Annual efficiency and finance assessment of Network Rail 2023

19 September 2023

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Executive summary

Network Rail's funding and requirements for control period six (CP6) were set out in our 2018 periodic review (PR18). This determined what Network Rail should deliver and improve in respect of operating, maintaining, and renewing its network, and the funding needed to do this between 1 April 2019 to 31 March 2024.

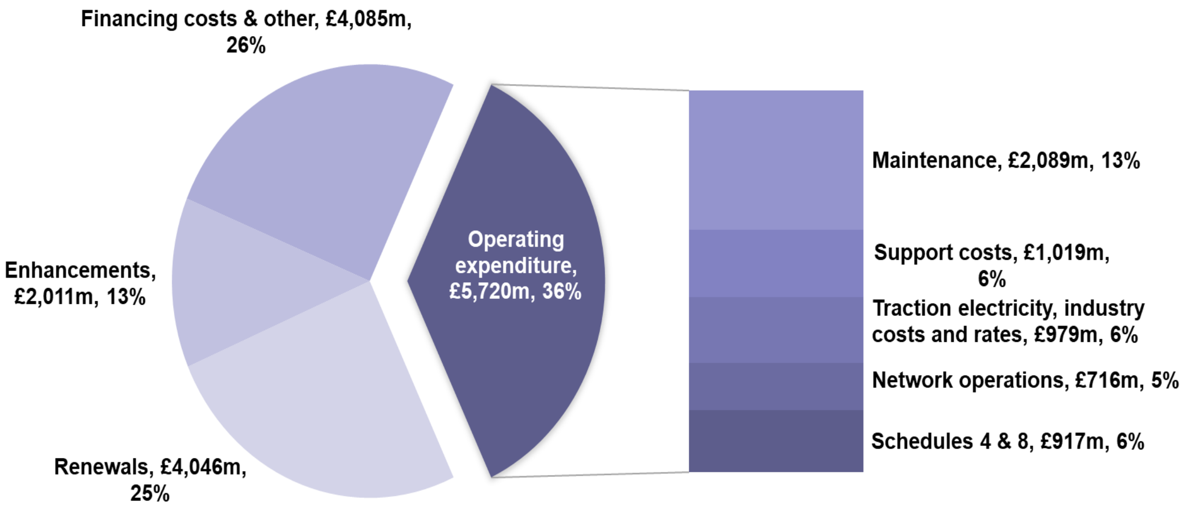
This document sets out our assessment of Network Rail's efficiency and wider financial performance in the year, and control period to date, providing detailed support to our recent Network Rail Annual Assessment. It covers Network Rail's activities across Great Britain as a whole and separately for each of Network Rail's regions in England & Wales, and Scotland.

Our assessment primarily focuses on two measures, financial performance and efficiency. The financial performance measure (FPM), compares Network Rail's income and expenditure to its CP6 delivery plan. It assesses whether, in aggregate, Network Rail has delivered its required activities for more or less than it was funded to deliver them. Our efficiency measure examines the drivers of cost changes over time and across regions of Network Rail's core business activities (operations, support functions, maintenance, and renewals). As such, financial performance and efficiency are related measures, though there are important differences which are explained in the report.

In April 2022 to March 2023, Network Rail reported £949 million of efficiency improvements, however, wider financial performance missed its target with the company underperforming by £974 million against its CP6 delivery plan.

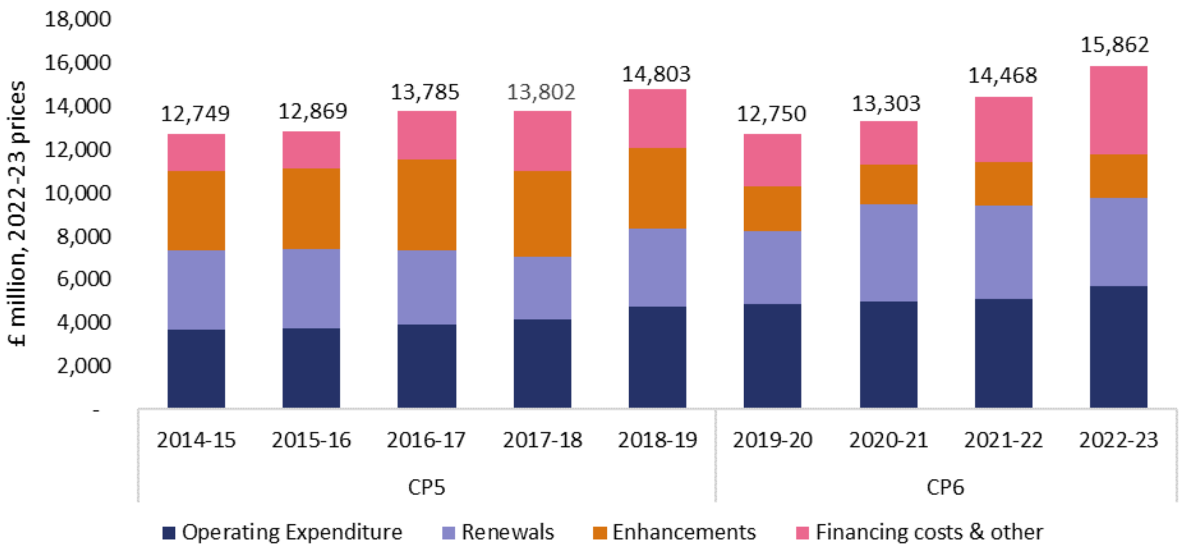
Network Rail spent £15.9 billion operating, maintaining, renewing, and enhancing the national rail infrastructure in the year April 2022 to March 2023, the fourth year of CP6. As shown in Figure 1, this includes network operations (£0.7 billion), support costs (£1.0 billion), traction electricity, industry costs and rates (£1.0 billion), maintenance (£2.1 billion), net payment to train operators in relation to service disruption comprising of Schedule 4 (£0.8 billion) and Schedule 8 (£0.1 billion), enhancements (£2.0 billion) renewals (£4.0 billion) and financing costs (£4.1 billion). Although finance costs are included in Network Rail's expenditure, they are covered entirely by the government. Annex A provides a more detailed breakdown of Network Rail's income and expenditure.

Figure 1: Network Rail's expenditure in April 2022 to March 2023



Source: ORR analysis of Network Rail data

Figure 2: Network Rail's expenditure across CP5 and CP6 (2022-23 prices)



Source: ORR analysis of Network Rail data

As shown in Figure 2, a large portion of Network Rail's rise in costs was brought on by an increase in financing costs and operating expenditure compared to previous years.

Key findings

The key findings from our assessment are:

1. Network Rail's delivery of efficiency improvements continued despite numerous challenges and appears on track to exceed the original CP6 target.

Network Rail delivered £949 million of efficiency improvements in April 2022 to March 2023. This represents a 13% year-on-year increase and a 1.6% increase compared to its delivery plan (£934 million). This was despite encountering a number of difficulties over the year caused by industrial action, severe weather conditions and rising inflation.

With £2.9 billion of efficiencies delivered over the first four years of CP6, Network Rail is confident that it will deliver its £4.0 billion revised target[1], ahead of its £3.5 billion commitment set at PR18. However, there are regional variations, with some regions falling behind their revised targets.

As shown in Figure 3, all five of Network Rail's regions[2] exceeded their original CP6 targets for the latest year and remain confident on achieving their year 5 efficiency commitments. Eastern was the only region to exceed its revised target for the year (by £15 million, 6%), while other regions fell short, largely due to delays in pay and workforce reform efficiencies. These are now expected to be realised in the final year of CP6. Scotland region exceeded its original CP6 target by £24 million having delivered £100 million of efficiencies. However, the region fell behind its revised target of £121 million (see key message 5 for more details).

National functions saw improvements in the year due to lower than expected costs of implementing workforce reforms (which reduced expected inefficiencies). These savings arose from lower implementation costs due to higher attrition rates and control over re-hiring. Resourcing gaps were managed through labour only subcontractors and overtime. Other savings were the result of management modernisations that were carried out earlier than anticipated.

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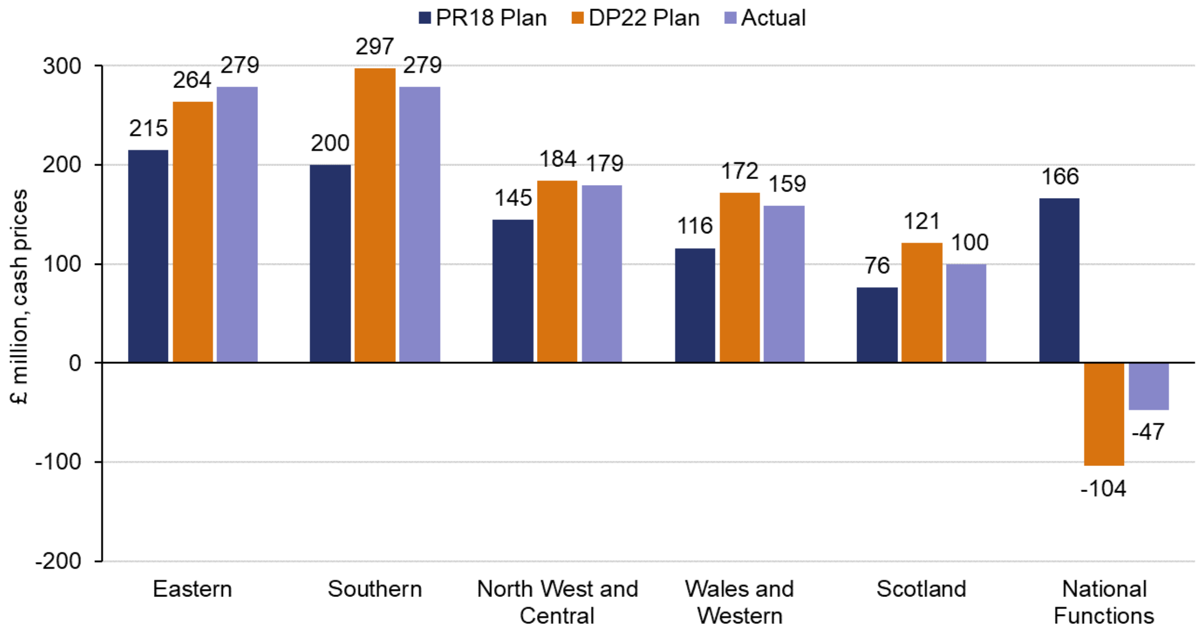
[1] Following cost pressures resulting from the COVID-19 pandemic, Network Rail increased its CP6 efficiency target from the £3.5 billion we set it in the CP6 final determination to £4.0 billion. We refer to these changes as Network Rail's revised target/plan.

[2] Following an internal reorganisation in early CP6, Network Rail's business is organised around five geographical regions: Eastern, Southern, North West and Central (NW&C), Wales and Western (W&W) and Scotland, supported by national functions such as HR and group finance.

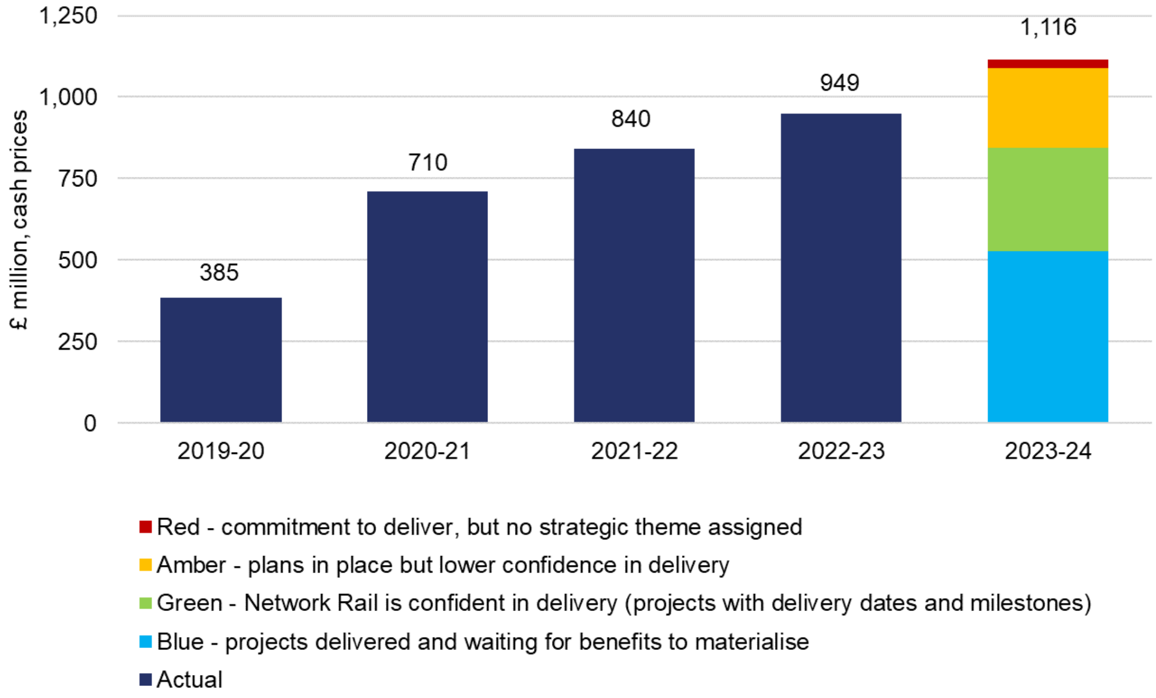
Figure 3: Regional contributions to efficiency improvements in April 2022 to March 2023



Source: ORR analysis of Network Rail's data

Leading indicators suggest that Network Rail is well placed to deliver its CP6 efficiency target. This includes 84% of efficiency improvements in April 2023 to March 2024 which have well developed plans, see Figure 4. However, financial pressures, particularly general inflation, could present a serious concern, especially as most regions have used or allocated all of their CP6 risk funding in the first four years of CP6.

Figure 4: Network Rail's actual and forecast efficiency in CP6



Key: April 2019 to March 2023: delivered, April 2023 to March 2024: forecast
Source: ORR analysis of Network Rail data as of 31 March 2023

With CP6 ending in March 2024, we are currently working on our 2023 periodic review (PR23), covering the control period from April 2024 to March 2029 ('CP7'). As set out in our PR23 draft determination, we are requiring Network Rail to achieve substantial further efficiency improvements beyond those delivered in CP6. Our draft determination includes a target for Network Rail to deliver at least £3.2 billion of efficiency improvements in England & Wales, and £0.4 billion of efficiency improvements in Scotland in CP7. We will publish our PR23 final determination in October.

2. Wider financial performance has suffered, largely due to industrial action.

Network Rail financially underperformed by £974 million against its CP6 delivery plan in the year April 2022 to March 2023. This means that net of income, the company spent £974 million more on what it delivered than it planned to. It has cumulatively underperformed by £1,865 million over the first four years of CP6. Factors that contributed to this underperformance included the impact of industrial action (mostly through higher Schedule 4 payments to train operators) and worse than expected weather conditions affecting assets and speed restrictions. These matters are examined in this report.

Following our last periodic review (PR18) determination, Network Rail outlined its intentions for what it was expecting to deliver over the course of CP6. Included in this was the company's income and expenditure assumptions for the financial year, April 2022 to March 2023 which is summarised in Annex A. Using the financial performance measure (FPM), we monitor the actual financial performance of income and expenditure against these CP6 assumptions. The FPM takes account of the actual work delivered and excludes some items such as interest payments. This is further discussed in Chapter 2, where we also examine the factors that have contributed to Network Rail's financial underperformance and its plans for the next control period (CP7) in more detail.

3. Throughout CP6, Network Rail, successfully managed financial uncertainties through the use of its risk fund and delivered on a large portion of its renewals programme, leaving little funding available for the final year of CP6.

Network Rail received £3.0 billion of risk funding (cash prices) in CP6. Using this risk funding throughout the control period, Network Rail has successfully managed numerous headwinds and unexpected financial uncertainty, such as the COVID-19 pandemic, industrial action, rising inflation and increasing market pressures.

The risk funding has also allowed Network Rail to deliver on much of its renewals programme across the first four years of the control period. However, this has led to most regions having drawn down or allocating all of their risk fund with only Scotland having £6.1 million remaining at the end of March 2023. This means that there is no ring-fenced funding available to manage new financial risk going into the final year of the control period. This poses a challenge for Network Rail on how it plans to manage uncertain economic conditions and fulfil its delivery plan.

Network Rail has indicated that it plans to manage future challenges such as scope changes, adverse weather events, unachieved efficiencies and rising inflation by deferring or reducing the scope of renewals activities. We will continue to engage with Network Rail in managing these uncertainties to minimise any slippages to its delivery in the final year of CP6.

4. Staff costs have reduced as Network Rail makes strides in headcount levels with the implementation of workforce reforms.

In the year April 2022 to March 2023, Network Rail employed an average of 41,879 staff (on a full time equivalent (FTE) basis) costing £2.8 billion. This represented 17% of the company's total expenditure.

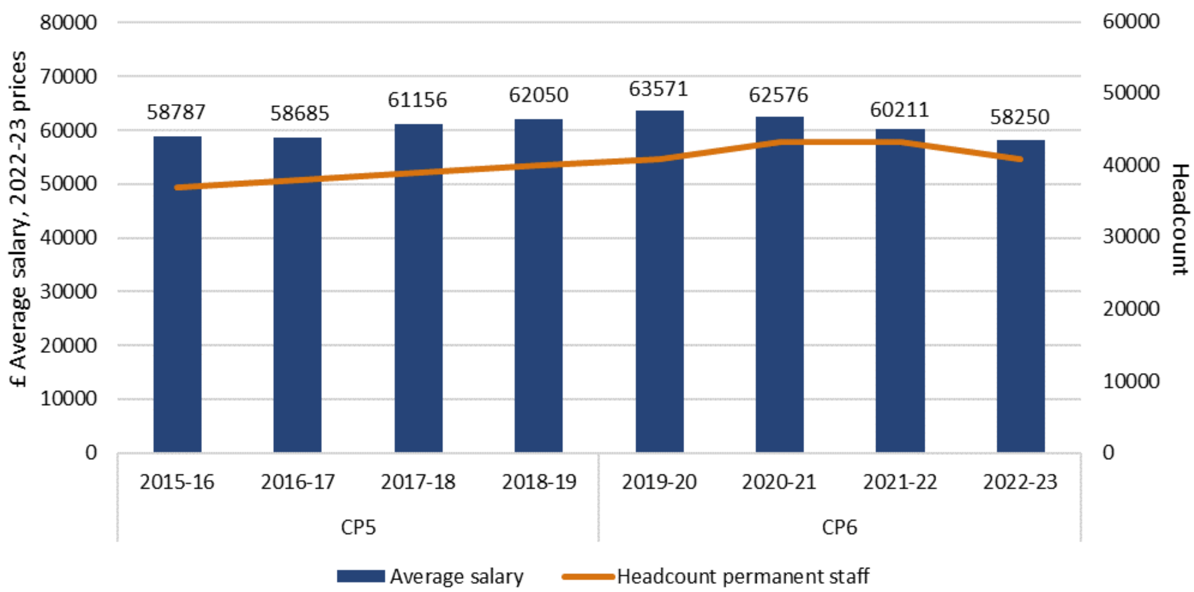
The average employment cost for a full-time employee was £58,250, of which 25% was from overtime, allowances, and employer pension contributions.

