

Annual Assessment of Network Rail

13 July 2023



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Executive summary

1. The Office of Rail and Road (ORR) holds Network Rail to account for its management of the rail network in Great Britain. We monitor how it operates the network to keep trains running on time and how it keeps the network safe and in good condition.
2. This report is our 'Annual Assessment of Network Rail'. It sets out our views on Network Rail's performance between 1 April 2022 and 31 March 2023, the fourth year of Control Period 6 (CP6) which runs from 1 April 2019 to 31 March 2024, and referred to as 'Year 4' throughout this document. Separate chapters review network-wide performance, the performance of Network Rail's regions, and its System Operator function, including how it has performed for freight and national passenger operators. We compare performance, identifying best practice, and areas for improvement.
3. Network Rail continued to keep the railway running safely. [Recent data](#) confirms that we continue to have one of the safest mainline railways in Europe. Network Rail also exceeded its annual CP6 efficiency target, reporting £934 million of efficiency improvements, ahead of its £911 million original CP6 trajectory. But many of Network Rail's targets for the year were missed. There was a sustained decline in both passenger and freight train performance, reliability of assets worsened in most regions and delivery of renewal plans was mixed. Network Rail accepts that it must improve.
4. Network Rail's performance in Year 4 was impacted by coinciding pressures, many of which have impacted overall performance. These were:
 - industrial action which diverted management attention and impacted delivery, financial performance and train performance;
 - extreme weather, including summer heat and flash floods which impacted assets, and disrupted delivery and train performance; and
 - financial pressures, because of incentive payments due to poor train performance, industrial action and high inflation.
5. Taken together, these factors presented a significant management challenge. All are likely to continue to affect Network Rail's overall performance in Year 5, with ongoing impacts of climate change and industrial action (including its legacy effects), and with financial pressures being managed by deferring renewals. We will continue to closely monitor the impact of these factors to understand the cumulative impact on Network Rail's delivery in the final year of CP6 and any potential impact for Control Period 7 (April 2024 to March 2029).
6. Our key findings are set out below.

Train reliability and punctuality continued to decline and delays attributed to Network Rail worsened in all five of its regions. Network Rail must deliver its committed improvement plans and work with train operating companies to improve train performance for passengers and freight users.

7. The percentage of trains that arrived on time (On Time, Moving Annual Average (MAA)) fell from 73.1% in Year 3 to 67.8% in Year 4. Cancellations MAA increased from 3.3% to 3.8%.
8. Freight performance also continued to decline. The national FDM (Freight Delivery Metric) MAA fell from 93.5% to 86.0%. This was the lowest FDM MAA since the time series began in 2014. Wales and Western had the worst regional freight performance (FDM-R) at 82.5% and Scotland had the best at 88.9%.
9. Delays attributable to Network Rail (measured by the consistent region measure for passenger services, CRM-P) worsened in all five of its regions. All regions failed to achieve targets Network Rail set in its scorecards for Year 4, with Wales and Western ending the year with the largest variance to target, 72% below. Network Rail accepts that it has been a challenging year and performance must improve.
10. Throughout Year 4, performance was impacted by industrial action, with severe weather also contributing. These factors are not wholly within Network Rail's control and they (and their legacy effects) are likely to continue to affect train performance in Year 5. But as we reported during the year, delays also increased because of worsening reliability of Network Rail's infrastructure. It must continue its action to improve this. It also needs to do more to reduce delay caused by timetable flaws and work with train operating companies to recover services more quickly following disruption.
11. In November 2022, we [wrote](#) to Network Rail setting out specific actions that were required to improve asset reliability. This included: reducing the number of overhead line faults in Eastern; increasing reliability of track assets in both Wales & Western and North West & Central; and improving the performance of the Thameslink Core in Southern. Since then, and in response to the sustained decline in performance, we have required Network Rail to produce comprehensive regional performance improvement plans covering both passenger and freight services. Network Rail has responded, and all regions have provided detailed recovery plans. We are monitoring delivery of all these plans and will take further action if improvements are not delivered.
12. To drive improvements in freight performance, Network Rail's System Operator (freight team) also produced an improvement plan, recognising the network-wide approach needed for freight. The plan focuses on key freight corridors and greater learning from incident reviews and performance risk assessment. As with regional improvement plans, we are monitoring delivery closely.

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13. We have also pushed for renewed focus on whole-industry performance management capability. This includes refocus on the Performance Improvement Management System that Network Rail committed to in response to previous regulatory action following poor performance. The System Operator is leading work on this through production of a whole-industry performance recovery strategy. We will monitor its production and delivery.
14. During the year, train operator [cancellations hit record levels](#), with an additional high number of unrecorded 'pre-cancellations' (known as P* coding). We found train operators were making late changes to timetables by withdrawing services when insufficient staff or trains were available. We have been clear that this is an inappropriate application of the Network Code's provisions on emergency timetables and means that the official statistics may not reflect the everyday experience of passengers. We wrote to all train companies to stop this approach and asked Network Rail to coordinate the industry to deliver improved processes, which it has. To increase transparency, we have also started to report on these cancellations through our [data portal](#).

Network Rail continued to keep the railway running safely, but risks need continued careful management. Network Rail delivered improvements to track worker safety and continues to progress actions from the Weather Risk Task Force action plan.

15. Britain's mainline railways remain among the safest in Europe as confirmed by our benchmarking of safety performance in our published [Common Safety Indicators report](#). Even so, there is a need to remain focused on health and safety, to continue to deliver a safe operational railway, manage risks and continuously improve.
16. Network Rail established its track worker safety programme in response to ORR's improvement notice of July 2019. In July 2022, we confirmed that it had achieved compliance with our improvement notice. This is an important area which we will continue to monitor.
17. Following the fatal Carmont derailment of 2020, reports by Dame Julia Slingo and Lord Robert Mair made recommendations for improvements, and Network Rail translated these into a number of action plans. Progress in delivering those action plans is overseen by Network Rail's Weather Risk Task Force Steering Group, which we attend as observers. Information provided by Network Rail at the steering group demonstrates that it is making progress in delivering its action plans. We also see commitment from Network Rail's Executive. But there is still a lot of work to do.
18. In Year 4, we focused particularly on how Network Rail is responding to the Lord Mair recommendations specific to improving its drainage management. We found regional variation, with Network Rail Scotland making good progress but the pace of delivery in other

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regions being too slow, particularly around the timing of commitments to provide drainage resource. North West & Central and Eastern had indicated that they may not have all the resource required (against the modelled requirements) in place until 2025 and 2026 respectively. This was not acceptable. We escalated our concerns to both regions and they have responded by committing to an earlier date of the end of CP6.

19. In our last annual assessment, we noted that sustained, coordinated oversight was needed to deliver the Weather Risk Task Force action plans. We are pleased that Network Rail has set up a programme board (learning lessons from the Track Worker Safety task force), which includes senior representatives from each region. We will continue to monitor delivery of the plans closely and will take appropriate action if progress stalls.
20. In advance of industrial action, we examined Network Rail's contingency plans for safely operating a much-reduced service. On days of industrial action, members of our safety inspectorate were on-site, to check the railway was being operated safely. Overall, Network Rail delivered a safe operational railway during the action.
21. Network Rail failed to achieve its annual scorecard targets for key measures of safety, but there was some regional variation. All regions apart from Eastern missed targets for workforce Fatalities and Weighted Injuries (FWI). While targets were not achieved, overall FWI performance was steady and does not present significant concerns. Network Rail recorded its lowest ever Lost Time Injury Frequency Rate (LTIFR) in the year, driven by recording its lowest ever volume of work-related injuries.
22. All regions apart from Scotland and Eastern missed their scorecard targets for Personal Accountability for Safety. However, there was a reduction in life-saving rule breaches and high-risk workforce safety incidents compared to the year before.
23. All regions apart from Southern and Wales & Western missed their target for Train Accident Risk Reduction, with Network Rail achieving 86.3% (network-wide) against a target of 95% (meaning that Network Rail overall, delivered 86.3% of its plans to reduce the risk of train accidents). The missed targets appear to be due to location-specific rather than systemic issues, but we are keeping this under review.

Network Rail did not deliver all its planned renewal work and asset reliability declined in all regions except Scotland. Its progress in delivering structures examinations has not been good enough.

24. Network Rail delivered 91.3% of its planned renewal work across the network. Delivery varied by region, with Eastern and Southern the only regions that exceeded their plans. North West & Central delivered 89.3% of planned work, Wales & Western 81.2% and Network Rail Scotland only 69.0%.

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25. In Scotland, we have previously reported that Network Rail deferred renewal work beyond CP6 to fund additional risk. This delivered a short-term improvement in the risk fund, some of which was then used to offset high inflation. These deferrals reduced the region's asset sustainability forecast (an indicator of remaining asset life) for the control period.
26. Nationally, most regions have used or allocated all of their CP6 risk funding, but some risks remain in Network Rail's plan. It is managing these risks through deferral or reprioritisation of renewals. It has reduced its total forecast renewals expenditure for the whole of CP6 by £0.4 billion (approximately 2% of total CP6 renewals expenditure). It has done so partly to fund financial risks such as high inflation. This has mainly impacted projects in the Eastern region, and to a lesser extent the Southern region.
27. Asset reliability worsened in all regions except Network Rail Scotland over the year. Better asset reliability in Scotland is, in part, because of the lasting impact of delivering its planned renewals in CP5. Network Rail overall failed to achieve its national target for asset service-affecting failures (SAFs) by 7%. All regions missed their SAF targets in Year 4.
28. Of all assets, track reliability decreased the most during the year, with a sustained decline from July 2022 onwards. This corresponds with the hot weather during the summer which resulted in the underlying track formation drying out in some locations, causing track defects and resultant speed restrictions and/or reduced timetables to ensure trains could continue to run safely. Network Rail also reported having to cancel maintenance work during, or following, the hot weather period, which created a backlog of work. Network Rail has included measures in its regional performance improvement plans to improve asset reliability (including track quality) and reduce the number of temporary speed restrictions.
29. Network Rail continues to be behind on its structures examinations. This could result in faults being undetected or not properly assessed. We raised this as a concern last year. While we have seen more focus this year from the regions on the recovery of their examinations backlog, we consider that progress has not been good enough and in some cases compliance rates have deteriorated. Given this lack of progress, we escalated our concerns, recently [writing](#) to the Chief Executive of Network Rail.
30. We have agreed next steps with Network Rail which includes the company submitting a revised plan for eliminating non-compliance. The plan should describe the future steady state in each region on compliance with structure examinations. We have pressed Network Rail to evidence in its plan, how it is taking a coordinated approach to technology adoption (including the use of existing technology such as drones or sonar scour monitoring technology), supply chain management, and business process improvement to maintain compliance. It has committed to producing a final plan for the end of August 2023. Once it is in place, Network Rail will provide us with regular progress updates against delivery of the plan.

Network Rail delivered its national environmental target but there was variation by region.

31. We measure Network Rail's environmental performance using a composite measure called the Environmental Sustainability Index (ESI), which covers non-hazardous waste reused or recycled, non-hazardous waste diverted from landfill, non-traction carbon emissions and non-traction energy usage.
32. Network Rail achieved its national target for ESI (delivering 120.5% against a target of 100%). It exceeded its target for reusing or recycling waste, diverting waste from landfill and reducing non-traction carbon emissions but was worse than target for reducing non-traction energy use.
33. There was regional variation. Wales & Western, Eastern and Scotland achieved their annual ESI target, but North West & Central, and Southern failed to meet theirs.
34. We are currently pressing Network Rail's regions on how they will deliver improved performance in energy use and carbon emissions. We have seen evidence of good practice from each of the regions – including a clear list of initiatives that they plan to deliver in the final year of CP6. We will keep delivery under close review.
35. We have previously reported on poor accuracy of Network Rail's environmental reporting. These issues continued in Year 4. Network Rail must strengthen its assurance and governance of environmental data. We need the company to provide evidence showing it is taking all reasonable steps to ensure there is sustained improvements in its data quality. We will continue to monitor this closely and escalate if our concerns are not addressed.
36. Network Rail has made good progress with its management of biodiversity. It has undertaken studies to understand options and priorities for delivering future biodiversity improvements and has developed encouraging partnerships with third parties to deliver habitat and biodiversity improvements.
37. As outlined above, climate change and associated extreme weather continued to affect performance during the year. We continue to work with Network Rail to ensure it learns from these incidents to improve its preparations for extreme weather and asset resilience. We are carefully reviewing Network Rail's plans in this area for CP7. We also continue to track actions in Network Rail's regional Weather Resilience and Climate Change Adaptation (WRCCA) Strategies.

Network Rail delivered £934 million of efficiencies, which was more than its £911 million plan.

38. Network Rail delivered £934 million of efficiencies in Year 4 of CP6, ahead of its £911 million plan. All regions met or exceeded their CP6 efficiency target for the year. Efficiency initiatives that delivered the greatest benefits included:
- improved contracting strategies (£199 million of efficiencies) – which included negotiating contracts with improved terms or rates;
 - implementation of new technologies to reduce maintenance and renewal works (£88 million of efficiencies) – for example, using technologies to improve automation, accuracy, performance, and decision-making;
 - innovation and technology benefits (£84 million of efficiencies) – for example, use of drones, Plain Line Pattern Recognition technology to detect track defects, or systems such as on-train cameras to improve asset intelligence;
 - modernisation (£80 million of efficiencies) – Network Rail’s workforce management modernisation includes recruitment controls, continued workforce attrition, and voluntary severance schemes; and
 - early contractor involvement (£63 million of efficiencies) – leading to reduced scope of projects, using minimum specification solutions and value engineering.
39. Recognising industry financial pressures due to the pandemic, Network Rail committed to deliver an additional £0.5 billion efficiencies. If Network Rail achieves the additional £0.5 billion, it will deliver a total of £4.0 billion of efficiencies in CP6. It has reported that some of this additional efficiency may be at risk due to delays to its maintenance modernisation programme, partly because of industrial action. While delivery of these additional efficiencies may be at risk, Network Rail remains on target to deliver its original CP6 target (£3.5 billion of efficiency improvements). This is supported by leading indicators of its preparedness.
40. Network Rail reported £867 million of wider financial underperformance in Year 4. This was mainly due to industrial action and poor performance, impacting on financial incentive mechanisms (Schedule 4 and 8 compensation to operators).
41. Most regions have now used or allocated all of their financial risk funds and plans to manage any future risks that emerge (such as any further increase in forecasts of inflation) by deferring or reducing the scope of renewals. We are working with Network Rail to ensure it improves its processes for managing renewal deferrals, mitigating any impact on safety, and managing the impact on asset sustainability and efficiency.

The System Operator managed many late notice changes to the timetable mainly due to industrial action and has progressed work on timetable reform but, working with industry and funders, it and the regions need to improve the timeliness and quality of evidence to support track access decisions.

42. A key area of focus for the System Operator must be enhancing the reliability of the timetable to deliver improved train service performance for passengers and freight operators. This has been challenging this year as Network Rail has had to continue to deliver late notice timetable changes, mainly because of industrial action, but also following requests from operators and funders. We expect Network Rail to make greater progress in the coming year and will keep this under review.
43. Network Rail progressed its work to reform the timetable process by building industry support to proceed with its plans, which include two timetable changes per year, but with an optional third conditional on industry consensus. The Network Rail-led proposal was developed and agreed by most of the industry but is still subject to ORR approval. In our response to the industry consultation on these changes, we stressed the importance of providing evidence on the likely impact on passengers and freight customers. Network Rail did not provide satisfactory evidence that the impact on passengers and end users had been adequately considered. We have recently consulted on changes to the Network Licence. In our consultation we sought to gather further evidence on how passengers and end users might be affected by a reduction in the notification period for timetable changes from twelve weeks. We will publish our decision shortly.
44. During the year, we again raised concerns with Network Rail's System Operator and regions about the timeliness and quality of evidence provided to support contractual access rights applications. As this is a recurring issue, we have commissioned an independent reporter to review industry processes and identify improvements. We expect Network Rail to implement findings appropriately. Funders and operators are critical to the capacity allocation process, and their support for Network Rail in delivering improvements will be essential.

Comparison of regional performance

A summary of key measures comparing regional performance in Year 4 is shown in charts below (note that each chart uses different scales). Please refer to the individual region chapters for commentary on each region's performance.

Key: ■ Above target ■ Below target

Figure 1 Overall scorecard performance by region

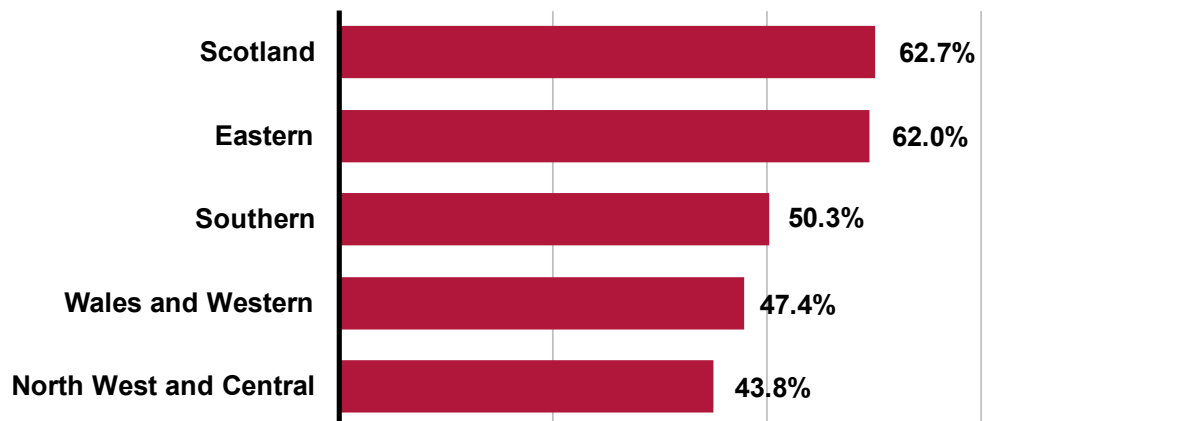
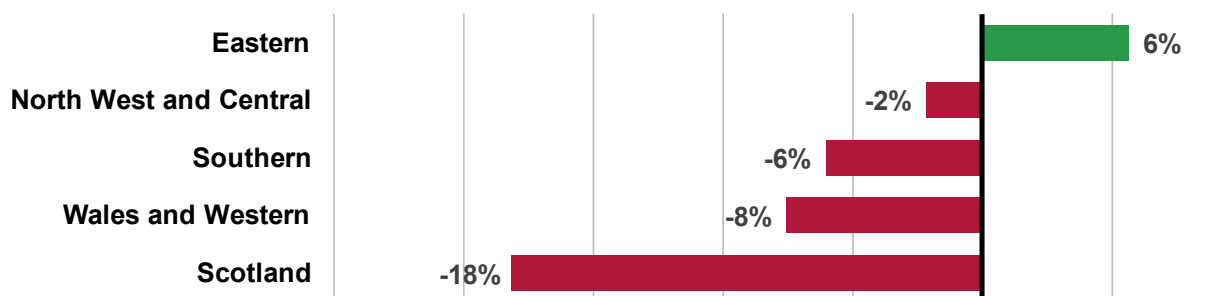


Figure 2 On Time by region



Figure 3 Efficiencies by region, variance of actual to revised plan/target



Note: During CP6 Network Rail committed to deliver an additional £0.5 billion of efficiencies. This chart shows Network Rail regional delivery of its revised targets to deliver these additional efficiencies. All regions remain ahead of the efficiency targets set at the start of CP6 (the original CP6 trajectory).

Figure 4 Effective volumes (renewals) percentage completion by region



Figure 5 Composite Reliability Index (CRI) by region, percentage points better/worse than scorecard target

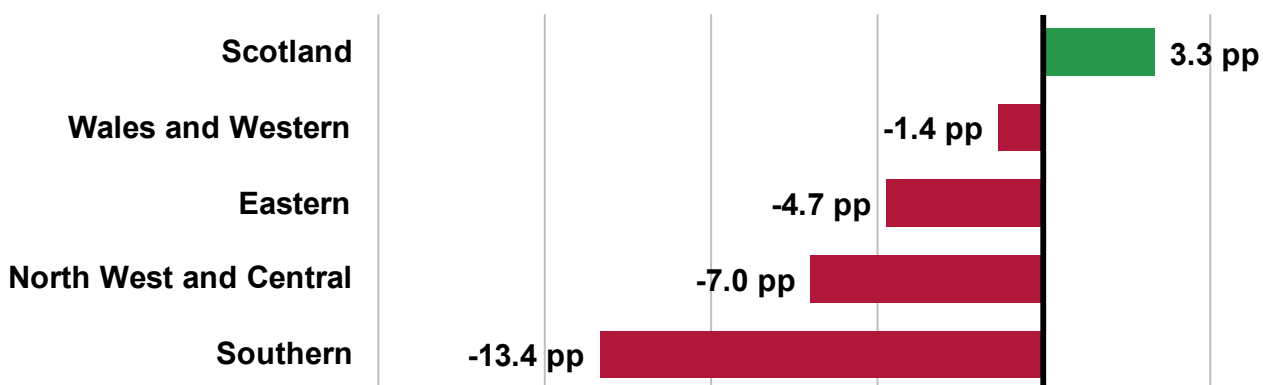
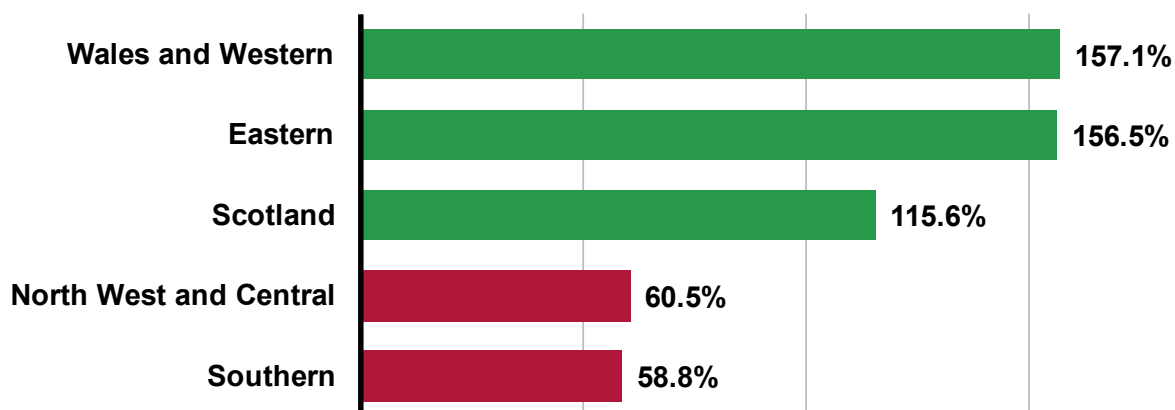


Figure 6 Environmental Sustainability Index (ESI) by region

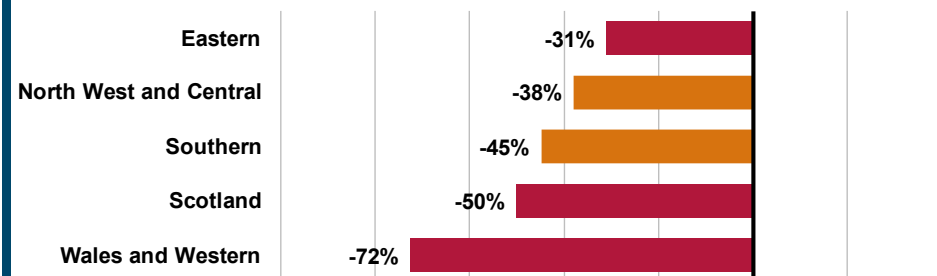


Source: ORR analysis of Network Rail data

Figure 7 Passenger train performance (Network Rail attributed delay minutes normalised, CRM-P), percentage better/worse than scorecard target and trajectory

Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor

Variance to scorecard target:



Variance to trajectory:

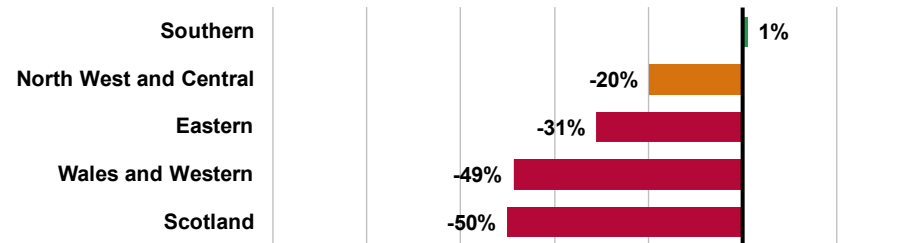
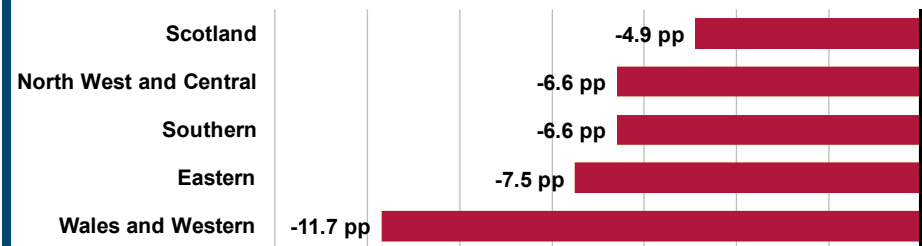


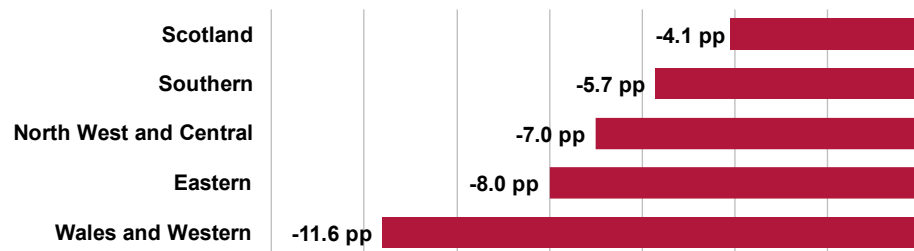
Figure 8 Freight performance by region (FDM-R), percentage points better/worse than scorecard target and trajectory

Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor

Variance to scorecard target:



Variance to trajectory:



Source: ORR analysis of Network Rail data

Context



1. Context

ORR's role

- 1.1 Our role is broad. We are responsible for:
- regulation of the rail industry's health and safety performance;
 - holding Network Rail and High Speed 1 (HS1) railway to account for delivery of performance and value for money;
 - protecting competition in the rail sector; and
 - protecting passengers from breaches in consumer law.
- 1.2 This report is about our regulation of Network Rail, holding it to account for delivering high levels of performance and service, as well as good value for money for passengers, the freight industry and taxpayers.
- 1.3 We assess Network Rail's performance in delivering the outcomes that matter to rail users, governments, and taxpayers. These are captured in our Periodic Review 2018 (PR18) Final Determination, which reflects governments' High Level Output Specifications (HLOSs), and the obligations set out in Network Rail's Network Licence.

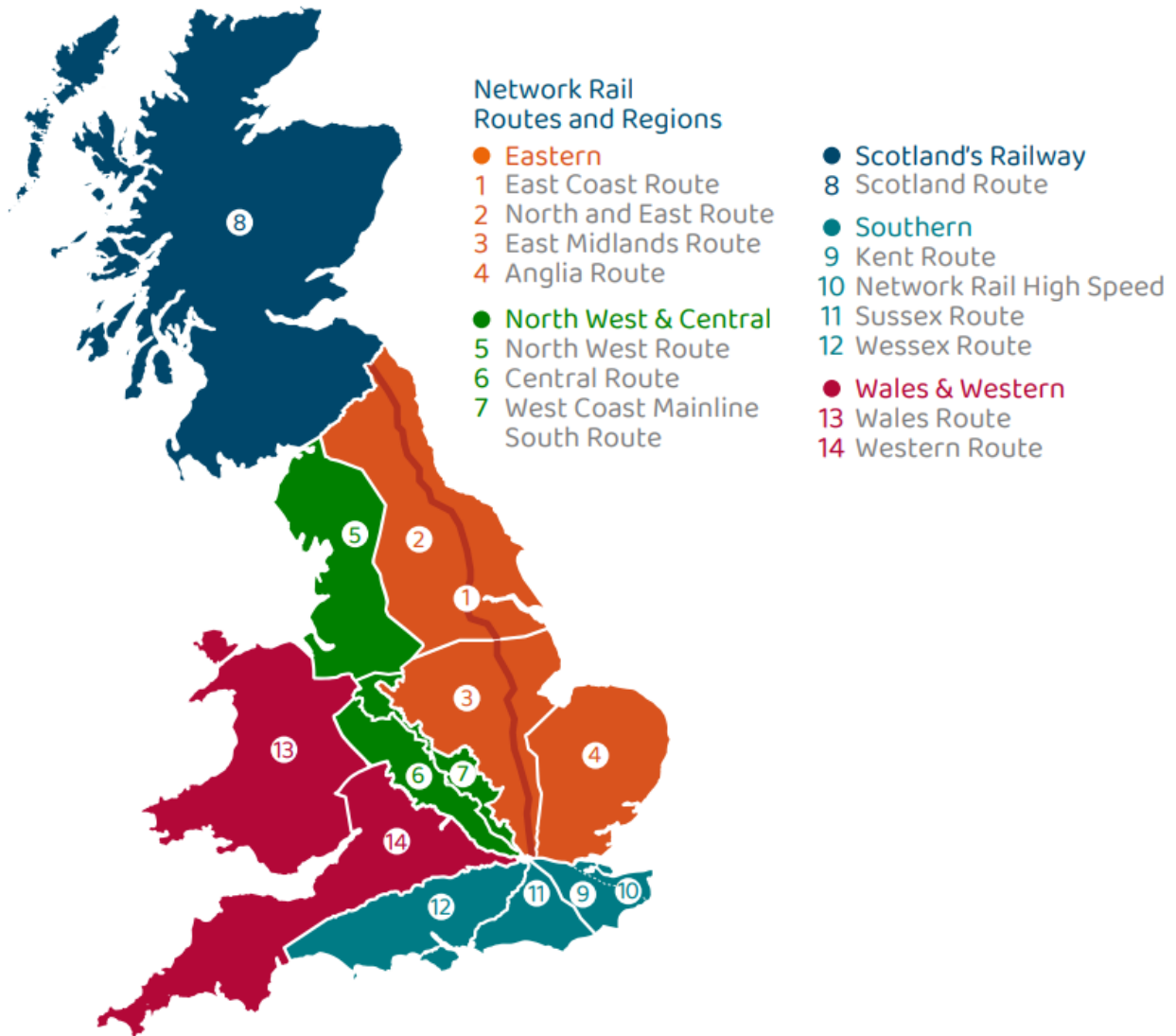
Network Rail's role

- 1.4 Network Rail operates, maintains, renews and improves its rail infrastructure to deliver a safe and reliable railway for passengers and freight customers. This includes 20,000 miles of track, 30,000 bridges, tunnels and viaducts, signalling and electrical power assets, and 20 of the largest railway stations.
- 1.5 Network Rail has five devolved regions: Eastern, North West & Central, Network Rail Scotland, Southern, and Wales & Western. They are intended to be responsive to the local needs of train operators, passengers and freight users. The regions are responsible for operations, maintenance, and renewals. This includes the day-to-day delivery of train performance and the relationships with their local train and freight operating companies.

1.6 Network Rail's System Operator supports coordination across the industry and regions and is responsible for areas such as managing freight and national operator relationships, timetabling, access and strategic planning.

1.7 The regions and System Operator are supported by Network Rail's National Functions (Technical Authority, Route Services and corporate support functions).

Figure 1.1 Network Rail's regions and routes



Source: Network Rail

Network Rail's scorecards and reporting

1.8 Network Rail measures its company-wide and regional performance in core areas of its business using sets of metrics and internal targets. It captures these in

national and regional scorecards. We require Network Rail to include a set of consistent measures on all scorecards to allow comparison between regions.

- 1.9 Network Rail's regions engage with their stakeholders to understand their priorities and determine the measures and targets to be included on scorecards for the coming year. Each region's scorecard is based on Network Rail's four vision themes (on the side of passengers and freight users; easy to engage with, an efficient and dependable partner; proud to work for Network Rail; and instinctive industry leader) and it includes our consistent measures and locally driven customer measures and targets. Targets vary across regions, and some reflect the specific and stretching requirements of Network Rail's funders (most notably in Scotland).
- 1.10 Performance for each scorecard measure is expressed as a percentage achievement between 0% and 200%, with 100% being 'on target'. (Note that this differs from previous years when performance was expressed as a percentage between 0% and 100%, with 50% being 'on target').
- 1.11 During the pandemic, Network Rail's performance across a range of measures exceeded target (largely because there were fewer trains operating on the railway). For Year 4, it continued to set stretch targets to retain regional train performance at the record levels seen at the end of Year 2 of CP6. Where applicable we show performance against Network Rail's stretch targets (as shown on its scorecards), and the original CP6 trajectories, which reflects what it committed to deliver before the pandemic.
- 1.12 While scorecards are a key part of how Network Rail judges its own performance across its business, we draw on a range of wider information and apply greater weight to certain metrics, such as our consistent measures. This approach is reflected throughout this report.

Document outline

- 1.13 This document is divided into chapters to reflect both our PR18 determination and Network Rail's regional structure. It covers:
- Network Rail's network-wide performance, including regional comparisons;
 - performance in each of Network Rail's five regions; and
 - performance of Network Rail's System Operator function.

1.14 We have tried to use plain language throughout this document but technical terms have been used in some areas when necessary. The [glossary](#) explains the technical terms used.

Network-wide performance and regional comparison



2. Network-wide performance and regional comparison

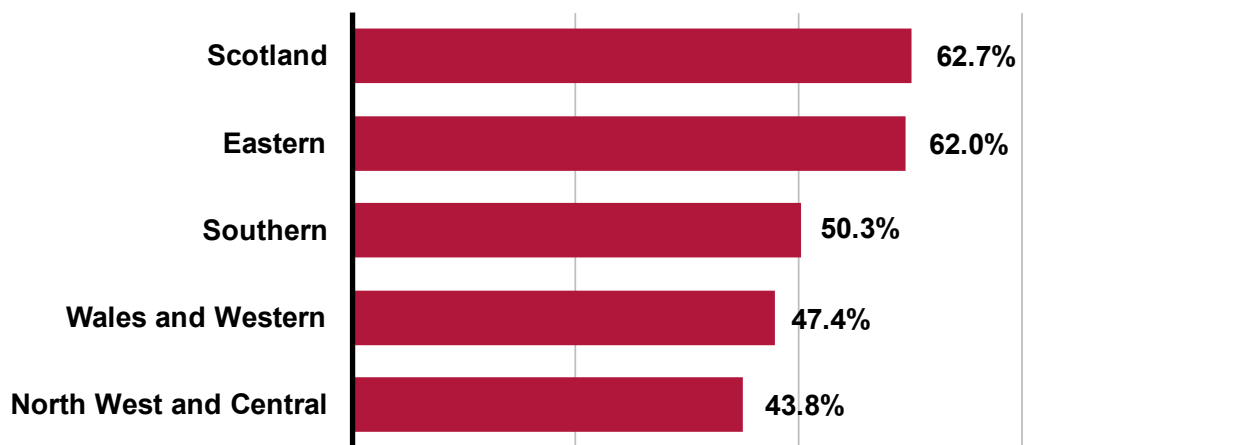
- 2.1 This chapter reviews performance across Network Rail's five regions and cross-cutting functions, but it excludes its System Operator function, which is reviewed in a separate chapter. We assess performance across Network Rail as a whole and compare performance across regions.
- 2.2 Network Rail's performance in Year 4 was impacted by coinciding pressures. These were:
- industrial action which diverted management attention and impacted delivery, financial performance and train performance;
 - extreme weather, including summer heat and flash floods which impacted assets, and disrupted delivery and train performance; and
 - financial pressures, because of incentive payments due to poor train performance, industrial action and high inflation.
- 2.3 Taken together, these factors presented a significant management challenge. All are likely to continue to affect Network Rail's overall performance in the final year of CP6, with ongoing impacts of climate change and industrial action (including its legacy effects), and with financial pressures being managed by deferring renewals.
- 2.4 Network Rail assesses the overall performance of its five regions using 'scorecards' which measure and weight many aspects of delivery. Scorecard outturn is measured as a percentage between 0% and 200%, with 100% being on target. The data in our Annual Assessment is based on Network Rail's year end scorecard (to 31 March 2023) but the financial performance measure numbers are draft. We will report more fully on Network Rail's financial performance 'Annual Efficiency and Finance Assessment,' which will be published in autumn 2023.
- 2.5 All regions failed to achieve their Year 4 overall scorecard target, with North West & Central having the lowest overall scorecard achievement at 43.8%, as shown in Figure 2.1.
- 2.6 Nationally, Network Rail only exceeded its annual targets on its national scorecard for one measure, the Environmental Sustainability Index (ESI). Complaints

handling and targets for enhancement milestones were worse than target. All other measures were significantly worse than target – including train performance measures (for both passenger and freight), asset management, safety measures and the financial performance measure.

2.7 This chapter provides more detail on Network Rail’s performance on the range of measures which underpin the overall scorecard performance for each region in Figure 2.1.

Figure 2.1 Overall scorecard performance by region, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target



Source: Network Rail’s regional comparison scorecard

There was a sustained decline in passenger and freight performance and Network Rail must deliver improvements

Train reliability and punctuality continued to decline throughout Year 4 and delays attributed to Network Rail worsened in all five of its regions. Network Rail must deliver its committed improvement plans and work with train operating companies to improve train performance.

Network-wide train performance declined

2.8 We measure passenger train performance using a range of indicators, but overall train performance is based primarily on two measures, one for punctuality and one for reliability. These are:

- a. punctuality: ‘On Time’: the percentage of recorded station stops arrived at early or less than one minute after the scheduled arrival time (set out in the timetable). A higher On Time score indicates better punctuality; and
- b. reliability: ‘Cancellations’: the percentage of planned trains which either did not run their full planned journey or did not call at all their planned station stops. This measure is a score which weights full cancellations as one and part cancellations as half. A lower cancellations score indicates better reliability.

2.9 There was a marked decline in both passenger and freight train service performance in Year 4. As shown in Table 2.1, performance on both measures worsened in Year 4 compared to the previous year. On Time performance decreased by 5.4 percentage points (pp) and Cancellations increased by 0.4 percentage points. While On Time performance was 2.8 percentage points better than it was three years ago (before the pandemic) cancellations were worse.

Table 2.1 Punctuality and reliability, Great Britain, annual data, April 2022 to March 2023 and comparison with previous years

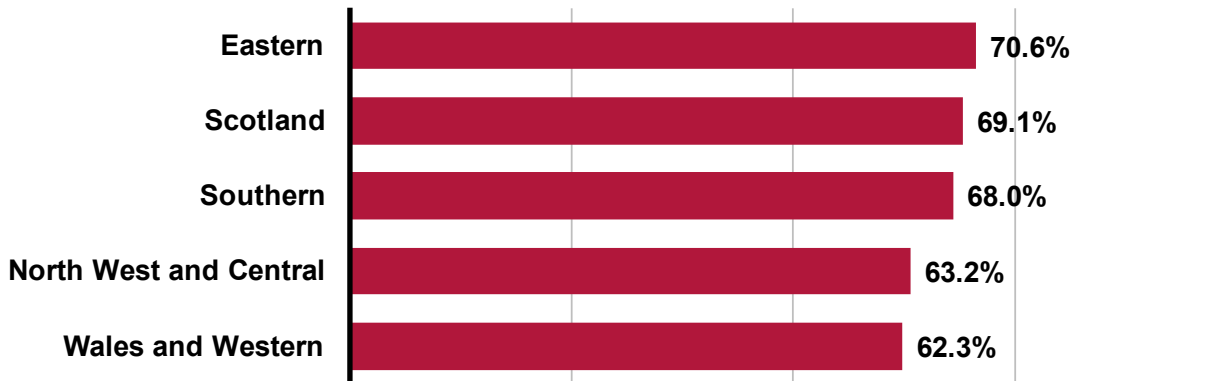
Measure	April 2022 to March 2023 (MAA)	Compared with one year ago	Compared with two years ago	Compared with three years ago
On Time	67.8%	▼ -5.4pp	▼ -12.0pp	▲ 2.8pp
Cancellations Score	3.8%	▲ 0.4pp	▲ 1.7pp	▲ 0.3pp

Source: ORR analysis of Network Rail data

2.10 On Time performance declined for all regions compared with the previous year and all performed worse than their scorecard targets. Eastern region continued to be the region with the best On Time performance, at 70.6%.

Figure 2.2 On Time by region, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target



Source: Network Rail's regional comparison scorecard

2.11 During Year 4, the punctuality and reliability in all regions was impacted by industrial action. And in all regions, train performance was affected by severe weather events – particularly the extreme heat during summer 2022.

Network Rail's contribution to regional train performance was poor

2.12 We use a range of metrics to assess Network Rail's contribution to overall train performance within the regions, but focus on two consistent measures to compare across regions:

- a consistent region measure for passenger services known as CRM-P. This is the delay minutes to in-service passenger trains attributed to Network Rail from incidents occurring in each Network Rail region, per 100 train kilometres. A lower score reflects better performance; and
- a freight delivery metric for each region known as FDM-R. This is the percentage of commercial freight services that arrive at their planned destination within 15 minutes of their booked arrival time, or with less than 15 minutes of delay caused by Network Rail or another operator that is not a commercial freight operator.

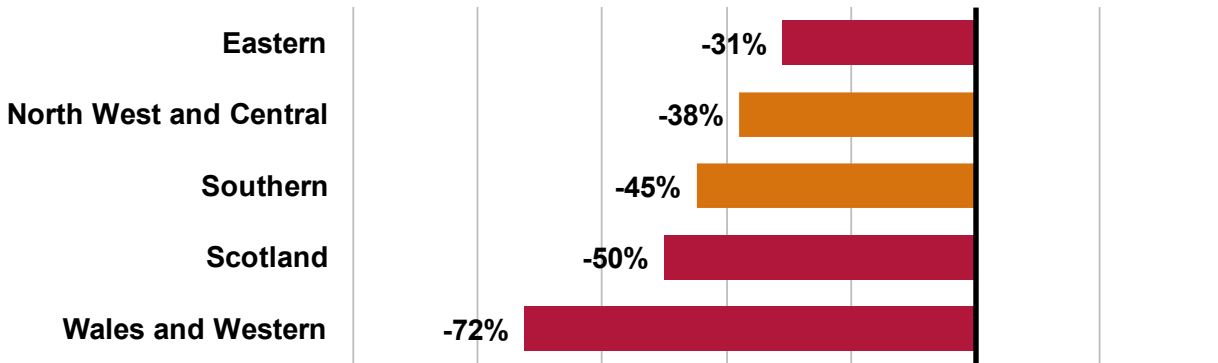
2.13 We monitor delivery of these measures for each region against its CP6 trajectory and a regulatory minimum level of performance, referred to as the regulatory floor (as set in the CP6 final determination). This minimum level of performance signals the point at which we are highly likely to consider a formal investigation.

