/(worse)	Neutral including (acceleration) / deferral	(Under) / out performance
Great Western Electrification	682	8	34	(26)
Stations - Access for All (AfA)	8	(1)	0	(1)
Other PR13 enhancements	35	23	20	3
Total PR13 enhancements	725	30	54	(24)
Non-PR13 enhancements	15	(15)	(12)	(3)
Total Network Rail funded enhancements	740	15	42	(27)
Third party funded enhancements	159	(159)	n/a	n/a
Total enhancements	899	(144)	n/a	n/a

Source: Network Rail's regulatory financial statements

4.28 The financial aspects of the key schemes are summarised below:

- *Great Western Electrification (£682m expenditure in CP5)*: Network Rail's largest enhancement scheme in CP5 was the continuing electrification of the railway between South Wales and London Paddington. £26m of financial underperformance was recognised in CP5, which accounts for the majority of the financial underperformance in Wales.
- *Stations – Access for All (AfA) (£8m)*: this is a fund to create an obstacle free, accessible route from station entrances to platforms and generally includes providing lifts or ramps as well as other associated works. Expenditure was broadly in line with the revised baseline.

■ *Other PR13 enhancements*

- *Bridgend to Swansea electrification (£19m)*: this scheme allows the introduction of electric operation trains on key intercity routes. £1m of financial outperformance was recognised in CP5.

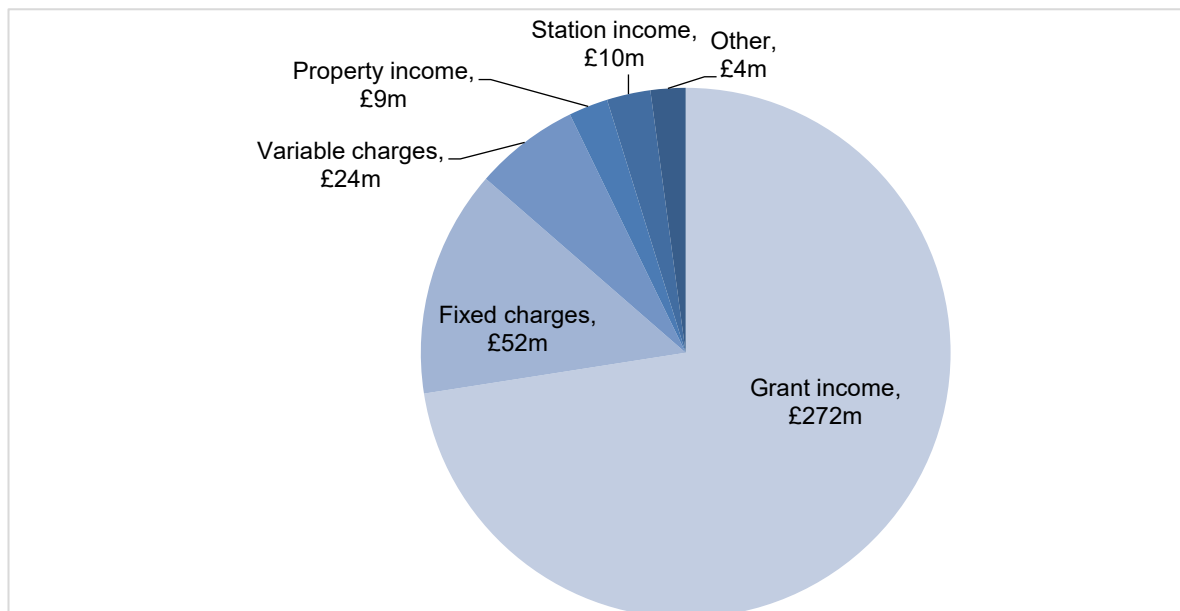
■ *Other schemes*: Network Rail spent £174m in CP5 on other enhancement schemes in Wales. These were funded by grants received from outside the PR13 funding settlement such as the Saltney Junction to Newport project and works at Port Talbot.

Income

4.29 Network Rail received £371m of income in Wales in 2018-19. Figure 4.3 shows this split by major income category. The majority of its income was from government grants (£272m), with £76m from track and other access charges from train operators and £23m from Other Single Till Income (OSTI) and the opex memorandum account.

4.30 Network Rail's income in Wales was £3m higher in 2018-19 compared to 2017-18 mostly due to additional OSTI. Total income was £1,841m in CP5, £19m lower than assumed in our PR13 determination.

Figure 4.3: Income in 2018-19, Wales



Source: Network Rail and ORR analysis

5. Regulatory finances

5.1 This chapter reports on Network Rail's regulatory finances. These are its borrowing, net debt, financing costs, the regulatory asset base (RAB) and financial indicators. Information is presented separately for Great Britain and for Scotland where relevant.

