

Annual Assessment of Network Rail

April 2021 to March 2022

20 July 2022



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Executive Summary

1. The Office of Rail and Road 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 2021 to 31 March 2022, the third year of Control Period 6 (CP6) which runs from 1 April 2019 to 31 March 2024. 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. The overall performance of the company was mixed. Network Rail played its part in keeping the railway running safely and efficiently despite continued challenges from the coronavirus (COVID-19) pandemic. [Recent data](#) confirms that we continue to have one of the safest railways in Europe. While train performance worsened from the record levels of the previous year as the network became busier, it was generally at acceptable levels. Most regions met or exceeded their annual efficiency targets for the year, and overall Network Rail reported £840 million of efficiency improvements for the year, ahead of its £830 million target.
4. However, Network Rail needs to make improvements to how it manages its assets. Asset reliability varied across each of Network Rail's five regions, both Eastern and Southern regions achieved their asset reliability targets, but North West and Central, Wales and Western, and Network Rail Scotland failed to achieve their targets for the year.
5. Train performance in the Wales and Western region declined more quickly than in other regions and its asset management needs to improve to support better performance for passengers and freight users. Network Rail Scotland also has train performance challenges, and we are concerned about its ability to fulfil the commitments it made in CP6. It has limited risk funding remaining for the rest of CP6 and has decided to defer significant volumes of renewal work to compensate. This is likely to impact the future performance of the network.
6. Our key findings are set out below.

The pandemic continued to impact on the operation of the railway

7. Operation of the railway from April 2021 to March 2022 (referred to as 'year 3' throughout this document) continued to be affected by the many challenges presented by the pandemic.
8. The industry had to mitigate varying and often high levels of staff absence. At times, this resulted in higher service cancellation rates, largely due to train operator staff being unable to work or self-isolating because of COVID-19.
9. During the year, while train performance did decline it remained generally better than before the pandemic. The industry continued to work together to implement timetable changes at short notice. Network Rail continued to run a safe railway and to deliver vital engineering works.
10. Passenger numbers started to increase during the year but remain lower than they were before the pandemic. Latest [published official statistics](#) show that a total of 990 million rail passenger journeys were made in Great Britain during April 2021 to March 2022. This was more than double the 388 million recorded the previous year. It equates to 56.9% of 1,739 million journeys made during April 2019 to March 2020, prior to the pandemic.
11. While passengers started to return to rail, industry revenues remained significantly below pre-pandemic levels. Total passenger revenue in Great Britain was £5.9 billion for the year April 2021 to March 2022. This was nearly three times the £2.0 billion (when using November 2021 prices) generated in the previous year. It is equal to 54.0% of the £11.0 billion generated two years ago. Given the shortfall in passenger revenue, governments continued to support the railway. The industry is responding to this challenge by identifying options to reduce costs. Network Rail remains confident in its ability to deliver the £3.5 billion efficiency improvements we required in CP6. It has also committed to delivering £0.5 billion of further savings.

Train service performance declined but was largely kept at higher levels than pre-pandemic. Performance in the Wales and Western region declined faster than in other regions and we are seeking improvement

12. In the previous year (April 2020 to March 2021, year 2 of CP6), train service and passenger numbers on the network were at historically low levels. Both passenger and freight train performance during this period were at record levels. Evidence of this trend is provided in our [Passenger rail performance](#) and [Freight rail usage and performance](#) statistical releases.

13. As above, passenger numbers increased throughout year 3 (although were reduced between Christmas and New Year because of the spread of the Omicron variant). Services were also reintroduced, meaning more trains ran on the network than in the previous year. Both changes put pressure on delivery of train performance.
14. Throughout year 3, passenger and freight train performance declined from the record levels of the previous year but remained better than pre-pandemic levels. Our own analysis suggests that performance during the year was broadly where we would have expected it to be, based on the relationship between On Time (i.e. the percentage of recorded station stops arrived at early or less than one minute after the scheduled arrival time as per timetable) and passenger usage.
15. However, train performance in the Wales and Western region (particularly in the Wales route), declined more quickly than in other regions and was poor compared to its pre-pandemic levels. We identified the downward trend and acted early (before any regulatory minimum levels were breached) to protect rail users. We challenged the region to assess the reasons for the rate of decline and to provide consolidated, prioritised, timebound plans for delivering train performance improvements.
16. In response, the Western route shared a wide range of initiatives that it was taking forward. These included a joint Network Rail and train operator plan (named Fusion), which focused on the Didcot Parkway to London Paddington lines, and a plan to replace unreliable train detection equipment between Paddington and Airport Junction, the latter carried out in December 2021. The route also produced a focused plan to improve performance of the West of England service route via Westbury, which had been affected by poor track quality.
17. Performance on the Wales route is of greater concern and its initial response was less comprehensive. We pressed the route for its improvement plans and have now seen evidence that they are in development. These plans must now be finalised urgently and delivered. We will continue to monitor this closely and take action if there is insufficient progress.
18. During the year, Network Rail Scotland also did not achieve its train service performance targets and it fell below the regulatory minimum level for Network Rail attributed delays. The region proactively put in place a joint performance improvement plan with ScotRail Trains Limited which included targeted interventions for the areas causing delay. We are monitoring Network Rail Scotland's delivery of this improvement plan closely and will take action if we identify concerns.
19. In November 2021, we concluded our investigation into Network Rail's impact on poor performance in the North West and Central region. The region had substantively addressed all the recommendations from our investigation and train performance management in the region had improved.

20. While we recognise Network Rail has a devolved regional structure, we do expect it to identify and share best practice across each of the regions. Our monitoring of performance during the year indicates that sharing of best practice between regions needs to be improved, in particular the sharing of performance improvement initiatives and plans. The comparison between the response to declining performance in the Wales and Western region to that of Network Rail Scotland is an example of this. We will continue to encourage each of the regions to share best practice.
21. During year 3, freight performance also declined across most regions with the network becoming more heavily used as pandemic restrictions eased. In our last [annual assessment](#), we noted concerns with Network Rail Scotland's delivery of freight performance targets as it was the only region that was below its annual target. In year 3, Network Rail Scotland delivered stronger performance and was the only region to achieve its freight performance target.
22. Severe weather, including the five named storms, continued to impact Network Rail's delivery of train performance to both passenger and freight operators.
23. To support our review of Network Rail's contribution to train performance, we commissioned [independent reporter work](#) to review its approach to developing and delivering joint performance strategies with train operators.
24. The reporter found that Network Rail had made some good progress in improving its performance management capability following the provisional order that we issued in 2018, but there was more to do. There was good evidence of collaboration between Network Rail and train operators. The plans and projects in strategies were being delivered across all the routes sampled, but the monitoring and reporting of delivery could be improved. The reporter also found a need for greater focus on the estimation of benefits, and benefits realisation. We will follow up to ensure the independent reporter's recommendations are acted upon.

Network Rail must ensure sustained, co-ordinated oversight to deliver long-term safety improvements and manage the impact of future reforms

25. During year 3, we commenced a programme of inspections to assess Network Rail's response to recommendations made in reports by Dame Julia Slingo and Lord Robert Mair following the fatal Carmont derailment in 2020. We reviewed Network Rail's action plans and inspected its management of drainage assets against relevant Network Rail standards. We also monitored Network Rail's operational response to extreme weather events.

26. We found that Network Rail had a prioritised programme of action plans to address the recommendations. It must now ensure sustained, co-ordinated oversight of the many complex and interdependent work streams to deliver long-term improvements.
27. Network Rail must manage change effectively to ensure safe delivery of reform. We are monitoring the progress of its workforce modernisation plans. It is important that safe delivery is not compromised, and we will continue to engage with Network Rail to ensure it is managing the impact of these plans on its retention of corporate knowledge.

Network Rail's delivery of efficiencies remains strong. However, wider financial performance has declined, and financial risks need to be carefully managed across the rest of CP6, particularly in Scotland

28. The financial impact of the pandemic on Network Rail reduced in year 3 due to the recovery in passenger journeys. Network Rail has reported £840 million of efficiency improvements for the year, ahead of its £830 million target. However, wider financial performance has declined and there is a cumulative financial underperformance of around £900 million across the first three years of CP6. This is largely due to cost increases associated with the pandemic, inflationary pressures and other factors.
29. Recognising the increased financial pressures from largely unanticipated cost increases, Network Rail has increased its CP6 efficiency target from the £3.5 billion set in the final determination, to £4.0 billion, with the planned increase coming mostly from workforce reform initiatives. The current economic conditions and planned increases to volumes of work to be delivered in the last two years of CP6 mean that Network Rail will have to carefully manage its financial risks with limited available risk funding.
30. Most regions met or exceeded their annual efficiency targets. However, Southern reported £190 million of efficiencies which was 8% behind its target for the year (£206 million), but 17% more than its original CP6 trajectory of £163 million. Network Rail Scotland delivered significantly less than planned. It reported £64 million of efficiencies in the year, which was 21% behind the target that it set itself at the start of the year (£82 million).
31. We are particularly concerned about Network Rail Scotland's ability to deliver its CP6 efficiency target. Its current funding challenges may result in further deferrals of renewals activities into CP7, discussed below, with consequent sunk costs and lost efficiencies.

Network Rail's delivery of renewal work varied by region and performance of its infrastructure was mixed. All regions must improve on structures examinations

32. At a network-wide level, Network Rail delivered 101% of its planned effective renewals volumes (in which volumes are weighted to reflect the asset life added by each type of work). But performance varied across regions and asset categories. Eastern was the only region to exceed its target for the year, achieving 113% of its planned volumes. Network Rail Scotland was the worst performing region, achieving only 87% of its planned volumes.
33. Significant volumes of renewal work which had been planned for year 3 were delayed to later in the control period. For example, earthwork renewals were deferred in Wales and Western, Network Rail Scotland and Southern regions. Overhead Line Equipment (OLE) renewal reporting was impacted by errors in Eastern region's plan (its annual target was incorrect) and deferrals in North West and Central. Track renewals were delayed in North West and Central, Network Rail Scotland and Southern regions due to problems with High Output machines. Network Rail must ensure that it has adequate mitigation in place to address any risks arising from deferred and/or cancelled work.
34. While we expect some reprioritisation of renewals delivery during the control period, there has been clear movement of renewals volumes into the final two years of CP6. All regions are confident in their ability to deliver these renewals, but we consider that this will be challenging and there is a risk that some schemes will not be completed in CP6 and will need to be deferred to the next control period, creating additional funding pressure in Control Period 7 (CP7). We will be holding Network Rail to account against its renewals plan and will continue to seek assurance around delivery.
35. Asset reliability, as measured by the Composite Reliability Index (CRI), was strongest in Network Rail Scotland and Southern regions. North West and Central, and Wales and Western had much lower levels of asset reliability during the year. In particular, North West and Central had poor reliability of track and electrical power assets, and Wales and Western had poor reliability of track and buildings assets. The regions need to improve their management of these assets to support better train performance.
36. We measure longer-term asset sustainability using a composite measure (the Composite Sustainability Index, CSI) which takes account of the remaining life of all assets. At the end of year 3, most regions remained on target to deliver the expected level of asset sustainability by the end of the control period.
37. We have previously reported on the challenging risk position in Scotland. During the year, Network Rail Scotland decided to pause delivery of £53 million of renewals (from signalling, structures, buildings and telecoms) to create additional funding for risk. It will decide in the

coming months whether these renewals should be deferred to CP7. If this happens, Network Rail Scotland may not be delivering sufficient renewals to achieve the levels of asset sustainability it committed to in the final determination, which could increase the risk of asset failures impacting train performance and safety in the long-term.

38. We have worked closely with the region to understand the implications of its decision to potentially defer work better and in particular what steps are available for it to try to mitigate this future decline in sustainability. We have escalated our concerns on this issue at a senior level with Network Rail Scotland. We asked it to set out the actions it is taking to mitigate the unplanned decline in the CSI in CP6, which it has now outlined to us. We have further challenged the region to provide bottom-up plans detailing the impact on CSI in future control periods. We will continue to keep this under close review.
39. During the year, we continued our focus on driving improvements to Network Rail's delivery of structures examinations. We undertook a review of overall compliance for structures examinations and found structures examination non-compliances in all regions. If the examination process is not completed at the required intervals, faults could be undetected (or detected but not properly assessed). Failure to manage the examination process could also impact Network Rail's ability to plan maintenance and renewal activities, which is important now as it develops its plans for CP7. We have required each region to produce recovery plans and are in the process of engaging with them to ensure that these are of sufficient quality.
40. In June 2021, we completed a targeted review of [Network Rail's management of earthworks and drainage weather resilience](#). This provided us with assurance that Network Rail's regions and central teams are taking measures to improve weather resilience. We found that this area was still developing and there were significant opportunities for improvement, particularly by sharing best practice and lessons learned between the regions.
41. Network Rail delivered a similar level of capital investment to the previous year, both in terms of enhancements projects and renewals. Enhancements projects which entered into service in year 3 included the Midland Mainline Electrification to Kettering and Corby (Eastern), the Cadder High Speed Train depot (Network Rail Scotland) and reopening the Dartmoor line (Wales and Western, which is part of the [Restoring Your Railway programme](#)).
42. Network Rail's Route Services function delivers High Output track renewals on behalf of its regions. During the year, delivery of High Output track renewals was behind target. Route Services also delivers rail milling for the regions (which extends the life of rail assets). Delivery of rail milling was behind target due to operational issues when the first milling train came into service on the network.

Network Rail has exceeded its environmental targets and is making good progress with implementing the main environmental priorities

43. 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.
44. Nationally, Network Rail exceeded its year 3 target for ESI. It reported that it was ahead of targets for reusing or recycling waste, diverting waste from landfill and reducing non-traction carbon emissions. It was behind target for reducing non-traction energy use, partly due to the increased activity in its stations.
45. Network Rail is undertaking research to identify innovative opportunities to reduce whole life carbon during this year. For example, it undertook a signalling study which has shown that digital signalling can reduce whole life carbon by between 32% to 49% compared to conventional signalling.

Network Rail's System Operator continued to respond to the timetable demands of the pandemic. It engaged service specifiers on decisions on capacity and performance but has made limited progress on reforming the timetable development processes

46. The System Operator continued to respond well to the pandemic. It continued to develop its modelling and analysis capability, partly due to increased investment in tools funded as part of our Periodic Review 2018 (PR18) Final Determination. Delivery during year 3 included upgrades to timetable planning software to allow faster timetable simulations and improved modelling work. The System Operator has also developed a self-service performance hub to improve timetable development. Delivery of these programmes has created operational efficiencies. The resource released has been redirected to the increased workload associated with more frequent timetable changes.
47. One of the weaknesses identified as part of our inquiry into factors that contributed to the failure to produce and implement a satisfactory operational timetable in May 2018, was that the System Operator did not see itself as responsible for managing system risk or advising others on risk. Network Rail sought to address this gap through the creation of a new Programme Management Office (PMO) tasked with looking at system risks to the delivery of timetables.

48. The role of the PMO has continued to mature, resulting in a better understanding of risks to timetable changes. This was reflected in the review of, and subsequent decision to defer, the implementation of the May 2022 recast of the East Coast Main Line timetable, based on risks identified and communicated by the PMO.
49. During year 3, the System Operator supported three major regional access and timetable projects: the Manchester Recovery Task Force (MRTF); the West Coast Main Line Timetable (WCML) recast; and the East Coast Main Line (ECML) timetable recast. It worked collaboratively with operators, funders and each of the regions. The MRTF and WCML work has progressed to timetable production, but the ECML project has not reached a conclusion for its intended implementation in May 2023.
50. The System Operator is engaging more proactively with Network Rail regions and service specifiers on balancing decisions on capacity and performance. The work of the MRTF was a good example of collaborative decision-making between the industry, the North West and Central region and its funders and stakeholders – and of the benefits of following the correct process for resolving capacity issues on congested parts of the network.
51. For the ECML timetable recast, the System Operator worked collaboratively to develop options for resolving the underlying capacity challenges. However, at time of writing, we remain concerned that this effort is yet to lead to a long-term solution for the East Coast timetable being adopted, although we recognise that Network Rail needs clear decisions from others to progress this. The System Operator can only achieve success if all parties work together. Funders and operators have a key role to play in enabling Network Rail to identify a solution that meets the needs of passengers, freight customers and the industry.
52. We reported last year that the System Operator had convened an Industry Timetable High Level Group to review options for future timetable planning and production processes and develop a recommendation for a more agile approach than that provided by the current process. The System Operator engaged with industry to agree some core principles for this reform, but its initial plan for implementation did not prove to be workable. Its proposals for change were not supported by a sufficiently clear explanation of which issues it would address and which it would not. The System Operator subsequently withdrew its proposals and, at time of writing, is aiming to make an amended proposal in July 2022.

Comparison of regional performance

A summary of key measures comparing regional performance are shown in charts below. All charts show annual data for the year April 2021 to March 2022 (year 3 of Control Period 6). 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

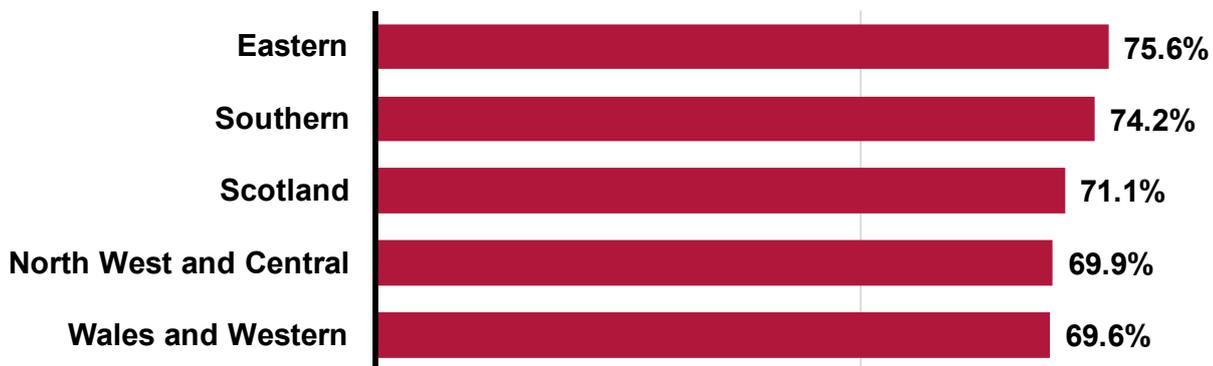


Figure 3 Efficiencies by region, variance of actual to revised CP6 target

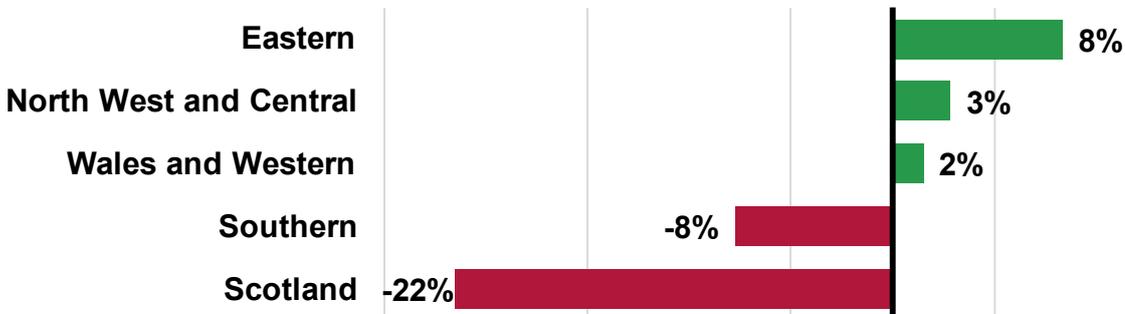


Figure 4 Effective volumes (renewals) percentage completion by region



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

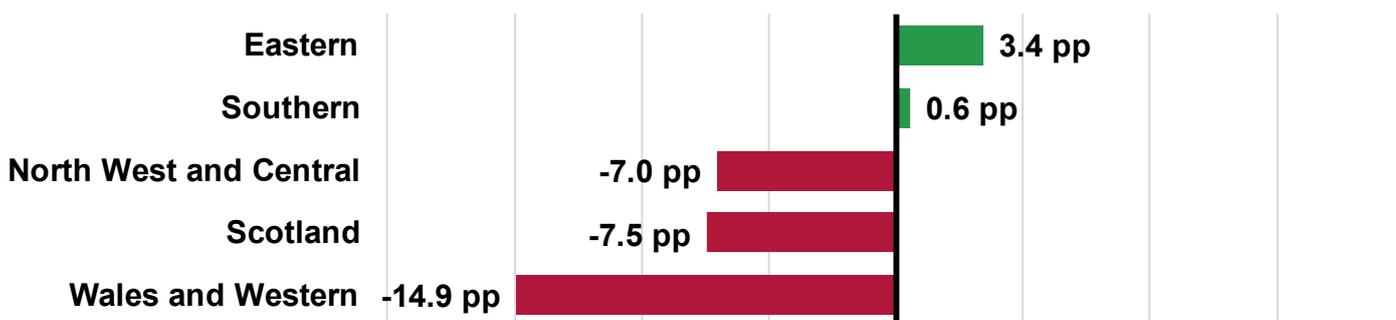
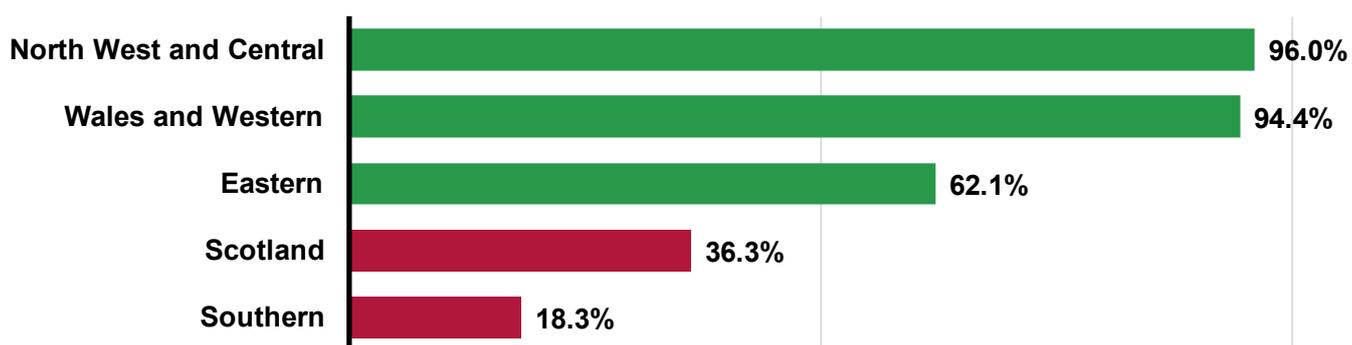


Figure 6 Environmental Sustainability Index (ESI) by region

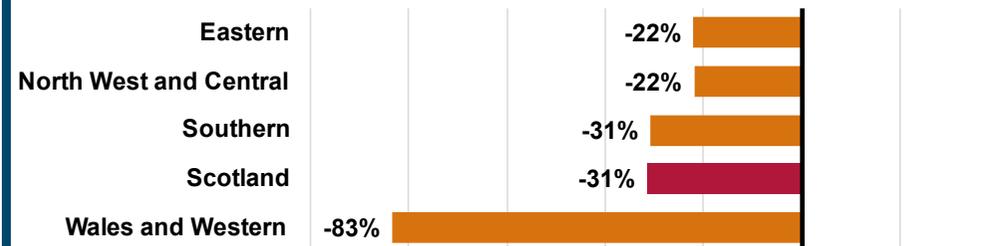


Source: ORR analysis of Network Rail data

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:

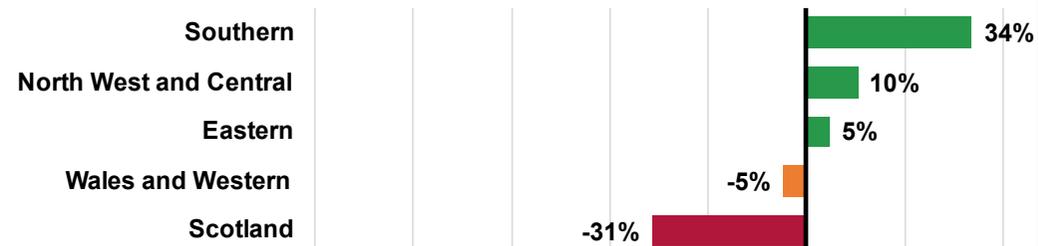
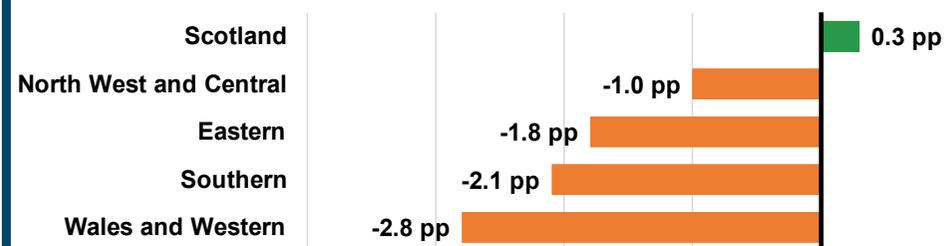


Figure 8 Freight performance by region (FDM-R), percentage points better/worse than scorecard target and trajectory

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

Annual Assessment of Network Rail

Context



1. Context

ORR's role

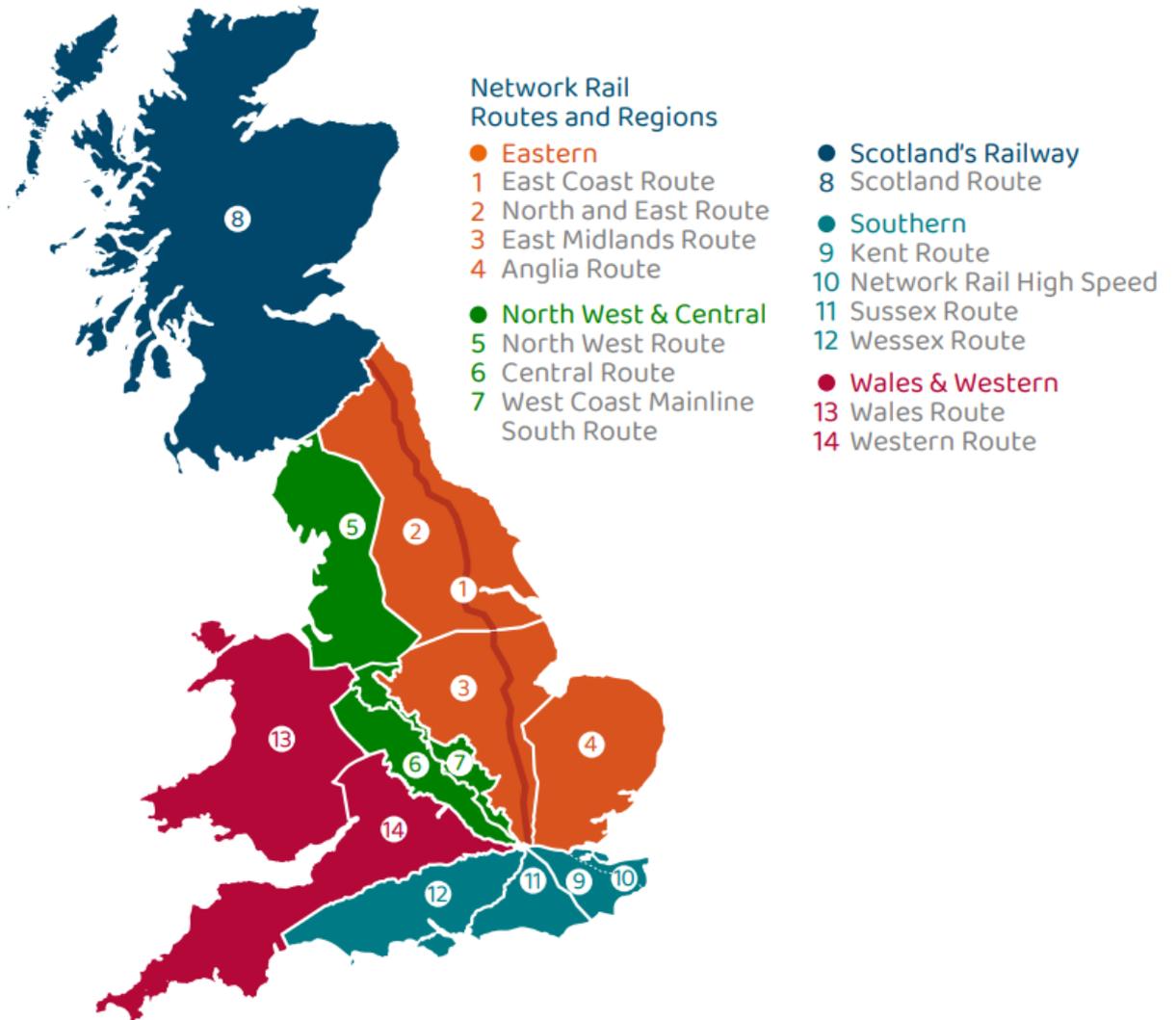
- 1.1 Our role is broad. We are responsible for:
- regulation of the rail industry's health and safety performance;
 - holding Network Rail and High Speed 1 (HS1) railway to account for delivery of performance and value for money;
 - protecting competition in the rail sector; and
 - protecting passengers 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 and Central, Network Rail Scotland, Southern, and Wales and 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 strategic 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% to 100%. For most measures, on target performance is shown as 50%.
- 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 3, it set stretch targets to retain regional train performance at the record levels seen at the end of March 2021. Where applicable we show performance against the stretch targets, and Network Rail's 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 a number of areas of 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 however technical terms have been used in some areas out of necessity. This [glossary](#) is a useful reference document which explains the technical terms used.



OFFICE OF
RAIL AND ROAD

Annual Assessment of Network Rail

Network-wide performance




Wear a face covering
Please be considerate of others
Hidden disabilities or medical conditions may mean not everyone can


Wear a face covering
Please be considerate of others

Car Hire

Staff Exit Only

EXIT

Way Out

Way Out

Way Out

Way Out

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. This section assesses performance across Network Rail as a whole and compares performance across regions.

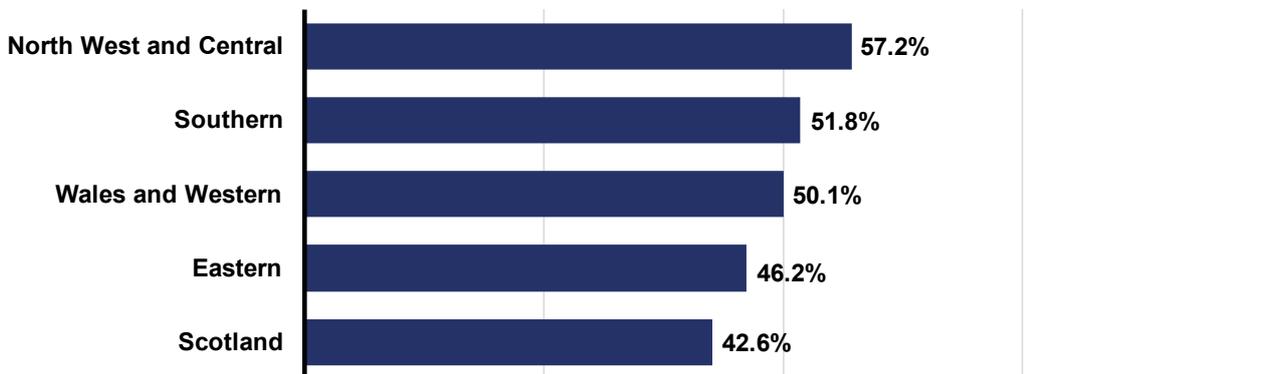
The majority of Network Rail’s regions achieved their annual scorecard targets

2.2 Network Rail assesses the overall performance of its five regions using ‘scorecards’ which measure and weight many aspects of delivery. Delivery is measured as a percentage between 0% and 100%, with 50% being on target.

2.3 Nationally, overall scorecard performance for year 3 improved, ending the year at 46.1% compared with 40.7% in the year ending March 2021. However, performance on each regional scorecard was worse than the previous year.

2.4 Three of Network Rail’s five regions achieved more than 50% overall on their scorecards, compared to four the previous year. North West and Central performed the best, achieving 57.2%, Southern and Wales and Western regions also exceeded 50%. All other regions achieved below 50%, and for the third year in a row, Network Rail Scotland had the lowest overall scorecard performance.

Figure 2.1 Overall scorecard performance by region, annual data, April 2021 to March 2022



Source: Network Rail’s regional comparison scorecard

- 2.5 The scores partly reflect the fact that Network Rail set ambitious train service and asset management targets, challenging regions to retain the high levels of performance seen the previous year, during the pandemic.
- 2.6 Nationally, Network Rail performed well on complaints handling, passenger satisfaction, delivering enhancement milestones and environmental sustainability. However, the regions largely failed to deliver on their targets for passenger and freight train services. We are most concerned about train service performance in the Wales and Western region and Network Rail Scotland's ability to deliver on its CP6 commitments.
- 2.7 This chapter provides more detail on Network Rail's performance on the range of measures which underpin the overall scorecard performance in Figure 2.1.

Passenger and freight train performance declined but was largely kept at higher levels than pre-pandemic

Passenger and freight train performance declined from the record levels of the previous year but was largely kept at higher levels than pre-pandemic. Performance in Wales and Western declined more quickly than in other regions and it must now deliver performance improvement plans.

- 2.8 In year 2 of CP6 (April 2020 to March 2021), the number of trains which ran and passenger levels on the network were at historically low levels. This led to improvements in both passenger and freight train performance relative to the levels seen before the pandemic.
- 2.9 With the lifting of restrictions and the recovery in train and passenger numbers during year 3, there has been a decline in passenger and freight train performance, but it remained largely better than before the pandemic. Our own analysis suggests that performance in year 3 is broadly where we would expect it to be, based on the relationship between On Time (defined below) and passenger usage. There were some limitations to our analysis, for example it did not take account of factors such as the impact of autumn or weather, or any action that Network Rail's regions may have taken during the year to improve train service performance. The regional chapters in this report provide further details on those areas.

Network-wide train performance

2.10 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 (as per 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.

Table 2.1 Punctuality and reliability, Great Britain, annual data, April 2021 to March 2022

Measure	April 2021 to March 2022 (MAA)	Compared with one year ago	Compared with two years ago
On Time	73.0%	▼ -6.7pp	▲ 8.2pp
Cancellations Score	3.3%	▲ 1.2pp	▼ 0.1pp

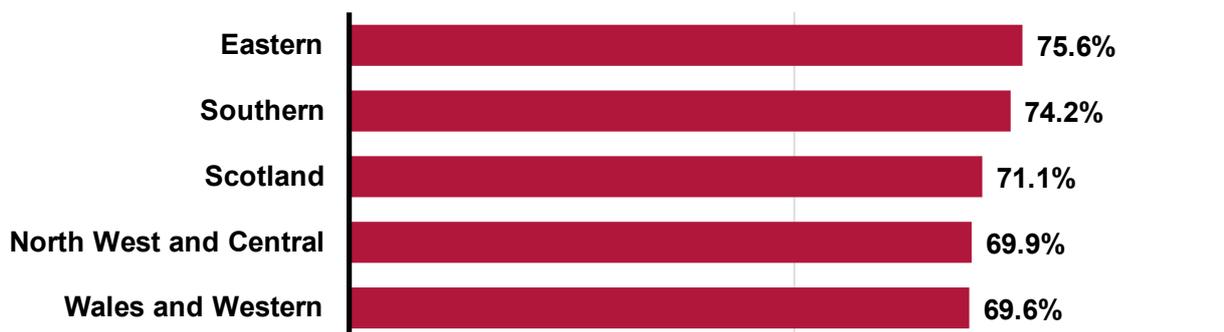
Source: ORR analysis of Network Rail data

2.11 As shown in Table 2.1, performance on both measures worsened in year 3 compared to the previous year. On Time performance decreased by 6.7 percentage points and Cancellations increased by 1.2 percentage points. However, performance on both measures remains better than it was two years ago, before the pandemic.

2.12 On Time performance declined for all regions compared with the previous year. They all performed worse than their scorecard targets. Eastern region ended the year with the highest On Time performance at 75.6% which was largely driven by stronger performance in the Anglia route. In year 3, the Anglia route made several targeted interventions to improve performance. Some examples include improving resilience of the timetable, reducing the duration of incidents that cause delay and improving the reliability of its infrastructure, particularly on the London Overground North London Line and the Gospel Oak to Barking line.