2.14 Network Rail set stretching train performance targets for its regions for the year, at the record levels seen at the end of Year 2 of CP6. It has fallen short of these

targets across all its regions. Wales & Western had the largest shortfall against the CRM-P target on its scorecard. Wales & Western, Network Rail Scotland and Eastern performed at levels which breached the regulatory floor (see Figure 2.3).

Figure 2.3 Passenger train performance (Network Rail attributed delay minutes normalised per 100 train kilometres, CRM-P), percentage better/worse than scorecard targets, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor



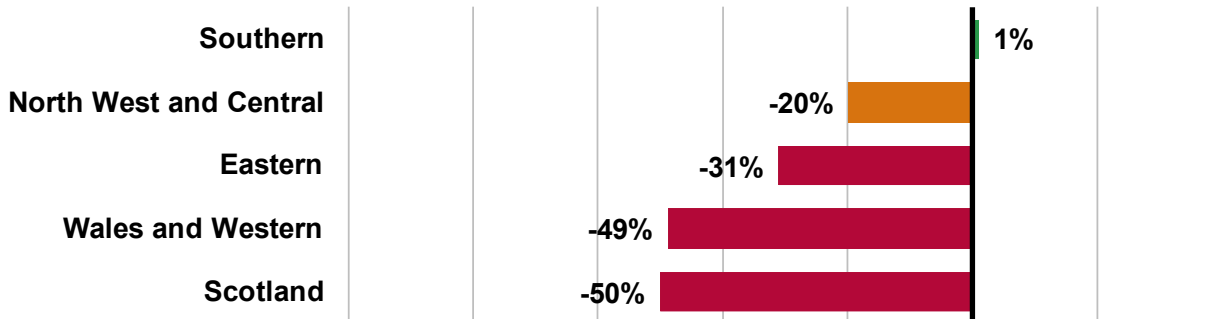
Source: ORR analysis of Network Rail data

2.15 We also monitor Network Rail-attributed delays (CRM-P) to the trajectories that we set at the start of the control period (see Figure 2.4 below). On this basis three regions were not only below their trajectory, but also below the regulatory floor: Eastern, Network Rail Scotland and Wales & Western.

2.16 As explained in our previous reports, Network Rail Scotland has the most challenging performance trajectories of all the regions in CP6, reflecting the expectations of its funder, Transport Scotland. As targets were already challenging, for Year 4, Network Rail Scotland’s scorecard target was held in line with its CP6 trajectory.

Figure 2.4 Passenger train performance (Network Rail attributed delay minutes normalised per 100 train kilometres, CRM-P), percentage better/worse than trajectories, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor



Source: ORR analysis of Network Rail data

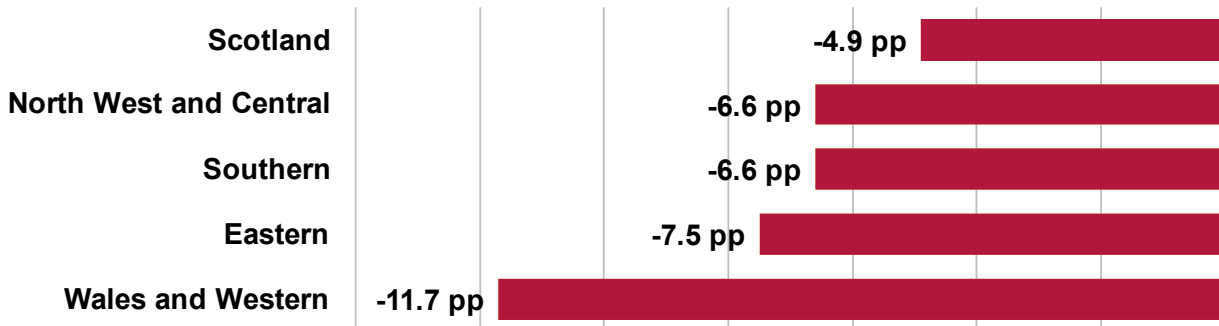
- 2.17 Train delays due to infrastructure issues have increased across all categories, most notably track. This is a continuation of the trend described in our last annual assessment of Network Rail’s delivery.
- 2.18 Accelerated deterioration of track performance was in part due to the very hot and dry summer in 2022, which led to the emergence of track and embankment issues relating to a higher-than-usual ‘soil moisture deficit’. This was a particular issue for the Eastern and Southern regions (Sussex, Wessex, Kent, Anglia and Western routes). It resulted in additional track defects and the implementation of speed restrictions and/or reduced timetables to ensure trains could continue to run safely.
- 2.19 In summer 2022, formal industrial action involving Network Rail staff started. While the direct impact of industrial action is measurable, there are indirect effects that are difficult to quantify – such as management distraction (for example due to undertaking contingent roles) or rescheduling of non-essential maintenance tasks.

Network Rail’s delivery of freight performance declined

- 2.20 Freight performance also continued to decline in Year 4. The national Freight Delivery Metric (FDM) MAA fell from 93.5% in Year 3 to 86.0% at the end of Year 4. This was the lowest FDM MAA since the time series began in 2014.
- 2.21 Wales & Western had the worst FDM-R MAA at 82.5%. Scotland had the best at 88.9%. While there was variance between the regions, all regions failed to achieve their annual FDM-R scorecard targets and trajectories – as shown in Figures 2.5 and 2.6 below.

Figure 2.5 Freight performance (FDM-R), percentage points better/worse than scorecard targets, annual data, April 2022 to March 2023

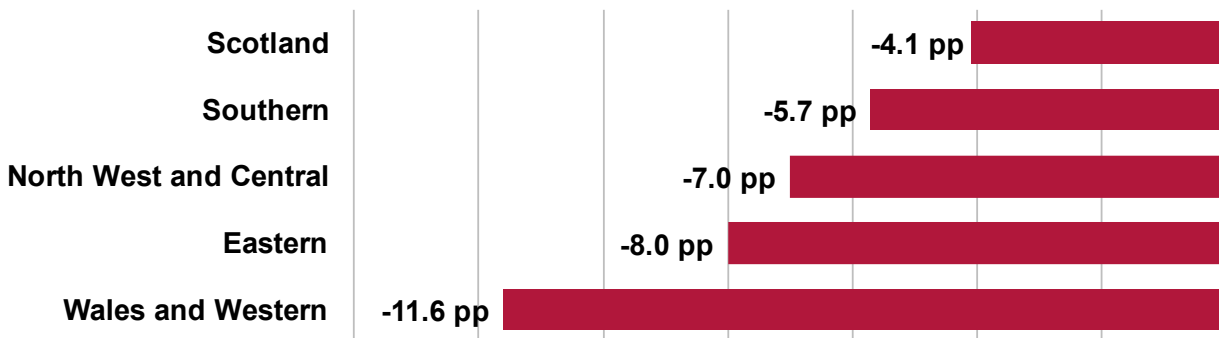
Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor



Source: ORR analysis of Network Rail data

Figure 2.6 Freight performance (FDM-R), percentage points better/worse than trajectories, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor



Source: ORR analysis of Network Rail data

2.22 Freight performance measures were heavily influenced by industrial action throughout the year (more so than passenger performance measures, due to the calculation methodology). Even excluding the effects of industrial action from the measure, national freight performance delivery by Network Rail was at its lowest point since the time series began in 2014.

Network Rail’s response to poor performance

2.23 As set out above, regional performance – as measured through regulated performance measures, was well below the standard expected at this point of CP6.

- 2.24 In November 2022, we [wrote](#) to Network Rail setting out specific actions that were required to improve asset reliability. These included: reducing the number of overhead line faults in Eastern; increasing reliability of track assets in both Wales & Western and North West & Central; and improving the performance of the Thameslink Core in Southern.
- 2.25 While recognising some impact from external factors, Network Rail's senior leadership accepts that performance must improve both nationally and at regional level. In response to our concerns, and at our request, it has put comprehensive regional performance improvement plans in place for both passenger and freight services. In Scotland, a joint performance improvement plan between Network Rail and ScotRail was already in place. We are engaging with the relevant parties to ensure that all reasonably practicable effort is being made to recover performance.
- 2.26 Network Rail's improvement plans include:
- **Wales & Western** – recovery plan focused on overhead line equipment (OLE) reliability between London Paddington and Heathrow Airport (CP7 upgrade/renewal), removal of Temporary Speed Restrictions (TSRs), improving response to external delay and reliability incidents, improving reliability of points and track, a focus on vegetation management (focus on dead, diseased and dying trees) and resolution of shortages of delay attribution and signalling staff.
 - **Southern** – recovery plan focused on removal of TSRs (especially on the West of England line), targeted track and points reliability interventions and renewals, infrastructure improvement in the Thameslink Core (October 2023 – but further work is likely to be required), targeted trespass and vandalism mitigations and better preparation for potential hot, dry or wet weather in 2023 and beyond.
 - **North West & Central** – recovery plan focused on resilience of track assets and removal of TSRs (including embankment issues), targeted improvements of point work (including at freight-specific locations), trespass and vandalism mitigation (including cable theft deterrence on the Central route) and ensuring effective performance recovery planning across the region (particularly for freight).
 - **Eastern** – recovery plan focused on OLE resilience, trespass and vandalism mitigations, removal of TSRs and improving track quality, a re-focus on

punctuality and better daily train operations, and better weather mitigation (specific asset interventions to mitigate flooding, heat and drought).

- **Scotland** – Network Rail Scotland and ScotRail established a Joint Performance Improvement Plan aimed at addressing the key drivers of poor performance. It includes improvements to winter plans, targeted works to reduce the need for blanket emergency speed restrictions at high-risk earthworks sites and deployment of remotely monitored cameras to reduce level crossing misuse and incidents of trespass.

2.27 For freight, Network Rail's System Operator (freight team) has produced an improvement plan. It details a revival of key freight corridors and greater learning from incident reviews and performance risk assessment. It also now recognises and emphasises the role of the System Operator in challenging the regions to deliver on necessary changes. We consider the new approach to be positive.

2.28 Network Rail's improvement plans typically do not include delivery of enhancement schemes - see the case study later in this section on the Hope Valley line performance challenges and network upgrades as an example. We do consider such projects in our judgement on whether, overall, Network Rail is doing all it reasonably can to improve performance.

2.29 We are monitoring delivery of all Network Rail's train performance improvement plans and will take further action if improvements are not delivered.

Network-wide issues must also be addressed

2.30 There are some train performance issues that are not wholly within Network Rail's control and for which substantial, sustainable solutions require joined up industry working. In these cases, Network Rail (through its System Operator function) needs to focus on its industry leadership role to drive better overall outcomes. It can play a key role in reducing the time taken to recover from incidents, improving whole-industry performance capability and increasing timetable resilience.

Time to resolve delay-causing incidents is too high

2.31 The magnitude of each incident, as assessed by both the number of delay minutes per incident and the ratio of primary to reactionary delay minutes, worsened during the year.

2.32 Network Rail is responsible for the technical response, with overall outcomes depending in part on the wider industry. In response to a request in our mid-year

letter on performance, the System Operator has presented an analysis of operational response which shows that:

- Primary delay for each incident (i.e. the minutes attributable to the incident itself rather than the period to recover to normal service) has increased and is now greater than before the pandemic (despite fewer trains now operating);
- Track incidents were the largest cause of the increase in delay per incident when compared to other delay categories (and are now above pre-pandemic levels); and
- Response times to incidents (i.e. the time for the first team to be on site) have increased by 10% since before the pandemic.

2.33 Underlying causes of this worsening trend include staff availability to respond (for both Network Rail and operators), and the relative priority given to moving trains rather than repairing faults. The System Operator's analysis identified that the time taken for response teams to be allowed on to the track to work and time to complete repair has increased, as response workers now require signallers to stop all train movements first (a change related to improving track worker safety).

2.34 The System Operator's analysis also identifies good practice in various regions as well as a list of regional and national initiatives that will enable improved response and recovery. These need to be implemented across the regions, with a greater focus on measurement and management attention on the elements Network Rail can directly control. Early examples of improvements include North West & Central's service recovery tool, Eastern's 'Strategic Route Section' performance indicators and Western's London Paddington to Reading incident response approach. These are promising but need to be further developed and learning should be shared across all regions.

2.35 Service recovery after an incident is led by Network Rail but requires input and sufficient resourcing from all industry parties. In support of this activity, we have seen early deployments of the 'Integrated Train Service Recovery' programme by Network Rail in Year 4. This programme will align service recovery processes in Operational Control Rooms across the rail industry with the aim of increasing the speed of decision making and service recovery.

Performance capability needs to be refreshed

2.36 Network Rail needs to refresh its focus on performance management capability. We previously identified failings in Network Rail's underlying performance

management capability and issued a Provisional Order in December 2018. In response, it developed a robust Performance Improvement Management System (PIMS) supported by a framework of governance (and now also some Department for Transport (DfT) funded resources) across the industry.

- 2.37 PIMS had been implemented well from 2019, resulting in better joint performance work (confirmed by our [Independent Reporter](#) work in July 2022). Network Rail also introduced RM3P (Risk Management Maturity Model for Performance), a self-audit tool which identified action areas to improve performance and whose regular use is now mandated in DfT's National Rail Contracts. However, management attention being diverted during periods of industrial action meant that the focus on using PIMS declined during Year 4.
- 2.38 Network Rail and the wider industry need to build on the work done to date and refocus on this good practice in the final year of CP6, as the industry's means to coordinate its approach to improving performance.
- 2.39 Through its chairing of a refreshed Network Performance Board (which includes ORR, Network Rail, train operators, Rail Delivery Group and DfT), the System Operator has recently engaged the industry to develop a Performance Recovery Strategy. This includes a refocus on PIMS. Increased focus on resilience in timetables is also key, requiring cross-industry collaboration. Effective, dynamic industry operating practices are also recognised as an opportunity to improve delivery.

Timetable resilience must improve

- 2.40 The network timetable balances multiple priorities. Passengers and freight operators deserve a reliable service, but this is balanced with providing capacity on the network and journey times. All three have commercial value through their effect on potential passengers and the freight market.
- 2.41 A resilient timetable allows the network to cope with regular system variability, meaning a more reliable service for freight and passengers on a day-to-day basis, within a range of typical operating conditions.
- 2.42 During the pandemic, the rail industry (including Network Rail) identified an opportunity to learn from the high levels of performance delivered under exceptional operating conditions, lower passenger numbers and reduced services. However recent correlation between On Time performance and passenger numbers shows lessons have not substantially found their way into timetables yet.

- 2.43 The benefit of a targeted approach to developing a more robust timetable can be seen in the recent timetable change developed by the Manchester Recovery Taskforce for the 'Castlefield Corridor'. While the timetable is in its early days, initial indications are that both local and network reactionary delay are reduced.
- 2.44 While this is a good example, we are disappointed that overall progress of this type of work has been limited. In part this is because the train planning community (Network Rail and train and freight operators, including open access operators) is not resourced for the number of timetable changes it has implemented since 2020.
- 2.45 However, a contributor to slow progress is that commercial rules of the industry mean changing timetable rules must be consensual between all affected parties. The Manchester Recovery Taskforce included funders, operators and local stakeholders who all agreed the need for action. Track Access Contracts and the Network Code mean that even changes to point-to-point running times, when the planned time is proved to be unachievable, are very difficult to change unilaterally and require sustained effort.
- 2.46 We have previously highlighted that we expect Network Rail to take a leading role in driving timetable improvement. We expect the System Operator, in conjunction with the Network Performance Board, to demonstrate timetable improvement leadership through the Performance Recovery Strategy.
- 2.47 The System Operator has recently demonstrated to us the tools that it is starting to use routinely through its capacity planning function. These are being employed to improve the quality of the timetable and its resilience to disruption, for December 2023 and beyond. Assuming industry is aligned with its timescales, the success of these tools will be able to be fully demonstrated and assessed from that point.

National (whole-industry) performance recovery strategy

- 2.48 Through its new chairing of the Network Performance Board, Network Rail is engaging across the industry and developing a new Performance Recovery Strategy. This brings together work across the industry with a refocus on PIMS and RM3P. The strategy is intended to reinvigorate existing programmes, promote best practice, and maximise benefits by engaging frontline supervisors and managers. We will monitor success through our current performance measures. However, the strategy is also defining a small set of additional measures, including some high-level leading indicators, and we will also monitor these.

- 2.49 At the time of writing, planning for this strategy is underway and the concepts of the plan have been shared with the performance community across industry through a Network Performance Seminar (in April 2023).
- 2.50 While the National Union of Rail, Maritime and Transport Workers (RMT) industrial action with Network Rail has been resolved, action involving train operators (and both RMT and the Associated Society of Locomotive Engineers and Firemen unions continues and the final design of the strategy will have to reflect this when planning how to engage front-line staff in performance improvement.

Case study: performance challenges and network upgrades in the Hope Valley

Performance challenges on the Hope Valley line have wide-ranging impacts for passengers and freight across the network. All railway stakeholders have a role to play, to ensure consistently good delivery can support better results for the whole system.

The Hope Valley line is vital for passenger and freight services, providing:

- the only direct passenger link between Sheffield and Manchester. These two large cities have comparatively few services between them, with 2x hourly express services and 1x stopping service between the two; and
- access to the large quarries in the Peak District that supply many major infrastructure projects (such as High Speed 2 and Hinkley Point C nuclear power station). Demand has grown and now, around 100 freight services every week travel from the quarries via Hope Valley to locations across the country.

Performance on the line is nationally important. Delays affect services beyond the area, as passenger and freight services on the line continually connect the busy and complex layouts at Manchester and Sheffield – normally travelling onwards to affect the West Coast, East Coast and Midland Mainlines. There is very limited ‘recoverability’ from lateness on Hope Valley because:

- the signalling system is based on ‘absolute block’ technology which is designed to ensure the safe operation of a railway by allowing only one train to occupy a defined section of track (block) at a time. This increases the time required before one train can follow another compared to a conventional three aspect signalling system which is readily able to upgrade to ETCS (European Train Control System);

- the central section of the line is an 18-mile 'two track railway' with no location for a faster train to overtake a slower train in front of it;
- the entrance to and exit from the Midland Mainline at the east end of Hope Valley is constrained;
- the two-track line reduces to a single line at Dore and Totley. This means that only one train can enter or exit on the way to or from Sheffield. In addition, there are times where freight trains entering from the south block the main line to Derby before they can enter Hope Valley line; and
- at its busiest points, the line operates close to its capacity. There are daily delays as a faster train catches a slower passenger or freight service on the line – although the slower train's lateness is often not self-caused (for example being regulated to allow the preceding fast train to run first).

As such, the Hope Valley generally line acts as an amplifier of inherited delay (delays that originate away from the line). Chronic delay causes - emphasised this year through the reliability of TransPennine Express (TPE) services and the direct/indirect impacts of industrial action affecting Network Rail and train operators – have wider implications whether they are inherited or originate on the line.

On average in Year 4, trains arriving at Sheffield after traversing the Hope Valley line in an eastbound direction were over 2 minutes later than when they left Manchester. For TPE services the time loss was 3 minutes.

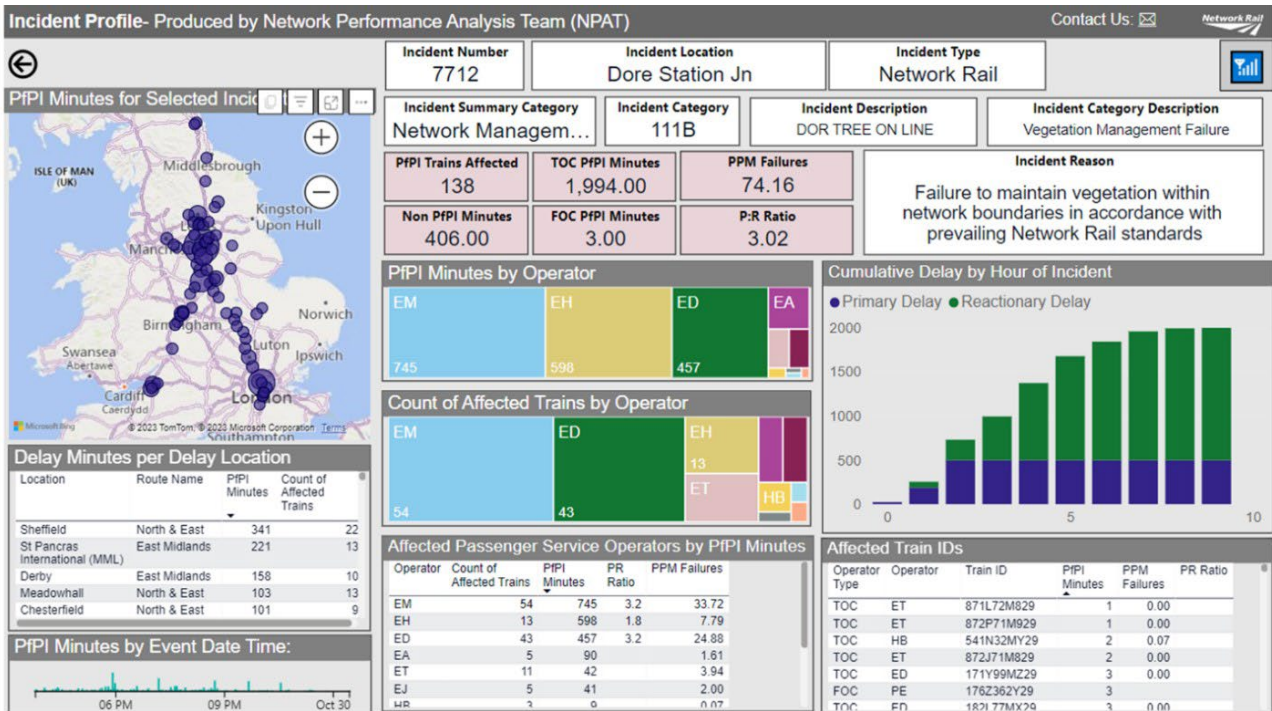
Performance outcomes for TPE, the other passenger operators on the line (East Midlands Railway, Northern) and freight are all linked due to the complexity and density of services on this part of the network – and there can be significant, wider knock-on impacts due to the long distances these services travel.

There have been major disruptive incidents on the line during the year:

- In March 2023 the line was closed entirely by heavy snowfall with accumulations over eight inches above the railhead;
- a tree blocked the line near Hathersage during Storm Otto, in February 2023. The tree took three hours to clear from the time of being reported. This led to over 2000 minutes delay and 24 full or partial cancellations.
- a tree blocked the line at Dore Station Junction in October 2022, causing around 2400 minutes of delay.

The incident at Dore Station Junction (the eastern end of the Hope Valley) demonstrated well the wider effect that delays on the Hope Valley can have.

Even though the issue was resolved in 2 hours (i.e. no more primary or direct delay), analysis from Network Rail (below) shows that delays caused by the incident continued for nine hours in total. Network Rail’s analysis also highlights that delays arising from the incident spread across the country – affecting services in Sheffield and Manchester but also as far afield as Leeds, Newcastle, Peterborough, London, Birmingham and Bristol.



Source: Network Rail

Despite taking place on a Saturday (when the network is typically quieter and delays have less of a knock-on impact), the reactionary delay from this incident was three times as much as the direct (primary) delay to services in the area. This compared to the average ratio across the year of 1.6 times: in other words, despite being on a Saturday this incident, occurring on the Hope Valley line, caused nearly twice as much reactionary delay as an average incident would.

Improving resilience of the Hope Valley line

Additional resilience in the train plan and/or infrastructure around the Hope Valley is needed to improve outcomes for passengers and freight. A £145 million upgrade programme is ongoing to mitigate some of the constraints. Due to complete in early 2024, the programme will provide:

- line speed improvements;
- a new passing loop near Bamford for eastbound services;
- re-controlling of the signals between Grindleford and Dore to York Rail Operating Centre;
- redoubling of the line at Dore and Totley; and
- an extended freight loop at Dore South, to allow longer trains to be regulated.

The business case for the investment is that additional capability provided by improved infrastructure will allow existing train services to operate much more reliably. It will alleviate current operational congestion and reduce reactionary delay to non-Hope Valley services.

The upgrade was designed in the expectation the line would eventually accommodate a third express passenger service each hour.

Future implications

The pandemic and wider changes in circumstances since the project started means that the best use of the additional capacity and capability may be reassessed. If this happens, there are a variety of considerations that Network Rail (as System Operator) should consider, including:

- additional passenger train services were originally expected;
- it may be considered better to use these paths - in the short-term - for additional freight services from the Peak District quarries;
- equally, given the criticality of on-time performance at either end of the Hope Valley line, it may be that performance resilience is the most valuable use for some or all the upgraded facility and therefore spare capacity should be protected within the train plan for this purpose; and
- Network Rail could also consider the likely future growth of freight or open access operations in this area.

Summary

Overall, Network Rail's delivery of performance on the Hope Valley line this year has been reasonable in the context of the infrastructure and operating constraints it is working under in this area.

There is appropriate focus to mitigate the infrastructure causes of delay on the line, although interventions are relatively limited in scope (for example there is no current plan to re-signal the line more flexibly).

Network Rail must complete the ongoing upgrade works in a timely manner to provide the more resilient layout that will benefit passenger and freight services extending across the country.

Performance innovation funding

- 2.51 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 through the fund 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.
- 2.52 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.
- 2.53 In Year 4, we have seen positive benefits of this. Out of a total authorised sum of £48.9 million (while the original CP6 fund was £40 million, this sum accounts for inflation and a small amount of over planning), funding 110 projects across Network Rail, £26.1 million has been invested in performance innovation projects. While this increased investment is welcome, there is still a large sum of money to be invested by the end of CP6.
- 2.54 Delivery was varied across the regions. North West & Central and Eastern regions made very good progress in investing PIF funding and look on course to deliver PIF projects by the end of CP6. In contrast, Southern and Network Rail Scotland have spent under 20% of their authorised scheme expenditure and have a significant challenge to ensure funds are fully invested by the end of CP6. We will keep this under close review over the coming year.

Network Rail's delivery of its CP6 efficiency forecast remains on track

Network Rail's delivery of its CP6 committed efficiencies remains strong. However, wider financial performance has declined mostly due to the impact of industrial action on its Schedule 4 and 8 payments to train operators, and other factors including extreme weather conditions.

- 2.55 The analysis below is based on draft financial information provided by Network Rail. We will report more fully on these matters in our 'Annual Efficiency and Finance Assessment,' which will be published in autumn 2023.
- 2.56 Network Rail reported £934 million of efficiencies during the year. This represents an 11% year-on-year increase, despite challenges during the year including the impact of industrial action.
- 2.57 As shown in Table 2.1 below, these efficiency improvements were largely achieved from innovation and technology advancements, modernisation of ways of working, improved contracting strategies and early contractor engagement.

Table 2.2 Top five key efficiency initiatives, annual data, April 2022 to March 2023

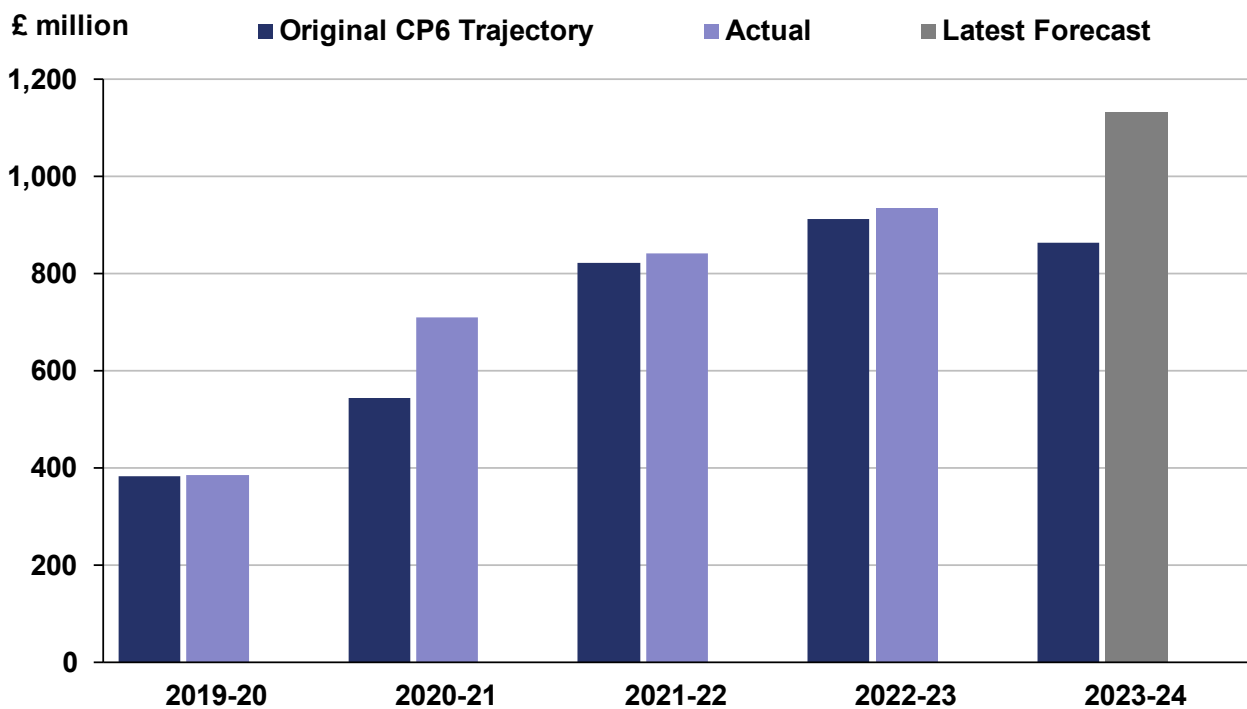
Top five efficiency initiatives (£ million)	Eastern	North West & Central	Scotland	Southern	Wales & Western	Non-region	Total
Improved contracting strategies/packages/rates	59	17	3	40	18	62	199
Reduced activity due to other new technologies	46	1	0	27	14	0	88
Innovation and technology benefits	11	8	2	24	19	20	84
Modernisation	16	26	1	17	8	13	80
Early contractor involvement, defined scope, minimum specification solution	8	13	16	19	6	0	63

Source: ORR analysis of Network Rail data

2.58 Following the 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, with the planned increase coming mostly from workforce reform initiatives. Throughout this document we refer to these additional efficiencies as Network Rail’s revised plan/target.

2.59 Network Rail has delivered £2.9 billion of cumulative efficiencies over the first four years of CP6. The company is confident that it is on track to deliver £4.0 billion efficiencies over CP6, which is £0.5 billion higher than the £3.5 billion that we required it to deliver in CP6. However, there are regional variations with Network Rail Scotland falling behind its revised CP6 plan/target.

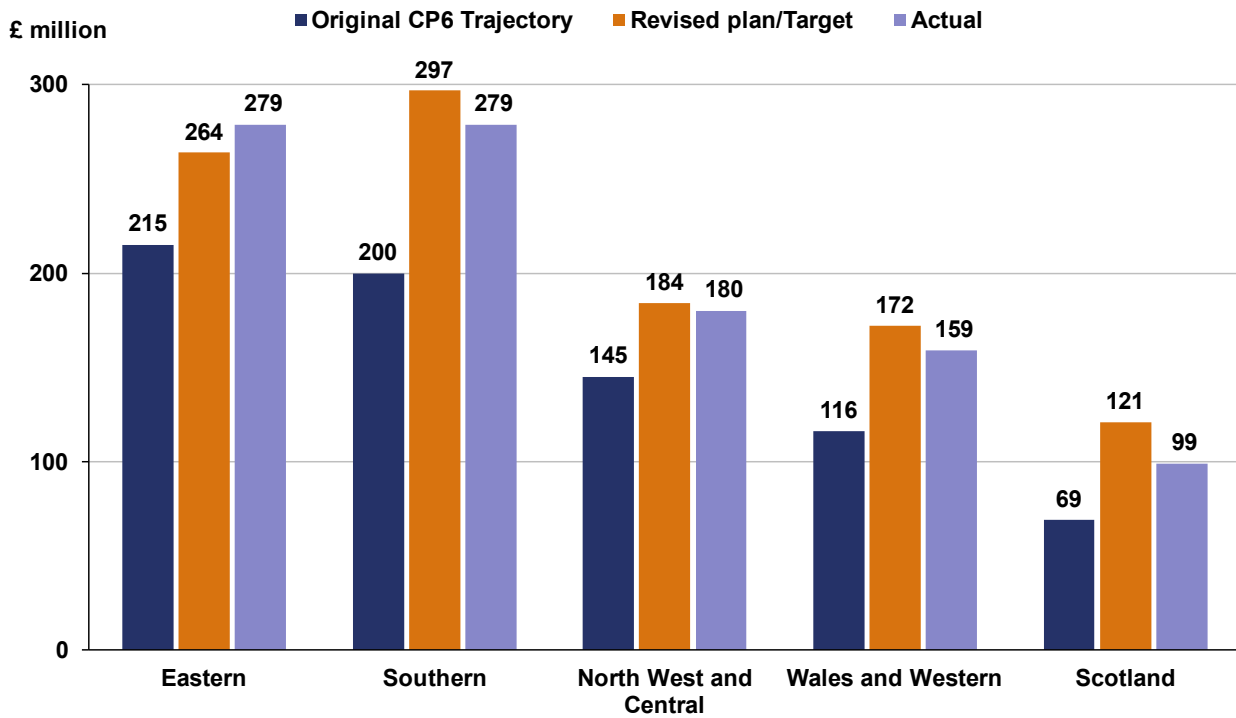
Figure 2.7 Efficiency improvements in CP6, annual data, April 2019 to March 2024



Source: ORR analysis of Network Rail data

2.60 In Year 4, most regions fell short of their annual revised plan/target, with Eastern being the only region to exceed its target (by 6%). Eastern’s outperformance was driven by its commercial initiatives. Other regions’ missed targets were mostly attributed to lower efficiencies than planned from pay and reform initiatives. All regions did however outperform their original CP6 trajectory for Year 4, as illustrated below in Figure 2.8.

Figure 2.8 Regional contribution to efficiency improvements, annual data, April 2022 to March 2023



Source: ORR analysis of Network Rail data

- 2.61 Network Rail Scotland’s forecast CP6 efficiencies remains a concern. The region reduced its revised plan/target in the year by £63 million (15%), from £412 million to £349 million. This was largely due to the loss of renewals volumes caused by reprioritisation of funding and industrial action throughout the year. We are keeping this under review.
- 2.62 Network Rail reported £867 million of financial underperformance in Year 4 compared to its annual budget. This was mostly due to the impact of industrial action on its Schedule 4 and 8 payments to train operators, and other factors including extreme weather conditions affecting assets and requiring speed restrictions.
- 2.63 Most regions have used or allocated their CP6 risk funding, meaning that there is no additional funding available to manage unforeseen financial risks in the final year of CP6. Network Rail plans to defer or reduce the scope of renewals to manage these risks. We are working with the company to ensure that it enhances the processes it employs to manage renewal deferrals, mitigate any safety concerns, and manage the implications on sustainability and efficiency.

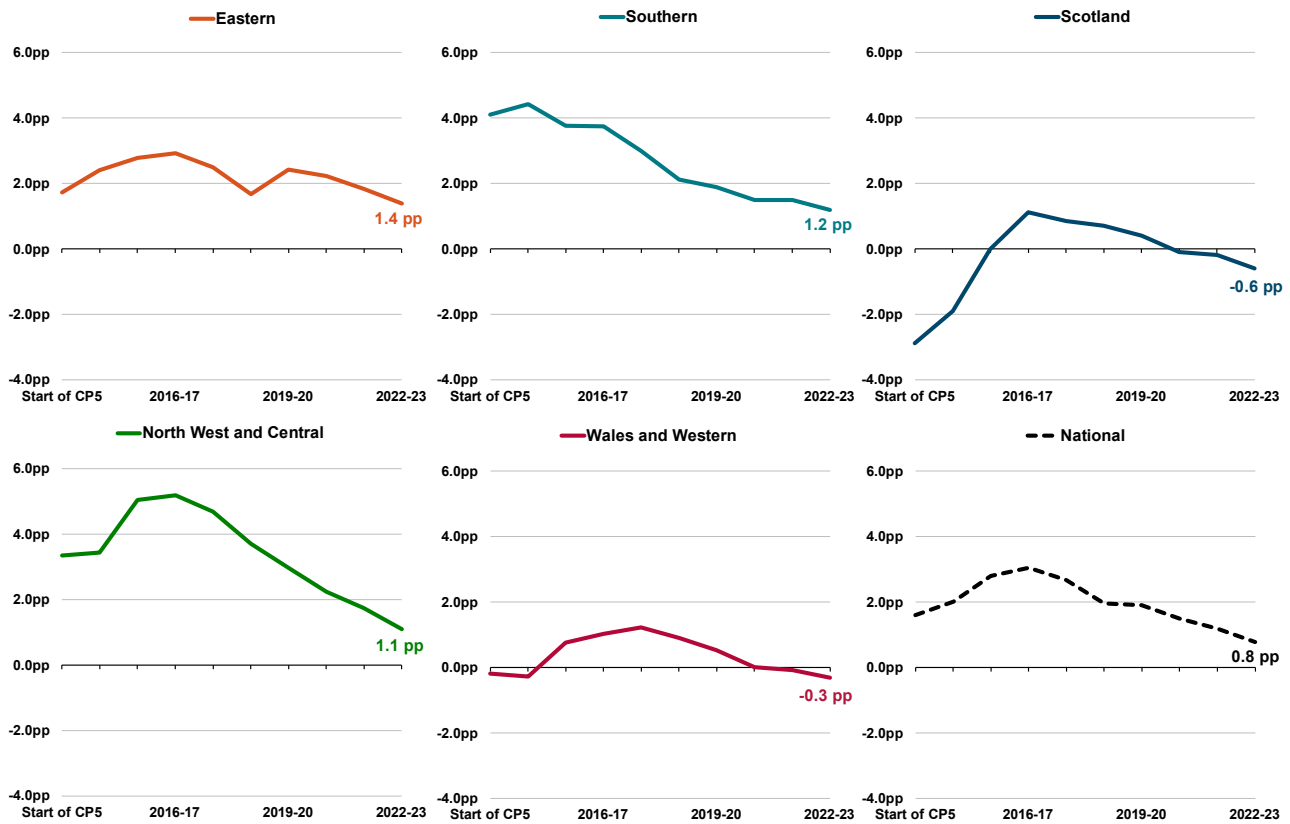
- 2.64 In Scotland, Network Rail had £6.1 million of risk funding remaining for the final year of CP6. A large proportion of its risk fund was used in Year 4 due to additional costs arising from adverse weather conditions and industrial action. It stated that the small amount of remaining funds may not be sufficient to cover these risks if they continue into Year 5. If further deferrals of work are used to fund these additional pressures, with strike action having already resulted in loss of volumes, this would pose a risk to the region's delivery of efficiency and other targets (such as asset reliability which could impact train performance). We will continue to monitor this closely in the coming months.
- 2.65 Network Rail's leading indicators for delivery of efficiency improvements in Year 5 are encouraging. At the end of Year 4, 84% of Network Rail efficiency targets for Year 5 had completed or well-developed plans. This is ahead of the 76% achieved at the same point in the previous year. 96% of planned renewals activities had also been authorised, ahead of its 72% target. 77% of disruptive access for engineering works have been secured, ahead of the 72% target.

Three regions did not deliver against their renewal plans and we have escalated concerns with structures examinations

Three of Network Rail's regions failed to deliver against their renewal plans. Asset reliability has declined in Year 4. This decline is driven by a number of factors, including a large increase in track faults. In previous annual assessments we have reported issues with structures examinations. We escalated concerns and Network Rail has committed to improvement plans to eliminate non-compliance.

- 2.66 Network Rail must maintain and renew its assets in an efficient, sustainable way, while ensuring there is a safe and operational railway. In CP6, we measure asset sustainability through the Composite Sustainability Index (CSI). This consistent measure has a target for each region for the end of the control period.
- 2.67 In our last annual assessment, covering Year 3 of CP6, we reported that the national CSI was -0.4% , which represents a 0.4% decline in overall asset sustainability since the end of Control Period 4 (CP4).
- 2.68 As shown in Figure 2.9 below, the national CSI for Year 4 was -0.8% , which represents a 0.8% decline in overall asset sustainability since the end of CP4. The end of CP6 target is -1.6% .

Figure 2.9 Composite Sustainability Index (CSI) by region, percentage points variance to end of CP6 target, annual data, April 2014 to March 2023



Source: ORR analysis of Network Rail data

- 2.69 Looking to the end of CP6, for Network Rail to achieve its targets, it has reported that there are large volumes of work, particularly in signalling and structures (bridges) to be completed in Year 5 (50% of CP6 volumes for signalling are planned for delivery in Year 5 and over 30% of structures are also due to be delivered). We will closely monitor delivery of those asset categories.
- 2.70 For the end of CP6, Network Rail has reported that three of the five regions are on track to deliver against their CSI targets (Southern, Eastern and Wales & Western). North West & Central is forecasting to marginally miss its end of CP6 target, with signalling being the biggest driver of the shortfall. Network Rail Scotland is, however, forecasting to significantly miss its target. We have previously reported that in CP6 Network Rail Scotland had to cancel or defer work planned for the final two years of the control period (in particular, some High Output track renewals work) to keep total expenditure within the limits of the PR18 determination. This has impacted the region achieving its end of CP6 CSI target.