Average headcount reduced by 6% in the year largely due to the implementation of management and maintenance modernisation initiatives. This saved £0.3 billion in staff costs. Despite these reforms, Network Rail's permanent headcount remained 2% higher than at the start of CP6, largely due to a significant increase in headcount earlier in the control period:

- Senior management grades reduced by 6% to around 620 FTEs during the year, although this still represents a 15% increase in these grades compared to the start of CP6.

- Maintenance headcount reduced by 4% to 15,468 FTEs during the year, and by 8% compared to the starts of CP6. The company is planning to make further improvements to the way in which it delivers maintenance activities through its modernising maintenance programme including improving staff rostering, leading to better deployment of the workforce. Network Rail expects to achieve £100 million of savings per year from this programme by the end of CP6.

Figure 5: Average salary and headcount of permanent staff



Source: ORR analysis of Network Rail data

Network Rail's agency FTE staff headcount reduced by 10% (123 heads) in the year to 1,089 heads. Nevertheless, this represents a 13% increase from the start of CP6

(966 total heads). This was due to a 40% increase in agency heads in year 2 of CP6 which Network Rail has attributed to resourcing needs to implement its Putting Passengers First programme (PPF).

5. Scotland's efficiency improvements has lagged that of other regions.

Network Rail's Scotland region achieved £100 million of efficiency improvements in the year. However, this fell 17% short of its revised target, which was primarily due to lower than planned renewals to the network. The reduction in work led to a corresponding loss in planned efficiencies. Scotland no longer expects to be able to deliver its revised CP6 efficiency target (£412 million) and is now aiming to deliver £349 million of efficiency improvements in CP6.

Although Scotland has reduced its efficiency target to £349 million, leading indicators suggest that the region is on course to outperform our final determination target for CP6 of £339 million efficiency improvements, with 93% of Year 5 efficiencies having well developed plans. However, there are substantial risks to delivery, particularly as the region has used up or allocated most of its risk fund during the first four years of CP6 and has experienced substantial slippage to delivery of planned renewals. We will continue to closely monitor and engage with Network Rail Scotland on its plans for the remainder of the control period.

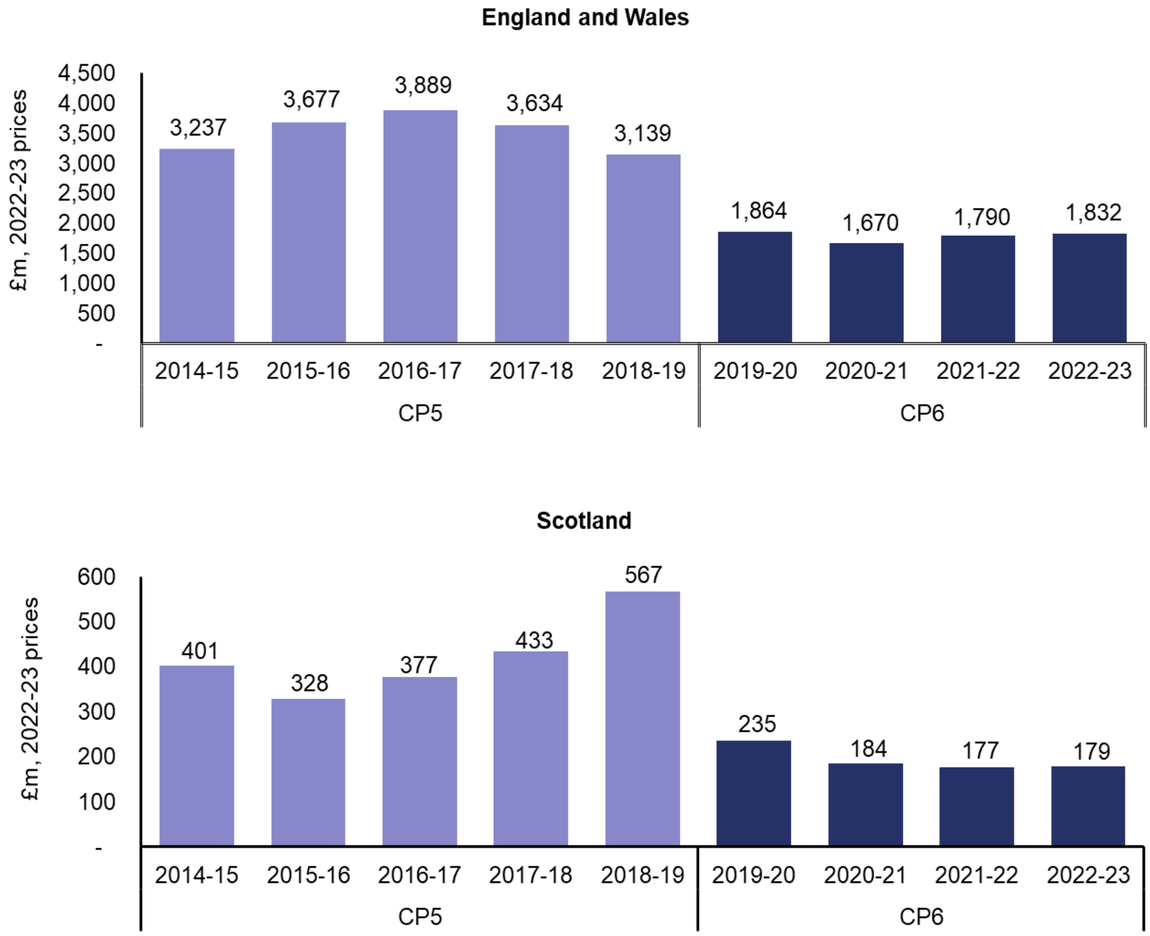
6. Network Rail's enhancement expenditure increased by 2% in the year, but is much lower than enhancement spend in CP5.

In the year April 2022 to March 2023, Network Rail spent £2.0 billion on government funded enhancements to the rail network. This represents a 2% year-on-year increase with a cumulative £7.2 billion of enhancements expenditure across the first four years of CP6, which is slightly ahead of Network Rail's CP6 plan (£7.0 billion). As shown in Figure 6, expenditure on enhancements has been much lower than in CP5, with an average yearly spend in Great Britain of £2.0 billion in CP6 compared to £3.9 billion in CP5. Major enhancement projects undertaken in the year included the Transpennine Route Upgrade (£604 million), East West Rail Phase 2 (£181 million), East Coast Digital (£201 million) and Midland Main Line Programme (£128 million).

Network Rail Scotland spent £179 million on government funded enhancements in the year, representing a 1% yearly increase. Cumulatively, the region has spent £705 million across CP6 to date, ahead of its £692 million CP6 plan. Key enhancement expenditure in the year included Busby Junction to Barrhead

Electrification (£23 million), Dalcross New Station (£29 million) and Levenmouth (£35 million).

Figure 6: Enhancements expenditure in CP5 and CP6 to date



Source: ORR analysis of Network Rail's data

7. Network Rail's research and development programme has made slower progress than planned, with improvements required.

Our PR18 determination included £245 million of funding for research and development (R&D) in CP6. Network Rail spent £47 million on R&D initiatives in the year April 2022 to March 2023, 22% below its £60 million delivery plan for the year. This underspend was primarily caused by a small number of projects not delivering as intended. These projects were removed by Network Rail as part of good governance practice of the R&D fund, ensuring that investments continue to generate a benefit. Cumulatively, the company has spent £169 million in the first four years of CP6, representing 69% of the total funding received at PR18 (£245 million).

Network Rail has indicated that it has sufficient R&D workbanks in the final year and remains on target to spend £245 million by the end of the control period.

Network Rail secured £13 million of third party funding in the year, bringing total third party funding to £63 million in the control period. This represents just over half of its CP6 target of £112 million.

Network Rail has undertaken 110 R&D projects in CP6 to date, of which only 14 have so far progressed to deployment. These include;

- a security surveillance analytics system developed to identify unusual behaviour and passengers that may need assistance from staff; and
- 'Geofencing', a real time monitoring system which, when worn by track workers, alerts users if they have moved into an unsafe work zone.

Network Rail's CP6 R&D programme progressed more slowly than we expected during the year and we consider that additional work is now required to successfully deliver this programme. Last year, we published a review of technology adoption across Network Rail that identified systemic issues which have prevented business units from effectively adopting new technologies. These issues mostly relate to cultural and communication barriers within Network Rail, rather than technical or commercial barriers. Since then, Network Rail has undertaken work to understand the barriers to technology adoption and to find strategies to overcome these. Network Rail has documented these approaches in order to ensure that future deployments are quicker and that technologies are embedded into the operational organisation.

1. Introduction

1.1 Our annual efficiency and finance assessments provide our view of how Network Rail is performing financially each year. This 2023 publication covers the fourth year of CP6, April 2022 to March 2023. It provides detailed support for our recent Network Rail Annual Assessment, which also covers Network Rail's operational performance, including in respect of safety risk, train performance and asset management. We also publish a detailed annual health and safety report.

1.2 Most of the financial information in this report is based on Network Rail's regulatory financial statements. All efficiencies, headwinds and financial risk numbers in this report are presented on a cash basis. All other financial information is presented in 2022-23 prices, except where stated. Numbers may not sum due to rounding.

1.3 Chapter 2 reports on Network Rail's overall financial performance, including on its income and expenditure, and on related matters such as changes to efficiency, financial risk management and budgetary flexibility.

1.4 Chapter 3 reports on the financial performance and efficiency of the Scotland region.

1.5 Chapter 4 provides comparisons of the relative financial performance and efficiency of Network Rail's five regions. These include Eastern, North West and Central (NW&C), Scotland, Southern and Wales and Western (W&W). The chapter also refers to the financial performance of the national functions.

1.6 Annex A provides detailed financial tables for Network Rail's activities in Great Britain, for England and Wales, and separately for the regions and national functions, and for Wales.

1.7 Annex B explains the relationship between the efficiency and financial performance measures used in our assessments.

1.8 Annex C summarises the progress of Network Rail's CP6 research and development (R&D) activities.

How we calculate Network Rail's financial performance and efficiency

1.9 Different measures can be used to report on a company's financial performance and there is no single right or wrong measure. Different measures can be complementary to provide a more rounded assessment. We consulted on these matters in the development of our CP6 regulatory accounting guidelines. These guidelines explain how Network Rail is required to publicly report on its finances in CP6. Our assessments in CP6 focus on two measures:

- *Financial performance*: This compares income and expenditure to the financial assumptions underpinning CP6 funding. The efficiency improvements that regions are expected to achieve are embedded in the financial assumptions in their CP6 delivery plans. As such, these baselines are described as being 'post-efficient'. If a region has spent less and / or has received more income than its delivery plan (for what it has delivered), it will report financial outperformance, and vice versa for underperformance.

- *Efficiency*: This compares the relationship between expenditure on core business activities (operations, support functions, maintenance, and renewals) and outputs on a like-for-like basis over time.

1.10 Our assessments help to give assurance to rail users and funders about whether Network Rail's regions are delivering what is expected of them whilst providing a reputational incentive for regions to become more efficient.

Financial performance

1.11 Network Rail's financial performance can be calculated in several ways. The factors to be considered when deciding how to calculate financial performance include:

- to what baselines (or budget) we should compare;
- adjustments for the amount of work undertaken; and
- including or excluding some types of income and expenditure that are less controllable.

1.12 Our primary measure of Network Rail's financial performance is the Financial Performance Measure (FPM). To be as informative as possible, FPM takes each of the above matters into account. FPM compares Network Rail's income and expenditure to its CP6 delivery plan. It adjusts for the amount of work done and excludes income and expenditure that is not controllable by Network Rail. This includes network grants, fixed track access charges, traction electricity income and costs, and business rates. Our CP6 regulatory accounting guidelines explain how FPM is calculated.

Efficiency

1.13 The priorities for our assessments of efficiency, and hence for Network Rail's reporting in CP6, are to:

- drive the best outcomes for the users of the rail network through supporting better value for money;
- enhance regional performance comparisons to aid in benchmarking;
- move away from measures that aim to be technically precise to a more rounded assessment. This assessment aims to draw out key messages about the drivers of performance, make a clearer link between expenditure and delivery, and examine how efficiencies are being achieved;
- make better informed forward-looking assessments of the efficiencies that regions are likely to deliver throughout the control period; and
- provide clear and informative messages about efficiency improvements, recognising that different audiences want different levels of technical detail.

1.14 To deliver these priorities, we required Network Rail's reporting in CP6 to provide:

- greater emphasis on reporting how regions have delivered efficiency improvements;
- more detailed assessment of the drivers of cost changes over time and across regions; and
- a forward-looking view of the efficiencies that Network Rail will likely achieve across CP6. This includes reporting on the progress of regions' efficiency plans and leading indicators of delivery.

1.15 Efficiency and financial performance are related but not the same. The relationship between these measures is explained in more detail in Annex B.

Regional financial analysis

1.16 Network Rail started CP6 with eight regional operating routes supported by national functions. During the control period, it has reorganised these routes into five geographical regions (Eastern, North West and Central (NW&C), Scotland, Southern and Wales and Western (W&W). It has also devolved some national functions to regions. Network Rail still has routes, although there are now 14 of them. The routes are now a sub-geography of the five regions. A map of Network Rail's five regions is shown in Figure 1.1. This is explained further on Network Rail's website.

1.17 The reorganisation from routes to regions makes it difficult to compare performance back to our PR18 determination on a geographical basis, since PR18 was undertaken for routes. Network Rail developed a CP6 delivery plan which set out how it intended to deliver the requirements of our PR18 determination within the funding available. It subsequently revised its delivery plan from being route-based to region-based. So, for the purpose of comparing Network Rail's financial performance to our PR18 funding assumptions, we use Network Rail's revised CP6 delivery plan as the funding baseline in this assessment.

Figure 1.1: The geography of Network Rail's regions

Source: Network Rail

1.18 We welcome comments on the content of this report. These should be sent to:
Customer Correspondence Team
Office of Rail and Road
25 Cabot Square
London E14 4QZ
Email: contact.cct@orr.gov.uk

2. Network Rail's financial performance and efficiency

Financial performance

2.1 Our primary measure of Network Rail's financial performance is the financial performance measure (FPM). FPM provides a better understanding of Network Rail's financial performance than simple income and expenditure variances to a baseline / budget as it takes into account what has actually been delivered. A positive FPM means that Network Rail has outperformed, and a negative FPM means that Network Rail has underperformed. FPM and efficiency are complementary measures that provide a rounded assessment of Network Rail's performance and changes over time (see Annex B for further details).

2.2 Network Rail spent £15.9 billion operating, maintaining, renewing and enhancing the national rail infrastructure in April 2022 to March 2023. Network Rail financially underperformed by £974 million against its CP6 delivery plan in the year. It has cumulatively underperformed by £1,865 million against its CP6 delivery plan across the first four years of CP6.This underperformance was partly funded from use of the company's CP6 risk fund.

Table 2.1: Network Rail's financial performance, Great Britain, April 2022 to March 2023

£m, 2022-23 prices	Actual	Variance to CP6 delivery plan better /(worse)	Of which out / (under) performance
Network grant income	7,463	(15)	0
Franchised track access charges	2,771	(190)	(86)
Other single till income	676	(39)	(52)
Total income	**10,911**	**(244)**	**(138)**
Schedule 4	785	(460)	(461)
Schedule 8	132	(67)	(67)
Network operations	716	(30)	(30)
Support costs	1,019	(118)	114
Traction electricity, industry costs and rates	979	166	(5)
Maintenance	2,089	(309)	(214)
Total operating expenditure	**5,720**	**(818)**	**(663)**
Renewals	4,046	(51)	(146)
Enhancements	2,011	(326)	(27)
Total capital expenditure	**6,057**	**(377)**	**(173)**
Financing costs and other	4,085	(1,771)	0
Total expenditure	**15,862**	**(2,966)**	**(836)**
Financial performance measure (FPM)	n/a	n/a	**(974)**

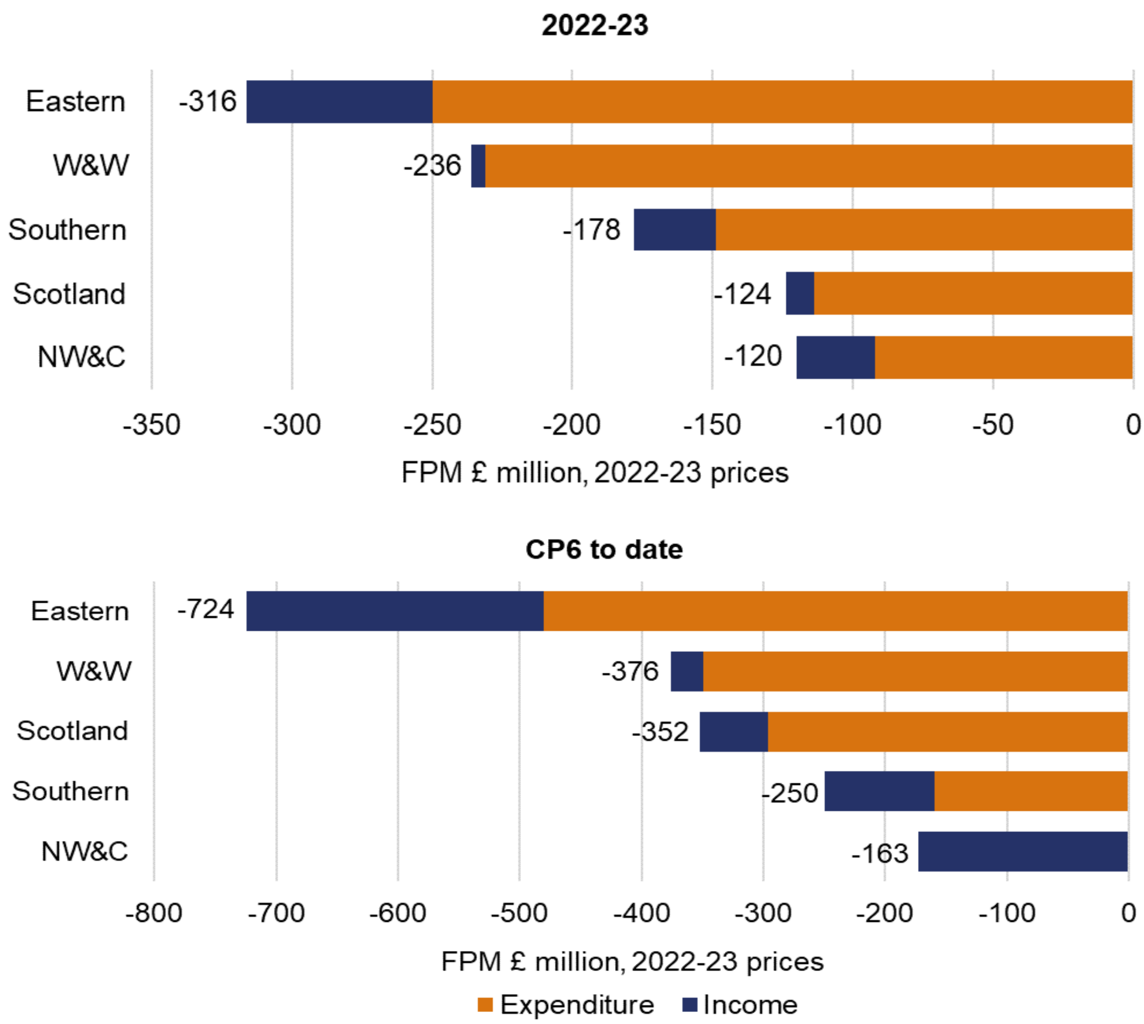
Source: ORR analysis of Network Rail's data. Numbers may not sum due to rounding.