Figure 2.2 On Time, by region, annual data, April 2021 to March 2022

Key: ■ Above target ■ Below target



Source: Network Rail's regional comparison scorecard

2.13 During year 3, On Time performance and Cancellations across all regions were impacted by staff shortages due to the pandemic. All regions also experienced delays due to weather (in particular, five named storms), with Wales and Western and Scotland particularly adversely affected. Many regions reported an increase of instances of trespassers on the railway, which Network Rail considers is in some cases linked to the easing of lockdown restrictions.

Network Rail's contribution to regional train performance

2.14 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.

2.15 We monitor delivery of these measures for each region against an annual target and a regulatory minimum level of performance, referred to as the regulatory floor. This minimum level of performance signals the point at which we are highly likely to consider a formal investigation. As explained in our Context chapter, the regions set stretch targets for year 3. Below we show performance against these stretch

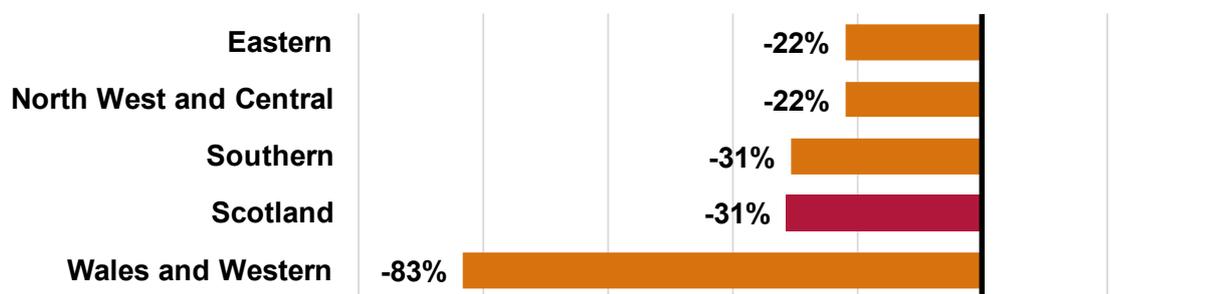
targets, and Network Rail’s original CP6 trajectories. We do this to show how the company is performing against the commitments made before the pandemic.

Passenger train performance varied by region; we are concerned about the rate of decline in Wales and Western

- 2.16 Network Rail set stretch train performance targets for its regions for the year, at the record levels seen at the end of March 2021. It has fallen short of these targets across all its regions.
- 2.17 The Wales and Western region had the largest shortfall against the CRM-P target on its scorecard. Network Rail Scotland also did not meet its scorecard target, and it breached the regulatory minimum level for Network Rail-attributed delays (see Figure 2.3).
- 2.18 We have also compared Network Rail-attributed delays to performance trajectories that were set at the start of the control period (see Figure 2.4). On this basis Southern, North West and Central, and Eastern all exceeded their trajectories. However, both Wales and Western and Network Rail Scotland were below their trajectories.
- 2.19 As explained in our previous reports, of all the regions Network Rail Scotland has the most challenging performance targets in CP6, reflecting the expectations of its funder, Transport Scotland. As targets were already challenging, for year 3, Network Rail Scotland held to its CP6 trajectory. It did not increase its scorecard target.

Figure 2.3 Passenger train performance (Network Rail attributed delay minutes normalised, CRM-P), percentage better/worse than scorecard targets, annual data, April 2021 to March 2022

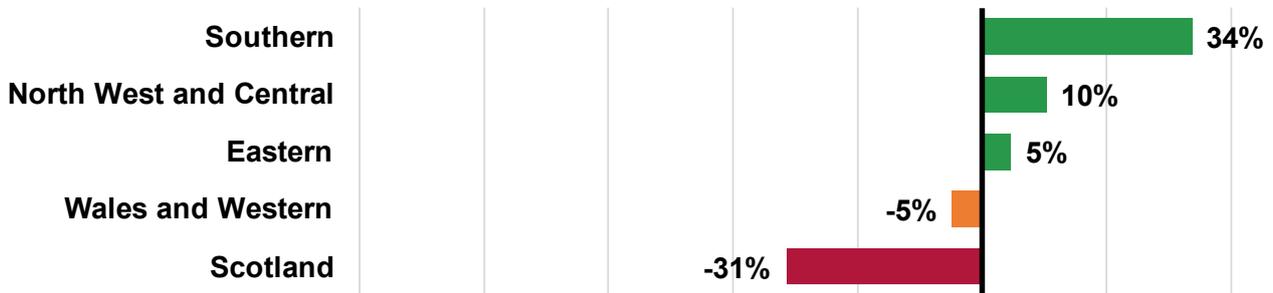
Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor



Source: ORR analysis of Network Rail data

Figure 2.4 Passenger train performance (Network Rail attributed delay minutes normalised, CRM-P), percentage better/worse than trajectories, annual data, April 2021 to March 2022

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



Source: ORR analysis of Network Rail data

- 2.20 Throughout the year, we monitored performance closely in all regions. Given the variances shown against Network Rail’s scorecard targets and its regional trajectories, we are most concerned about levels of performance in Wales and Western, and Network Rail Scotland.
- 2.21 Train performance in Wales and Western, particularly the Wales route, declined more quickly than in other regions during the year. We identified the downward trend and its key drivers and acted early (before any regulatory minimum levels were breached) to protect rail users. The decline in performance was driven by many factors including severe weather (including several named storms), increased network use compared to the previous year and network reliability. We challenged the region to thoroughly assess the reasons for the rate of decline and to provide consolidated, prioritised, timebound plans for delivering train performance improvements.
- 2.22 In response, the Western route shared a range of initiatives that it was already taking forward. These included a joint Network Rail and train operator plan (named Fusion), which focused on the Didcot Parkway to London Paddington lines, and a plan to replace unreliable train detection equipment between Paddington and Airport Junction, the latter of which was carried out in December 2021. The route also produced a plan to improve the performance of the West of England service route via Westbury, which had been affected by poor track quality.
- 2.23 Performance on the Wales route is of greater concern and its initial response was less compelling. We pressed the route for its improvement plans and have now seen evidence that they are in development. They must now be finalised urgently

and delivered. We will continue to monitor this closely and take action if there is insufficient progress.

- 2.24 Network Rail Scotland's performance for Network Rail attributed delay both missed its target for the year and fell below the regulatory floor. In our [Holding to Account Policy for CP6](#), we set out that when considering regulatory intervention, we consider a number of factors. These include Network Rail's response, senior management commitment and timely actions that are proportionate to the concern.
- 2.25 Poor performance in the region was driven by a number of factors, including issues with the performance of non-track assets, extreme weather and trespass. In February 2022, Network Rail Scotland produced a joint performance improvement plan with ScotRail Trains Limited. The plan was jointly signed by the Route Director at Network Rail Scotland the Operations Director at ScotRail Trains Limited. It included targeted interventions for Network Rail in areas such as:
- improvement plans for each of its Delivery Units;
 - an extreme weather improvement plan (targeting improvements in blanket speed restrictions and winter performance);
 - reducing trespass incidents;
 - autumn performance; and
 - timetable interventions aimed at improving On Time delivery.
- 2.26 The joint improvement plan demonstrates that the region understands the key drivers of poor performance and has identified targeted interventions, which it forecasts will result in an improved level of service for both passengers and freight operators. It also has senior management commitment. We will continue to monitor Network Rail Scotland's delivery of this improvement plan closely and if, at any point, we do not think that the region is doing all it can to deliver performance improvements, we will intervene as necessary.
- 2.27 In February 2020, we identified poor train performance in the North West and Central region. We investigated and published our [conclusions](#) and recommendations. Since then, we have worked closely with the region to monitor what action it has taken to address our findings. In May 2021, we provided an [update](#) highlighting that the region had made good progress against most of the recommendations but had not made sufficient progress on two operational and four asset management recommendations. We extended our enhanced monitoring

and assessment for a further six months. In November 2021, we [concluded](#) our investigation, noting that we were satisfied that the region had substantively addressed all our recommendations and that train performance management in the region had improved.

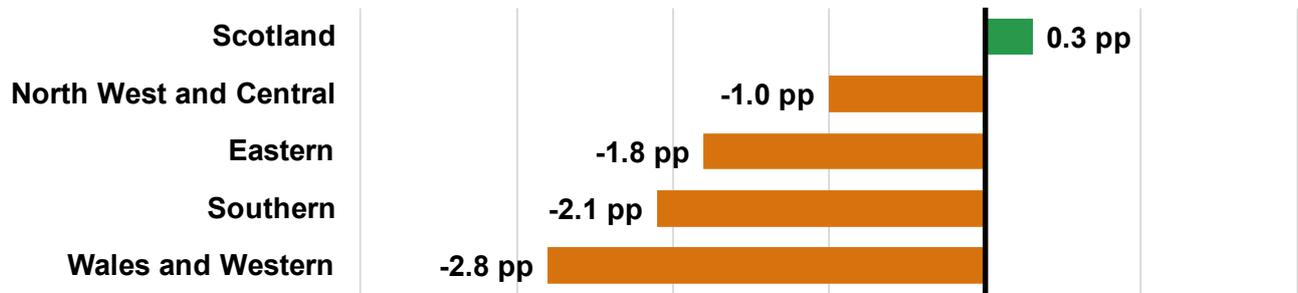
Network Rail's delivery of freight performance declined as the network became more congested, but there was improvement in Scotland

- 2.28 As with passenger performance, Network Rail set stretch freight performance targets for the year at the record levels of performance seen at the end of March 2021.
- 2.29 Nationally, freight performance (FDM) returned close to pre-pandemic levels, but FDM Moving Annual Average (MAA) remained 0.8 percentage points higher when compared with two years ago. National FDM delivered during year 3 was 93.6%. This was below the CP6 trajectory of 94.0%, but above the regulatory floor of 92.5%.
- 2.30 In year 3, freight performance was impacted by a number of factors. Passenger service levels increased, and the network became busier. There was also an increase in the number of freight trains which ran (there were 213,513 freight trains that ran on the mainline network in year 3, an increase of 12.7% compared with year 2 and up 1.9% compared with the first year of CP6). In addition, the pandemic continued to impact on both Network Rail and freight operators, and severe weather also affected performance during the year. Storms in February 2022 caused disruption across the network.
- 2.31 Most Network Rail regions fell short of their freight performance (FDM-R) targets, except Network Rail Scotland. Wales and Western had the largest shortfall against target. In contrast, Network Rail Scotland exceeded its scorecard target by 0.3 percentage points (see Figure 2.5).
- 2.32 In our last annual assessment, we noted concerns with Network Rail Scotland's delivery of its freight performance target, as it was the only region that was below its annual target. In year 3, we have seen stronger performance from the region and Network Rail Scotland ended the year as the only region to achieve its regional scorecard freight performance target.
- 2.33 Given the ambitious nature of the freight performance targets that Network Rail set, we have also compared freight performance (FDM-R) to Network Rail's trajectory set at the start of the control period (see Figure 2.6). On this basis, Network Rail Scotland and the Southern region exceeded their freight

performance trajectories, while North West and Central, Eastern, and Wales and Western missed their trajectories.

Figure 2.5 Freight performance (FDM-R), percentage points better/worse than scorecard targets, annual data, April 2021 to March 2022

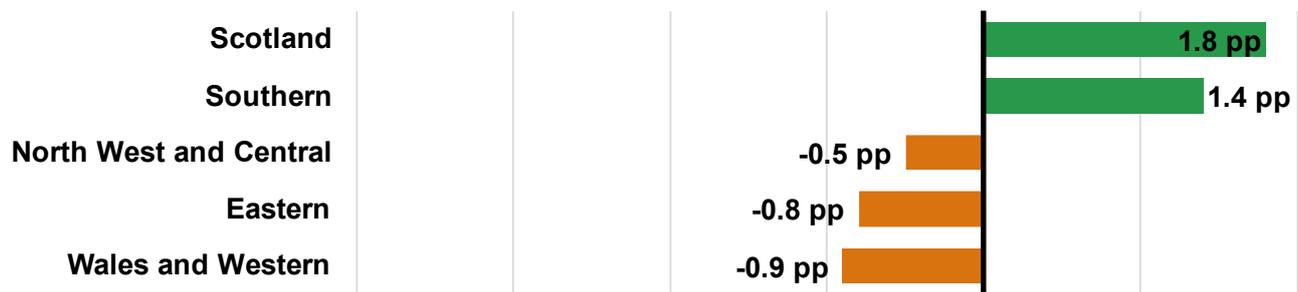
Key: ■ Above target ■ Below target, but above regulatory floor ■ Below regulatory floor



Source: ORR analysis of Network Rail data

Figure 2.6 Freight performance (FDM-R), percentage points better/worse than regional trajectories, annual data, April 2021 to March 2022

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



Source: ORR analysis of Network Rail data

Network Rail continues to strengthen its performance management capabilities across the regions

2.34 In 2018, we issued a [provisional order](#) requiring Network Rail to address weaknesses in its management capabilities, including its approach and commitment to performance planning and its capability to recover service from incidents on the network. In response, Network Rail committed to a programme of activity to improve its management of train performance, including implementing a Performance Improvement Management System (PIMS).

- 2.35 PIMS is led by Network Rail but is aimed at improving whole-industry capability in train performance management. It sets out activities to improve performance management across the regions, providing policies, tools, and guidance to improve performance modelling, planning and delivery. It encourages industry-wide sharing of best practice in performance management. A core product is the suite of joint performance strategies between Network Rail and passenger and freight train operators.
- 2.36 In early 2022, we commissioned an independent reporter to review Network Rail's approach to developing and delivering joint performance strategies with train operators. The reporter found evidence of good collaboration between Network Rail and train operators. There was evidence that the plans and projects in strategies were being delivered across all the routes sampled, but the monitoring and reporting of delivery could be improved. The reporter also found a need for greater focus on the estimation of benefits, and benefits realisation. The review showed that Network Rail had made some good progress in improving its performance management capability but there was more to do. We will follow up to ensure the independent reporter's recommendations are acted upon.
- 2.37 Network Rail improved its PIMS engagement with freight operators during the year through the creation of the freight operator PIMS practitioner group. This has improved alignment of PIMS with freight operator priorities. Network Rail also worked in partnership with freight operators on various performance improvement activities. Examples include collaborative work on seasonal delivery plans, briefings on the management of late running services and updated shared contingency plans.

Network Rail performed well against many safety indicators but must manage future changes carefully to support its workforce

Network Rail has prioritised plans to address the safety recommendations made following the Carmont derailment. It must ensure sustained, coordinated oversight to deliver long-term improvements. Network Rail must manage future reforms carefully to maintain safety and support its workforce.

- 2.38 During year 3, Network Rail and the wider industry had to deal with the continuing impact of the pandemic, while also preparing for upcoming industry-wide changes. If not managed carefully, high levels of change can lead to loss of focus on the

basics of controlling risks to workers, passengers and the public. In December 2021 we wrote to Network Rail and other industry stakeholders reminding them of the importance of staying focused on the basics and using frontline assurance and leading indicators to help ensure good health and safety management.

- 2.39 Given these potential distractions, it is positive that there was good performance on many of Network Rail's safety indicators during the year. There were no serious accidents involving track maintenance workers. Network Rail's Lost Time Injury Frequency Rate (LTIFR) remained broadly static, continuing the trend since 2018. Incidents with a high potential to injure workers rose slightly, with a more noticeable rise towards the end of the year. Many of these concerned safety around track work, a reminder that this will always be a priority area.
- 2.40 Network Rail continued to make good progress in complying with our enforcement on workforce safety, almost eliminating work with unassisted lookout warning. Compliance is required by 31 July 2022, and we will continue to press for better evidence of adoption of technological means to ensure the sustainability of this transformation.
- 2.41 The Rail Safety and Standards Board's (RSSB) Safety Risk Model periodically takes a snapshot of all significant risks on the mainline and its monthly Precursor Indicator Model tracks trends in key catastrophic precursor train accident risk. During the year, trends in catastrophic accident precursors were broadly positive, reflecting the nature and location of extreme weather events during the year. They tended not to lead to earthworks failures which have been the main driver of the worsening trend over recent years. But we saw indications of weaker performance in other areas. Level crossings safety was mixed, with increased fatalities but fewer near misses. And during year 3, there was an increase in the precursor for high-risk train accidents.
- 2.42 We are concerned by continued backlogs in both earthworks and structures examinations, especially in the Eastern and North West and Central regions. We are satisfied that risk control measure are in place but Network Rail must ensure that backlogs are reduced sustainably and avoid them building up again.

Sustained, coordinated oversight is needed to deliver recommendations to improve safety following the Carmont derailment

- 2.43 During the year, we commenced a programme of inspections to assess Network Rail's response to recommendations made in reports by Dame Julia Slingo and Lord Robert Mair following the fatal Carmont derailment of 2020. We reviewed Network Rail's action plans and inspected its management of drainage

assets against relevant Network Rail standards. We also monitored Network Rail's operational response to extreme weather events.

- 2.44 Network Rail has established a dedicated steering group which we consider provides good oversight and independent challenge of its response to the recommendations. However, we found progress difficult to track because of implementation being split between regions, Technical Authority and the System Operator. There were also differences in regional strategies.
- 2.45 Network Rail progressed development of its convective rainfall alert tool and made improvements to its decision-making framework for extreme and adverse weather. We have yet to see consistent, effective delivery of one of the top priority Lord Mair recommendations to enhance Network Rail's drainage management capability. We expect to see further progress in this important area.
- 2.46 Other weather-related issues include those leading to poor adhesion and objects on the line. The trends in these precursors to catastrophic risk were less positive. The type of storms experienced over the year resulted in concentrated leaf fall and trees being blown onto the railway, as well as flooding events. The accident in Fisherton tunnel near Salisbury in October 2021 where a Great Western Railway train collided with a South Western Railway service, shows that poor adhesion can have a significant impact. The Rail Accident Investigation Branch's (RAIB) [interim report](#) found leaves had been crushed under the wheels of passing trains and while the rail head treatment train was due to treat Salisbury Tunnel Junction, it had not yet passed through the area because it had been rescheduled.
- 2.47 Overall, we found that Network Rail has a prioritised programme of action plans to address the recommendations following Carmont. It must now ensure sustained, coordinated oversight of the many complex and interdependent work streams to deliver long-term improvements.

Change management

- 2.48 During year 3, we challenged Network Rail on the safety impacts of its ongoing Modernising Management voluntary severance scheme. Network Rail assured us that safety implications were subject to independent scrutiny and challenge. Despite this, we are concerned that if risks are not robustly managed, the impact on Technical Authority could be a loss of capability and expertise in many asset safety areas, as well as human factors, ergonomics and safety-specific advice roles. There could also be a reduction in the Technical Authority's ability to deliver asset management improvement projects and support to the regions. This is an area we will continue to scrutinise.

Occupational safety

- 2.49 Sadly, the year saw one fatal accident to a Network Rail worker as a result of a road traffic collision in East Anglia in January 2022. This is now a matter for police investigation. During the year, we began investigations into two accidents where workers sustained serious injuries, one as a result of a collision between two track-mounted vehicles in Anglia route, and the other in which a linesman received electrical burns from contact with overhead lines in North West and Central region. The latter incident, taken together with earlier similar incidents, prompted us to take enforcement action requiring Network Rail to improve the way it demarcates and proves dead overhead line isolations.
- 2.50 During year 3, we found that Network Rail had made good progress in reducing the amount of work done between trains using lookouts but noted pressures on maintenance activities because of changes to the way track is accessed. Technology designed to protect or warn workers, either in line blockages or on live lines, is still developing, as is knowing how best to use it. However, at the end of March 2022, the use of lookout warning had reduced by 98% since we served our 2019 track worker safety Improvement Notices. This is a transformation in the way that Network Rail plans and delivers safe systems of work for staff required to go on or about the running line. For example, it has resulted in a 70% reduction in near misses involving the workforce.

Occupational health

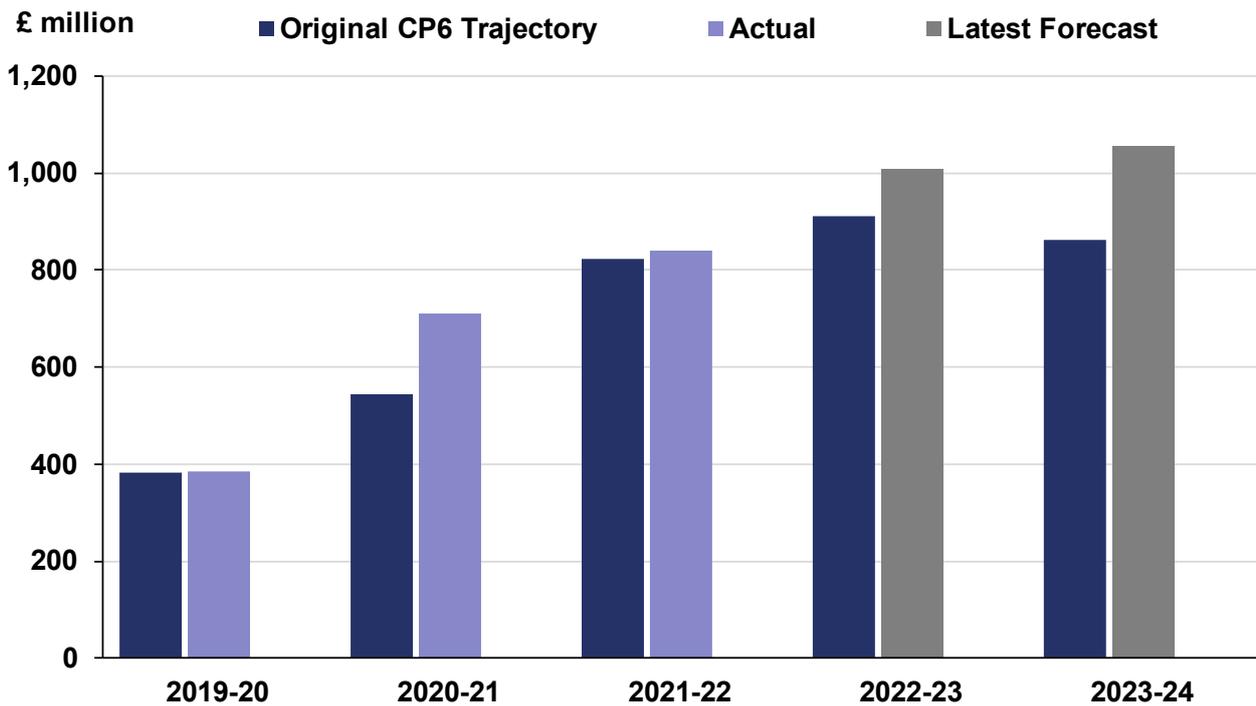
- 2.51 In year 3, Network Rail continued to improve its management of occupational health. We welcomed its continued commitment to the introduction of in-house clinics and a wider range of health checks. Progress was maintained over the year in the development of improved data and indicators, and use of the Railway Management Maturity Model (RM3) for health.
- 2.52 There was some increase in Hand Arm Vibration Syndrome (HAVS) cases and although there is good compliance with HAVS health surveillance, better local planning is needed to avoid a rush to complete at the end of each year.
- 2.53 We secured improvements in the functionality of Network Rail's register of asbestos-containing materials, provided increased clarity of processes through an update of the Asbestos Management standard and we continue to engage with each of Network Rail's regions to agree targeted and proportionate risk controls for the many thousands of assets deemed to be in lower risk categories.

Network Rail's delivery of its CP6 efficiency forecast is on track with more cost savings planned

Network Rail's delivery of efficiencies remains strong. However, wider financial performance has declined, and financial risks will need to be carefully managed across the rest of CP6.

- 2.54 This analysis 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 September 2022.
- 2.55 While passengers started to return to rail, industry revenues remained significantly below pre-pandemic levels. Total passenger revenue in Great Britain was £5.9 billion for the year April 2021 to March 2022. This was nearly three times the £2.0 billion (when using November 2021 prices) generated in the previous year. It is equal to 54.0% of the £11.0 billion generated two years ago. Given the shortfall in passenger revenue, governments continued to support the railway. The industry is responding to this challenge by identifying options to reduce costs. Network Rail has committed to £0.5 billion of further savings.
- 2.56 In year 3, Network Rail reported £840 million of efficiency improvements, ahead of its £830 million target. Recognising the increased financial pressures from largely unanticipated cost increases, Network Rail increased its CP6 efficiency target from the £3.5 billion we set it in the CP6 final determination. It is now forecasting efficiencies of £4.0 billion, with the planned increase coming mostly from workforce reform initiatives.

Figure 2.7 Efficiency improvements in CP6, annual data, April 2019 to March 2023

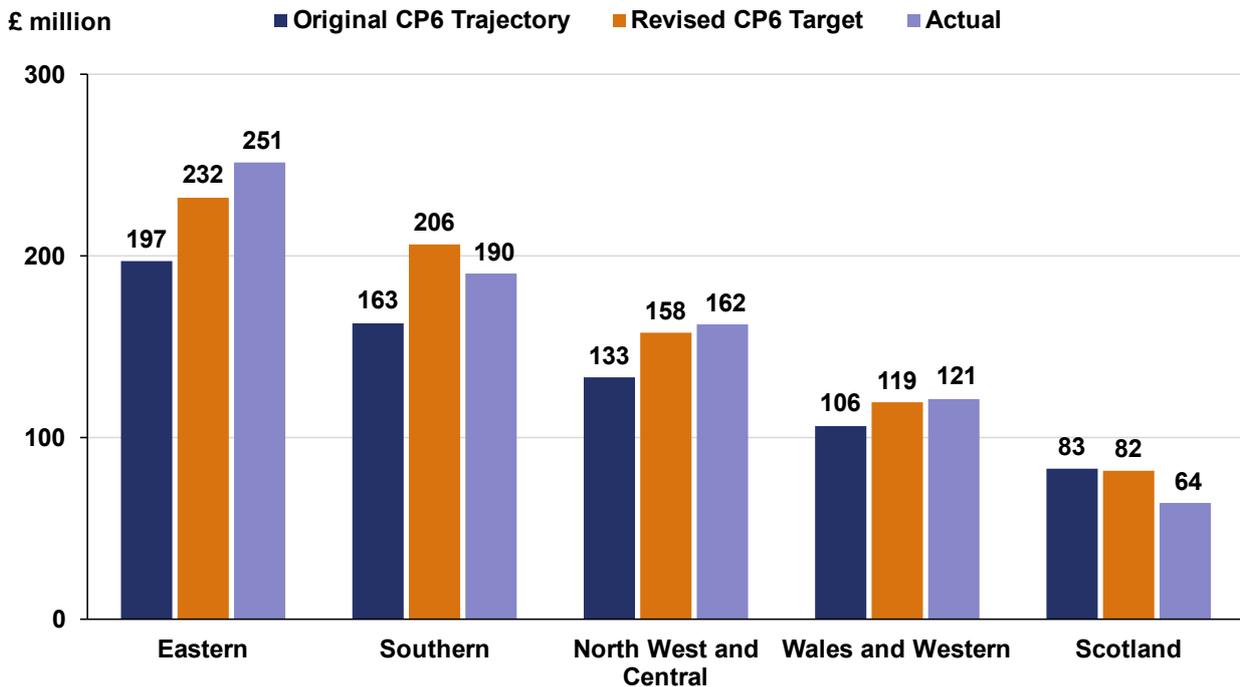


Source: ORR analysis of Network Rail data

2.57 In year 3, most regions either met or exceeded their annual efficiency targets. However, as shown in Figure 2.8, Southern reported £190 million of efficiencies which was 8% behind its target for the year (£206 million), but 17% more than its original CP6 trajectory of £163 million. Network Rail Scotland delivered significantly less than planned. It reported £64 million of efficiencies in the year, which was 21% behind the target that it set itself at the start of the year (£82 million).

2.58 We are particularly concerned about Scotland’s ability to deliver its CP6 efficiency target. Its current funding challenges may result in further deferrals of renewals activities into CP7 with consequent aborted costs and lost efficiencies.

Figure 2.8 Regional contribution to efficiency improvements, annual data, April 2021 to March 2022



Source: ORR analysis of Network Rail data

- 2.59 Wider financial performance declined, with overall financial underperformance of around £900 million across the first three years of CP6. There have been a number of contributory factors to Network Rail’s underperformance, mostly relating to its renewals activities. These were affected by the pandemic, inflationary pressures on materials costs, lower than planned renewal volumes reducing economies of scale and other factors.
- 2.60 Risk funds are lower than may be necessary to meet future financial risks. This is because risk funds have already been significantly drawn down due to the pandemic, the impact of inflation and to fund costs incurred in implementing improved safety measures in the aftermath of the fatal derailment at Carmont. Planned increases to volumes of work to be delivered in the last two years of CP6 mean that Network Rail will have to carefully manage its financial risks with limited remaining risk funding.
- 2.61 Expenditure on renewals activities is planned to increase by around 12% in year 4 (April 2022 to March 2023). Leading indicators suggest that regions are reasonably well prepared to deliver this increased workload and associated efficiency improvements. Network Rail’s has reported that 75% of efficiency forecasts were expected to be achieved from initiatives that were already complete

or had well-developed project plans. An increasingly busy network presents risks to securing necessary disruptive access to undertake engineering work. At March 2022, Network Rail had 85% of planned renewals activities internally authorised, which was ahead of its target of 73%; and 79% of the disruptive access required for engineering work had been secured, marginally ahead of the target of 77%. However, there were significant regional variations.

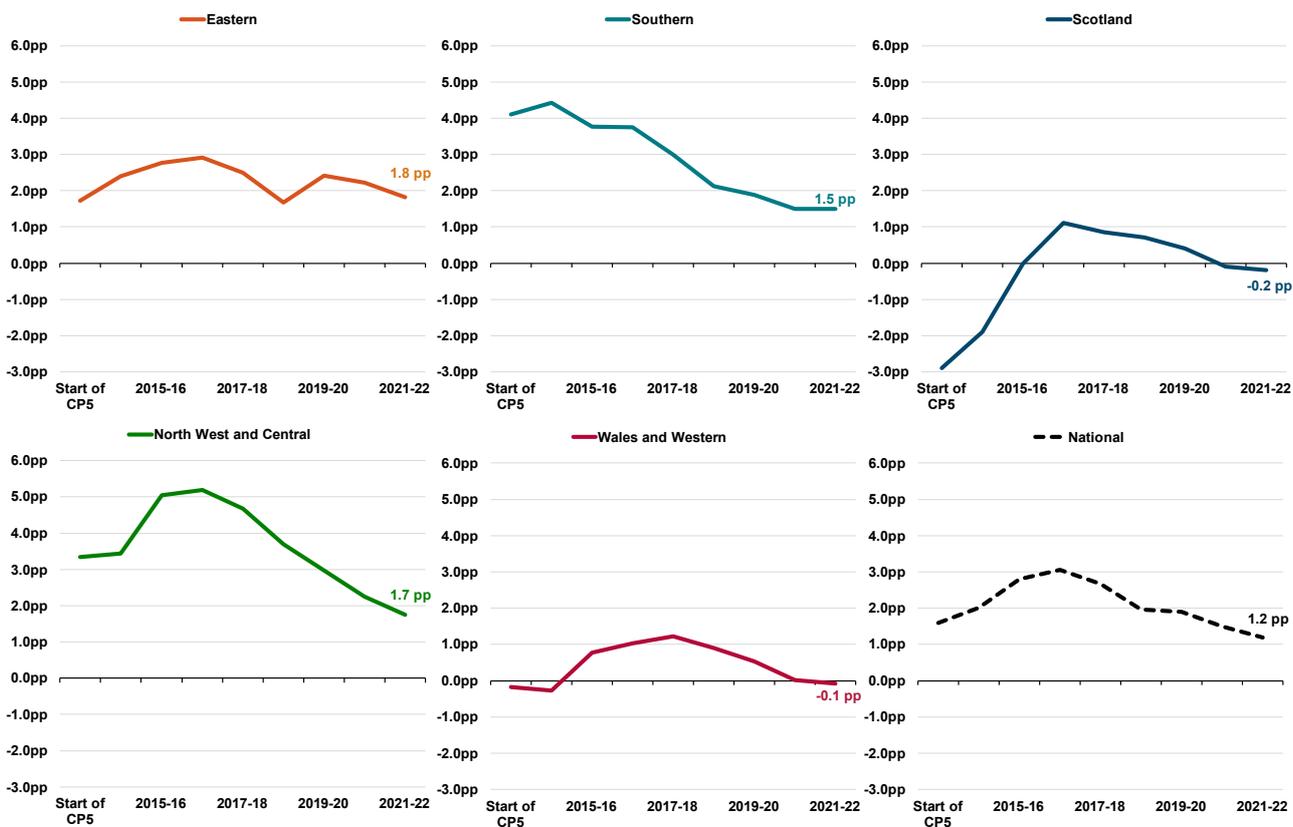
- 2.62 Network Rail's delivery of renewals and enhancements activities was lower than planned in year 3, partly due to the impact of the pandemic, particularly in the first half of the year. Department for Transport and HM Treasury have therefore agreed for Network Rail to rollover £350 million of government funding into the next financial year (£250 million of renewals and £100 million for enhancements).

Network Rail's delivery of renewal work varied by region and asset examinations must improve

Network Rail's delivery of renewal work varied by region but it delivered on its enhancements milestones. Reliability of Network Rail's infrastructure was mixed, with only two regions exceeding target. All regions must improve on structures examinations and address wider asset examination backlogs.

- 2.63 Network Rail must maintain and renew its assets in an efficient, sustainable way to support railway operations. Assets need to be maintained and renewed efficiently, while ensuring there is a safe and operational railway.
- 2.64 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.
- 2.65 In our last annual assessment covering year 2 of CP6, we reported that the national CSI was -0.1% , which represents a 0.1% decline in overall asset sustainability since the end of Control Period 4 (CP4).
- 2.66 The national CSI for year 3 was -0.4% , which represents a 0.4% decline in overall asset sustainability since the end of CP4. The end of CP6 target is -1.6% . Three regions performed broadly in line with their end of CP6 CSI target, while Wales and Western and Scotland performed worse.

Figure 2.9 Composite Sustainability Index (CSI) by region, percentage points variance to end of CP6 targets, annual data, April 2014 to March 2022



Source: ORR analysis of Network Rail data

2.67 Network Rail Scotland finished the year with a CSI of 2.7%. This represents an improvement in overall asset sustainability of 2.7% since the end of CP4. However, in January 2022, Network Rail Scotland advised that its latest forecast for CSI at the end of CP6 was 2.2%, which is below the regulatory floor (2.4%). This is driven by 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.

2.68 In practice, this means that Network Rail Scotland is not delivering sufficient renewals to achieve the levels of asset sustainability it agreed to in the PR18 determination. A reduction in asset sustainability indicates a deterioration of network assets through ageing and wear, which could impact passenger and freight train service performance.

2.69 We escalated our concerns on this issue with Network Rail Scotland. We asked it to set out the actions it is taking to mitigate the unplanned decline in the CSI in CP6, which it has now outlined to us. We have further challenged the region to

provide bottom-up plans detailing the impact on CSI in future control periods. We will continue to keep this under close review.

- 2.70 Any single measure of asset sustainability, such as CSI, cannot give the full context for holding Network Rail to account. We have therefore encouraged Network Rail to expand the coverage of CSI and develop a methodology to use a complementary array of measures for CP7. Network Rail is proposing to shadow run these measures in the final year of CP6.

Network Rail met its network-wide target for renewals work but delivery varied across the regions

- 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 101% of its planned effective renewals volumes. As shown in Table 2.2, performance across asset categories varied in the year. Regional performance was also mixed. Four out of the five regions did not achieve their scorecard targets. Eastern was the only region to exceed its target for the year. North West and Central, Southern and Wales and Western delivered between 91% and 96% of planned volumes. Network Rail Scotland was the lowest performing region, delivering 87% of planned renewals.

Table 2.2 Effective volumes (renewals), Great Britain, annual data, April 2021 to March 2022

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)	24	14	G	163%
Earthworks	656	750	R	88%
Overhead line equipment (km)	50	71	R	71%
Track: Plain line	1,300	1,365	R	95%
Track: Switches and crossings	440	395	G	111%
Signalling	1,081	985	G	110%
Structures: Bridges	23,869	23,051	G	104%
All assets (weighted total)	<i>Not applicable</i>	<i>Not applicable</i>	G	101%

Source: ORR analysis of Network Rail data

2.74 Delivery of earthworks (particularly soil and rock cutting volumes) was reduced in Southern and Scotland regions largely due to in-year budget constraints. North West and Central also delivered fewer earthwork renewals than planned. As a result, many planned renewals were deferred to years 4 and 5 of CP6.

