OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

Contents

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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. We monitor how well it operates the network to keep trains running on time, and whether it is keeping the network safe and in good condition.

2 This report is our 'Annual assessment of Network Rail'[1]. It sets out our views on Network Rail's performance in 2019-20, the first year of Control Period 6 (CP6) which runs from 1 April 2019 to 31 March 2024. Separate chapters provide greater detail on network-wide performance, performance of Network Rail's regions, its System Operator function and its Freight & National Passenger Operator function.

The impact of the coronavirus pandemic

3 The coronavirus (COVID-19) pandemic has led to exceptional challenges for society – and this is just as true for Network Rail and the rail sector as it is for the wider economy. While the pandemic occurred towards the end of 2019-20, Network Rail's delivery at the year-end was impacted and needed to be different, while continuing essential work. So, this report looks at performance across the year, and separately reviews Network Rail's response to coronavirus.

Assessing performance throughout the year

4 In looking at Network Rail's performance across the year, we assess its delivery of the outcomes that matter to rail users and governments, and take a forward look at future delivery and risk management. Key requirements are captured in our Periodic Review 2018 (PR18) Final Determination[2], which reflects governments' High Level Outputs Specifications, and in Network Rail's network licence.

5 In reviewing Network Rail's performance we focus on:

- train performance (passenger and freight);
- how it is maintaining, renewing and enhancing the network;
- health and safety (this document provides an overview – our full review is in our annual report on health and safety); and
- efficient delivery and financial performance (this document provides an overview – our full review is in our Annual Efficiency and Finance Assessment).

6 We also look at Network Rail's System Operator function – how it plans network capacity over the long term, manages access to the network and ensures that there is a working timetable.

[1] This report replaces the Network Rail Monitor, which we have published in previous years

[2] PR18 Final Determination: https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

Network Rail's reorganisation

7 Network Rail's reorganisation is called Putting Passengers First (PPF). It is restructuring to deliver through five regions, which have more autonomy and greater focus on customers. The regions are: Eastern, North West & Central, Network Rail Scotland, Southern, and Wales & Western. This annual assessment reports on performance in each of the regions in separate chapters, and also compares performance – identifying best practice and where there is room to improve.

8 The Putting Passengers First programme will see the devolution of parts of Network Rail's Infrastructure Projects, System Operator and other key functions over four phases, with the programme due to complete by the end of 2020.

9 The programme was paused earlier this year to prioritise making sure that critical workers and essential supplies were kept moving in response to the coronavirus pandemic, but has since resumed. We have continued to review the company's detailed proposals in order to understand their impact on commitments to its customers and funders and its relationships with stakeholders and have provided assessments at the completion of key stages.[3]

Our annual assessment key messages

Network Rail's management of its response to coronavirus has been strong

10 The coronavirus pandemic has presented huge challenges to Network Rail and the wider rail sector. It has been vital that it continues to deliver a safe operational railway to keep critical workers and freight moving.

11 In its response during 2019-20, Network Rail has managed safety and operational risks effectively, while introducing a reduced timetable to make sure that the railway remains open for critical workers and freight flows. It has done this while continuing to deliver the majority of planned engineering works. It has also continued to collect and analyse performance data to examine whether there are any key learning points from running a reduced service that can be applied for when services return to full operations.

12 The coronavirus pandemic will continue to have an impact on performance and delivery in 2020-21 and beyond. It is important that Network Rail plans effectively to respond to changes in operational requirements and governments' priorities. We are monitoring its ongoing response – with a focus on its forward planning and management of risks to future delivery – and will report on this in due course.[4]

[3] Our assessment of Network Rail's proposals to date can be found here: https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/holding-network-rail-to-account

[4] We have set out our approach to monitoring Network Rail during the coronavirus pandemic here: https://orr.gov.uk/__data/assets/pdf_file/0006/42855/holding-network-rail-to-account-during-the-coronavirus-pandemic-2020-05-06.pdf

Passenger and freight train performance has varied by region

13 Network Rail plays a vital role in helping connect people and deliver goods by rail. Passengers and freight companies rely on a service that runs on time. The overall performance they experience depends on the actions of Network Rail, train operating companies and external factors.

14 In 2019-20, 64.8% of passenger trains arrived on time (within one minute of schedule) at recorded station stops, an improvement of 1.4 percentage points on the previous year. The proportion of trains classified as cancellations was 3.4%, 0.5 percentage points worse than the year before.