Network Rail did not deliver its network-wide target for renewals work

- 2.71 We scrutinise Network Rail's delivery of its asset renewals work and whether delivery is in line with its planned volumes for each year of the control period.
- 2.72 As part of our assessment, we look at Network Rail's delivery of 'effective volumes'. This refers to the volume of work undertaken in seven key areas, attributing weightings based on the life added to the asset by each type of work. For example, for plain line track, a full renewal is given a higher weighting than replacing one individual element.
- 2.73 Across its network, Network Rail delivered 91.3% of its planned effective renewals volumes for the year. As shown in Table 2.3 below, performance across asset categories varied. Regional performance was mixed. Three out of the five regions did not achieve their scorecard targets: North West & Central (89.3%), Wales and Western (81.2%) and Network Rail Scotland (69.0%). Eastern (112.6%) and Southern (104.0%) delivered more than their planned renewals volumes.
- 2.74 North West & Central underdelivered on conductor rail renewal, earthworks, structures and track (both plain line and switches and crossings). The region experienced technical and operational deliverability issues, such as deferral of schemes due to delayed commissioning, access challenges, industrial action and high temperatures in summer 2022. The Commonwealth Games in Birmingham in August 2022 also had an impact. Some work was delayed (particularly on earthworks), while in other areas work was brought forward (for example in electrification and fixed plant) to increase asset resilience.
- 2.75 Network Rail Scotland delivered less than its plan for all five asset types relevant to the region and delivered the lowest overall volume (as a percentage of plans) of all regions. However, this was primarily due to an error in setting its baselines. During the year, we worked with the region to ensure it put in safeguards to avoid this happening again. The region subsequently experienced slippage in its planned delivery across a range of asset types. Industrial action, change of intervention type (for example changing from full renewal to partial renewal) and deferrals to Year 5 were the main factors in volumes not being delivered.
- 2.76 Wales & Western underdelivered its planned signalling volumes (only delivering 15%) primarily due to delayed commissioning of one significant re-signalling scheme. Track plain line volumes were also below target (91% delivered) due to the impact of industrial action.

Table 2.3 Effective volumes (renewals), Great Britain, annual data, April 2022 to March 2023

Actual and plan numbers are rounded; the percentage complete is calculated from unrounded numbers. A percentage complete in excess of 100% indicates delivering more than the planned volumes.

Key: ■ **G** (Green): Above planned volumes ■ **R** (Red): Below planned volumes

Asset	Actual	Plan	Completion	Percentage complete
Conductor rail renewal (km)	23	17	G	139%
Earthworks	474	471	G	101%
Overhead line equipment (km)	45	42	G	107%
Track: Plain line	1,084	1,231	R	88%
Track: Switches and crossings	350	341	G	103%
Signalling	1,123	1,375	R	82%
Structures: Bridges	23,002	22,590	G	102%
All assets (weighted total)	<i>Not applicable</i>	<i>Not applicable</i>	R	91.3%

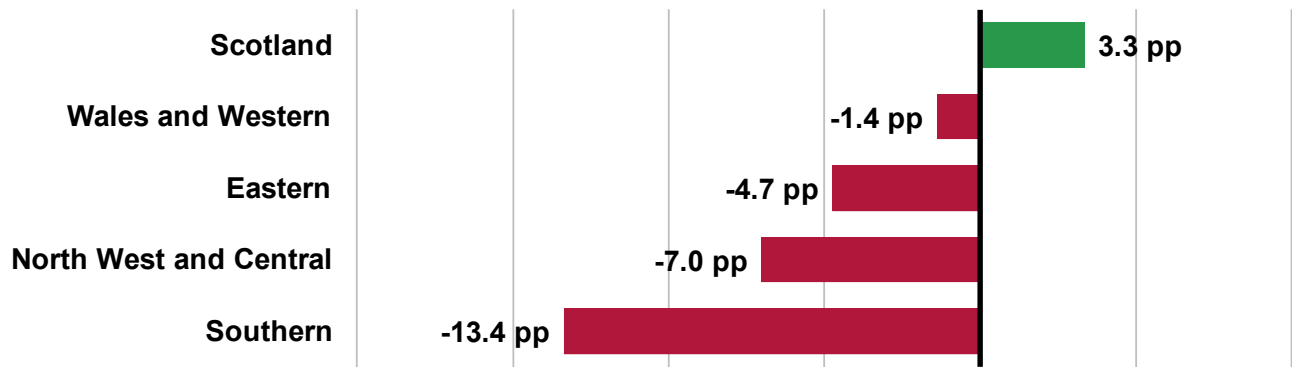
Source: ORR analysis of Network Rail data

Asset reliability declined compared to the previous year

2.77 Network Rail measures asset reliability using the Composite Reliability Index (CRI). This measures the percentage change in reliability since the end of Control Period 5 (CP5).

Figure 2.10 Composite Reliability Index (CRI) by region, percentage points better/worse than scorecard targets, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target



Source: ORR analysis of Network Rail data

- 2.78 Nationally, Network Rail did not achieve its scorecard target for service affecting failures, missing it by 7%. All regions failed to achieve targets for service affecting failures.
- 2.79 As outlined above, train performance across all regions continued to decline and worsening asset reliability contributed. In Year 4, there was a 34% increase year-on-year in ‘primary’ delay minutes at the location of the incident. For the year, Network Rail reported a 62% increase in track faults and an 18% increase for other assets (points, signalling and electrification) compared with Year 3.
- 2.80 Network Rail also reported evidence of rising rectification times (taking longer for faults to be rectified on the day of failure, and an increased share of faults left overnight).
- 2.81 Temporary Speed Restrictions (TSRs) also had a detrimental impact on asset reliability in Year 4. Network Rail reported that TSRs relating to structures, earthworks and level crossing safety remained broadly stable during the year but there was a sharp increase in track TSRs during the summer (from around 200 to 350 TSRs). Exceptionally dry weather conditions impacted on track quality. As we reported in our mid-year letter on performance issues, drought associated with the hot weather and dry summer resulted in the ground underneath the tracks drying out in some locations, causing additional track defects and the implementation of speed restrictions and/or reduced timetables to ensure trains could continue to run safely. Sussex, Wessex, Kent, Anglia and Western routes were among those affected.

- 2.82 At the end of Year 4, Network Rail reported that the number of speed restrictions (on for seven or more days) across the network was reducing to 363 towards the end of the year. This was an improvement of 114 compared with the peak at the end of the summer, with a significant reduction in TSRs on the Anglia, Central and Kent routes.
- 2.83 In response to the extreme heat during summer 2022, Network Rail commissioned an Extreme Heat Taskforce to review management of assets and operations during extreme temperatures. We have worked with Network Rail to understand how its findings could be put into practice to mitigate the effect of future periods of extreme heat. Network Rail must ensure it continues to address the recommendations and learning from its own review and from our 2021 review of its Weather Resilience and Climate Change Adaptation plans.

Network Rail is behind on its structures examinations and must improve

- 2.84 We have previously highlighted our concerns around the limited progress Network Rail has made on eliminating non-compliance with structures examinations.
- 2.85 If Network Rail does not complete the overall examination process at the required intervals, faults could be undetected (or detected but not properly assessed). In some cases, this could lead to a safety incident. It could also result in speed restrictions being put in place to mitigate the safety risk, making it more difficult to run trains on time. Failure to manage the examination process could also impact Network Rail's ability to efficiently plan its maintenance and renewal activities.
- 2.86 We escalated our concerns about non-compliance in 2021, but progress has not been good enough, and, in some cases, compliance rates have deteriorated. We are specifically concerned that:
- Network Rail does not have robust plans in place across all its regions; and
 - regions are making insufficient progress to implement the use of available technology (for example drones or sonar scour monitoring technology) to reduce the backlog of inspections.
- 2.87 We further escalated our concerns towards the end of Year 4, [writing](#) to Network Rail on this issue. It has since agreed to the following workplan:
- Network Rail submitting an initial plan for eliminating non-compliance that we will review. This needs to describe the future steady state in each region on compliance and should evidence how Network Rail is taking a coordinated

approach to technology adoption, supply chain management, and business process improvement to maintain compliance once achieved.

- Network Rail will produce a final plan for the end of August 2023 and then it will provide regular progress updates against delivery of the plan to us.
- At the end of CP6 we will investigate Network Rail's overall progress in line with our Holding to Account Policy for CP6.

Action needed on examination of critical lineside buildings

2.88 During the year, we found inconsistency in regional examinations of non-critical lineside buildings across regions (non-critical lineside buildings include any buildings that indirectly support the operation of railway such as stores, huts or cabins). All regions have backlogs in these examinations. Some regions have not established a defined examination regime or adopted an approach to record comparable asset condition to enable robust monitoring of non-critical lineside buildings.

2.89 We have been engaging with the regions for assurance on how they will manage the backlogs and associated risks and to ensure they have a robust improvement plan.

Network Rail needs improved plans for metallic structures

2.90 In its CP6 plans, Network Rail identified metallic structures as assets with greater vulnerability to deterioration. In some regions, further funds were allocated for metallic structures. Our final determination for CP6 set out a requirement for Network Rail to develop a sustainable asset strategy for metallic structures for future control periods.

2.91 During Year 4, we undertook a [review](#) to understand Network Rail's progress in developing this strategy. As part of this, we reviewed each region's progress in delivering planned renewals to prevent further deterioration of metallic structures. Eastern, Southern and Wales & Western have retained their original CP6 plans or intend to deliver more works than originally planned for metallic structures. North West & Central and Network Rail Scotland have changed their plans with deferrals to CP7 or beyond. At the time of our review, based on the available data (end of Year 3 position), nationally, only 46% of planned renewals for metallic structures had been delivered.

- 2.92 We found that the regions could not demonstrate a clear strategy for achieving a sustainable approach to managing metallic structures. We would expect to see clear targets, tangible steps, and a full scope of works over future control periods.
- 2.93 Our review concluded with a recommendation that Network Rail put in place a sustainable asset strategy by the end of CP6. This strategy must include what steps are needed to maintain metallic structures. This should include continuous monitoring of asset sustainability with development of targeted metrics and a better understanding of the outcomes of interventions on metallic structures through key performance indicator(s).

Network Rail missed its enhancement milestones target

- 2.94 This has been a challenging year for railway enhancements in England and Wales and in Scotland, due to increasing pressure on Government spending and the impact of inflation on delivery costs. Overall, while the regions have performed well to mitigate these challenges, there have been delays on several schemes which has impacted achievement of its overall scorecard target.
- 2.95 Out of 12 delivery milestones published in the [England and Wales Enhancements Delivery Plan](#), four were completed on target (Okehampton; Southwest Rail Resilience; Manchester & Northwest Transformation – train lengthening phases 1 and 2; and the Cambrian line ETCS upgrade). Four were delivered in the year, but milestones were change-controlled (Crossrail outputs 6a and 6b; and works at St Albans City, Surbiton stations). Four milestones have been delayed into future years (Gatwick Airport; Clapham Junction; Littlehaven station; and University station).
- 2.96 In Scotland, the new Reston station was delivered on time, while Inverness Airport station was delayed.
- 2.97 There are some large programmes with major deliverables in the next few years, including the Transpennine Route Upgrade, East Coast Mainline, East Coast Digital Programme, East West Rail and the Scottish Rolling Programme of Decarbonisation. This year ORR, Network Rail, Department for Transport and Transport Scotland all increased our scrutiny of these programmes, to identify any risks and issues early. We are currently working with Network Rail to ensure that it is delivering planned improvements to its capability (through the Capital Investment Capability Framework).
- 2.98 Network Rail has resumed publication of its two Enhancements Delivery Plans, for England and Wales, and for Scotland.

Network Rail's National Functions performed well against their scorecard, but there are challenges with delivery of High Output renewals, rail milling and the Electrical Safety Delivery programme

2.99 Performance of Network Rail's regions and System Operator is underpinned in the organisation's operating model by the support they receive from the National Functions, which provide services on a centralised basis.

2.100 The National Functions consist of:

- Route Services which supply Network Rail's routes with services that a national team is best placed to provide (e.g. supply chain operations, engineering services, asset information services, some procurement and IT);
- The Technical Authority which provides technical leadership in areas including health and safety, sustainability and managing quality and information, providing support and delivering assurance for the safe, reliable and effective functioning of infrastructure assets; and
- Corporate Services which are business units that include areas such as the Chief Financial Officer unit, human resources, communications and business transformation programmes.

2.101 In general, these functions performed well against their internal scorecard targets. Route Services and Technical Authority both exceeded 100% (the targeted level) on their overall scorecard performance for the financial year. However, we are closely monitoring performance of High Output renewals, rail milling and delivery of Network Rail's Electrical Safety Delivery (ESD) programme – as set out below.

2.102 In CP6 the Route Services function took on responsibility for both the planning and delivery of High Output track renewals on behalf of the regions. Access arrangements, reliability concerns and funding constraints have led to a reduction in demand for the service from the regions. The regions and Route Services are working together to try to reach agreement on the extent to which the service will be used in the future. This has implications for CP7 and CP8.

2.103 Rail milling is another service provided for the regions by Route Services, where a milling train is used to renew the track by grinding away the rail's damaged top layer of steel. In Year 4, as in Year 3, delivery of rail milling has been behind target, with Route Services achieving 77% against a target of 95%. This was as a result of technical challenges with the new milling trains which impacted their ability to fulfil scheduled shifts. Network Rail believe these issues have been

resolved in the latter part of Year 4 with stronger performance levels towards the end of the year. Sustaining these performance levels is critical to building confidence in this service with the regions and maximising the benefits it can deliver.

- 2.104 In addition to the above issues, during Year 4 Network Rail has reported slippage to its ESD programme. The Traction Power Centralised Management System is the primary way of managing the rail network's electrical system and includes emergency response, isolations, and setting up diversionary train paths. It is important that Network Rail meets its commitment to ensure remote isolations and to enable completion of the ESD programme.
- 2.105 Although Network Rail has engaged regularly and positively with us on the programme, its reports show that project milestones have continued to slip while project costs are rising, partly driven by inflation. Taken together this raises concerns about the efficacy of the project (led by the Technical Authority) and whether appropriate project governance, sponsorship and resourcing have been in place to support successful delivery. Network Rail must demonstrate it has a robust programme for ESD to replace obsolete equipment with sustainable alternatives.

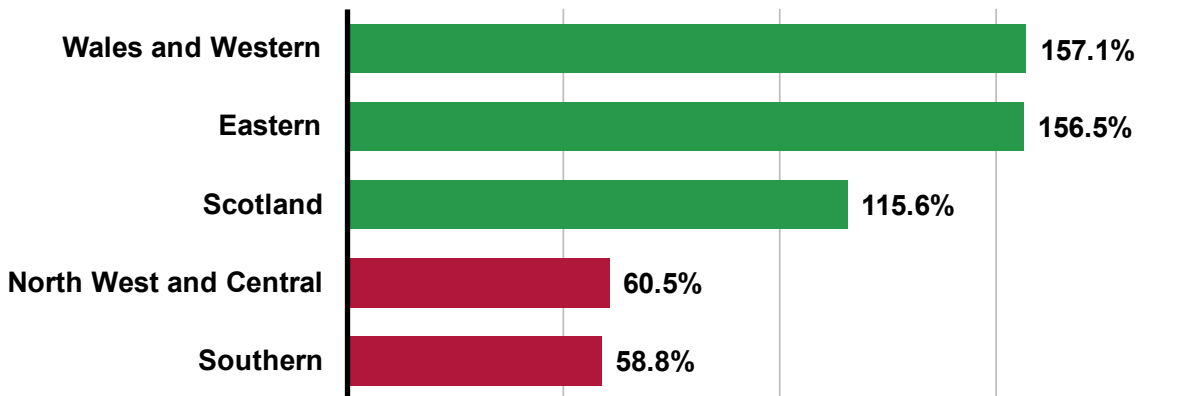
Network Rail delivered its national environmental target

Network Rail delivered its national environmental target but there was variation by region. It must improve issues with environmental data accuracy.

- 2.106 We measure Network Rail's environmental performance using a composite measure called the Environmental Sustainability Index (ESI), which covers waste reused or recycled, waste diverted from landfill, non-traction carbon emissions reduction and non-traction energy usage reduction.
- 2.107 Network Rail achieved its national target for ESI. Within the ESI measure, it was worse than target for reducing non-traction energy use. It exceeded its targets for reusing or recycling waste, diverting waste from landfill, and reducing non-traction carbon emissions.
- 2.108 As illustrated below in Figure 2.11, there was regional variation in delivery of environmental performance. Wales & Western, Eastern and Network Rail Scotland achieved their annual ESI target, but North West & Central, and Southern failed to meet theirs.

Figure 2.11 Environmental Sustainability Index (ESI) by region, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target



Source: ORR analysis of Network Rail data

2.109 We have previously reported on poor accuracy of Network Rail’s environmental reporting. These issues continued in Year 4. Network Rail must strengthen its assurance and governance of environmental data. The company must provide us with evidence showing it is taking all reasonable steps to ensure there is sustained improvements in its data quality.

2.110 We have pressed Network Rail to put in place measures to ensure improvements can be made, and those improvements can be sustained. We asked it to provide an action plan to strengthen its assurance and governance of ESI data which should include:

- a terms of reference for the Energy Governance Group that Network Rail has established;
- a responsibility assignment matrix (or RACI) to show the process for energy data capture, checking, assurance and governance and how responsibilities are assigned between the energy provider, 3rd parties, the Energy Bureau, regional energy leads and the Technical Authority; and
- alongside the RACI, a summary of roles and responsibilities for specific actions of governance and assurance separated out between each of the parties referenced above.

2.111 Network Rail has provided its action plan and we are reviewing how robust this will be for ensuring future data capture, assurance, governance and reporting improves in the short, medium and long term. However, we have yet to see these

changes take effect, and data quality issues persist. We will take formal action should the position not improve.

- 2.112 While there have been issues with the reliability of ESI data, we have continued to monitor the steps that each region has taken to deliver its ESI targets. We meet regularly with each of the regions to discuss their confidence in achieving energy and carbon targets. Overall, we have seen evidence of improving practice from each of the regions, including a pipeline of energy efficiency projects through to the end of CP6, and the start of an extensive programme to transition the road fleet of cars and vans to electric vehicles.
- 2.113 Network Rail has made good progress with its management of biodiversity. It is planning to publish its second State of Nature report at the end of July 2023. This will outline performance by regions against specific measures. In Year 4, it has demonstrated good case studies, understanding options and priorities for delivering future biodiversity improvements, developing encouraging partnerships with third parties to deliver habitat and biodiversity improvements, and in the case of some regions setting ambitious targets for habitat creation across its estate.
- 2.114 We undertook an independent reporter review of Network Rail's lineside vegetation management during the year, which highlighted future opportunities for improvement around governance, management and reporting of habitat and biodiversity at national and regional level. We are working with Network Rail on its implementation of these opportunities.
- 2.115 Climate change and associated extreme weather continued to affect performance during the year. For example, the extreme heat of July 2022 caused track-buckling, sagging overhead lines and as outlined above, movement of earthworks due to dried out soil (particularly in the South of England). As a result, temporary speed restrictions were put in place to manage the safety risk, and this impacted train performance. Heavy rainfall later in the year resulted in several earthwork failures, including at key routes such as on the West Coast Mainline at Carlisle and between London and Basingstoke. We are working with Network Rail to ensure it learns from these incidents to improve its preparations for extreme weather and asset resilience. We are carefully reviewing Network Rail's plans in this area for CP7.

Network Rail continued to keep the railway running safely, but risks need continued careful management. It delivered improvements to track worker safety and continues to progress actions from the Weather Risk Task Force action plan

Overall safety of the rail network remains strong, but risks need continued careful management. Network Rail delivered improvements to track worker safety and is delivering actions to improve weather risk safety management.

Network Rail continued to manage the safe operation of the railway

- 2.116 Britain's railways remain among the safest in Europe as confirmed by our benchmarking of safety performance in our published [Common Safety Indicators report](#). Even so, there is a need to remain focused on health and safety, to continue to deliver a safe operational railway, manage risks and continuously improve.
- 2.117 Year 4 was challenging for Network Rail. Industrial action, financial pressures and aging assets together had the potential to significantly impact health and safety performance. Reflecting the strength and maturity of Network Rail's health and safety management system, performance has been sustained. In particular, Network Rail overall delivered a safe railway during industrial action.
- 2.118 RSSB's (the Rail Safety and Standards Board) Precursor Indicator Model (PIM) is the way Network Rail measures failures that have the potential to result in a catastrophic accident. Overall, the PIM has shown slight improvement throughout the year, with Network Rail ending the year having achieved its CP6 Risk Reduction Trajectory target for the control period. We attribute this to stable numbers in the severity of risks in most areas and a fall in the number and severity of objects on the line events.
- 2.119 Conversely, a rise in earthworks events and their severity in the second half of Year 4 very nearly cancelled out gains made elsewhere. Given there have been similar increases in track and structures events and their severity, overall, the trend suggests risks may be increasing in some key asset areas.

Network Rail delivered improvements to the safety of workers

2.120 In Year 4, Network Rail achieved compliance with the four ORR Improvement Notices served in 2019. The first two notices required Network Rail to improve the safety of track workers. This led to a move away from the Victorian warning methods of lookouts and flags to safer alternatives and in July 2022 we accepted Network Rail had complied with those notices. The other two notices concerned safety of overhead electrified line isolations. Again, Network Rail implemented a series of improvements to provide better warning of 'live' sections, improved training, and improved 'test before touch' procedures.

Network Rail continues to deliver action plans implementing the Dame Slingo and Lord Mair recommendations

- 2.121 Network Rail translated the recommendations made in reports by Dame Julia Slingo and Lord Robert Mair following the fatal Carmont derailment of 2020, into a number of action plans. Progress in delivering those action plans is overseen by Network Rail's Weather Risk Task Force Steering Group, which we attend as observers.
- 2.122 The information provided by Network Rail at the steering group demonstrates that it is making progress in delivering its action plans. We also see commitment from Network Rail's executive. We are encouraged by the progress Network Rail has made in improving its operational decision-making processes and capability in periods of extreme weather.
- 2.123 While Network Rail is progressing the action plans, there is still a lot of work to do. In Year 4, we particularly focused on how Network Rail is responding to the Lord Mair recommendations specific to improving Network Rail's drainage management. Recommendations included increasing resource (including having dedicated drainage maintenance teams across all routes) and improving asset knowledge: in particular the completion of drainage asset inventories in a timely and effective way.
- 2.124 This work is vital given the associated risks, so we have maintained a specific focus on how Network Rail is responding to these two areas. During the year, we undertook further inspections as part of a national programme, building on the work done in Year 3. Our inspections focused on drainage assessment and data capture, competence of drainage staff and appropriate resourcing of dedicated drainage teams.
- 2.125 We found that Network Rail Scotland is progressing well in these areas. It completed its region-wide drainage asset verification project in late 2022, ahead of

schedule, improving asset knowledge with the identification of an additional 35% of assets. Network Rail Scotland has also increased its drainage inspection and maintenance resource on an interim basis, while developing its long-term resource requirement and organisational arrangements.

- 2.126 Other regions are not as advanced in completing their drainage asset inventories, but all regions have committed to completing this by the end of CP6 (March 2024). During the year, our inspections identified some areas where focus is needed. In North West & Central, we found the region was making progress with data capture through its ground surveys but it was less advanced with its data processing, checking, and uploading of information from these surveys to its internal systems. In Eastern we consider that the end of CP6 target may be ambitious for the East Midlands route given the amount of work required particularly on inspection plan and reports.
- 2.127 While all regions have committed to additional drainage resource, during the year we became concerned about certain regions' timelines for delivery of this requirement. North West & Central and Eastern had indicated that they may not have all resource required (against the modelled requirements) in place until 2025 and 2026 respectively. This was not acceptable. We escalated our concerns to both regions and they have responded by committing to an earlier date of the end of CP6.
- 2.128 It has become clear that some regions are no longer planning to have dedicated drainage maintenance teams across all routes, and are instead, planning to resource drainage as part of the region's maintenance function. It is ultimately up to the regions how they deliver effective drainage asset management, but there is a reason why Lord Mair included the recommendation about dedicated drainage teams. Continuing with, in effect, the status quo may lead to a failure to learn the lessons from Carmont.

Occupational safety

- 2.129 There were no fatal accidents to Network Rail employees in Year 4. However, tragically there were two fatal accidents involving contractors working on construction projects for Network Rail. The first was in July 2022 at Gatwick Airport Station redevelopment site, the second in November 2022 at an industrial unit undergoing refurbishment in Glasgow. Both incidents fall under enforcement by the Health and Safety Executive.
- 2.130 Network Rail's Lost Time Injury Frequency Rate (LTIFR) slightly improved over the course of the year, owing almost entirely to improvements in Eastern and Route

Services. Both significantly exceeded their target reductions. All other regions remained worse than their target through the course of the year. The national Fatalities and Weighted Injuries (FWI) index, a measure of accident severity, increased slightly in Year 4. The regional picture is more mixed with significant variation between regions and functions. We will continue to monitor these indicators of safety performance to drive for improvements.

Occupational health

- 2.131 In Year 4, we continued our focus on exposure to causes of long latency lung disease, including asbestos, welding fume, and respirable crystalline silica, and on worsening Hand-Arm Vibration Syndrome (HAVS) cases.
- 2.132 On asbestos, Network Rail's five-year national priority asbestos programme brought pace and consistency to managing a major health risk. The programme delivered an ambitious and comprehensive framework for asbestos management which has brought about a step-change in this area. The challenge will be on maintaining this progress.
- 2.133 There has been an improving trend over the last four years in HAVS diagnoses. Although the trend is positive, our investigations suggest that Network Rail needs to work to improve exposure monitoring and the quality of local investigations.

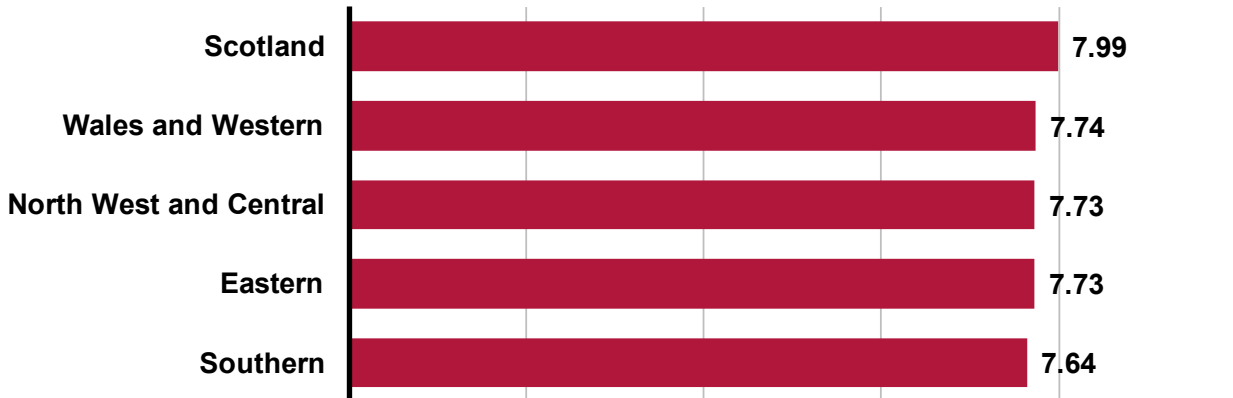
Delivery of customer-facing measures was mixed

Network Rail missed its passenger satisfaction targets

- 2.134 All regions failed to achieve their scorecard targets for passenger satisfaction (as measured by the 'Wavelength' survey). Nationally, Network Rail achieved a Wavelength score of 7.72 (1 being poor and 10 excellent).
- 2.135 As shown in Figure 2.12 below, Network Rail Scotland has the highest passenger satisfaction score, and Southern the lowest.

Figure 2.12 Passenger satisfaction (Wavelength) by region, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target



Source: Network Rail's regional comparison scorecard

Most regions exceeded their complaints handling targets

2.136 Network Rail must run an effective process that ensures complaints from the public (for example, lineside neighbours) are resolved fairly, in a timely manner, and lead to continuous improvements in the services and facilities offered. We measure Network Rail's handling of complaints using the Complaints Handling Index measure. This measure is featured on Network Rail's scorecards and is an index calculated from: (i) the number of complaints received; (ii) the average age of active service requests; (iii) the average customer survey scores; and (iv) the average quality assurance scores.

2.137 All regions except North West & Central outperformed their complaints handling target in Year 4. North West & Central recently reported that it had experienced an increase in the number of customer complaints and the average open age of complaints, in part, because more people were using the railway following the pandemic. To deliver improvements it is working with its customer teams to manage complaints more effectively, and we will monitor the impact of these improvements throughout Year 5.

Figure 2.13 Complaints handling by region, annual data, April 2022 to March 2023

Key: ■ Above target ■ Below target



Source: ORR analysis of Network Rail data

2.138 Information on Network Rail's handling of its managed stations complaints is available in our ['Annual Rail Consumer Report'](#).

The majority of stakeholders thought Network Rail's engagement with them was good

2.139 Network Rail has identified stakeholder engagement as a fundamental part of how it seeks to improve its performance. For CP6, Network Rail committed to engaging with its stakeholders in a way that improves delivery for rail users and Governments and enhances value for money.

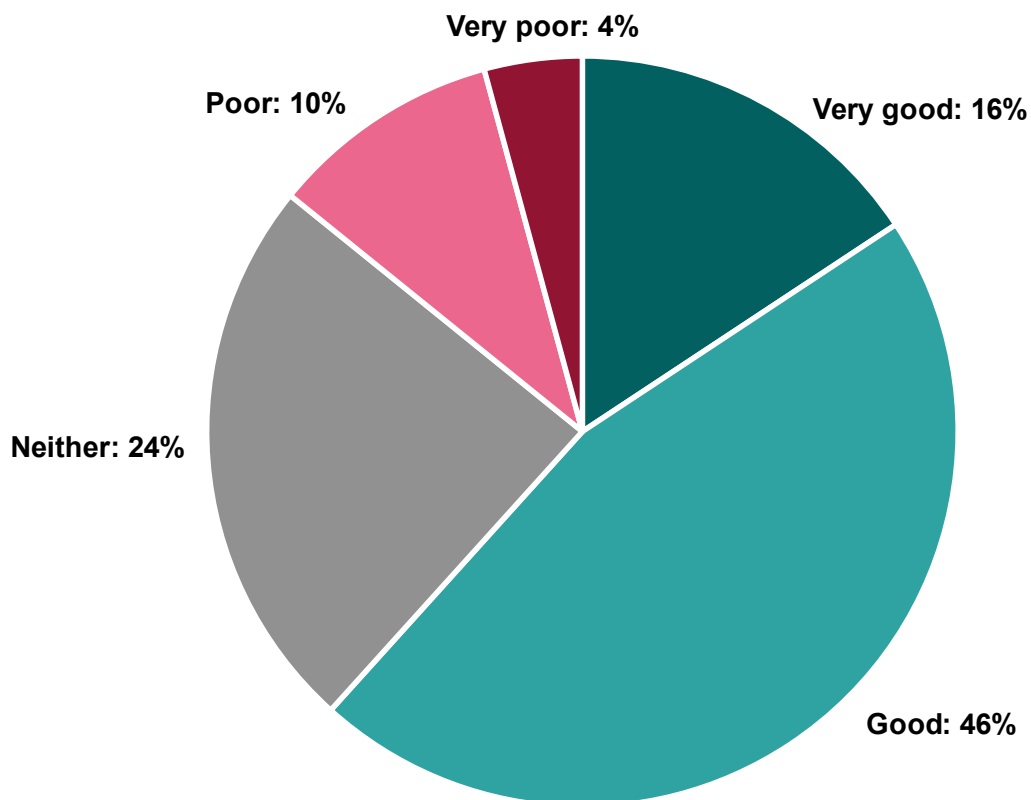
2.140 We are not prescriptive about how Network Rail engages with its stakeholders, but we set out four broad principles of good stakeholder engagement in the Network Licence. It should be inclusive, effective, well-governed, and transparent.

2.141 We hold Network Rail to account for good stakeholder engagement at both a regional and function level and encourage ongoing improvement. One of the ways in which we fulfil this role is through our [annual assessment of Network Rail's stakeholder engagement](#).

2.142 We are currently undertaking our fourth annual assessment in CP6. We are in the process of collecting and analysing evidence on how well Network Rail's regions and business units have engaged across all their activities. This includes conducting an independent survey of Network Rail's stakeholders on their experiences of engaging with Network Rail.

2.143 Preliminary findings from the most recent survey show that 62% of 261 respondents rated the overall quality of Network Rail's stakeholder engagement as good or very good, while 14% rated Network Rail's engagement to be poor or very poor (see Figure 2.14).

Figure 2.14 Perception of overall quality of Network Rail's stakeholder engagement during the last 12 months



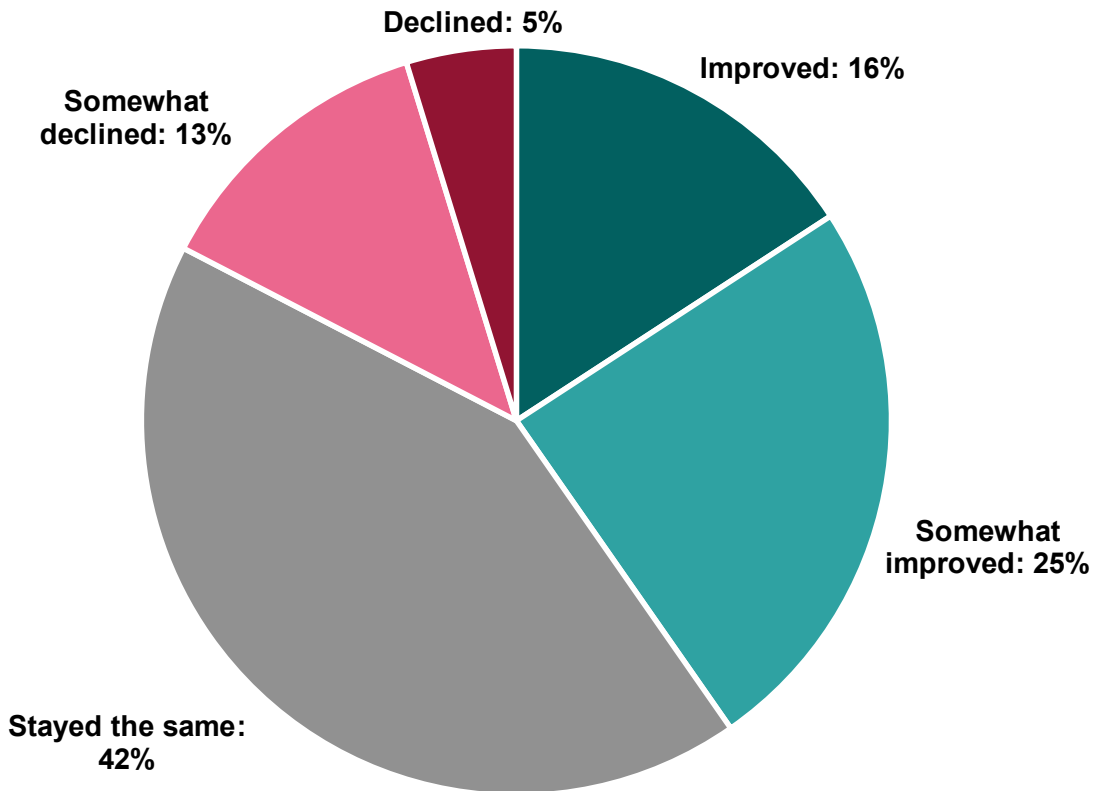
Survey question: 'Overall, how would you rate the quality of Network Rail's engagement with you during the last 12 months?'

Base = 261 respondents, excludes 'Don't know' responses

Source: *Provisional results of ORR's stakeholder survey*

2.144 Our preliminary findings also show that 40% of 253 respondents thought that the quality of Network Rail's engagement had improved or somewhat improved, and 17% thought this had declined or somewhat declined (see Figure 2.15).

Figure 2.15 Perception of how the quality of Network Rail's stakeholder engagement has changed



Survey question: 'During the last 12 months, in your opinion has the quality of Network Rail's engagement with you...'

Base = 253 respondents, excludes 'Don't know' responses

Source: *Provisional results of ORR's stakeholder survey*

2.145 Further information, including more detailed results and analysis from across all our data sources and for all regions, will be available in our 'Annual Stakeholder Engagement Assessment' report, due to be published in autumn 2023. We will continue to report on the quality of Network Rail's stakeholder engagement throughout CP6.

Performance of Network Rail's Eastern region



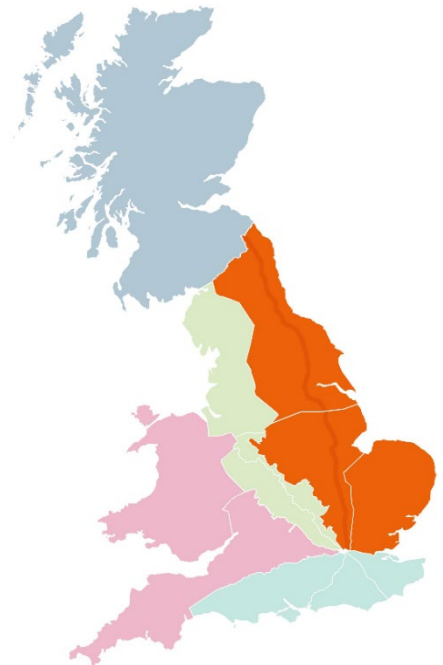
3. Performance of Network Rail's Eastern region

Summary

Eastern region's delivery of train service performance has declined this year in part due to the impact of industrial action and extreme weather. The region exceeded its efficiency plans. However, like all regions it must improve its inspection of structures. We remain concerned that a date for the implementation of the new East Coast Main Line (ECML) timetable has still to be confirmed.

Overview

- 3.1 Network Rail's Eastern region manages the East Coast Main Line, Midland Main Line and the Great Eastern Main Line. The region links towns, cities, ports and freight terminals across the East of England. The region comprises four routes: Anglia, East Coast, East Midlands, and North and East.
- 3.2 Most passenger rail services are operated by London North Eastern Railway, Northern Trains, Cross Country, Govia Thameslink Railway, East Midlands Railway, c2c, Greater Anglia and Arriva Rail London.

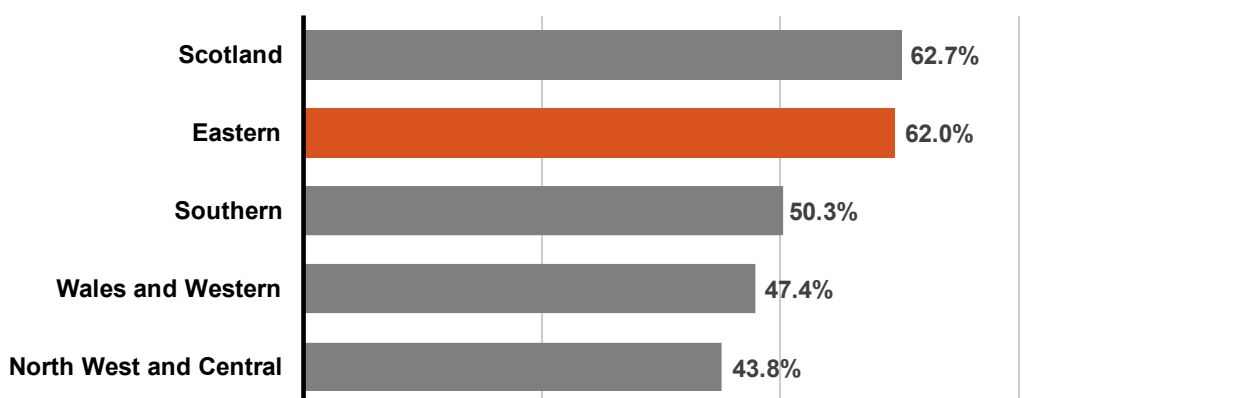


Headline performance during April 2022 to March 2023

- 3.3 Passenger and freight performance has declined during April 2022 to March 2023 (Year 4 of Control Period 6 (CP6)). While weather extremes and industrial action have affected performance, we have pressed for an improvement plan, which the region has now put in place. This improvement plan must now be delivered.
- 3.4 A date for the implementation of the new East Coast Main Line (ECML) timetable has still to be confirmed, primarily due to awaiting funder decisions.

- 3.5 Significant renewal and enhancement work on the ECML and the Transpennine Route was managed well. However, we remain concerned about Eastern’s failure to examine its structures in line with its standards. We will continue to engage with Network Rail on its recovery plans and monitor compliance.
- 3.6 Eastern has experienced an increased impact from weather extremes in the last year. In July 2022, hot weather caused the closure of large parts of the region’s network due to critical rail temperatures.
- 3.7 Delivery of efficiencies in the year was better than target. The region's wider financial performance was below target by £283 million with costs relating to industrial action as the primary reason.
- 3.8 Network Rail measures its regions’ overall performance using scorecards which contain a range of performance measures. Overall performance is expressed as a percentage achievement between 0% and 200% (with 100% being on target). Eastern achieved 62.0%. As illustrated in Figure 3.1 below, this was the second-best performance of all the regions.

Figure 3.1 Overall scorecard performance by region, annual data, April 2022 to March 2023



Source: Network Rail's regional comparison scorecard

Performance for both passenger and freight services declined during the year

Performance declined in Eastern region for both passenger and freight services. Asset reliability during the year worsened. Factors such as extreme heat and industrial action also affected outcomes. Network Rail must deliver its committed performance improvement plan while continuing to focus on asset reliability.

Passenger and freight train service performance

- 3.9 The moving annual average (MAA) for On Time passenger train performance in Eastern region fell from 75.6% in Year 3 to 70.6% at the end of Year 4.
- 3.10 Train service cancellations increased in the region, largely because of train operating company issues. This was a particular problem for Northern, Grand Central and TransPennine Express services.
- 3.11 The delay that Network Rail caused to passenger and freight operators in the region increased during the year, falling below (i.e. worse than) scorecard targets. Network Rail-attributed delay in Eastern was 1.65 minutes per 100 train kilometres for Year 4 compared to 1.22 in the previous year. Key factors driving this are outlined below.
- 3.12 Freight performance (as measured by the regional Freight Delivery metric (FDM-R)) declined to 86.1%. This was below (i.e. worse than) the scorecard target of 93.6%. Industrial action had a significant impact on FDM-R.

The impact of industrial action and weather

- 3.13 From June 2022 onwards industrial action affected train performance, although the total impact is difficult to quantify. The effects were seen in many ways from postponement of maintenance work to distraction of management time.
- 3.14 Record temperatures in summer 2022 affected the operation of the railway in Eastern region, causing the track to buckle and some lineside fires. On 18 July these issues prompted the region to close a large section of the Midland Main Line and the East Coast Mainline between London, York and Leeds.
- 3.15 Drought associated with the hot weather and the dry summer resulted in the earthworks which support tracks drying out in some locations, causing additional track defects and consequentially the implementation of speed restrictions and/or

reduced timetables to ensure trains could continue to run safely. This is discussed further below.