2.75 During year 3, there were several issues with the recording of Overhead Line Equipment (OLE) volumes. Some regions reported that there were errors in their Delivery Plan for the year, which overstated planned volumes. In Eastern, the

overstated plans resulted in the region only achieving 56% of its planned effective volumes.

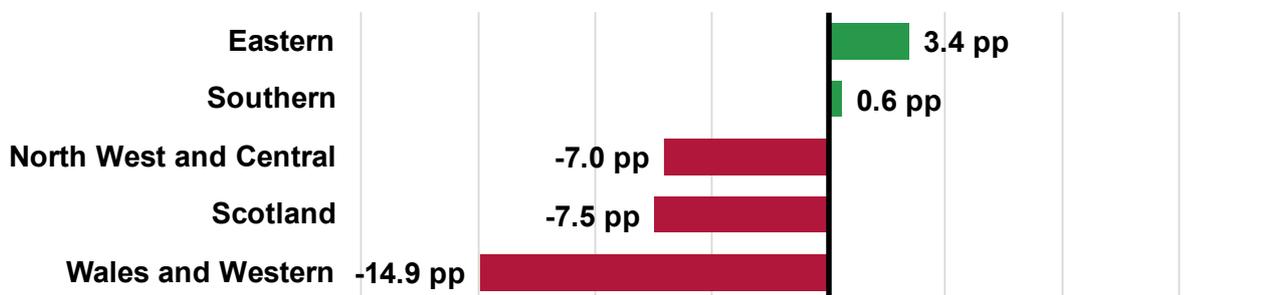
- 2.76 Delivery of plain line track renewals was impacted by loss of High Output work (discussed further below), alongside affordability and deliverability constraints. North West and Central, Network Rail Scotland and Wales and Western all delivered less than their planned volumes. During the year, Network Rail's Technical Authority highlighted the need for regions to ensure they have adequate mitigation in place to address any risks arising from deferred and/or cancelled work.
- 2.77 While we expect some reprioritisation of renewals delivery during the control period, as set out above there has been clear deferral of renewals volumes into the final two years of CP6. All regions state confidence in their ability to deliver these renewals, but we consider this will be challenging and there is a risk that some schemes will not be completed in CP6 and/or will need to be deferred to the next control period, creating additional funding pressure in CP7. We are holding Network Rail to account for its revised renewals plans and will continue to seek assurance around delivery.
- 2.78 Our confidence in Network Rail Scotland's ability to recover deferred work is low. During the year, a sequence of replanning exercises seeking to counter the impact of cost challenges reduced renewal volumes for signals, track and structures by around 12%. We are seeking assurance that the region understands the impact of these decisions and that it is managing any risks associated with under delivery.

Asset reliability declined compared to the previous year

- 2.79 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).
- 2.80 Similar to its approach on train performance targets, Network Rail set stretching targets for each region for CRI for year 3, at the high levels of reliability experienced in year 2. Only Eastern and Southern achieved these targets (see Figure 2.10).

Figure 2.10 Composite Reliability Index (CRI) by region, percentage points better/worse than scorecard targets, annual data, April 2021 to March 2022

Key: ■ Above target ■ Below target



Source: ORR analysis of Network Rail data

2.81 Nationally, Network Rail did not achieve its scorecard target for service affecting failures, missing it by 5.3%. Southern was the only region to meet its target, achieving 12.9% less service affecting failures than target. Wales and Western missed its target by the greatest percentage (22%). As stated above, this decline is impacting train performance and sustained focus is needed to reverse the trend.

Better management of lineside vegetation is needed to increase resilience to extreme weather

2.82 Train performance in year 3 was impacted by severe weather, including strong winds in May 2021 and consecutive named storms in the last quarter of the year. This resulted in more incidents of trees on the line. Train performance in autumn also declined, with the highest numbers of wheel slip and track circuit failures due to leaf fall since the start of CP6.

2.83 While Network Rail did take mitigating actions ahead of extreme weather, such as the planned introduction of speed restrictions or closure of sections of railway during storms, more work is required to address vulnerability of lineside vegetation assets to extreme weather. We remain concerned about Network Rail's management of hazardous trees and ash dieback disease. Issues include the quality of tree data, the availability of resources and competency in this area. We are also concerned about its capability to create and sustainably maintain vegetation-compliant sites. These must be a priority for all regions going forward. We have commenced a review to assess Network Rail's vegetation management. The review is expected to be completed in summer 2022.

Network Rail is behind on its structures examinations and must improve

- 2.84 In 2011, we identified a structures examination backlog across Network Rail. The issue was the subject of a national Improvement Notice. Following those measures, and over a period of several years, Network Rail reduced the backlog of site examinations. However, recently compliance has deteriorated. This issue is applicable to all regions, although the degree of non-compliance, and hence our concern, does vary across the regions.
- 2.85 This is an important issue. If Network Rail does not complete the overall examination process at the required intervals, faults could be undetected (or detected but not properly assessed). Failure to manage the examination process could also impact Network Rail's ability to plan maintenance and renewal activities efficiently, which is particularly important now as plans are being developed for CP7.
- 2.86 During the year, we undertook a review of the overall examination compliance position for the structures portfolio. We sought assurance from Network Rail that it was working towards elimination of non-compliance. We reviewed the region's recovery plans and sought assurance that timebound actions were being pursued. We also encouraged Network Rail's Technical Authority on its work to review the relevant standards, which includes, for example, risk-based examination frequency and competency requirements. We found that Network Rail's plans were aimed at removing non-compliance but that they contain some weaknesses and do not yet fully address our concerns.
- 2.87 Network Rail's backlog in delivery of structures examinations is partly due to its transition to new Civil Examination Framework Agreement (CEFA) contracts. We consider this transition should have been managed more effectively. While recent data from Network Rail shows there has been some reduction of non-compliance, the backlog recovery plans provided by the regions are not being met so there is more to be done.

Action needed on wider asset examination backlogs

- 2.88 During the year, we identified a growing number of non-compliant building visual examinations. As with structures, this was due to the renewal of the CEFA contracts. Network Rail also highlighted a potential issue with earthworks examination compliance due to the poor rate of examination activities being progressed compared to previous years.

- 2.89 We will continue to engage with regions on their approach to recovering from any delays and on risk assessing the potential safety, cost and performance impacts of non-compliance.

Improvement needed in Network Rail's maintenance volumes reporting

- 2.90 Maintenance volumes are a key metric used by Network Rail to track delivery against their Delivery Plan and for us to hold Network Rail to account for delivery under the Network Licence. It is therefore important that reporting is accurate.
- 2.91 During year 3, we carried out an independent reporter review of the [reliability of the process for reporting maintenance volumes](#). The review found that there was not currently a Network Rail-wide approach to systematically identifying inaccurate reporting of maintenance volumes at national, regional, route or Delivery Unit levels. The review also found that the system for recording and reporting maintenance volumes depends largely on the experience of key staff in the Delivery Units and routes and there was no detailed documentation.
- 2.92 The review made several recommendations which include the review of Network Rail's approach to visual examination intervals; review of regional recovery plans to include realistic targets and their monitoring; creation of a dashboard that includes metrics to measure delivery failure; and investigation of line of route working and the benefits it can bring to achieve and sustain compliance examination. We will closely monitor progress of the recommendations over the next year.
- 2.93 While it made Network Rail-wide recommendations, the review did highlight best practice in Network Rail Scotland and Southern. Network Rail must now implement the recommendations of this review and share best practice amongst the regions to help drive wider improvements.

Network Rail is committed to improving its Whole Life Cost modelling

- 2.94 Network Rail has invested considerable resources in developing its Whole Life Cost models, which are critical for effective asset management planning for CP7.
- 2.95 We commissioned an independent reporter to review the [Whole Life Cost framework, portfolio and models](#) used for track, structures and signalling (the three largest areas of renewal expenditure). This looked at the modelling framework, principles, input data and the progress that Network Rail had made in developing its tools since the last independent review in 2013. We identified several areas for improvement and made recommendations, in particular to ensure that track,

signalling and structures asset models are robust and applied consistently. We will monitor the progress of these recommendations throughout year 4 and beyond.

Network Rail met its enhancement milestones target

- 2.96 Nationally Network Rail achieved its enhancement milestones target, delivering 95% of planned milestones ahead of time or on time. Network Rail Scotland was the only region not to achieve its target. This was due to development of a new station on the East Coast Main Line in Scotland (Reston) which was delayed by storms earlier in the year.
- 2.97 In July 2020 we completed our first review of Network Rail's regions' capability using our new Capital Investment Capability Framework (CICF) maturity assessment. [A summary report](#) is available on our website. Overall, the review found that Network Rail projects followed formalised processes, but that it could improve performance through greater consistency and standardisation. Each region developed an improvement plan based on the findings of the review.
- 2.98 During year 3, we monitored the national portfolio of enhancements for improvements. We saw clear improvements to processes and training, but we have not yet seen the behavioural changes which are necessary to realise the full benefits of the improvement plans.
- 2.99 We also worked closely with Network Rail's internal panel of experts, who carried out an assurance review of the improvement plans. The findings of this review will be published later in 2022.

We require Network Rail to improve close out of Authorisation Conditions

- 2.100 The Railways (Interoperability)(Amendment)(EU Exit) Regulations 2019 ensure that there is a clear and accessible technical standards framework in place, and that the railway interoperability regime is maintained. One of the core requirements of the EU Interoperability Directive (2008/57/EC) and associated Interoperability Regulations was that no structural or vehicle subsystem can be put into use on or as part of the Great Britain rail system unless we have provided an interoperability authorisation for it.
- 2.101 These regulations allow for us to include conditions within an Authorisation Letter. If a condition contains a requirement that is not then met by the specified time, then the authorisation ceases to be valid, and the applicant or operator is in breach of the regulations. During year 3, we conducted a review of Network Rail's management of such time-bound conditions. The review concluded that:

- (a) many historic conditions remained open (or at least had not been formally closed) and some related to authorisations issued as early as 2015;
- (b) there was no consistency in the management of post-authorisation conditions between regions; and
- (c) there was a lack of assurance from Technical Authority and the Network Rail Assurance Panel (or NRAP, which reviews matters on behalf of the Network Rail Executive prior to structural subsystems being put into service) for management and closure of timebound conditions.

2.102 We wrote to Network Rail Scotland, Eastern, and Southern regions and Technical Authority requiring compliance or a plan to achieve compliance. Network Rail responded, setting out its plan to close out our recommendations and introduce a national conditions tracker to be reviewed by NRAP. We will monitor progress on this during year 4.

Network Rail's National Functions performed well, but there were some operational challenges

2.103 Performance from 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 various responsibilities and services on a centralised basis (including for example finance, safety protocols and procurement).

2.104 In general, these functions performed well against their internal scorecard targets. However, there have been some performance challenges where new responsibilities have been taken on in CP6.

2.105 In particular, the Route Services function's delivery of High Output track relaying was behind target. The ballast cleaning service delivered in line with targeted outputs while the track relaying service was below target. Outputs were impacted by a pause to the service for a few weeks in October 2021 to enable the delivery of safety improvements. We understand that the regions provided some negative feedback on the cost and reliability of the service and reduced their demand. As a result, Network Rail is reviewing the operating model for the service. We will continue to monitor developments to ensure decisions made consider efficiency and asset sustainability.

2.106 Route Services also missed its internal target for the year for its rail milling service, which is used to extend the life of the track asset. This was caused by operational issues when the first milling train came into service on the network. Network Rail

reported issues with gauge and route clearance rather than with the rail milling machine itself. Route Services is working to resolve these issues and is bringing a second rail milling train into service. We understand that performance is now settling down after these initial issues and a second train has been entered into service. Continued delivery of the rail milling service is a key part in the function's plans and we will continue to monitor its performance, and the collaborative approach taken to its planning and delivery with the regions.

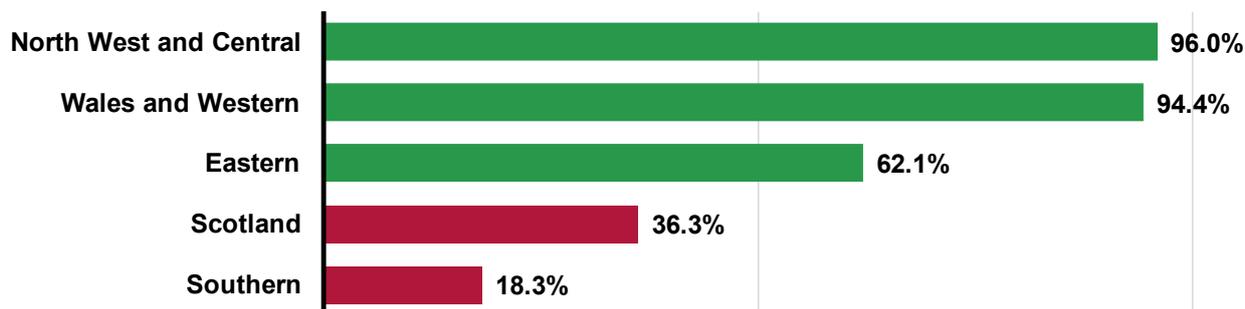
Network Rail exceeded its network-wide environmental target

Network Rail exceeded its network-wide environmental target and has made good progress with implementing the main environmental priorities.

- 2.107 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. Carbon emissions and energy usage elements of the measure are weighted highest at 40% each, while the two waste elements are 10% each. As Network Rail runs ESI two periods in arrears the data reported in their final year 3 scorecards, and therefore this report, is only up until period 11 of year 3 (from period 12 of year 2).
- 2.108 Network Rail reported that it exceeded its network-wide targets for reusing or recycling waste, diverting waste from landfill and reducing non-traction carbon emissions. It finished behind target for reducing non-traction energy use, partly due to the increased activity in its stations.
- 2.109 ESI performance was strongest in North West and Central, as shown in Figure 2.11. Network Rail Scotland and Southern failed to achieve their ESI targets for the year.

Figure 2.11 Environmental Sustainability Index (ESI) by region, annual data, April 2021 to March 2022

Key: ■ Above target ■ Below target



Source: ORR analysis of Network Rail data

2.110 The ESI regional results for year 3 vary, particularly on non-traction energy use. This partly reflects different targets set for each region based on performance in years 1 and 2, and varying maturity of their plans to deliver ESI targets. We consider there is an opportunity to share best practice between regions and encourage Network Rail to do so.

2.111 North West and Central exceeded its ESI target achieving 96% against a target of 50%. This builds on the region’s good performance in the previous year. It was the only region to exceed the annual targets for all four ESI elements.

2.112 Network Rail Scotland exceeded its annual target for waste reused or recycled and waste diverted from landfill. But it failed to achieve its overall ESI target as performance for reduction in non-traction carbon emissions and energy use, the two highest weighted elements of the measure, were below target.

2.113 Despite this, we consider that Network Rail Scotland’s management of environmental sustainability to be comprehensive. The region has its own regional environmental strategy with detailed actions set out, strong governance in partnership with Transport Scotland and ScotRail Trains Limited, regular progress meetings and a Network Rail Executive sponsor.

2.114 Southern recorded the lowest performance of all regions against ESI targets for the year. It did not meet targets for reduction in non-traction carbon emissions and reduction in non-traction energy use, which are the highest weighted elements. It had the highest target of all regions for both these elements based on good regional performance in previous years. Our wider monitoring of the region’s performance has shown that it has a strong model for governance in place, with

good communication channels with the Technical Authority, and detailed actions set out in its own regional environmental strategy.

- 2.115 Network Rail's reporting of ESI was hampered by issues with energy use data and other errors which we identified. We challenged Network Rail on this and issues were corrected but this has made monitoring of ESI difficult.
- 2.116 We undertook an [Independent Reporter Review](#) of Environmental Sustainability data last year (on data for April 2019 to March 2020) which made a number of process recommendations that Network Rail is now addressing. Following this report, and related work in Network Rail, a new composite measure for environmental sustainability is being introduced in year 4. This measure will run in parallel with ESI during the year with the potential to replace ESI in the final year of CP6.
- 2.117 Network Rail has produced its first State of Nature Report at both a regional and network level, which includes application of the "Biodiversity Metric 3.0" approach. This is a positive step, allowing Network Rail to assess whether it has achieved 'no net loss' in Biodiversity by 2024. We will continue to monitor performance in this area.

Delivery of customer-facing measures was good

All regions reported good performance against passenger satisfaction targets

- 2.118 During year 3, Network Rail changed (with our agreement) the way it measured and reported passenger satisfaction on its scorecards, adopting the Wavelength survey which is managed by the Rail Delivery Group (RDG). Wavelength surveys a panel of passengers on their experience of journeys. It is an industry-wide programme, designed to improve data about the customer experience. It provides a range of data to Network Rail on a periodic (4 weekly) basis, compared to the twice-yearly National Rail Passenger Survey which was used previously.
- 2.119 As shown below, all regions exceeded their scorecard targets for passenger satisfaction. Nationally, Network Rail achieved a Wavelength score of 7.93 (1 being poor and 10 excellent) and was ahead of target, recognising the consistently strong responses over the year.

Figure 2.12 Passenger satisfaction (Wavelength) by region, annual data, April 2021 to March 2022

Key: ■ Above target ■ Below target



Source: Network Rail's regional comparison scorecard

All regions exceeded their complaints handling targets

- 2.120 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, (ii) the average age of open service requests, and (iii) the turnaround time of closed service requests.
- 2.121 All five regions outperformed their complaints handling targets in year 3. In our last Annual Assessment of Network Rail's performance, we highlighted concerns with Eastern region's achievement of this measure (which for year 2 was 20.7%). The region was embedding targeted improvements, and these appear to be having an impact. In year 3, the region reported that its caseload has fallen, and escalated complaints and turnaround times had reduced.

Figure 2.13 Complaints handling by region, annual data, April 2021 to March 2022

Key: ■ Above target ■ Below target



Source: ORR analysis of Network Rail data

2.122 Information on Network Rail’s handling of its managed stations complaints is available in our separate publication: the [‘Annual Rail Consumer Report’](#).

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

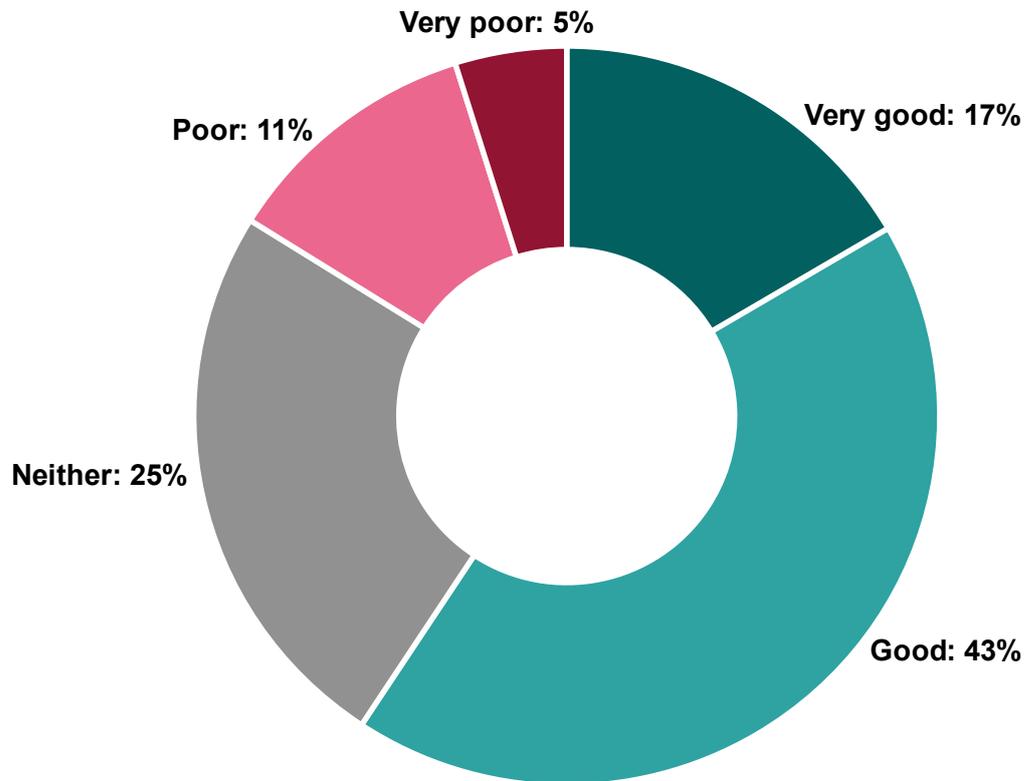
2.123 Network Rail has identified stakeholder engagement as a fundamental part of how it seeks to improve its performance. For CP6, Network Rail committed to engaging with its stakeholders in a way that improves delivery for rail users and Governments and enhances value for money. We are not prescriptive 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.

2.124 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.

2.125 We are currently undertaking our third annual assessment in CP6. We are in the process of collecting and analysing evidence on how well Network Rail’s regions and business functions 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.

2.126 Preliminary findings show that 59% of 248 respondents rated the overall quality of Network Rail’s stakeholder engagement as good or very good, while 16% 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 year



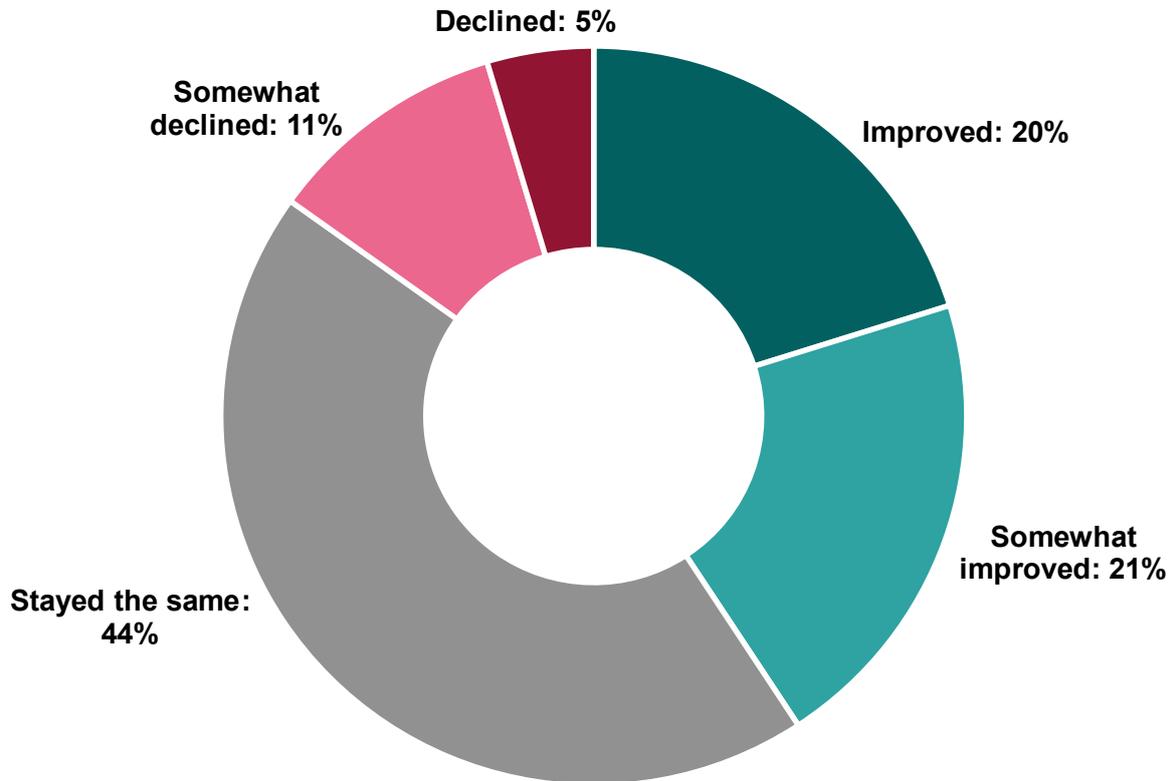
Survey question: 'Overall, how would you rate the quality of Network Rail's engagement with you during the last year (1 April 2021 to 31 March 2022)?'

Base = 248 respondents, excludes 'Don't know' responses

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

2.127 Our preliminary findings also show that 41% of 238 respondents thought that the quality of Network Rail's engagement had improved or somewhat improved, and 15% 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 year, (1 April 2021 to 31 March 2022), in your opinion has the quality of Network Rail's engagement with you...'

Base = 238 respondents, excludes 'Don't know' responses

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

2.128 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 September 2022. We will continue to report on the quality of Network Rail's stakeholder engagement throughout CP6.

Network Rail's performance data and reporting must improve

- 2.129 Network Rail reports its performance is through its scorecards and other data sets. During year 3 we have identified data quality issues, as reported throughout this chapter. This has particularly impacted the ESI measure. One of our key concerns has been the lack of robust quality assurance which has led to errors and inconsistencies with this measure. This has made it difficult for us to understand performance and when we identify errors, it can undermine our confidence in Network Rail's data.
- 2.130 We have raised these points with Network Rail. It has acknowledged our concerns and taken action where we have identified specific issues. It must continue to improve its quality assurance and communication, so that issues are flagged and rectified, and our concerns are responded to in a timely way.

Annual Assessment of Network Rail

Eastern region



3. Network Rail's Eastern region

Summary

Eastern region's delivery of train service performance was good compared to other regions and it exceeded its efficiency plans. However, it must improve its inspection of structures. We remain concerned that a long-term solution for the East Coast Main Line timetable has yet to be agreed.

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.

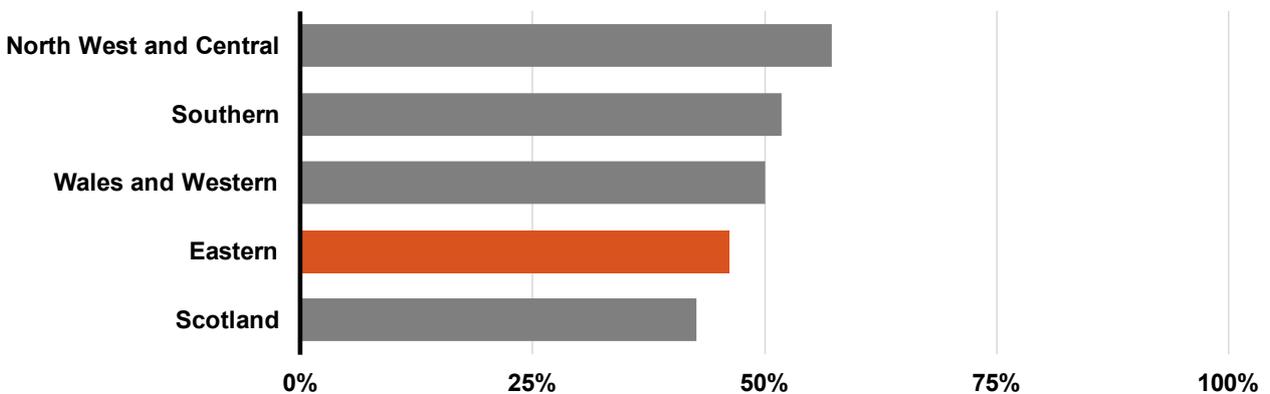


Headline performance during April 2021 to March 2022

- 3.3 Like other regions, Eastern set ambitious passenger train performance targets for the year at the record levels seen at the end of March 2021. It fell short of these targets, but passenger train performance was better than before the pandemic.
- 3.4 Eastern region is working with the System Operator to develop options for resolving capacity challenges on the East Coast Main Line (ECML) and to deliver a new timetable. In August 2021, the decision on implementing a new timetable was deferred and, at time of writing, it is still not confirmed whether, when and in what form this timetable change may be implemented. We recognise that Network Rail needs clear decisions from stakeholders to progress this.

- 3.5 Significant renewal and enhancement work on ECML and Midland Main Line (MML) was managed well. However, we are concerned about Eastern’s failure to examine its structures in line with its standards. Non-compliant examinations are significantly higher than in other regions and there are weaknesses in its recovery plan. It must now deliver improvements.
- 3.6 Eastern exceeded its overall environmental sustainability target. Performance exceeded targets for all areas measured, except for non-traction energy use, where performance was slightly below the annual target.
- 3.7 Delivery of efficiencies in the year was better than target. The region will need to build on this in the next two years to deliver its CP6 target. The region's wider financial outturn underperformed by £71 million.
- 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, with 50% being on target. Eastern was below target, achieving 46.2% on its scorecard for the year.

Figure 3.1 Overall scorecard performance by region, annual data, April 2021 to March 2022



Source: Network Rail’s regional comparison scorecard

Passenger train performance was good and some of the punctuality gain made the previous year was retained

Passenger train performance declined from the record levels of the previous year but was better than before the pandemic. Freight performance declined to below the scorecard target.

- 3.9 Between April 2021 and March 2022 (year 3 of CP6), passengers returned to the railway as the pandemic restrictions were relaxed. Commuters returned, but peaks were quieter. Leisure travel returned faster, and weekend demand increased.
- 3.10 Network Rail set itself ambitious train performance scorecard targets for the year aimed at maintaining the high levels of performance seen the previous year. While Eastern region did not achieve its scorecard target, it maintained performance at higher levels than before the pandemic. Network Rail attributed delay in Eastern was 1.22 minutes per 100 train kilometres in year 3, compared to 1.00 in year 2 (April 2020 to March 2021), and 1.61 minutes in year 1 (April 2019 to March 2020). Anglia and East Midlands were the best performing routes within the Eastern region.
- 3.11 Eastern worked with train operators to make performance improvements in many areas. These included timetable changes, better infrastructure management, investments in training and tackling external causes of delay.
- 3.12 The East Midlands Railway (EMR) timetable change in May 2021 caused higher levels of train cancellations for several months, in particular on EMR regional services. Eastern responded with a programme of improvements including improved operational planning such as platforming of services at Nottingham station. It also worked with the operator on fleet reliability and traincrew availability.
- 3.13 Eastern ended the year with the highest On Time performance of all regions at 75.6% which was largely driven by stronger performance in the Anglia route. In year 3, the Anglia route reported improved performance as a result of a number of targeted interventions. Some examples include improving resilience of the timetable, reducing the duration of incidents that cause delay and improving the reliability of its infrastructure, particularly on the London Overground North London Line and the Gospel Oak to Barking line.
- 3.14 Eastern freight performance (as measured by FDM-R) declined to 93.3%, which was below its scorecard target of 95.1%. Freight performance within the region,

and particularly in the Anglia route, declined due to external factors, including vandalism, trespass and weather-related incidents throughout the year, particularly Storms Dudley, Eunice and Franklin in February 2022. The region also reported an increase in delay caused by non-track asset incidents (infrastructure such as train detection systems, points and power).

- 3.15 Overhead line asset failures on the ECML were a key cause of Network Rail attributed delay in Eastern. The region is undertaking a campaign of overhead line component renewals to mitigate this.
- 3.16 Network Rail reported an increase in trespass during the year, corresponding with the easing of pandemic restrictions. On the ECML and North and East routes trespass incidents doubled. Both routes are taking action to tackle this issue, including installing more lineside fencing and deploying trained staff to approach vulnerable individuals at locations with high instances of trespass.
- 3.17 Eastern region progressed several schemes through the £40 million Performance Innovation Fund (PIF). These include projects aimed at route crime, and minimising autumn delay. The North and East route ran a train-borne technology trial, which involves removing leaf fall contamination by freezing it. If successful, this innovation could be rolled out more widely across Network Rail for improved autumn performance.
- 3.18 As reported in the network-wide chapter, we carried out independent reporter work reviewing delivery of a sample of joint Network Rail and train operator performance strategies and their delivery through projects. In Eastern, the joint Network Rail and Greater Anglia performance strategy was reviewed.
- 3.19 The reporter found that the line of sight between the strategy and specific performance improvement plans could be improved, but there was good evidence of improvement plans being delivered. The reporter also found that benefits management of plans and projects could be improved.
- 3.20 We identified good practice from the sampled projects as illustrated in the case study below.

Case study: Anglia suicide community awareness programme

In the Anglia route, we identified the Anglia suicide community awareness programme as good practice. The programme included recruiting a mental health nurse to help reduce suicides and suicidal behaviour. The nurse assisted Network Rail in training rail industry staff in how to identify possible suicidal behaviour and how to intervene.

Learning from this good practice, there is potential to roll out similar programmes to other routes and regions.

Capacity and access to the network

- 3.21 We make sure that passenger and freight train operating companies have fair access to the rail network to make best use of capacity. Where operators and Network Rail cannot reach agreement on a track access contract, they can appeal to us to use our statutory powers to direct a decision on access. Operators and Network Rail need to plan these contracts in sufficient time to produce robust timetables and ensure other operators can plan their own use of capacity.
- 3.22 Eastern region is working with the System Operator to develop options for resolving capacity challenges on the ECML and to deliver a new timetable. In July 2021 we expressed concern that a decision on implementation of the May 2022 ECML timetable had not been taken and there were a number of outstanding issues. In August 2021, the decision on implementing a new timetable was deferred. We recommended that funders and Network Rail should learn lessons from this deferral in implementing a new timetable in May 2023.
- 3.23 In April 2022, [we wrote to Network Rail and the Department for Transport](#) recognising cross-industry collaboration on the timetable development but expressing ORR's view that a firm decision was needed on the implementation of the May 2023 timetable within a month. The region has collaborated to develop options for resolving the underlying capacity challenges. However, at time of writing, it is still not confirmed whether, when and in what form this timetable change may be implemented. We do however recognise that Network Rail needs clear decisions from stakeholders to progress this.

Asset management outcomes were positive, but structures examinations must improve

Asset reliability in Eastern improved during the year and the region delivered on its planned renewal volumes. It exceeded its environmental sustainability target. The region must improve its structures examinations processes.

- 3.24 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. Eastern finished the year with a CSI of 0.1%. This represents an improvement in overall asset sustainability of 0.1% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of -1.7%.
- 3.25 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.

Reliability of assets improved for the second successive year

- 3.26 Eastern set a stretching Composite Reliability Index (CRI) target for year 3, at the high levels of reliability experienced in year 2. It was one of only two regions to achieve its asset reliability scorecard target for the year.
- 3.27 Eastern finished the year with a CRI score of 10.5% against a scorecard target of 7.1%. This means the region was 3.4 percentage points above (better) than its annual scorecard target and 10.5% better than it was in the final year of CP5.
- 3.28 The performance of Overhead Line Equipment (OLE) was raised as an issue in our last Annual Assessment but in year 3, there have been significant improvements in condition monitoring. However, some issues remain including the need for better weather resilience and improved targeted interventions.

Renewal volumes delivery was good

- 3.29 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. Eastern'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.

- 3.30 OLE rewiring and refurbishment delivery was significantly below plan (completing 56%). This was mainly due to an error that Network Rail made when setting its plan for year 3 in March 2021. The region has delivered additional partial refurbishment works to improve asset resilience, but this has been largely offset by a reduction in full refurbishment.
- 3.31 Some renewal work is not captured through the effective volume measure, so we also look at wider delivery. Eastern region's wider renewals performance was also broadly in line with plans, but buildings, electrification and fixed plant and telecoms renewal volumes were below target.

Extreme weather events continued to impact the network

- 3.32 The increased frequency and severity of extreme weather events continued to affect performance of Eastern's assets.
- 3.33 The impact of flooding from land neighbouring the network was notable in the region. For example, flooding occurred on the Lowestoft line approaching Haddiscoe resulting in the evacuation of passengers from a stranded train, and Rotherham Central Station was flooded due to the raised levels of the nearby River Don following Storm Franklin. However, while the first two years of CP6 saw a sudden rise in the number of earthworks failures, in year 3, the region reported a reduced number of failures compared to previous years.
- 3.34 During the year, one of our [Targeted Assurance Reviews](#) (TARs) highlighted that Eastern Maintenance Delivery Units needed to improve asset knowledge and maintenance strategies. We recommended that the region should develop a clear line-of-sight between regional weather resilience strategies and delivery teams. We continue to monitor Eastern's progress against the recommendations from our TARs.
- 3.35 Eastern has the greatest length of overhead line electrified track on the network. We stated in our last annual assessment that we would continue to monitor Eastern's performance in managing vegetation encroachment on overhead line assets. This year fewer incidents were reported. The region implemented a vegetation compliance recovery programme and managed vegetation encroachment on overhead line assets well.