15 To understand Network Rail's contribution to performance and compare train performance across regions, we use two measures. For passenger services, we use the delay minutes caused by Network Rail, per 100 train kilometres. For freight services, we use a measure of Network Rail's ability to get commercial freight services to their destination within 15 minutes of scheduled time. We monitor delivery of these measures for each region against an annual trajectory / target and a regulatory minimum level (or floor).

16 In Scotland, we set a target requiring 92.5% of Abellio ScotRail trains to arrive at their final destination within five minutes of their scheduled time – to align with the Scottish Ministers' output requirements.

17 Passenger and freight performance has varied by region in 2019-20 – with some regions performing above target, and some below.

18 Passenger train performance in Scotland improved during the year but was worse than target. 88.5% of Abellio ScotRail trains arrived at their destination within five minutes of their scheduled time, lower than the target of 92.5%. The portion of train delay in Scotland attributed to Network Rail was better in 2019-20 than the previous year – but there can be no let-up in its focus on driving performance improvements.

19 Using the measure of Network Rail caused delay, performance in Wales & Western was best. In particular, the region successfully implemented a large timetable change while maintaining performance, and is now sharing that best practice with other regions. Performance was also good in Southern. Performance was lower than target in North West & Central, Network Rail Scotland, and Eastern regions. In North West & Central it fell below the minimum level that we set.

20 Freight performance was poor. 92.8% of freight services were delivered successfully.[5] This was worse than the target of 94%. Performance for freight was above Network Rail's internal target in Wales & Western and Network Rail Scotland, but below in all other regions. It fell below the minimum level that we set in Eastern and North West & Central.

21 Earlier this year we investigated passenger and freight performance issues in North West & Central. We found that the region was taking performance improvements very seriously but had not, at the time, produced time-bound improvement plans. It has now produced these and must deliver them. We will monitor progress and take action if delivery stalls.

[5] As measured by the Freight Delivery Metric (FDM). Services are deemed to have failed the measure when they have been cancelled, or delayed by 15 minutes or more, by Network Rail or another operator that is not a commercial freight operator.

22 Rightly, Network Rail's focus is now on its response to the coronavirus pandemic, but it must continue to address underlying performance issues across the network. We will consider further review when services have returned to a more steady-state.

23 Network Rail promised to make further changes to improve national performance in response to our enforcement action in 2018[6]. It has made reasonable progress in implementing those changes. For example, it has developed a new performance improvement management system to strengthen planning and delivery of improved train performance.

Network Rail has made good progress in renewing its network, but asset resilience needs to improve

24 In PR18, ORR placed significant emphasis on Network Rail managing its assets to support long-term condition and performance.

25 Network Rail has made progress in delivering on asset sustainability requirements and all regions have delivered their planned renewals volumes for the year – a good start to delivery in CP6.

26 However, asset reliability has reduced for some asset categories since the start of the year. Network Rail hit its internal target for four of the regions, but missed it for Eastern – where track and overhead line failure rates have been high.

27 The rail network suffered more delays due to severe weather in 2019-20. Network Rail must continue to progress its work to develop more robust resilience plans to mitigate against climate change and severe weather.

28 Network Rail must improve its reporting of maintenance delivery to demonstrate that it is managing asset defects and carrying out routine work effectively.

Health and safety on the network needs continued focus

29 It is vital that Network Rail protects the safety of passengers and those working on the railway. Safety on the rail network remains good overall – we have one of the safest railways in the world.

30 But tragically, two rail workers lost their lives in July 2019 and there has been a further fatality this year, showing very clearly that more must be done. The industry must make sure it learns lessons to prevent this happening again. We are working closely with Network Rail on its response, including its Track Worker Safety Task Force.

31 ORR has issued two national improvement notices concerning track worker safety. The company is responding positively, but with variation between regions. Eastern is most advanced in its response.

[6] ORR's Provisional Order issued against Network Rail to deliver improved performance: https://orr.gov.uk/rail/investigations-and-current-issues/provisional-order-issued-against-network-rail-to-deliver-improved-performance

32 Measures of worker safety show an improvement in 2019-20 compared to the previous year. But Network Rail missed its internal target for worker safety, as measured by the lost time injury frequency rate.

33 Passenger and public safety on the rail network remains good. All regions performed strongly against their targets for passenger train accident risk reduction.

34 There were two fatalities at level crossings in 2019-20 – the equal lowest number on record. But level crossings remain a high risk area. Network Rail closed 77 level crossings during the year and met its national target for milestones to reduce level crossing risk. Eastern and Southern met or exceeded their targets while the other regions fell short.