Factors within Eastern region's control

- 3.16 There have been several overhead line equipment failures in the region during the year. In response, Network Rail has undertaken a significant maintenance campaign to address the underlying causes. This work is scheduled to finish in early Control Period 8. There have also been overhead line failures caused by issues with the new Azuma fleet (and therefore outside Network Rail's direct control). The region is working closely with the Azuma's manufacturer, Hitachi, and Leeds University researchers to identify a solution to the fleet challenges.
- 3.17 Cable theft caused considerable disruption across the network during the year. The region is improving the monitoring of key assets in its regional control centres. It is also working with the British Transport Police and security specialists to protect key assets and to identify and apprehend offenders.
- 3.18 The region has resource shortages among Train Delay Attribution staff. These staff collate data on causes of delay that can then inform performance improvement plans. When this role is not carried out, not only are there issues with performance data quality, but delays allocated to Network Rail increase (as they are not allocated properly) which can negatively affect the region's performance metrics. The issue is being addressed, with plans underway to fully resource these roles. The region expects it to be fully resolved in Year 5.
- 3.19 In the National Overview chapter of this annual assessment, we highlight the need for Network Rail to work with industry to improve the resilience of the timetable. In Year 4, there have been some challenges with the East Coast Mainline (ECML) timetable, where different industry parties' objectives have delayed a re-writing of the timetable. Between Ely and Peterborough, an attempt to more accurately reflect the time taken for trains to travel between the two locations has not proceeded, as it would have reduced capacity on the line.
- 3.20 While there have been challenges, there has also been some success. Performance managers from Network Rail and train operators on the Anglia route worked together with a modelling company to analyse the causes of sub-threshold delays (delays of two minutes or less) and quantify the potential gains from making small changes to the timetable. Potential improvements have been identified for all four operators involved. We encourage Eastern to continue to identify similar opportunities and share this good practice with other regions.

Eastern's response to declining train performance

- 3.21 Eastern's train performance – as measured through the regulated performance measures outlined above – has been well below the standard expected at this point of CP6.
- 3.22 In November 2022, we [wrote](#) to Network Rail setting out actions that were required to improve asset reliability. For Eastern there was a specific focus on improving overhead line equipment reliability. Since then, and in response to the sustained decline in performance, we required the region to produce a comprehensive performance improvement plan.
- 3.23 It has responded and provided a plan focused on:
- overhead line equipment resilience;
 - trespass and vandalism mitigations;
 - removal of speed restrictions and improving track quality;
 - a re-focus on punctuality and better daily train operations; and
 - better weather mitigation (specific asset interventions to mitigate flooding, heat and drought).
- 3.24 We are monitoring delivery of all Eastern's plans and will take further action if improvements are not delivered.

Making use of performance innovation funding

- 3.25 To help further boost performance, the region is making use of the Performance Innovation Fund (PIF). By the end of the year, it had £4.0 million authorised from the PIF and had spent 70% of its authorised sum (£2.8 million). A range of projects were initiated, for example, planting fully grown hedgerows between Felixstowe and Ipswich to prevent snow drifting in winter (and so affecting performance).

Capacity and access to the network

- 3.26 An implementation date for a revised timetable on the East Coast Mainline is still not in place. However, this is because it is still waiting on funder decisions.
- 3.27 While the region has communicated well with us on this issue, it still needs to improve its access processes to support transparency for passengers and freight

operators. It has failed to submit access rights applications in a timely fashion but has made a commitment to improve.

Asset management outcomes were mixed and structures examinations must improve

Eastern region missed its target for asset reliability – largely due to the extreme heat during summer 2022 which impacted track reliability.

- 3.28 Network Rail must maintain and renew its assets in an efficient and sustainable way to support railway operations. We measure this using the Composite Sustainability Index (CSI), which compares to the end of Control Period 4 (CP4). Eastern finished the year with a CSI of -0.3%. This represents a decline in overall asset sustainability of 0.3% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of -1.7%.
- 3.29 Because CSI is slow-moving, we complement our monitoring of it by looking at other asset management metrics, including measures of asset reliability, and maintenance and renewals delivery.

Eastern did not achieve its asset reliability target

- 3.30 Eastern finished the year with a Composite Reliability Index (CRI) score of 2.4% against a scorecard target of 7.1%. This means the region was 4.7 percentage points below (worse than) its annual scorecard target and 2.4% better than it was in the final year of Control Period 5. The region failed to achieve its annual target for track reliability which impacted overall achievement of CRI.
- 3.31 Temporary speed restrictions had a detrimental impact on asset reliability during the year. As set out above, exceptionally dry weather conditions impacted on track quality. The Anglia route was most affected.
- 3.32 At the end of the year, Network Rail reported that the number of speed restrictions (on for seven or more days) across the whole network was reducing – from the peak of 477 at the end of the summer to 363 at the end of the year. There was a marked reduction in speed restrictions on the Anglia route.

Eastern's delivery of renewal volumes exceeded target

- 3.33 We scrutinise Network Rail's delivery of asset renewals work and whether this is in line with planned volumes for each year of the control period. As part of our

assessment, we look at Network Rail's delivery of effective volumes. This refers to the volume of work undertaken in seven key asset areas, with weightings attributed based on life added to the asset by each type of work.

- 3.34 Eastern region's delivery of effective renewals volumes was good during the year. It achieved or outperformed its plan in four of the six asset types which are relevant to the region. Signalling renewals were 5% below the plan and overhead electrification assets were 27% less than plan. In both cases the work has been replanned for delivery in Year 5 of CP6.

Extreme weather events continued to impact the network

- 3.35 The increased frequency and severity of extreme weather events continued to affect performance of Eastern's assets. We examined how Network Rail managed its track and overhead lines during the extreme hot weather period in summer 2022. Nationally in July 2022, there were 19 instances of the track buckling, of which Eastern region had seven.
- 3.36 Certain locations on the network have been identified as posing a risk during hot weather and require additional mitigation. These are known as Critical Rail Temperature (CRT) sites. During the hot weather period, Eastern had notable closures of CRT sites, which saw the shutting of the south end of both the East Coast Mainline and Midland Mainline. This decision was reportedly due to a shortfall in the number of available watch people to cover what is an extensive length of track. Some local competence issues were identified around hot weather preparation. Network Rail has since issued improved guidance for the management of vulnerable assets in extreme heat.
- 3.37 More frequent lineside fires were also reported by Network Rail during the extreme hot weather days in summer 2022, with most occurring in the Eastern region. The region acknowledged that better control of vegetation around high-risk assets such as substations could prevent the spread of lineside fires.
- 3.38 We commissioned an independent reporter to look at Network Rail's management of vegetation. We held workshops with Network Rail to ensure the necessary steps were taken by the regions to address the recommendations, in particular holistic development of plans for vegetation and habitat management to improve lineside resilience.
- 3.39 We are working with Network Rail to ensure improvements to its preparations for extreme weather and asset resilience are incorporated in its regional Weather

Resilience and Climate Change Adaptation (WRCCA) strategies and plans for CP7.

Network Rail is behind on its structures examinations and must improve

- 3.40 As with other regions, Eastern needs to improve its processes for the examination of structures and reduce its backlog. At the end of Year 4, the region had 5,504 structures examination non-compliances, within the structures regional portfolio of 16,034 assets.
- 3.41 We escalated our concerns about non-compliance in 2021, but progress has not been good enough, and, in some cases, compliance rates have deteriorated. Due to the lack of progress, we further escalated our concerns towards the end of Year 4. We have recently agreed in [writing](#) to Network Rail's workplan for eliminating non-compliance, which includes Network Rail providing a revised plan to us by the end of August 2023.

Wider examinations backlogs

- 3.42 All regions have backlogs for detailed examinations of critical lineside buildings. Eastern has implemented a five-year recovery programme (2021 to 2026) for these examinations with an additional visual inspection programme due to be completed by March 2025. We will continue to monitor the region's progress to ensure adherence to its recovery plan and improving asset knowledge.

Environmental delivery was the second best of all regions

- 3.43 Eastern exceeded its Environmental Sustainability Index (ESI) target, delivering the second-best performance of all regions. This was largely driven by significant reduction in gas usage for heating at depots. The region also progressed well with its planned energy efficiency projects.
- 3.44 Eastern made progress in understanding options for delivering biodiversity improvements, with encouraging partnerships developing with third parties. The independent reporter review of lineside vegetation management (see above) highlighted opportunities for improvement around governance, management and reporting of habitat and biodiversity at national and regional level.
- 3.45 As with other regions, there have been issues with the quality, assurance and governance of energy data. This must improve. An action plan has been agreed, requiring concerted effort by the region with Network Rail national functions and third parties.

Eastern delivered well on enhancements projects

- 3.46 Eastern delivered against key enhancement project milestones during the year. It completed various projects on the Transpennine Route Upgrade (TRU) Programme including the biggest blockade to date at Stalybridge Station in March 2023. This involved a 26-day closure to remodel the station area, re-signalling works and re-control to Manchester Rail Operating Centre. TRU also successfully completed the Calder Valley project (which will be used as a diversionary route during TRU closures and disruption) to enable three trains per hour to run between Manchester and Leeds. These projects were delivered while minimising disruption to rail users.
- 3.47 A further significant achievement for TRU was obtaining the Transport and Works Act Order (TWAO) for Huddersfield to Ravensthorpe (which includes doubling the number of tracks from two to four, electrification of the line, upgrading Huddersfield, Deighton and Mirfield stations and providing a new station at Ravensthorpe).
- 3.48 A major milestone on the Northumberland Line was achieved after the DfT approved a key part of the authorisation process. A TWAO was needed to authorise the closure of level crossings, the acquisition and use of land, and certain works at key points along the route. The Secretary of State for Transport published his decision to make the order on in June 2022. Progress continues, but delays have occurred and impacted the date the scheme will enter into service. The Northumberland line was due to open in December 2022, but owing to engineering challenges as a result of the area's past coal mining, this is now targeted for August 2024.
- 3.49 East Coast Digital Programme continued to make good progress on the Northern City Line pathfinder project with approval into service expected later in Summer 2023. Deployment of ETCS on the East Coast Mainline continued with enhancement works taking place throughout the year. Most of the work was completed on time but there were some delays experienced due to industrial action. Fleet fitment continues across the programme although there were some delays due to contract agreement.
- 3.50 Finally, Eastern continues work on the East Coast Mainline upgrade. Phase 2 of the power supply upgrade will deliver upgraded power between Doncaster and Edinburgh.

The region delivered efficiency targets but financially underperformed

Eastern was the only region to outperform its Year 4 revised plan/target for efficiencies and remains on course to deliver its CP6 efficiency target. It financially underperformed largely due to industrial action.

- 3.51 Following the 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, with the planned increase coming mostly from workforce reform initiatives. Throughout this document we refer to these additional efficiencies as Network Rail's revised plan/target.
- 3.52 As set out in the network-wide performance chapter, Eastern was the only region to outperform its Year 4 revised plan/target of £264 million, delivering £279 million of efficiencies. This was achieved mainly through improvements in supply chain management and reporting, as well as improved contracting strategies. Under the new approach the region benefitted by grouping work together to utilise maintenance and works delivery rather than relying primarily on contractors.
- 3.53 The region remains on course to deliver £1.093 billion of efficiency improvements in CP6. It has delivered 76% of these efficiencies over the first four years of the control period. While this is positive, the region will need to retain its efficiency drive in the final year while managing increasing pressures from the wider economic environment.
- 3.54 Leading indicators for the region suggest that it is reasonably well-prepared to deliver its efficiency improvements in Year 5; it has achieved or has clear plans in place to deliver 93% of its target efficiencies. This is the second highest of all the regions and 9 percentage points above the national average of 84%. The region has authorised 81% of its renewal activities, slightly below its 83% target. But only 68% of disruptive access has been secured for engineering work – the region is undertaking work to optimise its workbanks and expects to secure the relevant authorisations and access when this is complete. We will keep this under review to identify any risks to delivery.
- 3.55 Although Eastern outperformed its planned efficiencies, it financially underperformed by £283 million in the year, primarily as a result of industrial

action. Other contributing factors were cable thefts and overhead line failures across the East Coast, and extreme weather conditions.

- 3.56 We will set out further analysis on the region's financial performance in our 'Annual Efficiency and Finance Assessment', which is scheduled for publication in autumn 2023. This will examine the region's financial performance in relation to its CP6 delivery plan.

The region made good progress with health and safety performance but focus must remain on track worker safety

Eastern made improvements to its health and safety performance. Track worker safety improved but further work is needed to remove reliance on human activated warning systems. The region continued to progress Lord Mair recommendations in relation to drainage asset knowledge.

Track worker safety

- 3.57 In July 2022, the ORR concluded that Network Rail had complied with its Improvement Notices associated with track worker safety. Eastern's routes also committed to further track worker safety improvements. The commitments included:
- increasing the percentage of line blockages taken with additional protection; and
 - continuing to work to replace human activated warning systems with train activated warning systems, with particular emphasis on installing and implementing Semi-automatic Track Warning System to original plans.
- 3.58 In January 2023 all routes in the Eastern region still relied to some extent on the use of human activated warning systems (unassisted lookout working and/or lookout operated warning system) to access the track and lineside. Even so, the number of working hours spent on track that relies on these methods was significantly lower than before our enforcement notices.
- 3.59 Looking ahead, it is vital that the commitment to remove the reliance on human activated warning systems is delivered. This must be a key focus for leadership at route and region level.

Actions to improve weather risk management

- 3.60 Eastern continues with steady progress towards addressing the Lord Mair recommendations made following the Carmont tragedy. Work is underway to complete the drainage asset knowledge inventory, which is vital to the success of any drainage management system going forward. The introduction of a new Competency Management System for drainage inspectors for Year 5 is welcome.

Occupational safety

- 3.61 Eastern made good progress on its safety performance. There has been a sustained decline in the region's Lost Time Injury Frequency Rate (LTIFR) since Year 3 of CP6. Eastern significantly exceeded its target for LTIFR reduction in Year 4. It had the lowest (or best performing) Fatalities and Weighted Injuries (FWI) – a measure of accident severity – and was the only region to deliver below its target for this measure.

Occupational health

Asbestos management

- 3.62 Control of asbestos within the region is now subject to business-as-usual arrangements following the completion of the Technical Authority's five-year Asbestos Management Programme. Eastern has been a leading region in completing its asset surveys and Asbestos Management Plans.

Control of welding fume

- 3.63 Welding fume was recently reclassified as a carcinogen. Inspections in Eastern revealed a heavy reliance on organisational controls, such as exclusion zones. Recommendations have been made towards greater consideration of engineering controls such as ventilation, together with suitable and sufficient information, instruction, and training, plus a programme of audit checks.
- 3.64 Further information on our safety inspection activity, alongside a more detailed assessment of Network Rail's health and safety performance is reported in our 'Annual Health and Safety report', published in July 2023.

Stakeholder engagement

- 3.65 We monitor the quality of Network Rail's engagement with its stakeholder community in CP6, and last reported on this in our Annual assessment of Network Rail's stakeholder engagement in September 2022.

- 3.66 In our last [Annual Assessment of Network Rail stakeholder engagement](#) we highlighted that Eastern needed to make improvements in a number of areas including providing feedback to stakeholders, demonstrating sharing of good practice of inclusive and effective stakeholder engagement, providing evidence of stakeholder mapping, ensuring transparency is properly embedded across the region and clarifying responsibilities between routes and the region.
- 3.67 Eastern indicated it has identified ways to share good practice, implemented a shared relationship management system for stakeholders and collaborated with operators and industry when engaging with stakeholders. It adopts a devolved approach to stakeholder engagement and has route stakeholder mapping which enables close working between routes and the region to ensure ownership clarity. The region also said it has continued engaging with stakeholders on its CP7 plans. We will examine these areas, and others, in our annual assessment of Network Rail's stakeholder engagement, which we expect to publish in autumn 2023.

Performance of Network Rail's North West & Central region



4. Performance of Network Rail's North West & Central region

Summary

North West & Central was the worst performing of Network Rail's regions in Year 4, as measured by its scorecard performance. It delivered strongly on efficiency and delivered enhancements on time but failed to deliver against most other scorecard measures. Both passenger and freight train service performance declined during the year. While industrial action and hot weather had an impact, asset reliability in the region also declined, particularly for track assets. Despite performance issues during the year, preparations for the Commonwealth Games ensured a reliable train service to passengers travelling during the Games.

Overview

4.1 Network Rail's North West & Central region runs from London Euston and London Marylebone in the south to Gretna near the Scotland and England border. This chapter focuses on Network Rail's delivery in the region's three routes of North West, Central, and West Coast Mainline South, which is the busiest mixed-use railway in Europe.



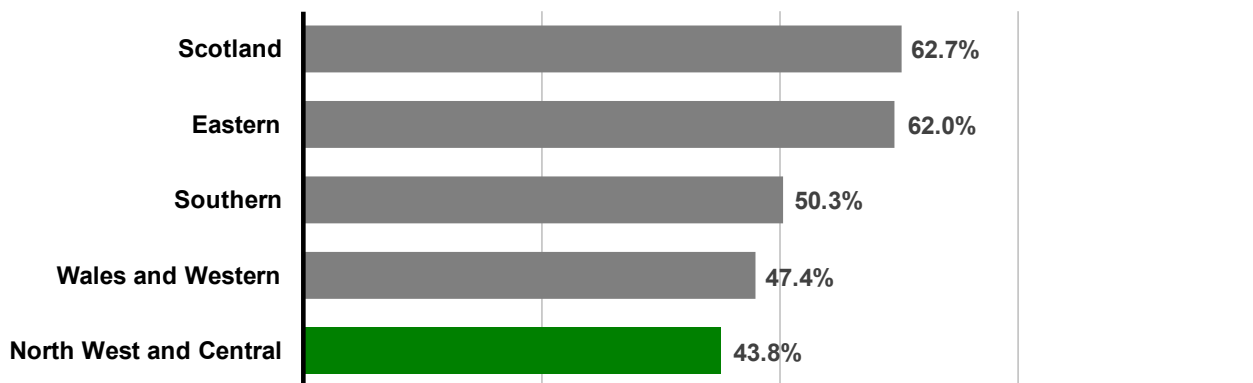
Headline performance during April 2022 to March 2023

4.2 Network Rail measures its regions' overall performance using scorecards which contain a range of performance measures.

Overall performance is expressed as a percentage, with 100% being on target.

4.3 North West & Central achieved 43.8% on its scorecard for the year – as illustrated in Figure 4.1 below, this was the lowest scorecard achievement of all regions.

Figure 4.1 Overall scorecard performance by region, annual data, April 2022 to March 2023



Source: ORR analysis of Network Rail data

4.4 The region delivered strongly on its Year 4 efficiency plan and its enhancement milestones. It missed its scorecard target in other areas – including passenger satisfaction, passenger and freight performance (including cancellations), passenger safety, workforce fatalities and weighted injuries, personal accountability for safety, complaints handling, financial performance excluding enhancements, employee engagement, effective volumes (renewals) and metrics for several train operators.

Passenger and freight train service performance declined

Train service performance declined for both passenger and freight services. Asset reliability declined, and the region must continue to focus on improving it. Industrial action and severe weather also had an impact. In response to declining performance, the region established an improvement plan and must now deliver it. It made good use of the Performance Innovation Fund.

Passenger and freight train service performance

4.5 Between April 2022 and March 2023, passenger and freight train performance in North West & Central declined. The On Time MAA fell from 70.0% in Year 3 to 63.2% at the end of Year 4.

4.6 Freight performance (as measured by the regional Freight Delivery metric (FDM-R)) declined to 87.5%. This was below (i.e. worse than) the scorecard target of 94.1%. Industrial action had a significant impact on FDM-R but, even when

excluding Network Rail industrial action from the calculation, FDM-R was below target.

- 4.7 The delay that Network Rail causes to passenger and freight train operators in North West & Central region increased during the year, falling below scorecard targets. Network Rail-attributed delay in the region was 1.82 minutes per 100 train kilometres in Year 4, compared to 1.39 in Year 3 (April 2021 to March 2022), and 2.08 minutes in the first year of the control period (April 2019 to March 2020).

The impact of industrial action and weather

- 4.8 From June 2022 onwards industrial action affected train performance, although the total impact is difficult to quantify. The effects were seen in many ways from having to postpone maintenance work, to distraction of management time. There were also wider consequences of industrial action. For example, Network Rail did not make the desired progress in the deployment of its Performance Improvement Management System, one of its key enablers of better punctuality and reliability.
- 4.9 The record temperatures of July 2022 caused a number of overhead line failures, some of which resulted in lineside fires. Blanket speed restrictions were also imposed. While there were incidents which impacted performance, we consider that the region's preparations were likely to have helped mitigate further problems and kept the network open.
- 4.10 Later in the year, in March 2023 heavy snowfall blocked key routes in the Hope Valley area (between Sheffield and Manchester).

The Commonwealth Games

- 4.11 Positively, North West & Central reported that the action it took to improve its response to incidents helped contribute to a reliable service during the Commonwealth Games in July and August 2022. It is important that examples of best practice captured from the Commonwealth Games experience are shared across Network Rail's regions.

Train performance was impacted by North West & Central's infrastructure and operational issues

- 4.12 Poor asset performance, particularly at the start of the year, led to the region putting on temporary speed restrictions (TSRs), for example in the London Euston and Stafford areas and in response to track reliability issues on the Central route. These improved noticeably towards the end of the year as a result of targeted action by the region.

- 4.13 There were also landslips on the West Coast Mainline and points failures at Crewe Basford Hall and Peak Forest.
- 4.14 Track reliability declined, as mentioned above, particularly on the Central route. We escalated our concerns, and the region acknowledged them and explained to us the plans it had put in place to drive improvements. As part of a strong leadership focus on performance, the plan is delivering improvements in key metrics such as reducing the number of TSRs.
- 4.15 The revised timetables introduced on the ‘Castlefield Corridor’ in Manchester (led by the ‘Manchester Task Force’) and on the West Coast Mainline in December 2022 are examples of good cross-industry collaboration to deliver a better performing timetable which is more resilient to day-to-day delays.

North West & Central’s response to declining performance

- 4.16 As set out above, during the year we escalated concerns with performance in North West & Central. The region has put in place a performance improvement plan which includes actions such as:
- improving the resilience of its track assets;
 - removing TSRs;
 - improving reliability of points, including at freight-specific locations;
 - putting in place measures designed to deter trespass and vandalism (including cable theft deterrence on Central route); and
 - ensuring that, when delays or incidents occur, the region has an effective performance recovery plan (including for freight).
- 4.17 We are monitoring the region’s delivery of its improvement plans to ensure that the actions delivered lead to better outcomes for passengers and freight customers.

The region is making use of performance innovation funding

- 4.18 To help further performance improvement, the region is making good use of the Performance Innovation Fund (PIF). It has £11.4 million authorised from the CP6 PIF fund and is in a strong position to invest it all by the end of CP6.

Capacity and access to the network

- 4.19 Last year we challenged the region to produce better evidenced and timely decisions on track access. This was in relation to the introduction of new Grand Union Trains and Avanti services on the West Coast Mainline (WCML).
- 4.20 The information provided by the region about these two new services fell short of our expectations and because of this we were unable to make a decision. Instead, we had to commission external consultants to undertake further analysis and provide a report with recommendations on a way forward.
- 4.21 To ensure the region learned lessons, we engaged with it on this issue. This included a workshop with the regional Passenger Director and Head of Access. From this we have agreed a set of expectations for the provision of the required information in the future.

Improvements to asset management required

The region's asset sustainability declined in Year 4 and it is forecasting that this trend will continue to the end of CP6. As with other regions, structures examinations must improve.

- 4.22 Network Rail must maintain and renew its assets in an efficient, sustainable way to support railway operations. We measure this using the Composite Sustainability Index (CSI), which compares asset sustainability to the end of CP4. North West & Central finished the year with a CSI of -2.3%. This represents a decline in overall asset sustainability of 2.3% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of -3.3%.
- 4.23 As CSI is slow-moving, we complement our monitoring of it by looking at other asset management metrics, including measures of asset reliability, and maintenance and renewals delivery.

Asset reliability was below target

- 4.24 The reliability of assets in North West & Central as measured by the Composite Reliability Index (CRI), finished the year with a score of -3.8% against a scorecard target of 3.2%.

- 4.25 This means the region is 7.0 percentage points below its annual scorecard target, and 3.8% worse than it was in the final year of CP5. This is the worst CRI score of all the regions.
- 4.26 CRI is a composite measure and within it the reliability of track caused particular concern throughout the year, notably for the Central route. During the year we escalated our concerns with track reliability and the region provided us with its improvement plan. Track reliability remains significantly below the region's target but the decline stabilised at the start of 2023 influenced by the region's interventions. We will continue to monitor this issue closely.

North West & Central did not deliver all its asset renewals plans

- 4.27 We scrutinise Network Rail's delivery of vital asset renewals work and whether this is in line with planned volumes for each year of the control period. As part of our assessment, we look at Network Rail's delivery of effective volumes. This refers to the volume of work undertaken in seven key asset areas, attributing weightings based on life added to the asset by each type of work.
- 4.28 North West & Central underdelivered on its effective volumes plans during Year 4 for five of the seven key asset types: plain line track, switches and crossings, conductor rail, earthworks and structures (bridges) renewals. Overall, it delivered 89.3% of its plan for the year.
- 4.29 Deliverability issues were a result of both technical and operational issues, such as deferral of schemes due to delayed commissioning, access challenges, industrial action and high temperatures in summer 2022.
- 4.30 The Commonwealth Games in Birmingham in August 2022 also had an impact. In some areas work was delayed (particularly on earthworks), while in other areas work was brought forward (for example in electrification and fixed plant) to increase asset resilience.
- 4.31 Plain line track underdelivery was mainly due to work being deferred as a result of industrial action. This impacted resource availability and meant that booked engineering access was lost. The region also deferred rail milling activity to Year 5.
- 4.32 Structures underdelivery was due to overbridge renewals work being impacted by access challenges. These volumes have been replanned in Year 5.

Structures examinations must improve

- 4.33 As with other regions, North West & Central needs to improve its processes for the examination of structures and reduce its backlog. At the end of the year, there were 7,912 structures examinations non-compliances within a regional portfolio of 16,544 assets.
- 4.34 We escalated our concerns about non-compliance in 2021, but progress has not been good enough, and, in some cases, compliance rates have deteriorated. Frustrated by the lack of progress we further escalated our concerns towards the end of Year 4. We have recently agreed in [writing](#) to Network Rail a workplan for eliminating non-compliance, which includes Network Rail providing a revised plan to us by the end of August 2023.

Wider examination backlogs

- 4.35 All regions have backlogs for detailed examination for their critical lineside buildings. We raised concerns about regions' approaches to prioritising inspections based on risk. North West & Central has responded by putting in place a five-year recovery programme (2023 to 2027) for detailed examinations with an additional visual inspection programme. We will continue to monitor the region's delivery of its recovery plan and improvement of its asset knowledge.

Target for environmental sustainability was missed

- 4.36 North West & Central was the second worst performing region for delivery of the Environmental Sustainability Index (ESI) target. It achieved 60.5% against an annual target of 100%. Despite failing to achieve its target, there was a gradual increase in ESI performance during the year driven by an improvement in waste diversion from landfill and a gradual improvement in carbon emissions score.
- 4.37 The region is increasing its technical expertise to improve energy management and identifying the pipeline of energy efficiency projects to be assessed and shortlisted for the next control period.
- 4.38 We undertook an independent reporter review of lineside vegetation management by Network Rail during the year, which highlighted opportunities for improvement around governance, management and reporting of habitat and biodiversity at national and regional level. We are following up its recommendations and findings with the region.

North West & Central delivered station improvements in the North but there have been delays to other projects

- 4.39 North West & Central successfully delivered the Manchester North West Transformation Programme of Platform Extensions and did so with minimal disruption to stakeholders.
- 4.40 During the year the region obtained funding for Barnt Green Lifts and site works are due to start in Year 5. This project is on target to be delivered to agreed timescales.
- 4.41 North West & Central experienced delays to several of its enhancement projects including Wigan to Bolton Electrification, and Bushey to Acton Lane Power Supply. Delays were due to different factors including resource challenges, the time taken to comply with approvals processes and affordability concerns.
- 4.42 There are several projects in the region which interact with High Speed 2 (HS2 – the new high speed rail line being built from London to the North-West). This includes redevelopment of London Euston Station, West Coast Mainline North and Crewe Hub. We are satisfied that the region is taking a reasonable approach to managing the impact of HS2 on its core business, including oversight of cross-industry integration. We will be increasing our scrutiny of these interfacing projects because of the timescales for delivery, for example works at London Euston due within the next two years.

North West & Central delivered strongly on efficiency

North West & Central delivered 24% more efficiencies in the year than its original CP6 plan. Leading indicators suggest the region is well positioned to deliver its efficiency in the final year of CP6.

- 4.43 Following the 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, with the planned increase coming mostly from workforce reform initiatives. Throughout this document we refer to these additional efficiencies as Network Rail's revised plan/target.
- 4.44 In Year 4, North West & Central delivered £180 million of efficiencies. It marginally missed (by 2%) its revised plan/target of £184 million but did deliver 24% more than its original CP6 trajectory.

- 4.45 The majority of the region's efficiency improvements were from developments in works delivery capabilities (£27 million) and modernisation (£26 million) initiatives.
- 4.46 The main reason why North West & Central did not achieve its revised CP6 revised plan/target was because of delays in staff modernisation and pay-related efficiencies.
- 4.47 The region is forecasting to deliver around £709 million of efficiencies across CP6. It has cumulatively delivered around 75% of this in the first four years of CP6. While this is in line with other regions, North West & Central will still need to manage its delivery of efficiency improvements in the final year to meet its revised plan/target.
- 4.48 Leading indicators suggest the region is reasonably prepared to deliver its efficiency improvements in Year 5 of CP6, with 75% of its efficiency plans being achieved from initiatives that are already complete or have well-developed project plans. However, the region falls short of the 84% national average. More work will need to be done to ensure that the region does not diverge further from its revised CP6 target. North West & Central has 99% of planned renewals internally authorised, 32 percentage points above its target, and 79% of disruptive access secured, three percentage points above its target. We will continue to monitor these measures closely and engage with the region about the development of its plans over the coming months.
- 4.49 North West & Central financially underperformed by £229 million during the year. The reasons for the poor performance are similar to those in other regions: industrial action, poor train performance and other high-impact disruptive incidents, with the two largest being the overhead line fault near Hanslope and the track fault at Rugby.
- 4.50 We will set out further analysis of the region's financial performance in our 'Annual Efficiency and Finance Assessment' scheduled for publication in autumn 2023. This report will examine the region's financial performance in relation to its CP6 delivery plan.

Health and safety performance was mixed

Health and safety performance was mixed and the region must maintain focus on key risk areas including the delivery of Lord Mair recommendations relating to drainage management

Track worker safety

- 4.51 In July 2022, the ORR concluded that Network Rail had complied with its Improvement Notices associated with track worker safety.
- 4.52 The region has had varying success in reducing residual unassisted lookout working. Some success has been found through obtaining more engineering access and the use of risk-based maintenance, but the region needs to make better use of technology. This includes the use of Track Circuit Operating Devices (used to activate track circuits so that they show occupied) and Semi-Automatic Track Warning Systems; deployment of both has been subject to delays. North West & Central's three routes all state confidence that both will be in use by 31 August 2023, although industrial action has caused some further delays.
- 4.53 It was disappointing to see the region continuing to use Lookout Operated Warning System working in some areas, but we understand that this is a short-term measure to manage backlog. There is a risk that this approach becomes the default and the region needs to continue to ensure that technology and procedural controls are developed to maximise efficient track access without compromising either track worker or asset safety. It is important that the region continues to provide visible leadership on this issue to help sustain progress. Strong leadership can also set the culture and degree of acceptance of the changes by staff and remind managers of what is and is not acceptable to control risks.

Actions to improve weather risk management

- 4.54 During the year we undertook inspections as part of our national programme following the fatal derailment at Carmont, building on the work undertaken in Year 3. We sought to establish how each region was progressing with the Lord Mair recommendations relating to improving earthworks management and resilience.
- 4.55 The Lord Mair report made recommendations specific to improving Network Rail's drainage management. This included increasing resource (including having dedicated drainage maintenance teams across all routes) and asset knowledge, in particular the completion of drainage asset inventories in a timely and effective

way. This work is vital given the associated risks, so we have maintained a specific focus on how Network Rail is responding to these two areas.

- 4.56 Our inspections found that implementing the Lord Mair recommendations is proving challenging for the region. While it made positive progress with drainage surveys, the region needs to ensure that data from those surveys is registered on Network Rail's internal systems.
- 4.57 While all regions have committed to additional drainage resource, during the year we became concerned about the timelines presented by North West & Central. It had indicated that it may not have additional resource in place until 2025. This was not acceptable. We escalated our concerns with the region, and it has responded. North West & Central recently confirmed that it is committed to having additional drainage resource in place by the end of CP6.

Occupational safety

- 4.58 North West & Central missed its occupational safety targets for the year. While delivery of the region's Lost Time Injury Frequency Rate (LTIFR) was steady during the year, the region did not achieve its LTIFR target for Year 4. It also did not achieve target for Fatalities and Weighted Injuries (FWI), a measure of accident severity. We will continue to monitor these indicators of safety performance to drive for improvements.

Occupational health

Asbestos management

- 4.59 We continued to monitor the management of asbestos in buildings and structures and found that the region has plans in place for future management of asbestos in buildings and other assets. It is also taking steps to raise awareness.
- 4.60 Asbestos surveying is advanced, with plans in place to remedy a number of overdue inspections. The routes must now continue the work started at regional level and maintain momentum. This will need robust assurance at regional, route and Delivery Unit level.

Control of welding fume

- 4.61 Our work on welding fume was prompted by a national ORR inspection remit reflecting a change in Health and Safety Executive requirements and expectations for controlling exposure to welding fume. All welding fume (including mild steel welding fume) is now classified as a carcinogen.

- 4.62 Our inspections in the region did not identify any issues of non-compliance. Work inspected was undertaken outside, in the open air, and relied on respiratory protective equipment and 20 metre exclusion zones. The control measures were in use and appeared to be effective.

Workforce health and safety

Overhead line electrical safety

- 4.63 Following overhead line equipment incidents at Kensal Green in 2019 and Wolverton in 2021 we issued two national improvement notices that required improved arrangements for proving dead and demarcating overhead line isolations. During 2022, we carried out inspections on isolations and work in North West & Central (as well as three other regions) to confirm whether it was complying with the improvement notices.
- 4.64 We did inspections and attended 'Test before Touch' briefing sessions for the new Test before Touch standard. We found that the use of 'reminder of live exposed' equipment was well-established and understood. We also found that assurance procedures had been defined and the new standard had been briefed out.
- 4.65 Nationally, in assessing compliance with the two improvement notices, we found that Network Rail had carried out extensive, well-planned work. This also reflects what we found in North West & Central. We plan to do further work in Year 5 to assess the extent to which assurance processes have been implemented and Test before Touch procedures are being followed.

Asset specific issues

Operational property

- 4.66 Following our issuing of an improvement notice in response to the Northwich station gable end wall collapse in 2021, we carried out inspections of work required by Network Rail's special inspection notice 204 which concerns inspections of pitched roofs and gable end walls. Our aim was to assess whether risks were being managed.
- 4.67 We selected three locations from those identified as within scope: Formby, Glossop and Preston stations. We found that all of them had been subject to desk-top evaluation and physical inspection. Overall, we found no matters of concern.

Level crossings

- 4.68 Sadly, there was a fatality at Claydon footpath crossing in March 2023. More broadly, the year saw a slight increase in level crossing events, mostly involving

near-misses with pedestrians and mostly in North West route. Across the region, modelled level crossing risks showed a return to historic trends following a marked spike at the end of Year 3.

- 4.69 We have expressed concern about the slow delivery of improved warning at passive crossings. While we welcomed the region's commitment to devote resources to this where reasonably practicable, planned installations have been slow and the region has under-delivered against CP6 plans. Previously, the region has provided us with assurances that an updated programme would deliver its commitments but we now understand that out of 40 crossings originally in scope, only 28 will be fitted in CP6.
- 4.70 We continue to look for more progress in level crossing safety improvements. In the region's plan for Control Period 7, we are pleased that funds are being allocated for further improvements but we require more assurance about what will be delivered and when.

Stakeholder engagement

- 4.71 We monitor the quality of Network Rail's engagement with its stakeholder community in CP6, and last reported on this in our [Annual Assessment of Network Rail's stakeholder engagement](#) in September 2022.
- 4.72 In this assessment, we highlighted that North West & Central needed to make improvements in a number of areas including ensuring it was embedding transparency and a feedback loop to stakeholders, reviewing the governance of stakeholder strategy, developing a more strategic and inclusive approach to stakeholder engagement, and outlining the impact of its stakeholder engagement activities (e.g. explaining how stakeholder feedback has contributed to decision making).
- 4.73 The region recently reported that it continues to use pulse surveys and various stakeholder meetings as part of its planning for CP7 and its 'Long Term Strategy for Rail'. It said that the outcome of these proposals is fed back consistently.
- 4.74 North West & Central also highlighted some of the successes that it had prior to and during the Commonwealth Games, for example several stakeholder events were held, from tactical to strategic, including with key members from the Commonwealth Games Organising Committee. The region has reported that such engagement helped all parties flag risks or concerns in an open and honest way.

The region also reported using different ways to communicate (and be transparent) with its stakeholders, for example the use of newsletters.

- 4.75 The region provided an example of where it had improved the feedback loop to stakeholders. In response to concerns from West Midlands Trains that they did not have a close working relationship with West Coast South route, a new forum was convened. The region has reported that West Midland Trains have since provided positive feedback and agreed that issues have been resolved.
- 4.76 In relation to governance, the region highlights its broad approach – i.e. through Level 1 (director and senior manager) and Level 2 (working level) meetings. The region also highlights that there is more to do on governance, to make sure it captures all of the discussions taking place across the business but it recognises that this is complex given the size of the business and will therefore take time.
- 4.77 Our ‘Annual Assessment of Network Rail’s stakeholder engagement’, which will be published in autumn 2023, will review the effectiveness of the region’s stakeholder engagement in more detail.

Performance of Network Rail Scotland



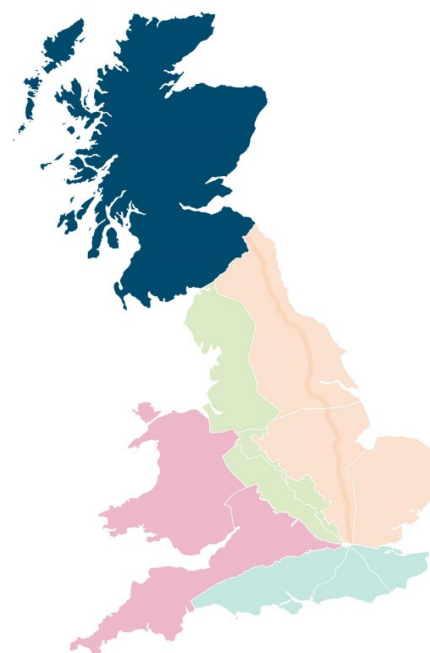
5. Performance of Network Rail Scotland

Summary

Network Rail Scotland's delivery of train service performance needs improvement. Industrial action and adverse weather presented a significant management challenge and impacted on performance during the year. Network Rail Scotland did not deliver on all its renewals volumes and although it continued to deliver efficiencies it is now reporting it will miss its revised plan/target for CP6.

Overview

- 5.1 Network Rail Scotland manages Scotland's rail infrastructure covering a large area from the Borders to Wick and Thurso in the far Northeast of Scotland, accounting for more than 17 per cent of the UK rail network.
- 5.2 Most rail services in Scotland from April 2022 to March 2023 were operated by ScotRail Trains Limited (ScotRail). Serco Caledonian Sleeper, London North-Eastern Railway (LNER), Lumo, Avanti West Coast (AWC), CrossCountry, TransPennine Express (TPE) and freight operators also ran rail services both within Scotland and between Scotland and England.



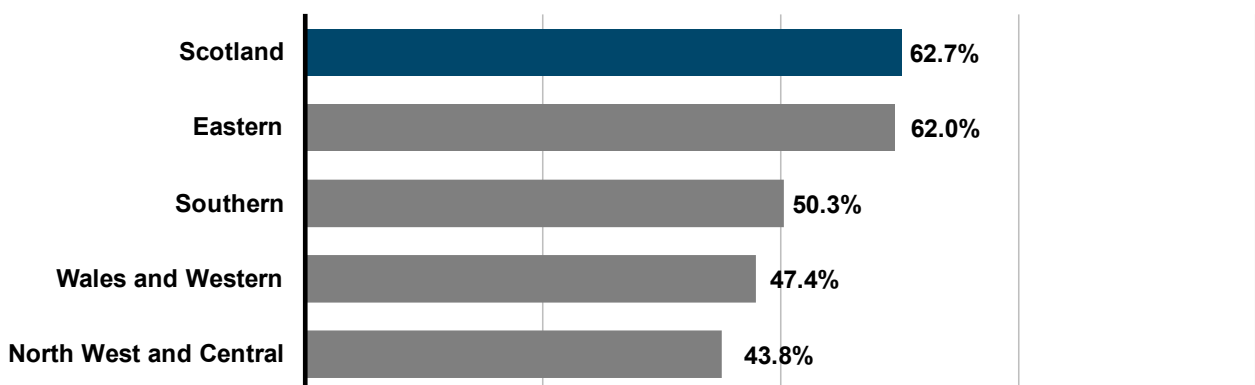
Headline performance during April 2022 to March 2023

- 5.3 Network Rail Scotland missed its performance target for the main passenger operator in Scotland, ScotRail, and its target for freight performance. However, it achieved its performance target for the Caledonian Sleeper service.
- 5.4 During the year, Network Rail Scotland worked collaboratively with ScotRail to establish train service performance improvement plans. This work was overseen by the Performance Improvement Executive – a forum attended by Network Rail Scotland, ScotRail and Scottish Rail Holdings (an organisation established by Scottish Ministers to oversee train operating companies in Scotland) and observed

by Transport Scotland and ORR. This forum is aimed at improving the reliability of the whole railway in Scotland, for example, improving infrastructure reliability and work to reduce the number of trespass incidents.

- 5.5 Network Rail Scotland did not achieve its financial performance target for the year. It expects to deliver against its original CP6 trajectory, but it no longer expects to deliver its revised CP6 plan/target. This is largely because planned renewals volumes (and their associated efficiencies) have been reduced in years 4 and 5 to divert funds to emerging risks, such as the costs of industrial action.
- 5.6 The region’s health and safety performance has been strong throughout the year. Health and safety management arrangements are in place and are effectively managing risks to railway staff, passengers and others who may be affected by the operation of the railway.
- 5.7 Network Rail measures its regions’ overall performance using scorecards which contain a range of performance measures. Targets vary across regions, and those in Scotland reflect the specific and stretching requirements of Network Rail Scotland’s funder, the Scottish Government (for further information on Network Rail Scotland’s requirements for CP6 see [Annex 1 of our PR18 Final Determination](#)).
- 5.8 As shown in Figure 5.1 below, in Year 4, Network Rail Scotland achieved 62.7% on its scorecard (with 100% being ‘on target’). Asset reliability (as measured by the Composite Reliability Index (CRI)) was the only area in which Scotland performed significantly better than target and better than other regions.