Borrowing and net debt

- 5.2 Following its reclassification to the public sector during CP5, Network Rail agreed to borrow from the UK Government rather than through the issuance of debt. As part of this, Network Rail agreed fixed borrowing limits with DfT for its activities in England and Wales, and in Scotland for CP5⁵⁹.
- 5.3 Network Rail borrowed £6.7bn from DfT in 2018-19 largely to fund its capital programme and to refinance existing debt. Network Rail's net debt increased by £3.0bn to £53.4bn in 2018-19 (for Great Britain) and over CP5 it increased by £21.1bn. This was largely due to borrowing to cover its CP5 enhancements programme and also borrowing to cover OSMR underperformance. Net debt also increased because of accretion⁶⁰ on Network Rail's index-linked debt.
- 5.4 In previous annual efficiency and finance assessments, we have expressed our concern with Network Rail's processes for managing its cash position. We note that Network Rail made full use of its available cash limits in CP5 without exceeding the limits and that it has formed a cash management group to oversee business performance and target improvements. Network Rail considers that its business forecasting has improved through clarifying accountabilities, benchmarking and best practice sharing. Routes developed overplan provisions in 2018-19 to mitigate the risk of slippage in their renewals programmes and developed options for the acceleration of CP6 works.
- 5.5 In CP6, Network Rail will no longer borrow other than to refinance existing debt, and it will be subject to more restrictive government budgetary processes⁶¹. Maintaining this focus will be important given the limits on Network Rail's ability to move funding between years.

⁵⁹ There were separate limits for England and Wales, and for Scotland.

⁶⁰ Network Rail used to issue index-linked bonds. The interest payments and the final repayment of these bonds are linked to the retail price index (RPI). If RPI outturns lower than expected when the bond was issued, Network Rail will pay less to bondholders and vice versa.

⁶¹ These are explained in our 2018 periodic review: https://orr.gov.uk/_data/assets/pdf_file/0004/39307/pr18-final-determination-financial-framework.pdf.

Financing costs

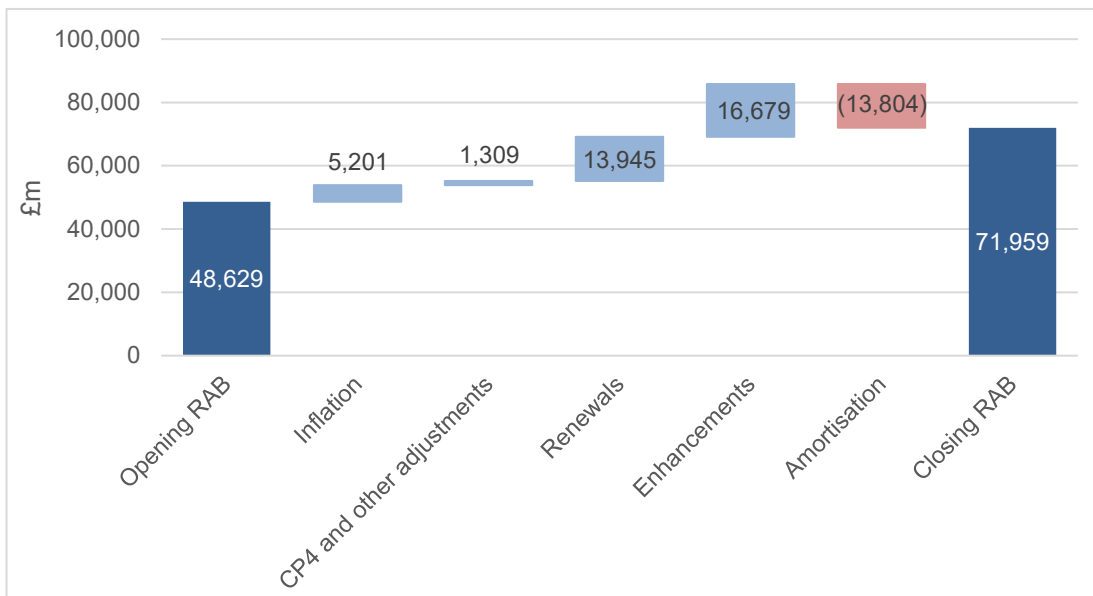
- 5.6 Network Rail incurs financing costs on its debt. Financing costs include interest and accretion⁶² on index-linked debt.
- 5.7 Network Rail’s financing costs were £2.3bn in 2018-19. Financing costs included £1.8bn of interest costs and £0.5bn of accretion. Network Rail’s financing costs for Scotland were £0.2bn.