Structures examinations must improve

- 3.36 During the year, we raised our concerns that the Eastern region's examinations of its structures assets (such as bridges) were not being carried out in line with its standards, creating a backlog of work. This is an important issue. If the region

does not complete the overall examination process at the required intervals, faults could be undetected (or detected but not properly assessed) with potentially serious implication for safety. Failure to manage the examination process could also impact the region's ability to plan maintenance and renewal activities efficiently, which is particularly important now as plans are being developed for Control Period 7 (CP7, April 2024 to March 2029).

- 3.37 At the end of year 3, Eastern had 10,767 structures examination non-compliances, within the structures regional portfolio of 16,063 assets.
- 3.38 We reviewed all regions' recovery plans and sought assurance that timebound actions were being pursued. We found that Network Rail's plans were aimed at elimination of non-compliance but consider that they contain some weaknesses and do not yet fully address our concerns.
- 3.39 In 2018, Network Rail sold leases to commercial spaces under railway arches to a third party, Arch Co. Many of the arches sold under this agreement are within the Eastern region. In 2019, Network Rail advised us that it was sometimes being denied access to the arch space to carry out inspections and undertake repair work where required.
- 3.40 This continues to be an area of concern. We have, however, started to see evidence of effective engagement between Network Rail and Arch Co. Network Rail initially said the overall backlog of examinations for tenanted arches would be eliminated by April 2022. However, a change to its supply contract caused some delivery disruption to the initial programme and the revised completion date for the elimination of the backlog is now September 2022.
- 3.41 We continue to monitor progress at periodic meetings with Arch Co. and Eastern and will hold the region to its revised completion date of September 2022. If the region does not meet this date, we may consider further action.

Environmental delivery was good

- 3.42 Eastern region exceeded its Environmental Sustainability Index (ESI) target, achieving 62.1% against a target of 50%. Performance exceeded the annual target for non-hazardous waste recycled or reused, non-hazardous waste diverted from landfill and reduction in non-traction carbon emissions. Performance was slightly below the annual target for reduction in non-traction energy use.
- 3.43 Eastern has its own regional environmental strategy which includes detailed actions. There is an opportunity for a stronger approach to governance with

oversight from Network Rail's Technical Authority and clearer line of sight to the national environment strategy. The region must ensure sufficient resourcing of this area, and of biodiversity in particular, to progress delivery of the regional environment strategy through the remainder of CP6.

- 3.44 As discussed in the network-wide chapter, we undertook an [independent reporter review of environmental sustainability data](#) during the year. This may lead to changes in the measures we use to monitor environmental sustainability going forward.
- 3.45 The region has produced its first State of Nature Report which includes application of the "Biodiversity Metric 3.0" approach. This is a positive step forward to allow the region to assess whether it has achieved 'no net loss' in Biodiversity by 2024. We will continue to monitor performance in this important area.

Eastern delivered well on enhancements projects

- 3.46 Eastern delivered some key enhancement projects during the year, including as part of the East Coast Upgrade. The complex remodelling of King's Cross station was delivered, simplifying the track layout leading to the station and renewing track, signalling and overhead line assets. The completion of the Werrington Dive Under Tunnel was another significant milestone. This work will enable quicker, more frequent and reliable journeys. Eastern also delivered a new station at Soham in December 2021 (funded by Cambridgeshire and Peterborough Combined Authority and delivered ahead of schedule).
- 3.47 The third Gasworks Tunnel at King's Cross was re-opened to passenger trains following 20 months' work to bring it back into use after 44 years. This provided six tracks in and out of the station, making it easier for trains to arrive and depart, improving reliability and increasing capacity.

Case study: Werrington Grade Separation



Source: Network Rail

The Werrington Grade Separation opened to traffic in December 2021. This involved pushing a 11,000 tonne, 155 metres long curved concrete box under the East Coast Main Line in January 2021, the first time this had been done in the United Kingdom.

The dive-under enables freight trains to go underneath the East Coast Main Line, separating high-speed passenger services from slower freight trains.

- 3.48 Eastern delivered improvements to the Midland Main Line including new overhead line equipment between Bedford and Corby, improvements to station platforms and major work to upgrade bridges. This enabled the introduction of a new timetable in May 2021, running electric services between London and Corby and an additional hourly train path, increasing the number of seats for passengers.
- 3.49 Eastern completed work on the Transpennine Route Upgrade including the new platform 0 and longer train standages at platform 6 at Leeds station. The track was also remodelled and works to the signalling system were completed, providing greater flexibility at the west side of the station.

3.50 The East Coast Digital Programme is an industry transformation programme which will replace life-expired conventional signalling with digital in-cab signalling between London Kings Cross and Stoke Tunnel. The programme has been in its development phase in the early years of CP6 and continues to make good progress.

Efficiency targets were delivered

While Eastern region exceeded its efficiency target for the year, it had the highest financial underperformance of all regions.

- 3.51 Eastern region delivered around £251 million of efficiency improvements in year 3, 8% ahead of its £232 million annual target. The region's largest efficiencies in the year related to contracting strategies and new technologies.
- 3.52 Eastern region is forecasting to deliver £1,080 million efficiency improvements in CP6. It has cumulatively delivered 51% of this in the first three years of the control period. While this suggests that Eastern is slightly ahead of other regions, it will still need to increase its delivery of efficiency improvements in the final two years to meet its overall CP6 forecast.
- 3.53 Despite delivery of planned efficiencies, the region's wider financial outturn underperformed by £71 million. This is the highest financial underperformance of the regions. This underperformance was predominately associated with renewals and has been attributed to delays, increased material prices, material shortages and energy price increases. Storms Dudley, Eunice, and Franklin also impacted on Schedule 4 and property income. We will examine the region's financial performance in greater detail, and against its CP6 delivery plan rather than its annual budget (which had a less challenging target) in our 'Annual Efficiency and Finance Assessment', which is due to be published in September 2022.
- 3.54 Eastern's leading indicators suggest that it is reasonably prepared to deliver increased efficiency improvements in year 4 (April 2022 to March 2023). As at March 2022, the region considered that 77% of its target efficiencies for the coming year to March 2023 will be achieved from projects that had already been delivered or had clear project plans. This is slightly ahead of the national average. 82% of its projects for year 4 had received financial authorisation and 76% of required disruptive access for planned engineering work had been booked. Whilst these indicators were ahead of the region's internal targets, they were behind the

national averages. We will continue to engage with the region about the development of its plans.

Workforce safety was mixed

Eastern region's performance on key safety indicators was mixed. The region continued to work to improve user-worked level crossing safety.

- 3.55 During the year, Eastern continued to improve its safety risk management maturity, reflecting sharing and embedding of good practice within the region's four routes. However, performance on key workforce safety indicators such as Lost Time Injury Frequency Rate (LTIFR) and Fatalities and Weighted Injuries (FWI) was mixed.
- 3.56 Level crossing modelled safety risks showed some improvement, driven largely by North and East, and East Coast routes. The instances of Signals Passed at Danger (where a train proceeds beyond its authorised movement to an unauthorised movement) increased during year 3.
- 3.57 Throughout the year, Eastern continued to work hard to implement the improvements required by our enforcement notices, and there were positive efforts to improve user-worked level crossing safety in Anglia. We consider Anglia's proactive approach to level crossing safety to be good practice which should be shared with and adopted by other routes. Less positively, we found that control of contractors needs improvement, as does control of hand arm vibration risks.
- 3.58 Further information on our safety inspection activity, alongside a more detailed assessment of Network Rail's safety performance is reported in our 'Annual Health and Safety report', published in July 2022.

Stakeholder engagement improvements

- 3.59 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 2021.
- 3.60 In our last '[Annual Assessment of Network Rail stakeholder engagement](#)' we highlighted that Eastern needed to make improvements in a number of areas including proactively listening to lineside neighbours, improving consistency and

clarity in stakeholder engagement, and improving the transparency of the region's engagement activities.

- 3.61 Eastern indicated it has been implementing a plan to improve its engagement with lineside neighbours. It adopts a devolved approach to stakeholder engagement reflecting the geography and diverse stakeholder audiences in the region. The region also said it has been 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 is expected to be published later in 2022.

Annual Assessment of Network Rail

North West and Central region



4. Network Rail's North West and Central region

Summary

For overall scorecard performance, North West and Central was Network Rail's top performing region for the year. It retained much of the train performance gain achieved during the pandemic and delivered its planned efficiencies. But the region underdelivered on asset renewals and needs to improve asset reliability.

Overview

4.1 Network Rail's North West and Central region runs from London Euston and 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.



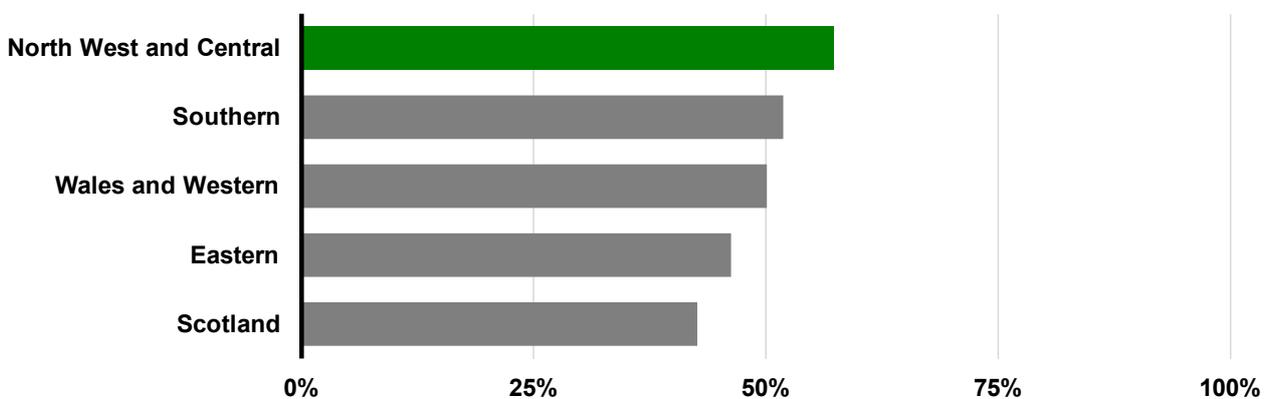
Headline performance during April 2021 to March 2022

4.2 Within the context of the continued impact of the pandemic and increasing passenger numbers and trains running, North West and Central worked well to return more services to the network and to keep passengers and staff safe.

4.3 The region worked hard to retain the passenger and freight train service performance benefits achieved in the previous year. Although performance declined, the region retained much of the punctuality gain achieved during the pandemic.

- 4.4 During the year, we published our [final assessment](#) of North West and Central’s response to the findings of our May 2020 investigation into poor performance in the region. The region has shown commitment to improving performance and has satisfactorily addressed all 25 of our recommendations.
- 4.5 Asset reliability, as measured by the Composite Reliability Index (CRI), was below target. In particular, the region needs to improve track and electrical power asset reliability. It also underdelivered asset renewal work. The region has a backlog of structures examinations which it needs to reduce.
- 4.6 North West and Central’s management of health and safety was mixed. It made good progress on track worker safety but needs to address the remaining use of red zone unassisted lookouts and lookout operated warning systems. A serious electrical burns injury in Wolverton in May 2021 is a reminder of the continued need to focus attention on good health and safety management. The backlog in asset inspections for earthworks and structures remains a concern, as does the slow pace in establishing asbestos management arrangements.
- 4.7 The region performed well against its efficiency target for the year, delivering £162 million in efficiencies. Building on this, it will need to increase the delivery of efficiencies over the next two years to meet its target for the end of CP6. The region financially underperformed by £24 million, mainly due to renewals activities.
- 4.8 Network Rail measures its regions’ overall performance using scorecards which contain a range of performance measures. Overall performance is expressed as a percentage, with 50% being on target. North West and Central achieved 57.2% on its scorecard for the year – the best outturn of all the regions.

Figure 4.1 Overall scorecard performance by region, annual data, April 2021 to March 2022



Source: Network Rail's regional comparison scorecard

Passenger and freight train performance remained above pre-pandemic levels

North West and Central worked hard to retain the passenger and freight train service performance benefits achieved in the previous year. While performance declined, much of the punctuality gain achieved during the pandemic was retained.

- 4.9 Network Rail set ambitious train performance targets for its regions for April 2021 to March 2022 (year 3) – to maintain the record levels of performance seen at the end of March 2021. North West and Central did not achieve its train service performance target but, working with train operators, it retained much of the punctuality gain made in the previous year and performance remained much better than before the pandemic. Network Rail attributed delay in year 3 was 1.39 minutes per 100 train kilometres, compared to 1.15 minutes in year 2 (April 2020 to March 2021), and 2.03 in year 1 (April 2019 to March 2020).
- 4.10 Reliability (trains cancelled) was less good. COVID-19 related staff sickness was a particular challenge. Operators saw high levels of cancellations as a result.
- 4.11 External trespass and fatalities continued to cause disruption. In response, the region is delivering its Route Crime Strategy which includes trespass barriers, British Transport Police patrols and local community activity.
- 4.12 In February 2020, we identified poor train performance in the North West and Central region. We investigated whether the region had identified key factors impacting on train performance and set time-bound plans to mitigate them. We published our [conclusions and recommendations](#) in May 2020. Since then, we have worked closely with the region to monitor what action it has taken to address our findings.
- 4.13 In last year's annual assessment, we reported that the region had addressed all except six of our recommendations. We therefore extended our enhanced monitoring and assessment into year 3, holding the region to account to complete these remaining actions. During the year, North West and Central demonstrated a genuine commitment to improve. In November 2021, we [wrote](#) to the region confirming that it had substantively addressed all recommendations made in our investigation and that train performance management in the region had improved.
- 4.14 North West and Central has made significant use of the Performance Innovation Fund (PIF), securing nearly a third of funds allocated across Network Rail, a total

of £11.96 million. It has funding for 33 projects that are intended to improve performance. One £4.4 million project aims to fit double variable rate sanders across the Northern Class 323 fleet by autumn 2023. It seeks to demonstrate the benefits of the equipment when fitted to a full fleet, including the potential to run a normal year-round timetable during the autumn leaf-fall season.

- 4.15 North West and Central was the second-best performing region for freight performance, missing its scorecard target by one percentage point. It ended the year with 94.0% Freight Delivery Metric (FDM-R MAA) performance against a target of 95.0%. This was below the trajectory of 94.5%, but above the regulatory floor of 93.1%. During year 3, weather, including storms Dudley, Eunice and Franklin impacted freight performance. The region responded by setting up a freight operations forum to identify improvements for managing freight incidents and ensuring focus on freight flows during disruption.

Some good practice in performance management but scope to improve

- 4.16 As reported in the network-wide chapter, we carried out independent reporter work reviewing delivery of a sample of joint Network Rail and train operator performance strategies and their delivery through projects. In North West and Central, the joint Network Rail and Northern performance strategy was reviewed.
- 4.17 The reporter found that the line of sight between the strategy and specific performance improvement plans could be improved, but that there was good evidence of improvement plans being delivered. Additionally, benefits management of plans and projects could be improved.
- 4.18 The reporter identified examples of good practice from the sampled projects, including focusing on improving punctuality of the day's first trains. This produced improved performance and led to some changes being made to the timetable, with more being planned for the December 2022 timetable.

Progress on congested infrastructure

- 4.19 Part of our role is to ensure that passenger and freight train operating companies have fair access to the rail network to make best use of capacity. Where operators and Network Rail cannot reach agreement on a track access contract, they can appeal to us to use our statutory powers to direct a decision on access. Operators and Network Rail need to plan and agree these contracts in sufficient time to produce robust timetables and ensure other operators can plan their own use of capacity.

- 4.20 In year 3, North West and Central made progress on two areas of congested infrastructure. The Castlefield Corridor was declared as congested in April 2019 with capacity analysis work undertaken and a capacity enhancement plan developed by the Manchester Recovery Taskforce, completed by February 2021. A reduction in planned paths enabled a new timetable to be developed during year 3, which is intended to deliver performance and reliability benefits from December 2022.
- 4.21 We are encouraged that Network Rail has proceeded with the recast of the West Coast Mainline December 2022 timetable. In April 2022, we wrote to Network Rail and the Department for Transport recognising the progress made through collaboration across industry and setting out the outstanding decisions and issues that they needed to address. We will closely monitor the risk involved in the timetable recast, including how Network Rail manages performance concerns, power traction risks and London Euston platform availability. We are concerned that the region delayed setting out its position on two access applications on the West Coast Mainline South, a section of which was declared congested in May 2020. We need timely, comprehensive representations, supported by strong evidence to enable us to make a decision on these applications which can then be incorporated into timetable planning.

Asset management needs improvement

North West and Central's asset reliability was below target. It will need to focus on its renewals plans over the remainder of the control period and reduce its backlog of structures examinations.

- 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 and Central finished the year with a CSI of -1.6%. This represents a decline in overall asset sustainability of 1.6% 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 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 was below target

- 4.24 The reliability of assets in North West and Central as measured by the Composite Reliability Index (CRI), finished the year with a score of 3.7% against a scorecard target of 10.7%. This means the region is 7.0 percentage points below its annual scorecard target, but 3.7% better than it was in the final year of CP5.
- 4.25 When compared to other regions, North West and Central has the lowest CRI score. Within this composite measure, the reliability of track and electrical power has caused particular concern throughout the year.
- 4.26 Water saturated rail beds and cyclic top sites (dips or vertical irregularities in rails leading to bouncing which in severe cases can risk derailment) were key factors impacting track reliability. The Central route was the worst performing in the region. A regional boundary change at Worcester led the route to inherit a stock of aged assets which require intensive management. The region has informed us that it is putting in place robust plans for improvement, which we will monitor.
- 4.27 The reliability of electrical power assets was below target throughout year 3. Reliability of these assets was also low in the previous year and a number of improvement initiatives were undertaken. In year 3, there was an improvement in the performance of AC traction power assets. However, traction power capability of some critical parts of the network is at its limit, causing asset reliability issues and posing a risk to electrification enhancement projects and timetabling. In addition, we are increasingly concerned by the performance decline of non-traction power in the region, and we will continue to monitor this.

Asset renewals plans were not fully delivered

- 4.28 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.
- 4.29 North West and Central underdelivered on its effective volumes plans during year 3 for five of the seven key asset types. Plain line track, switches and crossings, conductor rail, and earthworks asset renewals significantly underdelivered against plans. Under-delivery of plain line track volumes was due to deferrals and cancellations and change in intervention type. Overhead line renewal narrowly missed its delivery plan.

- 4.30 Some renewals work is not captured through the effective volumes measure, so we also look at wider delivery. The wider delivery of renewals volumes was mixed, with track (off track, plain line, and switches and crossings), structures, building assets, and electrification and fixed plant finishing substantially below target.

Structures examinations must improve

- 4.31 As with other regions, North West and Central needs to improve its processes for the examination of structures and reduce its backlog. At the end of the year, there were 6,521 structures examinations non-compliances within a regional portfolio of 16,615 assets.
- 4.32 We reviewed all regions' recovery plans and sought assurance that timebound actions were being pursued. We found that Network Rail's plans were aimed at elimination of non-compliance but consider that they contain some weaknesses and do not yet fully address our concerns.
- 4.33 We will continue to closely monitor the region's improvements to the robustness of its plans and its delivery. As discussed in the network-wide chapter, we will also monitor its plans to address the independent reporter recommendations on Network Rail's future delivery of structures examinations.

Weather resilience

- 4.34 Train performance during year 3 was impacted significantly by fallen trees on the line especially as a result of severe weather in autumn 2021. As part of our assurance activities, we identified that some planned vegetation clearance has slipped due to challenges in gaining access and resources. In response to this, North West and Central allocated extra resources and funding for additional de-vegetation works along the Central route and management of ash dieback tree disease, alongside optimisation of possession arrangements. We will continue to monitor the region's vegetation management, including through use of the independent reporter to review management and delivery within the coming year.

High Speed 2 impact

- 4.35 In December 2021, we published a Targeted Assurance Review (TAR) on [the impact of High Speed 2 \(HS2\) on Network Rail planned work](#). We are satisfied that Network Rail is taking a reasonable approach to managing the impact of HS2 on its core business, including oversight of cross-industry integration. Network Rail provided comprehensive information to illustrate any additional costs incurred and to demonstrate it has identified opportunities to optimise the phasing of planned renewals across CP7, CP8 and CP9. However, the cost estimates and

understanding of the associated benefits were at an early stage of development and we will require further assurance that they are justified and reasonable for our assessment of PR23.

- 4.36 We have recommended that Network Rail provides a plan on its proposals to seek funding in relation to the Crewe Hub and the West Coast Mainline North programme alongside the expected benefits and consequences. We expect this to include the effect on Network Rail's core operations, maintenance and renewals plans for CP7, taking account of factors such as whole life costs, deliverability, customer experience and safety. In addition, Network Rail should provide further assurance on the potential impact of other aspects of HS2 (such as materials by rail) on its assets and the risk mitigations it has put in place.

Environmental sustainability performance was strong

- 4.37 North West and Central exceeded its Environmental Sustainability Index (ESI) target (comprising of waste, carbon emissions and energy use elements), achieving 96% against a target of 50%. This result builds on the region's good performance in the previous year. It was the only region to exceed the annual targets for all ESI elements: non-hazardous waste reused or recycled, non-hazardous waste diverted from landfill, reduction in non-traction carbon emissions and reduction in non-traction energy use.
- 4.38 Our monitoring of the region's performance in this area during year 3 found it had its own environmental strategy in place, with detailed actions set out. However, there was the opportunity for stronger governance.
- 4.39 As discussed in the network-wide chapter, we undertook an independent reporter review of environmental sustainability data during the year. This may lead to changes in the measures we use to monitor environmental sustainability going forward.
- 4.40 The region has produced its first State of Nature Report which includes application of the "Biodiversity Metric 3.0" approach. This is a positive step forward to allow the region to assess whether it has achieved 'no net loss' in Biodiversity by 2024. We will continue to monitor performance in this important area.

North West and Central supported University Station redevelopment but needs to address the Bushey to Acton Lane power supply issues

- 4.41 While third party projects are largely outside of its control, Network Rail's role in these includes sponsorship and asset protection agreements which go through its

System Review Panels. The redevelopment of University Station in Birmingham required significant input from North West and Central to support delivery of this complex scheme by the West Midlands Rail Executive delivery team, including early deliverables to accommodate additional passengers during the 2022 Commonwealth Games.

- 4.42 An upgrade to the Bushey to Acton Lane Power Supply is needed for the December 2022 timetable change, but Network Rail expect to complete the upgrade in spring 2024. Network Rail has discussed measures to mitigate the delay with operators. The anticipated final cost of the upgrade has increased and there is currently a funding shortfall. We will continue to monitor the management of this upgrade.

Efficiency target was delivered

North West and Central achieved its efficiency target for the year, and will need to build on this to meet its target for the control period. The region financially underperformed by £24 million, primarily due to renewals activities.

- 4.43 North West and Central delivered £162 million of efficiency improvements in year 3, 3.3% ahead of its annual target of £158 million. The region's largest efficiency improvements included improved works delivery capabilities, organisational restructure efficiencies, and technology benefits.
- 4.44 The region forecasts to deliver around £730 million of efficiencies across CP6 in total. It has cumulatively delivered around 48% of this in the first three years of CP6. While this is in line with other regions, North West and Central will need to increase its delivery of efficiency improvements in the final two years to achieve its CP6 forecast.
- 4.45 Leading indicators suggest that North West and Central is reasonably prepared to deliver increased renewals volumes and efficiency improvements in year 4 (April 2022 to March 2023). However, more work still needs to be done. As at the end of March 2022, 74% of efficiency targets for year 4 should be achieved from initiatives that were already complete or had well developed project plans. This was in line with the national average. However, only 72% of planned renewals activities had been internally authorised, compared to a 85% national average, and only 67% of the disruptive access required for engineering work had been secured, compared to a 79% national average. We will continue to closely monitor

these measures and engage with the region about the development of its plans over the coming months.

- 4.46 Despite delivery of planned efficiencies, the region's wider financial outturn underperformed by £24 million against its annual budget, which was in line with other regions. Its financial underperformance was mainly due to renewals activities, which the region attributed to difficulties in obtaining site access from landowners, material shortages, increased track worker safety costs and other factors. These were partly offset by outperformance of its performance and possessions disruption incentive regimes.
- 4.47 We will examine the region's financial performance in greater detail, and against its CP6 delivery plan rather than its annual budget (which had a less challenging target) in our 'Annual Efficiency and Finance Assessment', which is due to be published in September 2022.

Health and safety performance was mixed

The region saw mixed health and safety performance during year 3. It made good progress with track worker safety, but some locations still use unassisted lookouts and lookout operated warning systems. We took enforcement action following a serious electrical burns incident. Progress was slow in instituting asbestos management practices and there are backlogs in structures and earthworks examinations and inspections.

Workforce health and safety

- 4.48 The number of workforce and contractor accidents was similar to that for the previous year. The Lost Time Injury Frequency Rate (LTIFR) was also broadly similar to the previous year and the region remained above its LTIFR target. A clear health and safety strategy and determined leadership will be needed to meet the challenging target set for the end of CP6.
- 4.49 The severity of incidents was lower this year than the last, and Fatalities and Weighted Injuries (FWI) reduced, finishing on target. FWI nearly halved compared to the start of the year. The largest number of incidents were slips, trips and falls (not from height).
- 4.50 The importance of good health and safety management was highlighted by Network Rail's £1.4 million fine for the Calveley incident in 2018 following

prosecution by ORR. In May 2021, a linesman suffered serious burns from contact with live overhead line equipment. We issued two improvement notices as a result. We will continue to monitor North West and Central's health and safety management through our inspections and investigations, using the Risk Management Maturity Model (RM3) for assessment.

Railway operations

- 4.51 Level crossing incidents increased slightly. The region struggled to achieve compliance with inspection frequencies in some areas. It plans to rectify this and it is important that compliance is maintained.
- 4.52 Level crossing closures continued to progress well, however the installation of active warning systems at passive crossings was again delayed. This is disappointing and, following our challenge, a revised programme for delivery has now been produced for the remainder of CP6.
- 4.53 The region deferred several level crossing renewals to CP7. It must make sure a risk-based approach is adopted when deferring work and ensure that deferral will not impact on the delivery of renewals already planned for CP7.
- 4.54 Part of the building structure collapsed at Northwich station in May 2022 and we launched an investigation into the incident. Quick action by Network Rail included inspections of stations in the vicinity and the issuing of a Special Inspection Notice, to identify risks of similar failures. Network Rail is working collaboratively with train operators to manage building assets.
- 4.55 There are significant backlogs for both structures and earthworks asset examinations/inspections. The region needs to reduce and stabilise this backlog at sustainable levels.
- 4.56 As part of its post-Carmont response, the region should ensure that all drainage assets are fully identified and that it has a risk-based inspection and maintenance regime. Network Rail drainage asset inspections are underway.
- 4.57 Asbestos survey work was completed on time, but progress in implementing asbestos management has been slower. A Regional Asbestos Management Plan and Site-Specific Asbestos Management Plans have yet to be published. We are pursuing this with the region and the Technical Authority, encouraging collaboration.

4.58 Further information on our safety inspection activity, alongside a more detailed assessment of Network Rail's safety performance is reported in our 'Annual Health and Safety report', published in July 2022.

Stakeholder engagement

4.59 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 2021.

4.60 North West and Central said it had initiated a process to re-map its stakeholders and update its engagement strategy which is due to conclude in summer 2022. The region has reported a commitment to making its engagement more systematic to enable closer working relationships which are responsive to its customers' changing needs.

4.61 Our 'Annual Assessment of Network Rail's stakeholder engagement', which will be published in September 2022, will review the effectiveness of the region's stakeholder engagement in more detail.

Annual Assessment of Network Rail

Network Rail Scotland



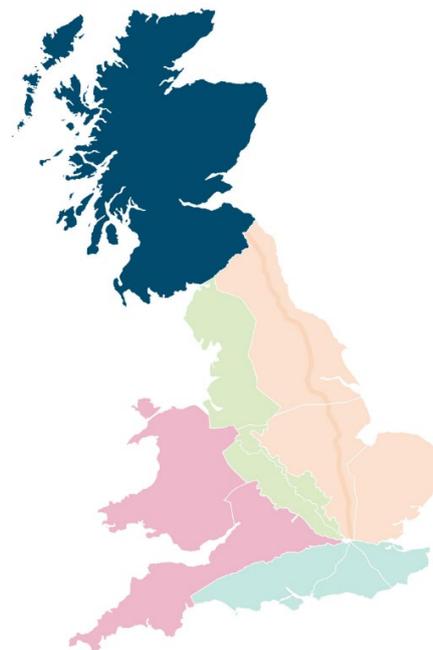
5. Network Rail Scotland

Summary

Network Rail Scotland's delivery of train service performance was mixed and it did not deliver on all its renewals volumes. The region also missed its efficiency target.

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 North East of Scotland.
- 5.2 Most rail services in Scotland from April 2021 to March 2022 were operated by Abellio ScotRail (ScotRail). Serco Caledonian Sleeper, London North Eastern Railway (LNER), Lumo, Avanti West Coast (AWC), CrossCountry, TransPennine Express (TPE) and freight operators run rail services both within Scotland and between Scotland and England.

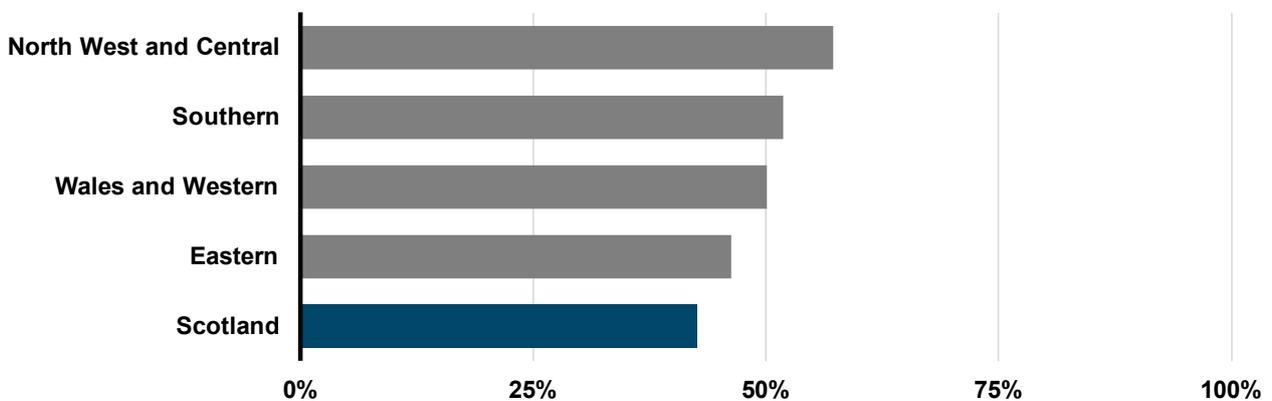


Headline performance during April 2021 to March 2022

- 5.3 Network Rail Scotland's delivery of train service performance was mixed. It missed its target for the main passenger operator in Scotland, ScotRail, but achieved its target for Caledonian Sleeper. It also achieved its freight performance target, delivering the best freight performance of all Network Rail's regions and improving significantly from the previous year, when it was the worst performing region.
- 5.4 Network Rail Scotland underdelivered on engineering works during the year. It delivered 87% of its planned renewals volumes, performing worse than other regions. The region's asset reliability was below its target but was the highest score of any region.

- 5.5 Network Rail Scotland did not achieve its financial targets for the year, with slight financial underperformance in all key areas of expenditure. It delivered lower efficiency than planned, missing its target by 21%.
- 5.6 The region exceeded its safety targets with key safety metrics improving on the previous year.
- 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 Control Period 6 (CP6) see [Annex 1 of our PR18 Final Determination](#)). Overall performance is expressed as a percentage, with 50% being on target.
- 5.8 As shown in Figure 5.1, from April 2021 to March 2022 (year 3 of CP6) Network Rail Scotland achieved 42.6% on its scorecard. This was the lowest of all regions, although passenger satisfaction and employee engagement were both higher in Scotland than in other regions.

Figure 5.1 Overall scorecard performance by region, annual data, April 2021 to March 2022



Source: Network Rail's regional comparison scorecard

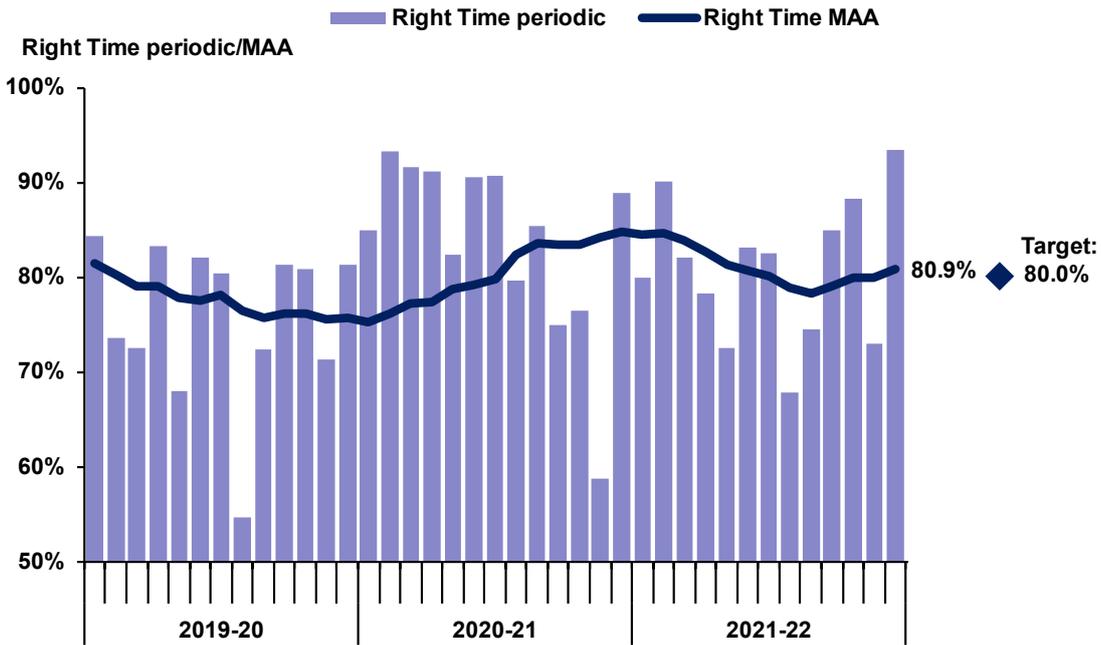
Passenger train performance was mixed, but freight train performance improved

Train service performance declined from the high levels seen in the previous year, with performance for the main passenger train operator falling below target by the end of the year. Network Rail Scotland and ScotRail produced a joint performance improvement plan and we are monitoring its delivery. Freight train performance improved.

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, for each year of CP6, we hold Network Rail Scotland to account for its delivery of:
- 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; and
 - Abellio 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.
- 5.10 As shown in Figure 5.2, Caledonian Sleeper RTA Moving Annual Average (MAA) started the year above target but trended downwards during the year. Performance fell below target in the winter but then recovered to 80.9%, 0.9 percentage points above target, by the end of the year.