2.3 Table 2.1 shows Network Rail's actual performance against its budgeted income and expenditure, set out in its delivery plan. The table also shows the FPM for each these, which indicates how much Network Rail has out/underperformed against what it was expecting to deliver.

2.4 As shows in Table 2.1 above, Network Rail's financial underperformance in April 2022 to March 2023 was caused by a number of factors, such as underperformance of Schedule 4 due to industrial action and extreme heat in the summer, loss of income due to strike action, higher than anticipated maintenance costs and loss of renewals volumes. This was partially offset by outperformance of support costs. These matters are examined in the income and expenditure sections of this chapter and in our regional analysis in Chapter 4.

2.5 There were common drivers of income and expenditure across the network such as the impact of industrial action. However, regional differences in efficiency and local factors such as the impact of severe weather were also important. Learning from these regional variations in performance can help all regions to improve their own financial performance. Figure 2.1 shows the regional contributions to Network Rail's financial performance in the year, and CP6 to date (national functions' contributions have been allocated to regions).

Figure 2.1: Regional contributions to Network Rail's financial underperformance

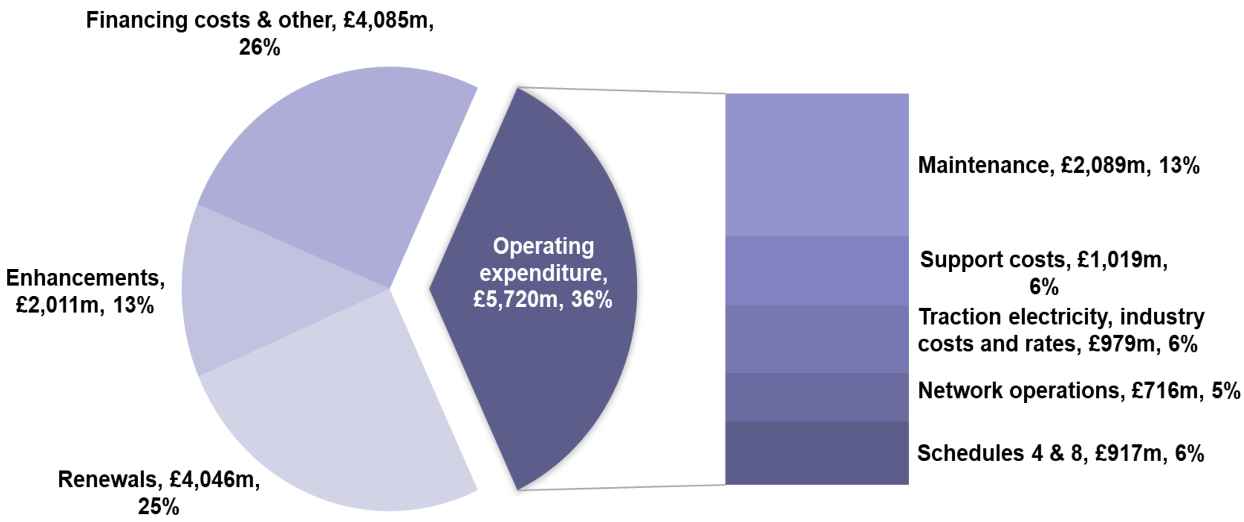


Source: ORR analysis of Network Rail's data

Expenditure

2.6 Network Rail spent £15.9 billion from April 2022 to March 2023. Figure 2.2 shows the main categories of Network Rail's expenditure, and these are examined below.

Figure 2.2: Network Rail's expenditure from April 2022 to March 2023



Source: ORR analysis of Network Rail's data, 2022-23 prices

Operating expenditure

2.7 Operating expenditure relates to maintenance activities, network operations, support costs, traction electricity, industry costs and rates, and the Schedule 4 and 8 regimes. These expenditure items are examined below.

Maintenance

2.8 Maintenance expenditure relates to activities that maintain the condition and capability of the existing infrastructure to the previously assessed standard of performance. Network Rail spent £2,089 million maintaining its network in April 2022 to March 2023, underperforming by £214 million. Network Rail has mostly attributed this underperformance to dealing with staffing disruption, extra vegetation clearance in the year, additional spend on performance improvement schemes, higher material prices and compliance with internal safety standards.

Network operations

2.9 Network operations expenditure relates to activities to operate the rail network. This includes signalling and operating Network Rail's managed stations. Network Rail spent £716 million operating the network from April 2022 to March 2023, underperforming by £30 million. The overspend included additional expenditure to improve passenger services including extra weather control managers and improved resilience of the National Operations Centre in Scotland.

Support costs

2.10 Support costs relate to activities that facilitate Network Rail's core business activities. These include corporate functions and IT services. Support costs were £1,019 million in April 2022 to March 2023, outperforming by £114 million, largely due to workforce reform programmes, particularly management modernisation.

Traction electricity, industry costs and rates

2.11 Network Rail purchases electricity to provide power for electrically powered trains. These costs are largely matched by an equal amount of income from train operators (it retains a minimal amount of the cost for the electricity it uses). Industry rates and other costs include Network Rail's share of British Transport Police costs, business rates, Rail Safety and Standards Board (RSSB) costs, the ORR licence fee, and railway safety levy. Network Rail has limited control over these costs, which are either set by government agencies, or are driven by train operator usage and market prices in the case of traction electricity costs.

2.12 Traction electricity, industry costs and rates were £979 million this year, underperforming by £5 million. These items are largely not controllable by Network Rail, so they mostly do not contribute to its financial performance measure.

Schedule 4 and Schedule 8 costs

2.13 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 or Network Rail for the impact of unplanned service disruption.

2.14 Schedule 4 costs were £785 million in the year, with a large underperformance of £461 million. This was mainly caused by continued strike action throughout the year. Network Rail was required to compensate train operators where it was not able to deliver agreed timetables for passengers.

2.15 Schedule 8 costs were £132 million in the year, underperforming by £67 million. This is largely the result of poor train performance brought on by industrial action, heat in the summer months, an increased number of temporary speed restrictions and asset failure all of which contributed to the delays.

Renewals

2.16 Renewals expenditure relates to activities to replace (in whole, or in part) network assets that have deteriorated such that they can no longer be maintained economically. Renewal of an asset restores the original performance of the asset and can add additional functionality as technology improves.

2.17 Network Rail spent £4,046 million renewing the rail network in April 2022 to March 2023, underperforming by £146 million. This was mostly due to industrial action impacting several renewals projects, resulting in aborted costs and delays to planned activities. The reliability of high output plant (which Network Rail uses for track renewals and ballast cleaning) and higher inflationary challenges on materials and contractor costs also contributed to this underperformance.

Enhancements

2.18 Enhancements are changes to improve network capacity or capability, for example, enabling more train journeys or higher speeds. Enhancement schemes are subject to approvals on a case by case basis from DfT and Transport Scotland under their 'pipeline' approaches for releasing funding as individual projects progress.

2.19 Network Rail spent £2,011 million on government-funded enhancements in April 2022 to March 2023, underperforming by £27 million. Expenditure on the main schemes is summarised in Table 2.2. It also spent £649 million on third party funded schemes.

2.20 Network Rail has cumulatively spent £7.2 billion on government-funded enhancements schemes in the first four years of CP6. In real terms, this represents a 50% reduction in annual expenditure on enhancements compared to the annual average in CP5.

Table 2.2: Network Rail's enhancements expenditure in April 2022 to March 2023

£m, 2022-2023 prices	Actual	Of which out / (under) performance
Trans Pennine Route Upgrade	604	3
East West Rail Phase 2	181	0
Midland Main Line Programme	128	0
East Coast Main Line Enhancements Programme	81	0
Access for All	66	0
Gatwick Station	59	(20)
Hope Valley Capacity	57	(1)
South West Rail Resilience Programme	49	(7)
Oxford Corridor Capacity Phase 2	28	0
Manchester Improvements	26	(1)
Transport Scotland-funded enhancements	179	(4)
Other capital expenditure	35	0
Other Network Rail-funded enhancements	518	3
Total Network Rail-funded enhancements	**2,011**	**(27)**
Third party-funded enhancements (including HS2)	435	0
Total enhancements	**2,446**	**(27)**

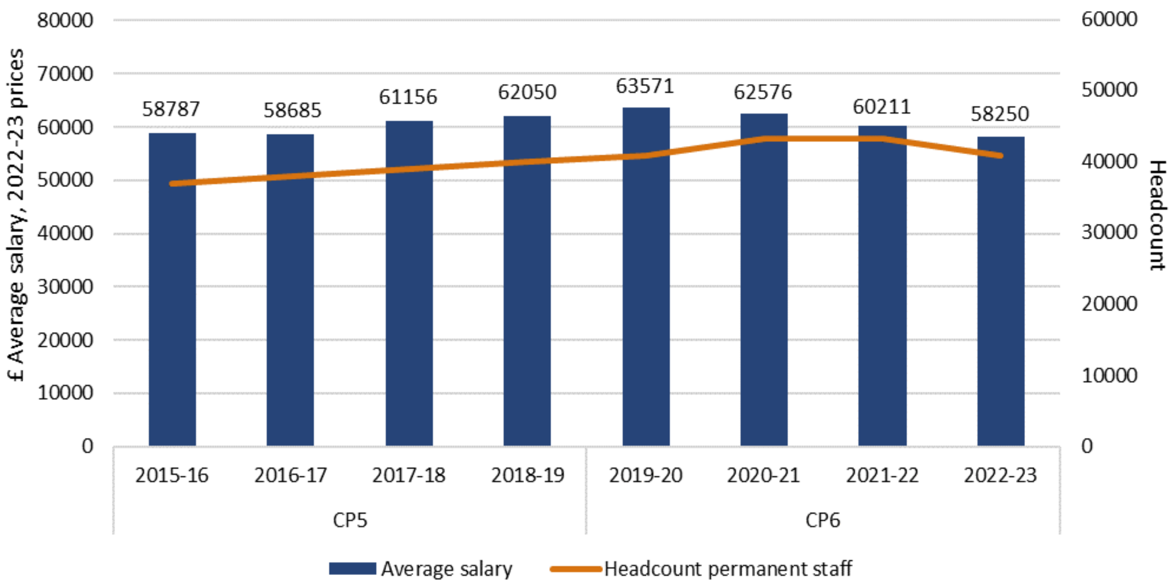
Source: ORR analysis of Network Rail's data

Employment costs

2.21 In April 2022 to March 2023, Network Rail employed an average of 41,879 staff (on a full time equivalent (FTE) basis) costing £2.8 billion. This is a reduction of 2,582 heads (6%) compared to last year (April 2021 to March 2022) and a reduction in staff cost of £0.3 billion (9%) in real terms.

2.22 The average employment cost for a full-time employee was £58,250, of which 25% was from overtime, allowances, and employer pension contributions.

Figure 2.3: Average salary and headcount across CP5 and CP6



Source: ORR analysis of Network Rail data

2.23 With the implementation of management and maintenance modernisation initiatives, Network Rail have managed to reduce their headcount by 6% in the year. Despite these reforms, Network Rail's permanent headcount remained 2% higher than at the start of CP6, largely due to a significant increase in headcount earlier in the control period.

2.24 Senior management grades reduced by 6% to around 620 FTEs during the year, although this still represents a 15% increase in these grades compared to the start of CP6.

2.25 Maintenance headcount reduced by 4% to 15,468 FTEs during the year, and by 8% (1,249 FTEs) compared to the starts of CP6. Network Rail is continuing to make further improvements in its maintenance activities through its modernising maintenance programme which will include improving staff rostering, leading to better deployment of the workforce. Network Rail expects to achieve £100 million of savings per year from this programme by the end of CP6.

2.26 Network Rail's agency FTE staff headcount reduced by 10% (123 heads) in the year to 1,089 heads. Nevertheless, this represents a 13% increase from the start of CP6 (966 total heads). This was due to a 40% increase in agency heads earlier in the control period brought on by the additional resources required to implement its Putting Passengers First programme (PPF).

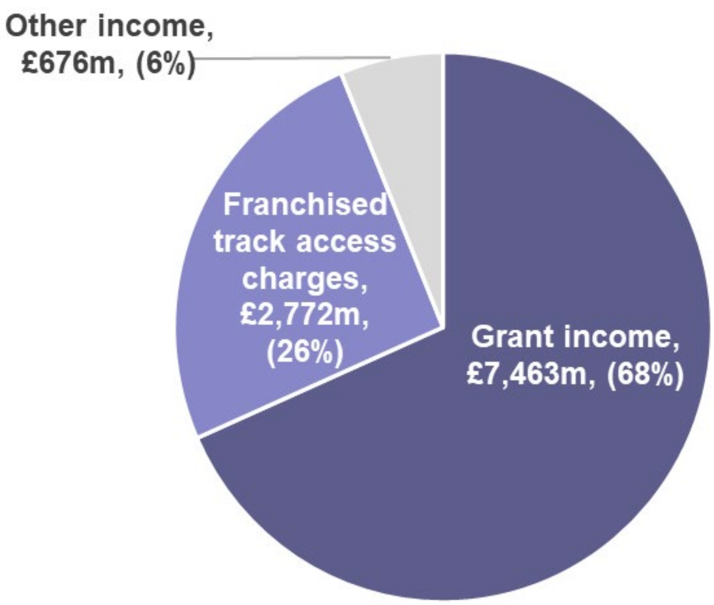
2.27 Last year, ORR published a review of rail industry employment costs report, which found that whilst pay across the rail industry is broadly in line with wider market rates for comparable roles, it is close to the top end of the market (9% above the market median for total reward). At Network Rail, 108 key roles were grouped into three categories, with the results showing that total reward is largely within wider market rates, with the exception of the maintenance staff category, who are paid above market rates. Further details can be found in the report. We will draw on the findings from this report for our 2023 Periodic review (PR23) assessment of Network Rail's efficient costs.

Income

2.28 Network Rail received £10.9 billion of income for the operation, maintenance and renewal of the railway infrastructure in April 2022 to March 2023. This is a 1% year on year increase (£156 million) and a 5.7% (£577 million) increase compared to the start of CP6.

2.29 Figure 2.4 shows this split by major income category. The majority of Network Rail's income was from grant income (£7,463 million) which has increased by 4.1% (£295 million) compared to last year and franchised track access charges (£2,772 million) which has reduced by 3.1% (£86million) compared to last year.

Figure 2.4: Network Rail's income from April 2022 to March 2023



Source: ORR analysis of Network Rail's data, 2022-23 prices

2.30 Network Rail's income financially underperformed by £138 million, mostly due to industrial action and pandemic-related reductions to franchised track variable usage access charges and property rental income. Cumulatively, Network Rail has financially underperformed on income by £590 million in CP6 so far.

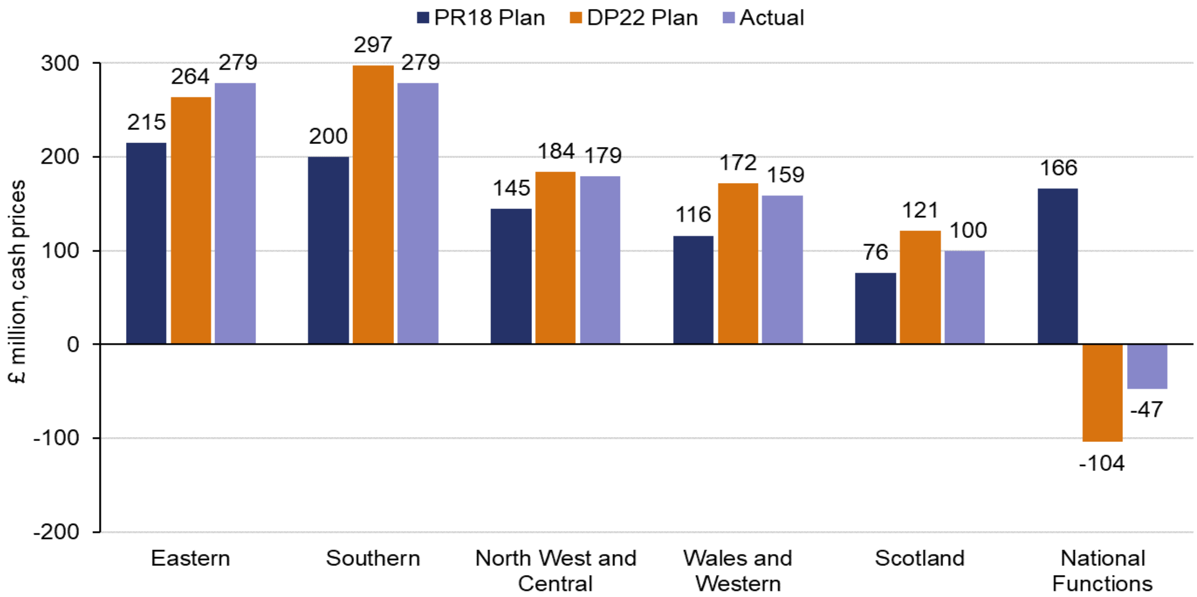
Efficiency

2.31 In determining the funding that Network Rail would need to deliver its required outputs in CP6, we assessed the efficient level of expenditure that it required. The detailed assumptions on expenditure and efficiency underlying these projections were set out in our 2018 periodic review (PR18), where we challenged Network Rail to make £3.5 billion of efficiency improvements (in cash prices).

2.32 Network Rail responded to our PR18 determination by developing a CP6 delivery plan which included how it intended to deliver our efficiency challenge. Recognising the increased financial pressures from unanticipated cost increases from COVID-19, Network Rail subsequently increased its internal CP6 efficiency target to £4.0 billion, with the planned increase coming mostly from workforce reform initiatives. Throughout this document we refer to this as Network Rail's revised CP6 efficiency target/plan. This is shown in Figure 2.5.

2.33 Network Rail has reported £949 million of efficiency improvements in April 2022 to March 2023, slightly ahead of its £934 million revised delivery plan. However, as shown in Figure 2.5, there are important regional variations.