Figure 5.1 Overall scorecard performance by region, annual data, April 2022 to March 2023



Source: ORR analysis of Network Rail data

Performance has declined for both passenger and freight train services.

Train service performance declined from the previous year, with performance for the main passenger train operator remaining below target at the end of the year. Industrial action and weather both had a significant impact on Network Rail Scotland's performance.

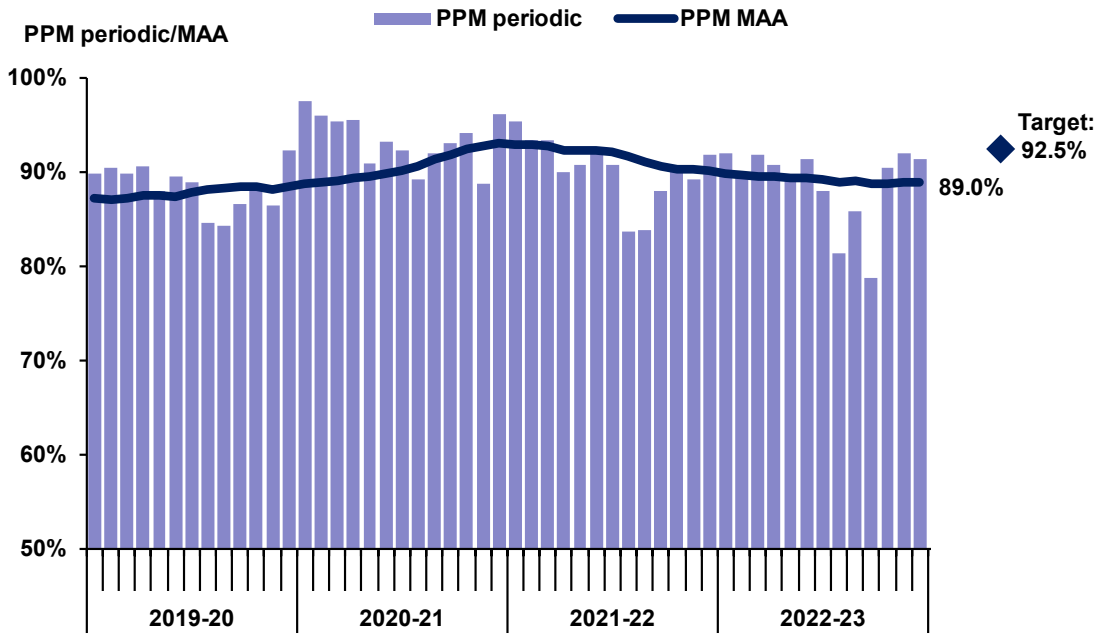
Passenger train performance was mixed

5.9 In our [Periodic Review 2018 \(PR18\) Final Determination](#), we set specific targets for Network Rail Scotland's train performance, reflecting the level of performance that Scottish Ministers expect it to deliver. For passenger services, in each year of CP6, we hold Network Rail Scotland to account for its delivery of:

- ScotRail Public Performance Measure (PPM) target of 92.5%. PPM is the percentage of planned trains arriving at their final scheduled destination early or less than five minutes after their scheduled arrival time having called at all their planned station stops; and
- Caledonian Sleeper Right Time Arrival (RTA) target of 80%. RTA measures the percentage of trains arriving early or within 59 seconds of their scheduled arrival time.

5.10 ScotRail's PPM Moving Annual Average (MAA) continued to decline throughout year 4 to finish at 89.0%, 3.5 percentage points below target (see Figure 5.2).

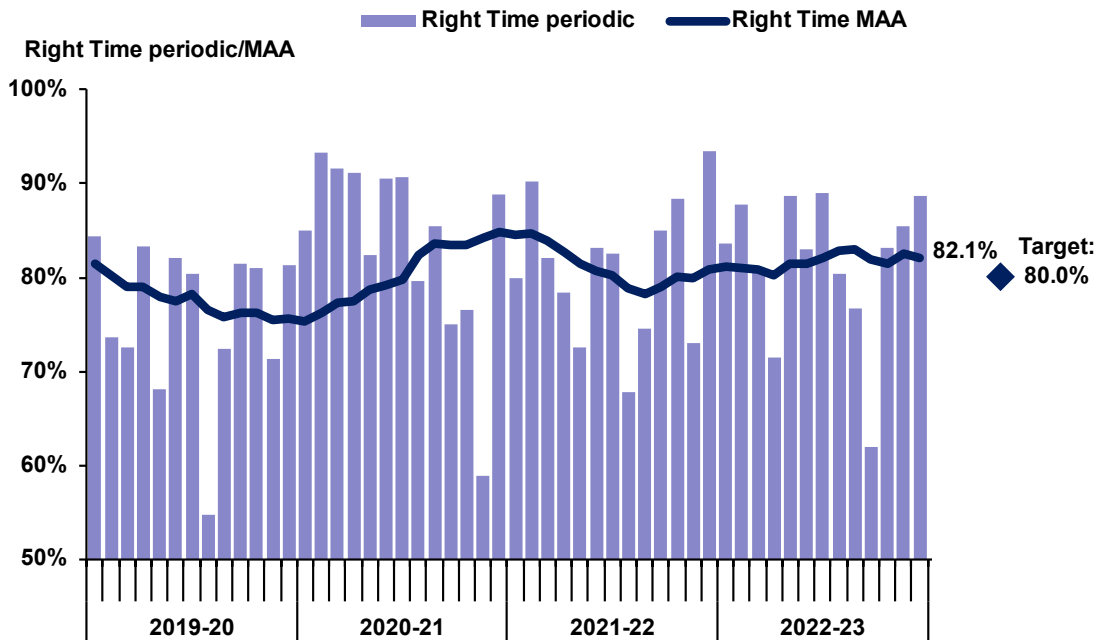
Figure 5.2 ScotRail PPM, periodic data, April 2019 to March 2023



Source: ORR analysis of Network Rail data

5.11 As shown in Figure 5.3, Caledonian Sleeper RTA MAA exceeded target at the end of year 4 by 2.1 percentage points at 82.1%.

Figure 5.3 Caledonian Sleeper RTA, periodic data, April 2019 to March 2023



Source: ORR analysis of Network Rail data

- 5.12 We primarily hold Network Rail Scotland to account against its PPM and RTA targets. However, in the event of PPM or RTA performance being below target, we also use a consistent regional measure of Network Rail-attributed delays known as Consistent Region Measure-Performance (CRM-P). Achievement of PPM and RTA targets relies on actions by both Network Rail Scotland and the train operators. CRM-P provides us with insight on Network Rail Scotland's specific contribution to overall network performance. This measure also allows comparisons across Network Rail's regions.
- 5.13 CRM-P is the delay minutes to in-service passenger trains attributed to Network Rail from incidents occurring in each Network Rail region, per 100 train kilometres. A lower score reflects better performance.
- 5.14 For CP6, we set Network Rail Scotland the most challenging performance targets of all the regions, reflecting the expectations of its funder (the Scottish Government). During the year, Network Rail Scotland's CRM-P continued to worsen, and it finished at 1.29, worse than the target of 0.86 and the regulatory floor of 1.04. The regulatory floor marks the point at which we are highly likely to consider launching a formal investigation.
- 5.15 Although CRM-P fell below the regulatory floor we have not yet launched a formal investigation because Network Rail Scotland has provided good evidence that it understands the drivers of poor performance and has been proactively seeking to improve it, including through the Performance Improvement Executive and its Joint Performance Improvement Plan (JPIP).
- 5.16 All the above train performance measures were impacted by similar factors. Industrial action across the network affected train performance through postponement of maintenance work, staffing challenges and distraction of management time. While ScotRail resolved its pay dispute in July 2022, Network Rail did not until March 2023. Amongst other issues, this meant that progress in the deployment of its Performance Improvement Management System, one of its key enablers of better punctuality and reliability, was slower than originally planned.
- 5.17 Weather was a significant cause of Network Rail Scotland-attributed delay minutes during the year. This was in part due to the impact of speed restrictions in response to flooding. The impact of severe weather has become more significant due to the changes in operational response during incidents of heavy rain fall, following the Carmont derailment in August 2020.

- 5.18 Out of all regions in Year 4, Network Rail Scotland had the highest incident count of track circuit failures and wheel slips, which it has attributed to accelerated leaf-fall and rail head contamination, exacerbated by disruption to planned rail head treatment train circuits. There were also a higher number of incidents in Year 4 compared with its performance over the last five years. We have engaged with the region to understand its poor autumn performance better.
- 5.19 Data from the Performance Improvement Executive shows the top three causes of the decline in autumn performance more generally were external factors (weather related incidents and industrial action), wheel slips (rail contamination) and water jet failures (a railhead treatment train issue, where debris was found in the water systems).
- 5.20 Network Rail Scotland has created an updated autumn performance and delivery plan for Year 5 which includes reviewing the programme of work for managing leaf fall, ensuring vegetation management is maximised to improve autumn performance and ensuring use of leaf-clearance plant is planned by the seasonal team in advance of autumn starting.

Network Rail Scotland and ScotRail continue to work on a joint train performance improvement plan

- 5.21 In response to deteriorating train service performance, Network Rail and ScotRail committed to a JPIP (to support the performance strategy) aimed at addressing the key drivers of poor performance.
- 5.22 The JPIP included interventions for both Network Rail Scotland and ScotRail to deliver, including improvements to winter plans, targeted works to reduce the need for blanket emergency speed restrictions at high-risk earthworks sites and deployment of high visibility remotely monitored cameras to reduce level crossing misuse and incidents of trespass.
- 5.23 At the end of year 4, Network Rail Scotland reported that the wider impact of industrial relations issues, combined with an increase in route crime, fleet resilience issues and the impact on performance of weather-related operational changes (implemented following the derailment at Carmont) caused the PPM MAA to fall short of the recovery trajectory of 90.6% for Year 4.
- 5.24 As part of the JPIP, Network Rail Scotland carried out some infrastructure improvements to remove or reduce the impact of temporary speed restrictions on the network, for example at Dumbarton and Shawfield. It also had successes with its route crime reduction plans, for example reporting a 66% decrease in platform-

to-platform trespassers at Priesthill and Darnley stations, following the installation of armoured 'droids' to act as a deterrent. These 'droids' are portable units which provide a visual deterrent to trespassers, as well as remote CCTV monitoring which can include audible deterrents when trespassers are detected.

- 5.25 However other areas of the JPIP did not deliver anticipated improvements. In some cases, this was because improvements were delayed beyond Year 4 – for example, works targeted along the Edinburgh to Glasgow (via Falkirk High) line to remove the need for blanket speed restrictions during heavy rainfall. In other cases, while the improvements were delivered, they did not deliver the benefits expected. For example, while Rail Head Treatment Trains ran, problems with conflicting access for maintenance work and reliability issues with the fleet limited their coverage, leading to more delay incidents in autumn.
- 5.26 Network Rail Scotland and ScotRail have prepared an updated JPIP for Year 5. This contains a comprehensive range of performance improvement schemes, covering fleet, traincrew, customer operations, Network Rail infrastructure, external delays, autumn and seasonal delivery, and network management. The level of overall detail is good, although the JPIP would benefit from improved consistency across each of the above sections, so that they include scheme details, timescales, owners, funding (where applicable), delay categories, quantified performance benefits, and progress updates. This would also provide a stronger link to the performance strategy, and better support the planned trajectories.
- 5.27 The joint Network Rail Scotland and ScotRail performance strategy was completed in May 2023 and is to a good standard. There is sufficient coverage of performance governance, reference to the Network Rail Performance Improvement Management System (PIMS), the whole system model, performance risks and mitigations, engagement with front-line colleagues, and evidence of the use and sharing of best practice. Areas where it could be strengthened include: better use of the PIMS capability framework, inclusion of a Risk Management Maturity Model (Performance) (RM3P) assessment (with associated next steps), inclusion of leading performance indicators, consideration of a rolling five-year performance outlook, a “hopper” of potential future performance improvement schemes, and more thorough quantification of the impacts of performance improvement schemes.
- 5.28 We will continue to closely monitor delivery of the above plans.

Freight performance declined below target

- 5.29 We hold Network Rail to account for its contribution to freight train performance. We measure this using the regional freight delivery metric (FDM-R), which is the percentage of commercial freight services that arrive at their planned destination within 15 minutes of their booked arrival time, or with less than 15 minutes of delay caused by Network Rail or another operator that is not a commercial freight operator. For Year 4, Network Rail Scotland's target for FDM-R was 93.8%, with a regulatory floor set at 92.5%.
- 5.30 Network Rail Scotland's freight performance declined significantly during the year, primarily due to the impacts of industrial action, reaching a low of 88.3% MAA, following significant unplanned disruption across the network over the Christmas and New Year period. Network Rail Scotland achieved 88.9% FDM-R MAA at the end of Year 4, 4.9 percentage points below target and 3.6 percentage points below the regulatory floor.
- 5.31 Neither the performance strategy nor the JPIP contains specific reference to performance improvements to freight services. It may therefore be useful to make reference to this in future revisions of the documents. However, many of the schemes included, particularly those delivered by Network Rail Scotland, will benefit all operators (both passenger and freight) in Scotland.

Use of the Performance Innovation Fund (PIF) needs to accelerate

- 5.32 To help improve performance, Network Rail Scotland is using funding from the Performance Innovation Fund (PIF) to deliver new initiatives.
- 5.33 But, so far in CP6, Network Rail Scotland has been slow to deliver its approved projects. As of March 2023, it had only spent 16% (approximately £1.1 million) of the £7.3 million funding which had been approved for projects in CP6. Network Rail Scotland must accelerate the delivery of schemes to ensure this funding is used within CP6.
- 5.34 PIF projects which have been successfully completed to date include the fitment of Global Positioning System (GPS) trackers to the ScotRail High Speed Trains and the use of innovative methods for clearing autumn leaf fall (smart cryogenics).
- 5.35 Network Rail Scotland is confident that all projects supported by PIF will be completed by March 2024. This includes £4.8 million for double variable rate sanders, where there was initially a 6-week delay in the design phase but funds for this project are expected to be spent by January 2024. We will continue to monitor

Network Rail Scotland's progress in delivery of PIF schemes during Year 5 of CP6.

Network Rail and ScotRail have not updated their connection contracts

- 5.36 Network Rail Scotland and ScotRail need to ensure that they have current approved connection contracts in place. Connection contracts set out the rights and obligations in respect of the ongoing maintenance, repair and renewals of the connection between two networks (in this case between ScotRail depots and Network Rail Scotland's mainline network).
- 5.37 Network Rail Scotland needs to address a backlog of several outdated connection contracts which have not been updated to reflect the latest model contract and to reflect changes to charges, boundaries and the latest terms. This will ensure it is clear who is accountable for those connections and that they are properly maintained.
- 5.38 We are aware there are ongoing discussions between Network Rail Scotland and ScotRail to draw up new contracts and have these enacted, but progress has been slower than expected. We are monitoring the progress of all outstanding connection contracts and will escalate our concerns further if this issue is not resolved.

Funding challenges led to deferrals of renewals work in the year

Network Rail Scotland's delivery of renewals volumes in the year varied across assets but overall, it delivered only 69% of its planned volumes.

Asset sustainability forecast remains below the regulatory floor

- 5.39 Network Rail must maintain and renew its assets in an efficient, sustainable way to support railway operations. We measure this using the Composite Sustainability Index (CSI), which compares to the end of CP4. Network Rail Scotland's target for the end of CP6 is 2.9%, with a regulatory floor set at 2.4%. The floor was set based on the forecast impact on CSI if Network Rail Scotland's CP6 renewals volumes were reduced by 10%.
- 5.40 Network Rail Scotland finished the year with a CSI of 2.3%. This represents an increase in overall asset sustainability of 2.3 percentage points since the end of CP4 – but it is 0.1 percentage points below the regulatory floor. In last year's

Annual Assessment, we reported that Network Rail Scotland will not achieve its end of CP6 CSI target because of decisions to cancel or defer work planned for the final two years of CP6 (in particular, some High Output track renewals work) to keep total expenditure within the limits of the PR18 determination.

- 5.41 As CSI is slow-moving (because of the long life of railway assets), we complement our monitoring of it by looking at other asset management metrics, including measures of asset reliability, and maintenance and renewals delivery.

Asset reliability was above target

- 5.42 Network Rail Scotland's asset reliability, as measured by the Composite Reliability Index (CRI), exceeded target. The region ended the year with a CRI score of 29.3% against a target of 26.0%.
- 5.43 At the end of Year 4 CRI was above target for the majority of the region's assets, although the reliability of telecoms, signalling and buildings assets were below target.
- 5.44 Network Rail Scotland had the highest (best) asset reliability of all regions. This is, in part, because of the lasting impact of delivering its planned renewals in CP5.

Delivery of renewals volumes was behind forecast

- 5.45 It is vital that Network Rail's regions renew assets that have come to the end of their useful lives in a timely way. We monitor delivery of 'effective volumes' in seven key asset types for each year of the control period against its plans. Five of these asset types were relevant to Network Rail Scotland for the year.
- 5.46 Table 5.1 shows that Network Rail Scotland underdelivered its asset renewal effective volumes in Year 4. It delivered less than its plan for all five asset types.
- 5.47 Overall, Network Rail Scotland delivered 69% of its planned effective volumes, the lowest of all regions. This was primarily due to an error in setting its baselines, where Network Rail Scotland missed the cut off date to update its forecasts, meaning the baselines included in its plan were not adjusted for known changes to its renewals plans. This has made it very challenging to understand what amount of its planned renewals Network Rail Scotland delivered during Year 4. We worked with the region to ensure it put in safeguards to avoid this happening again. In response to our challenge, it implemented a 12-week action plan to improve the governance and assurance surrounding its forecast and reporting processes, to ensure that future reporting accurately reflects planned delivery.

5.48 Based on the information Network Rail Scotland provided to the ORR earlier in Year 4, effective volumes for track, switches and crossings and structures assets were delivered broadly in line with the volumes expected at the start of the year (although were lower than the reported baseline). However, earthworks and signalling volumes were lower than expected, as well as lower than the incorrect baseline, for the reasons explained below. Although earthworks under delivered in the year, for the control period to date Network Rail Scotland has delivered more effective volumes than in its CP6 delivery plan. As discussed below, the shortfall in signalling volumes should be recovered in Year 5.

5.49 Therefore, although Network Rail Scotland’s delivery of its planned volumes was poor, we understand the reasons for this, and it has now improved its estimating and planning going forward. We will be monitoring Network Rail Scotland’s delivery of its planned volumes closely during Year 5.

Table 5.1 Effective volumes (renewals), Network Rail Scotland, annual data, April 2022 to March 2023

Actual and plan numbers are rounded; the percentage complete is calculated from unrounded numbers. A percentage complete in excess of 100% indicates delivering more than the planned volumes.

Key: ■ **G** (Green): Above planned volumes ■ **R** (Red): Below planned volumes

Asset	Actual	Plan	Completion	Percentage complete
Earthworks	141	215	R	66%
Track: Plain line	131	159	R	82%
Track: Switches and crossings	21	22	R	95%
Signalling	70	161	R	43%
Structures: Bridges	5,306	6,324	R	84%
All assets (weighted total)	<i>Not applicable</i>	<i>Not applicable</i>	R	69%

Source: ORR analysis of Network Rail data

- 5.50 During the year the region experienced slippage in its planned delivery across a range of asset types.
- 5.51 Network Rail Scotland delivered fewer earthworks effective volumes than planned due to deferral of volumes to Year 5 and a change in intervention type. It reported that it changed the scope of planned earthworks to incorporate whole system drainage to better address resilience to extreme rainfall. The region delivered higher earthworks volumes in earlier years of the control period which means that it remains ahead of its overall CP6 plan for delivery of these volumes.
- 5.52 Network Rail Scotland delivered less plain line track due to a change in intervention type, as volumes delivered carried a lower effective volume weighting. Some other regions reported in Year 4 under delivery in track volumes because of industrial action. Network Rail Scotland reported that it managed to reduce some of the impact of industrial action by accelerating works from Year 5 of CP6.
- 5.53 Delivery of signalling volumes was significantly below planned levels due to scope reduction in one scheme (Fouldubs LEW project) and slippage to Year 5 (including the Edinburgh Signalling Centre project and deferral of the West of Scotland Signalling Project – now planned for commissioning in Year 5). The Edinburgh Control System renewal has been subject to repeated delays in commissioning, which Network Rail Scotland has attributed to delays in signaller training, caused initially by pandemic-related absences and more recently by industrial action. This has deferred some spend into Year 5.
- 5.54 Delivery of structures has been impacted by the deferral of a number of projects. This includes the planned major refurbishment schemes on viaducts (Camps Viaduct, Glenfinnan Viaduct and Kingencleugh).
- 5.55 We will monitor Network Rail Scotland's renewals delivery very closely in the final year of CP6, including work deferred from Year 4, to ensure that it is managing its assets effectively.

Carstairs renewal is on track to be completed on time

- 5.56 The Carstairs renewal is the most significant renewal project in Scotland in CP6. It includes re-configuring and renewing the existing track, along with associated signals and overhead lines, and improvements to Carstairs railway station platform. The latest forecast as of year-end for the project (Anticipated Final Cost) was £164 million.

5.57 The strategic renewal at Carstairs continued to progress well despite facing significant impact from industrial action on the access required for the programme of works. Given the challenges faced, the project team have worked well to minimise the impact of industrial action on the project. As a result, Year 4 saw a significant milestone in the project, with the main blockade on the West Coast Main Line starting and progressing to schedule.

Network Rail Scotland was not compliant with requirements for structures examinations

5.58 As with other Network Rail regions, Network Rail Scotland needs to improve its processes for the examination of structures and reduce its backlog. We remain concerned about the level of non-compliance with the structures examinations standard. At the end of March 2023 there were 1,146 instances of non-compliance within the regional portfolio of 14,890 assets.

5.59 We started escalating our concerns about non-compliance in 2021, but progress has not been good enough, and, in some cases, compliance rates have deteriorated. Frustrated by the lack of progress we further escalated our concerns towards the end of Year 4. We have recently agreed in [writing](#) to Network Rail a workplan for eliminating non-compliance, which includes Network Rail providing a revised plan to us by the end of August 2023.

Backlog of detailed examinations of lineside buildings

5.60 All regions have backlogs for detailed examinations of their critical lineside buildings. Network Rail Scotland provided us with a plan to eliminate its backlog by the end of Year 4. However, delivery has been delayed by three months into Year 5. At the end of Year 4, 97% compliance was achieved.

Network Rail Scotland exceeded its Environmental Sustainability Index target

5.61 The Environmental Sustainability Index (ESI) was introduced by Network Rail in the second year of CP6 and covers non-hazardous waste reused or recycled, non-hazardous waste diverted from landfill, non-traction carbon emissions and non-traction energy usage.

5.62 Network Rail Scotland exceeded its ESI scorecard target, achieving 116% against a target of 100%. The region exceeded its target for the percentage of non-hazardous waste diverted from landfill and its target for reduction in non-traction carbon emissions. It was below target for other contributors to ESI: reductions in non-hazardous waste reused or recycled and non-traction energy use.

- 5.63 Network Rail Scotland has progressed a number of projects and initiatives to reduce energy use and carbon emissions. This includes low carbon solar heating feasibility projects, starting the replacement of its road fleet with electric vehicles, and achieving Scotland's first net zero train station at Falkirk High.
- 5.64 The region is making progress in understanding its options for delivering biodiversity improvements, with priority being placed on the West Highland line. An independent reporter review of Network Rail's lineside vegetation management during the year highlighted opportunities for improved governance, management and reporting of habitat and biodiversity at national and regional level. We are following up the reporter's recommendations with Network Rail Scotland.
- 5.65 We have seen evidence of some of the building blocks being put into place to forecast, capture and report scope 3 carbon emissions for projects in the region, including calculation of its scope 3 emission baseline based on expenditure data. Network Rail Scotland's focus in these areas will need to increase in the final year of CP6 to implement ways of working with its supply chain and to develop assured tools and systems for capturing and reporting scope 3 emissions based on quantities of materials procured, alongside actions to implement a more circular economy.

Enhancements were progressed well, with projects moving towards delivery

- 5.66 Network Rail Scotland's enhancements progressed well during the year, given the number of challenges faced, namely around material supply chain issues and industrial action. Significant progress was made on the Levonmouth Rail Link project and the Barrhead to Glasgow electrification project. The year also saw the delivery of new stations, with Reston opening in May 2022 and Inverness Airport in January 2023. The initial planned opening of Inverness Airport station was delayed due to supply chain issues.
- 5.67 Year 4 of CP6 saw a further transition in the enhancements pipeline from a development focus in early years of the control period to projects being in delivery. There were also developments in the 'Team Scotland' approach to the enhancements pipeline in the region, with improvements around governance and collaborative working. Team Scotland is a partnership between Transport Scotland, Network Rail and ScotRail Trains to deliver enhancements, looking to establish collaborative behaviours across the Scottish rail industry. It is crucial that this momentum in the development and improvement of Team Scotland is maintained along with timely decision-making to ensure milestones are achieved.

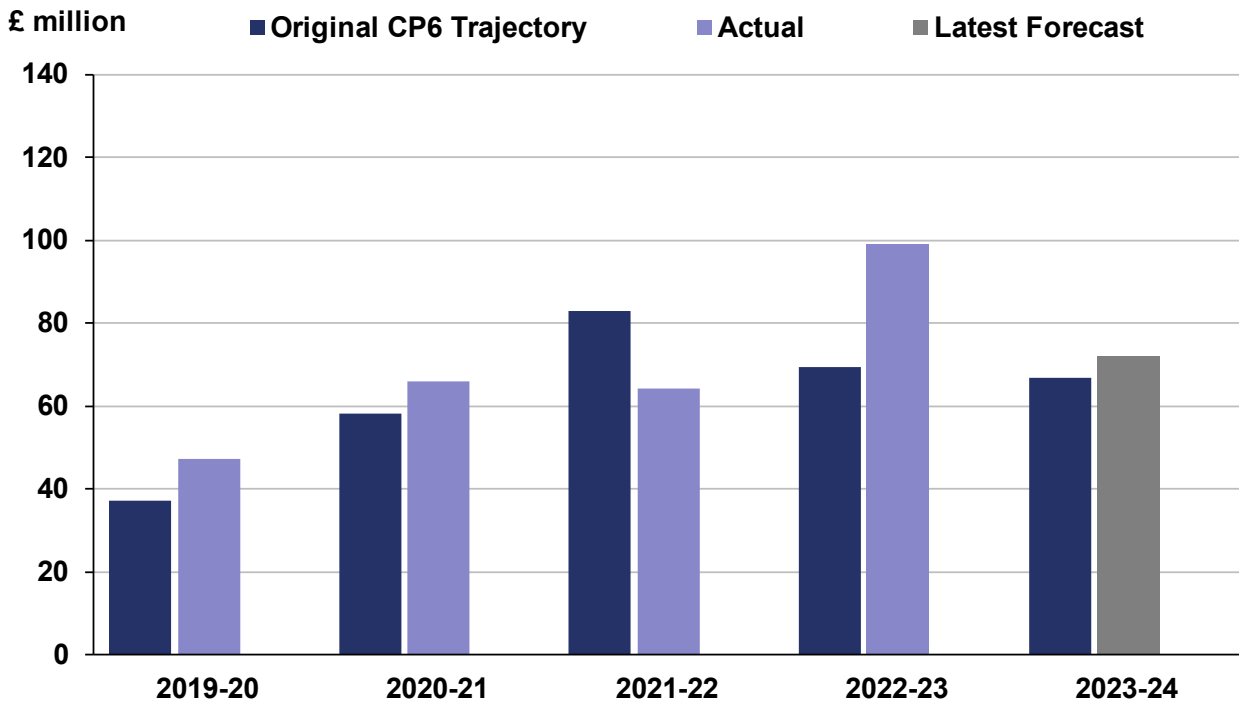
Network Rail Scotland delivered its CP6 efficiency target for the year

Network Rail Scotland delivered 43% more efficiency than its original CP6 trajectory but missed its CP6 revised plan/target for efficiencies by 18%. There will be some challenges in delivering against the revised CP6 efficiency plan/target, but leading indicators suggest the region is in a strong position to deliver in the final year of CP6.

Network Rail Scotland exceeded its original CP6 trajectory for efficiency

- 5.68 Following the 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, with the planned increase coming mostly from workforce reform initiatives. Throughout this document we refer to these additional efficiencies as Network Rail's revised plan/target.
- 5.69 During Year 4, Network Rail Scotland delivered £99 million of efficiencies. This was 43% more than the region's original CP6 trajectory (see Figure 5.4) but 18% short of its revised plan/target of £121 million.
- 5.70 The main reason why Network Rail Scotland did not achieve its revised plan/target was because of delays in workforce modernisation and pay-related efficiencies, along with pressures from industrial action.

Figure 5.4 Efficiency improvements in CP6 for Network Rail Scotland, annual data, April 2019 to March 2024



Source: ORR analysis of Network Rail data

- 5.71 There is some uncertainty as to whether Network Rail Scotland can achieve its revised plan/target, which was reduced to £349 million over the year, 15% (£63 million) lower than its delivery plan target of £412 million. This reduction in the efficiencies forecast was primarily to reflect the changes made to renewals volumes for Year 4 due to funding challenges (as reported in our last Annual Assessment of Network Rail). The loss of renewals volumes over Years 4 and 5 of CP6 has led to a corresponding loss in planned efficiencies, which was reflected in a forecast update during Year 4.
- 5.72 The delay in updating this forecast was due to Network Rail Scotland working through the implications of the changes to renewals volumes made in Year 3, and the impact on planned efficiencies.
- 5.73 Scotland’s leading indicators show that 93% of its efficiency improvements for Year 5 of CP6 will be achieved from its projects that have already been delivered or have clear project plans. This is above the 84% national average. The region has 81% of its planned renewals authorised, above its internal target of 53% but short of the 96% national average. Nevertheless, the region has booked 110% of its disruptive access for engineering work in Year 5.

- 5.74 These indicators suggest that the region is on track to deliver its revised renewal volumes in Year 5, however we will continue to monitor these over the coming months.
- 5.75 In Year 4, Scotland financially underperformed by £96 million against its annual budget. This was primarily due to industrial action and extreme weather conditions affecting train operating company compensation schemes (Schedules 4 and 8). Renewals plans were also particularly affected by strike action with project delays and loss of volumes leading to increased costs.
- 5.76 Further analysis of the region's financial performance will be carried out in our 'Annual Efficiency and Finance Assessment (AEFA)', which examines Network Rail's financial performance in relation to the region's CP6 delivery plan. It is important to note that the annual budget tends to have a less challenging target than the CP6 delivery plan target and therefore financial performance figures in the AEFA are likely to be more negative. The AEFA is scheduled for publication in autumn 2023.

Availability of risk funding in Scotland remains a concern

- 5.77 Network Rail Scotland has £6.1 million of risk funding remaining unallocated for the final year of CP6. A large proportion of the risk fund was used in Year 4, due to additional costs arising from adverse weather conditions, inflationary pressures and industrial action. The region has stated that the remaining funds available may not be sufficient to cover all these risks if they continue into year 5. To manage this Network Rail Scotland may look to defer further renewals into CP7 although, with the loss of volumes caused by industrial action in the year, the effects of this would have to be carefully reviewed. We will continue to monitor this in the final year of the control period.

Health and safety performance has been strong throughout the year

The region demonstrated good and improving health and safety performance against a backdrop of disruption and change.

Track worker safety improvements

- 5.78 Network Rail Scotland demonstrated that it had met the requirements of ORR's track worker safety improvement notices. This was achieved by a combination of improvements in planning of track access for inspection and maintenance,

increasing use of inspection techniques that do not require staff to go on track (such as track recording trains) and deployment of new technology or use of existing equipment to provide ‘additional protection’, reducing the likelihood of signaller or train driver error leading to trains entering line blockages. Strong coordination and governance of progress by the regional track worker safety task force was critical to securing progress.

Network Rail progressed action plans linked to post-Carmont taskforce recommendations

5.79 Network Rail Scotland progressed its actions to implement the recommendations from all task forces and investigations arising from the fatal derailment at Carmont in August 2020. The region demonstrated improvements in the capability of its control room to respond to adverse weather events, in forecasting and availability of real-time weather and asset-performance information, and in earthwork and drainage asset knowledge and asset management resource, including for drainage maintenance.

Operational performance

5.80 There were two potentially high-risk accidents during the year within operational performance. The first was the low-speed derailment of an empty coaching stock train on a diversionary route at Sunnyside junction, near Coatbridge, on 6 May 2022. This was caused by significant wear on a set of points. This was investigated by both Network Rail Scotland and the train operator and corrective action was taken, including the replacement of the points and further training for track inspectors and engineers using the points recovered from the site.

5.81 The second potentially high-risk accident was a collision between a train and road vehicle at Lower Cullernie level crossing in February 2023. Our investigation found the crossing to be equipped with suitable protective equipment and to have operated as designed with no failings on the part of Network Rail.

5.82 There were fewer named storms than in Year 3, but prolonged and repeated rainfall events coupled with snowmelt resulted in flooding and damage to infrastructure during the New Year period. These events included water from adjacent land impinging on the railway at Thankerton, causing damage to a section of embankment, resulting in closure of the route for several days. Drainage was overwhelmed in some locations around New Year.

5.83 Throughout the year ORR gathered intelligence from Network Rail Scotland’s logs and British Transport Police briefs on incidents involving lineside security, trespass, suicide and incursions. The data show a significant reduction in most

categories, particularly for fallen trees but also in trespass, and a large drop in trespass-related fatalities on the railway compared to Year 3. However, trespass at stations remains a concern and this is concentrated at unstaffed stations or outside of staffed hours at other locations.

- 5.84 Network Rail Scotland and ScotRail have both worked with British Transport Police to reduce the number of incidents, particularly in relation to mental health related causes of trespass. Additional platform end fencing is now in place at high-risk locations and signs providing information for the Samaritan services and how to contact them are widespread. Railway staff are being trained to identify vulnerable people and to intervene.

Occupational safety

- 5.85 Network Rail Scotland failed to achieve its Fatalities and Weighted Injuries (FWI) index target. It also did not deliver its Lost Time Injury Frequency Rate (LTIFR) target. The tragic death of a works delivery contractor in a fall from scaffolding at a construction site in November 2022 resulted in the FWI and LTIFR figures being significantly worse than in Year 3. Prior to that incident, Network Rail had achieved a consistent reduction in FWI.
- 5.86 Network Rail established its track worker safety programme in response to ORR's improvement notice of July 2019. In July 2022, we confirmed that it had achieved compliance with our improvement notice. This is an important area which we will continue to monitor.

Network Rail Scotland fell behind in delivery of some of Scottish Ministers' priorities

Network Rail Scotland continued to report delivery against Scottish Ministers' High Level Output Specification requirements. But delivery was mixed, with external factors such as industrial action and wider economic conditions having an impact.

- 5.87 In our PR18 Final Determination (see [Annex 1 of our PR18 Final Determination](#)), we set a number of requirements for Network Rail Scotland to deliver throughout CP6. Many of these requirements are unique to Scotland, reflecting what Scottish Ministers wanted Network Rail Scotland to deliver in this control period as set out in the High-Level Output Specification (HLOS).

- 5.88 To monitor progress against each of these requirements, Network Rail Scotland has an HLOS tracker which helps us to monitor its delivery of each of the HLOS requirements. We also engage closely with Transport Scotland on this.
- 5.89 Network Rail Scotland continued to provide evidence of how it is delivering its HLOS requirements. It has continued to develop strategies (for example, its signalling strategy) that will be key for CP7. Some measures were impacted by factors outside of Network Rail Scotland’s control – in particular freight growth. Network Rail Scotland continued to demonstrate close working engagement with industry, for example its work on environmental priorities. Availability of funding is impacting Network Rail Scotland’s ability to deliver on some measures, in particular improving quality of stations. In previous annual assessments we have reported limited progress with delivery of the HLOS requirement relating to capability, but during the year Network Rail Scotland has started to make progress on this.
- 5.90 Table 5.2 below sets out in more detail the steps that Network Rail Scotland took to progress each HLOS requirement.

Table 5.2 Network Rail's delivery of the Scottish HLOS requirements

Key: ■ **G** (Green): On course ■ **A** (Amber): At risk ■ **R** (Red): Not on course

Requirement	Progress made in Year 4 of CP6	RAG rating
Passenger journey time improvements: <i>develop a plan to deliver the passenger journey time requirements to deliver a minutes per mile target of 1.587 (by December 2019) and 1.576 by December 2024.</i>	Network Rail Scotland has achieved its scorecard target of 0.92.	A
Passenger satisfaction: <i>contribute to ScotRail NRPS targets for ‘Overall satisfaction and How well the Franchisee dealt with disruption’.</i>	Based on the Wavelength survey run by the Rail Delivery Group, passenger satisfaction in Network Rail Scotland remains the best of all regions. Network Rail Scotland achieved a Wavelength score of 7.99 (1 being poor and 10 excellent). This has been marked as amber due to Network Rail Scotland not achieving its scorecard target.	A
Quality of station services: <i>Maintain stations to the</i>	In CP6, Network Rail Scotland planned to deliver 80 station service improvements. To date it has delivered 37 (46%) of schemes. The region does	R

Requirement	Progress made in Year 4 of CP6	RAG rating
<i>average asset condition in place at 31 March 2019.</i>	<p>not expect to recover the 80 improvements and is forecasting to deliver 42 schemes (53%).</p> <p>As we reported last year, the pandemic led to the reprofiling of some work and there are now budget constraints which have meant that the region has not been able to deliver planned work.</p>	
Freight journey times: <i>increase the average speed of freight trains by not less than 10%.</i>	<p>The MAA speed for the year was 38.57 mph, 0.04% better than in Year 3.</p> <p>Network Rail Scotland reported that work at Carstairs (as set out above) impacted on average freight train speed.</p> <p>Network Rail Scotland reported that during the year line of route reviews identified capacity improvements and changes to engineering allowances which improved freight journey times in two locations by two minutes. Improvements have been delivered to Freightliner services between Crewe and Coatbridge (benefiting from new sectional running times, minor journey time improvements and streamlined yard operation at the Coatbridge terminal).</p>	A
Freight growth: <i>facilitate growth of 7.5% in rail freight traffic carried on the Scotland route by end of CP6 as measured by net tonne miles.</i>	<p>In Year 4, there were an additional 48 million net tonne miles of freight movement from new trains that have started in CP6. This is 16 million net tonne miles more than the original target for CP6 (32 million).</p> <p>However, the growth target is a 'net' target. This means that Network Rail Scotland and industry are accountable for the recovery of any reductions in freight movements. At the end of Year 4, Scotland net tonne miles was 6.8% behind Year 3 of CP6 and 12% behind its target for Year 4. Network Rail Scotland reports that this reflects market and economic conditions and the impact of industrial action during the year.</p>	R
Asset data quality: <i>Consistently maintain data quality at an A2 standard as a minimum across all asset data categories.</i>	<p>The A2 data quality closing position for the year was 100% overall, with all disciplines achieving target.</p>	G
Carbon emissions reduction and climate change: <i>Develop and deliver a metric for</i>	<p>Before the start of CP6, Network Rail Scotland developed metrics for continuous carbon emissions reductions and to reduce overall</p>	G

Requirement	Progress made in Year 4 of CP6	RAG rating
<i>continuous carbon emissions reductions which is normalised to cover passenger and freight volumes and monitor this throughout CP6.</i>	<p>emissions as well as traction and non-traction energy use by the end of CP6. It was required to report those on a quarterly basis to us and Transport Scotland.</p> <p>In Year 3, we agreed with Transport Scotland that the region would no longer be required to produce its quarterly CP6 HLOS update and instead would report the above metrics via a new dashboard. The dashboard has remained a live document with Network Rail Scotland providing updates via the Sustainability Steering Group (attended by Transport Scotland, Network Rail Scotland, ORR and ScotRail Trains Ltd).</p> <p>We provide commentary above on Network Rail Scotland's delivery of its ESI measure.</p>	
<p>Network capability and capacity: <i>Develop and implement a gauging strategy which seeks to deliver the Scottish Gauge Requirement. All Scottish routes are maintained to be capable of accommodating the gauge of all locomotives and passenger rolling stock.</i></p>	<p>Since publication of the HLOS, Network Rail Scotland has taken steps to improve gauging in Scotland, as discussed in last year's Annual Assessment.</p> <p>The initial stage of Scottish Gauge development has started, with analysis being undertaken based on recent railway infrastructure alignment acquisition (RILA) survey data.</p> <p>Network Rail Scotland has committed to a pilot Scottish Gauge assessment to help understand how Scottish Gauge outcomes are best refined. It has reported that it is due to complete Scottish Gauge analysis in summer 2023.</p>	A
<p>Development of an efficient electrification specification: <i>all Scottish routes are maintained to be capable of accommodating the gauge of all locomotives and passenger rolling stock</i></p>	<p>This was submitted to us and Transport Scotland at the start of CP6.</p>	G
<p>Depots and stabling strategy: <i>Network Rail must develop and implement a depot and stabling capability plan for the 15 years from 2019 to 2034.</i></p>	<p>A plan was in place for Year 1. This plan was developed with train and freight operators.</p> <p>Network Rail intends to keep this strategy as a live document, and it will continue to evolve. This is to capture future changes, for example from the whole system signalling strategy, future electrification schemes (linked to decisions that Transport Scotland will take to support carbon</p>	G

Requirement	Progress made in Year 4 of CP6	RAG rating
	<p>emission reduction targets) and Transport Scotland’s rolling stock strategy.</p> <p>Network Rail Scotland is seeking to update its depot and stabling strategy to account for the above. It has committed to engage with all operators, including cross-border operators, in doing so. Network Rail Scotland recently confirmed this is due to be completed by 31 December 2023.</p>	
<p>Support for the rural economy and tourism: <i>Network Rail Scotland must have appropriate processes in place to support requirements of charter, tourist and other special trains. It should also ensure vegetation on rural and scenic routes should be controlled and maintained.</i></p>	<p>At the start of CP6, Network Rail Scotland worked with charter train operators to review charter contracts and industry track access rights to investigate if there were options to protect a limited amount of capacity for charter train operation. Network Rail Scotland had agreed proposed changes with industry; however it has since confirmed that there is currently no appetite in the wider industry to pursue those proposals further.</p> <p>In Year 4, Network Rail Scotland reported that it completed planned vegetation clearance of scenic sites. It reported that it had cleared larger mileages than were identified at the start of CP6 on scenic spot locations (particularly on the Wick and West Highland line).</p> <p>Network Rail Scotland is reporting that in Year 5 it will not be undertaking further scenic vegetation clearance due to reprioritisation to target safety and performance risk (such as repeated overhead line faults and ash dieback).</p>	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> G </div>
<p>Creation of a Whole System Signalling Strategy: <i>Network Rail Scotland is required to create a long term, whole system signalling strategy for Scotland incorporating its existing signalling strategy, the elements of the Great Britain Digital Rail Strategy applicable to Scotland and rolling stock plans.</i></p>	<p>In our last Annual Assessment, we reported that Network Rail Scotland had made good progress against this requirement, recognising the multiple drivers and outputs that the signalling system enables as part of the wider railway system.</p> <p>The final signed strategy was provided to us and Transport Scotland in December 2021.</p> <p>Transport Scotland wrote to the region in February 2022, recognising the progress that had been made but seeking refinements to the strategy.</p> <p>In response, Network Rail Scotland launched a new steering group, bringing parties together to refine the strategy.</p>	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> G </div>

Requirement	Progress made in Year 4 of CP6	RAG rating
	In August 2022, a new framework for the signalling strategy was developed. Network Rail Scotland has committed to a new signalling strategy to be produced by March 2024. This is linked to CP7 HLOS requirements.	