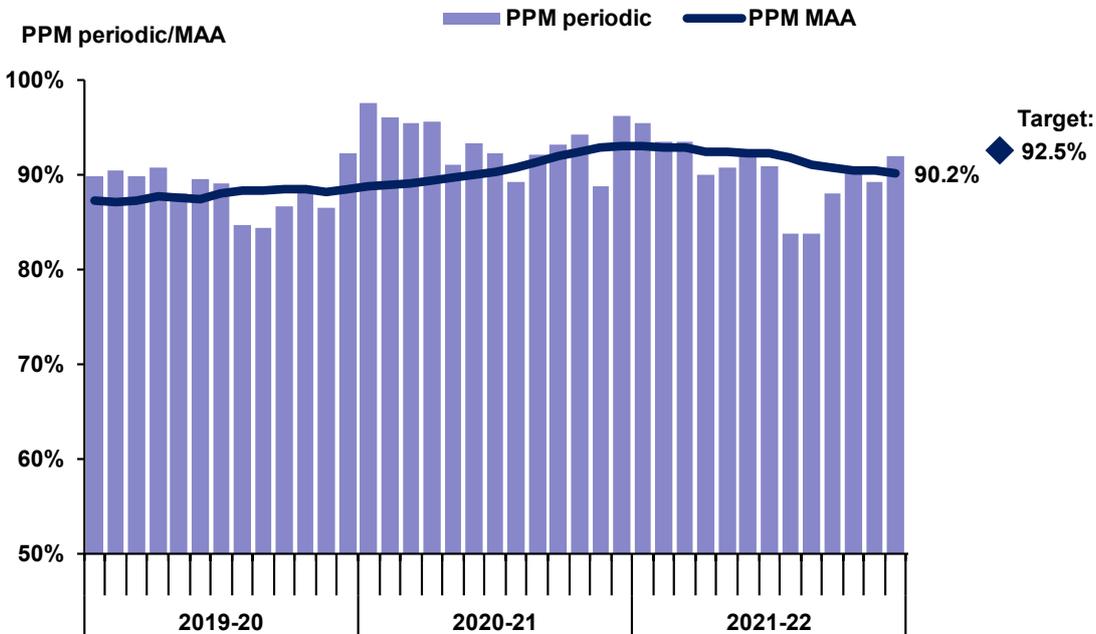
Figure 5.2 Caledonian Sleeper RTA, periodic data, April 2019 to March 2022



Source: ORR analysis of Network Rail data

5.11 Having started the year above target, ScotRail’s PPM MAA declined through the year to finish at 90.2%, 2.3 percentage points below target (see Figure 5.3).

Figure 5.3 ScotRail PPM, periodic data, April 2019 to March 2022



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 CRM-P to provide further insight on the region's 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. This measure allows us to compare how much delay Network Rail Scotland causes in comparison to other Network Rail regions.
- 5.14 As explained in our previous reports, in our Final Determination we set Network Rail Scotland the most challenging performance targets of all the regions in CP6, which reflect the expectations of its funder (the Scottish Government). Even so, there was a gradual worsening of Network Rail Scotland's CRM-P during the year and it finished at 1.13, 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 launch a formal investigation.
- 5.15 All the above train performance measures were impacted by similar factors. Strong performance at the start of the year was helped by train operators running a reduced service, with lower passenger numbers on the network due to the pandemic. As government restrictions eased and more passengers returned to the network, operators and Network Rail struggled to maintain the high levels of performance seen in the previous year.
- 5.16 Network Rail Scotland also had to manage the impact of COP26 (Conference of Parties) (31 October to 12 November 2021) in Glasgow, which it did well. This included managing enhanced services on key routes servicing the event, as well as higher than usual passenger numbers across the central belt of Scotland. For example, Network Rail Scotland used helicopter patrols and set up additional capability to respond to incidents to ensure they were resolved as quickly as possible with the least disruption to delegates.
- 5.17 Some of the key drivers for the decline in performance during year 3 were linked to factors within the control of the train operators (and not Network Rail). For example, they include train crew absences due to the pandemic, which peaked in late 2021 with the prevalence of the Omicron variant. ScotRail's performance was also impacted by fleet reliability issues.

- 5.18 Train delays associated with external factors, such as trespass and crime, are attributed to Network Rail as it plays a key role in managing them. Network Rail Scotland reported to us that there was a 30% increase in these incidents over the previous year, which had a significant impact on PPM.
- 5.19 Train delays associated with extreme weather are also attributed to Network Rail for the same reason. Of these, Network Rail Scotland reported to us that delays due to blanket emergency speed restrictions were the biggest factor, accounting for 25% of the delay caused by extreme weather. These speed restrictions were put in place to reduce the risk of a weather-related incident when forecast rainfall exceeded prescribed levels.

Network Rail Scotland and ScotRail established a joint train performance improvement plan

- 5.20 In response to the deteriorating performance during year 3, Network Rail and ScotRail established a Joint Performance Improvement Plan (JPIP). This was finalised in February 2022 and aims to address the key drivers of poor performance described above.
- 5.21 The JPIP has the commitment of senior management and was jointly signed by the Route Director at Network Rail Scotland and the Operations Director at what is now ScotRail Trains Limited. It includes interventions for Network Rail to deliver, including improvements to its 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.
- 5.22 The JPIP shows that the region understands the key drivers of poor performance and has identified targeted interventions which, if delivered, should result in an improved level of service for both passengers and freight operators. We are closely monitoring Network Rail Scotland's delivery of this improvement plan and will take action if we identify any concerns.
- 5.23 As reported in the network-wide chapter, we carried out independent reporter work reviewing the delivery of a sample of joint Network Rail and train operator performance strategies and their delivery through projects. In Scotland, we reviewed the joint Network Rail and ScotRail performance strategy.
- 5.24 We found that the line of sight between the strategy and specific performance improvement plans could be improved, but that there was good evidence of these

plans being delivered. We also found that the measurement of the benefits from plans and projects could be improved.

- 5.25 We identified examples of good practice from the sampled projects. For example, Network Rail Scotland experienced challenges affecting a project to remove blanket emergency speed restrictions. Through effective escalation the problems were resolved. This is a good example of using performance leadership to enable delivery.

Freight performance improved, and the region exceeded its target at the end of the year

- 5.26 We hold Network Rail to account for its contribution to freight train performance. We measure this using a 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 3, Network Rail Scotland's target for FDM-R was 94.5%, with a regulatory floor set at 92.5%.
- 5.27 Despite some weather-related delay in late 2021 and early 2022, Network Rail Scotland was able to improve its performance throughout the year, achieving 94.8% at year-end, 0.3 percentage points above the target. This was a significant improvement from the prior year, when it was the worst performing region, due to weather-related delays.

Authorisation of spend from the Performance Innovation Fund has improved

- 5.28 In years 1 and 2 of the control period, Network Rail Scotland struggled to gain authorisation for schemes requested through the Performance Innovation Fund (PIF). However, there was some improvement in year 3, with £2.2 million of spend authorised.
- 5.29 It made good progress on a programme to install Global Positioning System (GPS) trackers on High Speed Trains (HSTs). However, its trial of an innovative approach to reduce the impact of leaf fall on autumn performance (using laser trains and cryogenics) has been delayed pending further assessment.
- 5.30 We will continue to monitor Network Rail Scotland's delivery of PIF schemes in CP6.

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 was notably behind plan. Deferrals led to a forecast deterioration in the sustainability of assets. The region must take action to reduce its backlog of structures examinations.

Asset sustainability is forecast to fall below the regulatory floor

- 5.31 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 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%.
- 5.32 Network Rail Scotland finished the year with a CSI of 2.7%. This represents an improvement in overall asset sustainability of 2.7% since the end of CP4.
- 5.33 However, in October 2021, Network Rail Scotland advised us that its latest forecast for CSI at the end of CP6 was 2.2%, which is below the regulatory floor. This is driven by 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.
- 5.34 In practice, this means that Network Rail Scotland is not delivering sufficient renewals to achieve the levels of asset sustainability it agreed to in the Final Determination. A reduction in asset sustainability indicates a deterioration of network assets through ageing and wear, which could impact train and freight service performance.
- 5.35 We escalated our concerns on this issue at a senior level within Network Rail Scotland. We asked it to set out the actions it is taking to mitigate the unplanned decline in CSI in CP6, which it has now outlined to us. We further challenged it to provide bottom-up plans detailing the impact on CSI in future control periods. We will continue to keep this under close review.

5.36 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 below target, but the highest of all regions

5.37 Network Rail Scotland's asset reliability, as measured by the Composite Reliability Index (CRI), was below target. The region ended the year with a CRI score of 24.1% against a target of 31.6%. This means asset reliability in the year to March 2022 was 7.5 percentage points below its annual scorecard target, but 24.1% better than it was in the final year of CP5.

5.38 CRI was below target for the majority of the region's assets. The reliability of telecoms assets remained strong, whereas reliability of structures was generally poor.

5.39 Scotland has the highest CRI of all regions but set itself challenging targets which it has fallen short of. We have not taken any action in response to this, due to the overall high levels of CRI in the region but will continue to monitor performance.

Delivery of renewals volumes was behind target

5.40 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 its delivery of 'effective volumes' in seven key asset types for each year of the control period against its plans. Five of these were relevant to Network Rail Scotland for the year.

5.41 Table 5.1 shows that Network Rail Scotland underdelivered its asset renewal effective volumes in year 3. It delivered less than its plan for three asset types: signalling, plain line track and earthworks. Overall, it delivered 87% of its planned volumes and performed the worst of the regions.

Table 5.1 Effective volumes (renewals), Network Rail Scotland, annual data, April 2021 to March 2022

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	179	198	R	90%
Overhead line equipment (km)	1	0	<i>Not applicable</i>	<i>Not applicable</i>
Track: Plain line	210	221	R	95%
Track: Switches and crossings	34	30	G	114%
Signalling	24	65	R	36%
Structures: Bridges	4,996	4,164	G	120%
All assets (weighted total)	<i>Not applicable</i>	<i>Not applicable</i>	R	87%

Source: ORR analysis of Network Rail data

5.42 Plain line track renewals work fell behind planned delivery for the year due to more refurbishment works than full renewal (with a lower effective volume weighting). High Output track renewals works, which fully replace track assets, were cancelled during the year to provide additional risk funding to support Network Rail's operations for the rest of CP6 (as discussed in the finance section below). High Output works were chosen for deferral due to the limited safety impact these would have. However, taking this decision at short notice incurred £30 million of sunk costs for the region.

5.43 The region overdelivered against its switches and crossings renewals effective volumes plan because it delivered more complete renewals rather than refurbishment works.

- 5.44 Taking delivery of plain line track and switches and crossings renewals together, we consider that track renewals delivery was satisfactory.
- 5.45 Signalling renewal was significantly behind plan in year 3, and this was a major driver of Network Rail's overall volumes delivery being only 87% of its plan for the year. Signalling shortfalls were predominantly because of delays in commissioning the Edinburgh Control System Renewal, due to shortages in fully trained signallers. Network Rail reports that the delays in training were due to previous pandemic related restrictions. Signalling volumes are reported when a project is fully completed and commissioned, so although this work is nearing completion, no volumes have been reported. It is anticipated that the Edinburgh Control Centre will now be commissioned in two stages, across year 4 (April 2022 to March 2023) and year 5 (April 2023 to March 2024).
- 5.46 Additional structures renewals effective volumes were delivered during the year, in part due to acceleration of work planned for future years at Calton Road and Bell Street, offsetting works at Cononish which were deferred to the next financial year. Earthworks renewals were below plan for the year due to supply chain issues and minor deferral of work into year 4.
- 5.47 Some renewal work is not captured through the effective volume measure, so we also look at wider delivery. Renewals of drainage assets was below plan. There was also some under delivery on earthwork volumes due to budget constraints associated with increasing work scope to improve drainage resilience, which has resulted in some work being deferred to future years.
- 5.48 With some asset renewals deferred to the last two years of the control period, the region must now make sure its revised plans are delivered to protect its assets in the long-term. We are monitoring this closely.
- 5.49 During the year, Network Rail Scotland provisionally deferred £53 million of renewals works planned for the final two years of CP6, in addition to works previously deferred, to support the risk fund (as discussed in paragraph 5.77, below). A final decision on whether to defer these renewals will be made in summer 2022. We recognise why Network Rail Scotland has provisionally decided to defer renewals but are concerned about the impact that this will have on both asset sustainability (as discussed above) and the plan for Control Period 7 (as work deferred in CP6 is likely to be carried forward to the next control period).

Carstairs renewal is on track

- 5.50 The Carstairs renewal is the most significant renewal project in Scotland in CP6. The project was given £103 million funding through the PR18 Final Determination and includes re-configuring and renewing the existing track, along with associated signals and overhead lines, and improvements to Carstairs railway station platform.
- 5.51 The forecast cost at time of writing for the renewal is £153 million, due to the level of improvement required to asset condition at Carstairs. The project progressed well in year 3, with a significant 15-day blockade agreed going into year 4. We have some concerns about access plans not yet fully agreed, which could have future cost implications, and we will continue to closely monitor the project ahead of its scheduled completion in May 2023.

Network Rail Scotland was not compliant with requirements for structures examinations

- 5.52 As with other Network Rail regions, we remain concerned about the level of non-compliance with structures examinations standards in Scotland. We conducted a review in March 2022 and noted that overall non-compliance had increased significantly during the year. At the end of March 2022 there were 4,392 instances of non-compliance within its portfolio of 12,486 assets.
- 5.53 As part of our review, we sought assurance that Network Rail Scotland was working towards elimination of non-compliance and, to that end, we reviewed all regions' recovery plans and sought assurance that timebound actions were being pursued. We found that Network Rail's plans were aimed at elimination of non-compliance but consider that they contain some weaknesses and do not yet fully address our concerns.
- 5.54 We will continue to closely monitor the region's improvements to the robustness of its plans and its delivery. As discussed in the network-wide chapter, we will also monitor its plans to address the independent reporter recommendations on Network Rail's future delivery of structures examinations.

Network Rail Scotland reviewing its approach to weather resilience

- 5.55 During the year, we undertook a Targeted Assurance Review (TAR) which highlighted that Network Rail Scotland was delivering its earthworks renewals at a lower cost, on average, than other regions. We requested additional transparency from all regions and are working with Network Rail Scotland to ensure it progresses the recommendations we published in our [Earthworks Renewals Cost](#)

[and Volume Transparency TAR](#) (to develop transparent policies and measures to quantify the nine key factors, including site conditions and access). We will continue to hold Network Rail to account against these recommendations as it prepares its regional Strategic Business Plans.

- 5.56 Our TAR into [drainage maintenance](#) highlighted that Network Rail should make better use of its asset condition information. Network Rail Scotland continues to improve its drainage asset knowledge and, so far, has identified a significant number of ‘forgotten’ assets which require maintenance, which is putting pressure on maintenance resources.
- 5.57 Scotland’s train performance in year 3 was impacted by fallen trees on the line, some caused by high wind speeds in consecutive named storms in early 2022. Some fallen-tree incidents caused damage to adjacent overhead line assets, and it was reported that a high proportion of fallen trees during Storm Malik in January 2022 were from third party land.
- 5.58 Through our ongoing assurance activities, we identified that the region’s maintenance volumes were targeted at sites based on operational needs instead of the region undertaking cyclical maintenance of vegetation-cleared sites to sustain compliance. This will potentially impact on whether Network Rail Scotland can achieve the vegetation compliance recovery programme targets set for the end of CP6.
- 5.59 The region took mitigating actions ahead of extreme weather, such as the planned introduction of speed restrictions or the closure of sections of the railway during storms. However, more work is required to proactively identify and manage hazardous trees using surveys, engage with lineside neighbours, and demonstrate its capability to create and sustainably maintain vegetation-compliant sites. Network Rail Scotland is expected to complete its review of its vegetation management programme and plan by the second quarter of year 4. We will continue to monitor its performance and will carry out a review of Network Rail’s vegetation management in the coming year.

Environmental sustainability target missed

- 5.60 The Environmental Sustainability Index (ESI) was introduced by Network Rail in the second year of the control period and is comprised of waste, carbon emissions and energy use elements.
- 5.61 Network Rail Scotland did not meet its internal ESI scorecard target, achieving 36.3% against a target of 50%. The region exceeded its target for the percentage

reduction in non-hazardous waste recycled or reused, and non-hazardous waste diverted from landfill. Overall performance was brought down by the percentage reduction in both non-traction energy use and non-traction carbon emissions being below target. These are the higher weighted elements of the ESI.

- 5.62 Network Rail Scotland continued to work with ScotRail Trains Limited and Transport Scotland to develop a delivery plan to deliver a sustainable railway for Scotland. This delivery plan goes beyond the requirements of the GB strategy and aligns with the Scottish Government's targets for reducing greenhouse gas emissions to net zero by 2045.
- 5.63 The delivery plan has 10 strategic priorities across three pillars, which include: 'A low emission railway', 'A green and resilient railway' and 'A responsible railway'. Each pillar has its own detailed delivery plan which has been developed by a collaborative working group or series of topic-specific focus groups.
- 5.64 As discussed in the network-wide chapter, we undertook an [independent reporter review of environmental sustainability data](#) during the year. This may lead to changes in the measures we use to monitor environmental sustainability going forward.
- 5.65 The region has produced its first State of Nature Report which includes application of the "Biodiversity Metric 3.0" approach. This is a positive step forward to allow the region to assess whether it has achieved 'no net loss' in Biodiversity by 2024. We will continue to monitor performance in this important area.

Enhancements were progressed, moving towards delivery

- 5.66 Enhancements within the Scotland region progressed well this year, with the pipeline transitioning from being primarily focused on project development to delivery. Projects across Network Rail Scotland started on-site, with significant projects at Levenmouth, on the Glasgow to Barrhead line, and at Dalcross making good progress.
- 5.67 In December 2021, the £33 million Cadder High Speed Train depot opened. This project is an excellent example of cross-industry working in delivering a project. It overcame several challenges during its delivery, primarily due to pandemic restrictions. One example of this was during the signalling design, where a greater use of simulation and digitisation was used to reduce the number of site visits.

- 5.68 Development and delivery work on new station projects also continued to progress well within the region. For example, both Reston and East Linton station projects progressed well, with Reston entering service on 23 May 2022.
- 5.69 This year there was an underspend on enhancements due to Network Rail's project delivery forecasting for the year being overly optimistic, and delays in investment decision-making while project outputs were reassessed against changing passenger demands.

Network Rail Scotland missed its efficiency target for the year

Network Rail Scotland reported financial underperformance for the year and missed its efficiency target by 21%. We are concerned about the region's preparedness to deliver its efficiency target in the remainder of CP6, and the impact this could have on CP7 plans.

Network Rail Scotland financially underperformed

- 5.70 Network Rail Scotland financially underperformed by £51 million against its annual budget for year 3. The 'Annual Efficiency and Finance Assessment', which is due to be published in September 2022, will examine Network Rail's financial performance in greater detail, using the CP6 delivery plan as an alternative baseline. The CP6 delivery plan was more ambitious than the annual budget and therefore using the CP6 delivery plan as the baseline will portray an even larger underperformance.
- 5.71 Network Rail Scotland underperformed against all categories of income and spend. Storms during the year caused Schedule 4 and 8 underperformance and the reduced train timetables have led to reduced variable track access income. Underperformance within maintenance was a result of cuts to planned work within the Asset Improvement Programme and additional pandemic related costs (for example for additional vehicle hire for staff to socially distance when travelling to work sites). The renewals and enhancements underperformance was driven by increasing costs, particularly for materials, and access challenges.

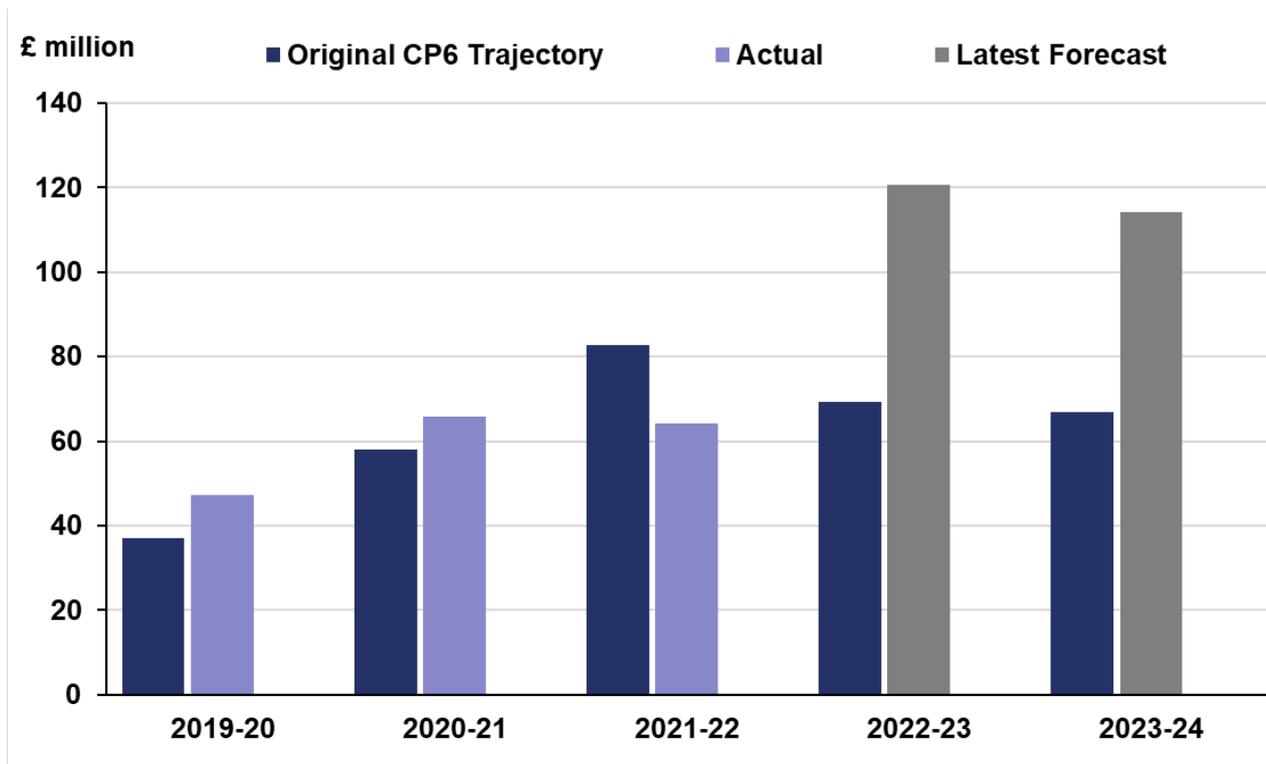
Efficiency delivery was poor and the region is not confident of delivering its efficiencies in year 4

- 5.72 Network Rail Scotland delivered around £64 million of efficiency improvements in the year, 21% behind its annual target of £82 million. There was a shortfall in

operational efficiencies this year of £11 million, in part due to deferral of workforce reform savings into year 4. Renewals efficiencies have been impacted by changes to the planned workbank in the year.

5.73 The region has committed to deliver £412 million of efficiencies across CP6, against its original final determination target of £314 million. We are concerned about whether this is deliverable. It cumulatively delivered 43% of its forecast in the first three years of CP6, with the phasing of this shown in Figure 5.4. This is slightly behind other regions. The national average was that 48% of the CP6 target was delivered within the first three years. This means that Network Rail Scotland will have to significantly increase its delivery of efficiency improvements in the final two years to meet its commitment.

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

5.74 Network Rail Scotland’s leading indicators raise concern about the deliverability of its year 4 efficiency targets. The region anticipates that just 41% of its year 4 efficiency targets will be achieved from initiatives that are already complete or have well developed project plans. This is 34 percentage points below the national average.

- 5.75 76% of planned renewals have been internally authorised, compared to the 85% national average, although this is above Network Rail Scotland's internal target for the year. Nevertheless, it has secured 95% of the disruptive access required for engineering works. While this is slightly below its internal target, it is much higher than the 79% national average. These indicators suggest that the region is reasonably well-prepared to deliver its year 4 renewals, subject to points raised below around availability of risk funding and deferral of works.

Availability of risk funding in Scotland remains a concern

- 5.76 At the start of CP6, Network Rail Scotland had £329 million of risk funding, which was ringfenced in the PR18 determination solely for the region's use. It has drawn down on its risk funding for various reasons in the first three years of the control period, the most significant being the need for additional funding during the pandemic to manage the impact of lost income and costs associated with increased cleaning, personal protective equipment for staff, and social distancing. It has also used some of this funding for Schedules 4 and 8 costs, and to fund the costs of its track worker safety task force, among other unplanned costs.
- 5.77 As outlined above, during year 3, Network Rail Scotland took the decision to provisionally defer £53 million of renewals works, to increase remaining unallocated risk funds. These deferrals, on top of £30 million of deferred works in year 2 (April 2020 to March 2021), reduced the region's CSI forecast for the control period, as discussed above. While this delivered a short-term improvement in the risk fund, some of the funding was subsequently used to offset the anticipated impact of high inflation.
- 5.78 We are concerned that further deferrals of work may also jeopardise delivery of efficiency commitments in years 4 and 5 and have a knock-on impact on plans for CP7. We also consider there is a risk that operational and modernisation savings that Network Rail has planned may not be fully delivered or may not be delivered by the end of the control period. Failure to deliver these, or other planned efficiencies, may mean the region has to defer further renewals to fund operations in years 4 and 5.
- 5.79 Network Rail Scotland's financial risk position and how this is managed remains a concern and we will continue to keep it under close review in the coming months.

Safety performance was generally good, but we have some concerns

The region demonstrated progress on delivering better safety outcomes in some areas, but there is still room for improvement.

- 5.80 From our inspections during the year, we found good management of risk, but some inattention to detail, particularly in meeting the requirements of company standards relating to recording information for asset management and competence management.
- 5.81 Our Railway Management Maturity Model (RM3) assessment (the tool we use to assess an organisation's ability to achieve excellence in controlling health and safety risks) places the route at 'managed' or 'standardised' for most criteria. However, there were fewer indications of improvements than we found the previous year. We found greater awareness and some improvement in the control of on-site risks. Accidents featured mostly minor injuries relating to worksite conditions and transport, with lower numbers and less severity compared to year 2.
- 5.82 On occupational health, we found a generally positive picture. Asbestos management improved. HAVS risks were adequately managed, as were risks from respirable crystalline silica. We found generally good control of welding fumes. However, we found that slow progress had been made towards long-term control of chromium exposure risk associated with ground contamination at Shawfield, near Glasgow.
- 5.83 There were two potentially high-risk train accidents in the year: the derailment of a train at Dalwhinnie in April 2021 and a low-speed buffer stop collision at Glasgow Central in January 2022. The derailment is being investigated by RAIB and we will complete our investigation once they publish their report.
- 5.84 On passenger and asset safety we noted improvements in many areas. There were fewer operational close-calls, broken rails, wrong side failures and level crossing near-misses involving pedestrians. Public trespass fatalities reduced, but suicide fatalities were concerningly high. There were quite high levels of railway crime during year 3, with instances of vandalism most common.
- 5.85 Asset safety indicators were generally better than in year 2, but as elsewhere, risk control remained vulnerable to poor and extreme weather (in particular around

drainage and fallen trees). However, we noted an improved operational response to extreme weather, with well-planned and publicised use of closures and speed restrictions during severe weather events.

- 5.86 We found shortcomings in the management of railway boundaries, with slow progress in progressing some solutions and improvements. At Ferryhill, we found that Network Rail had not provided adequate fencing of the mainline following transfer of railway property to a third party that affected the position of the boundary. This resulted in service of an Improvement Notice.

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

- 5.87 In year 3, we commenced a programme of inspections to assess Network Rail's response to recommendations made in the post-Carmont derailment task force reports, authored by Dame Julia Slingo and Lord Robert Mair.
- 5.88 During our engagement, representatives from the region described the steps they have taken in response to their action plans but have subsequently failed to provide any tangible supporting evidence to demonstrate these. Network Rail Scotland also did not clearly articulate how each action plan will implement the relevant task force recommendations. We are following this up with the region.
- 5.89 The region improved identification of its drainage assets, but our planned inspections relating to this were delayed by named storms in early 2022. Improved information about drainage assets is vital for Network Rail to ensure that its resources are correctly targeted to maintain existing assets and invested in meeting the challenges presented by climate change. We will report on these matters in due course, once our inspections work has been completed.

Structures and earthworks examinations were not compliant with company standards

- 5.90 As discussed above, Network Rail Scotland was not compliant with the requirements of its internal standards for structures examinations during the year and we have provided feedback on the improvements it needs to make.
- 5.91 Network Rail Scotland also has a backlog of earthworks examinations and we are engaging with it on this issue. As with structures, there is a potential that failure to examine earthworks and evaluate examination reports frequently enough could lead to an increased safety risk. This risk may be increased as earthworks are more likely to be impacted by severe weather events.

5.92 The region implemented a recovery plan that includes deploying additional resources, extending the examination season, improving training and competence and reprioritising work. The region has told us it is confident this issue will be resolved by the end of April 2023, and we are satisfied that risk control measures are in place. We will continue to monitor the level of backlog through routine engagement.

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

We have some concerns about Network Rail Scotland's continued delivery of Scottish Ministers' High Level Output Specification requirements.

- 5.93 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).
- 5.94 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.
- 5.95 Network Rail Scotland continued to make good progress with certain HLOS requirements, for example maintaining passenger satisfaction and delivering on freight growth targets. In addition, it produced a Whole System Signalling Strategy in the year, and set up a steering group (as requested by Transport Scotland) to manage refinements to the strategy. However, Network Rail Scotland fell behind in delivering station improvements and clearance of vegetation on scenic routes, in both cases due to funding constraints. There was also no further progress in the year on delivery of the gauging strategy (but there has recently been renewed effort).
- 5.96 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 requirementsKey: ■ G (Green): On course ■ A (Amber): At risk ■ R (Red): Not on course

Requirement	Progress made in year 3 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>	Due to the pandemic, the Journey Time metric has not been calculated for the past two years. However, there will be a new metric agreed with ScotRail Trains Limited.	<i>Not applicable</i>
Passenger satisfaction: <i>contribute to ScotRail NRPS targets for 'Overall satisfaction and How well the Franchisee dealt with disruption'.</i>	Due to the pandemic, the National Rail Passenger Survey has been put on pause. Based on the Wavelength survey run by the Rail Delivery Group (a cross-industry stakeholder group), passenger satisfaction in Network Rail Scotland is the best of all regions.	G
Quality of station services: <i>Maintain stations to the average asset condition in place at 31 March 2019.</i>	Network Rail Scotland was unable to complete planned improvements in year 3. The pandemic led to the reprofiling of some work and due to budget constraints this was not completed in the year.	A
Freight journey times: <i>increase the average speed of freight trains by not less than 10%.</i>	Network Rail was targeting a 6% improvement from 36.76 mph to 38.97 mph between April 2021 and March 2022. The MAA for the year was 38.55 mph, 1.1% off target. The year-end MAA was impacted by weather-related cancellations in February 2022 which resulted in fewer 'faster' class 1 postal services running which had an adverse impact on planned average speed and MAA.	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>	Scotland's net tonne miles at the end of March 2022 were 9.8% higher when compared with last year (and 1.9% higher compared with the end of March 2020).	G
Asset data quality: <i>Consistently maintain data quality at an A2 standard as a minimum across all asset data categories.</i>	The A2 data quality closing position for the year was 98.18% overall, with 5 out of 7 disciplines exceeding target. Improvements are needed in buildings and track.	G

Requirement	Progress made in year 3 of CP6	RAG rating
<p>Carbon emissions reduction and climate change: <i>Develop and deliver a metric for continuous carbon emissions reductions which is normalised to cover passenger and freight volumes and monitor this throughout CP6.</i></p>	<p>Before the start of CP6, Network Rail Scotland developed metrics for continuous carbon emissions reductions and to reduce overall emissions and 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 will remain a live document which Network Rail Scotland expects to evolve as more mature data becomes available.</p>	<p style="text-align: center;">G</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>While Transport Scotland and Network Rail Scotland were unable to agree a specification during the year, there has recently been renewed effort. They now have an agreed client remit document which outlines the key deliverables, actions and milestones. This includes a more holistic approach to delivery of this requirement, using a probabilistic gauge assessment methodology that will integrate the gauge clearance works required for the rolling programme of decarbonisation, new rolling stock introduction and freight growth.</p> <p>Given that there are only two years of CP6 remaining, it is accepted that the HLOS requirement will not be delivered in full in this control period.</p> <p>We will continue to work with Network Rail Scotland and Transport Scotland on this issue.</p>	<p style="text-align: center;">R</p>
<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>	<p style="text-align: center;">G</p>

Requirement	Progress made in year 3 of CP6	RAG rating
<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 one. 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 emission reduction targets) and Transport Scotland’s rolling stock strategy.</p> <p>Network Rail 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.</p>	<p style="text-align: center;">G</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 the control period, 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>During year 3, Network Rail Scotland did not complete all of its plans to clear vegetation on the areas that it had deemed to be scenic. There have been issues due to funding constraints. Work not completed in year 3 has been deferred to year 4 of CP6.</p>	<p style="text-align: center;">A</p>
<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 Transport Scotland is seeking refinements to the strategy.</p> <p>In response, Network Rail has launched a new steering group, bringing parties together to refine the strategy.</p>	<p style="text-align: center;">G</p>

We continue to monitor Network Rail's stakeholder engagement

- 5.97 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 2021.
- 5.98 Network Rail Scotland reported that it ran an advertising campaign during the year to encourage the public to travel by train which had a wide reach across television, billboard and online. It said this generated generally positive engagement with higher numbers of people surveyed saying they were likely to travel by train. The region also said it has continued to use virtual forums to get stakeholder views, developed during the pandemic, to reduce restrictions for members of the public who might struggle to attend in-person events.
- 5.99 Network Rail Scotland said it has made efforts to improve its relations with lineside neighbours, although there was some negative press coverage in this area during the year. We will examine these areas, and others, in our 'Annual Assessment of Network Rail's stakeholder engagement' which will be published in September 2022.

Annual Assessment of Network Rail

Southern region



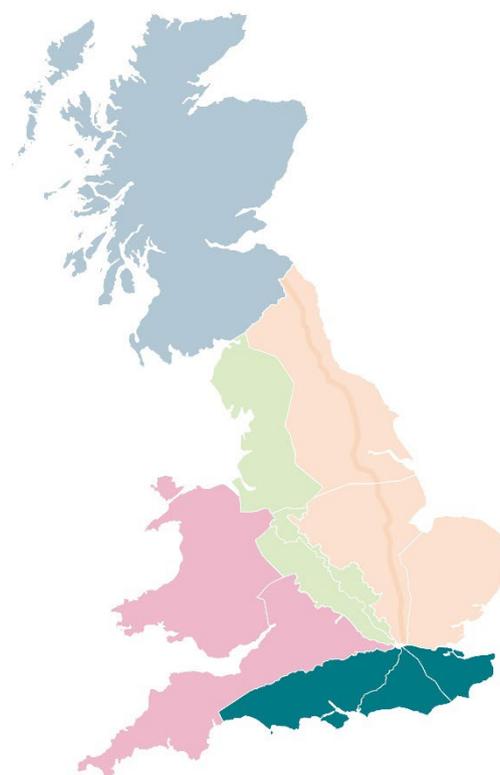
6. Network Rail's Southern region

Summary

Train performance in Network Rail's Southern region declined during the year but remained better than it was before the pandemic. The region delivered its asset renewal and enhancement works, but it needs to address a backlog of structure examinations. The region had a lower environmental sustainability score than other regions and did not achieve its efficiency target.

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.



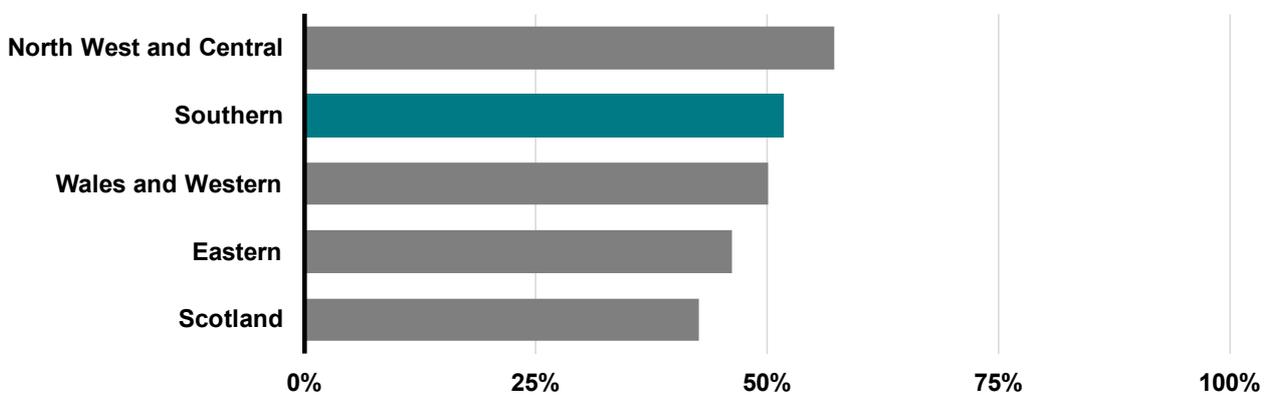
Headline performance during April 2021 to March 2022

- 6.3 Passenger train performance in the region declined from the previous year's peak but it remained better than pre-pandemic levels. For both passenger and freight train performance, the region did not achieve its ambitious scorecard targets to maintain performance at the high levels of the previous year, but it did exceed its original CP6 trajectory. The region demonstrated some good practice in performance management projects but has scope to improve.
- 6.4 Southern managed the reliability of its assets well and delivered most of its planned renewal volumes. It also completed a number of planned enhancements

to the network during the year. But we are concerned about its backlog of structures examinations. Southern has the lowest environmental sustainability score of all Network Rail's regions.