Regulatory asset base

- 5.8 The regulatory asset base (RAB) is our valuation of Network Rail’s assets⁶³. Network Rail’s RAB increased by £23.3bn to £72.0bn in CP5. It increased by £2.4bn to £7.4bn in Scotland.
- 5.9 The movements in Network Rail’s RAB are shown in Figure 5.1. Note that RAB additions will not equal actual capital expenditure. As explained in our regulatory accounting guidelines, our PR13 determination assumed expenditure is added to the RAB and it is then adjusted in accordance with our guidelines. This is shown in Statement 2b of Network Rail’s regulatory financial statements.

Figure 5.1: RAB movement in CP5⁶⁴

Great Britain

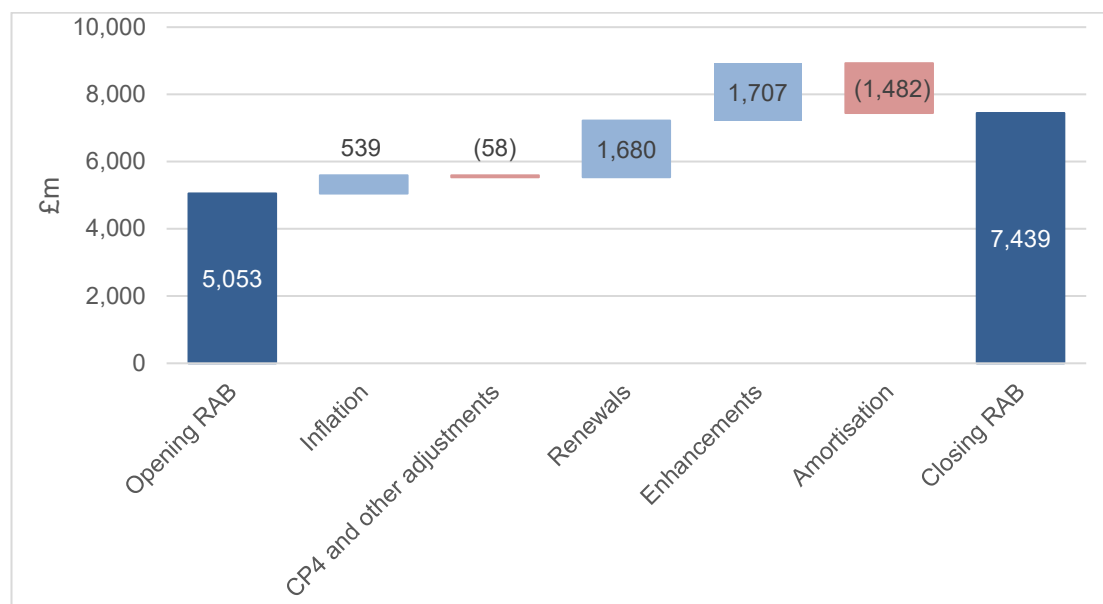


⁶² Network Rail used to issue index-linked bonds. The interest payments and the final repayment of these bonds are linked to the retail price index (RPI). If RPI outturns lower than expected when the bond was issued, Network Rail will pay less to bondholders and vice versa.

⁶³ See Chapter 12 of our PR13 final determination for further details:
http://orr.gov.uk/_data/assets/pdf_file/0011/452/pr13-final-determination.pdf.

⁶⁴ These are adjustments for the actual CP4 outturn and the under delivery of outputs.

Scotland⁶⁵



Source: Network Rail and ORR analysis

Financial indicators

5.10 The net debt/RAB ratio and the adjusted interest cover ratio (AICR) are measures of financial sustainability that can be used for economically regulated companies. Our PR13 determination included forecasts for the net debt/RAB ratio and AICR in order for us to incentivise Network Rail to maintain an appropriate financial position. The network licence requires our consent for Network Rail's net debt/RAB to exceed 75%.

Table 5.1: Financial indicators

£m	2018-19			2017-18
	Actual	PR13	Variance better/(worse)	Actual
Great Britain				
Net debt/RAB ⁶⁶	74.2%	71.2%	(3.0%)	75.4%
Adjusted interest cover ratio (AICR)	1.03	1.03	-	0.53
Scotland				
Net debt/RAB ⁶⁶	71.6%	66.6%	(5.0%)	69.8%
Adjusted interest cover ratio (AICR)	0.32	1.02	(0.70)	0.77

Source: Network Rail's regulatory financial statements

5.11 Network Rail exceeded the net debt/RAB ratio licence requirement at 31 March 2018. We consented to this having taken account of relevant factors including the statements made by

⁶⁵ These are adjustments for the actual CP4 outturn and the under delivery of outputs.