Figure 2.5: Regional contributions to efficiency improvements, from April 2022 to March 2023

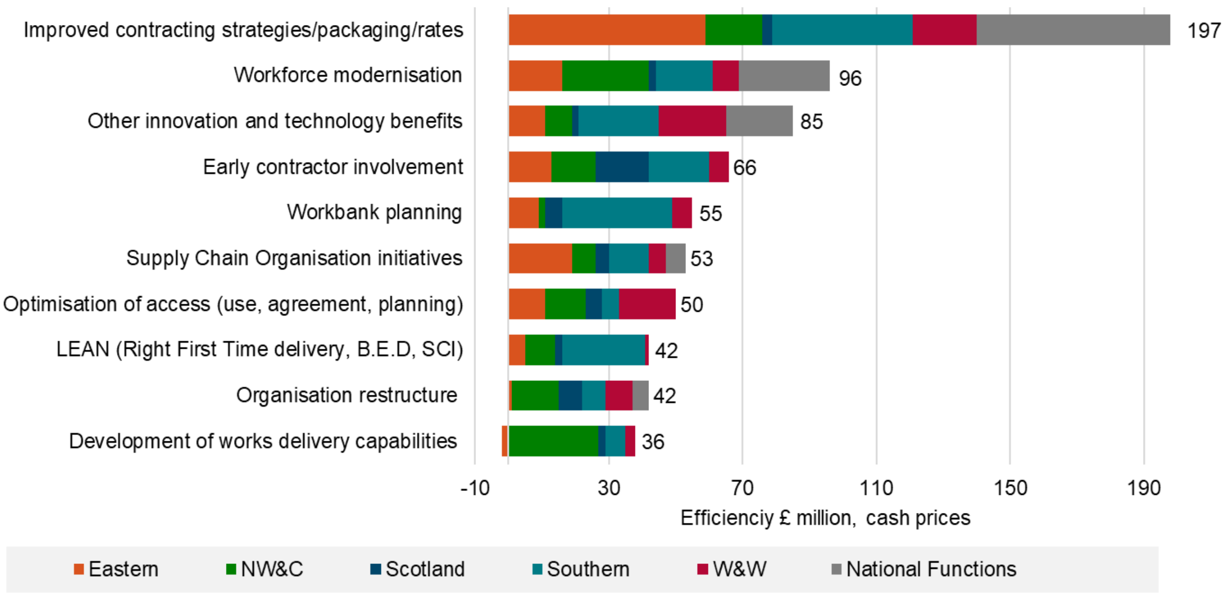


Source: ORR analysis of Network Rail's data

2.34 Network Rail's continued improvement of efficiency in the year has been achieved through a combination of national and regional initiatives. Network Rail aggregates these into around 30 initiative groupings in its reporting to us (these have changed slightly over time to remove categories that are not used and to introduce more useful categories). Key initiatives which contribute to Network Rail's efficiency improvement are shown in Figure 2.6.

2.35 Regional contributions to various efficiency groupings vary according to the type and variety of work they have planned, the size and the unique geography of the region. The planning, delivery and reporting of efficiencies has been devolved to regions, which are responsible for delivering on their efficiency targets. This should enable Network Rail's regions to tailor their efficiency initiatives to deliver the best outcomes for the region. One of the advantages of a regional structure is that Network Rail can learn from comparing the different approaches adopted by regions.

Figure 2.6: Top ten efficiency initiatives in April 2022 to March 2023



Source: ORR analysis of Network Rail's data

2.36 The largest efficiency initiatives that Network Rail delivered in April 2022 to March 2023 include:

1. **Improved contracting strategies (£197 million)**

   Improved contracting strategies include negotiating contracts with improved terms or rates. Network Rail also improved market research, tendering and contract performance monitoring. Network Rail has enhanced collaboration between routes and the central supply chain organisation to consolidate duplicate contracts, to provide leverage with their suppliers, and to share expert knowledge.

2. **Workforce modernisation (£97 million)**

   Network Rail's workforce management modernisation includes recruitment controls, continued workforce attrition, and voluntary severance schemes. There are ongoing delays to the maintenance modernisation programme due to industrial action.

3. **Other Innovation and technology benefits (£85 million)**

   This efficiency grouping is a catch all for efficiencies as a result of technology and innovation. Some examples include the use of drones, Plain Line Pattern Recognition (PLPR) technology to detect track defects, or systems to improve asset intelligence.

4. **Early contractor involvement, defined scope and minimum specification solution (£66 million)**

   This initiative involves Network Rail engaging with contractors at earlier stages in the delivery of work and identifying opportunities to make savings through reduced scope, using minimum specification solutions and value engineering. Early involvement also gives Network Rail more time to shape strategy and avoid failure in the delivery stage.

5. **Workbank planning (£54 million)**

   Workbank stability is about ensuring that works which have been planned go ahead, and that fewer unplanned jobs are added to the workbank. Giving supply chains a fixed and predictable workbank should lead to improved unit rates. It might avoid peaks and troughs in activity and optimise the utilisation of constrained resources, whilst reducing rework and failures on delivery.

6. **Supply chain organisation initiatives (£53 million)**

   This grouping includes savings generated from more efficient management of Network Rail's fleet of vehicles and machinery, and through improved unit rates through reduced costs of plant and materials. Network Rail aims to achieve this through delivering economies of scale by centrally negotiating contracts for regions. These savings are then passed on to the regions who use these services.

7. **Optimisation of Access (£50 million)**

   This initiative is about improving methods of obtaining access to the network for engineering work. This includes the use of blockades to improve engineering efficiency and to reduce set up and take down costs. Network Rail also strives to improve accountability, to make sure possessions are as multi-disciplined as possible, to reduce the number of possessions required, but also to work collectively with the Train Operating Companies and Freight Operating Companies to minimise disruption for all parties.

8. **LEAN initiatives (£42 million)**

   Lean initiatives refer to an installation of a culture of continuous improvement. An example of this is through The Better Every Day (BED) programme which enables, empowers, and encourages employees to make incremental improvements to their work to create value with fewer resources and with less waste. These initiatives are typically locally driven programmes, such as better rostering for the frontline.

9. **Organisation restructure (£42 million)**

   This initiative refers to savings driven through local restructures to reduce headcount. These are not related to modernisation or the Putting Passengers First (PPF) re-organisation, which involves devolution to regions. For example, Network Rail has stated that the Capital Delivery business unit has substantially reduced its headcount as a result of a restructure to become a more agile client.

10. **Development of works delivery capabilities (£36 million)**

    Increasing the skills and capabilities of regional Works Delivery teams, has led to the more efficient delivery of renewals. This is because for certain types of renewals, it is more cost effective to use in house teams rather than external contractors/suppliers.

Headwinds, tailwinds, scope changes and input prices

2.37 Network Rail analyses changes to its operations, support, maintenance and renewals costs over time through a ‘fishbone’ analysis which includes efficiencies, headwinds (unplanned cost increases due to external factors such as Covid-19), tailwinds (unplanned cost decreases due to external factors), scope changes (planned changes to levels of work undertaken) and input prices (inflationary effects from increases or decreases in costs above general CPI inflation).

2.38 Network Rail identified £334 million of headwinds in April 2022 to March 2023. The largest of these were track worker safety (£68 million), industrial action (£52 million) and supply chain organisation initiatives (£34 million).

2.39 Network Rail’s headwinds have increased over the control period. In Network Rail’s CP6 delivery plan, it identified headwinds of £0.6 billion and the latest forecast for the control period is now £1.3 billion. This is largely due to cost increases relating to track worker safety (£238 million,18%) and Covid-19 (£286 million, 22%).

2.40 During the year we reviewed reporting of headwinds and scope changes. We have concluded that these are broadly being tracked and reported appropriately. However, recognising the current economic uncertainty, including high levels of general inflation, we intend to continue to keep these matters under review.

Leading indicators of efficient delivery

2.41 Poor planning caused a number of problems with Network Rail’s renewals delivery and efficiency in CP5. As a result of this, we requested that Network Rail demonstrate that it is better prepared to deliver efficiently from the start of CP6.

This section provides an update on Network Rail's preparations to deliver efficiently in April 2023 to March 2024 (year 5 of CP6).

2.42 Chapter 4 provides a more detailed, regional analysis of these leading indicators.

Efficiency planning

2.43 As shown in Table 2.3, Network Rail considers that around 72% of its regional 2023 to 2024 target efficiency will be achieved from projects that have already been delivered or have clear project plans. The remaining 28% have no clear project plans or have plans in place but low confidence in delivery.

Table 2.3: Network Rail's assessment of the maturity of its April 2023 to March 2024 efficiency plans

	Eastern	NW&C	Scotland	Southern	W&W	Total
Project delivered, waiting for benefits to be realised	52%	53%	69%	48%	81%	56%
Project in place with delivery plan and milestones	15%	13%	25%	16%	17%	16%
Strategic theme applied, commitment to deliver but no plan in place	33%	24%	0%	35%	2%	25%
Unknown	0%	10%	6%	1%	0%	3%
	100%	100%	100%	100%	100%	100%

Source: ORR analysis of Network Rail's data

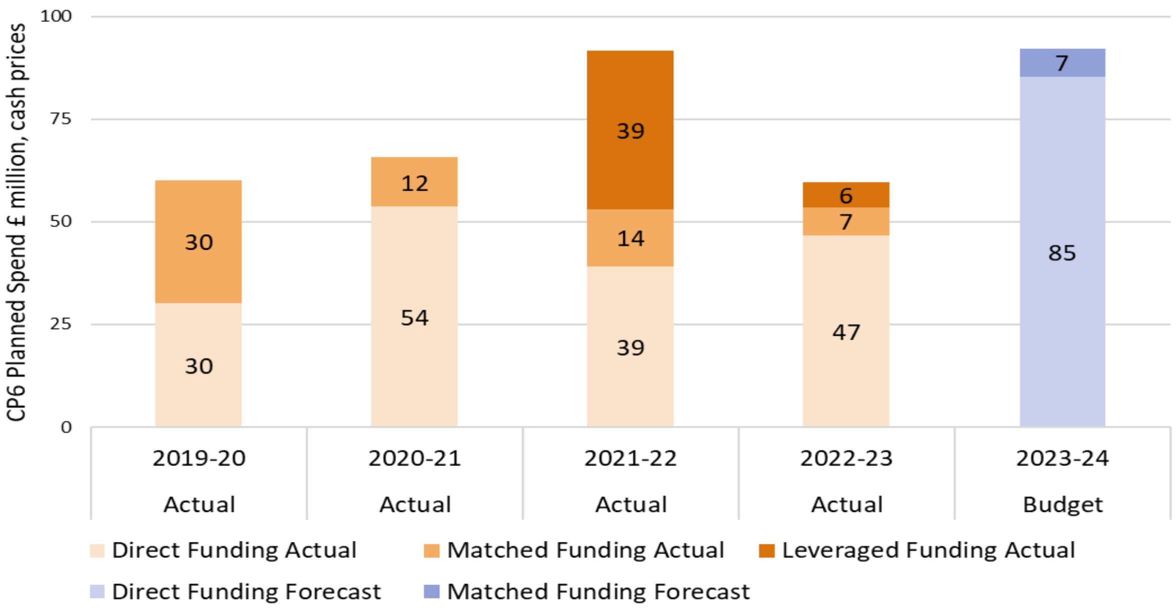
Research and development expenditure

2.44 Our PR18 determination included £245 million of funding for Network Rail to spend on research and development (R&D) activities in CP6. As shown in Figure 2.7 below, the programme spent £47 million in April 2022 to March 2023, below its £60 million delivery plan target. This underspend was primarily caused by a small number of projects not delivering as intended. These projects were removed by Network Rail as part of good governance practice of the R&D fund, ensuring that investments continue to generate a benefit.

2.45 Cumulatively, the company has spent £170 million in the first 4 years of CP6. Additionally, Network Rail receives third party funding to support its work in R&D. During the year, Network Rail only received £13 million from third parties (compared to an expected budgeted amount of £28 million), with a further £5 million anticipated in year 5 of CP6. Network Rail has indicated that it has sufficient R&D

workbanks in the final year and remains on target to spend £245 million by the end of the control period.

Figure 2.7: Network Rail's actual and planned R&D expenditure in CP6



Source: ORR analysis of Network Rail's data

2.46 Over 100 projects having started since the beginning of CP6, with 14 deploying on the network. These include:

(a) Interfaced overlay miniature stop light
This project involves developing first-in-class deployment of low cost connections between the crossing equipment and the signalling system that will minimise costly alterations needed for the signalling system.

(b) Power operated gate openers
This included a review of low cost life extension for power operated gate openers and options to link them with miniature stop lights. This will improve safety at level crossings by preventing the gates from opening when the stop lights are displaying a red light.

(c) Plain line pattern recognition deep learning
Plain line pattern recognition (PLPR) has delivered vast improvements to visual inspection of plain line track. However, nearly half of the 130,000 periodic incidents turn out to be false positives, such as debris. This project developed and deployed a new algorithm to improve the detection of actual incidents, increasing the efficiency of the inspection.

(d) Cast crossing developments

Failure of cast crossings cause disruption and are costly. However, their design hasn't changed in decades. This project developed a new set of cast crossings based on an improved understanding of rail/wheel connected forces as well as increasing the strength in the castings to withstand increasing pressure from passing trains.

2.47 However, overall, we do not consider that the best progress has been made in the development in R&D programmes this financial year and consider that additional work needs to be carried out in the final year of CP6. This is further supported by our findings from our targeted assurance review of technology adoption across Network Rail, which we published in April 2022.

2.48 Our review highlighted systemic issues within Network Rail, which prevent it from efficiently developing and adopting technology. These issues were around cultures and communication between Network Rail teams, rather than technical or commercial barriers, and we recommended improvements.

2.49 In October 2022 we followed up with Network Rail's Technical Authority and we saw some evidence that new mechanisms were being put in place to escalate and resolve communication issues between Network Rail teams, which is positive.

2.50 Since then, Network Rail has undertaken further work to understand the barriers to technology adoption and to find strategies to overcome these. Network Rail has documented these approaches in order to ensure that future deployments are quicker and that technologies are embedded in the operational organisation.

2.51 Cultural improvements will take longer to implement, and we are following up on our recommendations as part of our periodic review of Network Rail's plans for CP7 (PR23). In PR23 we are continuing to challenge Network Rail to convert more R&D and other technology expenditure into products which regional teams will adopt and to do this faster. This should generate efficiencies (and safety and performance benefits) in the regions and we will continue to monitor this and report in our annual assessments during CP7.

2.52 Annex C summarises the progress of Network Rail's CP6 R&D projects.

Performance Innovation Fund

2.53 For CP6 we established a Performance Innovation Fund (PIF) designed to support innovative ways to drive performance improvements. In our last annual assessment, we noted that expenditure of the scheme was slow, with actual expenditure of £12.5 million out of a total authorised £38.6 million. Network Rail reported that the largest schemes had experienced difficulties within the supply chain and in obtaining safety approvals.

2.54 The System Operator developed a recovery plan to address the slow spend, increasing project management support and increasing the skills and capabilities in its fund governance panel to include expertise in obtaining contractual agreements with operators and third parties. The Network Performance Board also increased its oversight of the fund.

2.55 In April 2022 to March 2023, we have seen positive benefits of this. Out of a total authorised sum of £48.9 million, funding 110 projects across Network Rail, £26.1 million has been invested in innovation projects. While this increased investment is welcome, there is still a large sum of money to be invested by the end of CP6.

2.56 Delivery has been varied across the regions. North West & Central and Eastern regions have made good progress in investing in PIF funding and look on course to deliver PIF projects by the end of CP6. In contrast, Southern and Scotland have spent under 20% of their authorised schemes and have a significant challenge to ensure funds are fully invested by the end of CP6.

2.57 We will continue to monitor Network Rail's delivery of PIF schemes in the final year of CP6.

Risk funding

2.58 Network Rail received £3.0 billion of risk funding (cash prices) in CP6. With the use of its risk fund Network Rail has managed numerous headwinds such as the COVID-19 pandemic, rising inflation, industrial action and increasing market pressures throughout the control period. The risk fund has also allowed Network Rail to deliver on much of its renewals programme across CP6, however, this has led to most regions having drawn down or allocated all of their risk funding at the end of March 2023.

2.59 This presents a challenge to Network Rail in terms of how it intends to handle the unstable economic climate going into the final year of CP6. Network Rail has stated that it intends to postpone or scale back the scope of renewals activities in order to address upcoming issues, such as poor weather conditions, unrealised efficiencies and growing inflation, should they materialise.

2.60 Network Rail Scotland received £329 million of ring-fenced funding at the start of the control period. The region is funded separately by Transport Scotland and cannot make use of the pooled risk funds available to regions in England and Wales. This has meant that Network Rail Scotland has had to find other ways to top up its risk fund in order to cover these unplanned costs.

2.61 Similar to other regions, Scotland managed to navigate through several headwinds over the control period with the use of its risk fund, leaving the region with £6.1 million of unallocated risk funding going into the final year of CP6. This could be used to help manage any emerging risk that arises. There are also provisions that were originally set aside for industrial action, however, these were not required within the year. These unused provisions are to be released back into the risk fund. Network Rail Scotland has been deliberating on possible uses for this released risk funding.

Budget flexibility

2.62 Network Rail is classified as an arm's length public sector body which means that it is subject to the Government's resource (operating) and capital departmental expenditure limits ('RDEL' and 'CDEL'). These expenditure limits restrict Network Rail's ability to spend money in different years of a control period than initially agreed. The expenditure limits also restrict switching of expenditure from capital to resource expenditure. The budget flexibility rules are quite complicated and are explained in our PR18 financial framework document.

2.63 Network Rail was not able to roll over any capital budgets into the next financial year. This is because there was no underspend on capital expenditure.

2.64 Oversight of the flexibility of grant payments within Scotland falls within the remit of Transport Scotland (TS) and the Scottish Government's budget flexibility process.

2.65 Network Rail Scotland received £656 million in April 2022 to March 2023 from the Scottish Government. Network Rail Scotland receives this funding from the Scottish Government through two grants. See Chapter 3 for more information.

Regulatory finances

2.66 Network Rail's regulatory asset base (RAB) increased by a net £8.1 billion to £84.4 billion in April 2022 to March 2023. The increase was due to indexation, with renewals added to the RAB offset by the amortisation of existing assets and a £32 million deduction for property sales.

2.67 Network Rail no longer issues debt to fund its capital expenditure. However, it continues to hold legacy debt (£58.5 billion), including financial instruments issued to investors before the company's reclassification to the public sector. It paid £4.1 billion of financing costs in the year, including £3.2 billion of financing costs on index-linked debt. This is a significant increase from the £1.8 billion of financing costs paid on index-linked debt in April 2021 to March 2022 reflecting the impact of increased inflation on its index-linked debt. These costs were funded by DfT outside of the company's PR18 determination.

3. Network Rail Scotland's Financial Performance

3.1 Our 2018 periodic review included a separate funding settlement for Network Rail's activities in Scotland. These activities are funded by the Scottish Government (Transport Scotland), rather than the Department for Transport.

Financial performance

3.2 As shown in Table 3.1, Network Rail Scotland financially underperformed by £124 million against its delivery plan for the year. It financially underperformed in most of its major categories of income and expenditure, with the most significant underperformance relating to Schedule 4. Cumulatively, the region has underperformed by £352 million over the first four years of CP6.