- 6.5 Southern delivered £190 million of efficiencies between April 2021 and March 2022 (year 3 of Control Period 6) but it missed its annual target by 8%. The region remains confident that it can deliver £957 million of efficiencies over the whole of the control period but this will require an uplift in the last two years. Southern financially underperformed by £11 million against its annual budget for the year.
- 6.6 Overall safety performance in the region was broadly positive, though there is scope to improve. The train collision in the Fisherton tunnel and other incidents in the region reveal weaknesses that must be addressed.
- 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, with 50% being on target. Southern was above target, achieving 51.8% on its scorecard for the year. On this measure, it was the second-best performing of Network Rail's regions (see Figure 6.1).

Figure 6.1 Overall scorecard performance by region, annual data, April 2021 to March 2022



Source: Network Rail's regional comparison scorecard

Passenger train service performance declined

Passenger train service performance in the region declined from the peak of the previous year as the network became busier but it remained better than before the pandemic. Freight train performance also declined from the high level seen the previous year, falling below target. The region demonstrated some good practice in performance management projects but has scope for improvement.

- 6.8 During the year, there was a gradual decline in train performance in the Southern region, but it remained better than it was before the pandemic. Train performance within the region was mixed, with the Wessex route performing above the regional average, and the Sussex and Kent routes below.
- 6.9 Network Rail set itself ambitious train performance targets for the year, aimed at maintaining the high levels of performance seen the previous year. Southern did not achieve its scorecard target for Network Rail attributed delay (as measured by CRM-P), missing it by 31%, but it did exceed the performance trajectory assumed at the start of CP6. Taking account of the increase in network usage during the year, we consider this level of performance reasonable.
- 6.10 During the year, there was also a gradual decline in freight train performance, as measured by the regional Freight Delivery Metric (FDM-R). Freight performance declined to 93.0%, below the regional scorecard target of 95.1%, but above the trajectory assumed at the start of CP6 of 91.6% and above the regulatory floor of 89.3%.
- 6.11 While train cancellations in the region worsened during the year, this was in part due to pandemic-related traincrew shortages. Those cancellations attributed to Network Rail remained largely static in the region. Delays due to non-track assets (including train detection systems, points, and power assets) and network management other (which includes issues with Network Rail operations and timetable problems) have steadily worsened during year 3 and we will continue to monitor this. However, the region achieved a reduction in delay caused by track faults compared to the previous year.

There was some good practice in performance management but scope to improve

- 6.12 As reported in the network-wide chapter, we carried out independent reporter work reviewing delivery of a sample of joint Network Rail and train operator

performance strategies and their delivery through projects. In Southern, the joint Network Rail and South Western Railway performance strategy was reviewed.

- 6.13 The reporter found that the line of sight between the strategy and specific performance improvement plans could be improved, but that there was good evidence of improvement plans being delivered. The reporter also found that benefits management of plans and projects could be improved.
- 6.14 The review identified examples of good practice from the sampled projects, including projects aimed at tackling wheel rail adhesion with equipment on passenger trains, rather than the more infrequent treatment trains. This is a strong example of an innovative ‘whole industry’ approach.

Asset management outcomes were positive, but structure examinations and delivery against environmental sustainability targets must improve

The region managed the reliability of its assets well and delivered most of its planned effective volumes. It also completed a number of enhancements to the network during the year. But it must address its backlog of structures examinations and improve on its achievement of environmental sustainability performance.

- 6.15 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.
- 6.16 Southern finished the year with a CSI of -2.6%. This represents a decline in overall asset sustainability of 2.6% since the end of CP4. The region’s trajectory for CP6 is to end the control period with a CSI of -4.1%.
- 6.17 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.

Southern managed reliability of its assets well

- 6.18 Southern set a stretching Composite Reliability Index (CRI) target for year 3, at the high levels of reliability experienced in year 2 (April 2020 to March 2021). It was one of only two regions to achieve its asset reliability scorecard target for the year.

- 6.19 Southern region finished the year with a CRI score of 23.1% against a scorecard target of 22.5%. This means the region was 0.6 percentage points above (better) than its annual scorecard target, and 23.1% better than it was in the final year of CP5.
- 6.20 The region has maintained good reliability of track, buildings and signalling assets.

The region achieved 96% of planned renewal volumes

- 6.21 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 (six of which are relevant to Southern due to the absence of overhead line equipment in the region).
- 6.22 Overall, Southern region delivered 96.0% of its planned effective volumes. It achieved or outperformed its target in four of the six key effective volumes (conductor rail renewals, plain line track, switches and crossings, and bridges and structures).
- 6.23 Signalling volumes were 19% below target, largely due to deferrals. For example, the Ashford Integrated Electronic Control Centre Re-control scheme was deferred to year 4 of CP6 (April 2022 to March 2023), as was some level crossing volume to better align with deliverability and access.
- 6.24 Delivery of earthworks volumes was 35% below target due to deferral to the remaining two years of CP6. This was particularly evident for soil cutting refurbishments.

Southern continued to invest in weather resilience

- 6.25 During the year, we carried out Targeted Assurance Reviews (TARs) related to weather resilience. We found, for example, that Southern was investing in high-specification renewals to improve weather resilience at some very challenging sites. We also found a need for Southern to ensure its Drainage Asset Policy (February 2022) is fully implemented and the region has committed to do this.
- 6.26 Recommendations from our reviews are being taken forward by the region and we will continue to hold it to account to ensure they are implemented.

Structures examinations must improve

- 6.27 During the year, we raised concerns that Southern region's examinations of its structures assets (such as bridges) were not being carried out in line with its standards, creating a backlog of work. This is an important issue. If the region

does not complete the overall examination process at the required intervals, potential safety faults could be undetected (or detected but not properly assessed). Failure to manage the examination process could also impact the region's ability to plan maintenance and renewal activities efficiently, which is particularly important as plans are now being developed for Control Period 7 (April 2024 to March 2029).

- 6.28 At the end of year 3, the region had 5,403 structures examination non-compliances, within the structures regional portfolio of 11,912 assets.
- 6.29 We reviewed all regions' recovery plans and sought assurance that timebound actions were being pursued. We found that Network Rail's plans were aimed at elimination of non-compliance but consider that they contain some weaknesses and do not yet fully address our concerns.
- 6.30 In 2018, Network Rail sold leases to commercial spaces under railway arches to a third party, Arch Co. Many of the arches sold under this agreement are within the Southern region.
- 6.31 In 2019 Network Rail advised us that it was sometimes being denied access to the arch space to carry out inspections and undertake repair work where required. This remains to be a matter of concern for us.
- 6.32 Network Rail had initially indicated that the overall backlog of examinations for tenanted arches would be eliminated within a year, by April 2022. Although progress is being made to reduce the backlog, the region revised its initial recovery plan and proposed a different risk-based approach. This will now include work banks for the remaining two years of CP6. We are currently reviewing the region's revised proposals and will closely monitor this to ensure the risk from the backlog of examinations is reduced and managed in the future.

Vegetation Management

- 6.33 Storms during year 3 impacted on train service performance in the Southern region. As part of our ongoing assurance activities, we reviewed how the region was progressing delivery of its vegetation recovery programme, assurance regime and its vegetation management plan.
- 6.34 We identified a backlog in cab-riding vegetation inspections due to the pandemic (caused by social distancing measures), and there were limited resources to manage medium-risk hazardous trees to the timescales required by Network Rail's standards.

- 6.35 The situation improved during the year but the backlog has not yet been fully eliminated and the region still does not have a clear recovery plan. In addition, we found that the region lacked senior management accountability for making prioritised decisions for lineside assets.
- 6.36 Given our concerns we took action and started to monitor the region's performance closely in this important area. Towards the end of year 3, Southern responded to our challenge and secured funding for dedicated resource to manage hazardous trees. A regional asset management lead has been appointed.
- 6.37 We will continue to monitor the region's wider vegetation management performance through an Independent Reporter review of Network Rail's Vegetation Management, due to be completed in year 4.

Environmental delivery was the lowest of all regions

- 6.38 In year 3, Southern did not meet its Environmental Sustainability Index (ESI) scorecard target, achieving 18.3% against a target of 50%. This was the lowest performance of all regions.
- 6.39 Southern performed well against its annual target for non-hazardous waste reused or recycled, and non-hazardous waste diverted from landfill. However, it did not meet targets for the percentage reductions in non-traction carbon emissions and in non-traction energy use. These are the higher weighted elements of the ESI and Southern had the highest targets of all regions for both these elements. The targets for year 3 were based on a continuation of the region's very good performance in years 1 and 2 of the control period. The relative underachievement against these two targets is the primary driver for the low overall ESI score.
- 6.40 During year 3, our monitoring of Southern's performance in this area highlighted a strong model for governance in place, with good communication channels with the Technical Authority and detailed actions set out in its own regional environmental strategy. There is opportunity to build on this strong foundation, working with the Technical Authority to ensure there is a clearer line of sight between the regional and national environment strategies for prioritisation of milestones and key deliverables.
- 6.41 As discussed in the network-wide chapter, we undertook [an Independent Reporter review of environmental sustainability data](#) during the year. This may lead to changes in the measures we use to monitor environmental sustainability going forward.

- 6.42 Southern produced its first State of Nature Report which includes application of the “Biodiversity Metric 3.0” approach. This is a positive step forward to allow the region to assess whether it has achieved ‘no net loss’ in Biodiversity by 2024.

Southern made good progress on several enhancement projects

- 6.43 The region delivered key enhancement projects during the year. Improvements were delivered on schedule and under budget at Denmark Hill Station, and work to deliver a second entrance at Imperial Wharf Station is expected to be completed in the coming months. Works to reduce journey times to and from Gatwick Airport and increase capacity at Littlehaven also progressed well.

Case Study: Denmark Hill station improvements

The Grade II listed station had become heavily congested during peak times with passengers queuing to exit the station. This caused services to be delayed and raised safety concerns.

Construction work, which began in late 2020, added a new entrance to the northern side of the station with covered accessible ramps, new platform canopies and improved passenger information facilities. In addition, platform 4 was widened. The work was all completed by September 2021.

Working with the contractor, Network Rail installed a new type of solar powered technology that made the development carbon positive. Photovoltaic film was applied to the new station roof, the accessible ramp covers and the new platform canopies prior to installation rather than added afterwards like traditional glass photovoltaic panels. This lightweight film generates all the power needed for the new station. An 85-space secure cycle storage facility was also constructed, funded by Sustrans and the local National Health Service hospital trusts.

Overall, the project has improved passenger flows around the station and provided more space for passengers to board and alight services.



Source: Network Rail

Southern missed its efficiency target

While Southern delivered £190 million of efficiencies in year 3, it missed its annual target by 8%. It also financially underperformed by £11 million against its annual budget.

- 6.44 Southern reported £190 million of efficiencies which was 8% behind the target that it set itself at the start of the year (£206 million) but 17% more than its original CP6 trajectory (£163 million). This was mainly due to Southern reprofiling some of the benefits of its workforce reform initiatives into later years of CP6. The region also failed to achieve its forecasts for other initiatives including those relating to rail milling, early contractor involvement and optimisation of access.
- 6.45 The region remains confident that it can deliver £957 million of efficiencies across CP6 in total despite having only delivered 41% of this in the first three years. The reprofiling of efficiencies to later in the control period is mostly due to the phasing of reform savings, which are predominantly forecast in years 4 and 5 (later than other regions). The national average was that 48% of the CP6 target was delivered within the first three years. This means that the region will have to significantly increase its delivery of efficiency improvements in the final two years to deliver its CP6 forecast.

- 6.46 Southern financially underperformed by £11 million against its annual budget for year 3. This underperformance is in line with other regions. Southern attributed most of its financial underperformance to inflationary cost pressures, costs of implementing its track worker safety and renewals programmes, and increased Schedule 4 costs. These were partly offset by outperformance of its Schedule 8 regime, property sales and operations costs. We will examine the region's financial performance in greater detail, and against its CP6 delivery plan rather than its annual budget (which had a less challenging target) in our 'Annual Efficiency and Finance Assessment', which is due to be published in September 2022.
- 6.47 Southern's leading indicators suggest that the region is better prepared than most other regions to deliver increased renewals volumes and efficiency improvements in year 4 of CP6. This preparation is particularly important for Southern as its efficiency delivery is currently behind forecast. As at March 2022, 86% of its year 4 efficiency forecast should be achieved from initiatives that were already complete or had well developed project plans. This was above the national average of 75%. 88% of planned renewals activities had been internally authorised, compared to 85% national average, and 91% of the disruptive access required for engineering work had been secured, compared to 79% national average.

Safety performance is broadly positive but there is room for improvement

Overall safety performance in Southern was broadly positive, though there is scope to improve. The Fisherton collision and other incidents reveal weaknesses that must be addressed.

- 6.48 For Southern, safety performance in year 3 was marked by the accident in Fisherton tunnel near Salisbury in October 2021, where a Great Western Railway train collided with a South Western Railway service.
- 6.49 RAIB's [interim report](#) found that leaves had been crushed under the wheels of passing trains and while the rail head treatment train was due to treat Salisbury Tunnel Junction, it had not yet passed through the area because it had been rescheduled. Had timings and circumstances been slightly different, the accident at Fisherton tunnel could have been much worse.
- 6.50 During year 3 there was an increase in the region's Lost Time Injury Frequency Rate (LTIFR) and Fatalities and Weighted Injuries (FWI) measures. The number of

Signals Passed at Danger (or SPADs, where a train passes a red signal without permission and runs the risk of compromising safety) remained static and there was an increase in the trend for high potential incidents. We will monitor how the region responds where these trends are worsening.

- 6.51 Throughout the year we undertook planned inspections, concentrating on risk priority areas. For example, we reviewed management of significant rail defects and found evidence of effective maintenance and monitoring systems. The expanding use of technologies (such as Plain Line Pattern Recognition technology) will continue to enhance Network Rail's track condition monitoring capability.
- 6.52 Our initial review of Southern's post-Carmont drainage activity was positive. The region has put a system in place to deliver the requirements of each of the recommendations. There is likely to be a significant amount of work required to deliver on the recommendations and effective use of resources will be key to delivering improvements.
- 6.53 Arrangements in place to assess, maintain and enhance level crossings are generally very effective but the region needs to improve its level crossings change consultations.
- 6.54 Throughout year 3, Southern put more focus on safety critical communications after weaknesses were highlighted by recent incidents. It has committed to strengthening its performance in this area, and its work on bolstering the assurance function is helping.
- 6.55 There is a strong awareness of occupational health risks and responsibilities and we have seen positive evidence of this (such as the region's 'clinics' facility).
- 6.56 Further information on our safety inspection activity, alongside a more detailed assessment of Network Rail's safety performance is reported in our 'Annual Health and Safety report', published in July 2022.

Stakeholder Engagement Improvements

- 6.57 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 2021.
- 6.58 In our last ['Annual assessment of Network Rail's stakeholder engagement'](#) we highlighted that Southern needed to make improvements in a number of areas,

including its engagement with small and medium sized stakeholders; improving its engagement and service delivery with its lineside neighbours; and improving the transparency of the region's engagement activities.

- 6.59 Southern said it has adapted its stakeholder engagement to make greater use of technology but is also increasing its face-to-face interaction. It said this collaboration has supported the region in the recovery from the pandemic. We will examine these areas, and others, in our 'Annual Assessment of Network Rail's stakeholder engagement', which will be published in September 2022.

Annual Assessment of Network Rail

Wales and Western region



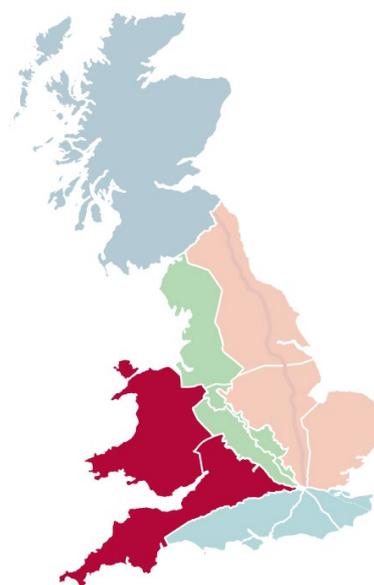
7. Network Rail's Wales and Western region

Summary

The Wales and Western region delivered well against its efficiency and environmental targets but train service performance and asset management must improve.

Overview

- 7.1 Network Rail's Wales and 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 and 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.

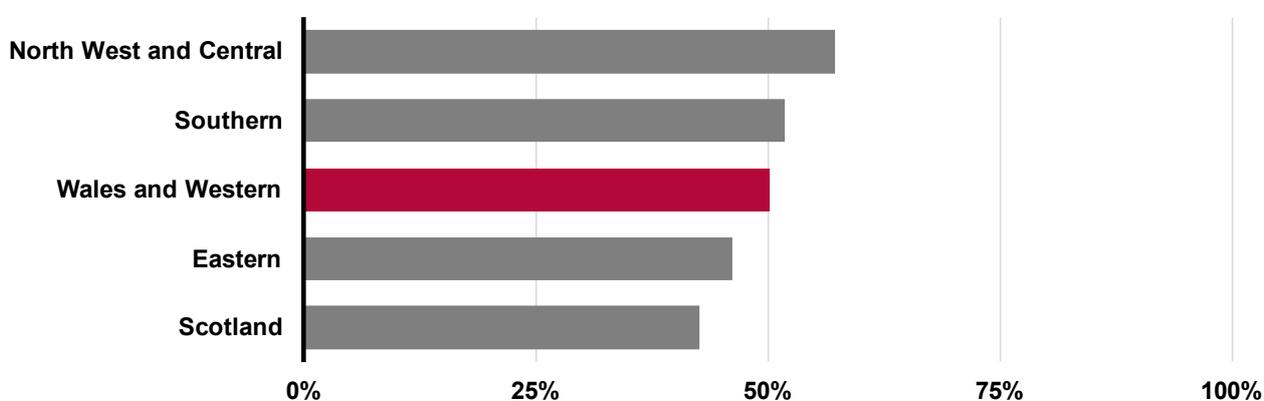


Headline performance during April 2021 to March 2022

- 7.3 During the third year of CP6 (April 2021 to March 2022), Network Rail's Wales and Western region's delivery of train service performance was poor compared to other regions. We are particularly concerned about performance in the Wales route. Overall, train service performance has deteriorated more quickly during the year than in other regions. We are challenging the region on its contribution to train performance and requiring a consolidated improvement plan, which we will monitor.
- 7.4 The region's asset reliability worsened during the year which contributed to poor train service performance. The region needs to take action to ensure it delivers its renewals plans over the control period, and to reduce its backlog of structures examinations.

- 7.5 Wales and Western did perform better in other areas of its scorecard. For example, it delivered strongly against its environmental outcomes target.
- 7.6 The region also performed well against its efficiency target, delivering £121 million of efficiencies in the year. Its financial performance was slightly worse than target.
- 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 50% being on target. Wales and Western achieved 50.1% on its scorecard for the year.

Figure 7.1 Overall scorecard performance by region, annual data, April 2021 to March 2022



Source: Network Rail's regional comparison scorecard

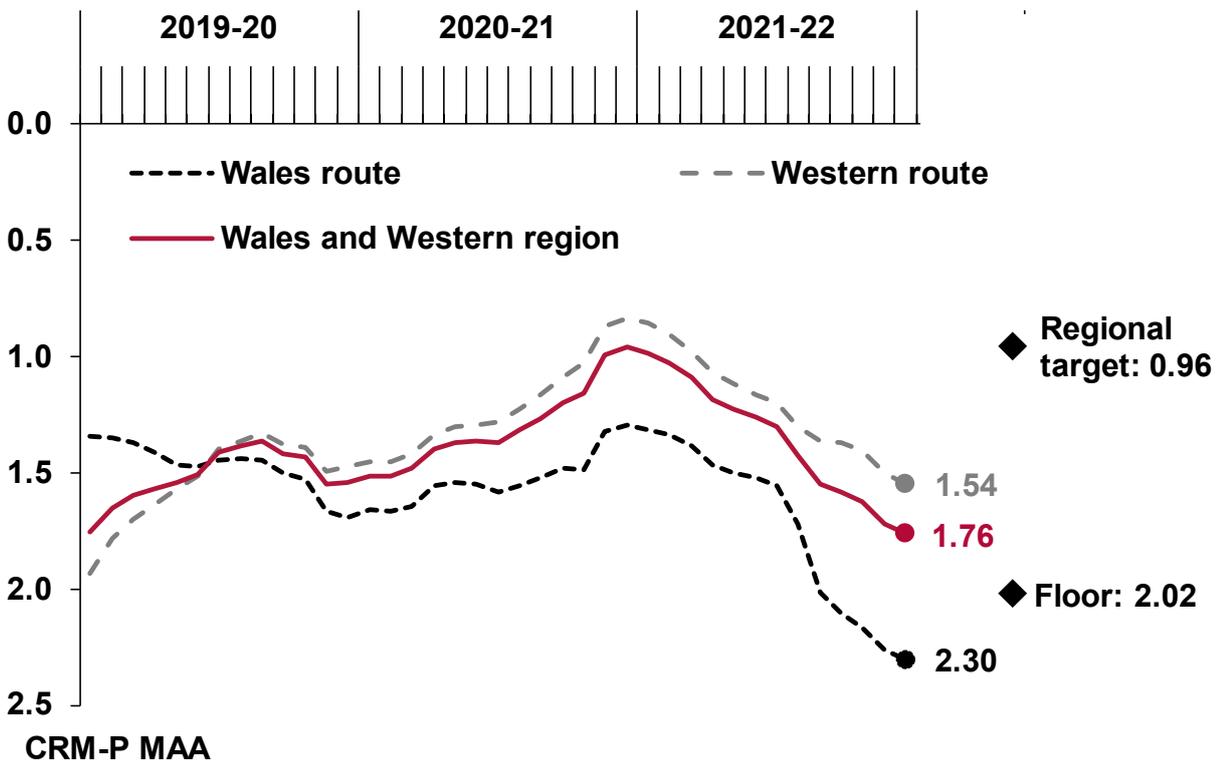
Passenger and freight train performance was poor

Wales and Western's delivery of train service performance was poor compared to other regions, with particularly poor performance in Wales. Train service performance deteriorated more quickly than in other regions.

- 7.8 Train service performance in Wales and Western worsened during the year, with 69.6% of trains On Time compared to 80.2% the previous year. The number of full cancellations also worsened, approximately doubling from the previous year. Worse performance was driven by a combination of factors including train operator staff availability (affected by the pandemic), severe weather (including five named storms), increased network use compared to the previous year, train fleet reliability and network reliability.

7.9 Network Rail set ambitious train service performance targets for its regions for the year to maintain the record levels of performance seen at the end of March 2021. It fell short of these targets across all regions, but Wales and Western’s performance declined more quickly than in other regions and was poor compared with pre-pandemic levels. The region missed its scorecard target for Network Rail attributed delay minutes (CRM-P, moving annual average (MAA)) by 83%.

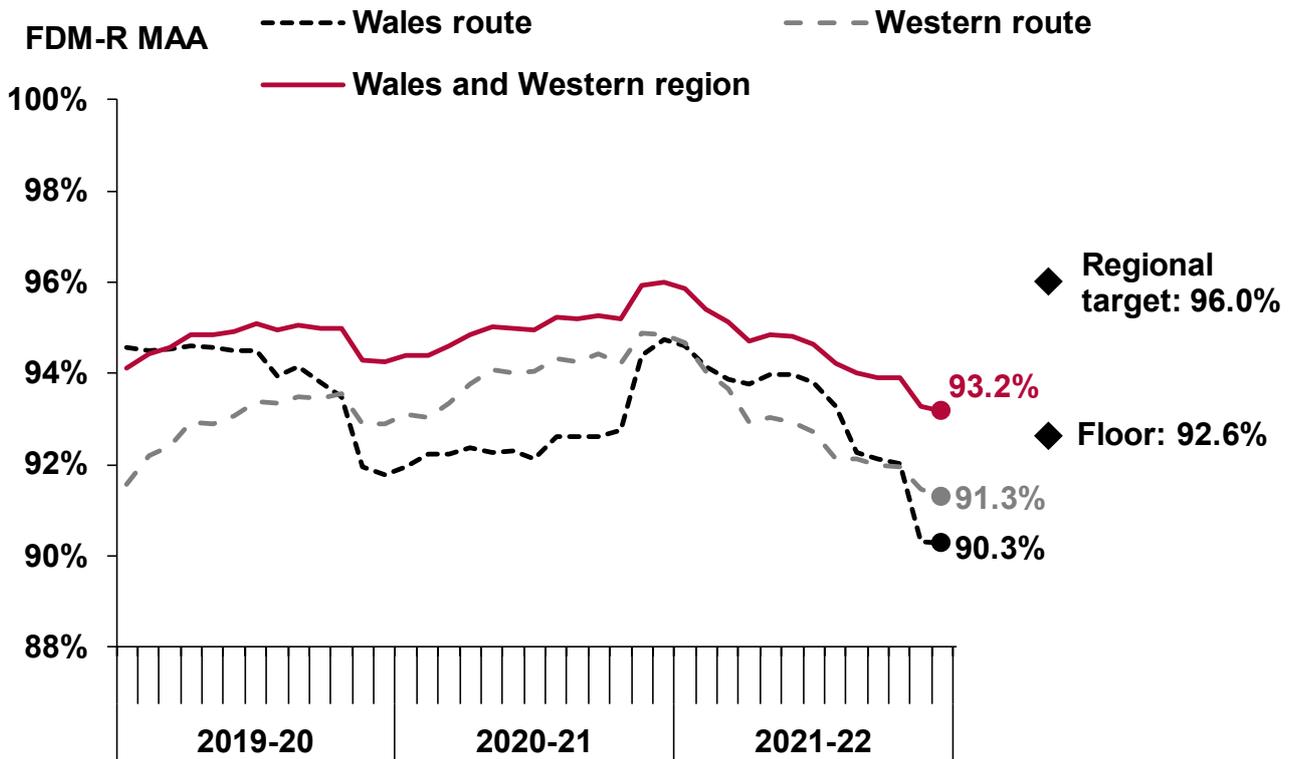
Figure 7.2 Passenger train performance (Network Rail attributed delay minutes normalised, CRM-P) for Wales and Western region and routes, periodic data (MAA), April 2019 to March 2022



Source: ORR analysis of Network Rail data

7.10 Wales and Western also missed its scorecard target for freight performance, with 93.2% Freight Delivery Metric performance, missing its target of 96.0% by 2.8 percentage points.

Figure 7.3 Freight performance (FDM-R) for Wales and Western region and routes, periodic data (MAA), April 2019 to March 2022



Source: ORR analysis of Network Rail data

- 7.11 We identified the downward trend in train service performance and its key drivers and acted early (before any regulatory minimum levels were breached) to protect rail users. We challenged the region to demonstrate it had assessed the reasons for the rate of decline and to deliver consolidated, prioritised, timebound plans for delivering train service performance improvements.
- 7.12 In response, the Western route shared a wide range of initiatives that it was already taking forward. For example, these included a joint Network Rail and train operator plan (named Fusion), which focused on the Didcot Parkway to London Paddington lines, and a plan to replace unreliable train detection equipment between London Paddington and Airport Junction, which it carried out in December 2021. The route also provided a focused plan to improve performance of the West of England service route via Westbury, which had been affected by poor track quality.
- 7.13 Performance on the Wales route is of greater concern and its initial response to us was less comprehensive. We pressed the route for its improvement plans and have now seen evidence that they are in development. They must now be finalised

urgently and delivered. We will continue to monitor this closely and take action if there is insufficient progress.

- 7.14 On both routes, the region is working to quantify the performance impacts of its improvement plans and expected timescales for improvements. We will continue to monitor this over the coming months to make sure that improvement plans focus on delivering benefits to passengers and freight operators.
- 7.15 Train service performance in the region was also affected by external factors, including bridge strikes, trespass and severe weather events.

Train performance in Wales

- 7.16 As set out above, train service performance in Wales was particularly poor. Network Rail attributed delay worsened from 1.69 minutes per 100 kilometres of train travel at the start of the pandemic (end of year 1 (April 2019 to March 2020)) to 2.30 minutes this year.
- 7.17 The Wales route was particularly affected by severe weather in autumn and winter (including storms Arwen and Barra, Dudley, Eunice and Franklin). It was also affected by increased track faults (for example, on the South Wales Main Line), and temporary speed restrictions which were put in place to manage a range of network issues.
- 7.18 As set out above, we have required the route to produce a train performance improvement plan and will hold it to account for delivery.

Some good practice in performance management but scope to improve

- 7.19 As reported in the network-wide chapter, we carried out independent reporter work reviewing delivery of a sample of joint Network Rail and train operator performance strategies and their delivery through projects. In Wales and Western, the joint Network Rail and Great Western Railway performance strategy was reviewed.
- 7.20 We found that the line of sight between the strategy and specific performance improvement plans could be improved, but there was good evidence of joint performance plans being delivered in the Western route. We found that benefits management of plans and projects could be improved.
- 7.21 We identified examples of good practice from the sampled projects, including innovative approaches to quicker and safer electrical isolations, and an initiative to reduce the risk of possession overruns – both of which have potential application

in other routes. We also found an effective process for reporting progress of performance improvement projects to governance meetings.

- 7.22 We will follow up with the region to ensure it acts on our recommendations and shares areas of best practice.

Asset management needs to improve

Wales and Western's asset reliability worsened, contributing to poor train performance. The region needs to take action to ensure it delivers its renewals plans over the control period, and to reduce its backlog of structures examinations.

- 7.23 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 represents an improvement in overall asset sustainability of 0.1% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of 0.2%.
- 7.24 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

- 7.25 Wales and 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 4.2% against a scorecard target of 19.1%. This means it is 14.9 percentage points below its annual scorecard target, but 4.2% better than it was in the final year of CP5.
- 7.26 Electrical power was the only key asset type in which reliability notably improved during the year. The reliability of track and buildings assets was particularly poor. Track reliability was affected by temporary speed restrictions, which were put in place to support High Output track renewals works, where track quality had deteriorated, and to manage risks to track alignment from hot weather. We are concerned about this decline in reliability and are challenging the region through our monitoring work.
- 7.27 Buildings asset reliability was affected by increased reactive faults. We are concerned that this increase is partly because the region does not have robust,

timebound plans in place to manage life-expired buildings assets while they await replacement through large scale renewals projects.

7.28 We expect the region to address these issues in the coming year and will monitor this closely.

Asset reliability in Wales was particularly poor

7.29 Asset reliability in Wales worsened substantially during the year, dropping to -18.5% (that is, 18.5% worse than at the end of CP5). While some worsening of reliability was expected due to potential failures of new electrification assets, the drop in reliability meant the route missed its scorecard target by a considerable margin. As with the wider Wales and Western region, reliability of track and buildings was poor for the reasons set out above.

7.30 Adverse weather, including disruptive storms, continued to affect the route and the reliability of its assets. The Wales and Western region must continue to develop plans to improve the resilience of its assets to the impacts of climate change and associated extreme weather.

Asset renewals plans were not fully delivered

7.31 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. During the year, Wales and Western underdelivered its planned asset renewal effective volumes in four of the five asset types which were relevant to the region. This means that work has been deferred to later in the control period.

7.32 The region underdelivered its track renewal volumes (both for plain line and switches and crossings). Its plain line track delivery was affected by poor High Output machinery performance, and various other factors including supply chain issues exacerbated by acceleration of the Okehampton line enhancement works.

7.33 The region reported that switches and crossings under-delivery was due to an error in the delivery plan which overstated effective volume delivery. Across CP6, the region is forecasting to overdeliver its switches and crossings plan, but this does rely on the region delivering substantially more work in year 5 (April 2023 to March 2024).

7.34 The region underdelivered its bridges renewals volumes in part due to late contract award. Also, it did not fully deliver its earthworks renewals volumes. Rock

and soil cuttings renewals were deferred to later in the control period due to environmental issues (including the protection of dormice and badgers).

- 7.35 With asset renewals deferred to the last two years of the control period, the region must now make sure its revised plans are delivered to protect its assets in the long-term. We are monitoring this closely.

Structures examinations must improve

- 7.36 As with other regions, Wales and Western needs to improve its processes for the examination of structures and reduce its backlog. At the end of the year, there were 2,520 structures examination non-compliances, within a regional portfolio of 13,824 assets. We report on this in the network-wide chapter.
- 7.37 We acknowledge that there have been challenges with the delivery of structures examinations, particularly in the last year with the transition to new supply contracts (although in our view this was predictable and should have been managed more effectively).
- 7.38 We reviewed all regions' recovery plans and sought assurance that timebound actions were being pursued. We found that Network Rail's plans were aimed at elimination of non-compliance but consider that they contain some weaknesses and do not yet fully address our concerns.
- 7.39 We will continue to closely monitor the region's improvements to the robustness of its plans and its delivery. As discussed in the network-wide chapter, we will also monitor its plans to address the independent reporter recommendations on Network Rail's future delivery of structures examinations.

Environmental delivery was strong

- 7.40 We measure Network Rail's delivery of environmental outcomes using the Environmental Sustainability Index (ESI), which was introduced by Network Rail in the second year of the control period and measures waste, carbon emissions and energy use. Wales and Western exceeded its ESI scorecard target, achieving 94.4% against a target of 50%.
- 7.41 In year 3, our monitoring of the region's performance found that its management of environmental sustainability was good. It has its own regional environmental strategy which includes detailed actions. However, there is the opportunity for a stronger approach towards governance with clearer line of sight to the national environment strategy.

- 7.42 As discussed in the network-wide chapter, we undertook an independent reporter review of environmental sustainability data during the year. This may lead to changes in the measures we use to monitor environmental sustainability going forward.
- 7.43 The region has produced its first State of Nature Report which includes application of the “Biodiversity Metric 3.0” approach. This is a positive step forward to allow the region to assess whether it has achieved ‘no net loss’ in Biodiversity by 2024. We will continue to monitor performance in this important area.

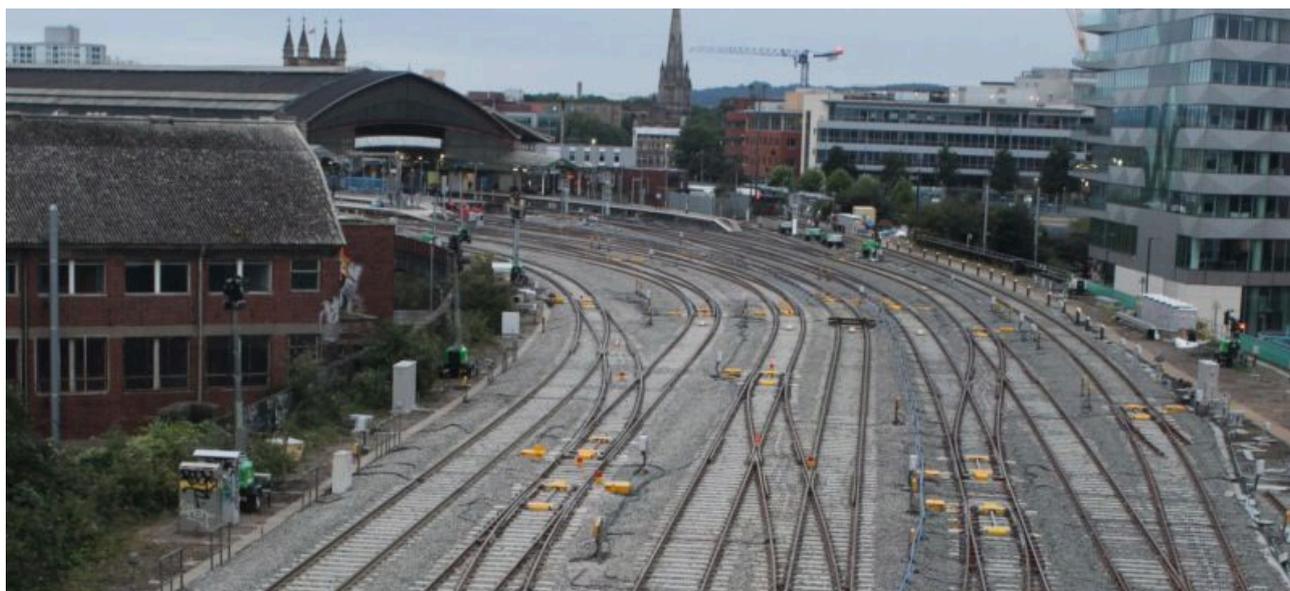
The region delivered well on enhancement projects

- 7.44 Wales and Western made good progress on the development, design and delivery of enhancement projects across the region. Several significant schemes entered operational service during the year which enhanced network capability and resilience. For example, the region delivered extensive infrastructure works to support a new passenger service between Exeter and Okehampton on the previously mothballed line. The new services began operation in November 2021. Another significant scheme delivered was the remodelling of Bristol East Junction, set out in the case study below.
- 7.45 In Wales, the European Train Control System (ETCS) upgrade on the Cambrian Line to allow more trains to run with in-cab signalling was progressed. The line also benefited from the refurbishment of the Barmouth Viaduct which was substantially completed during the year.