⁶⁶ Our PR13 model assumed gearing of 69.8% for Great Britain and 65.3% for Scotland. The differences to the PR13 numbers in the table are due to outturn inflation being different to our assumption.

Network Rail, the loan agreement in place between Network Rail and the UK Government, and the efficiency commitments made by Network Rail. Our consent was on the condition that Network Rail used reasonable endeavours to stay within the limits set out in the loan agreement (as subsequently amended) until 31 March 2019. As explained in the Borrowing and net debt section above, Network Rail had not exceeded these limits as at 31 March 2019.

Annex A: Summary of key financial information Great Britain

£m, 2018-19 prices	2018-19			CP5 cumulative			2017-18
	Actual	PR13	Variance	Actual	PR13	Variance	Actual
Income	A	B	C=A-B	D	E	F=D-E	
Government grant income	4,125	4,147	(22)	22,742	22,696	46	4,623
Fixed charge income	1,038	991	47	2,884	2,758	126	536
Variable charge income	1,261	1,402	(141)	6,025	6,373	(348)	1,174
Other single till income	2,413	1,113	1,300	6,142	4,994	1,148	1,027
Opex memorandum account	(14)	0	(14)	6	0	6	4
Total income	8,823	7,653	1,170	37,799	36,821	978	7,364
Operating expenditure	A	B	C=B-A	D	E	F=E-D	
Operations	686	415	(271)	3,025	2,280	(745)	615
Maintenance	1,525	1,120	(405)	7,043	5,986	(1,057)	1,424
Support costs	463	447	(16)	2,126	2,455	329	408
Traction electricity, industry costs & rates	746	834	88	3,299	3,542	243	671
Schedule 4 compensation payments	335	231	(104)	1,297	1,203	(94)	227
Schedule 8 compensation payments	319	5	(314)	983	23	(960)	226
Total operating expenditure	4,074	3,052	(1,022)	17,773	15,489	(2,284)	3,571
Capital expenditure	A	B	C=B-A	D	E	F=E-D	
Renewals	3,082	2,537	(545)	15,181	14,030	(1,151)	2,490
PR13 enhancements	2,964	1,655	(1,309)	16,180	16,182	2	3,254
Non-PR13 enhancements	200	0	(200)	816	0	(816)	155
Total enhancements ⁶⁷	3,164	1,655	(1,509)	16,996	16,182	(814)	3,409
Total capital expenditure	6,246	4,192	(2,054)	32,177	30,212	(1,965)	5,899
Other expenditure	A	B	C=B-A	D	E	F=E-D	
Financing costs	2,319	2,290	(29)	9,672	9,916	244	2,422
Corporation tax	0	3	3	(2)	7	9	0
Total other expenditure	2,319	2,293	(26)	9,670	9,923	253	2,422
Total expenditure	12,639	9,537	(3,102)	59,620	55,624	(3,996)	11,892
Other information	(A)	(B)	B-A or A-B				
RAB ⁶⁸	71,959	68,913	3,046	n/a	n/a	n/a	66,798
Net debt	53,361	49,078	(4,283)	n/a	n/a	n/a	50,358
Gearing (net debt/RAB)	74.2%	71.2%	(3.0%)	n/a	n/a	n/a	75.4%
Adjusted interest cover ratio	1.03	1.03	-	n/a	n/a	n/a	0.53

Source: Network Rail's regulatory financial statements

⁶⁷ This excludes work on stations, car parks and other facilities undertaken on behalf of train operators and other parties (pay as you go schemes). The total including these schemes was £3,801m in 2018-19 and £19,762m in CP5, which is the same as in Table 2.3.

⁶⁸ The value for Network Rail's RAB in 2017-18 is in 2017-18 prices.