Table 3.1:Network Rail Scotland's financial performance in April 2022 to March 2023

£m, 2022-2023 prices	Actual	Variance to CP6 delivery plan better/(worse)	Of which out /(under) performance
Network Grant Income	601	(32)	0
Franchised track access charges	432	(5)	(9)
Other single till income	48	(2)	(1)
Total income	**1,081**	**(39)**	**(10)**
Schedule 4	67	(53)	(54)
Schedule 8	25	(25)	(25)
Network operations	65	(12)	(12)
Support costs	101	(11)	(1)
Traction electricity, industry costs and rates	91	6	0
Maintenance	190	(24)	(24)
Total operating expenditure	**539**	**(119)**	**(116)**
Capex – Renewals	426	25	6
Capex – Enhancements	179	(86)	(4)
Total capital expenditure	**605**	**(61)**	**2**
Risk	0	83	0
Financing costs and other	410	(178)	0
Total expenditure	**1,554**	**(275)**	**(114)**
Financial performance measure (FPM)			**(124)**

Source: ORR analysis of Network Rail's data

Expenditure

3.3 Network Rail Scotland spent £1.6 billion in April 2022 to March 2023. Expenditure in each of the different categories in Table 3.1 is examined above.

Schedules 4 and 8

3.4 Schedule 4 costs in Scotland were £67 million in April 2022 to March 2023, £53 million higher than the delivery plan, with £54 million of underperformance recognised. Under the Schedule 4 mechanism, Network Rail had to compensate train operators for possessions and cancellations due to planned disruption. In particular, disruption due to industrial action has led to higher than anticipated Schedule 4 expenditure.

3.5 Schedule 8 costs in Scotland were £25 million in April 2022 to March 2023, £25 million higher than planned, with £25 million of financial underperformance recognised. The Schedule 8 mechanism provides a basis for compensation to train operators for the impact of lateness and cancellations on their income. Increasingly volatile weather in Scotland and industrial action has impacted performance and has led to higher than anticipated compensation paid to operators.

Network operations costs

3.6 Network Rail Scotland spent £65 million on network operations costs in April 2022 to March 2023, £12 million higher than the delivery plan, with £12 million of financial underperformance recognised. This was mostly due to increased investment to improve services, performance and resilience for the travelling public.

Support costs

3.7 Support costs were £101 million in Scotland, £11 million higher than the delivery plan, with £1 million of financial underperformance recognised. This included £12 million of financial underperformance relating to regionally managed expenditure, which was largely associated with the implementation of the Putting Passengers First re-organisation and higher utility and electricity costs across the estate. This regionally managed underperformance was largely offset by a £11 million outperformance relating to centrally managed support cost. This was largely as a result of reduced insurance expenses arising from actuarial reassessment of liabilities and fewer major insurable incidents. There were also workforce reform benefits, reductions in performance-related pay, headcount savings from reorganisations, and savings in consultancy expenses.

Traction electricity, industry costs and rates

3.8 Network Rail Scotland incurred costs of £91 million in the year for the purchase of traction electricity, industry costs and rates. Traction electricity costs (£49 million) were largely offset by traction electricity income received from train operators. Business rates were £28 million, £8 million lower than the delivery plan. British Transport police costs were £9 million. Other costs included the ORR licence fee and railway safety levy (£3 million), RDG membership costs (£1 million) and RSSB costs (£1 million), which were broadly in line with the delivery plan. As traction electricity, industry costs and rates are largely "non-controllable" by Network Rail, variances in this category are not included in the assessment of financial performance.

Maintenance

3.9 Network Rail Scotland spent £190 million on maintaining its railway infrastructure in April 2022 to March 2023, £24 million more than its delivery plan for the year. Scotland has attributed its £24 million underperformance to additional investment in de-vegetation and other performance improvement schemes. Maintenance costs are also higher than forecast due to external factors and conditions. These include inflation, volatility in fuel costs and material prices and material availability. There have also been increased Civil Examination Framework Agreement (CEFA) costs, haulage issues and additional teams and resource required to maintain the newly electrified parts of the network in Scotland's Railway.

Renewals

3.10 Network Rail Scotland spent £426 million renewing its railway infrastructure in April 2022 to March 2023. This is £25 million lower than its delivery plan for the year and £6 million of financial outperformance has been recognised.

3.11 The pandemic, industrial action, inflationary pressures, poor train performance and weather resilience concerns necessitated a reprioritisation of the funds made available by Transport Scotland. This led to a reduction in renewal volumes and costs. There was a reduced investment in civils, buildings, wheeled plant and machinery, track and telecoms. There were also adjustments for additional track worker safety programme costs. The £6 million outperformance recognised is largely related to improved workbank and access planning, earlier contractor involvement, standard changes, improved delivery of projects and utilising existing blockades to deliver extra activity.

3.12 These benefits were partially offset by financial underperformance relating to high output plant failure, productivity loss due to industrial action and inflationary pressures on material and contractor prices. There have also been higher costs associated with the increased focus upon electrification, earthworks and drainage assets.

Enhancements

3.13 Enhancement expenditure in the year, paid for by Transport Scotland, was £179 million, £86 million higher than its delivery plan, with £4 million of financial underperformance recognised. Enhancements delivery in the control period to date has been slower than anticipated due to COVID-19 and a delay in Transport Scotland funding release. There has been some catch up on investment this year. Transport Scotland has also redefined the scope, outputs and associated funding for the projects on Scotland's Railway. The financial underperformance largely relates to electrification programmes and the associated compensation settlements.

3.14 Enhancement expenditure in the year paid for by other third parties was £10 million, taking the total annual enhancement expenditure to £189 million. The most notable third party funded investment this year (and in the control period to date) is the Ravenscraig line crossing, a project financed by the local council to improve connectivity in the area. Financial performance is only measured on programmes where the scope, outputs and budget have been agreed with Scotland's Railway's core funder (Transport Scotland).

Allocation of centrally managed costs to Scotland

3.15 Costs incurred by Network Rail's national functions ('centrally managed costs') are re-charged to regions in proportion to their use of these functions and in accordance with the ORR's regulatory accounting guidelines. £545 million was recharged to Scotland which is higher than the delivery plan assumption of £454 million. This is largely due to a significant increase in financing costs (from £232 million to £410 million) as some of Network Rail's legacy debt instruments' expenses vary with inflation. Financing costs are considered neutral when calculating financial performance. This is because adjustments are made for costs that are not entirely controllable by Network Rail. Furthermore, Scotland receives an allocation of the corresponding grant for financing costs paid by DfT to Network Rail. As such, a £7 million financial outperformance has been recognised for Network Rail Scotland's allocation of centrally managed costs. This was possible due to savings across a number of central functions, namely as a result of workforce reform and reduced insurance expenses. The region continues to work closely with Group Finance on the allocation of central costs for Scotland.

Income

3.16 Network Rail Scotland received £1,081 million of income (excluding enhancement grants) in April 2022 to March 2023, which is £39 million lower than the delivery plan assumption. £477 million (44%) was from the Scottish Government Network Grant Funding, £432 million (40%) came from franchised track access charges, £124 million (11%) from other DfT grants, £48 million (4%) from other single till income, such as from depots, property, stations and freight.

3.17 Income financially underperformed by £10 million, due to lower variable usage charges and property rental income. This was the result of reduced demand for passenger train services, reduced train paths and a lower footfall in stations as an ongoing result of COVID-19, but also due to disruption caused by industrial action.

Grant Funding in Scotland

3.18 Network Rail Scotland receives funding from the Scottish Government through two grants. Oversight of the flexibility of grant payments within Scotland falls within the remit of Transport Scotland (TS) and the Scottish Government's budget flexibility process.

I. Network Rail Scotland received £477 million in **network grant funding** in April 2022 to March 2023. The Network Grant receipts forecast for CP6 as a whole is £2,245 million. This is in line with the amount agreed in the 2019 Grant Funding Letter and also matches our expectations set out within our PR18 Final Determination.

II. Network Rail Scotland received £179 million in **enhancement grant funding** in April 2022 to March 2023. The enhancement grant receipts forecast for CP6 as a whole is £771 million, which is £127 million less than set out in the 2019 Grant Funding Letter. It is worth noting that there have been fluctuations in enhancement funding due to wider government funding constraints and slow approvals of projects and release of funds.

3.19 There are separate grant income arrangements with DfT to pay for Scotland's Railway's share of financing costs, British Transport Police and Corporation tax. Network Rail Scotland was allocated £124m of the total Network Rail grants for these, £43 million less than set out in the delivery plan for the year. This is largely because internal financing grants received this year are lower than the regulatory baseline and changes in legislation and financial forecasts means that Network Rail is expecting to receive rebates from HMRC for most of the corporation tax payments made earlier in the control period.

3.20 Grants are deemed uncontrollable by Network Rail and are therefore considered neutral when assessing financial performance.

Risk Funding

3.21 Network Rail Scotland is anticipating £545 million of extra costs, unforeseen at the start of the control period, as a result of decisions to reprioritise work and deal with externalities. This is £216 million more than the £329 million (cash prices) of ring-fenced funding set aside at the start of the control period. The main drivers of unplanned costs have included COVID-19, scope changes, weather events and resilience, unachieved efficiencies, Schedule 4 and 8 compensation for industrial action and rising inflation.

3.22 As the Scotland region is funded separately by Transport Scotland, the region cannot make use of the pooled risk funds available to regions in England and Wales. As a result, Scotland has had to find other ways to top up its risk fund in order to cover these unplanned costs. Previously, the region decided to defer £83 million of planned renewals[3] to improve its ability to manage financial risks in the final two years of CP6. Scotland's risk fund has also been topped up during the control period through reductions in business rates and central charges, inflationary increases in variable income and workforce reform efficiencies.

3.23 The region has only £6.1 million of risk funding which remains unallocated at the end of March 2023. We recognise that there is a high level of uncertainty around identifying future risks, particularly in relation to inflation. Difficult decisions may need to be taken if additional financial risks emerge in Scotland. However, we also recognise that, as we are in the final year of the control period, it is to be expected that there will be limited risk funding remaining.

3.24 Network Rail Scotland has recently highlighted that approximately £20 million of a provision originally set aside for Industrial action compensation in April 2022 to March 2023 was not required within the year and is likely to be released back into the risk fund for use in year 5 of the control period. The region has been reviewing possible uses for this released funding and is considering train performance improvement initiatives, reinstating some of the previously deferred renewals and investing in sustainability and operational accommodation. We will continue to monitor the use of the risk fund and the released funds to encourage appropriate use.

[3] These deferrals have reduced the region's forecast composite sustainability index (a measure of network condition) for the control period. Abortive costs and replanning of work has also impacted Network Rail's ability to deliver efficiency improvements.

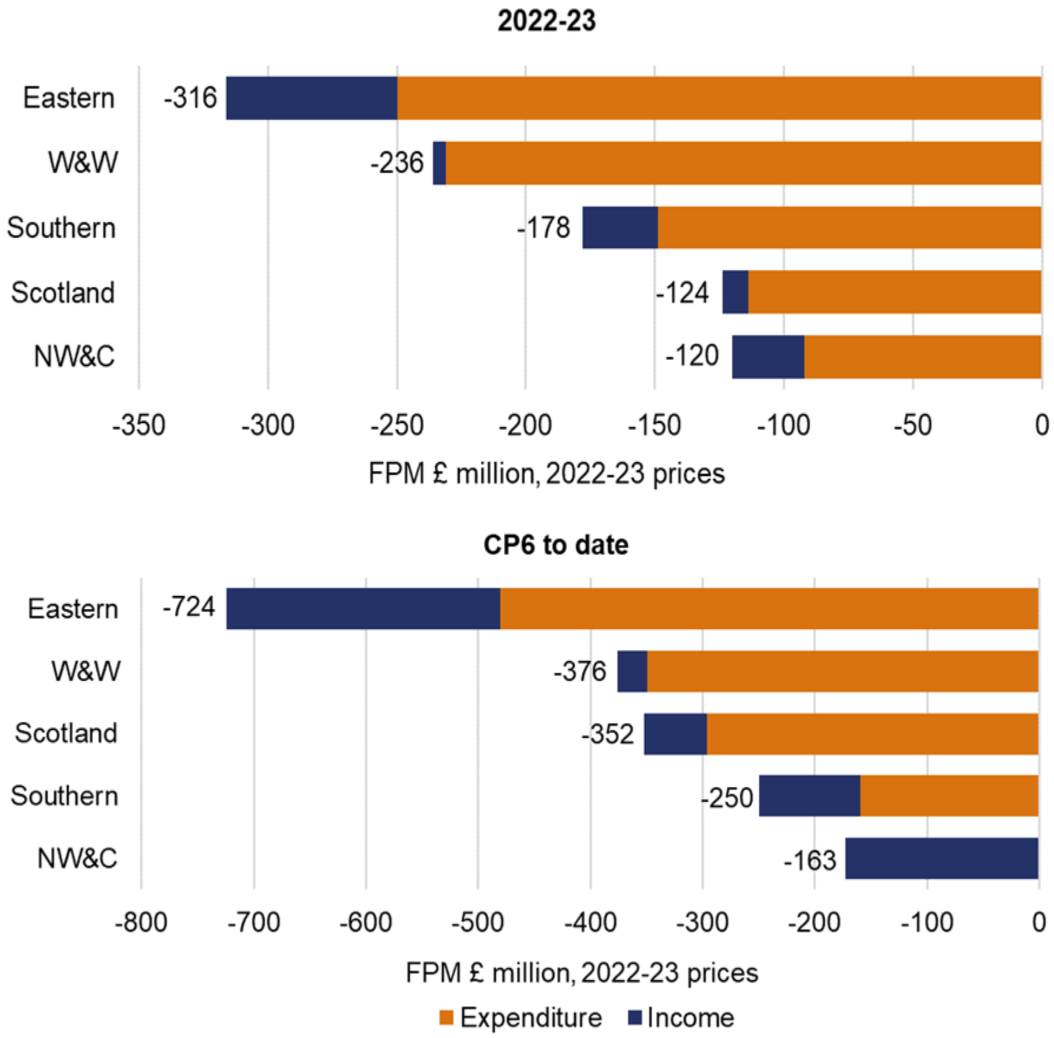
4. Regional comparisons

4.1 This chapter provides an analysis of the efficiencies and wider financial performance of each of Network Rail's five regions: Eastern, North West and Central (NW&C), Scotland, Southern, and Wales and Western (W&W). The financial information reported for each region includes its allocation of the national functions' income and costs. Caution is needed when comparing the relative performance of regions due to the differences in their geographical and operational characteristics.

Financial performance

Overall, Network Rail has underperformed by £974 million in the financial year April 2022 to March 2023 (year 4 of CP6) compared to its delivery plan, driven by underperformance against the regulatory baseline of £138 million from income and £836 million from expenditure. Cumulatively over the first four years of the control period, Network Rail has underperformed by £1,865 million. As shown in Figure 4.1, all regions underperformed compared to their delivery plan for the year. Annex A provides detailed financial tables for each region.

Figure 4.1: Regional contributions to Network Rail's financial underperformance



Source: ORR analysis of Network Rail's data

Eastern

4.2 Eastern underperformed by £316 million in April 2022 to March 2023 compared to its delivery plan and by £724 million cumulatively over the first four years of the control period.

4.3 Network Rail suggests the main reasons for the region's underperformance was the result of:

a) **£140 million Schedule 4 underperformance.** Network Rail had to pay significantly higher Schedule 4 costs than its baseline due to the impact of industrial action. Under the Schedule 4 mechanism, Network Rail has had to compensate train operators where it has not been able to deliver the agreed timetable for passengers which has been negatively affected by industrial action.

b) **£89 million maintenance costs underperformance.** This was due to extra work being completed on devegetation, further requirements necessary for compliance with safety standards and inflationary pressures on materials prices.

c) **£50 million renewals underperformance.** This was due to higher like for like capital project costs, income and maintenance expenditure being heavily affected by industrial action related delays and reprioritisations.

d) **£46 million franchised track access charges underperformance.** Underperformance is due to a combination of reduced services being run as a result of industrial action and a higher assumption of services being run in the CP6 plan.

e) **£20 million other single till income underperformance.** This was due to the reduction of property rental income, as a result of a slower than anticipated recovery from the Covid-19 pandemic and the changes this has caused to passenger footfall in and around stations.

f) **£19 million Schedule 8 underperformance**. Network Rail's Schedule 8 performance this year has suffered due to several factors. These were industrial action, extreme heat in the summer months affecting tracks, cable thefts within the region, and a higher than expected number of temporary speed restrictions and asset failure all contributing to delays.

4.4 Network Rail suggests underperformance was partially offset by outperformance relating to:

a) **£47 million support cost outperformance.** The regionally managed support costs underperformed by £31 million due largely to the Putting Passengers First initiative. However, centrally managed support costs regional allocation of £77 million outperformance have fully offset this, partially as a result of lower performance-related pay and headcount reductions from reorganisations, leaving the region in a position of outperformance.

North West and Central

4.5 The region underperformed by £120 million in April 2022 to March 2023 compared to its delivery plan and by £163 million cumulatively over the first four years of the control period.

4.6 Network Rail suggests the main reasons for the region's underperformance was the result of:

a) **£85 million Schedule 4 underperformance.** This was due to the impact of industrial action and the requirement for Network Rail to compensate train operators where it was unable to deliver the agreed timetables.

b) **£21 million renewals underperformance**. This was due to higher like for like project costs and unforeseen expenses required to comply with safety standards.

c) **£19 million franchised track access charges underperformance.** This was due to lower variable track income owing to the periods of industrial action throughout the year as well as changes in passenger behaviour following Covid-19, which has meant that expected growth in train services has not materialised.

d) **£9 million other single till income underperformance.** This was due to the reduction of property rental income as a result of changes to passenger footfall in and around stations brought on by the Covid-19 pandemic.

4.7 Network Rail suggests underperformance was partially offset by outperformance relating to:

a) **£23 million support costs outperformance.** Although the regionally managed support costs underperformed by £17 million, the centrally managed support costs allocation of £40 million has offset this to give the region their highest area of outperformance.

Scotland

4.8 Scotland underperformed by £124 million in April 2022 to March 2023 compared to its delivery plan and by £352 million cumulatively over the first four years of the control period.

4.9 Network Rail suggests the main reasons for the region's underperformance was the result of:

a) **£54 million Schedule 4 underperformance.** This was due to the impact of industrial action on the region needing to compensate train operators where it was not able to deliver agreed timetables.

b) **£25 million Schedule 8 underperformance.** This was due to periods of adverse weather affecting the region's ability to run their timetable.

c) **£24 million maintenance costs underperformance.** This was due to additional investment into de-vegetation and other improvement schemes as well as an increased level of reactive maintenance required.

d) **£12 million network operations costs underperformance.** This was due to increased costs relating to investment into improving the service for the public and increases in staff costs to provide extra resilience to current service levels.

4.10 Network Rail suggests underperformance was partially offset by outperformance:

(a) **£6 million renewals outperformance**. This was due to a reduced investment in Track, Civils and Earthworks as a result of cheaper like-for-like projects and adjustments for additional Track worker safety programme costs.