Stakeholder engagement

- 5.91 We monitor the quality of Network Rail's engagement with its stakeholder community in CP6, and last reported on this in our [Annual Assessment of Network Rail's Stakeholder Engagement for year 3 of CP6](#), published in September 2022.
- 5.92 Network Rail Scotland provided strong evidence of an emphasis on building and maintaining positive working relationships with stakeholders to inform and educate through marketing and communication, providing information about engagement activities being timely, including examples from specific disruptive works. The region created 'Passenger Handling Forums' where, along with TOCs, it formalised and focused on early engagement ahead of major disruptive access.
- 5.93 Network Rail Scotland said it had made efforts to improve its relations with lineside neighbours, although there was some negative press coverage in this area during the previous year, as stated in our last Network Rail Annual Assessment. We examined these areas as part of our Annual Assessment of Network Rail's Stakeholder Engagement and identified that the region should outline how it has reviewed ongoing worker behaviour complaints and how it has improved consistency of its lineside notification process. We will assess whether these improvements have been made in our next 'Annual Assessment of Network Rail's Stakeholder Engagement', due for publication in autumn 2023.

Performance of Network Rail's Southern region



6. Performance of Network Rail's Southern region

Summary

Train performance in Network Rail's Southern region declined during the year largely due to the impact of industrial action and extreme weather but there also have been issues with the reliability of key parts of the region's infrastructure. Southern delivered its efficiency target for the year. It delivered its planned asset renewal and enhancement works but needs to address a backlog of structure examinations and remain focused on managing the impact of extreme weather. The region had the lowest Environmental Sustainability Index score of all regions and must improve.

Overview

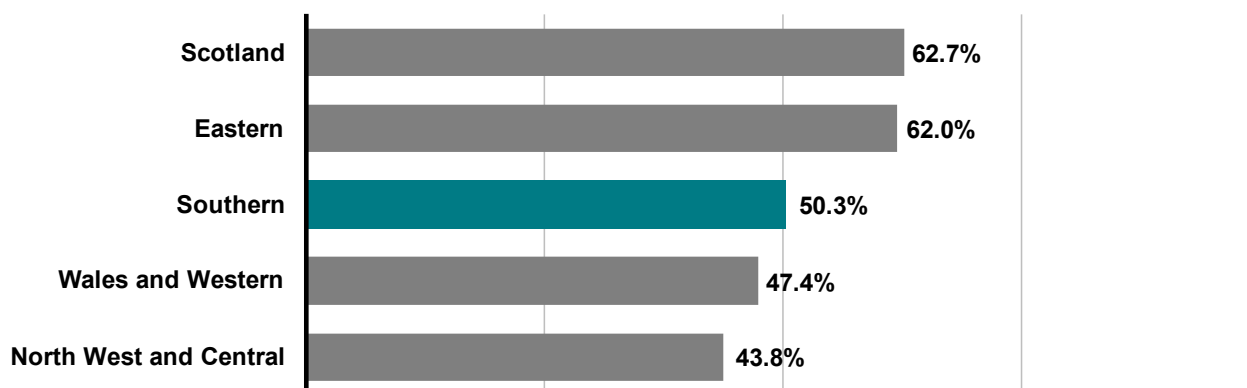
- 6.1 Network Rail's Southern region links major towns, cities, ports and freight terminals in the South of England. This chapter focuses on Network Rail's delivery in the region's three routes, Sussex, Kent and Wessex, but it does not cover Network Rail High Speed.
- 6.2 Most passenger rail services are operated by South Western Railway, Govia Thameslink Railway Ltd (GTR) operating Southern, Thameslink and Gatwick Express, Arriva Rail London (ARL) operating London Overground services and SE Trains operating Southeastern services.



Headline performance during April 2022 to March 2023

- 6.3 Passenger and freight train performance in Southern declined during April 2022 to March 2023 (Year 4 of Control Period 6 (CP6)) and the region missed its scorecard targets. Industrial action throughout the year and the hot, dry weather during the summer affected the region with impacts including the postponement of maintenance work and an increased number of temporary speed restrictions due to issues with the track bed drying out.
- 6.4 Southern's reliability of its assets declined during Year 4 but it delivered above its planned renewal volumes, with only signalling and track marginally below. It delivered new platforms at Gatwick Airport station and made progress with Croydon area remodelling. We remain concerned about its backlog of structures examinations and continue to engage with the region regarding its recovery plans.
- 6.5 Southern delivered £279 million of efficiencies during the year. It is now forecasting efficiencies of £918 million for the whole of CP6.
- 6.6 The region must continue to proactively manage risks associated with earthworks failures and vegetation management. Southern missed its occupational safety targets in Year 4 and did not achieve its Fatalities and Weighted Injuries target (FWI, a measure of accident severity) because a contractor was tragically killed at the Gatwick Airport station improvement project.
- 6.7 Network Rail measures its regions' overall performance using scorecards which contain a range of performance measures. Overall performance is expressed as a percentage achievement between 0% and 200% (with 100% being on target). As illustrated in Figure 6.1, Southern was below target and achieved 50.3%.

Figure 6.1 Overall scorecard performance by region, annual data, April 2022 to March 2023



Source: Network Rail's regional comparison scorecard

Performance for both passenger and freight services declined in Southern during the year

Train performance in Network Rail's Southern region declined during the year largely due to the impact of industrial action and extreme weather. Network Rail must make improvements, continuing to focus on asset reliability, notably in the critical Thameslink core, as well as ensuring it delivers projects from the Performance Innovation Fund.

Passenger and freight train service performance

- 6.8 Between April 2022 and March 2023, passenger and freight train service performance on Southern region declined. On Time performance fell from 73.8% at the start of the year to 68.0% at the end.
- 6.9 The delay that Network Rail caused to passenger and freight operators in the region increased during the year, falling below (i.e. worse than) its scorecard target. Network Rail attributed delay in Southern was 2.65 minutes per 100 train kilometres in Year 4, compared to 1.83 minutes in the previous year.
- 6.10 Southern's freight performance (as measured by the Freight Delivery Metric (FDM-R)) also declined – to 85.9%, significantly below its scorecard target of 92.5%. The impact of industrial action on passenger performance measures was limited on the day of strikes as reduced timetables were agreed in advance, but industrial action did have a significant effect on the region's freight metrics.

- 6.11 Passenger train performance in Southern was also affected by train operator issues. Govia Thameslink Railway traincrew shortages resulted in high levels of cancellations. Fleet reliability has also been a problem for London Overground and Southeastern.

The impact of industrial action and weather

- 6.12 From June 2022 onwards, industrial action affected train performance, although the total impact is difficult to quantify. The effects have been seen in many ways from postponement of maintenance work to distraction of management time. The latter is one of the reasons why Network Rail has not made significant progress in the deployment of its Performance Improvement Management System, one of its key enablers of better punctuality and reliability.
- 6.13 Drought associated with the hot weather and dry summer resulted in the earthworks which support tracks drying out in some locations, causing additional track defects and the consequential implementation of speed restrictions and/or reduced timetables to ensure trains could continue to run safely. The Sussex, Wessex and Kent routes were among those most affected. The region managed the associated safety risk by applying temporary speed restrictions, but this affected train performance.
- 6.14 Extensive rainfall in January 2023 caused a significant landslip at Hook, near Basingstoke, closing the mainline from London for several weeks. This is discussed further below.

Train performance was impacted by infrastructure issues and trespass and vandalism

- 6.15 There were numerous infrastructure issues across the network during the year. There was a steady increase in delays as a result of both track and non-track asset issues during the year. In particular, the critical Thameslink Core (the lines that carry trains between North and South London), suffered infrastructure failures which led to a high volume of significant incidents, cancellations and delays across the network.
- 6.16 Instances of trespass and vandalism also continued to impact train performance. On the Kent route, there was a gradual increase in the number of incidents, many involving repeat offenders, with associated delays reaching a five-year high by autumn 2022. On the Wessex route, external delays were double the route's target in the early part of Year 4 and by autumn 2022 they were at a seven-year high, with Welfare Officers having to make more than 60 interventions. Delays associated with trespass also increased on the Sussex route.

Southern region's response to declining train performance

- 6.17 We escalated our concerns with the decline in train performance with the region and it responded by producing a performance recovery plan. In the plan, the region specifically committed to:
- focus on removal of temporary speed restrictions (especially on the West of England line);
 - works targeted at improving track and points reliability, and infrastructure improvements in the Thameslink Core;
 - targeted trespass and vandalism mitigations; and
 - better preparation for extreme weather (such as extreme heat, drought and wet weather) in Year 5 of CP6 and beyond.
- 6.18 The plan includes specific timebound actions to deliver each of the above. We expect the committed improvements to be delivered in Year 5. We will closely monitor delivery, including through regular engagement with the region and its routes, and will report on progress.
- 6.19 In addition to improving asset reliability, performance can be improved through better response to, and recovery from, incidents. To this end, Network Rail is installing the Industry Timetable Service Recovery system in Southern region. This is aimed at improving how the industry works together during periods of service disruption. Wessex route control has been an early adopter of this system at Basingstoke and this is a positive development.
- 6.20 Improving performance requires a whole-industry approach and Network Rail needs to work closely with train operators to identify and address system-wide issues. A good example of industry collaboration was following the December 2022 Southeastern timetable change. There were several disruptive incidents due to infrastructure failures, which were managed in a way that minimised the impact on passengers.

Delivery of performance innovation funding projects was slow

- 6.21 Southern is using the Performance Innovation Fund to develop innovative projects which may deliver future performance improvements, but it was slow to deliver its projects during the year. As of March 2023, it had only spent around a quarter of the £9 million fund it has allocated for CP6. The region needs to make sure it delivers from the funds allocated for innovative performance improvement.

Capacity and access to the network

- 6.22 Under current legislation all services in operation on the network must have a track access contract and those must be approved by ORR. During Year 4, Southern has engaged constructively with us on track access applications but we had to escalate concerns about some services running that did not have a track access contract in place.
- 6.23 Running services in this way could lead to disputes about compensation for planned or unplanned service disruption (i.e. Schedule 4 and Schedule 8 payments). It also raises issues about transparency and fairness of track access.
- 6.24 In response to our concerns, Southern acknowledged the problem and took action to ensure that contracts were in place. It subsequently provided evidence showing it has processes in place to prevent a recurrence of these issues.

Southern delivered its planned renewal volumes but asset reliability was impacted by hot weather

Southern was one of only two regions to deliver its planned renewal volumes in Year 4. The region's asset reliability was impacted by weather, in particular the extreme heat in July 2022, and faults in the Thameslink Core. As with other regions, Southern must improve its structures examinations.

- 6.25 Network Rail must maintain and renew its assets in an efficient, sustainable way to support railway operations. We measure this using the Composite Sustainability Index (CSI), which compares to the end of CP4.
- 6.26 Southern finished the year with a CSI of -2.9%. This represents a decline in overall asset sustainability of 2.9% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of -4.1%. CSI is a slow-moving metric, so we complement our monitoring of it by looking at other asset management metrics, including measures of asset reliability and maintenance and renewals delivery.

Southern did not achieve its asset reliability targets for the year

- 6.27 Network Rail measures asset reliability using the Composite Reliability Index (CRI). This measures the percentage change in reliability since the end of Control Period 5 (CP5). Southern finished the year with a CRI score of 5.9% against a target of 19.3%. This means the region's asset reliability was 13.4 percentage

points below (worse than) its annual target (for reasons described throughout this chapter), and 5.9% better than it was in the final year of CP5.

The region delivered its planned renewal volumes

- 6.28 It is vital that Network Rail's regions renew assets that have come to the end of their useful lives in a timely way. We monitor delivery of effective renewals volumes in seven key asset types for each year of the control period (six of which are relevant to Southern).
- 6.29 Overall, Southern region delivered above its planned effective renewals volumes (104% of plan) – a good outcome. It achieved or outperformed its planned volume of renewals in conductor rail, earthworks and structures. On the remaining asset types, the region slightly underdelivered planned volumes, with track (both plain line, and switches and crossings) at 98% and signalling at 94%.

The impact of extreme heat and heavy rainfall highlights the importance of weather resilience

- 6.30 The increased frequency and severity of extreme weather events continued to affect performance of Southern assets.
- 6.31 Exceptionally dry weather conditions during summer 2022 impacted the region's track quality as a result of the ground underneath the tracks drying out in some locations. This led to a deterioration in the geometry of the track and therefore the region had to impose speed restrictions and a limited timetable in parts of the region. All routes in the region were affected. At the end of the year, Southern reported that the number of speed restrictions (on for seven or more days) across the network was reducing, with a significant reduction in the Kent route.
- 6.32 In January 2023, there was an extensive landslide on a high embankment at Hook following a period of heavy rain. This resulted in the closure of two lines between London and Basingstoke while the site was repaired over several weeks. A temporary track realignment enabled some passenger services to operate during this period.
- 6.33 These incidents highlight the growing impact of extreme weather and the need for the region to ensure resilience of its assets. From our engagement, we think that Network Rail has learned lessons from the weather events of Year 4 and it continues to develop ways to be better prepared, for example improving its weather forecasting.

Structures examinations must improve

- 6.34 As with other regions, Southern needs to improve its processes for the examination of structures and reduce its backlog. At the end of Year 4, the region had 4,987 structures examination non-compliances, within the structures regional portfolio of 11,864 assets.
- 6.35 We escalated our concerns about non-compliance in 2021, but progress has not been good enough, and, in some cases, compliance rates have deteriorated. Due to the lack of progress, we further escalated our concerns towards the end of Year 4. We have recently agreed in [writing](#) to Network Rail's workplan for eliminating non-compliance, which includes Network Rail providing a revised plan to us by the end of August 2023.

Other examination backlogs

- 6.36 All regions have backlogs for detailed examinations of critical lineside buildings. Southern made progress in Year 4 in the elimination of its backlog and the region has implemented an enhanced examination regime to manage the risk profile.
- 6.37 During Year 4 we raised a concern about the increasing age profile of these buildings in the region. We noted a high volume of reactive work on buildings that house high voltage installations. In response, the region committed to developing a specific plan to address the risks around these buildings and we will closely monitor its implementation.

Vegetation management

- 6.38 We raised a concern in Year 3 about the region's vegetation management performance. In response, the region implemented a plan at the start of Year 4 to address the shortfall in hazardous tree inspection. It also prioritised vegetation clearance at high-risk sites, including those affected by heavy leaf fall or at risk from dead or dying trees.
- 6.39 We commissioned an independent reporter to look at Network Rail's management of vegetation management. The report recommended that holistic plans should be developed for vegetation and habitat management and to make improvements to lineside resilience. We held workshops with the region to ensure all necessary steps were being taken to address the recommendations and we will monitor progress.

Environmental outcomes delivery was the worst of all regions

- 6.40 Southern did not achieve its Environmental Sustainability Index (ESI) target for the year and had the worst ESI score of all regions at 58.8%. Its low score was due to it not achieving its energy reduction target.
- 6.41 During the year we found that Southern's approach to energy management was maturing. It has an energy efficiency programme which is focused on high consuming sites. Some of these sites (such as London Waterloo station) are highly complex and this has presented challenges – for example in time taken to complete energy efficiency audits.
- 6.42 The region made steady progress with improving biodiversity outcomes. It set ambitious targets for habitat creation across its estate and worked in close partnership with third party organisations. As discussed above, we undertook an independent reporter review of vegetation management, which highlighted opportunities for improvements in governance and the management and reporting of habitat and biodiversity at a national and regional level.

Southern made progress on enhancement projects

- 6.43 During the year, Southern progressed the Croydon area remodelling scheme (part of Network Rail's longer-term Brighton Main Line upgrade), completing the demolition of the derelict Royal Mail building.
- 6.44 The region brought new platforms into use at Gatwick Airport station, but further improvements to both that station and Littlehaven station have been delayed until Year 5 resulting in cost increases.

The region delivered strongly to meet its efficiency target

Southern delivered £279 million of efficiencies in Year 4, this was 40% more than its original CP6 trajectory. The region's leading indicators reflect uncertainty about the delivery of maintenance reform efficiencies in Year 5. Southern financially underperformed by £160 million.

- 6.45 Following the 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, with the planned increase coming mostly from workforce reform initiatives. Throughout this

document we refer to these additional efficiencies as Network Rail's revised plan/target.

- 6.46 In Year 4, Southern delivered £279 million of efficiencies. As set out in the network-wide performance chapter, this was 40% (£79 million) more than the region's original CP6 trajectory (but 6% below its revised plan/target of £297 million).
- 6.47 The region did not deliver its revised plan/target due to lower efficiencies than planned from pay and reform initiatives following Network Rail's latest view on these savings. The region's key efficiency initiatives in Year 4 were improved contracting strategies, LEAN initiatives (embedding a culture of continuous improvement) and reduced activity through the use of new technologies.
- 6.48 The region is forecasting to deliver £918 million of efficiencies during CP6. Of this, £667 million of efficiencies have been delivered during Year 1 to Year 4. This represents 73% of the total CP6 forecast, the lowest of all the regions.
- 6.49 It is concerning that Southern's leading indicators suggest it is the least prepared to deliver the efficiency required in Year 5.
- 6.50 It has forecasted that 72% of its efficiency targets will be achieved from initiatives that are already complete or have well developed project plans. This is 12 percentage points less than the 84% national average. This is due to the region's uncertainty about the delivery of maintenance reform efficiencies in Year 5. Southern has gained financial authorisation for 103% of its renewal activities for Year 5, to minimise any potential future slippages. 78% of the disruptive access needed for engineering work has also been secured, compared to the 77% national average. We will continue to closely monitor the region's leading indicators through regular engagement and analysis of monthly reporting and challenge the region on its preparedness to deliver efficiency improvements.
- 6.51 In Year 4, Southern financially underperformed by £160 million against its budget. This was mostly due to the impact of industrial action on its Schedule 4 and 8 payments to train operators, and extreme weather conditions affecting assets and requiring speed restrictions.
- 6.52 We will set out further analysis of the region's financial performance in our Annual Efficiency and Finance Assessment which is scheduled for publication in autumn 2023. This will examine the region's financial performance in relation to its CP6 delivery plan.

Southern is delivering a number of safety improvements but it missed its safety targets for Year 4

Southern has complied with track worker safety improvement notices and track worker safety has been maintained despite the challenges of a heavily congested network. The region is progressing improvements to drainage asset knowledge and resource, in response to recommendations made following the fatal derailment at Carmont.

Track worker safety

- 6.53 In July 2022, the ORR concluded that Network Rail had complied with its Improvement Notices associated with track worker safety.
- 6.54 Engineering access in large parts of Kent, Sussex and Wessex is extremely restricted and historically this has led to an acceptance of compromise in working arrangements. Nevertheless, track worker safety improvements have been delivered.
- 6.55 While the region has made progress, we consider that the proportion of line blocks across the region using additional protection needs to increase further, especially in Wessex route which has a low proportion of work with additional protection relative to other routes. Each route has its own glide path to increase the use of additional protection and latest reporting suggests they are on schedule, but we will keep this under review.

Actions to improve weather risk management

- 6.56 During Year 4, we undertook inspections as part of our national programme following the fatal derailment at Carmont, building on the work undertaken in Year 3. We sought to establish how each region was progressing with the Lord Mair recommendations relating to improving earthworks management and resilience.
- 6.57 The Lord Mair report made recommendations specific to improving Network Rail's drainage management. This included increasing resource (including having dedicated drainage maintenance teams across all routes) and asset knowledge, in particular the completion of drainage asset inventories in a timely and effective way. This work is vital given the associated risks, so we have maintained a specific focus on how Network Rail is responding to these two areas.

- 6.58 Our inspections in Southern found that progress is being made, with evidence of good quality asset inventory mapping and routine maintenance of high-risk sites. The region is also using remote monitoring installations at priority sites. There is still some work to do to capture all assets in the region's regular inspection regime – the region has committed to do this by the end of CP6.
- 6.59 Southern also committed to having additional drainage resource in place by the end of CP6.

Vegetation control in buildings and structures

- 6.60 Vegetation on or in structures remains an issue for the region. This can give rise to significant risk, for example events such as the collapse of a section of brick wall during engineering work at Nine Elms viaduct in December 2022 on the Wessex route. Inspection in Kent route, where there is extensive elevated railway, suggested that there is significant work to do to manage risks from vegetation and we are following this up with the region.

Occupational safety

- 6.61 Southern missed its occupational safety targets for Year 4. It did not deliver its targets for Lost Time Injury Frequency Rate (LTIFR). The region also did not achieve its Fatalities and Weighted Injuries target (FWI, a measure of accident severity) because of an incident where a contractor was tragically killed while working on the Gatwick Airport station improvement project.

Occupational health

Asbestos

- 6.62 Southern has 4,673 low priority asbestos asset surveys to complete. This backlog is higher than other regions and Southern must work on reducing it. The region's plan focuses on surveys of redundant signalling and electrification and plant assets that are due to be removed. The proportion of surveys in which asbestos has been found (approximately a third) appears to be higher in Southern than in other regions due to the nature of the buildings and signalling asset portfolio.

Welding fumes

- 6.63 The Health and Safety Executive's Workplace Health Expert Committee endorsed the reclassification of mild steel welding fume as a human carcinogen in 2019. This has tightened duties under the Control of Substances Hazardous to Health Regulations to reduce exposure to as low as is reasonably practicable.

- 6.64 Our inspections continue to consider the appropriateness of controls in place at welding operations, including local exhaust ventilation, exclusion zones and the use of respiratory protective equipment.
- 6.65 In Year 4, we inspected welding activity in the Kent and Sussex routes. Overall, there appeared to have been a marked improvement in the control of exposure to welding fume at simple, open-air work sites, achieved in part through changes to standards; improved staff awareness of the risks; the creation of exclusion zones; and the provision of comfortable and effective respiratory protective equipment (RPE).
- 6.66 Risks from welding fume were recognised and understood by those directly involved, and exposure is likely to have decreased significantly through the simple measures of providing exclusion zones and good-quality RPE. Exclusion zones were not always observed however, for instance by staff of other work teams in a possession. Short-duration welding in tunnels is likely to give rise to significant exposure if ventilation equipment is not deemed viable. This will be a focus of our inspections in Year 5.

Stakeholder engagement

- 6.67 We monitor the quality of Network Rail's engagement with its stakeholder community in CP6, and last reported on this in our Annual assessment of Network Rail's stakeholder engagement in September 2022.
- 6.68 In our last [Annual Assessment of Network Rail stakeholder engagement](#) we highlighted that Southern needed to make improvements in a number of areas. This included developing its stakeholder feedback further and informing all stakeholders of how their feedback was used to aid decision making, improving the timeliness of stakeholder engagement and ensuring engagement activities follows best practice.
- 6.69 Southern recently reported that it has improved its stakeholder communications. It has responded to stakeholder feedback and made changes to its newsletter. It has also incorporated feedback from stakeholders into its business planning and decision making. The region considers that these changes have resulted in improved sharing of information with its stakeholders and allowed for more constructive dialogue.
- 6.70 We will examine these areas, and others, in our 'Annual Assessment of Network Rail's Stakeholder Engagement', which we expect to publish in autumn 2023.

Performance of Network Rail's Wales & Western region



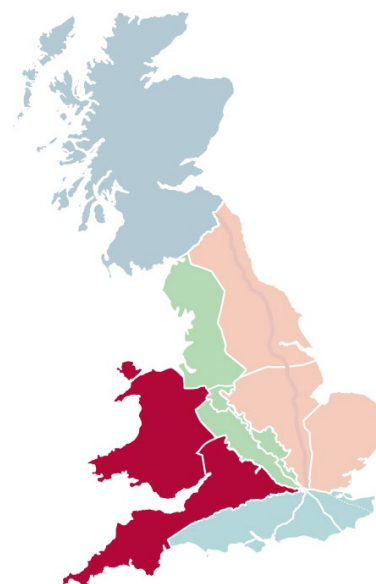
7. Performance of Network Rail's Wales & Western region

Summary

Wales & Western region's delivery of train service performance to passengers and freight declined during the year. It put in place a consolidated improvement plan and we are monitoring its delivery. The reliability of the region's assets declined and it must prioritise improving this. The Wales & Western region delivered well against its efficiency and environmental targets.

Overview

- 7.1 Network Rail's Wales & Western region extends from London Paddington to Penzance via Reading, Swindon, Bristol, Exeter and Plymouth in the Western route and transports commuters to key locations such as Cardiff and Swansea in the Wales route.
- 7.2 Most passenger rail services in the Wales & Western region are operated by Great Western Railway, Transport for Wales and CrossCountry. Rail freight services are also critical, moving various commodities within the region and beyond.

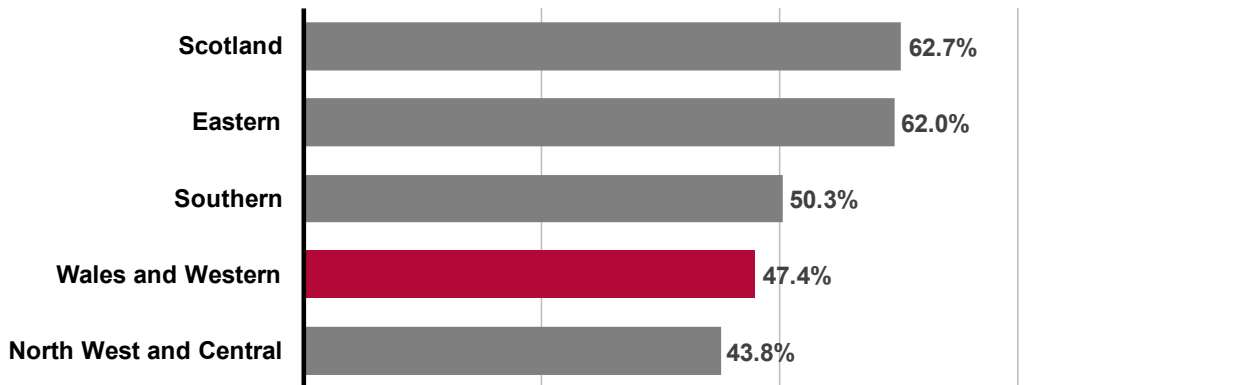


Headline performance during April 2022 to March 2023

- 7.3 During the fourth year of CP6 (April 2022 to March 2023), Network Rail's Wales & Western region's delivery of train service performance continued to decline. Wales & Western also had the lowest freight performance compared to other regions. It put in place a consolidated performance improvement plan, and we continue to monitor delivery of that plan.
- 7.4 The region's asset reliability worsened during the year which contributed to poor passenger and freight performance. The region needs to take action to ensure it delivers its renewals plans over the remainder of the control period, and to reduce its backlog of structures examinations.

- 7.5 Wales & Western did perform better in other areas of its scorecard. For example, it delivered strongly against its passenger safety train accident risk reduction (TARR) target and its environmental sustainability index target.
- 7.6 The region also performed well against its efficiency target, delivering £159 million of efficiencies in the year.
- 7.7 Network Rail measures its regions' overall performance using scorecards which contain a range of performance measures. Overall performance is expressed as a percentage, with 100% being on target. Wales & Western achieved 47.4% on its scorecard for the year.

Figure 7.1 Overall scorecard performance by region, annual data, April 2022 to March 2023



Source: Network Rail's regional comparison scorecard

Train service performance continued to decline and the region's improvement plan must now deliver results

Performance has continued to decline in Wales & Western for both passenger and freight services due to a range of factors including deteriorating asset reliability, and severe weather. The region has put an improvement plan in place, but it has yet to improve overall performance outcomes. Network Rail must continue to focus on delivery of its plan while keeping it updated to maximise its effectiveness.

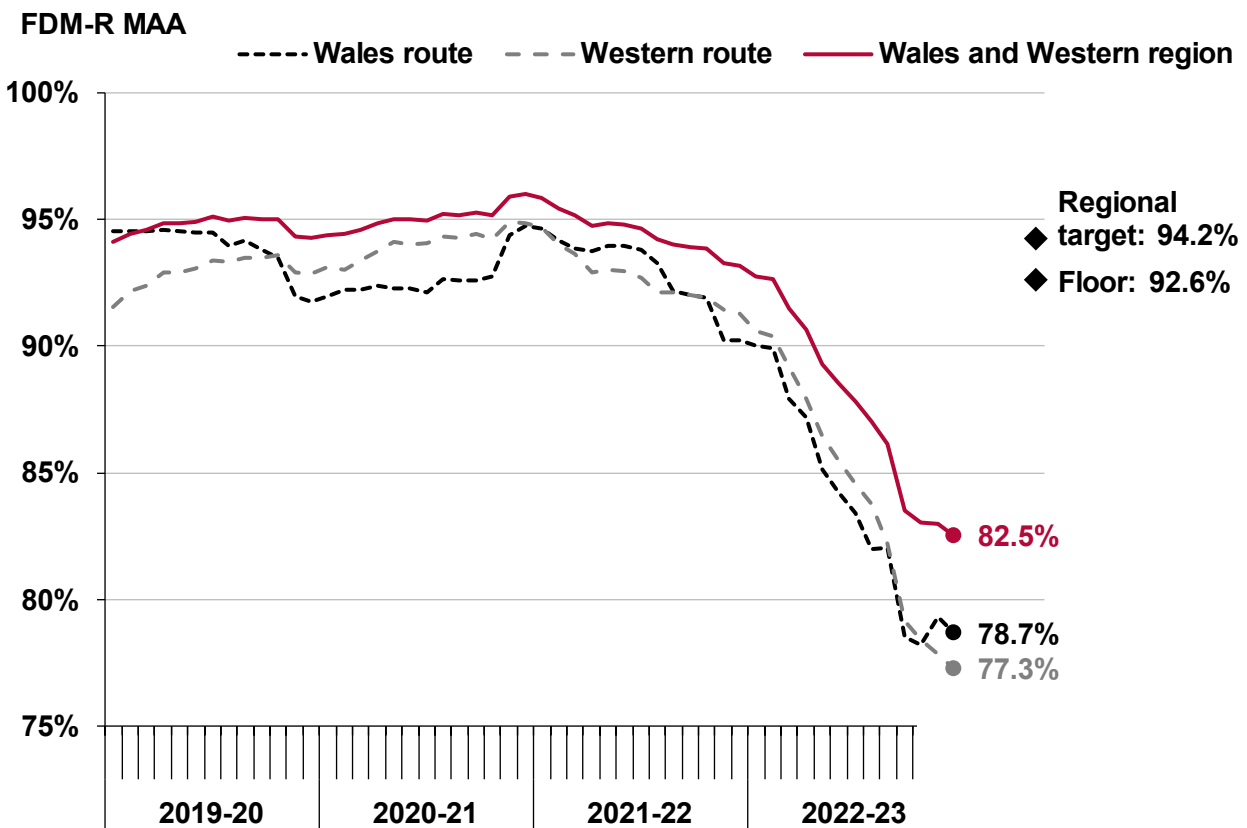
Passenger and freight train service performance

- 7.8 Between April 2022 and March 2023, passenger and freight train performance on Wales & Western declined.

7.9 On Time performance fell from 69.6% at the end of Year 3 to 62.3% at the end of Year 4.

7.10 Freight performance (as measured by the regional Freight Delivery Metric (FDM-R)) declined to 82.5%, which was below its scorecard target of 94.2%. As set out in the national overview chapter, industrial action had a detrimental impact on freight performance during the year. For Wales & Western, even when industrial action is excluded from the calculation of FDM-R, performance remained below target.

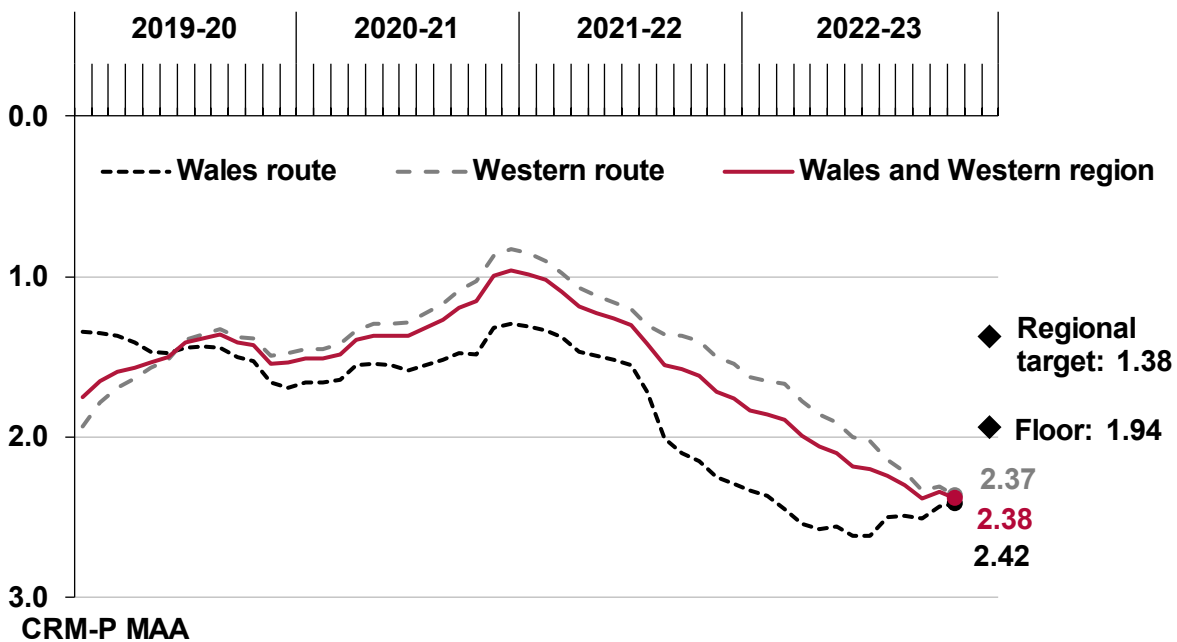
Figure 7.2 Freight performance (FDM-R) for Wales & Western region and routes, periodic data, April 2019 to March 2023



Source: ORR analysis of Network Rail data

7.11 The delay the region caused to passenger train operators increased during the year, falling significantly below scorecard targets. Network Rail attributed delay in the region was 2.38 minutes per 100 train kilometres in Year 4 compared to 1.76 minutes in the previous year.

Figure 7.3 Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) for Wales & Western region and routes, periodic data, April 2019 to March 2023



Source: ORR analysis of Network Rail data

The impact of industrial action and weather

7.12 From June 2022 onwards, industrial action has affected train performance in the region, although the total impact is difficult to quantify. The effects have been seen in many ways from postponement of maintenance work to distraction of management time. Because of the latter issue, Network Rail has not made the desired progress in the deployment of its Performance Improvement Management System, one of its key enablers of better punctuality and reliability.

7.13 The region experienced major rainfall events during the autumn and winter. Western route was impacted in several locations, notably in the Chipping Sodbury area where flooding in January this year meant that trains between London and South Wales were diverted as the line was closed.

Train performance was impacted by Wales & Western’s infrastructure and operational issues

7.14 There have been numerous infrastructure issues across Wales & Western’s network. Faults and failures of various asset types impacted train service performance.

- 7.15 Poor performance of the overhead line equipment on the approaches to London Paddington caused high levels of delay during the year. The most significant incident was on Monday 19 September 2022 (the day of Her Majesty Queen Elizabeth II's State Funeral), with further failures later that month. Since these incidents, Network Rail has identified and implemented improvements.
- 7.16 Track faults on Western route, for example in the Gloucester and Southall areas, were an issue during the year.
- 7.17 The recent closure of Nuneham viaduct, which crosses the River Thames near Abingdon, Oxfordshire, in early April 2023, caused widespread disruption to passenger and freight operators. Network Rail re-opened the line on 9 June 2023 and we expect to report more fully on this in the annual assessment for Year 5.
- 7.18 Landslips caused disruption between Newport and Gloucester. The region has invested in monitoring equipment to detect movements and is investing £25 million to stabilise the cliff face adjacent to the line.
- 7.19 Trespass and vandalism remained an issue across the region, particularly in the Thames Valley area. The Western route responded by making several interventions in key hotspots, such as installation of mid-platform fencing at Slough.
- 7.20 Finally, the region had resource challenges in key locations including:
- The critical Thames Valley Signalling Centre (TVSC) had a shortage of signallers leading to certain signalling 'panels' being closed for short periods which caused considerable delay. The region accelerated its recruitment and training programme to ensure that TVSC was able to manage the introduction of the new Elizabeth line service.
 - The Wales route Delay Attribution team did not have sufficient resource to deliver its role effectively at the start of the year. As a result, there were high levels of uninvestigated delay, which hindered performance improvement efforts (as the root cause was unknown). The route has now resourced the team and has significantly reduced uninvestigated delay.

The region's response to deteriorating performance

- 7.21 In our last annual assessment, we reported that in response to declining performance, the region was developing a performance improvement plan. This was finalised in July 2022.

7.22 Its plan focuses on:

- Overhead line equipment reliability between London Paddington and Heathrow Airport (CP7 upgrade/renewal);
- removal of Temporary Speed Restrictions;
- improving response to external delay;
- improving reliability of points and track and a focus on vegetation management (including dead, diseased and dying trees); and
- resolution of shortages of delay attribution and signalling staff due to retention issues.

7.23 During the year we have worked closely with the region to monitor progress on delivery of the plan. While we are satisfied that actions in the plan are being delivered, these have not yet translated into better performance for customers. Wales & Western updated its improvement plan during the year, including revising its plans for when performance outcomes are forecast to improve (July 2023). We are monitoring this closely and will take further action if train performance improvements are not delivered.

7.24 In addition to its performance improvement plan, the region is focused on improving its response to incidents, an issue highlighted as an area for improvement in the Network-wide chapter.

7.25 The region has plans to install its Integrated Timetable Service Recovery (ITSR) system by March 2024. This will enable better operational response to incidents, improving outcomes for passengers. All control centres in the region will be working with this new system. To support operation of Elizabeth line services, deployment of ITSR on Western route has been accelerated.

7.26 Western is also gathering data to better understand response times to incidents on the critical London Paddington to Reading corridor. This will inform actions to improve incident management in this corridor.

Performance improvement plans in Wales

7.27 In Wales, the region's performance improvement plans focused on areas such as:

- improving delay attribution (through more resources);
- improving reliability of assets through targeted renewals and maintenance;

- improving resilience (including through a programme of vegetation clearance);
- improving management of temporary speed restrictions; and
- improving day-to-day operations.

7.28 The Wales route has also proactively engaged with Transport for Wales and Amey Infrastructure Wales (which manages the Core Valley Lines infrastructure) to establish a tripartite performance improvement plan. While train service performance in Wales remained poor during year 4, we have seen clearer indicators that performance outcomes are improving in this route.

Making use of performance innovation funding

7.29 The region is using the Performance Innovation Fund (PIF), but it has been slow to deliver PIF projects. As of March 2023, it had only spent 46% of the £4.8 million fund it had allocated for CP6. One scheme it has trialled is the implementation of measures to prevent fatalities at Slough, a hot spot for these incidents.

Improving evidence to support capacity and access decisions

7.30 Wales & Western region struggled to produce a clear evidence base for its decision on competing freight and passenger applications between Wrexham and Bidston. This was caused by a lack of resource and knowledge capability in the region, which it has begun to address. This is an important area, and we will continue to monitor the development of the region's capability to assess access applications in a timely fashion.

Asset management needs to improve

Asset reliability has worsened during the year driven by a decline in the reliability of points and electrical power assets. Overall track reliability remains an issue, particularly in the Western route. Renewals plans were not fully delivered and structures examinations must improve.

7.31 Network Rail must maintain and renew its assets in an efficient, sustainable way to support railway operations. We measure this using the Composite Sustainability Index (CSI), which compares asset sustainability to the end of CP4. Wales and

Western finished the year with a CSI of -0.1% . This means that overall asset sustainability has decreased by 0.1% since the end of CP4. This is lower than the region's trajectory for CP6, which is to end the control period with a CSI improvement of 0.2% .

- 7.32 Because CSI is slow-moving, we complement our monitoring of it by looking at other asset management metrics, including measures of asset reliability, and maintenance and renewals delivery.

Asset reliability worsened during the year

- 7.33 Wales & Western's asset reliability, as measured using the Composite Reliability Index (CRI), worsened during the year. This contributed to poor train performance in the region. The region finished the year with a CRI score of 2.6% against a scorecard target of 4.0% . This means it is 1.4 percentage points below its annual scorecard target, but 2.6% better than it was in the final year of CP5. Asset reliability in Wales was particularly poor.

- 7.34 The reliability of points assets in particular has declined this year. Points reliability was impacted by the hot weather at the end of July 2022 and cold weather later in the year. Industrial action also had an impact, creating a backlog of maintenance activity.

- 7.35 The reliability of electrical power assets also started to decline after a notable improvement in Year 3. Reliability was impacted by major incidents during the year, including issues with corrosion in the Severn Tunnel.

- 7.36 As outlined above, track faults on Western route were an issue during the year. The region has taken steps to improve track reliability by undertaking renewals of key assets and installing monitoring equipment to improve reliability.