Scotland

	2018-19			CP5 cumulative			2017-18
£m, 2018-19 prices	Actual	PR13	Variance	Actual	PR13	Variance	Actual
Income	A	B	C=A-B	D	E	F=D-E	
Government grant income	339	341	(2)	2,236	2,231	5	439
Fixed charge income	255	255	0	717	718	(1)	162
Variable charge income	86	92	(6)	428	437	(9)	83
Other single till income	51	71	(20)	271	327	(56)	56
Opex memorandum account	0	0	0	4	0	4	4
Total income	731	759	(28)	3,656	3,713	(57)	744
Operating expenditure	A	B	C=B-A	D	E	F=E-D	
Operations	53	38	(15)	249	209	(40)	45
Maintenance	160	110	(50)	656	596	(60)	128
Support costs	46	45	(1)	230	245	15	42
Traction electricity, industry costs & rates	60	63	3	276	284	8	58
Schedule 4 compensation payments	17	25	8	117	136	19	15
Schedule 8 compensation payments	30	0	(30)	56	2	(54)	22
Total operating expenditure	366	281	(85)	1,584	1,472	(112)	310
Capital expenditure	A	B	C=B-A	D	E	F=E-D	
Renewals	374	261	(113)	1,756	1,554	(202)	363
PR13 enhancements	482	380	(102)	1,799	1,813	14	364
Non-PR13 enhancements	2	0	(2)	16	0	(16)	(1)
Total enhancements ⁶⁹	484	380	(104)	1,815	1,813	(2)	363
Total capital expenditure	858	641	(217)	3,571	3,367	(204)	726
Other expenditure	A	B	C=B-A	D	E	F=E-D	
Financing costs	224	227	3	891	997	106	222
Corporation tax	0	0	0	0	0	0	0
Total other expenditure	224	227	3	891	997	106	222
Total expenditure	1,448	1,149	(299)	6,046	5,836	(210)	1,258
Other information	(A)	(B)	B-A or A-B				
RAB ⁷⁰	7,439	7,236	203	n/a	n/a	n/a	6,711
Net debt	5,328	4,819	(509)	n/a	n/a	n/a	4,682
Gearing (net debt/RAB)	71.6%	66.6%	(5.0%)	n/a	n/a	n/a	69.8%
Adjusted interest cover ratio	0.32	1.02	(0.70)	n/a	n/a	n/a	0.77

Source: Network Rail's regulatory financial statements

⁶⁹ This excludes work on stations, car parks and other facilities undertaken on behalf of train operators and other parties (pay as you go schemes). The total including these schemes was £497m in 2018-19 and £1,896m in CP5, which is the same as in Table 3.2.

⁷⁰ The value for Network Rail's RAB in 2017-18 is in 2017-18 prices.

Wales

£m, 2018-19 prices	2018-19			CP5 cumulative			2017-18
	Actual	PR13	Variance	Actual	PR13	Variance	Actual
Income	A	B	C=A-B	D	E	F=D-E	
Government grant income	272	272	0	1,451	1,448	3	300
Fixed charge income	52	53	(1)	145	145	0	25
Variable charge income	24	26	(2)	141	140	1	23
Other single till income	27	35	(8)	111	127	(16)	22
Opex memorandum account	(4)	0	(4)	(7)	0	(7)	(2)
Total income	371	386	(15)	1,841	1,860	(19)	368
Operating expenditure	A	B	C=B-A	D	E	F=E-D	
Operations	39	23	(16)	173	133	(40)	36
Maintenance	74	66	(8)	369	340	(29)	71
Support costs	28	18	(10)	110	110	0	19
Traction electricity, industry costs & rates	19	16	(3)	78	60	(18)	17
Schedule 4 compensation payments	7	9	2	38	74	36	7
Schedule 8 compensation payments	0	0	0	2	1	(1)	3
Total operating expenditure	167	132	(35)	770	718	(52)	153
Capital expenditure	A	B	C=B-A	D	E	F=E-D	
Renewals	161	105	(56)	904	753	(151)	192
PR13 enhancements	223	181	(42)	725	755	30	181
Non-PR13 enhancements	7	0	(7)	15	0	(15)	2
Total enhancements ⁷¹	230	181	(49)	740	755	15	183
Total capital expenditure	391	286	(105)	1,644	1,508	(136)	375
Other expenditure	A	B	C=B-A	D	E	F=E-D	
Financing costs	122	121	(1)	493	524	31	122
Corporation tax	0	0	0	0	0	0	0
Total other expenditure	122	121	(1)	493	524	31	122
Total expenditure	680	539	(141)	2,907	2,750	(157)	650
Other information	(A)	(B)	B-A or A-B				
RAB ⁷²	3,783	3,661	122	n/a	n/a	n/a	3,462
Net debt	2,851	2,596	(255)	n/a	n/a	n/a	2,570
Gearing (net debt/RAB)	75.3%	70.9%	(4.4%)	n/a	n/a	n/a	74.2%
Adjusted interest cover ratio	0.59	1.15	(0.56)	n/a	n/a	n/a	0.73

Source: Network Rail's regulatory financial statements

⁷¹ This excludes work on stations, car parks and other facilities undertaken on behalf of train operators and other parties (pay as you go schemes). The total including these schemes was £237m in 2018-19 and £899m in CP5, which is the same as in Table 4.2.

⁷² The values for Network Rail's RAB in 2017-18 are in 2017-18 prices

Annex B: England routes analysis

This annex summarises the financial performance of routes in England in 2018-19. Analysis for Scotland and Wales is covered in chapters 3 and 4 respectively.