Southern

4.11 Southern underperformed by £178 million in April 2022 to March 2023 compared to its delivery plan and by £250 million cumulatively over the first four years of the control period.

4.12 Network Rail suggests the main reasons for the region's underperformance was the result of an:

a) **£91 million Schedule 4 underperformance.** This underperformance was due to the periods of industrial action that took place in the region.

b) **£90 million maintenance costs underperformance.** This underperformance was a result of performance improvement schemes, costs of adhering to additional safety standards costs and improvements to maintenance resource.

c) **£36 million renewals underperformance.** This was due to increased investment being required to combat adverse performance related to Earthworks and Signalling renewals.

d) **£21 million other single till income underperformance.** This underperformance was largely due to lower income from property rental as an ongoing effect from the Covid-19 pandemic.

4.13 Network Rail suggests underperformance was partially offset by outperformance relating to:

a) **£47 million support costs outperformance.** High regional support costs have been offset by centrally managed allocation of outperformance in this area as a result of workforce reform and reductions in insurance expenses.

b) **£22 million Schedule 8 outperformance**. This outperformance is the highest of all the regions and despite industrial action and periods of extreme heat.

Wales and Western

4.14 The region underperformed by £236 million in April 2022 to March 2023 compared to its delivery plan and by £376 million cumulatively over the first four years of the control period.

4.15 Network Rail suggests the main reasons for the region's underperformance was the result of:

a) **£91 million Schedule 4 underperformance.** This was due to the periods of industrial action that took place throughout the year increasing compensation payments to train operators.

b) **£45 million renewals underperformance.** This was due to an increased investment in track and signalling as a result of difficulties faced in high output delivery and a change in workbank on Western's Ballast Cleaning.

c) **£43 million Schedule 8 underperformance.** This was due to the region not meeting their train performance targets as a result of industrial action, extreme heat in summer months and more temporary speed restrictions than expected, all contributing to delayed performance.

d) **£18 million enhancements underperformance.**

e) **£16 million network operations costs underperformance.** This was due to higher costs to comply with changing fatigue management standards and costs associated with the new Elizabeth Line.

f) **£15 million maintenance costs underperformance.** This was due to extra work being undertaken to improve assets, higher volumes of de-vegetation and addressing regional backlogs relating to signalling and telecoms.

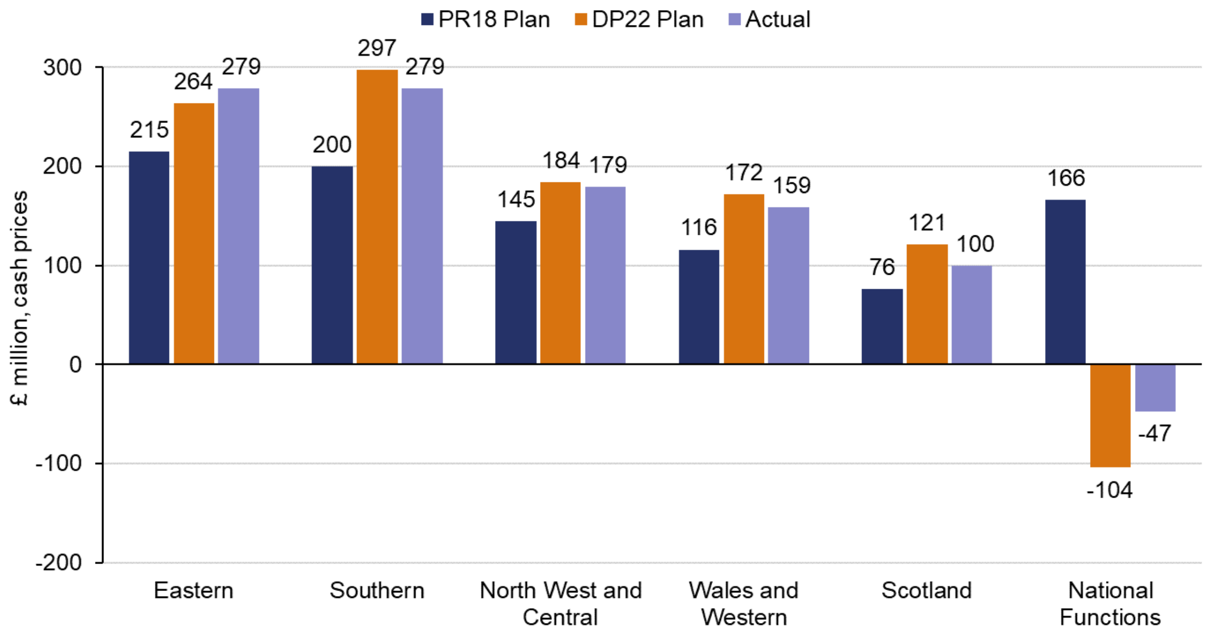
4.16 Wales and Western was the only region that did not have any areas of outperformance to offset underperformance in the year.

Efficiencies

4.17 Recognising the increased financial pressures from unanticipated cost increases, Network Rail has increased its overall CP6 efficiency target from the £3.5 billion set in our 2018 periodic review (PR18) final determination to £4.0 billion, with the planned increase coming mostly from workforce reform initiatives. It has cumulatively delivered 72% of its £4.0 billion forecast within the first four years of the control period.

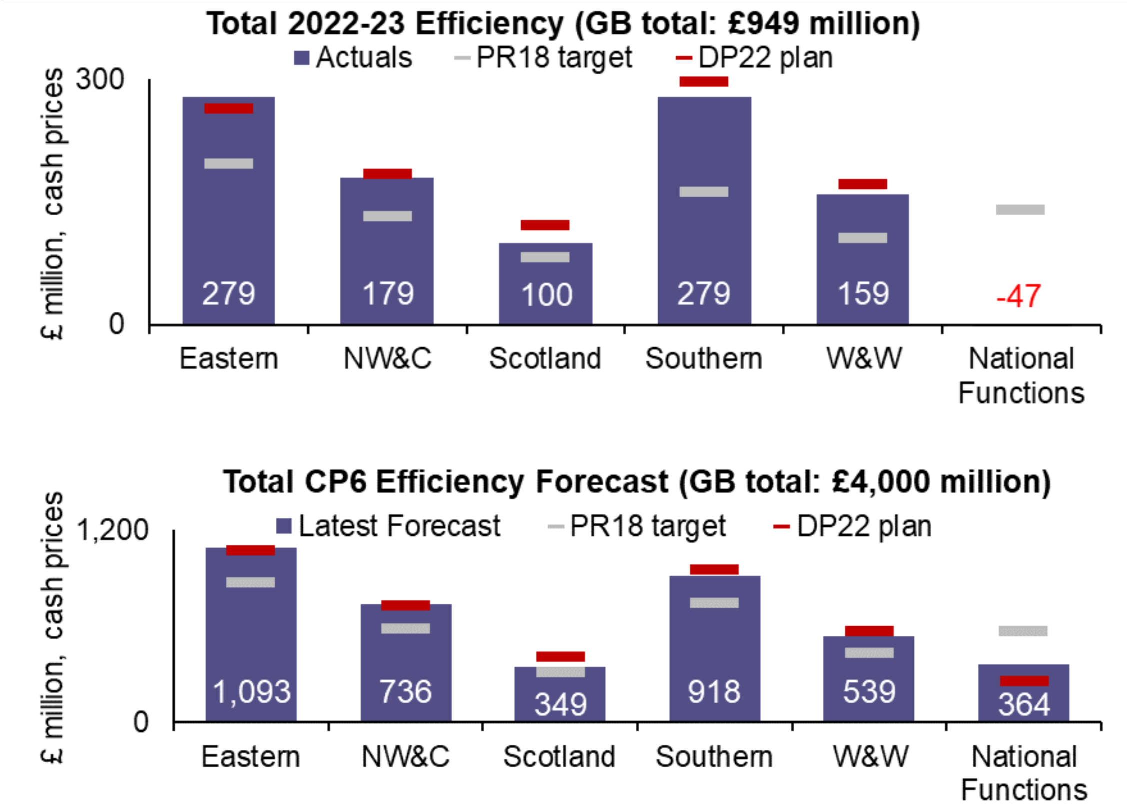
4.18 Figures 4.2 and 4.3 show that Eastern exceeded its delivery plan (DP22) in April 2022 to March 2023. All the other regions missed their DP22 plans for the financial year with Scotland missing its plan the most (by £20 million). Whilst this is the worst performance against efficiency plans in value, it is also worth noting that Scotland also has the lowest efficiency financial target, further highlighting its underperformance in this area. Eastern and North West & Central are both still forecasting to achieve their CP6 revised target but the other regions are currently forecast to underperform.

Figure 4.2: Regional contributions to efficiency improvements, April 2022 to March 2023



Source: ORR analysis of Network Rail's data

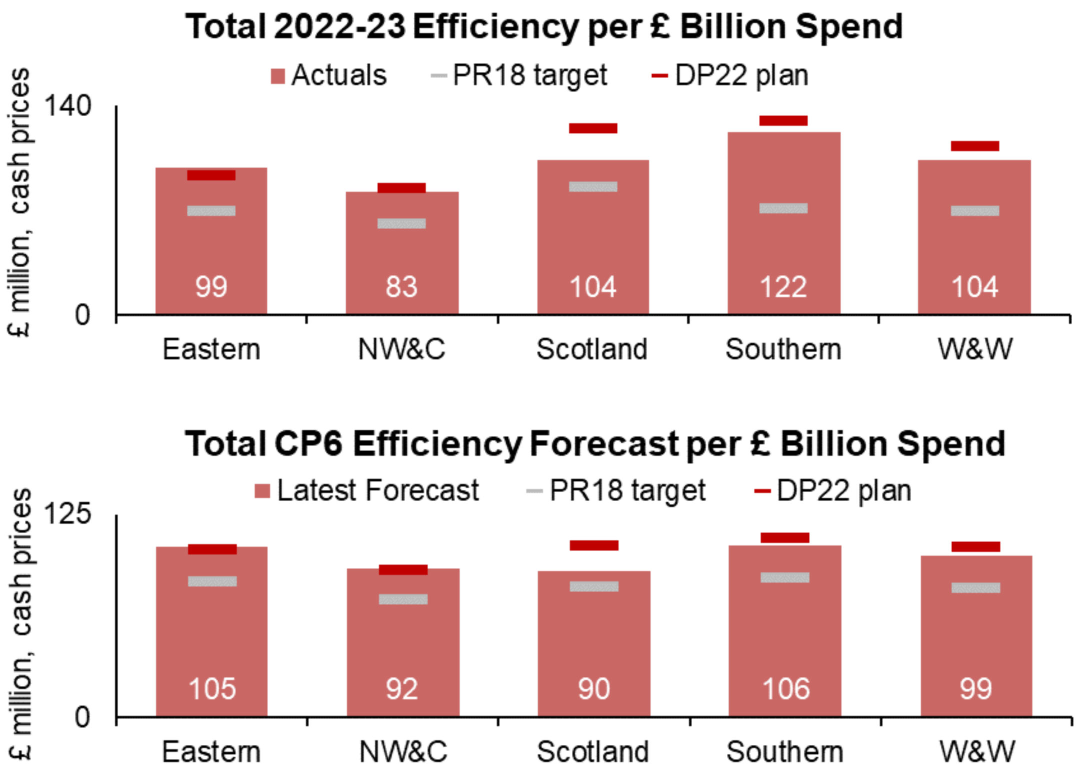
Figure 4.3: Regional contributions to year ending March 2023 and CP6 forecast efficiencies



Source: ORR analysis of Network Rail's data

4.19 Figure 4.4, normalises the information in Figure 4.3 for relevant expenditure, reflecting the different size and operational characteristics of each region.

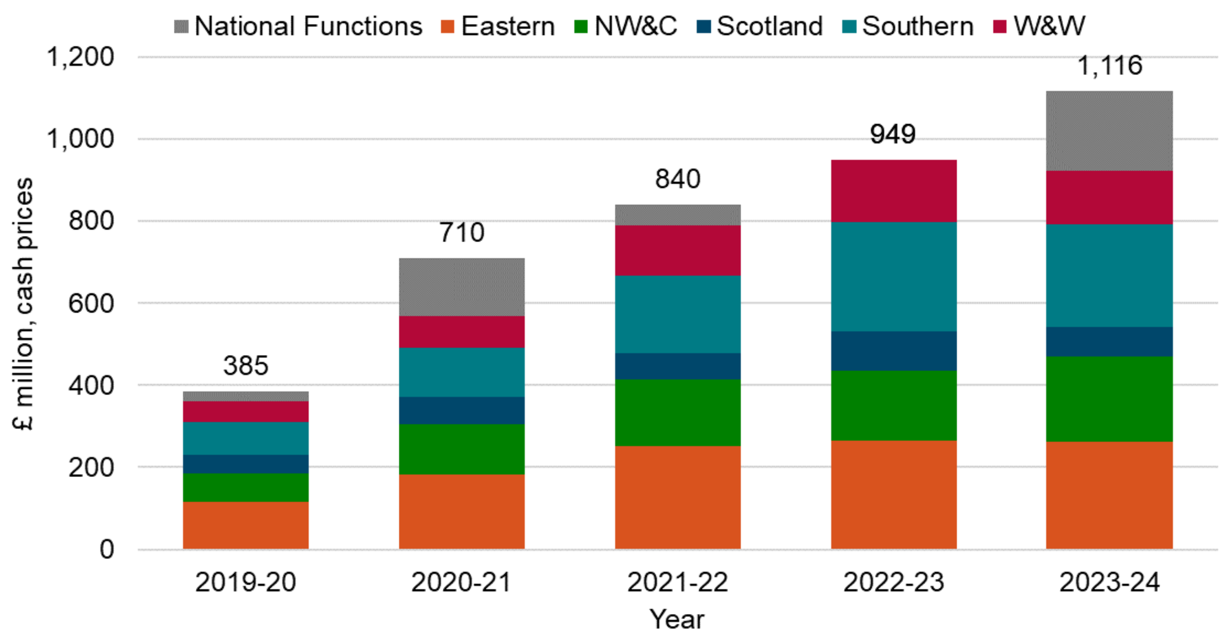
Figure 4.4: Regional contributions to year ending March 2023 and CP6 whole forecast efficiencies, normalised by OMR expenditure



Source: ORR analysis of Network Rail's data

4.20 Regional contributions to Network Rail's CP6 efficiency trajectory are shown in Figure 4.5.

Figure 4.5: Regional contributions to actual and forecast efficiency in each year of CP6



Source: ORR analysis of Network Rail's data as of 31 March 2023.

Eastern

4.21 Eastern reported £279 million of efficiency improvements in April 2022 to March 2023, exceeding its plan for the year of £264 million by 6%. It is aiming to deliver £1,093 million of efficiency improvements in CP6. The largest three efficiency initiatives for the region in the year were improved contracting strategies, packaging of contracts, and rates (£59 million), reduced activity due to other new technologies (£46 million) and supply chain organisation initiatives (£19 million).

North West and Central

4.22 North West and Central reported £179 million of efficiency improvements in April 2022 to March 2023, missing its plan of £184 million for the year by 3%. It is aiming to deliver £736 million of efficiency improvements in CP6. The largest efficiency initiative for the region in the year was the development of works delivery capabilities (£27 million). This initiative has provided significant benefits for North West and Central to date in the control period (cumulatively £59 million across years 1-4) and is forecast to provide another £23 million in efficiencies in the final year of CP6.

Scotland

4.23 Network Rail Scotland reported £100 million of efficiency improvements in April 2022 to March 2023, missing its delivery plan of £121 million for the year, by around 17%. During the year, the region reduced its CP6 revised target from delivering £412 million of efficiencies down to £349 million.

4.24 This reduction reflected a decision made in year 3 of the control period (April 2021 to March 2022) to defer renewals volumes scheduled for the last two years of the control period as a result of funding challenges and revised priorities (particularly in favour of weather resilience). The loss of renewals volumes has led to a corresponding loss in planned efficiencies. The delay in reducing the efficiency forecast until year 4 was largely due to Network Rail Scotland taking time to work through the implications of the changes to renewals volumes, and the impact on planned efficiencies. The reduction in the CP6 efficiencies forecast was also due to delays in the national Workforce Reform Programme.

4.25 That said, Scotland did perform well on several efficiency initiatives in year 4 of CP6. The largest three initiatives include early contractor involvement, defined scope, minimum specification solution (£16 million), workbank planning (£5 million) and optimisation of access to the network for engineering work (£5 million).

Southern

4.26 Southern reported £279 million of efficiency improvements in April 2022 to March 2023, missing its plan for the year of £297 million by 6%. When efficiency spend is normalised by each of the regions operations, maintenance and renewals (OMR) spend, Southern achieved more efficiencies than all other regions, achieving 17% more efficiencies than the next highest region, and 47% more than the lowest when normalised by OMR. The largest three efficiency initiatives for the region in the year were improved contracting strategies, packaging, and rates (£42 million), workbank planning (£33 million) and reduced activity due to other new technologies (£27 million).

Wales and Western

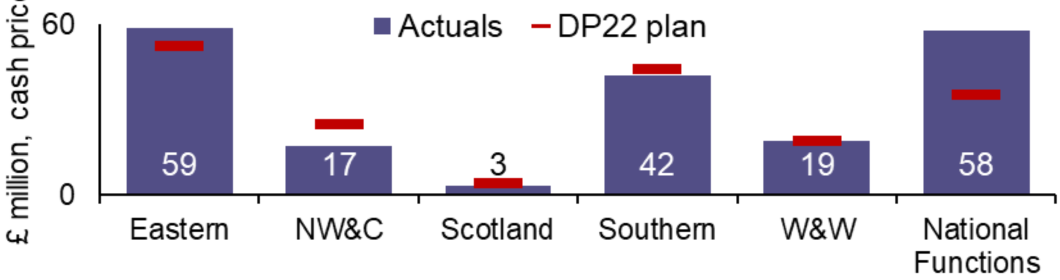
4.27 Wales and Western reported £159 million of efficiency improvements in April 2022 to March 2023, missing its plan of £172 million for the year by 8%. It is aiming to deliver £539 million of efficiency improvements in CP6, £31 million less than its CP6 forecast for the year, largely due to a decrease in reform efficiencies across the final two years of CP6. The largest three efficiency initiatives for the region in the year were pay and benefits initiatives (£23 million), improved contracting strategies, packaging, and rates (£19 million) and optimisation of access (£17 million).

The five largest efficiency initiatives in April 2022 to March 2023

4.28 The next section shows regional contributions to the five largest efficiency initiatives overall in April 2022 to March 2023. It also compares actual efficiency achievements to regional delivery plans for the year (DP22 plans). Network Rail has cautioned that it does not use the delivery plan as a target and that there are various changes during the year that will impact the deliverability of initiatives, but that regions are held to account for efficiency on their control period targets. Some efficiencies have also been re-categorised and re-prioritised. These factors may contribute to the variances reported between actual efficiencies and planned efficiencies at an initiative level. The source for all the below graphs is ORR analysis of Network Rail data.