Case study: remodelling of Bristol East Junction

In 2021, Wales and Western delivered a £132 million scheme to remodel Bristol East Junction. This included the installation of 300 track panels, upgraded signalling, five kilometres of track and 26,000 tonnes of ballast. The work also introduced a new running line for additional local services (supporting the MetroWest programme) and it greatly improved the capacity of Bristol Temple Meads station.

Several major possessions were needed to renew the junction, which drastically reduced rail services into Bristol Temple Meads throughout 2021. Wales and Western worked effectively with operators (including Great Western Railway and CrossCountry) and other stakeholders to minimise the impact on customers, including running a robust rail replacement service. This operation ran effectively for the most part, although two engineering work overruns did result in significant disruption. The region learnt lessons from this and amended ways of working, avoiding similar incidents during the rest of the programme.



Source: Network Rail

7.46 Wales and Western has been proactive in addressing the challenges of delivering enhancement works throughout the pandemic. Due to the evolving nature of the pandemic and its effects on the wider rail industry, the region has been adaptable and forward-thinking in identifying mitigations to prevent enhancement delivery programmes from slipping. For example, as part of the work to renew Bristol East Junction, an on-site COVID-19 testing facility was installed to rapidly identify any

cases that could impact the safety of the workforce and affect the delivery of critical works.

- 7.47 Inflation and the significant rise in the cost of materials, along with other unprecedented global events have posed a serious challenge for Network Rail and its supply chain. Wales and Western has worked effectively with its supply chain and contractors to mitigate cost increases and supply chain delays wherever possible. Mitigations have included reviewing project scope to ensure that the minimum viable product (MVP) is delivered, adopting Project SPEED principles and reviewing project estimates to ensure schemes remain viable.

Efficiency target was delivered

Wales and Western performed well against its efficiency target, delivering £121 million of efficiencies in the year. Its financial performance was slightly worse than plan.

- 7.48 During year 3, Wales and Western delivered £121 million of efficiency improvements, 2% ahead of its £119 million target for the year. The region's largest efficiency initiatives included optimisation of access, improved contracting strategies and organisational restructuring. The region is forecasting to deliver around £570 million of efficiency improvements across CP6 of which it has cumulatively delivered 44% in the first three years of the control period. This is slightly behind other regions. The national average was that 48% of the CP6 target was delivered within the first three years. The region will have to increase its delivery of efficiency improvements in the final two years if it is to deliver its CP6 forecast.
- 7.49 Wales and Western financially underperformed by £3 million against its annual budget in year 3. The region attributed most of this underperformance to inflationary pressures on materials costs, and increased costs from implementing its track worker safety programme. Despite this, Wales and Western saw a significant outperformance in enhancements, with the Bristol East Junction programme performing particularly well. We examine the region's financial performance in greater detail, and against its CP6 delivery plan rather than its annual budget (which had a less challenging target) in our 'Annual Efficiency and Finance Assessment', which is due to be published in September 2022. That assessment will also examine financial performance and efficiencies for Wales.

7.50 Wales and Western has reported that, as at March 2022, 75% of its forecast efficiency for year 4 of CP6 (April 2022 to March 2023) will be achieved from projects that have already been delivered or have clear project plans. This is a significant improvement on prior years. All planned renewals projects for year 4 have received financial authorisation and 88% of required access has been booked. The region is also operating with a maintenance staffing level of 100%, which is ahead of most other regions. Overall, the region's leading indicators are ahead of the national average which provides us with greater confidence in the region's readiness to deliver its overall CP6 efficiency forecast.

Good progress on track worker safety

Wales and Western made good progress in its programmes to reduce risk to track workers from trains, but improvements can be made in operations and asset safety management.

Good progress on workforce health and safety

- 7.51 As reported in previous annual assessments, in July 2019 two track workers lost their lives when they were struck by a train while working on lines open to traffic at Margam, near Port Talbot, in Wales. Since then, Network Rail has been implementing a programme of improvements to track worker safety.
- 7.52 From our inspections and engagement with Wales and Western this year, we found strong progress in the region's programmes to reduce risk to track workers from trains. Significantly, the Wales route ended unassisted lookout warning work in June 2021. The Western route has some residual work protected with the Lookout Operated Warning System, but most will transition to use Semi-Automatic Track Warning System protection in year 4. Alongside this, the region has improved its approach to accessing the network.
- 7.53 The region's performance against key measures of workforce safety on its scorecard was mixed. It beat its internal target for the Fatalities and Weighted Injuries (FWI) measure, taking action to reduce slips, trips, falls and manual handling incidents. It missed its target for Personal Accountability for Safety due to a high number of workforce speeding offences and is responding by fitting speeding telematics to its road vehicle fleet.

Opportunities for improvement in railway operations and asset safety

- 7.54 During the year, we undertook inspections to test Wales and Western's processes for boundary and tree management. These processes should seek to prevent large objects such as trees and livestock getting on the line. We identified areas for improvement, including the need for better recording of management information and better assurance in Wales. As a result, the region has commenced a "system assurance review" to better understand links between its activities and improve sharing of good practice.
- 7.55 This year, we also carried out inspections looking at Network Rail's response to Lord Robert Mair's recommendations, made following the August 2020 fatal derailment at Carmont in Scotland. In Wales and Western, we found a robust process for managing the recommendations. But we also found some issues with the management of drainage assets, such as an incomplete record of its assets and lack of clear maintenance requirements for particular assets such as crest drains. We are engaging the region on improvements in these areas.
- 7.56 Network Rail is funded to deliver programmes which fit overlay miniature stop lights to passive level crossings. In Wales and Western, delays during the year led to more installations being scheduled for the final two years of the control period. We are concerned about the risk to delivery, particularly in the Wales route, and are monitoring to make sure that this work is progressed.
- 7.57 In November 2021, there were two incidents in the region where signaller errors allowed trains to enter areas where track staff were working. The errors were lapses during a complex procedure. We have asked the routes to develop means for minimising this risk and checking for errors.
- 7.58 Further information on our safety inspection activity, alongside a more detailed assessment of Network Rail's safety performance is reported in our 'Annual Health and Safety report', published in July 2022.

Stakeholder engagement

- 7.59 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 2021.
- 7.60 Wales and Western reported that it has continued to use its network of Industry Programme Directors to provide a single point of contact for regional stakeholders. The region also reported that it is well advanced in its engagement with

stakeholders on their priorities for the next control period (CP7, which starts in April 2024).

- 7.61 The region said it has sought to address key performance challenges with industry colleagues through targeted joint initiatives such as Fusion. Our 'Annual Assessment of Network Rail's stakeholder engagement', which will be published in September 2022, will review the effectiveness of the region's stakeholder engagement in more detail.

Annual Assessment of Network Rail

System Operator



8. System Operator

Summary

Network Rail's System Operator continued to respond effectively to the timetable demands of the pandemic. Between April 2021 to March 2022, it supported three major regional access and timetable projects, working collaboratively with operators, funders and the regions. However, it has made limited progress on reforms to the timetable development process. The System Operator took action to support the performance of freight and national passenger operators. But network-wide freight performance has returned closer to pre-pandemic levels.

The role of the System Operator

- 8.1 Network Rail's System Operator collaborates extensively with each of its regions and the rail industry to carry out a range of important network functions. These include:
- (i) strategic planning (it is accountable for Network Rail's long-term planning process);
 - (ii) providing information about network capacity to train operators and funders;
 - (iii) managing operator access to the network;
 - (iv) producing the timetable;
 - (v) providing technical expertise and co-ordinated management to deliver performance and safety improvements in network operations;
 - (vi) improving the customer experience at managed stations; and
 - (vii) managing Network Rail's customer relationships, including delivery to freight operators, national passenger operators, charter operators and potential future open access operators.

Headline performance during April 2021 to March 2022

- 8.2 The System Operator performed well in responding rapidly and effectively to the timetable demands of the pandemic, managing frequent timetable changes in a period of uncertainty.
- 8.3 The Sale of Access Rights process timescales were not met, compressing timescales for assessing capacity and performance implications. We continue to press the industry to manage risks to achieving the process timescales.
- 8.4 During the year, the System Operator improved the information it provides to stakeholders on access and capacity. It provided good support to three major regional access and timetable projects and continued to mature its industry timetable assurance function – identifying system risks to the delivery of timetables. Proposals for major change to the East Coast Main Line (ECML) timetable were progressed but remain dependent on timely funder decisions.
- 8.5 The System Operator made slow progress in developing a coherent proposal for reforming the timetabling process.
- 8.6 The System Operator played its part in supporting freight train service performance and the performance of national passenger operators.
- 8.7 Network Rail uses scorecards to monitor its performance and to help align its priorities with its customers. The System Operator's scorecard includes measures relating to its delivery of all its key functions. Overall, it achieved a 73.8% weighted score for the year. This is an improvement on the previous year's score of 68.7%.

The System Operator responded effectively to the timetable demands of the pandemic

The System Operator performed well in responding rapidly and effectively to the timetable demands of the pandemic, managing frequent timetable changes in a period of uncertainty.

- 8.8 As reported in the network-wide chapter, passenger demand increased during the year and services were reintroduced, meaning more trains ran on the network than the previous year. These changes required the System Operator to deliver additional timetable recasts in both March and September 2021, as well as unplanned service reductions and increases as funders requirements (at times to

mitigate levels of staff absence due to the pandemic) and passenger demand fluctuated.

- 8.9 The System Operator's approach to operational timetable development was intended to strike a balance between providing certainty to passengers, while also delivering the flexibility needed to meet changing passenger demand and funders' needs. To that end, the System Operator made quarterly timetable changes in 2021. In 2022, it expects to make two major changes but in reduced timescales compared to normal industry process. The System Operator has proactively engaged with train operators and funders to deliver these changes.
- 8.10 This process has been challenging. In January 2022, the System Operator supported train operators in delivering late timetable changes which, although delivered successfully, meant that accurate information for passengers was not available until less than 8 weeks before the services commenced (against the standard 12 weeks for amended timetables). Most operators have not yet returned to meeting the 12 weeks standard.
- 8.11 We have raised this with Network Rail and [publicly stated](#) that it is not sustainable to continue working in this way, especially as we approach more complex timetable changes. It is important that funders recognise the need to take decisions in a sufficiently clear and timely way to allow agreed processes to be followed, to allow operators to plan their businesses with a reasonable degree of assurance and to meet their obligations to railway users. We do however recognise that the process for reintroducing services and developing the most recent (May 2022) timetable change has been effective in managing change and risks.
- 8.12 One of the weaknesses identified as part of our 2018 inquiry into factors that contributed to the failure to produce and implement a satisfactory operational timetable in May 2018, was that the System Operator did not see itself as responsible for managing system risk or advising others on risk. Network Rail sought to address this gap through the creation of a new Industry Timetable Assurance Programme Management Office (PMO) tasked with looking at system risks to the delivery of timetables.
- 8.13 The role of the PMO has continued to mature, resulting in a better understanding of risks to timetable changes. From our engagement with the PMO, we consider the outputs of its risk management and assurance activities to be comprehensive and robust. Its growing maturity was reflected in the PMO's clear articulation of the

risks to the implementation of the May 2022 timetable recast of the ECML timetable and the subsequent decision to defer the change.

The System Operator provided good support to regional timetable projects

- 8.14 The System Operator supported three major regional access and timetable projects – the Manchester Recovery Task Force (MRTF); the West Coast Main Line (WCML) timetable recast; and the ECML timetable recast. In doing so, it worked collaboratively with operators, funders, and the regions. The MRTF and WCML work has progressed this year to timetable production while the ECML project has not reached a conclusion for its intended implementation in May 2023.
- 8.15 For the ECML timetable recast, the System Operator collaborated to develop options for resolving the underlying capacity challenges. However, it is concerning that this effort has yet to lead to a long-term solution for the East Coast timetable being adopted – although we do recognise that Network Rail needs clear decisions from stakeholders to progress this.
- 8.16 Network Rail is also engaging more proactively with service specifiers on balancing decisions on capacity and performance. The work of the MRTF was a good example of collaborative decision-making between the industry and its funders and stakeholders, and of the benefits of following the correct process for resolving capacity issues on congested parts of the network.

Sale of Access Rights timescales were not met

The Sale of Access Rights process timescales were not met due to uncertainty over funders' requirements for future service levels compressing timescales for assessing capacity and performance implications. We continue to press the industry to manage risks to achieving the process timescales.

- 8.17 The System Operator is responsible for, and manages, Network Rail's sale of access rights process and approvals. It must ensure that clear processes are established and maintained.
- 8.18 Timely access applications are important to allow sufficient consideration of performance and capacity issues by Network Rail, operators and ORR. In our last two annual assessments, we expressed concern that applications for track access

continued to be made late, and that this was impacting the industry's and our ability to consider and resolve performance and capacity issues.

- 8.19 During year 3 (April 2021 to March 2022), issues such as uncertainty over funders' required future service levels meant access applications from operators and timetable slots continued to be processed within 12 weeks of the timetable change date or in some cases later than the change date, when contractual rights should have already been in place.
- 8.20 This is an ongoing industry-wide issue. The System Operator owns the sale of access rights process and needs to provide leadership across Network Rail's regions and the wider industry to deliver improvements. We have pressed all parties to continue to develop their understanding of risks to meeting established timescales. We have also encouraged a greater focus from the industry on anticipating and managing those risks.

The System Operator set a clear approach to unused track access rights

- 8.21 Following the pandemic, train operators reduced their service levels while retaining the contractual access rights to operate those services. Many of those services have not yet returned to the timetable. We monitored the System Operator's approach and noted that it engaged with train operators and communicated its developing approach in letters in May 2021 and April 2022. In November 2021 ORR issued a [Regulatory Statement](#) on this matter, including our expectations of Network Rail.
- 8.22 [The System Operator's April 2022](#) letter explained that it holds regular access rights review meetings with each train operator to understand which access rights are not being used. It set out an expectation that where access rights will be unused for the whole of April 2022 to March 2023, they should be surrendered. We welcome the clarity provided and recognise that handling of unused rights raises complex issues for funders and train operators. We will continue to monitor how Network Rail is meeting its contractual obligations in this area.

The System Operator improved information on congested infrastructure

- 8.23 In June 2021, the System Operator published a revised Code of Practice on the [Management of Congested Infrastructure](#). This followed a consultation with stakeholders and engagement with ORR. The document explains how Network Rail will implement the requirements of The Railways (Access, Management and Licensing of Railway Undertakings) Regulations 2016.

- 8.24 We welcome this publication and the transparency it provides on the triggers for a declaration of congestion and how Network Rail will then respond. Users of the rail network will benefit from this clarity. We are now monitoring whether it is consistently applied across all Network Rail regions.

The System Operator made limited progress on reforming the timetable development process

The System Operator took forward work aiming to reform the timetable development process but did not gain industry agreement and did not return the industry to the process set out in the Network Code.

- 8.25 We reported last year that the System Operator had convened an Industry Timetable High Level Group to review options for future timetable planning and production processes and develop a recommendation for a more agile approach than that provided by the current Network Code process. The Network Code is a common set of rules and industry procedures applying to all parties who have a contractual right of access to the track owned and operated by Network Rail. Network Rail manages and maintains the code.
- 8.26 The System Operator engaged with industry to agree some core principles for this reform, but its initial plan for implementation did not prove to be workable. Its proposals for change were not supported by a sufficiently clear explanation of which issues it would address and which it would not. The System Operator subsequently withdrew its proposals and, at time of writing, is aiming to make an amended proposal in July 2022. At the same time, during the past year, many funders and operators have again chosen not to take decisions about their train service plans in timescales that would be compatible with enabling Network Rail to operate the pre-pandemic Network Code processes.
- 8.27 The increase in train services during the year and changes to demand patterns means the rigour provided by a contractual process for timetabling is increasingly important to protect Network Rail, the industry and passengers.
- 8.28 The System Operator now needs to secure stakeholder support for a clear plan. Funders and operators have an important role to play in enabling Network Rail to develop a solution. In February 2022 we issued a [Regulatory Statement](#) which emphasised the importance of process, setting out how we will apply the legislative and contractual framework in line with our published guidance and

policies. We also wrote to Network Rail and the Department for Transport in April 2022 to emphasise the [importance of timely decisions](#).

The System Operator made progress in delivering its capital programmes

- 8.29 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.
- 8.30 The ITTS was formally signed off at the end of year 2 of CP6. Throughout the last year the programme has identified target outcome capabilities. Network Rail reports that this early work has in some areas taken longer than anticipated, and increased its knowledge and confidence in what needs to be delivered and how that will be achieved in the remainder of CP6 and CP7. In some areas this has led to an adjustment to the delivery plan, and a reduction in anticipated capital expenditure required in CP6.
- 8.31 In time for the May 2022 timetable change, the System Operator launched its Structured Operational Feedback solution, which provides quicker and more insightful feedback from front line operational staff to the planner community on issues they experience with the operational timetable. Technology enablers have also been developed. We will monitor the implementation of new capabilities during the rest of CP6.

Improved plans for the Performance Innovation Fund

Expenditure through the Performance Innovation Fund was largely authorised, but issues resulting in delays to spend need to be addressed.

- 8.32 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 the PIF had delivered greater levels of investment in year 2 (April 2020 to March 2021) compared to the previous year, with improved governance and greater emphasis on regional engagement.
- 8.33 In the first half of year 3, progress slowed. In our [mid-year letter](#) we said that Network Rail must take immediate action to ensure that it delivered innovative

performance improvement projects that make effective use of the fund and support longer-term performance improvement.

8.34 Since then, Network Rail has reported that the largest schemes have proved to be more complex to mobilise than anticipated. Those schemes have experienced difficulties within the supply chain and in obtaining safety approvals.

8.35 By March 2022, £38.6 million of the fund had been authorised, but actual expenditure stood at £12.5 million.

8.36 The System Operator has now developed a recovery plan to address the slow spend. It has increased project management support. The fund governance panel has been augmented with specialists from Network Rail's corporate commercial team to provide expertise in obtaining contractual agreements with operators and third parties. In addition, oversight through the Network Performance Board has been increased.

8.37 We welcome the remedial actions being taken and will closely monitor progress in this area. It is important that the fund is deployed effectively and efficiently to support future performance improvements. The System Operator should also ensure that lessons are learned for similar programmes to ensure that barriers to delivery are identified and addressed earlier.

Freight train performance declined from the record levels of the previous year

Freight train performance nationally has returned closer to pre-pandemic levels but remains higher when compared with two years ago. Network Rail exceeded its Scottish freight growth target and it continued to deliver enhancement projects which will support future freight growth.

8.38 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 (Network Rail's regions are responsible for the day-to-day delivery of train performance and we report on this in the regional chapters). We hold the System Operator to account for delivery of outcomes that matter to freight users. In CP6, these include:

- (i) performance for freight operators as measured by the Freight Delivery Metric (FDM) nationally. 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. At the start of CP6, Network Rail's trajectory for FDM was set at 94% and there is also a regulatory minimum level (floor) of 92.5%;
- (ii) specific actions to improve governance and stakeholder engagement;
- (iii) £22 million of renewals expenditure to address and mitigate safety risks for the freight and national passenger customers; and
- (iv) specific requirements of the Scottish Government as set out in its High Level Output Specification (HLOS) for CP6 (see [Annex 1 of our PR18 Final Determination](#)).

8.39 Nationally, freight performance (FDM) returned closer to pre-pandemic levels, but FDM Moving Annual Average (MAA) remained 0.8 percentage points higher than two years ago. National FDM delivered during year 3 was 93.6%. This was below the CP6 trajectory of 94.0%, but above the regulatory floor of 92.5%.

8.40 In year 3, freight performance was impacted by several factors. Passenger service levels increased, and the network became busier. There was also an increase in freight trains running (there were 213,513 freight trains that ran on the mainline network in year 3, an increase of 12.7% compared with year 2 and up 1.9% compared with year 1 (April 2019 to March 2020). In addition, the pandemic continued to impact on both Network Rail and freight operators, and severe weather also impacted performance during the year. Storms in February 2022 caused disruption across the network.

8.41 In our last annual assessment, we highlighted our concerns with freight performance in Network Rail Scotland, as it was the only region that was below its freight performance target. During year 3, we have seen stronger performance from the region and Network Rail Scotland has ended the year being the only region to achieve its regional scorecard freight performance target. This was largely due to the high levels of performance from March to October 2021.

8.42 The System Operator worked with freight operators to embed the Performance Improvement Management System (PIMS), through the creation of the Freight Operating Company PIMS Practitioner Group. This has created better alignment of PIMS with the priorities of freight operators. The System Operator also worked in

partnership with freight operators on various performance improvement activities. For example, it worked collaboratively on seasonal delivery plans, updated joint briefings on managing late running services, and updated joint contingency plans.

- 8.43 Given the overall decline in freight performance, we will increase our focus on the causes of fluctuating levels of performance and the actions that the System Operator is taking to make improvements.

Enhancements delivered to support freight growth

- 8.44 During the year Network Rail has delivered enhancements to support freight growth including:

- (i) enhancement works to the Bootle Branch as part of the Northern Ports scheme, which provides increased freight capacity to the Port of Liverpool. This was an £8.3 million scheme funded by the Department for Transport which doubled the capacity of freight trains into the port. The core works involved re-doubling a 400 metre stretch of single-track line;
- (ii) ongoing work to design a programme to increase gauge clearance to W12 between Northallerton and Eaglescliffe. Enhanced gauge clearance will enable freight trains of a higher loading gauge to run along the route. This will be particularly beneficial for intermodal freight, as it will enable larger shipping containers to be conveyed on freight wagons; and
- (iii) enhancement works to the route between London to Bristol and Cardiff on the Great Western Main Line that will increase gauge clearance to W12. This will also allow for freight trains of a higher loading gauge to operate on the route. This will have a particular benefit to improving intermodal freight capability, which continues to see significant growth.

Network Rail exceeded its Scottish freight growth target but did not achieve its target for freight journey time improvements

- 8.45 The Scottish Government set specific requirements for Network Rail to deliver increased rail freight in Scotland and we reflected those requirements in the [CP6 Final Determination](#). It must work with the freight industry to facilitate growth of 7.5% in rail freight traffic carried on the Network Rail Scotland route, 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.

- 8.46 Freight growth in Scotland performed well. The System Operator contributed to exceeding its year 3 freight growth on baseline target (i.e. baseline set at the start of CP6) of 4.5%, delivering 9.8% growth when compared to the start of CP6. During the year, it moved 425,525 net tonne miles. This included an increase in construction traffic (20%), intermodal (7%), industrial minerals (9%) and petroleum traffic (32%). Automotive volumes decreased by 49% compared to the previous year and metals decreased by 2%.
- 8.47 The System Operator continued to work closely with freight operators (and met throughout the year with representatives of the Scottish Freight Joint Board) and potential new entrants, to support delivery of the required level of growth in CP6. It also started to engage with freight operators on what changes are needed to the freight growth plan post-pandemic and looking ahead to CP7. Its aspiration is to create a longer-term plan, out to 2035.
- 8.48 In addition to freight growth, the System Operator has a specific freight journey time improvement target for CP6. In year 3, its target was to improve average speed from 36.76 miles per hour to 38.97 miles per hour. It marginally missed this target, with an average speed at the end of March 2022 of 38.55 miles per hour. This was in part due to weather related cancellations later in the year which resulted in fewer of the faster postal services running.

Some progress on access for the heaviest freight trains

- 8.49 Last year we reported that freight operators had been concerned by Network Rail's change in approach to selling access rights to the network for some of the heaviest freight trains. Network Rail usually sells access rights for up to 10 years. But dispensations to run heavier trains than would usually be permitted are granted for up to two years. In some cases, Network Rail has curtailed its sale of access rights for these heavy trains in line with these dispensations that engineers were willing to grant.
- 8.50 Reaching a long-term solution to this issue is challenging and we have continued to engage with the regions and the System Operator. During the year, the System Operator actively engaged with operators to understand the issues and convened a heavy axle weight cross-industry working group. Its objectives are to increase transparency, encourage collaboration on sustaining and growing heavy axle weight capability, and to improve processes and data to better manage and operate heavy axle weight trains. The regions also put forward proposals on funding requirements for CP7 to address some of the issues.

The System Operator delivered safety schemes to support industry

- 8.51 The System Operator supported safety improvements through its delivery of the Freight Safety Improvement Fund (FSIP). It also worked with the freight industry through its engagement with the National Freight Safety Group (NFSG) and with freight end users.
- 8.52 FSIP continued to deliver improvements at a site level, as well as contributing to efforts to reduce safety risks across the industry. For example, FSIP was used to fund a dedicated project manager for the National Freight Safety Group's Condition of Freight Vehicles workstream. To accelerate the delivery of FSIP projects, the System Operator obtained additional resource and implemented several different methods of project delivery, including providing funding to operators and third parties to deliver work.

The System Operator focused more attention on freight customer satisfaction

- 8.53 During the year, the System Operator changed its approach to how it agrees annual scorecard targets with freight operators. It moved to four-weekly customer satisfaction forms to better understand the effectiveness of its engagement and to monitor progress in resolving issues. Freight operators now use a short survey form to communicate what is going well and where focus is needed. The combined views of each operator are then used to create an engagement summary and action tracking list which are shared with managers in both organisations – providing focus, monitoring, and clear reporting lines for resolutions.
- 8.54 The System Operator reported that this is having a positive effect, and that freight operators welcomed this more targeted engagement. Network Rail has committed to review its approach during the coming year. We will examine these areas, and others, in our 'Annual Assessment of Network Rail's stakeholder engagement', which will be published in September 2022.

National passenger operators' train performance was mixed

National passenger operators train performance was mixed but remained higher than pre-pandemic levels.

CrossCountry performance declined but remained at higher levels than pre-pandemic

- 8.55 CrossCountry performance declined over the year as more services were introduced to the network. However, performance remained significantly better than pre-pandemic levels.
- 8.56 The System Operator's performance against its scorecard targets for CrossCountry was mixed. Public Performance Measure at the end of the year was 89.0%, against the scorecard target of 89.5%. CrossCountry exceeded its 'Time to 3' target, achieving 79.6% against a target of 77.8%. It did not meet its 'Time to 15' target, with 96.5% against a target of 97.4%. Cancellations were at 2.8%, worse than the target of 2.3%.
- 8.57 In year 3, the most significant Network Rail attributed causes of performance issues for CrossCountry included fatalities and trespass, track faults, points failures and track circuit failures. Network Rail has undertaken a review of year 3 performance (national, regional and route level), the outcome of which will inform performance plans for year 4.

Caledonian Sleeper exceeded its Right Time Arrival target

- 8.58 Caledonian Sleeper train performance, as measured using Right Time Arrival (RTA) MAA, started the year well above target but has trended downwards during the year. Performance fell below target during the winter but recovered towards the end of the year to 80.9%, 0.9 percentage points above target.
- 8.59 In year 3, 43% of the delay caused to Caledonian Sleeper was attributed to Network Rail, with external delays and weather being the most significant categories within that. Many of the largest delay causing incidents were due to Caledonian Sleeper's own operations.
- 8.60 The System Operator supported Caledonian Sleeper's performance in various ways throughout the year. For example, it sought effective operator input to Incident Learning Reviews and shared outputs. It is working to standardise

Incident Learning Reviews for its customers and ensure that incidents are investigated thoroughly, including where they are impacted but are not the lead train operating company.

Asesiad Blynyddol Network Rail

Rhanbarth Cymru a'r Gorllewin



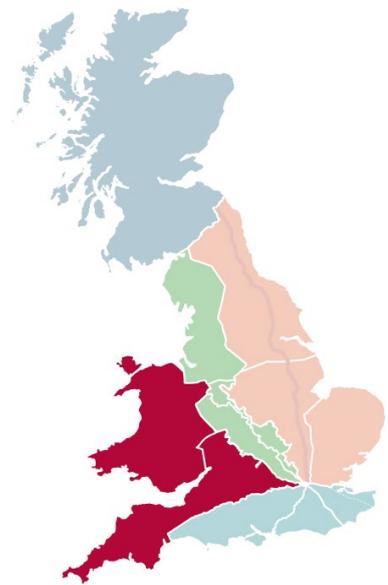
9. Perfformiad rhanbarth Cymru a'r Gorllewin Network Rail

Crynodeb

Llwyddodd rhanbarth Cymru a'r Gorllewin yn dda o ran ei dargedau effeithlonrwydd ac amgylcheddol, ond rhaid gwella perfformiad gwasanaethau trên a rheoli asedau'n well.

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.

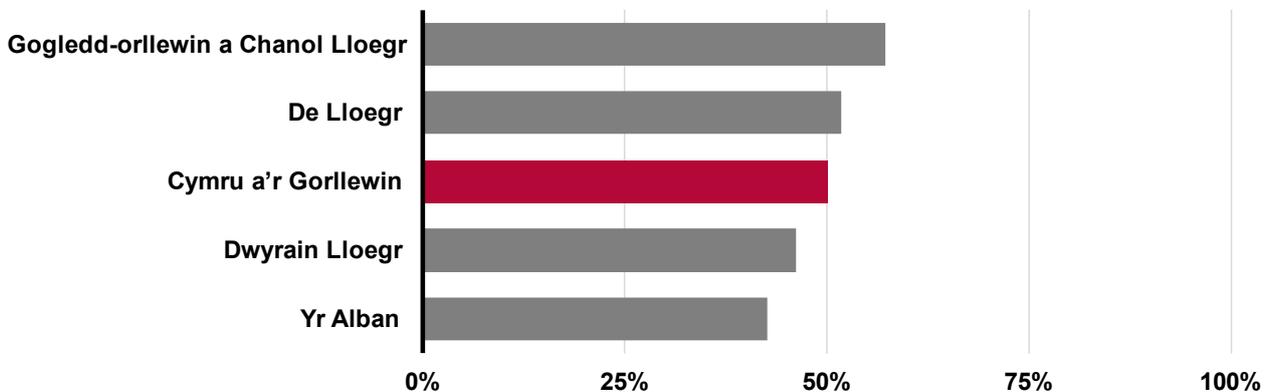


Perfformiad cyffredinol rhwng Ebrill 2021 a Mawrth 2022

- 9.3 Yn ystod trydedd flwyddyn Cyfnod Rheoli 6 (mis Ebrill 2021 i fis Mawrth 2022), roedd perfformiad gwasanaethau trên rhanbarth Cymru a'r Gorllewin yn wael o gymharu â rhanbarthau eraill. Mae'r perfformiad ar lwybr Cymru'n peri pryder penodol inni. Yn gyffredinol, mae perfformiad gwasanaethau trên wedi dirywio'n gyflymach yn ystod y flwyddyn nag mewn rhanbarthau eraill. Rydym yn herio'r rhanbarth ar ei gyfraniad at berfformiad trenau ac yn gofyn am gynllun gwella cadarn, y byddwn yn ei fonitro.
- 9.4 Mae asedau'r rhanbarth wedi mynd yn llai dibynadwy yn ystod y flwyddyn, a chyfrannodd hyn at berfformiad gwael gwasanaethau trên. Mae angen i'r rhanbarth gymryd camau gweithredu i sicrhau ei fod yn cyflawni ei gynlluniau adnewyddu dros y cyfnod rheoli, a lleihau ei ôl-groniad o archwiliadau adeileddau.

- 9.5 Perfformiodd Cymru a'r Gorllewin yn well mewn meysydd eraill ar y cerdyn sgorio. Er enghraifft, llwyddodd yn dda o ran ei darged canlyniadau amgylcheddol.
- 9.6 Perfformiodd y rhanbarth yn dda o ran ei darged effeithlonrwydd hefyd, gan gyflawni gwerth £121 miliwn o effeithlonrwydd yn y flwyddyn. Roedd ei berfformiad ariannol ychydig yn waeth na'r targed.
- 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 50% yn golygu cyrraedd y targed. Cyflawnodd Cymru a'r Gorllewin 50.1% ar ei gerdyn sgorio am y flwyddyn.

Ffigur 9.1 Perfformiad cyffredinol cerdyn sgorio yn ôl rhanbarth, data blynyddol, mis Ebrill 2021 i fis Mawrth 2022



Ffynhonnell: Cerdyn sgorio cymharu rhanbarthol Network Rail

Roedd perfformiad trenau teithwyr a threnau nwyddau yn wael

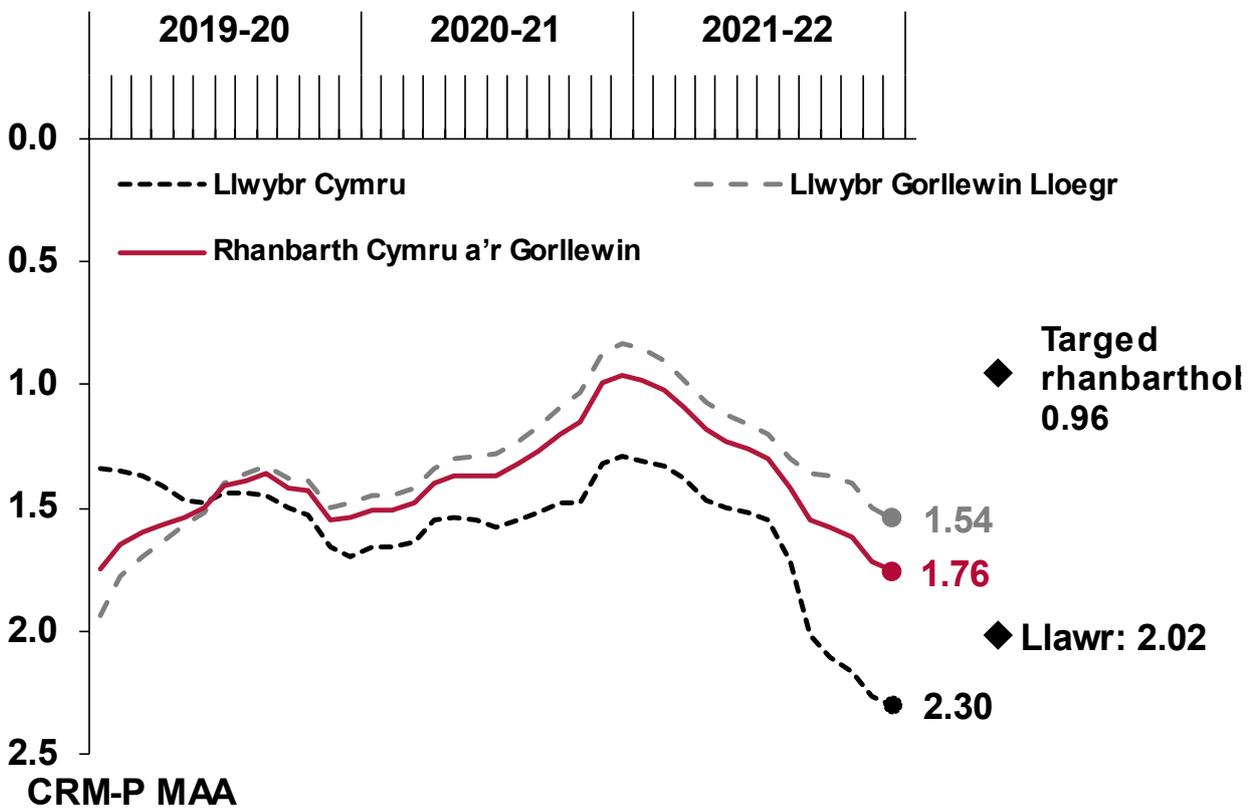
Roedd perfformiad gwasanaethau trên Cymru a'r Gorllewin yn wael o gymharu â rhanbarthau eraill, gyda pherfformiad neilltuol o wael yng Nghymru. Gwaethygodd perfformiad gwasanaethau trên yn gyflymach nag mewn rhanbarthau eraill.