Caution needs to be applied when comparing the relative performance of routes. This is because financial data in this assessment has not been normalised for differences in the physical, geographical and operational characteristics of the routes. Also, Network Rail's internal budget analysis does not allocate central services to routes. The 'Differences to PR13 baseline' row in the following tables includes the variance between a route's budget and the PR13 financial assumptions for that route, and also the route's share of the financial performance of central services. Our analysis for Scotland and Wales in chapters 3 and 4 includes their portions of the costs of these central activities. The financial performance of central services is shown in a separate table and examined in this annex.

Anglia

£m	Income / expenditure	Financial performance better/(worse)
Turnover	866	1
Schedule 4	45	(12)
Schedule 8	21	(2)
Operations	61	(5)
Support	41	0
Maintenance	148	(3)
Capex – Renewals	324	(7)
Capex – Enhancements	299	4
Financial performance against budget		(24)
Differences to PR13 baseline		(264)
Adjustments for missed regulatory outputs		(38)
Financial performance (regulatory)		(326)

Source: Network Rail and ORR analysis

Anglia underperformed financially against its own budget by £24m and by £326m against the regulatory measure in 2018-19. The main reason for the variance to budget was higher Schedule 4 payments due to higher average costs of possession compared to our assumptions. In particular, problems with the implementation of the May 2018 timetable change resulted in higher compensation paid to train operators. Extreme weather events also contributed to compensation payments, though this was partially offset by lower than expected renewals delivery.

London North East and East Midlands

£m	Income / expenditure	Financial performance better/(worse)
Turnover	1,606	(3)
Schedule 4	64	11
Schedule 8	51	(21)
Operations	152	(20)
Support	91	7
Maintenance	302	(13)
Capex – Renewals	605	8
Capex – Enhancements	640	5
Financial performance against budget		(26)
Differences to PR13 baseline		(403)
Adjustments for missed regulatory outputs		(5)
Financial performance (regulatory)		(433)
- London North East		(354)
- East Midlands		(79)

Source: Network Rail and ORR analysis

The London North East and East Midlands route underperformed financially against its own budget by £26m and by £433m against the regulatory measure in 2018-19. The variance to budget was mostly due to higher Schedule 8 payments to train operators (for reduced network availability) and increased operations costs (which were driven by various factors including increasing the number of patrollers for trespass activities).

London North West

£m	Income / expenditure	Financial performance better/(worse)
Turnover	1,714	(3)
Schedule 4	70	(8)
Schedule 8	65	(27)
Operations	148	3
Support	101	(1)
Maintenance	378	(7)
Capex – Renewals	536	(7)
Capex – Enhancements	397	(60)
Financial performance against budget		(111)
Differences to PR13 baseline		(369)
Adjustments for missed regulatory outputs		(56)
Financial performance (regulatory)		(536)

Source: Network Rail and ORR analysis

The London North West route underperformed financially against its own budget by £111m and by £536m against the regulatory measure in 2018-19. Underperformance against internal budget was largely due to £60m of enhancements and £27m of Schedule 8 underperformance.

Enhancements underperformance was largely in the Northern Hub programme (for more information see the Enhancements section of chapter 2). Schedule 8 underperformance is explained by poor performance as a result of trespass on the rail network, track geometry issues and other asset failures brought about by an exceptionally hot summer, made worse by a congested rail network in the LNW route.

South East (Kent and Sussex)

£m	Income / expenditure	Financial performance better/(worse)
Turnover	1,495	(3)
Schedule 4	52	23
Schedule 8	46	0
Operations	126	(1)
Support	62	0
Maintenance	192	(3)
Capex – Renewals	577	(12)
Capex – Enhancements	329	(1)
Financial performance against budget		3
Differences to PR13 baseline		(426)
Adjustments for missed regulatory outputs		(95)
Financial performance (regulatory)		(518)
- Kent		(229)
- Sussex		(288)

Source: Network Rail and ORR analysis

South East outperformed financially against its own budget by £3m in 2018-19 and underperformed by £518m against the regulatory measure in 2018-19. The variance to budget was mostly due to better than assumed Schedule 4 costs partially offset by higher renewals costs. The route has explained that it made changes to the way that it planned major renewal schemes during the year to reduce disruption to passengers. Although this resulted in higher renewals costs, it resulted in Schedule 4 savings and reduced passenger disruption.