#1 Improved contracting strategies, packaging, and rates

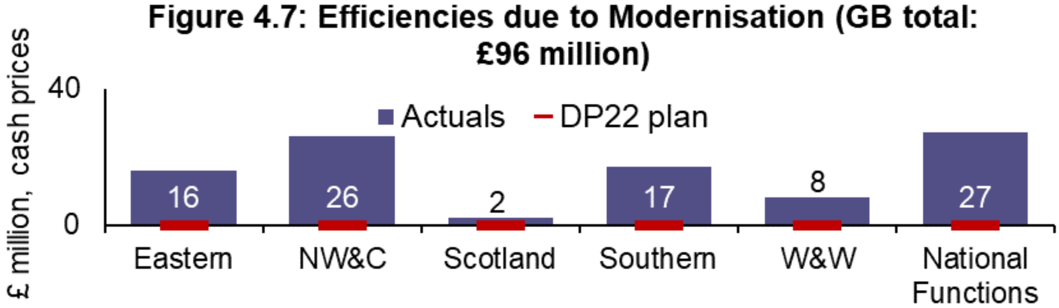
Figure 4.6: Efficiencies due to improved contracting strategies, packaging, rates (GB total: £197 million)



4.29 Network Rail achieved £197 million of efficiencies relating to improved contracting strategies, packaging, and rates in the year. This is 10% above its DP22 plan of £180 million. This was the largest efficiency initiative for Eastern and Southern regions. One of the main drivers behind the efficiencies achieved in Eastern has been through the PSM North portfolio within Signalling. The Southern region made changes towards using more off-the-shelf solutions for CCTV, where practicable, to ensure the most efficient use of funds. Despite this being the largest efficiency initiative, North West and Central, Scotland and Southern regions all missed their DP22 delivery plan for this initiative.

#2 Modernisation

Figure 4.7: Efficiencies due to Modernisation (GB total: £96 million)



4.30 Network Rail achieved £96 million of efficiencies relating to modernisation in the year. These efficiencies have been driven by modernisation initiatives such as management reform and the voluntary severance scheme. North West and Central did particularly well, achieving £26 million of efficiencies in this category. However, the most success with this initiative has been seen within the national functions and is due to the modernising management workstream targeting higher headcount restrictions within the central functions, which resulted in a higher level of benefits.

#3 Reduced activity due to other new technologies

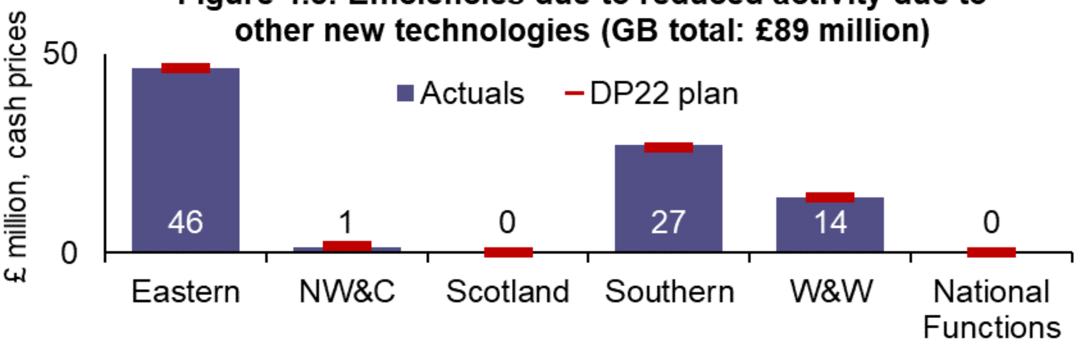


Figure 4.8: Efficiencies due to reduced activity due to other new technologies (GB total: £89 million)

4.31 Network Rail achieved £89 million of efficiencies relating to reduced activity due to new technologies in the year. New technologies can reduce the level of renewals required to maintain the condition of assets. This efficiency category includes various projects, including using technologies designed to improve automation, accuracy, performance, and decision-making. This initiative has seen Network Rail stay broadly on plan against their DP22 efficiency aims in this area, missing the DP22 plan value by only 0.5% (£0.4 million). Eastern have achieved much higher levels of efficiency in this initiative than other regions, along with a higher DP22 plan figure, due to the fact that they already had a lot of systems in place. For example, in-cab CCTV, which are in planning to be rolled out to the other regions to achieve similar efficiencies going forward.

#4 Innovation and technology benefits

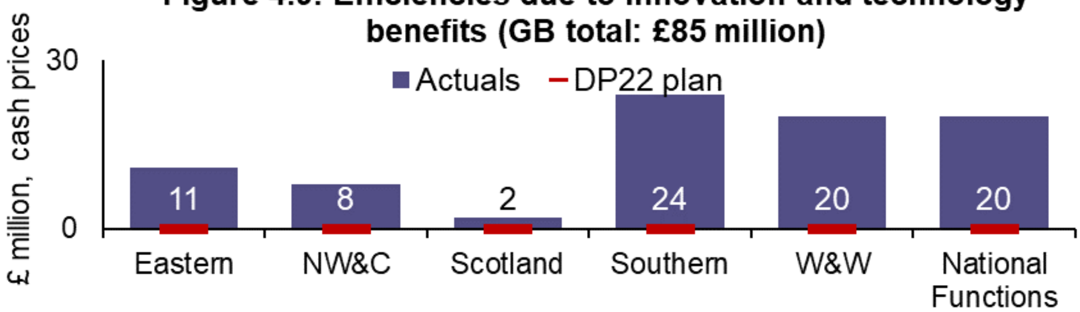
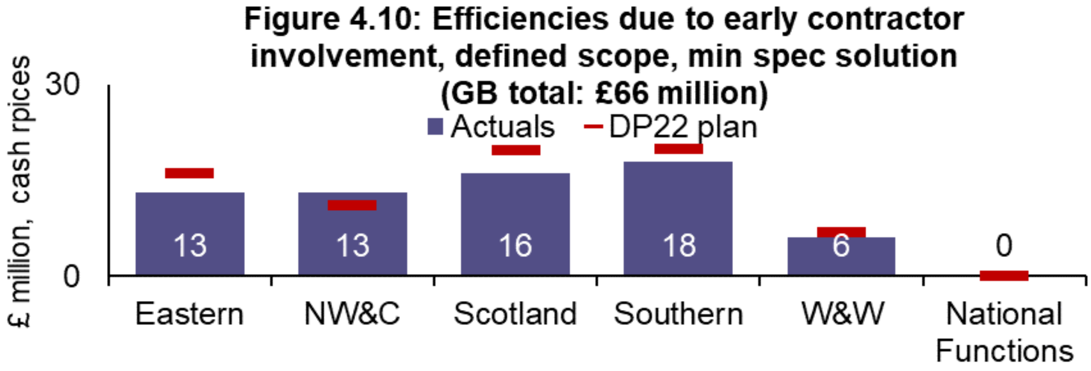


Figure 4.9: Efficiencies due to innovation and technology benefits (GB total: £85 million)

4.32 Network Rail achieved £85 million of efficiencies relating to innovation and technology benefits in the year. This was the fourth largest efficiency initiative overall for the year. Southern did particularly well, achieving £24 million of efficiencies in this category whereas Scotland achieved just £2 million. In the Southern region, this success was achieved through various initiatives where the use of new technology has driven project savings, such as utilisation of Mobile Maintenance Trains for rail changes and new level crossing CCTV to decrease investigatory resource requirements.

#5 Early contractor involvement, defined scope, minimum specification solution



4.33 Network Rail achieved £66 million of efficiencies relating to early contractor involvement in the year. This is 10% lower than its delivery plan of £74 million. North West and Central was the only region to exceed its DP22 plan value. North West and Central achieved this through identifying opportunities to make savings through reduced scope, using minimum specification solutions and value engineering. Whilst not meeting their DP22 values the other regions have all still achieved high levels of efficiency in this area, making it the fifth largest efficiency initiative for Network Rail.

Underperforming efficiency initiatives

4.34 We highlight efficiency initiatives which underperformed against their delivery plans.

(a) *Lean initiatives*

Network Rail achieved £42 million of efficiencies relating to LEAN strategies in the year. This is 11% below its DP22 plan. Lean initiatives refer to an installation of a culture of continuous improvement. An example of this is through The Better Every Day (BED) programme which enables, empowers, and encourages employees to make incremental improvements to their work to create value, with fewer resources and with less waste. All regions missed their DP22 plan.

(b) *Rail Milling*

Rail milling initiatives have provided £16 million of efficiencies in the year, 43% behind the DP22 target. The rail milling train grinds away the damaged top layer of steel. This extends the life of the rails and delays the need for a full track renewal. Eastern, Southern, North West and Central and Scotland performed worse than their

DP22 target with only Wales and Western performing at its planned level. This underperformance can be partially attributed to the failure of two rail milling machines in Period 3 within the year which temporarily stopped planned milling.

(c) *Intelligent Infrastructure*

Network Rail has reported no efficiencies in the year from intelligent infrastructure initiatives. In the DP22 plan, £20 million of Intelligent Infrastructure initiative efficiencies were forecast. Intelligent infrastructure initiatives refer to the use of machine learning and algorithms to capture, analyse and exploit asset data. This was intended to improve Network Rail’s understanding of likely failures and impacts and to help improve planning decisions about investment in assets. We are continuing to work with Network Rail to understand where the company has faced challenges in achieving efficiencies relating to intelligent infrastructure initiatives.

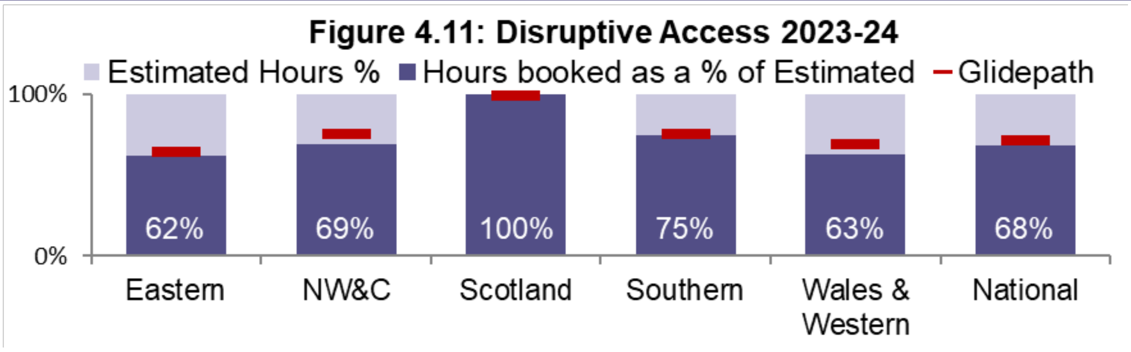
Leading indicators of efficient delivery

4.35 This section examines regions’ preparedness for efficient delivery over the last year of CP6. As explained in Chapter 2, effective planning is important because it improves the robustness of the rail network and helps to provide a stable profile of work for Network Rail’s supply chain. Better planning will also help Network Rail to deliver the increasing efficiency challenge over the remainder of CP6. Better documentation is also important to evidence that efficiencies have been delivered and are likely to be delivered in future.

4.36 Overall, Network Rail either exceeded or was very close to delivering its leading indicator targets for April 2023 to March 2024. Although there are still some improvements which could be made, based on the evidence that we have reviewed, we consider that Network Rail seems to be reasonably prepared to deliver the remainder of its CP6 target efficiencies. However, there are regional variations in Network Rail’s preparedness for efficient delivery.

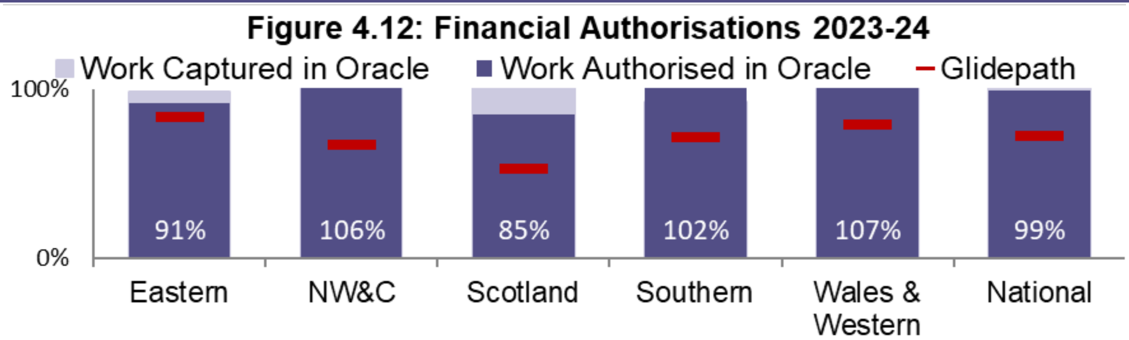
4.37 Please note that the national columns in the below charts (Figures 4.11 to 4.15) relate to the national average and not the National Functions business unit. The source for the below charts is ORR analysis of Network Rail data.

Disruptive Access for April 2023 to March 2024



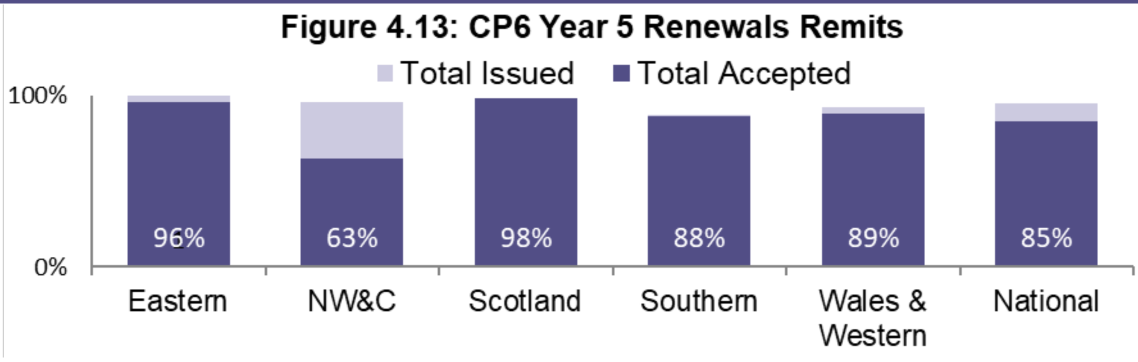
4.38 Overall, 68% of the disruptive access for engineering works have been secured for year 5 of CP6. This is proportionately less access booked than the same period last year and to its glidepath of 72%. Network Rail attributed this to an improved ability to secure disruptive access last year due to reduced services. Most regions finished the year slightly behind their glidepaths with only the Southern and Scotland regions meting their targets. However, from the evidence we have reviewed, the regions are looking to end CP6 strongly. Wales and Western look to end year 5 with improvements in their possession utilisation and control process to increase visibility for securing access. Eastern are improving their engagement with train operators allowing them to see the context of their work proposals and assess any impacts of engineering works. Scotland region successfully met their ambitious glidepath of 100% access required with additional access being needed for the Carstairs project.

Financial Authorisations for April 2023 to March 2024



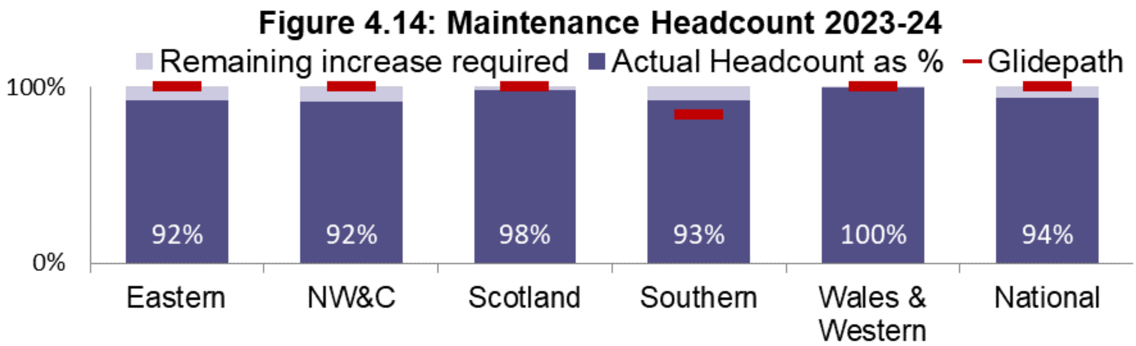
4.39 Network Rail's authorised spend on renewals projects as a percentage of planned spend has risen to 99%. This is well above the National glidepath of 72% and 14% higher than the same period last year. This puts Network Rail in a strong position to deliver its year 5 plans. All regions are ahead of their glidepaths. North West and Central, who were slightly behind their glide path at the same period last year, have 106% of renewals work authorised. The additional authorisation was secured for over plan works, to avoid any slippages if they were to occur.

Renewal Remits for April 2023 to March 2024



4.40 Financial authorisation only provides a partial picture of renewals workbank planning, while remits issued and accepted by the supply chain show progress made at an earlier stage of the planning lifecycle. This indicator shows the value of renewals remits accepted and issued to deliverers as a percentage of the value of remits required. Nationally, 96% of workbank remits have been issued to deliverers while 88% have been accepted. North West and Central's underreporting of remits remains an issue, with the region having 96% of remits issued however, only 63% were accepted by the deliverer. The region continues to review its remit process, seeking to ensure the process is fit for all assets and schemes, with minimal data handling.

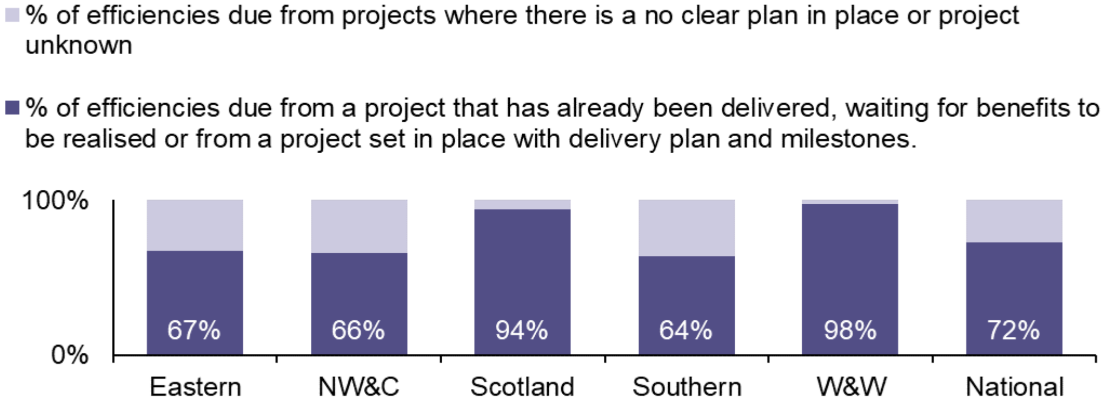
Maintenance Headcount for April 2023 to March 2024



4.41 Direct maintenance headcount has reduced across all regions throughout the year. Nationally, maintenance headcount is at 94%, below projected glidepath. Southern is above glidepath, Wales & Western is level with glidepath while other regions are slightly below. The current economic climate means Network Rail has limited recruitment to essential or safety critical roles. Regions are closely monitoring headcount levels to react appropriately to challenges. When required, additional work is covered by overtime and labour only sub-contractors (LOSC), which provides an appropriate level of flexibility in resources and means there is no immediate risk to the delivery of the maintenance workbank. Modernising maintenance is continuing across the regions improving staff rostering, leading to better deployment of the workforce.