Asset renewals plans were not fully delivered

- 7.37 It is vital that Network Rail's regions renew assets that have come to the end of their useful lives in a timely way. We monitor delivery of effective volumes in key asset types for each year of the control period. Overall, the region delivered 81.2% of its planned volumes during the year. The under-delivery was primarily due to deferral of one signalling project, as set out below.

- 7.38 Wales & Western delivered its planned asset renewal effective volumes in three of the five relevant asset types (see Table 7.1). Signalling volumes were significantly below target due to the deferral of commissioning of the Port Talbot re-signalling

project into Year 5. Track plain line volumes were also below target due to industrial action.

Table 7.1 Effective volumes (renewals), Wales & Western, annual data, April 2022 to March 2023

Actual and plan numbers are rounded; the percentage complete is calculated from unrounded numbers. A percentage complete in excess of 100% indicates delivering more than the planned volumes. Conductor rails are not applicable in this region.

Key: ■ **G** (Green): Above planned volumes ■ **R** (Red): Below planned volumes

Asset	Actual	Plan	Completion	Percentage complete
Earthworks	99	59	G	169%
Track: Plain line	207	227	R	91%
Track: Switches and crossings	42	36	G	119%
Signalling	22	149	R	15%
Structures: Bridges	3,349	3,036	G	110%
All assets (weighted total)	<i>Not applicable</i>	<i>Not applicable</i>	R	81.2%

Source: ORR analysis of Network Rail data

Structures examinations must improve

7.39 As with other regions, Wales & Western needs to improve its processes for the examination of structures and reduce its backlog. At the end of Year 4, there were 1,388 structures examination non-compliances, within a regional portfolio of 13,824 assets.

7.40 We escalated our concerns about non-compliance in 2021, but progress has not been good enough, and, in some cases, compliance rates have deteriorated. Frustrated by the lack of progress we further escalated our concerns towards the end of Year 4, writing to Network Rail on this issue. All regions have now agreed to a workplan for eliminating non-compliance by the end of August 2023.

Wider examination backlogs

- 7.41 All regions have backlogs for detailed examinations of critical lineside buildings. Wales & Western has implemented a five-year recovery programme (2023 to 2028) for these examinations with an additional visual inspection programme due to be complete by the end of Year 5. We will continue to monitor the region's progress to ensure adherence to its recovery plan and improving asset knowledge.

Wales & Western delivered against its environmental target

- 7.42 The region met its overall annual target for the Environmental Sustainability Index (ESI) and was the best performing of all regions. There was slight variation in the performance against the measures within the overall index. The region exceeded target for reusing or recycling non-hazardous waste, reducing non-traction carbon emissions and non-traction energy use but missed target for percentage of hazardous waste diverted from landfill.
- 7.43 The region made good progress with energy efficiency at its maintenance delivery units and at communications sites (using combined heat and power to deliver forced-air cooling at GSM-R sites).
- 7.44 However, like most regions, throughout Year 4, ESI reporting has been impacted by poor data quality and issues with assurance and governance around energy performance. We have escalated this issue with Network Rail to understand how it will address these issues.
- 7.45 Wales & Western is also making some progress on biodiversity improvements, with a focus on validating data produced at a national level for the habitats on its estate.
- 7.46 Resourcing for ecologist posts was an issue during the year, resulting in delays to planned work. We undertook an [independent reporter review](#) of lineside vegetation management by Network Rail during the year. This highlighted opportunities for improvement around governance, management and reporting of habitat and biodiversity at national and regional level.

The region delivered well on enhancement projects

- 7.47 During the year the region delivered well on its enhancements projects. These projects have supported new operating capabilities and strengthened network resilience, with several significant schemes entering into service.
- 7.48 Key developments included the construction of the rockfall shelter at Parsons Tunnel, the upgrade of the European Train Control System (ETCS) system on the

Cambrian Line and works in Oxford to prepare for the construction of a new platform, station entrance and replacement of Botley Road Bridge.

- 7.49 There are several schemes that are planned to be progressed over the next 12 months and beyond that will provide further enhancements to the Wales and Western region. These include the reinstatement of the Portishead Line (now progressing following extended delays and cost challenges), design and delivery of new stations at Wellington and Cullompton and works to facilitate the construction of the new HS2 interchange station at Old Oak Common.

The region delivered strongly on efficiency

Wales & Western delivered £43 million more efficiencies than its original CP6 trajectory. The region's leading indicators for delivery of efficiencies show it is well placed to deliver its efficiency activities in Year 5. The region underperformed financially in Year 4 by £220 million.

- 7.50 Following the 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, with the planned increase coming mostly from workforce reform initiatives. Throughout this document we refer to these additional efficiencies as Network Rail's revised plan/target.
- 7.51 In Year 4, Wales & Western delivered £159 million of efficiencies. It marginally missed (by around 8%) its revised plan/target of £172 million but did deliver 37% (£43 million) more than its original CP6 trajectory.
- 7.52 The region did not deliver its revised plan/target because efficiencies from staff modernisation were lower than planned for the year. Some of the region's key efficiency initiatives that delivered improvements during the year were from pay and benefits, improved contracting strategies and optimisation of access.
- 7.53 Throughout the first four years of the control period, the region has delivered 76% of its planned efficiency improvements (against the revised plan/target). This is consistent with performance in the other regions, but Wales & Western will need to manage its delivery of efficiency improvements carefully in the final year to meet its CP6 target.
- 7.54 Wales & Western's leading indicators show that 96% of its efficiency improvements will be achieved from projects that have already been delivered or

have clear project plans, suggesting that the region is well-prepared to deliver its efficiency activities in Year 5. This is 12 percentage points above the national average of 84% and the highest of all the regions. 113% of the region's planned renewal projects have received financial authorisation, with the additional authority approved to minimise slippages. 83% of the region's disruptive access has also been secured, above the national average of 77%. Overall, the leading indicators provide confidence in the region's readiness to deliver its plans for Year 5 of CP6. We will continue to monitor these.

- 7.55 Wales & Western's wider financial underperformance during the year was £220 million. As with other regions, this was primarily due to industrial action, poor train performance and extreme weather conditions, as a result of which Network Rail paid compensation through Schedule 4 and 8 incentive regimes. These issues also affected renewal work and resulted in lower volumes being delivered, in particular for track and structures. The region managed to outperform its operational expenditure budgets through cost control measures.
- 7.56 We will set out further analysis on the region's financial performance in our 'Annual Efficiency and Finance Assessment' scheduled for publication in autumn 2023. This report will examine the region's financial performance in relation to its CP6 delivery plan.

Health and safety targets for the year were not met

The region did not deliver against its annual health and safety targets. Track worker safety improved, and the region has continued to progress Lord Mair recommendations in relation to drainage asset knowledge.

Track worker safety

- 7.57 In July 2022, ORR concluded that Network Rail had complied with its Improvement Notices associated with track worker safety. We concluded that Wales & Western had made significant progress with how assurance is undertaken, using informed and independent staff to carry out monitoring activities. We consider that this assurance should be broadened beyond track worker safety, as it has the potential to provide the high-quality targeted checking that region has previously lacked.
- 7.58 The region plans more improvements for track worker safety. The Wales route has confirmed that it is committed to rolling out remote disconnection devices and funding has been requested for Control Period 7, alongside funding for other

initiatives. Western has made similar requests to fund technology and headcount to support its Safety Task Force programme.

Actions to improve weather risk management

- 7.59 During the year, we undertook inspections as part of our national programme following the fatal derailment at Carmont, building on work undertaken in Year 3. We sought to establish how each region was progressing with recommendations made by Lord Mair relating to improving earthworks management, drainage and resilience. For drainage, we reviewed the region's approach to resourcing and its asset knowledge – in particular, the completion of drainage asset inventories in a timely and effective way. This work is vital given the associated risks, so we have maintained a specific focus on how Network Rail is responding to these two areas.
- 7.60 Findings from our inspections were generally positive. The region is forecasting to capture all assets in its regular inspection regime and to have improved drainage resource in place by the end of CP6.

Occupational safety

- 7.61 Wales & Western missed its occupational safety targets for the year. It failed to deliver its targets for Lost Time Injury Frequency Rate (LTIFR) and Fatalities and Weighted Injuries (FWI, a measure of accident severity). The region reported that FWI was affected by the number of higher weighted specified injuries increasing from 5 in Year 3 to 8 in Year 4.

Occupational health

Control of welding fume

- 7.62 Our inspections during the year confirmed that the region has a clear understanding of the risk from welding fume. However, implementation of measures to control this risk, was inconsistent. Some staff were knowledgeable about the risk and controls, while also being proactive in trialling equipment to improve risk mitigation. Others were less knowledgeable and did not apply the expected control measures, such as exclusion zones, or were applying them incorrectly.
- 7.63 Our inspections highlighted the importance of effective assurance to identify inconsistencies and lack of understanding. In particular, we identified actions for the region to provide additional independent checks of respiratory protection equipment – by someone other than the user.

Asset specific issues

Level crossings

- 7.64 We continued to monitor the region's programme for fitting overlay miniature stop lights (OMSLs) to passive crossings across both routes. The Western route made good progress in completing its planned programme. The Wales route was behind its plan, which is disappointing, given that funding was allocated, and crossings identified for fitment.
- 7.65 We required the Wales route to carry out a gap analysis to establish why it was behind plan and how it could catch up. The analysis revealed a lack of project sponsorship, diverted resource to respond to major incidents, and site complexities. To date 16 crossings have been upgraded and there will be a further 8 upgrades in Year 5 of CP6. The lack of progress is disappointing, and we will continue to closely monitor delivery to ensure this programme is prioritised.

Management of vegetation

- 7.66 During the year we investigated the region's arrangements for the effective management of vegetation at structures and buildings, and to seek improvements where required.
- 7.67 In the Wales route we found that there was no system of site-based assurance of contractors' inspection and examination findings. This could have resulted in inconsistencies or inaccuracies in examination reports. Site-based inspections by the route's engineers have previously been used as part of its assurance process but are no longer being undertaken. This has resulted in a gap in its assurance process. We are engaging with the region to understand how it plans to address the deficiencies identified.

Track faults/defects in tunnels

- 7.68 We undertook inspections in the region following rail break incidents in tunnels within Western route. Failures of the type seen are not currently detectable by traditional methods. Network Rail is undertaking research to seek a solution, but in the interim the route is doing further rail monitoring and management. The region aims to develop bespoke Tunnel Management Plans based on the risks identified within its tunnels.

Stakeholder engagement

- 7.69 We monitor the quality of Network Rail's engagement with its stakeholder community in CP6, and last reported on this in our ['Annual Assessment of Network Rail's stakeholder engagement'](#) in September 2022.
- 7.70 In our last 'Annual Assessment of Network Rail's stakeholder engagement' we highlighted that while Wales & Western had provided evidence of good stakeholder engagement it needed to reflect on a drop in survey results, particularly how it manages stakeholder expectations and stakeholder satisfaction.
- 7.71 The region reports that, during the year, it worked with its stakeholders on the day-to-day running of the rail network (striving to improve communication with passenger and freight operators when incidents occur). The region also reported a focus on its longer-term planning, in particular for Control Period 7 business planning – it explained how it had tested several different models with varying levels of funding with stakeholders along with discussion of the potential consequences of different scenarios.
- 7.72 Our 'Annual Assessment of Network Rail's stakeholder engagement', which we expect to publish in autumn 2023, will review the effectiveness of the region's stakeholder engagement in more detail.

Performance of Network Rail's System Operator



8. Performance of Network Rail's System Operator

8.1 The System Operator is a business unit of Network Rail with around 900 staff. Its focus is on ensuring the network operates in an integrated way.

The role of the System Operator

8.2 Network Rail's System Operator is responsible for:

- strategic planning (it is accountable for Network Rail's long-term planning process);
- providing information about network capacity to train operators and funders;
- managing operators' access to the network;
- producing the timetable and improving the timetable development process through projects such as Industry Timetable Technical Strategy (ITTS);
- providing technical expertise and co-ordinated management to deliver performance and safety improvements in network operations through projects such as the weather risk task force, owning the professional capability of the operations function for Network Rail;
- improving the customer experience at managed stations, including accessibility; and
- managing Network Rail's customer relationships, including delivery to freight operators, national passenger operators, charter operators and prospective operators, through the Freight and National Passenger Operators (FNPO) team.

8.3 Throughout April 2022 to March 2023 (Year 4 of CP6), the System Operator also worked with the Great British Railways Transition Team in the development of plans for rail reform.

Headline performance during April 2022 to March 2023

Network Rail's System Operator responded well to ongoing challenges to timetable production, including during periods of industrial action. However, major project delivery and operational performance were variable with freight performance showing a sustained decline and mixed performance for national passenger operators. A reorganisation to deliver efficiencies was implemented in July 2022, with the headcount reducing by around 20% from Year 3 levels.

- 8.4 Large scale changes to the timetable were delivered effectively, including the phased opening of the Elizabeth Line starting in May 2022 (which moved to full through-running in November 2022) and large changes to support the Manchester recovery taskforce in December 2022. A major change to the East Coast Main Line (ECML) timetable originally planned for this year was deferred.
- 8.5 Freight performance declined across the year, in part due to the impact of strike action, extreme heat and national events. Performance of national passenger operators has been mixed, affected by many of the same factors as freight.
- 8.6 A reorganisation to deliver efficiencies was delivered in July, with the headcount reducing by around 20% from Year 3 levels. At the same time, the System Operator faced some recruitment and retention challenges. This has impacted capacity planning, project and risk management teams. In the case of capacity planning this has been mitigated by some changes to the competency reward structure.
- 8.7 A gap in the System Operator's process for co-ordinating the planning of engineering access to the network was exposed by late recognition that planned closures included both cross-border routes between Scotland and England over one weekend in February 2023. We have ensured that the System Operator has revised its processes to reduce the risk of a recurrence.
- 8.8 During the year, the System Operator progressed work on timetable reform to support a return to full industry compliance with amended timetable planning milestones. After a vote in January 2023, Network Rail secured an industry majority for the plan to move to three timetable changes per year. While the intention is to move to the new process for June 2024, legal and procedural challenges remain.

The System Operator's restructure

During the year, the System Operator completed its restructure to deliver planned efficiencies. The new structure went live in July 2022, with a 20% reduction in headcount. The organisation is now in four functional teams, supported by a programme and business management team.

- 8.9 In response to cost pressures, Network Rail implemented a programme called Management Modernisation, which focused on delivering operational costs efficiencies. Change was achieved largely from voluntary severance and staff moving to other roles, with a small number of compulsory redundancies.
- 8.10 The organisation is now in four functional teams, supported by a programme and business management team, as illustrated in Table 8.1 below.
- 8.11 The overall 20% reduction was lower in key teams such as capacity planning, where there were already challenges in recruiting and retaining staff. This restructuring was achieved during a time of pressure on staff who were being asked to support operations during industrial action.

Table 8.1 Network Rail's System Operator Structure

Network Strategy and Reform	Capacity Planning	Network Operations	Freight and Customer
<ul style="list-style-type: none"> Long term planning Whole system planning Network reform, alignment with GBRTT 	<ul style="list-style-type: none"> Timetable planning Liaison with operators Planning and simulation of timetables 	<ul style="list-style-type: none"> Analysis of how the network performs How the service meets funders' requirements Resilience planning for weather events 	<ul style="list-style-type: none"> Relationships with freight and NPO customers Freight growth and national programmes including safety Managed stations Accessibility
Programme and Business Management Insight and day-to-day business			

Source: ORR's interpretation of structure set out in the System Operator Strategic Business Plan 2023

The System Operator managed multiple changes to the timetable

The System Operator's timetable production team has responded well to multiple challenges in the year, being required to produce timetables at short notice in response to industrial action, extreme weather and national events. The Timetable Assurance Programme Management Office is well established, with good relations across the industry and a track record of identifying, communicating and managing risks.

- 8.12 In addition to the regular cycle of timetable changes, events during the year meant that many unplanned changes to the timetable were required. Some of these changes were known about well in advance, such as the introduction of the Elizabeth Line from May 2022, while others were not planned for, such as the state funeral of Queen Elizabeth II on 19 September 2022 and responding to extreme weather in July. These changes were, however, successfully delivered with disruption from timetabling minimised.
- 8.13 Delay minutes attributed to the timetable were lower than the previous year after system improvements from early implementation of elements of the Industry Timetable Technical Strategy. Improvements have also come from the Industry Timetable Assurance Programme Management Office looking at system risks to the delivery of timetables, such as completing deep dives with operators where there were risks to meeting timetable development commitments.
- 8.14 A recast of the East Coast Main Line timetable was due to take place in May 2023. This was deferred due to positive intervention from the System Operator following continued uncertainty over funders' requirements.

Timetable reform has progressed but the proposed timescale appears challenging

The System Operator is leading on changes to the Network Code and to timetable production timescales. Its proposal to move to a potential three timetable changes per year passed Class Representative Committee in January 2023 but industry concerns and legal compliance issues must be resolved. The system currently remains non-compliant with Network Code timescales.

- 8.15 Network Rail progressed its work to reform the timetable process by building industry support to proceed with its plans, which include two timetable changes per year (moving from May/ December to June/ October) with an optional third (February) conditional on industry consensus. The Network Rail-led proposal was developed and agreed through the established industry process for making changes to the Network Code – the Class Representatives Committee (CRC). This decision is still subject to ORR approval. Overall, the industry still does not comply with the current Network Code timescales for submissions. It is recognised that for compliance to be achieved in future, funders will need to work to the timescales set out in the new process or the existing Part D process.
- 8.16 In our response to the industry consultation on these changes, we stressed the importance of providing evidence on the likely impact on passengers and freight customers. We have recently consulted on changes to the Network Licence that would be required by Network Rail's proposal – in particular, the condition relating to Network Rail's requirement to publish a timetable 12 weeks in advance of services running. In our consultation we have sought to gather further evidence on how passengers and end users might be affected by a reduction in the notification period for timetable changes from 12 weeks. We expect to conclude on this shortly.
- 8.17 Network Rail intends to implement the new process from June 2024. This will require legal changes to the definition of the working timetable, changes to track access contracts and to passenger information provision.
- 8.18 We recognise stakeholder concerns remain about achieving the necessary steps for June 2024 and will continue to press for appropriate stakeholder engagement. We also think it is necessary that a clear date is in place for the return to compliance with the Network Code either through this route, or reverting to the

current timescales: in our [PR23 draft determination](#) for the System Operator we are proposing the date for industry compliance should be December 2024.

Timeliness and quality of evidence to support access applications must improve

Following our ongoing concerns over failure to adhere to the Sale of Access Rights process timescales, we commissioned an Independent Reporter review and agreed recommendations for improvement.

- 8.19 During the year, we again raised concerns with Network Rail's System Operator and regions about the timeliness and quality of evidence provided to support contractual access rights applications. While there were some improvements, there were also changes to train bids by operators and delays in processing access requests by Network Rail's regions which created increased risks for the May 2023 timetable.
- 8.20 An example of where the process did not operate effectively occurred in August 2022, when Network Rail issued a congested infrastructure declaration between Wrexham Central and Bidston. This related to an application from a freight company to turn temporary rights into firm ones on a route where an operator wanted to increase passenger services. Following analysis of the line's capability, operational issues, and a cost-benefit analysis of the proposed services, we issued our decision in November 2022, granting firm freight rights and a large proportion of the passenger rights. Our review of the applications identified areas where Network Rail needed to improve its management of granting access to the rail network.
- 8.21 As recurring issues exist in handling of access requests, we commissioned an independent reporter to review Network Rail's processes and identify improvements. The reporter reviewed selected case studies, including the application above between Wrexham Central and Bidston. The report was completed in April 2023 and has made recommendations for improving the Capacity Allocation process. We will closely monitor how Network Rail responds to each of the recommendations.

Long-term planning

The System Operator refocused its long-term planning efforts into benefits that can be achieved in advance of legislation implementing rail reform.

- 8.22 Following the devolution of strategic planning to the regions, the System Operator's only specific strategic output in the year was a Channel Tunnel freight strategy. Work continued with the Great British Railways Transition Team to support plans for rail reform and the proportion of time spent on reform by System Operator staff is expected to increase. However, there is no current timescale for the legislation to create Great British Railways and work has focused on what reform can be achieved without legislation and in a constrained funding environment.
- 8.23 An options paper for a 30 year freight strategy was issued in December 2021 for the regions to respond to but has not been published. By March 2023, only Eastern region had prepared its own strategy in response to this. A long-term strategy for freight is now a planned deliverable for CP7.
- 8.24 To determine how best to monitor the effectiveness of long-term and strategic planning, we commissioned a review of how this function should be monitored and the role for ORR in this process. The review identified good practice in strategic planning in relation to engagement but recognised that the devolution of large parts of this function had created risks in co-ordination and turning strategy into delivery, particularly when considering network-wide plans such as for freight. We will be following up with the System Operator to establish more transparent monitoring of this function.

National freight performance declined to the lowest level recorded

During the year freight performance continued to decline. Performance was significantly impacted by industrial action but underlying issues remained, relating to infrastructure reliability and scheduling challenges. Operator experience was affected by a disconnect between the stakeholder engagement provided by the FNPO team and from the regions.

- 8.25 The System Operator owns Network Rail's relationship with freight operators and customers. It plays an important role in the delivery of train performance by developing performance strategies, supporting engagement with its customers and helping to facilitate improvements. It is accountable for national freight performance while Network Rail's regions are responsible for the day-to-day delivery of train performance.
- 8.26 Freight train performance was heavily impacted by repeated industrial action during the year, resulting in large-scale cancellations. The moving annual average percentage of commercial freight services arriving at their planned destination within 15 minutes of their booked arrival time was 86.0% against a scorecard target of 93.8%. This was the lowest recorded since the timeseries began in 2014. Even when the effect of industrial action is removed, the GB-level Freight Delivery Metric (FDM) and all regional FDM levels were still below target. We have escalated this with both Network Rail's System Operator and its regions.
- 8.27 Poor performance impacted on freight operators, exacerbated by incidences of poor communication. While stakeholder feedback on the System Operator's response to industrial action was generally positive, concerns were raised over inconsistent regional responses. Examples include responses to the extreme weather in July 2022, late notice of possessions management, service alterations and difficulty in securing capacity. We have asked the System Operator to support regions in improving communications to freight operators.

Delivery of performance to National Passenger Operators was mixed

Network Rail's delivery of performance to National Passenger Operators was mixed in Year 4. Performance targets for Caledonian Sleeper were delivered but CrossCountry performance continued to decline.

- 8.28 Running across regions, the national operators highlighted inconsistencies in their dealings with Network Rail, particularly to the short-notice changes required to address the heatwave in July 2022. It was highlighted that it could be hard to keep track of progress and planned changes because, while stakeholder engagement was available, much of this was done regionally, meaning that the volume of potential interactions was overwhelming. We are working with the FNPO team to facilitate better communication with national passenger operators.

- 8.29 Caledonian Sleeper train performance, as measured using Right Time Arrival moving annual average was at 82.1% at year end. This exceeded the target of 80.0% for the year, despite performance being impacted by severe weather and industrial action.
- 8.30 The System Operator's performance against its scorecard targets for CrossCountry was poor. The moving annual average for Time to 3 was 71.2%, against the scorecard target of 77.4%. It did not meet its Time to 15 target, delivering 94.5% against a target of 96.8%. Cancellations were at 6.5%, against a target of 2.4%, with both Network Rail issues (network management other and track issues) and the operator's train crew issues affecting performance. We have taken action to drive performance improvements with each of Network Rail's regions, and with the System Operator, as set out below.

The System Operator's response to declining performance across the network

The System Operator demonstrated leadership in network performance and operational risk readiness during the year, including leading the design of the national performance recovery strategy, developing performance tools to enable more resilient timetables and investigating operational response across the network. It has developed an improvement plan for freight performance which it must now deliver.

Improvement plan for freight performance

- 8.31 In response to the significant decline in freight performance we requested an improvement plan from the System Operator and received it in January 2023. The focus is on targeted action in freight corridors which carry a significant proportion of freight traffic and, through focus on asset risk and incident recovery in these routes, the plan aims to improve performance. We will continue to monitor progress with this approach closely, given the continuing decline in performance.

National (whole industry) performance recovery strategy

- 8.32 The System Operator is uniquely placed to lead good practice sharing between the regions, ensuring lessons and positive approaches from one region can benefit the whole network. We have sought more detail on how the System Operator is working with the regions as the level of interaction appears to be inconsistent, leading to difficulty of delivering national objectives such as improving freight and national passenger operator performance.

- 8.33 During the year, the Managing Director of the System Operator became chair of the Network Performance Board, a cross industry group. In response to declining performance, this group is developing a new Performance Recovery Strategy. This will bring together work across the industry with a refocus on the Performance Improvement Management System and RM3P (the maturity model approach introduced by the rail industry in 2019 to manage performance). The strategy aims to reinvigorate existing programmes, promote best practice, and maximise benefits by engaging frontline supervisors and managers. We will monitor its success through our regular performance measures and those that the strategy is defining, including some high-level leading measures.
- 8.34 Planning for this strategy is underway and the concepts of the plan have been discussed with performance leads across industry through the Network Performance Seminar (April 2023). The final design of the strategy will have to consider any ongoing industrial action in the sector when planning how to engage employees in performance improvement.

Heavy axle weight and network capability

- 8.35 As part of the strategic business planning process, the System Operator worked with the regions to develop an outline plan to identify and prioritise sites where work was required to maintain heavy axle weight route availability which is critical to maintaining freight traffic. Network Rail included associated expenditure in its plans for CP7 (which are being scrutinised through the periodic review process).
- 8.36 However, a number of issues were identified with network capability in the year, with operators reporting specific examples of capability data being inaccurate on Network Rail's systems with potential safety and economic consequences for operators. There were also outstanding actions from an Independent Reporter review in 2018. We therefore commissioned a follow-up Independent Reporter review of how Network Rail manages network capability which completed in June 2023 and we will require the findings to be addressed.

Timetable Resilience

- 8.37 We expect Network Rail to take a leading role in driving timetable improvement. We expect the System Operator, in conjunction with the Network Performance Board, to demonstrate timetable improvement leadership through the Performance Recovery Strategy.
- 8.38 The network timetable balances multiple priorities. Passengers and freight operators deserve a reliable service, but this is balanced with capacity on the

network and journey times. All three have commercial value through their effect on potential passengers and the freight market. A resilient timetable allows the network to cope with regular system variability, meaning a more reliable service for freight and passengers on a day-to-day basis, within a range of typical operating conditions. It should not simply be accepted that increased passenger numbers and increased numbers of trains on the network will result in worse punctuality.

- 8.39 During the pandemic, the rail industry (including Network Rail) identified the opportunity to learn from the high levels of performance delivered under the exceptional operating conditions of lower passenger numbers and reduced services. The benefit of this approach can be seen from the recent timetable change developed by the Manchester Recovery Taskforce for the 'Castlefield Corridor' where initial indications are that both local and network reactionary delay are reduced.
- 8.40 While we recognise some changes may be difficult to implement or may require trade-offs between the priorities, we expect the lessons learnt to be implemented more widely, resulting in more resilient timetables.
- 8.41 The System Operator has recently demonstrated tools to ORR that it is starting to employ routinely through its capacity planning function, and which are being used to improve the quality of the timetable for December 2023 and beyond. Assuming the industry works in line with its timescales, the success of these tools will be able to be fully demonstrated and assessed from this time.
- 8.42 We are disappointed that overall progress of work on timetable resilience has been limited, in part because potential time and focus for strategic planning has been used to address repeated unplanned timetable changes. It is essential that Network Rail makes good use of these tools for December 2023 and beyond, to incrementally improve the resilience of network performance delivery to basic disruption.

Response to industrial action

- 8.43 In addition to amended timetables, the System Operator has played a major role leading co-ordination of industry to maximise services run on strike days. This has required co-ordination across the industry to prepare, evaluate and confirm the service levels to be provided during strike periods. This included, for example, monitoring the increase in the available base of contingent skills. During the multiple incidences of industrial action, a process of lessons learnt allowed increased operation across the network as the year progressed. The System

Operator's approach gained positive stakeholder feedback and developed a broader base of skills which gives a greater flexibility in response.

Improvements made to encourage better use of the Performance Innovation Fund

The System Operator has addressed our previous concerns around pace of expenditure of the Performance Innovation Fund. While authorisation of funds has increased, risks remain as there is a large sum to be invested by the end of CP6.

- 8.44 For CP6, we established a Performance Innovation Fund (PIF) designed to support innovative ways to drive performance improvements. In our last annual assessment, for Year 3, 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.
- 8.45 The System Operator developed a recovery plan to address the slow expenditure, 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.
- 8.46 During Year 4, we have seen positive benefits from these actions. Out of a total authorised sum of approximately £45 million which is funding 110 innovation projects across Network Rail, £26.1 million has been invested. While increased investment and improvements to the overall process are welcome, there is still a large sum of money to be invested by the end of CP6.
- 8.47 Delivery has varied across the regions. North West & Central and Eastern regions made good progress in investing PIF funding and look on course to deliver projects by the end of CP6. In contrast, Southern and Scotland have spent less than 25% of the funding for their authorised schemes and have a significant challenge if the fund is to be fully invested by the end of the control period. Wales & Western has spent approximately 50% of its authorised funding. We will continue to monitor progress across all regions.

The System Operator continued to support freight growth in Scotland

The System Operator continued to support the freight growth requirements of the Scottish Ministers. In Year 4, there were an additional 48 million net tonne miles of freight movement from new trains that started in CP6.

Freight growth

- 8.48 The Scottish Ministers set specific requirements for Network Rail to deliver increased rail freight in Scotland and we reflected those requirements in the CP6 final determination. The System Operator must work with the freight industry to facilitate growth of 7.5% in rail freight traffic carried in Scotland, of which, at least 7.5% needs to represent growth in new business (i.e. new traffic flows not previously moved by rail), by end of CP6, in net tonne miles.
- 8.49 To support delivery of the required level of growth in CP6, the FNPO continued to work closely with freight operators and held meetings with representatives of the Scottish Freight Joint Board and potential new entrants. In Year 4, Network Rail reported an additional 48 million net tonne miles of freight movement from new trains that have started in CP6. This is 16 million net tonne miles more than the original target for CP6 (32 million).
- 8.50 However, the growth target is a 'net' target. This means that Network Rail Scotland and industry are accountable for the recovery of any reductions in freight movements. At the end of Year 4, Scotland net tonne miles was 6.8% lower than Year 3 of CP6 and 12% behind its target for Year 4. Network Rail Scotland reports that the year end position is reflective of market and economic conditions and the impact of industrial action during the year.

There were weaknesses in how engineering work was co-ordinated

Cross-border closures

- 8.51 An example of where we would have expected the System Operator to promote effective working occurred in February 2023. Our CP6 final determination and the High Level Output Specification from the Scottish Ministers requires Network Rail to use reasonable endeavours to keep at least one cross-border route open at all times. However, on the weekend of 18 and 19 February both the east and west

coast main lines were closed for possessions. Eastern and North West & Central regions had planned this work independently of each other. A failure by Network Rail to detect this until shortly before the work took place constrained alternative approaches meaning poorer customer information and replacement services.

- 8.52 We [wrote](#) to Network Rail in March 2023 seeking assurance that Network Rail was taking steps to address this issue and asking for evidence of process improvement. The System Operator [responded](#) and, with further follow up, we are satisfied that it understands why this happened and has taken steps to prevent reoccurrence.

Slippage to delivery of some capital projects

Some planned System Operator capital projects have slipped to CP7 and the fiscally constrained settlement for PR23 has led to a review of capital deliverables, with programmes being reduced or descoped.

- 8.53 Due to funding constraints, there were significant changes to the planned scope and deliverables of technology projects through the year. Despite completing trials, Network Rail confirmed that the operational data project to create a digital twin of the network would terminate and not receive further funding in CP7. Overall, the technology projects funded as part of CP6 have not been delivered as planned, with a lower than expected return on investment.
- 8.54 Funding was allocated in CP6 to enable the System Operator to address recommendations from the inquiry into the May 2018 network disruption. This included development of a strategy to address underlying technical issues which limited the industry's ability to plan effectively. The System Operator developed the Industry Timetable Technology Strategy (ITTS) to address this recommendation.
- 8.55 ITTS has been live since 2019 and has delivered some short-term improvements in reducing delay minutes attributable to the timetable and some safety incidents. After work to replan the deliverables in autumn 2022, another review took place once the statements on available funding for CP7 had been received from funders. This has led to a further reduction in scope, removing plans to develop a bespoke system due to its complexity. There is an anticipated reduction in expenditure, and forecast return from the investment also reduced. However, an assessment of the benefits delivered to date has shown greater than expected reduction in delays from timetable planning and some safety incidents.

- 8.56 Network Rail's own assessment of benefits to costs over a 12-year timescale is positive, though benefits are heavily weighted toward the smaller scale incremental improvements delivered early in the programme. Its assessment is that later investments are not showing value for money and this has driven the decision to re-scale the programme. Separately, we are considering whether delivery of IT projects across Network Rail has delivered value for money.
- 8.57 Work is still underway to finalise the deliverables from the remaining ITTS work and to quantify the impact of these decisions on ongoing operations and efficiencies. We will be monitoring this process to assess impacts on other deliverables and efficiency commitments.

Safety and weather resilience

The System Operator continued to support freight safety and improved weather resilience.

- 8.58 The System Operator supported safety improvements through its delivery of the Freight Safety Improvement Fund (FSIP) which continued to deliver improvements. Across CP6, the budget is £24.7 million, of which approximately £15.2 million has been spent by the end of Year 4, with expenditure on around 60 projects. This includes the condition of freight vehicles on the network programme – which has developed processes for train preparation, wagon maintenance and the role human factors play in performing safety critical tasks to reduce risk and improve performance across the network. Approximately 40 projects remain in flight and the full value of the scheme is committed with 17 projects which await funding.
- 8.59 The weather risk task force continued its work to improve weather resilience. It expanded its remit to include responding to the impact of extreme heat following the disruption in July 2022. This is discussed in the Network-wide performance chapter.

Perfformiad rhanbarth Cymru a'r Gorllewin Network Rail



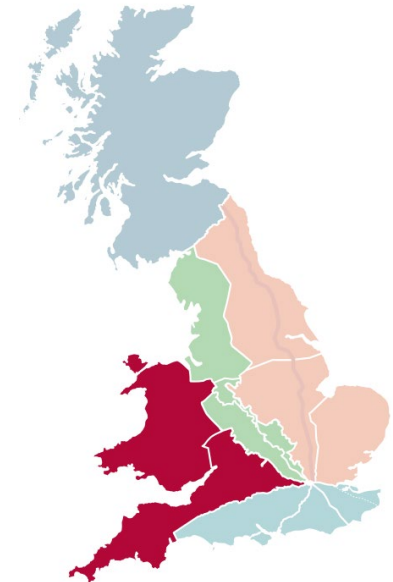
9. Perfformiad rhanbarth Cymru a'r Gorllewin Network Rail

Crynodeb

Dirywiodd perfformiad gwasanaethau trên rhanbarth Cymru a'r Gorllewin i deithwyr a chlodwyr nwyddau yn ystod y flwyddyn. Rhoddodd gynllun gwella cyfunol ar waith ac rydym yn monitro'r cynllun hwnnw. Aeth asedau'r rhanbarth yn llai dibynadwy – rhaid i'r rhanbarth flaenoriaethu gwella dibynadwyedd ei asedau. Cyflawnodd rhanbarth Cymru a'r Gorllewin yn dda tuag at ei dargedau effeithlonrwydd ac amgylcheddol.

Trosolwg

- 9.1 Mae rhanbarth Cymru a'r Gorllewin Network Rail yn ymestyn o orsaf Paddington Llundain i Penzance trwy Reading, Swindon, Bryste, Caerwysg a Plymouth ar lwybr Gorllewin Lloegr ac mae'n cludo teithwyr i leoliadau allweddol megis Caerdydd ac Abertawe ar lwybr Cymru.
- 9.2 Caiff y mwyafrif o wasanaethau rheilffordd yn rhanbarth Cymru a'r Gorllewin eu gweithredu gan Great Western Railway, Trafnidiaeth Cymru a CrossCountry. Mae gwasanaethau cludo nwyddau ar y rheilffyrdd hefyd yn allweddol, wrth symud amrywiol nwyddau o fewn y rhanbarth a'r tu hwnt.

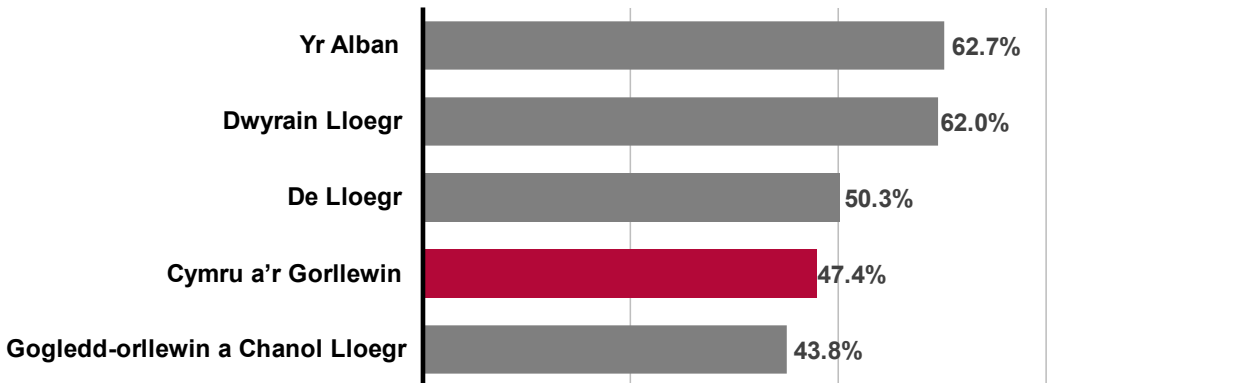


Perfformiad cyffredinol rhwng Ebrill 2022 a Mawrth 2023

- 9.3 Yn ystod pedwaredd flwyddyn Cyfnod Rheoli 6 (mis Ebrill 2022 i fis Mawrth 2023), parhau i ddirywio wnaeth perfformiad gwasanaethau trên rhanbarth Cymru a'r Gorllewin Network Rail. Cymru a'r Gorllewin oedd â'r perfformiad isaf o ran cludo nwyddau hefyd o gymharu â rhanbarthau eraill. Rhoddodd gynllun cyfunol i wella perfformiad ar waith, ac rydym yn dal i fonitro perfformiad y cynllun hwnnw.
- 9.4 Gwaethygodd dibynadwyedd asedau'r rhanbarth yn ystod y flwyddyn, a gyfrannodd at berfformiad gwael gwasanaethau teithwyr a chludo nwyddau. Mae angen i'r rhanbarth weithredu i sicrhau ei fod yn cyflawni ei gynlluniau adnewyddu dros weddill y cyfnod rheoli, a lleihau ei ôl-groniad o archwiliadau adeileddau.

- 9.5 Perfformiodd Cymru a'r Gorllewin yn well mewn meysydd eraill ar ei gerdyn sgorio. Er enghraifft, llwyddodd yn dda o ran ei darged lleihau risg damweiniau (TARR) i ddiogelu teithwyr a'i darged mynegai cynaliadwyedd amgylcheddol.
- 9.6 Perfformiodd y rhanbarth yn dda o ran ei darged effeithlonrwydd hefyd, gan gyflawni gwerth £159 miliwn o effeithlonrwydd yn y flwyddyn
- 9.7 Mae Network Rail yn mesur perfformiad cyffredinol ei ranbarthau wrth ddefnyddio cardiau sgorio sy'n cynnwys amrywiaeth o fesurau perfformiad. Caiff perfformiad cyffredinol ei fesur fel canran, gyda 100% yn golygu bod ar y targed. Cyflawnodd Cymru a'r Gorllewin 47.4% ar ei gerdyn sgorio am y flwyddyn.

Ffigur 9.1 Perfformiad cyffredinol cerdyn sgorio yn ôl rhanbarth, data blynyddol, mis Ebrill 2022 i fis Mawrth 2023



Daliodd perfformiad gwasanaethau trên i ddirywio a rhaid i gynllun gwella'r rhanbarth roi newid ar waith

Mae perfformiad gwasanaethau trenau Cymru a'r Gorllewin i deithwyr a nwyddau wedi parhau i ddirywio oherwydd amryw o ffactorau gan gynnwys asedau'n mynd yn llai dibynadwy, a thywydd garw. Mae'r rhanbarth wedi rhoi cynllun gwella ar waith, ond nid yw eto wedi gwella canlyniadau cyffredinol ei berfformiad. Rhaid i Network Rail barhau i ganolbwyntio ar weithredu ei gynllun gan ei ddiweddarau'n gyson er mwyn iddo fod mor effeithiol â phosibl.

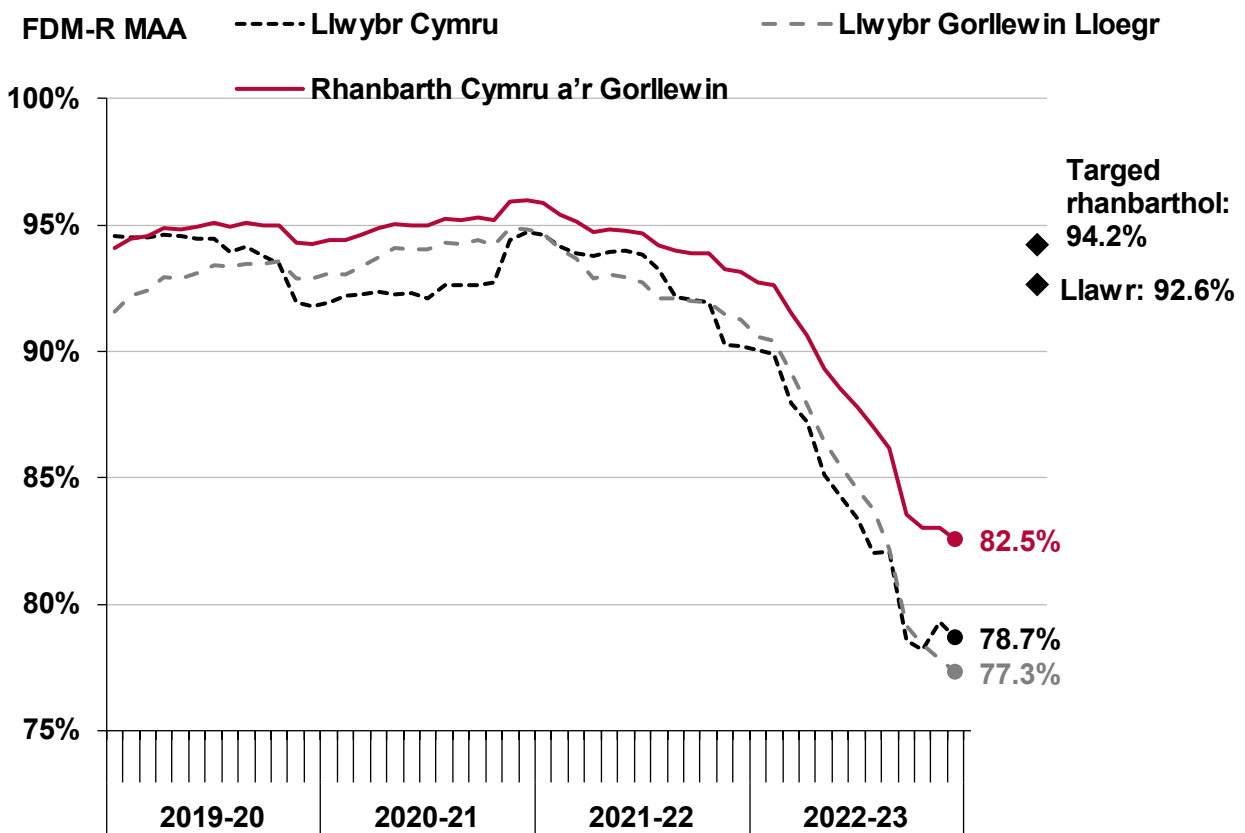
Perfformiad gwasanaethau trenau teithwyr a nwyddau

- 9.8 Rhwng mis Ebrill 2022 a mis Mawrth 2023, dirywiodd perfformiad trenau teithwyr a nwyddau Cymru a'r Gorllewin.