Wessex

£m	Income / expenditure	Financial performance better/(worse)
Turnover	706	2
Schedule 4	40	(9)
Schedule 8	69	(33)
Operations	50	(4)
Support	45	1
Maintenance	123	(2)
Capex – Renewals	189	(1)
Capex – Enhancements	170	1
Financial performance against budget		(44)
Differences to PR13 baseline		(189)
Adjustments for missed regulatory outputs		(36)
Financial performance (regulatory)		(269)

Source: Network Rail and ORR analysis

Wessex financially underperformed against its own budget by £44m and by £269m against the regulatory measure in 2018-19. Schedule 4 and 8 costs were the main reason for the variance to budget (£42m worse), partly resulting from the problems with implementing the May 2018 timetable changes.

Western

£m	Income / expenditure	Financial performance better/(worse)
Turnover	969	(13)
Schedule 4	40	(6)
Schedule 8	37	(15)
Operations	57	0
Support	49	0
Maintenance	148	0
Capex – Renewals	362	11
Capex – Enhancements	615	(94)
Financial performance against budget		(117)
Differences to PR13 baseline		(307)
Adjustments for missed regulatory outputs		(23)
Financial performance (regulatory)		(447)

Source: Network Rail and ORR analysis

Western underperformed financially against its own budget by £117m and by £447m against the regulatory measure in 2018-19. The main reason for the variance to budget was overspend on the Great Western Electrification Programme (GWEP) – see the Enhancements section for further details.

Central services

£m	Financial performance better/(worse)
Turnover	19
Schedule 4	27
Schedule 8	9
Operations	3
Support	21
Maintenance	15
Capex – Renewals	(23)
Capex – Enhancements	(16)
Financial performance against budget	52

Source: Network Rail and ORR analysis

Central services encompasses Network Rail’s corporate services and other activities that are only partly devolved to routes (such as Human Resources, Finance, Property Services and Digital Railway). It also includes centrally held budget contingencies – Network Rail centre sets route budgets and holds some central contingency in case of underperformance.

Central services outperformed against their combined budget by £52m in 2018-19. Support costs outperformed due to efficiency savings within corporate functions including tightening headcount management and controls on overtime. The rest of the outperformance was mostly due to unused contingency. As a form of internal insurance, Network Rail centre holds contingency for disruption due to severe weather events and there were fewer disruptive events during the year. Turnover included increased freight income and unused contingency for expected pain/gain under the volume incentive mechanism. These were partly offset by underperformance on renewals and enhancements relating to centrally managed schemes.

Annex C: Linkage between efficiency and financial performance

Several measures can be used to report on a company's financial performance and there is no single right or wrong measure. The measures are not exclusive and can be complementary to provide a more rounded assessment. Our assessments focus on two measures, efficiency and the financial performance measure.

Consistent with general use in economic regulation, we use the term 'efficiency' to refer to changes over time in the cost of Network Rail's core business activities. These are Network Rail's activities of operating, maintaining and renewing the rail network, and supporting central functions such as human resources. These are broadly repeatable activities, which makes them easier to compare over time.

Our CP5 efficiency measure compares Network Rail's actual operations, support, maintenance and renewals expenditure in a year with expenditure on these activities in 2013-14, the last year of CP4. Adjustments are made for the level of renewals activity undertaken and related factors. After these adjustments, expenditure on these activities was £5.8bn in 2018-19 and cumulative inefficiency was (£0.4bn) compared to the start of CP5. Expressed as a percentage this is -7.4%. This means that, adjusted for inflation, Network Rail spent 7.4% more for the work it delivered in 2018-19, than it did in 2013-14.