Efficiency Plans Blue Red Amber Green (BRAG) Ratings for April 2023 to March 2024

Figure 4.15: Efficiency Plans for 2023-24



4.42 Network Rail has delivered £2.9 billion of cumulative efficiencies over the first four years of CP6 and continues to plan toward the £4.0 billion revised target. The company is working towards identifying and delivering further initiatives specifically through reduced pay awards & bonuses, as well as modernisation. 72% of Network Rail's overall efficiencies are due to come from projects with a green or blue rating in the final year of CP6. This suggests a high level of confidence in the planned efficiencies. The above chart demonstrates the combined percentage of efficiencies forecast to come from projects which have already been delivered (rated blue) and from projects with a clear delivery plan and with set milestones in place (rated green). Table 4.1 provides a more detailed breakdown of Network Rail's efficiency BRAG (blue, red, amber, green) ratings. The majority of efficiencies with no clear plan in place (rated as amber) relate to modernising maintenance efficiencies. Network Rail is looking to progress with these in the year through the modernising maintenance programme.

Table 4.1: Network Rail's assessment of the maturity of its April 2023 to March 2024 efficiency plans (by value)

	Eastern	NW&C	Scotland	Southern	W&W	Total
Project delivered, waiting for benefits to be realised	52%	53%	69%	48%	81%	56%
Project in place with delivery plan and milestones	15%	13%	25%	16%	17%	16%
Strategic theme applied, commitment to deliver but no plan in place	33%	24%	0%	35%	2%	25%
Unknown	0%	10%	6%	1%	0%	3%
	100%	100%	100%	100%	100%	100%

Source: ORR analysis of Network Rail's data

Annex A: Summary of key financial information

Great Britain

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	7,463	7,478	-15	7,210
Franchised track access charges	2,772	2,962	-190	2,877
Other single till income	676	715	-39	729
Total income	**10,911**	**11,155**	**-244**	**10,816**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	716	686	-30	794
Support costs	1,019	901	-118	1,072
Traction electricity, industry costs and rates	979	1,145	166	952
Maintenance	2,089	1,780	-309	2,155
Schedule 4 compensation payments	785	325	-460	359
Schedule 8 compensation payments	132	65	-67	-209
Total operating expenditure	**5,720**	**4,902**	**-818**	**5,123**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	4,046	3,995	-51	4,370
Enhancements	2,011	1,685	-326	1,978
Total capital expenditure	**6,057**	**5,680**	**-377**	**6,348**
Risk (Centrally held)	-	219	219	-
Risk (Route-controlled)	-	250	250	-
Risk (Contingent asset management funding)	-	239	239	-
Total risk expenditure	**-**	**708**	**708**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	4,135	2,230	-1,905	3,081
Corporation tax	-50	84	134	-
Total other expenditure	4,085	2,314	-1,771	3,081
Total expenditure	**15,862**	**13,604**	**-2,258**	**14,552**
Other information				
RAB	84,446	n/a	n/a	76,313
Net debt	58,249	n/a	n/a	55,459
Gearing (net debt/RAB)	68.98%	n/a	n/a	72.67%

Source: Network Rail's regulatory financial statements

England and Wales

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	6,862	6,845	17	6,485
Franchised track access charges	2,340	2,525	-185	2,443
Other single till income	628	665	-37	685
Total income	**9,830**	**10,035**	**-205**	**9,613**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	651	633	-18	721
Support costs	918	811	-107	954
Traction electricity, industry costs and rates	888	1,048	160	871
Maintenance	1,899	1,614	-285	1,941
Schedule 4 compensation payments	718	311	-407	327
Schedule 8 compensation payments	107	65	-42	-222
Total operating expenditure	**5,181**	**4,482**	**-699**	**4,592**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	3,620	3,544	-76	3,837
Enhancements	1,832	1,592	-240	1,800
Total capital expenditure	**5,452**	**5,136**	**-316**	**5,637**
Risk (Centrally held)	-	230	230	-
Risk (Route-controlled)	-	156	156	-
Risk (Contingent asset management funding)	-	239	239	-
Total risk expenditure	**-**	**625**	**625**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	3,719	2,007	-1,712	2,770
Corporation tax	-44	75	119	-
Total other expenditure	3,675	2,082	-1,593	2,770
Total expenditure	**14,308**	**12,325**	**-1,983**	**12,999**
Other information				
RAB	75,638	n/a	n/a	68,356
Net debt	52,382	n/a	n/a	49,875
Gearing (net debt/RAB)	69.25%	n/a	n/a	72.96%

Source: Network Rail's regulatory financial statements

Scotland

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	601	633	-32	725
Franchised track access charges	432	437	-5	434
Other single till income	48	50	-2	44
Total income	**1,081**	**1,120**	**-39**	**1,203**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	65	53	-12	73
Support costs	101	90	-11	118
Traction electricity, industry costs and rates	91	97	6	81
Maintenance	190	166	-24	214
Schedule 4 compensation payments	67	14	-53	32
Schedule 8 compensation payments	25	-	-25	13
Total operating expenditure	**539**	**420**	**-119**	**531**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	426	451	25	533
Enhancements	179	93	-86	178
Total capital expenditure	**605**	**544**	**-61**	**711**
Risk (Centrally held)	-	-11	-11	-
Risk (Route-controlled)	-	94	94	-
Risk (Contingent asset management funding)	-	-	-	-
Total risk expenditure	**-**	**83**	**83**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	416	223	-193	311
Corporation tax	-6	9	15	-
Total other expenditure	410	232	-178	311
Total expenditure	**1,554**	**1,279**	**-275**	**1,553**
Other information				
RAB	8,808	n/a	n/a	7,957
Net debt	5,867	n/a	n/a	5,584
Gearing (net debt/RAB)	66.61%	n/a	n/a	70.18%

Source: Network Rail's regulatory financial statements

Southern

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	1,407	1,794	-387	1,757
Franchised track access charges	688	707	-19	722
Other single till income	225	244	-19	294
Total income	**2,320**	**2,745**	**-425**	**2,773**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	180	189	9	199
Support costs	206	197	-9	229
Traction electricity, industry costs and rates	299	316	17	270
Maintenance	483	379	-104	501
Schedule 4 compensation payments	166	85	-81	115
Schedule 8 compensation payments	-18	4	22	-115
Total operating expenditure	**1,316**	**1,170**	**-146**	**1,199**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	970	1,014	44	1,022
Enhancements	143	87	-56	186
Total capital expenditure	**1,113**	**1,101**	**-12**	**1,208**
Risk (Centrally held)	-	58	58	-
Risk (Route-controlled)	-	53	53	-
Risk (Contingent asset management funding)	-	69	69	-
Total risk expenditure	**-**	**180**	**180**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	939	507	-432	700
Corporation tax	-13	21	34	-
Total other expenditure	926	528	-398	700
Total expenditure	**3,355**	**2,979**	**-376**	**3,107**
Other information				
RAB	18,475	n/a	n/a	16,696
Net debt	13,346	n/a	n/a	12,486
Gearing (net debt/RAB)	72.24%	n/a	n/a	74.78%

Source: Network Rail's regulatory financial statements

Wales and Western

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	1,070	1,051	19	1,014
Franchised track access charges	535	555	-20	507
Other single till income	90	90	-	94
Total income	**1,695**	**1,696**	**-1**	**1,615**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	102	87	-15	109
Support costs	154	139	-15	160
Traction electricity, industry costs and rates	92	111	19	93
Maintenance	287	266	-21	296
Schedule 4 compensation payments	126	38	-88	38
Schedule 8 compensation payments	61	18	-43	-3
Total operating expenditure	**822**	**659**	**-163**	**693**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	704	656	-48	623
Enhancements	161	81	-80	286
Total capital expenditure	**865**	**737**	**-128**	**909**
Risk (Centrally held)	-	42	42	-
Risk (Route-controlled)	-	31	31	-
Risk (Contingent asset management funding)	-	36	36	-
Total risk expenditure	**-**	**109**	**109**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	787	441	-346	589
Corporation tax	-6	10	16	-
Total other expenditure	781	451	-330	589
Total expenditure	**2,468**	**1,956**	**-512**	**2,191**
Other information				
RAB	15,298	n/a	n/a	13,824
Net debt	11,125	n/a	n/a	10,534
Gearing (net debt/RAB)	72.72%	n/a	n/a	76.20%

Source: Network Rail's regulatory financial statements

Eastern

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	2,654	2,299	355	2,120
Franchised track access charges	536	666	-130	618
Other single till income	174	186	-12	155
Total income	**3,364**	**3,151**	**213**	**2,893**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	212	206	-6	235
Support costs	304	247	-57	288
Traction electricity, industry costs and rates	281	392	111	318
Maintenance	634	526	-108	636
Schedule 4 compensation payments	236	79	-157	111
Schedule 8 compensation payments	59	40	-19	-40
Total operating expenditure	**1,726**	**1,490**	**-236**	**1,548**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	1,096	1,077	-19	1,264
Enhancements	1,224	1,158	-66	962
Total capital expenditure	**2,320**	**2,235**	**-85**	**2,226**
Risk (Centrally held)	-	74	74	-
Risk (Route-controlled)	-	22	22	-
Risk (Contingent asset management funding)	-	80	80	-
Total risk expenditure	**-**	**176**	**176**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	1,114	590	-524	827
Corporation tax	-14	26	40	-
Total other expenditure	1,100	616	-484	827
Total expenditure	**5,146**	**4,517**	**-629**	**4,601**
Other information				
RAB	23,706	n/a	n/a	21,426
Net debt	15,551	n/a	n/a	15,044
Gearing (net debt/RAB)	65.60%	n/a	n/a	70.21%

Source: Network Rail's regulatory financial statements

North West and Central

	2022-23			2021-22
£ million, 2022-23 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Grant income	1,731	1,701	30	1,594
Franchised track access charges	581	597	-16	596
Other single till income	139	145	-6	142
Total income	**2,451**	**2,443**	**8**	**2,332**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	157	151	-6	178
Support costs	254	228	-26	277
Traction electricity, industry costs and rates	216	229	13	190
Maintenance	495	443	-52	508
Schedule 4 compensation payments	190	109	-81	63
Schedule 8 compensation payments	5	3	-2	-64
Total operating expenditure	**1,317**	**1,163**	**-154**	**1,152**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	850	797	-53	928
Enhancements	304	266	-38	366
Total capital expenditure	**1,154**	**1,063**	**-91**	**1,294**
Risk (Centrally held)	-	56	56	-
Risk (Route-controlled)	-	50	50	-
Risk (Contingent asset management funding)	-	54	54	-
Total risk expenditure	**-**	**160**	**160**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	879	469	-410	654
Corporation tax	-11	18	29	-
Total other expenditure	868	487	-381	654
Total expenditure	**3,339**	**2,873**	**-466**	**3,100**
Other information				
RAB	18,159	n/a	n/a	16,410
Net debt	12,360	n/a	n/a	11,811
Gearing (net debt/RAB)	68.07%	n/a	n/a	71.97%

Source: Network Rail's regulatory financial statements

National functions

£ million, 2021-22 prices	2022-23 Actual	2022-23 Delivery plan	2022-23 Variance	2021-22 Actual
Income	**A**	**B**	**C=A-B**	
Grant income	7,463	7,478	-15	7,210
Franchised track access charges	121	120	1	127
Other single till income	30	29	1	32
Total income	**7,614**	**7,627**	**-13**	**7,369**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	23	23	-	28
Support costs	705	673	-32	700
Traction electricity, industry costs and rates	42	37	-5	39
Maintenance	123	61	-62	58
Schedule 4 compensation payments	3	54	51	-10
Schedule 8 compensation payments	9	11	2	12
Total operating expenditure	**905**	**859**	**-46**	**827**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	494	641	147	612
Enhancements	35	-	-35	18
Total capital expenditure	**529**	**641**	**112**	**630**
Risk (Centrally held)	-	219	219	-
Risk (Route-controlled)	-	250	250	-
Risk (Contingent asset management funding)	-	239	239	-
Total risk expenditure	**-**	**708**	**708**	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	4,135	2,230	-1,905	3,081
Corporation tax	-50	84	134	-
Total other expenditure	4,085	2,314	-1,771	3,081
Total expenditure	**5,519**	**4,522**	**-997**	**4,538**

Source: Analysis of Network Rail's regulatory financial statements

Wales

Note: the numbers set out below are discussed in the above commentary as part of the Wales and Western region.

	2022-23			2021-22
£ million, 2021-22 prices	**Actual**	**Delivery plan**	**Variance**	**Actual**
Income	**A**	**B**	**C=A-B**	
Network grant income	310	-	-	293
Franchised track access charges	143	-	-	133
Other single till income	9	-	-	10
Total income	**462**	**-**	**-**	**436**
Operating expenditure	**A**	**B**	**C=B-A**	
Network operations	35	-	-	39
Support costs	61	-	-	61
Traction electricity, industry costs and rates	20	-	-	20
Maintenance	103	-	-	104
Schedule 4 compensation payments	37	-	-	2
Schedule 8 compensation payments	16	-	-	12
Total operating expenditure	**272**	-	-	**237**
Capital expenditure	**A**	**B**	**C=B-A**	
Renewals	290	-	-	246
Enhancements	12	-	-	11
Total capital expenditure	**302**	-	-	**257**
Risk (Centrally held)	-	-	-	-
Risk (Route-controlled)	-	-	-	-
Risk (Contingent asset management funding)	-	-	-	-
Total risk expenditure	**-**	-	-	**-**
Other expenditure	**A**	**B**	**C=B-A**	
Financing costs and other	199	-	-	149
Corporation tax	-2	-	-	-
Total other expenditure	198	-	-	149
Total expenditure	**772**	**-**	**-**	**643**
Other information				
RAB	3,929	n/a	n/a	3,549
Net debt	3,268	n/a	n/a	2,949
Gearing (net debt/RAB)	83.18%	n/a	n/a	83.09%

Source: Network Rail's analysis of industry financials

Annex B: Link between efficiency and financial performance

A.1 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 (FPM).

A.2 Consistent with general use in economic regulation, we use the term 'efficiency' to refer to changes over time of 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 functions such as human resources and finance. These are broadly repeatable activities, which makes them easier to compare over time.

A.3 We use the term 'financial performance' to assess both core business activities and wider activities that generate income (such as property 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 nor under-performance against that plan. However, in the real world, other things do result in differences between the reporting of efficiency and FPM. These include:

(i) items of income and expenditure that are included in FPM but not efficiency reporting.

(ii) external factors that can result in cost increases ('headwinds') and cost decreases ('tailwinds') such as changes in inflation or to employment legislation which are outside of Network Rail's control. These external factors are reported separately to efficiency. However, these are all considered for FPM, so, for example, a headwind will negatively affect FPM.

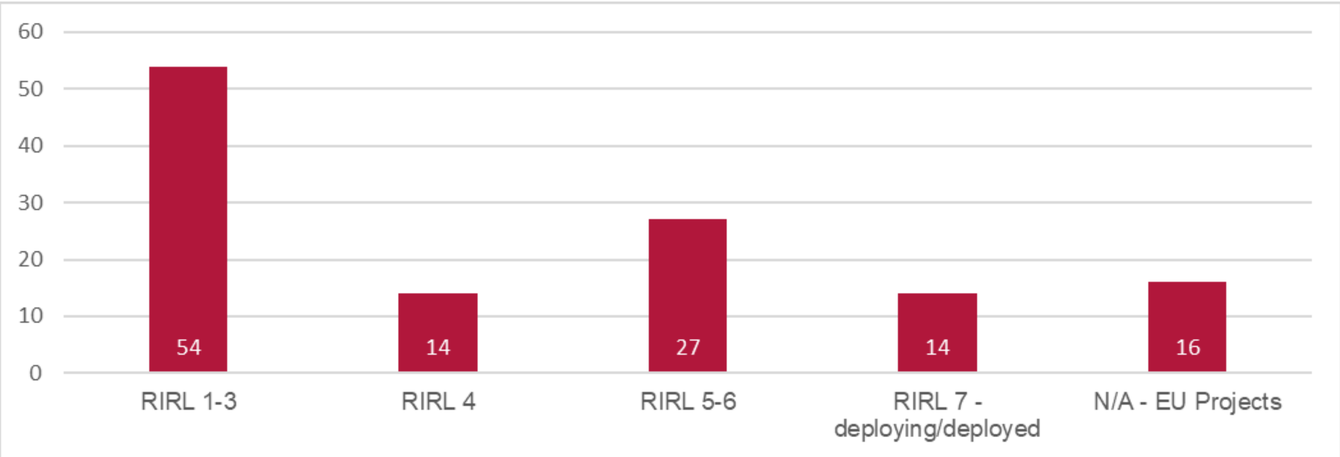
(iii) FPM adjusts for future cost increases resulting from business decisions made during the current financial year. For example, the costs of a major re-signalling project may be expected to increase in the next financial year due to a purchase decision made during the current financial year. This will result in negative financial performance being reported during the current financial year (consistent with the accruals accounting concept). Efficiency reporting does not adjust for this; and

(iv) the additional cost of any changes to planned renewals work during a year are recorded as negative FPM, whereas the cost of the work avoided is recorded as FPM neutral. This is because FPM measures performance against the delivery plan and is designed to discourage regions from making late changes to planned work during the year.

Annex C: Progress of research and development projects

A.4 Network Rail uses the rail industry readiness level (RIRL) as a measure of how ready a new product or system is for deployment. As shown in Figure C1, 54 out of 95 of Network Rail's CP6 research and development (R&D) projects are in RIRL stages 1 to 3, with a further 41 projects in stages 4 to 6. 16 projects are European R&D programmes, which sit outside the RIRL. Although a number of projects sit within stages 4 to 6, these projects still deliver benefits, such as efficiency savings, before they reach stage 7 (full deployment). Network Rail have indicated that 9 projects have begun demonstrating benefits, with a further 10 projects being actively deployed into business as usual activities. We will continue to monitor and report on the progress of projects through RIRL levels over the next year.

Figure C1: Rail industry readiness levels of Network Rail's R&D projects



Key	Stage	Description
RIRL 1 to 3	Conception, Opportunity Development and Proof of Concept	Identification of need and potential benefits, quantification of that benefit, verification of demand, proof of concept
RIRL 4	Validation	Technology verified and tested against user requirements, market testing and/or laboratory validation
RIRL 5 to 6	System Demonstrator and Operational transition	Prototype demonstrated and developed, supplied to required standard. Commercial agreements progressed
RIRL 7	Initial Deployment	First of Class asset deployment for operational usage, low rate of production ramping up
RIRL 8 to 9	Roll Out and Whole Life Management	Full rate production, on-going continuous improvement, reliability, and growth

Source: Network Rail

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