- 9.8 Gwaethygodd perfformiad gwasanaethau trên yng Nghymru a'r Gorllewin yn ystod y flwyddyn, gyda 69.6% o drenau Ar Amser o gymharu â 80.2% y flwyddyn flaenorol. Gwaethygodd hefyd wnaeth nifer y gwasanaethau a gafodd eu canslo'n llwyr, gan ddyblu'n fras o'r flwyddyn flaenorol. Cafodd y perfformiad gwaeth ei achosi gan gyfuniad o ffactorau gan gynnwys prinder staff gweithredwyr trenau ar gael (o ganlyniad i'r pandemig), tywydd drwg (gan gynnwys pum storm a enwyd),

mwy o ddefnydd o'r rhwydwaith o gymharu â'r flwyddyn flaenorol, dibynadwyedd y fflyd trenau a dibynadwyedd y rhwydwaith.

9.9 Gosododd Network Rail dargedau perfformiad uchelgeisiol ar gyfer gwasanaethau trêni ei ranbarthau am y flwyddyn i gynnal y lefelau uwch nag erioed o berfformiad a welwyd ar ddiwedd mis Mawrth 2021. Syrthiodd yn fyr o'r targedau hyn ar draws pob rhanbarth, ond dirywiodd perfformiad Cymru a'r Gorllewin yn gyflymach nag mewn rhanbarthau eraill ac roedd yn wael o gymharu â'r lefelau cyn y pandemig. Methodd y rhanbarth ei darged cerdyn sgorio ar gyfer y munudau a briodolwyd i oedi (CRM-P, cyfartaledd symud blynyddol (MAA)) o 83%.

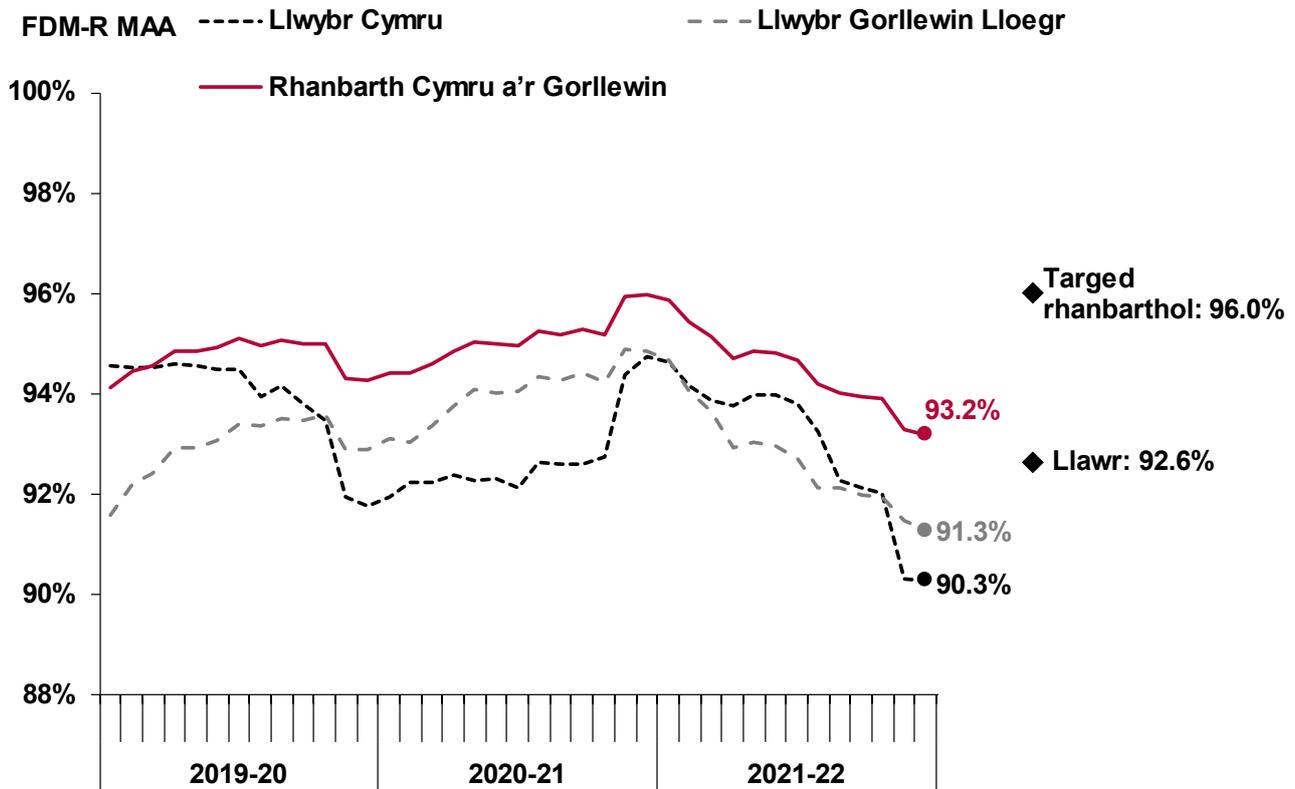
Ffigur 9.2 Perfformiad trenau teithwyr (munudau o oedi a briodolwyd i Network Rail, wedi eu normaleiddio, CRM-P) ar gyfer rhanbarth a llwybrau Cymru a'r Gorllewin, data cyfnodol (MAA), mis Ebrill 2019 i fis Mawrth 2022



Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

9.10 Methodd Cymru a'r Gorllewin ei darged cerdyn sgorio am berfformiad cludo nwyddau hefyd, gyda pherfformiad Metrig Danfon Nwyddau (FDM) o 93.2%, gan fethu ei darged 96.0% o 2.8 pwynt canran.

Ffigur 9.3 Perfformiad cludo nwyddau (FDM-R) rhanbarth a llwybrau Cymru a'r Gorllewin, data cyfnodol (MAA), mis Ebrill 2019 i fis Mawrth 2022



Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

- 9.11 Rydym wedi sylwi ar y tueddiad at i lawr ym mherfformiad gwasanaethau trên ac achosion allweddol hynny, ac wedi gweithredu'n gynnar (cyn i unrhyw lefelau isafswm rheoliadol gael eu torri) i ddiogelu defnyddwyr rheilffyrdd. Fe wnaethom herio'r rhanbarth i ddangos ei fod wedi asesu'r rhesymau dros gyfradd y dirywiad ac i gyflawni cynlluniau cadarn, wedi eu blaenoriaethu a therfynau amser iddynt ar gyfer gwelliannau mewn perfformiad gwasanaethau trên.
- 9.12 Mewn ymateb, fe wnaeth llwybr Gorllewin Lloegr rannu amrywiaeth o gynlluniau mae wedi eu gweithredu. Er enghraifft, roedd y rhain yn cynnwys cynllun ar y cyd rhwng Network Rail a gweithredwyr trenau (o'r enw Fusion), a oedd yn canolbwyntio ar y rheilffyrdd o Didcot Parkway i orsaf Paddington Llundain, a chynllun i newid offer annibynadwy i ddarganfod trenau rhwng Paddington ac Airport Junction ag offer newydd, gwaith a wnaeth ym mis Rhagfyr 2021. Fe wnaeth y llwybr hefyd ddarparu cynllun yn canolbwyntio ar wella perfformiad gwasanaeth llwybr Gorllewin Lloegr trwy Westbury, a oedd wedi dioddef ansawdd gwael trac.

- 9.13 Mae perfformiad ar lwybr Cymru o fwy o bryder ac roedd ei ymateb cychwynnol i ni yn llai cynhwysfawr. Fe wnaethom bwysu ar y llwybr am ei gynlluniau gwella ac rydym bellach wedi gweld tystiolaeth eu bod yn cael eu datblygu. Rhaid iddynt nawr gael eu cwblhau ar frys a'u gweithredu. Byddwn yn parhau i fonitro hyn yn ofalus ac yn gweithredu os na fydd cynnydd digonol.
- 9.14 Ar y ddau lwybr, mae'r rhanbarth yn gweithio i fesur effeithiau ei gynlluniau gwella ar berfformiad ac ar raddfeydd amser disgwylidig y gwelliannau. Byddwn yn parhau i fonitro hyn dros y misoedd nesaf i sicrhau bod cynlluniau gwella yn canolbwyntio ar gyflawni buddion i deithwyr a gweithredwyr cludo nwyddau.
- 9.15 Effeithiwyd ar berfformiad gwasanaethau trên yn y rhanbarth gan ffactorau allanol hefyd, gan gynnwys trawiadau ar bontydd, tresmasu, a digwyddiadau tywydd garw.

Perfformiad trenau yng Nghymru

- 9.16 Fel y nodir uchod, roedd perfformiad gwasanaethau trên yng Nghymru yn neilltuol o wael. Gwaethygodd yr oedi a briodolir i Network Rail o 1.69 i bob cilometr o deithiau trên ar gychwyn y pandemig (diwedd blwyddyn 1 (mis Ebrill 2019 i fis Mawrth 2020)) i 2.30 munud eleni.
- 9.17 Effeithiwyd yn neilltuol o ddrwg ar lwybr Cymru gan dywydd garw yn yr hydref a'r gaeaf (gan gynnwys stormydd Arwen a Barra, Dudley, Eunice a Franklin). Effeithiwyd arno hefyd gan fwy o ddiffygion ar y trac (er enghraifft, ar Brif Reilffordd De Cymru), a chyfyngiadau cyflymder dros dro a gyflwynwyd i reoli amrywiaeth o broblemau ar y rhwydwaith.
- 9.18 Fel y nodir uchod, rydym wedi ei gwneud yn ofynnol i'r llwybr gynhyrchu cynllun gwella perfformiad trenau a byddwn yn ei ddal i gyfrif i'w weithredu.

Rhywfaint o arferion da mewn rheoli perfformiad ond lle i wella

- 9.19 Fel yr adroddwyd yn y bennod am y rhwydwaith cyfan, buom yn cyflawni gwaith adrodd annibynnol yn adolygu sampl o strategaethau perfformiad Network Rail a gweithredwyr trenau ar y cyd a sut y cawsant eu gweithredu trwy brosiectau. Yn rhanbarth Cymru a'r Gorllewin, adolygwyd strategaeth perfformiad Network Rail a Great Western Railway ar y cyd.
- 9.20 Canfuom y gellir gwella'r cysylltiad rhwng y strategaeth a chynlluniau penodol i wella perfformiad, ond roedd tystiolaeth dda o gynlluniau perfformiad yn cael eu gweithredu ar y cyd ar lwybr Gorllewin Lloegr. Canfuom y gellid gwella rheolaeth o fanteision cynlluniau a phrosiectau.

- 9.21 Sylwasom ar enghreifftiau o arferion da o'r prosiectau a samplwyd, gan gynnwys dulliau arloesol o ynysu trydanol cyflymach a diogelach, a menter i leihau'r risg o feddiant yn gorlifo – dau beth sydd â'r potensial o'u defnyddio mewn llwybrau eraill. Canfuom hefyd broses effeithiol ar gyfer adrodd cynnydd ar brosiectau gwella perfformiad i gyfarfodydd llywodraethu.
- 9.22 Byddwn yn cadw cysylltiad gyda'r rhanbarth er mwyn sicrhau ei fod yn gweithredu ar ein hargymhellion ac yn rhannu'r meysydd lle gwelir yr arferion gorau.

Mae angen rheoli asedau'n well

Mae asedau Cymru a'r Gorllewin yn llai dibynadwy, gan gyfrannu at berfformiad gwael trenau. Mae angen i'r rhanbarth gymryd camau i sicrhau ei fod yn cyflawni ei gynlluniau adnewyddu dros y cyfnod rheoli, a lleihau ei ôl-groniad o archwiliadau adeileddau.

- 9.23 Rhaid i Network Rail gynnal a chadw ac adnewyddu ei asedau mewn ffordd effeithlon, gynaliadwy i gefnogi gweithrediadau rheilffordd. Rydym yn mesur hyn trwy'r Mynegai Cynaliadwyedd Cyfansawdd (CSI), sy'n cymharu cynaliadwyedd asedau â diwedd Cyfnod Rheoli 4. Gorffennodd Cymru a'r Gorllewin y flwyddyn gyda CSI o 0.1%. Mae hyn yn cynrychioli gwelliant mewn cynaliadwyedd cyffredinol asedau o 0.1% ers diwedd Cyfnod Rheoli 4. Mae'r rhanbarth ar y trywydd i orffen cyfnod allweddol 6 gyda CSI o 0.2%.
- 9.24 Oherwydd bod CSI yn araf ei symudiad, rydym yn ategu ein monitro ohono trwy edrych ar fetrigau eraill ar gyfer rheoli asedau, gan gynnwys mesurau o ddibynadwyedd asedau, a'r gwaith o gynnal a chadw ac adnewyddu.

Dirywiodd dibynadwyedd asedau

- 9.25 Dirywiodd dibynadwyedd asedau Cymru a'r Gorllewin, fel a fesurir trwy'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 4.2% o gymharu â tharged cerdyn sgorio o 19.1%. Golyga hyn ei fod 14.9 pwynt canran o dan ei darged cerdyn sgorio blynyddol, ond roedd 4.2% yn well nag oedd ym mlwyddyn olaf Cyfnod Rheoli 5.
- 9.26 Pŵer trydanol oedd yr unig fath allweddol o ased lle gwnaeth dibynadwyedd wella'n sylweddol yn ystod y flwyddyn. Roedd dibynadwyedd asedau trac ac adeiladau yn neilltuol o wael. Fe wnaeth cyfyngiadau cyflymder dros dro effeithio ar ddibynadwyedd y trac, cyfyngiadau a gyflwynwyd i gefnogi gweithiau

adnewyddu trac Allbynnau Uchel, lle'r oedd ansawdd y trac wedi dirywio, ac i reoli risgiau i aliniad trac yn sgil tywydd poeth. Rydym yn bryderus ynghylch y dirywiad hwn mewn dibynadwyedd ac yn herio'r rhanbarth trwy ein gwaith monitro.

- 9.27 Fe wnaeth cynnydd mewn diffygion adweithiol effeithio ar ddibynadwyedd asedau adeiladau. Rydym yn bryderus bod y cynnydd hwn yn rhannol oherwydd nad oes gan y rhanbarth gynlluniau cadarn, â therfyn amser iddynt, ar waith i reoli asedau adeiladau ar ôl diwedd eu hoes wrth iddynt ddisgwyl prosiectau adnewyddu ar raddfa fawr i gymryd eu lle.
- 9.28 Disgwylw'n i'r rhanbarth ymdrin â'r materion hyn yn y flwyddyn sy'n dod a byddwn yn monitro hyn yn drylwyr.

Roedd dibynadwyedd asedau yng Nghymru yn arbennig o wael

- 9.29 Gwaethygodd dibynadwyedd asedau yn sylweddol yng Nghymru yn ystod y flwyddyn, gan ddisgyn i -18.5% (sef, 18.5% yn waeth nag ar ddiwedd Cyfnod Rheoli 5). Er bod disgwyl rhywfaint o waethygu mewn dibynadwyedd yn sgil methiannau posibl asedau trydaneiddio newydd, roedd y cwmp mewn dibynadwyedd yn golygu bod y llwybr wedi methu ei darged cerdyn sgorio o gryn dipyn. Fel gyda rhanbarth ehangach Cymru a'r Gorllewin, roedd dibynadwyedd trac ac adeiladau yn wael am y rhesymau a nodir uchod.
- 9.30 Fe wnaeth tywydd garw, gan gynnwys stormydd tarfol, barhau i effeithio ar y llwybr ac ar ddibynadwyedd ei asedau. Rhaid i ranbarth Cymru a'r Gorllewin barhau i ddatblygu cynlluniau i wella gallu ei asedau i wrthsefyll effeithiau newid hinsawdd a'r tywydd eithafol sy'n gysylltiedig â hynny.

Ni chafodd cynlluniau adnewyddu asedau eu cyflawni'n llawn

- 9.31 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 ystod y flwyddyn, fe wnaeth Cymru a'r Gorllewin dangyflawni ei gyfansymiau effeithiol o waith adnewyddu asedau mewn pedwar o'r pum math o asedau a oedd yn berthnasol i'r rhanbarth. Golyga hyn fod gwaith wedi cael ei ohirio hyd at yn hwyrach yn y cyfnod rheoli.
- 9.32 Tangyflawnodd y rhanbarth ei waith adnewyddu trac (ar gyfer cledrau plaen a switsys a chroesfannau). Effeithiwyd ar waith trac cledrau plaen gan berfformiad gwael peirianwaith Allbynnau Uchel, ac fe wnaeth amrywiol ffactorau eraill, gan gynnwys anawster cadwyni cyflenwi, waethygu yn sgil cyflymu gweithiau gwell rheiffordd Okehampton.

- 9.33 Adroddodd y rhanbarth fod tangyflawni gwaith switsys a chroesfannau i'w briodoli i wall yn y cynllun gweithredu a oedd yn gor-ddweud cyfanswm y gweithiau effeithiol a gyflawnwyd. Ar draws Cyfnod Rheoli 6, mae'r rhanbarth yn rhagweld y bydd yn gorgyflawni ei gynllun switsys a chroesfannau, ond mae hyn yn dibynnu ar y rhanbarth i gyflawni cryn dipyn mwy o waith ym mlwyddyn 5 (mis Ebrill 2023 i fis Mawrth 2024).
- 9.34 Fe wnaeth y rhanbarth dangyflawni ei gyfansymiau adnewyddu pontydd yn rhannol yn sgil dyfarnu contractau yn hwyr. Hefyd, ni wnaeth gyflawni'n llawn ei gyfansymiau adnewyddu gwrthgloddiau. Cafodd gwaith adnewyddu toriadau creigiau a phridd eu gohirio at yn ddiweddarach yn y cyfnod rheoli yn sgil materion amgylcheddol (gan gynnwys gwarchod pathewod a moch daear).
- 9.35 Gyda gwaith adnewyddu asedau wedi eu gohirio i ddwy flynedd olaf y cyfnod rheoli, rhaid i'r rhanbarth bellach sicrhau bod ei gynlluniau diwygiedig yn cael eu cyflawni i ddiogelu ei asedau yn yr hirdymor. Rydym yn monitro hyn yn drylwyr.

Rhaid gwella archwiliadau adeileddau

- 9.36 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 y flwyddyn, roedd 2,520 o achosion o ddiffyg cydymffurfio ag archwilio adeileddau, o fewn portffolio rhanbarthol o 13,824 o asedau. Rydym yn adrodd ar hyn yn bennod ar y rhwydwaith cyfan.
- 9.37 Rydym yn cydnabod bod heriau wedi bod wrth gyflawni archwiliadau o adeileddau, yn enwedig yn y flwyddyn ddiwethaf gyda throsglwyddo i gontractau cyflenwi newydd (er mai ein barn ni yw bod modd rhagweld hyn ac y dylai fod wedi ei reoli'n fwy effeithiol).
- 9.38 Buom yn adolygu cynlluniau adfer pob rhanbarth a cheisio sicrwydd bod camau ac iddynt derfyn amser yn cael eu cymryd. Canfuom mai nod cynlluniau Network Rail oedd cael gwared ar ddiffyg cydymffurfio ond rydym o'r farn eu bod yn cynnwys rhai gwendidau ac nad ydynt eto'n ymateb yn llawn i'n pryderon.
- 9.39 Byddwn yn parhau i fonitro'n ofalus welliannau'r rhanbarth i gadernid ei gynlluniau a'i waith. Fel y trafodwyd yn y bennod ar y rhwydwaith cyfan, byddwn hefyd yn monitro ei gynlluniau i ymateb i argymhellion yr adroddwr annibynnol ar gyflawni gwaith archwilio adeileddau Network Rail yn y dyfodol.

Rhagori o ran canlyniadau amgylcheddol

- 9.40 Rydym yn mesur yr hyn a gyflawnodd Network Rail o ran canlyniadau amgylcheddol trwy ddefnyddio'r Mynegai Cynaliadwydd Amgylcheddol (ESI), a gyflwynwyd gan Network Rail yn ail flwyddyn y cyfnod rheoli ac mae'n mesur gwastraff, allyriadau carbon a defnydd o ynni. Rhagorodd Cymru a'r Gorllewin ar ei darged cerdyn sgorio ESI, gan gyrraedd 94.4% o gymharu â tharged o 50%.
- 9.41 Ym mlwyddyn 3, canfuom wrth fonitro perfformiad y rhanbarth fod ei reolaeth o gynaliadwydd amgylcheddol yn dda. Mae ganddo ei strategaeth amgylcheddol ranbarthol ei hun sy'n cynnwys camau gweithredu manwl. Fodd bynnag, mae cyfle am ddull cryfach o lywodraethu gyda chysylltiad amlycach â'r strategaeth amgylcheddol genedlaethol.
- 9.42 Fel y trafodwyd yn y bennod ar y rhwydwaith cyfan, cyflawnasom adolygiad adroddwr annibynnol o ddata cynaliadwydd amgylcheddol yn ystod y flwyddyn. Gall hyn arwain at newidiadau yn y mesurau a ddefnyddiwn i fonitro cynaliadwydd amgylcheddol o hyn ymlaen.
- 9.43 Mae'r rhanbarth wedi cynhyrchu ei Adroddiad Cyflwr Natur cyntaf sy'n cynnwys gweithredu'r dull "Metrig Bioamrywiaeth 3.0". Mae hwn yn gam cadarnhaol tuag at ganiatáu'r rhanbarth i asesu a yw wedi cyflawni 'dim colled net' mewn Bioamrywiaeth erbyn 2024. Byddwn yn parhau i fonitro perfformiad yn y maes pwysig hwn.

Cyflawnodd y rhanbarth yn dda o ran prosiectau gwella

- 9.44 Fe wnaeth Cymru a'r Gorllewin gynnydd da ar ddatblygu, cynllunio a gweithredu prosiectau gwella ledled y rhanbarth. Mae sawl cynllun sylweddol wedi cychwyn gweithredu gwasanaethau yn ystod y flwyddyn sydd wedi gwella gallu a gwydnwch y rhwydwaith. Er enghraifft, cyflawnodd y rhanbarth weithiau seilwaith sylweddol i gefnogi gwasanaeth newydd i deithwyr rhwng Caerwysg ac Okehampton ar y rheilffordd a oedd gynt wedi ei gadael yn segur. Cychwynnodd y gwasanaethau newydd ar waith ym mis Tachwedd 2021. Cynllun sylweddol arall a gyflawnwyd oedd ailfodelu Cyffordd Dwyrain Bryste, y manylir arno yn yr astudiaeth achos isod.
- 9.45 Yng Nghymru, mae'r uwchraddio System Ewropeaidd Rheoli Trenau (ETCS) ar Reilffordd y Cambrian i alluogi mwy o drenau i redeg gyda signalau yn y caban wedi symud ymlaen. Fe wnaeth y rheilffordd elwa hefyd ar adnewyddu Traphont Abermaw a gwblhawyd i raddau helaeth yn ystod y flwyddyn.

Astudiaeth achos: ailfodelu Cyffordd Dwyrain Bryste

Yn 2021, cyflawnodd Cymru a'r Gorllewin gynllun gwerth £132 miliwn i ailfodelu Cyffordd Dwyrain Bryste. Roedd hyn yn cynnwys gosod 300 o baneli trac, gwell signalau, pum cilometr o drac a 26,000 o dunelli o falast. Fe wnaeth y gwaith hefyd gyflwyno rheilffordd weithredol newydd ar gyfer gwasanaethau lleol ychwanegol (gan gefnogi rhaglen MetroWest) a fe wnaeth wella'n fawr gapasiti gorsaf Bristol Temple Meads.

Roedd angen amryw o feddiannau sylweddol i adnewyddu'r gyffordd, a arweiniodd ar leihad llym mewn gwasanaethau rheilffordd i Bristol Temple Meads drwy gydol 2021. Gweithiodd Cymru a'r Gorllewin yn effeithiol gyda gweithredwyr (gan gynnwys Great Western Railway a CrossCountry) a rhanddeiliaid eraill i leihau'r effaith ar gwsmeriaid, gan gynnwys rhedeg gwasanaeth dibynadwy i gymryd lle trenau. Fe wnaeth y gweithrediad hwn redeg yn effeithiol ar y cyfan, er bod dau waith peirianyddol a redodd yn hwyr wedi arwain at darfu sylweddol. Dysgodd y rhanbarth wersi o hyn a diwygio ffyrdd o weithio, gan osgoi digwyddiadau tebyg yn ystod gweddill y rhaglen.



Ffynhonnell: Network Rail

- 9.46 Mae Cymru a'r Gorllewin wedi bod yn rhagweithiol wrth ymdrin â heriau cyflawni gweithiau gwella drwy gydol y pandemig. Yn sgil natur esblygol y pandemig a'i effeithiau ar y diwydiant rheilffyrdd yn ehangach, mae'r rhanbarth wedi bod yn hyblyg i addasu ac yn flaengar wrth adnabod ffyrdd o liniaru'r anawsterau er mwyn rhwystro rhaglenni gwella rhag llithro. Er enghraifft, fel rhan o'r gwaith i adnewyddu Cyffordd Dwyrain Bryste, gosodwyd cyfleuster profi COVID-19 ar y safle er mwyn

adnabod yn gyflym unrhyw achosion a allai effeithio ar ddiogelwch y gweithlu ac effeithio ar gyflawni gweithiau allweddol.

- 9.47 Mae chwyddiant a'r cynnydd sylweddol yng nghost deunyddiau, ynghyd â digwyddiadau byd-eang eithriadol wedi achosi her ddifrifol i Network Rail a'i gadwyn gyflenwi. Mae Cymru a'r Gorllewin wedi gweithio'n effeithiol gyda'i gadwyn gyflenwi a'i gontractwyr i liniaru codiadau mewn costau ac oedi yn y gadwyn gyflenwi lle bynnag roedd hynny'n bosibl. Mae'r gwaith lliniaru wedi cynnwys adolygu cwmpas prosiectau i sicrhau bod yr isafswm cynnyrch hyfyw (MVP) yn cael ei gyflawni, mabwysiadu egwyddorion Project SPEED ac adolygu amcangyfrifon prosiectau er mwyn sicrhau bod cynlluniau'n dal i fod yn hyfyw.

Cyrhaeddwyd y targed effeithlonrwydd

Perfformiodd Cymru a'r Gorllewin yn dda o safbwynt ei darged effeithlonrwydd, gan gyflawni gwerth £121 miliwn o arbedion effeithlonrwydd yn y flwyddyn. Roedd ei berfformiad ariannol ychydig yn waeth na'r cynllun.

- 9.48 Yn ystod blwyddyn 3, cyflawnodd Cymru a'r Gorllewin werth £121 miliwn o welliannau effeithlonrwydd, 2% ar y blaen i'w darged o £119 miliwn am y flwyddyn. Roedd mentrau effeithlonrwydd mwyaf y rhanbarth yn cynnwys optimeiddio mynediad, gwell strategaethau contractio ac ailstrwythuro sefydliadol. Mae'r rhanbarth yn disgwyl cyflawni tua £570 miliwn o welliannau effeithlonrwydd ar hyd Cyfnod Rheoli 6, ac wedi cyflawni cyfanswm cronol o tua 44% o hyn yn nhair blynedd gyntaf y cyfnod rheoli. Mae hyn ychydig y tu ôl i ranbarthau eraill. Y cyfartaledd cenedlaethol oedd cyrraedd 48% o darged Cyfnod Rheoli 6 o fewn y tair blynedd gyntaf. Bydd yn rhaid i'r rhanbarth gynyddu ei welliannau effeithlonrwydd yn y ddwy flynedd olaf os yw am gyflawni ei ragolwg am Gyfnod Rheoli 6.
- 9.49 Tanberfformiodd Cymru a'r Gorllewin yn ariannol o £3 miliwn yn erbyn ei gyllideb blynyddol ym mlwyddyn 3. Priodolodd y rhanbarth y rhan fwyaf o'r tanberfformiad hwn i bwysau chwyddiant ar gostau deunyddiau, a chostau uwch yn sgil gweithredu ei raglen diogelwch gweithwyr trac. Er gwaethaf hyn, gwelodd Cymru a'r Gorllewin ragori sylweddol ar y perfformiad mewn gwelliannau, gyda rhaglen Cyffordd Dwyrain Bryste yn perfformio'n arbennig o dda. Byddwn yn archwilio perfformiad ariannol y rhanbarth mewn mwy o fanylder, ac ar sail ei gynllun gweithredu ar gyfer Cyfnod Rheoli 6 yn hytrach na'r gyllideb blynyddol (a oedd â tharged llai heriol) yn ein Asesiad Effeithlonrwydd a Chyllid Blynyddol, sydd i'w

gyhoeddi ym mis Medi 2022. Bydd yr asesiad hwnnw yn archwilio perfformiad ariannol ac effeithlonrwydd ar gyfer Cymru hefyd.

- 9.50 Mae Cymru a'r Gorllewin wedi adrodd y bydd, erbyn mis Mawrth 2022, 75% o'i effeithlonrwydd a ragwelwyd ar gyfer blwyddyn 4 o Gyfnod Rheoli 6 (mis Ebrill 2022 i fis Mawrth 2023) wedi ei gyflawni o brosiectau a oedd eisoes wedi eu cwblhau neu sydd â chynlluniau prosiect clir. Mae hyn yn welliant sylweddol ar flynyddoedd blaenorol. Mae pob prosiect adnewyddu a gynlluniwyd ar gyfer blwyddyn 4 wedi derbyn awdurdod ariannol ac mae 88% o'r mynediad gofynnol wedi cael ei archebu. Mae'r rhanbarth hefyd yn gweithredu gyda lefel staffio cynnal a chadw o 100%, sydd ar y blaen i'r rhan fwyaf o ranbarthau eraill. Yn gyffredinol, mae prif ddangosyddion y rhanbarth ar y blaen i'r cyfartaledd cenedlaethol sy'n rhoi mwy o hyder inni ym mharodrwydd y rhanbarth i gyflawni ei ragolygon effeithlonrwydd cyffredinol ar gyfer Cyfnod Rheoli 6.

Cynnydd da ar ddiogelwch gweithwyr trac

Gwnaeth Cymru a'r Gorllewin gynnydd da yn ei raglenni i leihau perygl i weithwyr trac oddi wrth drenau, ond gellid gwneud gwelliannau mewn gweithrediadau a rheoli diogelwch asedau.

Cynnydd da ar iechyd a diogelwch y gweithlu

- 9.51 Fel yr adroddwyd mewn asesiadau blynyddol blaenorol, ym mis Gorffennaf 2019, collodd dau weithiwr trac eu bywydau pan drawyd hwy gan drên wrth weithio ar reilffyrdd agored i draffig ym Margam, ger Port Talbot. Ers hynny, mae Network Rail wedi bod yn gweithredu rhaglen o welliannau i ddiogelwch gweithwyr trac.
- 9.52 O'n harchwiliadau a'n trafodaethau gyda Cymru a'r Gorllewin eleni, canfuom gynnydd cryf yn rhaglenni'r rhanbarth i leihau perygl i weithwyr trac o drenau. Cam arwyddocaol i lwybr Cymru oedd diweddu gwaith rhybuddio gwylidwriaeth digymorth ym mis Mehefin 2021. Mae gan lwybr Gorllewin Lloegr rywfaint o waith ar ôl a gaiff ei ddiogelu â'r System Rybuddio Gwylidwriaeth Weithredol, ond bydd y mwyafrif yn trawsnewid i ddefnyddio gwarchodaeth System Rybuddio Led-awtomatig Trac ym mlwyddyn 4. Law yn llaw â hyn, mae'r rhanbarth wedi gwella ei ddull o ran mynediad i'r rhwydwaith.
- 9.53 Cymysg oedd perfformiad y rhanbarth ar sail mesurau allweddol o ddiogelwch y gweithlu ar ei gerdyn sgorio. Rhagorodd ar ei darged mewnol ar gyfer mesur

Damweiniau Angheuol ac Anafiadau wedi eu Pwysoli (FWI), gan weithredu i leihau llithriadau, bagliadau, cwympiadau a digwyddiadau codi a chario. Methodd ei darged ar gyfer Cyfrifoldeb Personol am Ddiogelwch yn sgil nifer uchel o droseddau goryrru'r gweithlu ac mae'n ymateb trwy osod dyfeisiadau telematig goryrru i'w fflyd o gerbydau ffordd.

Cyfleoedd i wella gweithrediadau rheilffordd a diogelwch asedau

- 9.54 Yn ystod y flwyddyn, buom yn cynnal archwiliadau i brofi prosesau Cymru a'r Gorllewin ar gyfer rheoli ffiniau a choed. Dylai'r prosesau hyn geisio rhwystro gwrthrychau mawr megis coed a da byw rhag mynd ar y rheilffordd. Fe wnaethom adnabod meysydd i'w gwella, gan gynnwys yr angen am gofnodi gwybodaeth reoli yn well a gwell sicrwydd yng Nghymru. O ganlyniad, mae'r rhanbarth wedi cychwyn "adolygiad o sicrwydd systemau" i ddeall cysylltiadau rhwng ei weithgareddau yn well a gwella'r ffordd y caiff arferion da eu rhannu.
- 9.55 Eleni, fe wnaethom archwiliadau hefyd yn edrych ar ymateb Network Rail i argymhellion yr Arglwydd Robert Mair, a wnaed yn dilyn y ddamwain angheuol ym mis Awst 2020 pan ddaeth trê'n oddi ar y cledrau yn Carmont yn yr Alban. Yng Nghymru a'r Gorllewin, canfuom broses gadarn ar gyfer rheoli'r argymhellion. Ond canfuom hefyd rai problemau gyda rheoli asedau draenio, megis cofnod anghyflawn o'i asedau a diffyg gofynion clir cynnal a chadw ar gyfer asedau penodol fel draeniau crib. Rydym yn cyd-drafod â'r rhanbarth ar welliannau yn y meysydd hyn.
- 9.56 Caiff Network Rail ei gyllido i weithredu rhaglenni sy'n gosod goleuadau stopio troshaen bach i groesfannau goddefol. Yng Nghymru a'r Gorllewin, arweiniodd oedi yn ystod y flwyddyn at fwy o osodiadau yn cael eu trefnu ar gyfer dwy flynedd olaf y cyfnod rheoli. Rydym yn bryderus am yr ansicrwydd o ran cyflawni hyn, yn enwedig ar lwybr Cymru, ac rydym yn monitro i sicrhau bod y gwaith hwn yn symud ymlaen.
- 9.57 Ym mis Tachwedd 2021, roedd dau ddigwyddiad yn y rhanbarth lle gwnaeth gwallau signalwyr ganiatáu trenau i mewn i leoedd lle'r oedd staff trac yn gweithio. Roedd y gwallau yn gamgymeriadau yn ystod gweithdrefn gymhleth. Rydym wedi gofyn i'r llwybrau ddatblygu modd o leihau'r risg hwn a gwirio am wallau.
- 9.58 Caiff gwybodaeth bellach ar ein gweithgarwch archwiliadau diogelwch, law yn llaw ag asesiad manylach o berfformiad diogelwch Network Rail ei adrodd yn ein 'Adroddiad Iechyd a Diogelwch Blynyddol', i'w gyhoeddi ym mis Gorffennaf 2022.

Cyd-drafod â rhanddeiliaid

- 9.59 Rydym yn monitro ansawdd y modd mae Network Rail yn cyd-drafod 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 2021.
- 9.60 Adroddodd Cymru a'r Gorllewin ei fod wedi parhau i ddefnyddio ei rwydwaith o Gyfarwyddwyr Rhaglenni'r Diwydiant i ddarparu pwynt sengl o gyswllt i randdeiliaid rhanbarthol. Adroddodd y rhanbarth hefyd ei fod wedi gwneud cynnydd da yn y modd mae'n ymgynghori â rhanddeiliaid ar eu blaenoriaethau ar gyfer y cyfnod rheoli nesaf (Cyfnod Rheoli 7, sy'n cychwyn ym mis Ebrill 2024).
- 9.61 Dywedodd y rhanbarth ei fod wedi ceisio mynd i'r afael â heriau allweddol mewn perfformiad gyda chydweithwyr yn y diwydiant trwy fentrau a dargedwyd ar y cyd megis Fusion. Bydd ein asesiad blynyddol o'r modd mae Network Rail yn ymwneud â rhanddeiliaid, sydd i'w gyhoeddi ym mis Medi 2022, yn adolygu effeithiolrwydd y modd mae'r rhanbarth yn ymwneud â rhanddeiliaid mewn mwy o fanylder.



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