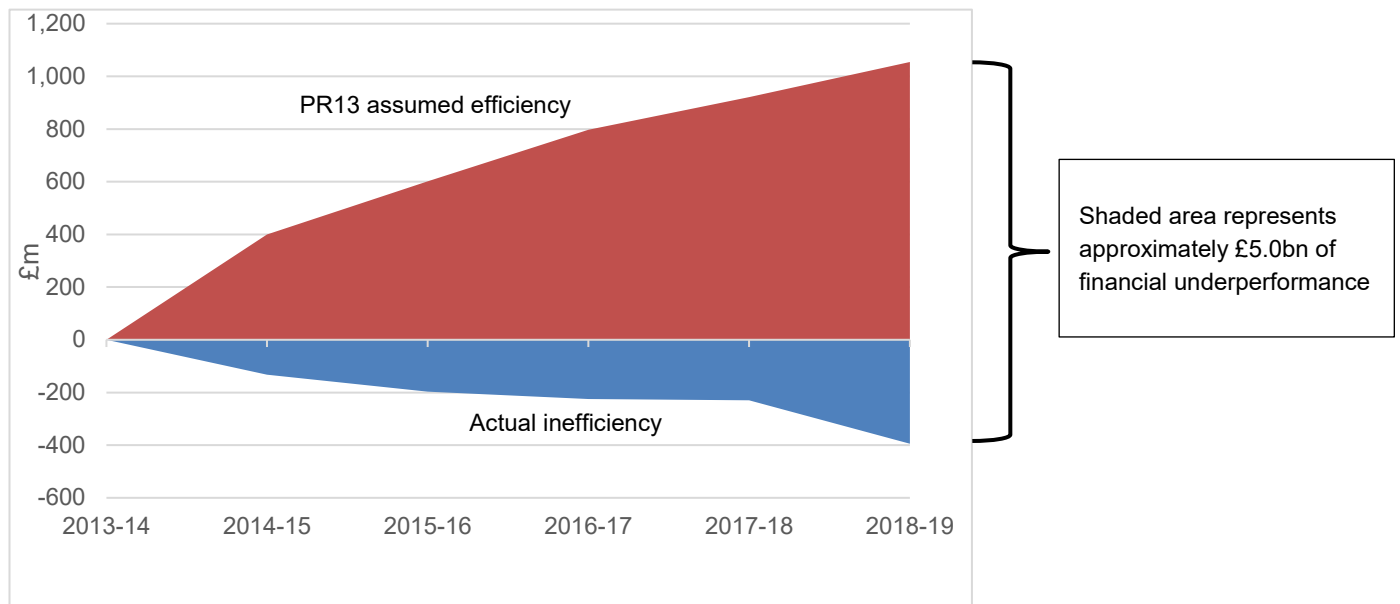
We use the term 'financial performance' to assess both core business activities and wider activities that generate income and expenditure such as enhancements to the network. Financial performance is a comparison of income and expenditure to the financial assumptions in a baseline such as in a business plan or regulatory determination. Other things being equal, if Network Rail has achieved the expected level of efficiency improvements in a business plan, it will report neither out or under-performance against that plan. Network Rail's financial performance for Great Britain against its internal budget and against the PR13 financial assumptions is summarised in Table 2.1.

Our PR13 determination assumed that Network Rail could make substantial efficiency improvements for Great Britain in CP5 such that it would be 19.4% more efficient at the end of CP5 than the start⁷³. Network Rail's efficiency has declined in CP5, which resulted in some of the financial underperformance that we have reported in our assessments in CP5. As its efficiency has declined, Network Rail's annual business plans have diverged from our PR13 financial assumptions. As set out in Section 2, this is one of the reasons why Network Rail's financial underperformance against its internal budget is lower than reported against the regulatory measure.

⁷³ Our PR13 determination assumed that Network Rail would achieve higher efficiency in 2013-14 (the final year of CP4) than it actually achieved. This means that the starting point for our PR13 assumed efficiencies for CP5 in the figure below is not the same as for Network Rail's reported efficiencies.

The following figure shows Network Rail’s declining efficiency for its operations, support, maintenance and renewals activities compared to the efficiency assumptions in our PR13 determination. The total red and blue shaded area in the chart represents the cumulative financial underperformance for these activities and is approximately £5.0bn. This means that Network Rail has spent approximately £5.0bn more for the work that it has delivered on these activities in CP5 because its efficiency has declined and it has not achieved the efficiency improvements set out in our PR13 determination (including in the final year of CP4).

Figure C1: The effect of efficiency short fall on Network Rail’s financial performance in CP5



Source: ORR analysis

Annex D: Acronyms and abbreviations

Acronym / abbreviation	Meaning
AICR	Adjusted Interest Cover Ratio
BTP	British Transport Police
Capex	Capital expenditure
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)
DfT	Department for Transport
ECAM	Enhancement Cost Adjustment Mechanism
EGIP	Edinburgh Glasgow Improvement Programme
FPM	Financial Performance Measure
GWEP	Great Western Electrification Programme
LNE	London North East route
LNW	London North West route
NOS	Network operating strategy
OSMR	Operations, support, maintenance and renewals
Opex	Operating expenditure
Opex memorandum account	An account maintained by Network Rail during CP5 for adjustments to be logged up and applied by ORR in the determination of the revenue requirement for CP6
ORR	Office of Rail and Road
OSTI	Other single till income
PR13	Periodic Review 2013 (covering CP5)
PR18	Periodic Review 2018 (covering CP6)
RAB	Regulatory Asset Base
RAGs	Regulatory Accounting Guidelines
REBS	Route Level Efficiency Benefit Sharing scheme
ROC	Regional operating centre
RPI	Retail Prices Index (we use the RPI CHAW in CP5)
SBP	Network Rail's Strategic Business Plan
TOCs	Train Operating Companies (passenger)



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