9.9 Disgynnodd perfformiad Ar Amser o 69.6% ar ddiwedd Blwyddyn 3 i 62.3% ar ddiwedd Blwyddyn 4.

9.10 Gostyngodd perfformiad cludo nwyddau (fel y mesurir gan y Metrig Cludo Nwyddau rhanbarthol (FDM-R)) i 82.5%, a oedd islaw ei darged cerdyn sgorio o 94.2%. Fel y nodir yn y bennod trosolwg cenedlaethol, cafodd gweithredu diwydiannol effaith niweidiol ar berfformiad cludo nwyddau yn ystod y flwyddyn. I Gymru a'r Gorllewin, hyd yn oed pan ddiystyrir gweithredu diwydiannol wrth gyfrifo FDM-R, roedd y perfformiad yn dal i fod islaw'r targed.

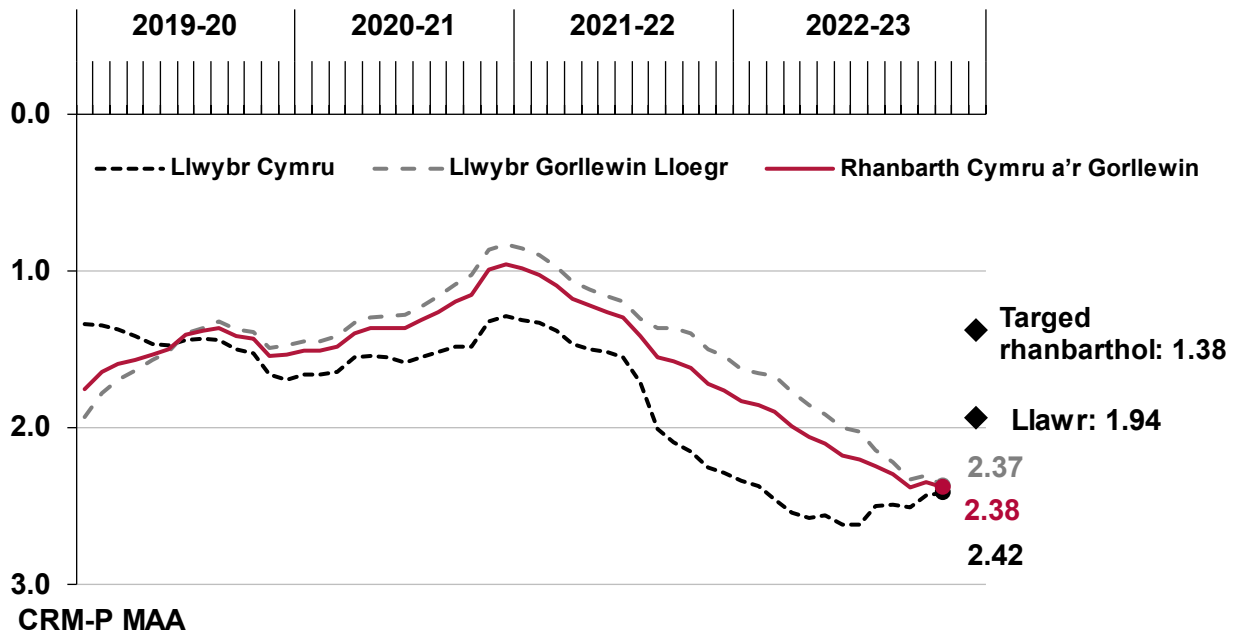
Ffigur 9.2 Perfformiad cludo nwyddau (FDM-R) rhanbarth a llwybrau Cymru a'r Gorllewin, data cyfnodol, mis Ebrill 2019 i fis Mawrth 2023



Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

9.11 Cynyddodd yr oedi a achosodd y rhanbarth i weithredwyr trenau teithwyr yn ystod y flwyddyn, gan syrthio'n sylweddol islaw targedau cerdyn sgorio. Roedd oedi a briodolir i Network Rail yn y rhanbarth yn 2.38 munud i bob 100 cilometr trên ym Mlwyddyn 4 o gymharu â 1.76 munud yn y flwyddyn flaenorol.

Ffigur 9.3 Perfformiad trenau teithwyr (munudau o oedi a achoswyd gan Network Rail, wedi eu normaleiddio, CRM-P) ar gyfer rhanbarth a llwybrau Cymru a'r Gorllewin, data cyfnodol, mis Ebrill 2019 i fis Mawrth 2023



Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

Effaith gweithredu diwydiannol a'r tywydd

9.12 O fis Mehefin 2022 ymlaen, mae gweithredu diwydiannol wedi effeithio ar berfformiad trenau yn y rhanbarth, er ei bod yn anodd mesur cyfanswm yr effaith. Gwelwyd yr effeithiau mewn llawer o ffyrdd, gan gynnwys oedi gyda gwaith cynnal a chadw a chymryd amser rheolwyr. Oherwydd yr effaith ar amser rheolwyr, nid yw Network Rail wedi gwneud y cynnydd a obeithiwyd mewn gweithredu ei System Reoli Gwella Perfformiad, un o'i ddulliau allweddol o alluogi gwell prydlondeb a dibynadwyedd.

9.13 Dioddefodd y rhanbarth o ddigwyddiadau glawiad mawr yn ystod yr hydref a'r gaeaf. Effeithiwyd ar lwybr Gorllewin Lloegr mewn sawl lleoliad, yn arbennig yn ardal Chipping Sodbury lle roedd llifogydd ym mis Ionawr eleni wedi golygu dargyfeirio trenau rhwng Llundain a de Cymru gan fod y llinell wedi cau.

Effeithiodd diffygion seilwaith a phroblemau gweithredol Cymru a'r Gorllewin ar berfformiad trenau

9.14 Mae llawer o broblemau seilwaith ar draws rhwydwaith Cymru a'r Gorllewin. Effeithiodd diffygion a methiannau amrywiol fathau o asedau ar berfformiad gwasanaethau trenau.

- 9.15 Achosodd perfformiad gwael offer llinell uwchben y rheilffordd sy'n dynesu at orsaf Paddington, Llundain, raddau uchel o oedi yn ystod y flwyddyn. Roedd y digwyddiad mwyaf arwyddocaol ddydd Llun 19 Medi 2022 (diwrnod Angladd Gwladol Ei Mawrhydi y Frenhines Elizabeth II), gyda methiannau pellach yn hwyrach y mis hwnnw. Er y digwyddiadau hyn, mae Network Rail wedi adnabod a gweithredu gwelliannau.
- 9.16 Roedd diffygion trac ar lwybr Gorllewin Lloegr, er enghraifft yn ardaloedd Caerloyw a Southall, yn broblem yn ystod y flwyddyn.
- 9.17 Arweiniodd cau traphont Nuneham, sy'n croesi Afon Tafwys ger Abingdon, Swydd Rhydychen, yn gynnar ym mis Ebrill 2023, at darfu helaeth ar weithredwyr gwasanaethau teithwyr a nwyddau. Ailagorodd Network Rail y llinell ar 9 Mehefin 2023 a disgwyliwn adrodd yn llawnach ar hyn yn yr asesiad blynyddol ar gyfer Blwyddyn 5.
- 9.18 Arweiniodd tirlithriadau at darfu rhwng Casnewydd a Chaerloyw. Mae'r rhanbarth wedi buddsoddi mewn offer monitro i ddarganfod symudiadau ac mae'n buddsoddi £25 miliwn i sefydlogi wyneb y clogwyn ger y llinell.
- 9.19 Parhaodd tresmasu a fandaliaeth i fod yn broblem ledled y rhanbarth, yn enwedig yn ardal Dyffryn Tafwys. Ymatebodd llwybr Gorllewin Lloegr trwy wneud amryw o ymyraethau mewn manau â phroblemau allweddol, megis gosod ffens ar ganol y platfform yn Slough.
- 9.20 Yn olaf, mae'r rhanbarth wedi cael heriau o ran adnoddau mewn lleoliadau allweddol gan gynnwys:
- Cafodd yr adnodd allweddol, Canolfan Signalau Dyffryn Tafwys (TVSC) brinder o signalwyr gan arwain at gau rhai 'paneli' signalu am gyfnodau byr a achosodd oedi sylweddol. Cyflymodd y rhanbarth ei raglen recriwtio a hyfforddi er mwyn sicrhau bod TVSC yn gallu rheoli'r gwaith o gyflwyno gwasanaeth newydd yr Elizabeth Line.
 - Ni chafodd tîm Priodoli Achosion o Oedi Cymru ddigon o adnoddau i gyflawni ei rôl yn effeithiol ar gychwyn y flwyddyn. O ganlyniad, roedd llawer o oedi na chafodd ei ymchwilio, a oedd yn llesteirio ymdrechion i wella perfformiad (gan ei bod yn anhysbys beth oedd gwraidd yr achos). Mae'r llwybr bellach wedi rhoi adnoddau i'r tîm ac maent wedi lleihau'n sylweddol yr achosion o oedi nas ymchwiliwyd iddynt.

Ymateb y rhanbarth i ddirywiad mewn perfformiad

- 9.21 Yn ein hasesiad blynyddol diwethaf, fe wnaethom adrodd fod y rhanbarth, mewn ymateb i berfformiad a oedd yn dirywio, yn datblygu cynllun gwella perfformiad. Cwblhawyd y cynllun hwn ym mis Gorffennaf 2022.
- 9.22 Mae'r cynllun yn canolbwyntio ar y canlynol:
- dibynadwyedd offer llinell uwchben rhwng Paddington a Heathrow (Uwchraddio/adnewyddu Cyfnod Rheoli 7);
 - cael gwared ar Gyfyngiadau Cyflymder Dros Dro;
 - gwella ymateb i oedi allanol;
 - gwella dibynadwyedd pwyntiau a thrac a chanolbwyntio ar reoli llystyfiant (gan gynnwys coed marw, rhai â chlefyd a rhai sy'n gwywo); a
 - datrys prinder staff priodoli oedi a signalau yn sgil problemau cadw staff.
- 9.23 Yn ystod y flwyddyn rydym wedi cydweithio'n agos gyda'r rhanbarth i fonitro cynnydd ar weithredu'r cynllun. Er ein bod yn fodlon bod camau yn y cynllun yn cael eu gweithredu, nid yw'r rhain eto wedi trosi'n well perfformiad i gwsmeriaid. Diweddarodd Cymru a'r Gorllewin ei gynllun gwella yn ystod y flwyddyn, gan gynnwys adolygu ei gynlluniau ar gyfer pryd y rhagwelir y bydd canlyniadau perfformiad yn gwella (Gorffennaf 2023). Byddwn yn monitro hyn yn ofalus ac yn cymryd camau pellach oni fydd gwelliannau mewn perfformiad trenau'n cael eu cyflawni.
- 9.24 Yn ogystal â'i gynllun gwella perfformiad, mae'r rhanbarth yn canolbwyntio ar wella ei ymateb i ddigwyddiadau, mater a amlygwyd fel maes i'w wella yn y bennod Trosolwg Cenedlaethol.
- 9.25 Mae gan y rhanbarth gynlluniau i osod ei system integredig i adfer gwasanaethau amserlen (ITSR) erbyn mis Mawrth 2024. Bydd hyn yn galluogi gwell ymateb gweithredol i ddigwyddiadau, gan wella canlyniadau i deithwyr. Bydd pob canolfan reoli yn y rhanbarth yn gweithio gyda'r system newydd hon. Er mwyn gwella gweithrediad gwasanaethau'r Elizabeth Line, cyflymwyd y gwaith o osod ITSR ar lwybr Gorllewin Lloegr.
- 9.26 Mae Gorllewin Lloegr yn casglu data hefyd i ddeall yn well amserau ymateb i ddigwyddiadau ar goridau allweddol Paddington i Reading. Bydd hyn yn gosod sail ar gyfer camau i wella rheolaeth o ddigwyddiadau yn y coridor hwn.

Cynlluniau gwella perfformiad yng Nghymru

9.27 Yng Nghymru, mae cynlluniau gwella perfformiad y rhanbarth wedi canolbwyntio ar feysydd fel:

- priodoli gwell wrth ymchwilio i achosion oedi (trwy fwy o adnoddau);
- gwella dibynadwyedd asedau trwy adnewyddu a chynnal a chadw wedi ei dargedu;
- gwella cydnerthedd (gan gynnwys trwy raglen o glirio llystyfiant);
- gwella rheolaeth o gyfyngiadau cyflymder dros dro; a
- gwella gweithrediadau o ddydd i ddydd.

9.28 Mae llwybr Cymru wedi mynd ati'n rhagweithiol hefyd i gyd-drafod â Thrafnidiaeth Cymru a Seilwaith Amey Cymru (sy'n rheoli seilwaith Llinellau Craidd y Cymoedd) i sefydlu cynllun teirochrog i wella perfformiad. Er bod perfformiad gwasanaethau trên wedi parhau'n wael yn ystod blwyddyn 4, rydym wedi gweld arwyddion cliriach fod canlyniadau perfformiad yn gwella yn y llwybr hwn.

Defnyddio cyllid arloesi perfformiad

9.29 Mae'r rhanbarth yn defnyddio'i Gyllid Arloesi Perfformiad (PIF), ond mae wedi bod yn araf i gyflawni prosiectau'r cyllid hwn. Erbyn mis Mawrth 2023, nid oedd ond wedi gwario 46% o'r £4.8 o gyllid roedd wedi ei ddyrannu ar gyfer Cyfnod Rheoli 6. Un cynllun mae wedi ei dreialu yw gweithredu mesurau i rwystro digwyddiadau marwol yn Slough, sy'n lle problemus o ran y digwyddiadau hyn.

Gwella tystiolaeth i gefnogi penderfyniadau ynghylch capasiti a mynediad

9.30 Mae rhanbarth Cymru a'r Gorllewin wedi cael anawsterau wrth gynhyrchu sail glir o dystiolaeth ar gyfer ei benderfyniad ar geisiadau mewn cystadleuaeth â'i gilydd am wasanaethau nwyddau a theithwyr rhwng Wreccsam a Bidston. Achoswyd hyn gan ddiffyg adnoddau a gwybodaeth yn y rhanbarth, rhywbeth mae wedi cychwyn ymateb iddo. Mae hwn yn faes pwysig a byddwn yn parhau i fonitro datblygiad gallu'r rhanbarth i asesu ceisiadau am fynediad mewn modd prydlon.

Mae angen rheoli asedau'n well

Mae asedau wedi mynd yn llai dibynadwy yn ystod y flwyddyn oherwydd dirywiad yn nibynadwyedd pwyntiau ac asedau pŵer trydan. Mae dibynadwyedd cyffredinol trac yn dal i fod yn broblem, yn enwedig ar lwybr Gorllewin Lloegr. Ni chafodd cynlluniau adnewyddu eu cyflawni'n llawn a rhaid gwella archwiliadau adeileddau.

Gwaethygodd dibynadwyedd asedau yn ystod y flwyddyn

- 9.31 Rhaid i Network Rail gynnal ac adnewyddu ei asedau mewn modd effeithlon, cynaliadwy i gefnogi gweithrediadau rheilffordd. Rydym yn mesur hyn trwy ddefnyddio'r Mynegai Cynaliadwyedd Cyfansawdd (CSI), sy'n cymharu cynaliadwyedd asedau hyd at ddiwedd Cyfnod Rheoli 4. Gorffennodd Cymru a'r Gorllewin y flwyddyn gyda CSI o -0.1% . Golyga hyn fod cynaliadwyedd cyffredinol asedau wedi gostwng 0.1% ers diwedd Cyfnod Rheoli 4. Mae hyn yn is na thrywydd y rhanbarth i Gyfnod Rheoli 6, sef gorffen y cyfnod rheoli gyda gwelliant CSI o 0.2% .
- 9.32 Gan fod CSI yn symud yn araf, rydym yn ategu ein monitro ohono trwy edrych ar fetrigau eraill ar gyfer rheoli asedau, gan gynnwys mesurau o ddibynadwyedd asedau, a cyflawni gwaith cynnal ac adnewyddu.
- 9.33 Gwaethygu a wnaeth dibynadwyedd asedau Cymru a'r Gorllewin, fel y caiff ei fesur trwy ddefnyddio'r Mynegai Dibynadwyedd Cyfansawdd (CRI), yn ystod y flwyddyn. Cyfrannodd hyn at berfformiad gwael trenau yn y rhanbarth. Gorffennodd y rhanbarth y flwyddyn gyda sgôr CRI o 2.6% o gymharu â tharged cerdyn sgorio o 4.0% . Golyga hyn ei fod 1.4 pwynt canran o dan ei darged cerdyn sgorio blynyddol, ond 2.6% yn well nag oedd ym mlwyddyn olaf Cyfnod Rheoli 5. Roedd dibynadwyedd asedau yng Nghymru yn arbennig o wael.
- 9.34 Mae dibynadwyedd asedau pwyntiau yn enwedig wedi dirywio y flwyddyn hon. Effeithiwyd ar ddibynadwyedd pwyntiau gan y tywydd poeth ar ddiwedd mis Gorffennaf 2022 a thywydd oer yn hwyrach yn y flwyddyn. Cafodd gweithredu diwydiannol effaith hefyd, gan greu ôl-groniad o weithgarwch cynnal a chadw.
- 9.35 Cychwynnodd dibynadwyedd asedau pŵer trydan hefyd ddirywio ar ôl gwelliant nodedig ym Mlwyddyn 3. Effeithiwyd ar ddibynadwyedd gan rai digwyddiadau mawr yn ystod y flwyddyn, gan gynnwys problemau gyda chyrydu yn nhwnnel Hafren.

9.36 Fel yr amlinellwyd uchod, roedd diffygion trac ar lwybr Gorllewin Lloegr yn broblem yn ystod y flwyddyn. Mae'r rhanbarth wedi cymryd camau i wella dibynadwyedd trac trwy gyflawni gwaith adnewyddu asedau allweddol a gosod offer monitro i wella dibynadwyedd.

Ni chafodd cynlluniau adnewyddu asedau eu cyflawni'n llawn

9.37 Mae'n hanfodol fod rhanbarthau Network Rail yn adnewyddu asedau sydd wedi dod i ddiwedd eu hoes ddefnyddiol mewn modd prydlon. Rydym yn monitro'r cyfansymiau effeithiol o waith a gyflawnir mewn mathau allweddol o asedau am bob blwyddyn o'r cyfnod rheoli. Yn gyffredinol, cyflawnodd y rhanbarth 81.2% o'r cyfansymiau a gynlluniwyd ganddo ystod y flwyddyn. (Roedd y tan-gyflawni yn bennaf oherwydd gohirio un prosiect signalu, fel y nodir isod).

9.38 Cyflawnodd Cymru a'r Gorllewin y cyfansymiau effeithiol a gynlluniodd ar gyfer adnewyddu asedau mewn tri o'r pum math o asedau perthnasol (Gweler Ffigur 9.4). Roedd cyfansymiau signal yn sylweddol islaw'r targed oherwydd gohirio prosiect ail-signalu Port Talbot i Flwyddyn 5. Roedd cyfansymiau llinellau plaen o drac hefyd yn is na'r targed o ganlyniad i weithredu diwydiannol.

Ffigur 9.4 Cyfansymiau effeithiol (adnewyddu) Cymru a'r Gorllewin, data blynyddol, mis Ebrill 2022 i fis Mawrth 2023

Mae symiau gwirioneddol a symiau'r hyn a gynlluniwyd wedi eu talgrynu; caiff y ganran a gwblhawyd ei chyfrifo o rifau heb eu talgrynu. Mae canran a gwblhawyd sy'n fwy na 100% yn dangos cyflawni mwy na'r cyfansymiau a gynlluniwyd. Nid yw rheiliau dargludo yn berthnasol i'r rhanbarth hwn.

Allwedd: ■ **G** (Gwyrdd): Uwchlaw'r cyfansymiau a gynlluniwyd ■ **R** (Coch): Islaw'r cyfansymiau a gynlluniwyd

Ased	Gwirioneddol	Cynlluniwyd	Cwblhawyd	Canran a gwblhawyd
Cloddweithiau	99	59	G	169%
Trac: Llinell blaen	207	227	R	91%
Trac: Switsys a chroesfannau	42	36	G	119%
Signalau	22	149	R	15%

Ased	Gwirioneddol	Cynlluniwyd	Cwblhawyd	Canran a gwblhawyd
Adeileddau: Pontydd	3,349	3,036	G	110%
Pob ased (cyfanswm a bwysolwyd)	<i>Ddim yn berthnasol</i>	<i>Ddim yn berthnasol</i>	R	81.2%

Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

Rhaid gwella archwiliadau adeileddau

- 9.39 Fel gyda rhanbarthau eraill, mae angen i Gymru a'r Gorllewin wella ei brosesau ar gyfer archwilio adeileddau a lleihau ei ôl-groniad. Ar ddiwedd Blwyddyn 4, roedd 1,388 o achosion o ddiffyg cydymffurfio ag archwilio adeileddau, o fewn portffolio rhanbarthol o 13,824 o asedau.
- 9.40 Dechreuodd ein pryderon ynghylch diffyg cydymffurfio ddwysáu yn 2021, ond nid yw'r cynnydd wedi bod yn ddigon da, ac, mewn rhai achosion, mae cyfraddau cydymffurfio wedi dirywio. Wrth deimlo rhwystredigaeth ynghylch y diffyg cynnydd, dwysaodd ein pryderon ymhellach tuat at ddiwedd Blwyddyn 4, ac ysgrifennu i Network Rail ar y mater hwn. Mae pob rhanbarth bellach wedi cytuno i gynllun gwaith ar gyfer cael gwared ar ddiffyg cydymffurfio erbyn diwedd mis Awst 2023.

Ôl-groniadau archwiliadau ehangach

- 9.41 Mae gan bob rhanbarth ôl-groniadau o archwiliadau manwl o adeiladau allweddol ar ochr y rheilffyrdd. Mae Cymru a'r Gorllewin wedi gweithredu rhaglen adfer bum-mlynedd (2023 i 2028) ar gyfer yr archwiliadau hyn gyda rhaglen arolygu weledol ychwanegol i'w chwblhau erbyn diwedd Blwyddyn 5. Byddwn yn parhau i fonitro cynnydd y rhanbarth er mwyn sicrhau ei fod yn glynu at ei gynllun adfer ac yn gwella gwybodaeth o asedau.

Llwyddodd Cymru a'r Gorllewin gyda'i darged amgylcheddol

- 9.42 Cyrhaeddodd y rhanbarth ei darged blynyddol cyffredinol ar gyfer Mynegai Cynaliadwyedd Amgylcheddol (ESI) a dyma'r lle a berfformiodd orau o'r holl ranbarthau. Roedd amrywiad bach yn perfformiad ar sail y mesurau unigol o fewn y mynegai cyffredinol. Rhagorodd y rhanbarth ar y targed ar gyfer aildefnyddio neu ailgylchu gwastraff nad yw'n beryglus, lleihau allyriadau carbon a defnydd ynni mewn perthynas â gweithgareddau ansymudol, ond methodd y targed ar gyfer y ganran o wastraff peryglus a gafodd ei ddargyfeirio o safleoedd tirlenwi.

- 9.43 Gwnaeth y rhanbarth gynnydd da gydag effeithlonrwydd ynni yn ei unedau cynnal a chadw ac ar safleoedd cyfathrebu (gan ddefnyddio gwres a phŵer cyfunol ar gyfer systemau oeri ag aer mewn safleoedd GSM-R).
- 9.44 Fodd bynnag, fel yn y rhan fwyaf o ranbarthau drwy gydol Blwyddyn 4, effeithiwyd ar adroddiadau ESI gan ansawdd gwael data a phroblemau gyda sicrwydd a llywodraethu ynghylch perfformiad ynni. Rydym wedi tynnu sylw pellach at y mater hwn gyda Network Rail i ddeall sut y bydd yn mynd i'r afael â'r problemau hyn.
- 9.45 Mae Cymru a'r Gorllewin yn gwneud rhywfaint o gynnydd hefyd ar welliannau bioamrywiaeth, gyda phwyslais ar ddilysu data a gynhyrchir ar lefel genedlaethol ar gyfer cynefinoedd ar ei ystad.
- 9.46 Roedd adnoddau ar gyfer swyddi ecolegwyr yn bryder yn ystod y flwyddyn, gan arwain at oedi mewn gwaith a gafodd ei gynllunio. Fe wnaethom gyflawni [adolygiad adrodd annibynnol](#) o reoli llystyfiant ar ochr y rheilffordd gan Network Rail yn ystod y flwyddyn. Roedd hyn yn amlygu cyfleoedd i wella o ran llywodraethu, rheoli ac adrodd ar gynefinoedd a bioamrywiaeth ar lefel genedlaethol a rhanbarthol.

Llwyddodd y rhanbarth yn dda gyda phrosiectau gwella

- 9.47 Yn ystod y flwyddyn cyflawnodd y rhanbarth yn dda gyda'i brosiectau gwelliannau. Mae'r prosiectau hyn wedi cefnogi galluoedd gweithredu newydd a chryfhau cydnerthedd y rhwydwaith, gyda sawl cynllun sylweddol yn dod ar waith.
- 9.48 Roedd datblygiadau allweddol yn cynnwys adeiladu cysgod rhag cwmp creigiau yn Parsons Tunnel, uwchraddio'r System Ewropeaidd Rheoli Trenau (ETCS) ar Reilffordd y Cambrian a gweithiau yn Rhydychen i baratoi ar gyfer adeiladu platfform newydd, mynedfa i'r orsaf a phont newydd i gymryd lle'r un bresennol ar Botley Road.
- 9.49 Mae sawl cynllun y bwriedir symud ymlaen â hwy dros y 12 mis nesaf a'r tu hwnt a fydd yn cyflwyno gwelliannau pellach i ranbarth Cymru a'r Gorllewin. Mae'r rhain yn cynnwys ailsefydlu'r Portishead Line (sydd bellach yn symud ymlaen wedi oedi estynedig a heriau o ran costau), cynllunio a chreu gorsafodd newydd yn Wellington a Cullompton a gweithiau i hwyluso adeiladu gorsaf gyfnewid newydd HS2 yn Old Oak Common.

Mae'r rhanbarth ar drywydd effeithlonrwydd cadarn

Cyflawnodd Cymru a'r Gorllewin £43 miliwn yn fwy o effeithlonrwydd na'i drywydd gwreiddiol ar gyfer Cyfnod Rheoli 6. Dengys prif ddangosyddion y rhanbarth ar gyfer cyflawni effeithlonrwydd ei fod mewn sefyllfa dda i gyflawni ei weithgareddau effeithlonrwydd ym Mlwyddyn 5. Tan-berfformiodd y rhanbarth yn ariannol ym Mlwyddyn 4 o £220 miliwn.

- 9.50 Wrth gydnabod y pwysau ariannol cynyddol o godiadau mewn costau, a ddaeth yn annisgwyl i raddau helaeth, cynyddodd Network Rail ei darged effeithlonrwydd ar gyfer Prydain Fawr yng Nghyfnod Rheoli 6 o £3.5 biliwn a osodwyd yn y penderfyniad gwreiddiol, i £4.0 biliwn, gyda'r cynnydd a gynllunir yn dod yn bennaf o fentrau diwygio gweithluoedd. I gyflawni hyn, ymestynnwyd targedau pob un o'r rhanbarthau yng Nghyfnod Rheoli 6 a chynhwysir y targed diwygiedig (estynedig) hwn yng nghynllun cyflawni blynyddol y rhanbarth.
- 9.51 Ym Mlwyddyn 4, cyflawnodd Cymru a'r Gorllewin £159 o effeithlonrwydd. Methodd o fymryn (o tua 8%) darged ei gynllun gweithredu diwygiedig o £172 miliwn ond cyflawnodd 37% (£43 miliwn) yn fwy na thrywydd gwreiddiol y rhanbarth am Gyfnod Rheoli 6.
- 9.52 Ni chyrrhaeddodd y rhanbarth darged ei gynllun gweithredu oherwydd roedd effeithlonrwydd yn sgil moderneiddio staff yn is na'r hyn a gynlluniwyd ar gyfer y flwyddyn. Roedd rhai o fentrau effeithlonrwydd allweddol y rhanbarth a gyflawnodd welliannau yn ystod y flwyddyn yn dod o dâl a buddion, gwell strategaethau contractio ac optimeiddio mynediad.
- 9.53 Drw gydol pedair blwyddyn gyntaf y cyfnod rheoli, cyflawnodd y rhanbarth 76% o'i welliannau effeithlonrwydd a gynlluniodd (o gymharu â'r targed estynedig). Mae hyn yn gyson â pherfformiad yn y rhanbarthau eraill, ond bydd angen i Gymru a'r Gorllewin reoli ei welliannau effeithlonrwydd yn ofalus yn y flwyddyn olaf i gyrraedd ei darged Cyfnod Rheoli 6.
- 9.54 Dengys prif ddangosyddion Cymru a'r Gorllewin y bydd 96% o'i welliannau effeithlonrwydd yn cael eu cyflawni o brosiectau sydd eisoes wedi cael eu cyflawni neu sydd â chynlluniau prosiect clir, gan awgrymu bod y rhanbarth wedi paratoi'n dda i gyflawni ei weithgareddau effeithlonrwydd ym Mlwyddyn 5. Mae hyn 12 pwynt canran yn uwch na'r cyfartaledd cenedlaethol o 84% dyma'r uchaf o'r holl ranbarthau. Mae 113% o'r prosiectau adnewyddu a gynlluniwyd ar gyfer y

rhanbarth wedi derbyn awdurdod ariannol, gyda'r awdurdod ychwanegol wedi eu gymeradwyo i leihau llithriadau o ran amser. Mae 83% o ganiatâd tarfu y rhanbarth hefyd wedi cael ei sicrhau, sy'n uwch na'r cyfartaledd cenedlaethol o 77%. Yn gyffredinol, mae'r prif ddangosyddion yn rhoi hyder ym mharodrwydd y rhanbarth i gyflawni ei gynlluniau ar gyfer Blwyddyn 5 Cyfnod Rheoli 6. Byddwn yn parhau i fonitro'r rhain.

- 9.55 Roedd tan-berfformiad ariannol ehangach Cymru a'r Gorllewin yn ystod y flwyddyn yn £220 miliwn. Fel gyda rhanbarthau eraill, roedd hyn yn bennaf oherwydd gweithredu diwydiannol, perfformiad gwael trenau ac amodau tywydd eithafol – ac o ganlyniad talodd Network Rail iawndal trwy gyfundrefnau cymell atodlen 4 ac 8. Effeithiodd y problemau hyn ar waith adnewyddu hefyd gan arwain at gyfansymiau is yn cael eu cyflawni, yn enwedig o ran trac ac adeileddau. Llwyddodd y rhanbarth i ragori ar ei gyllidebau gwariant gweithredol trwy fesurau rheoli costau.
- 9.56 Byddwn yn cyflwyno dadansoddiad pellach o berfformiad ariannol y rhanbarth yn ein Asesiad Blynyddol o Effeithlonrwydd a Chyllid a amserlennwyd ar gyfer ei gyhoeddi ym mis Medi. Bydd yr adroddiad hwn yn archwilio perfformiad ariannol y rhanbarth mewn perthynas â'i gynllun gweithredu ar gyfer Cyfnod Rheoli 6.

Ni chyrrhaeddwyd y targedau iechyd a diogelwch ar gyfer y flwyddyn

Ni chyflawnodd y rhanbarth yn unol â'i dargedau blynyddol iechyd a diogelwch. Bu gwelliant yn niogelwch gweithwyr trac, ac mae'r rhanbarth wedi parhau i symud ymlaen gydag argymhellion yr Arglwydd Mair o ran gwybodaeth o asedau draenio.

Diogelwch gweithwyr trac

- 9.57 Ym mis Gorffennaf 2022, daeth yr ORR i'r casgliad fod Network Rail wedi cydymffurfio a'i Rybuddion Gwella sy'n gysylltiedig â diogelwch gweithwyr trac. Daethom i'r casgliad fod Cymru a'r Gorllewin wedi gwneud cynnydd sylweddol wrth wella sicrwydd, gan ddefnyddio staff gwybodus ac annibynnol i gyflawni'r gweithgareddau monitro. Rydym o'r farn y dylid ehangu'r sicrwydd hwn y tu hwnt i ddiogelwch gweithwyr trac, gan fod ganddo'r potensial o gyflawni'r gwirio penodol o ansawdd uchel roedd y rhanbarth wedi bod yn fyr ohono.
- 9.58 Mae'r rhanbarth yn cynllunio mwy o welliannau i ddiogelwch gweithwyr trac. Mae llwybr Cymru wedi cadarnhau ei fod wedi ymrwmo i gyflwyno dyfeisiadau datgysylltu o bell a gwnaed cais am gyllid ar gyfer Cyfnod Rheoli 7, law yn llaw â

chyllid ar gyfer mentrau eraill. Mae Gorllewin Lloegr wedi gwneud ceisiadau tebyg i ariannu technoleg a chyflogi gweithwyr i gefnogi ei raglen Tasglu Diogelwch.

Camau i reoli risg tywydd yn well

Rheoli draenio

- 9.59 Yn ystod y flwyddyn, gwnaethom arolygiadau fel rhan o'n rhaglen genedlaethol yn dilyn y digwyddiad marwol pan ddaeth trê'n oddi ar y cledrau yn Carmont, gan adeiladu ar waith a wnaed ym Mlwyddyn 3. Buom yn ceisio barnu sut roedd pob rhanbarth yn symud ymlaen gydag argymhellion a wnaed gan yr Arglwydd Mair yn ymwneud â gwella rheoli cloddweithiau, draenio a chydnerthedd. Ar gyfer draenio, buom yn adolygu dull y rhanbarth o ran adnoddau a'i wybodaeth o asedau – yn enwedig cwblhau rhestrau eiddo draenio mewn ffordd amserol ac effeithiol. Mae'r gwaith hwn yn hanfodol yn wyneb y risgiau cysylltiedig, felly rydym wedi parhau i bwysleisio'n benodol ar sut mae Network Rail yn ymateb i'r ddau faes hwn.
- 9.60 Roedd canfyddiadau o'n harolygiadau yn gyffredinol gadarnhaol. Mae'r rhanbarth yn rhagweld y bydd yn cynnwys yr holl asedau yng nghyfundrefn arolygu reolaidd y rhanbarth ac y bydd adnoddau draenio gwell yn eu lle erbyn diwedd Cyfnod Rheoli 6.

Diogelwch galwedigaethol

- 9.61 Methodd Cymru a'r Gorllewin ei dargedau diogelwch galwedigaeth am y flwyddyn. Methodd â chyrraedd ei dargedau cyfradd amllder amser a gollwyd oherwydd anafiadau (LTIFR) a marwolaethau ac anafiadau wedi eu pwysoli (FWI, mesur o ddifrifoldeb damwain). Adroddodd y rhanbarth yr effeithiwyd ar FWI gan y nifer o anafiadau a nodwyd fel rhai a bwysolwyd yn uwch yn cynyddu o 5 ym Mlwyddyn 3 i 8 ym Mlwyddyn 4.

Iechyd galwedigaethol

Rheoli mygdarth weldio

- 9.62 Roedd ein harolygiadau yn ystod y flwyddyn yn cadarnhau fod gan y rhanbarth ddealltwriaeth glir o'r risg o fygdarth weldio. Fodd bynnag, roedd y mesurau i reoli'r risg hwn yn cael eu gweithredu mewn modd anghyson. Roedd rhai staff yn wybodus am y risg a'r rheolaethau, gan fod yn rhagweithiol hefyd wrth dreialu offer i liniaru risg yn well. Roedd eraill yn llai gwybodus ac nid oeddent yn gweithredu'r mesurau rheoli, megis ardaloedd dan waharddiad, neu'n eu gweithredu'n anghywir.
- 9.63 Amlygodd ein harolygiadau bwysigrwydd sicrwydd effeithiol i adnabod anghysondebau a diffyg dealltwriaeth. Yn benodol, buom yn pennu camau i'r

rhanbarth wneud gwiriadau annibynnol ychwanegol o offer diogelu anadliadol – gan rywun heblaw'r defnyddiwr.

Asedau penodol

Croesfannau

- 9.64 Fe wnaethom barhau i fonitro rhaglen y rhanbarth ar gyfer gosod goleuadau stopio troshaen bach (OMSLs) i groesfannau goddefol ar draws y ddau lwybr. Gwnaeth llwybr Gorllewin Lloegr gynnydd da wrth gwblhau'r rhaglen a gynlluniwyd. Roedd llwybr Cymru y tu ôl i'w gynllun, sy'n siomedig, gan fod cyllid wedi ei ddyrannu, a chroesfannau wedi eu dewis ar gyfer eu gosod.
- 9.65 Fe wnaethom hi'n ofynnol i lwybr Cymru gyflawni dadansoddiad bylchau i ganfod pan ei fod y tu ôl i'r cynllun a sut y gallai ddal i fyny. Datgelodd y dadansoddiad diffyg nawdd i brosiectau, adnoddau'n cael eu dargyfeirio i ymateb i ddigwyddiadau mawr, a chymhlethdodau safleoedd. Hyd yma, mae 16 o groesfannau wedi cael eu huwchraddio, gydag 8 wedi eu cwblhau ym Mlwyddyn 4 ac 8 pellach wedi eu pennu ar gyfer Blwyddyn 5 Cyfnod Rheoli 6. Mae'r diffyg cynnydd yn siomedig, a byddwn yn parhau i fonitro'r gwaith er mwyn sicrhau blaenoriaeth i'r rhaglen hon.

Rheoli llystyfiant

- 9.66 Yn ystod y flwyddyn buom yn ymchwilio i drefniadau'r rhanbarth ar gyfer rheoli llystyfiant yn effeithiol ar adeileddau ac adeiladau, a cheisio gwelliannau lle bo hynny'n ofynnol.
- 9.67 Ar lwybr Cymru canfuom nad oedd dim system o sicrwydd ar safleoedd o ganfyddiadau arolygu ac archwilio contractwyr. Gallai hyn fod wedi arwain at anghysondeb neu anghywirdeb mewn adroddiadau archwilio. Mae arolygiadau ar safle gan beirianwyr y llwybr wedi cael eu defnyddio o'r blaen fel rhan o'i broses sicrwydd ond ni wneir hynny mwyach. Mae hyn wedi arwain at fwch yn ei broses sicrwydd. Rydym yn cyd-drafod â'r rhanbarth i ddeall sut mae'n bwriadu mynd i'r afael â'r diffygion a ganfuwyd.

Diffygion trac / diffygion mewn twnelau

- 9.68 Gwnaethom arolygiadau yn y rhanbarth yn dilyn digwyddiadau o gledrau'n torri mewn twnelau ar lwybr Gorllewin Lloegr. Nid yw methiannau o'r fath a welwyd yn rhai y gellir eu darganfod trwy ddulliau traddodiadol ar hyn o bryd. Mae Network Rail yn cyflawni ymchwil i geisio ateb, ond yn y cyfamser, mae'r llwybr yn gwneud mwy o fonitro a rheoli cledrau. Nod y rhanbarth yw datblygu cynlluniau penodol ac unswydd i reoli twnelau ar sail y risgiau a ganfuwyd o fewn ei dwnelau.

Cyd-drafod â rhanddeiliaid

- 9.69 Rydym yn monitro'r graddau mae Network Rail yn cyd-drafod a chydweithio â'i gymuned o randdeiliaid yng Nghyfnod Rheoli 6, ac fe wnaethom adrodd ar hyn ddiwethaf yn ein [asesiad blynyddol o berthynas Network Rail â'i randdeiliaid](#) ym mis Medi 2022.
- 9.70 Yn yr asesiad hwnnw, roeddem yn pwysleisio bod Cymru a'r Gorllewin wedi dangos tystiolaeth o gydweithio da gdyda rhanddeiliaid ond bod angen iddo roi ystyriaeth ddifrifol i gwmp mewn canlyniadau arolwg, yn enwedig sut mae'n rheoli disgwyliadau rhanddeiliaid a bodlonrwydd rhanddeiliaid.
- 9.71 Mae'r rhanbarth yn adrodd ei fod, yn ystod y flwyddyn, wedi gweithio gyda'i randdeiliaid ar redeg y rhwydwaith rheilffordd o ddydd i ddydd (gan ymdrechu i wella cyfathrebu gyda gweithredwyr gwasanaethau teithwyr a nwyddau pan fo digwyddiadau). Roedd y rhanbarth hefyd yn adrodd pwyslais ar ei gynllunio mwy hirdymor, yn enwedig ar gynllunio busnes Cyfnod Rheoli 7 – esboniodd sut roedd wedi profi sawl gwahanol fodel gydag amrywiol lefelau o gyllid gyda rhanddeiliaid a thrafod canlyniadau posibl gwahanol senarios.
- 9.72 Bydd ein hasesiad blynyddol, 'Annual Assessment of Network Rail's stakeholder engagement', y disgwyliwn ei gyhoeddi ym mis Medi 2023, yn adolygu effeithiolrwydd perthynas y rhanbarth â'i randdeiliaid mewn mwy o fanylder.



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