35 2019-20 saw the lowest number of trespass fatalities for 10 years, and the number of reported trespass incidents was lower than the previous year.

36 We assess Network Rail's health and safety management maturity using the Risk Management Maturity Model (RM3). In 2019-20 we found that its maturity was primarily at the managed and standardised levels[7]. The framework set by central functions is often more mature than the delivery of rules, standards and programmes by regions. For Network Rail's maturity to improve further, regions need to own the risk control framework more fully.

37 Risks on the network are changing – and the overall level of modelled risk has increased. This is mainly due to earthworks failures caused by more frequent and severe weather events. Network Rail has a plan to mitigate the impacts of climate change but these events indicate that the plans are not keeping up with the pace of change.

38 We have investigated a significant number of electrical safety incidents this year. These have shown weaknesses in Network Rail's risk control and raised concern over legal compliance. We are encouraged by the resource and level of governance that Network Rail has committed to the Electrical Safety Delivery Programme.

39 Our reporting of health and safety on the rail network is in a separate publication, ORR's annual report on health and safety.

[7] Maturity is measured on a five point scale: ad-hoc, managed, standardised, predictable, excellence

Network Rail has improved its financial performance and efficiency

40 Network Rail must carry out its work efficiently – to deliver the best outcomes for taxpayers' and customers' money.

41 Overall, Network Rail outperformed its CP6 delivery plan by £10m in 2019-20 – a significant turnaround from its financial underperformance in CP5. This was mostly due to better than planned efficiency savings on its operations, support, maintenance and renewals activities – Network Rail has reported £385m of efficiency, ahead of its £316m commitment.

42 However, in England and Wales, enhancements underperformed by £94m, mostly due to cost increases on the Great Western Electrification Programme (GWEP) and Crossrail. Although we require Network Rail to report the financial performance of its enhancements, we are not currently responsible for monitoring its efficiency in enhancements in England and Wales. Conversely, in Scotland Network Rail outperformed in enhancements spend.

43 Eastern, Network Rail Scotland and Wales & Western all exceeded their efficiency plans in 2019-20, with Eastern delivering the largest efficiency. Southern met its plans and North West & Central slightly under-delivered.

44 Network Rail has committed to deliver £3.5bn of operations, maintenance and renewals efficiency in CP6 and has developed an improvement plan to achieve this. We have reviewed its regional efficiency plans. These show improvements – but more needs to be done, particularly in relation to the quality of renewals plans.

45 Network Rail's efficiency planning for CP5 was poor, leading to poor efficiency outcomes. So, we are monitoring plans to deliver CP6 efficiency closely, using a wider range of leading indicators. These show progress in developing the renewals workbank for 2020-21 – for example, 82% of remits for planned renewals have been accepted by the supply chain. But the percentage of bookings for engineering works in 2020-21 (76%) is behind the company's internal target and lower than last year. This represents a risk to the efficient delivery in 2020-21.

46 Network Rail's analysis of leading indicators was undertaken before the coronavirus pandemic. There will be disruption, particularly to renewals delivery and related efficiencies during 2020-21. We will report on this in due course and say more in our Annual Efficiency and Finance Assessment, to be published shortly.

Network Rail's System Operator is making improvements to its timetabling – but there is more to do

47 Network Rail's System Operator coordinates the process for fixing a base timetable twice a year and for making short-term changes to it. It is required to provide information to train operators so that they can meet their information obligations to passengers.

48 May 2019 and December 2019 timetable changes were generally well delivered – but the May timetable contributed to poor train performance in North West & Central. Services on the newly electrified route between London and Cardiff were introduced successfully in Wales & Western.

49 The System Operator aims to confirm timetables 12 weeks ahead of travel to open up ticket bookings. It achieved this for all operators in 2019-20, but these timescales have been impacted by the response to the coronavirus pandemic as Network Rail rightly focuses on contingency timetables while protecting its workforce from harm.

50 The System Operator is at an early stage of developing and delivering high priority improvement programmes to support timetable development. During 2019-20, it has been working to define the outputs from these programmes. Some quick-wins have been delivered, such as upgrades to train planning software.

51 Network Rail is working well with the industry (through the Rail Delivery Group) to deliver an industry-wide passenger information improvement plan.

Network Rail Scotland is making good progress in delivering the Scottish Ministers' requirements

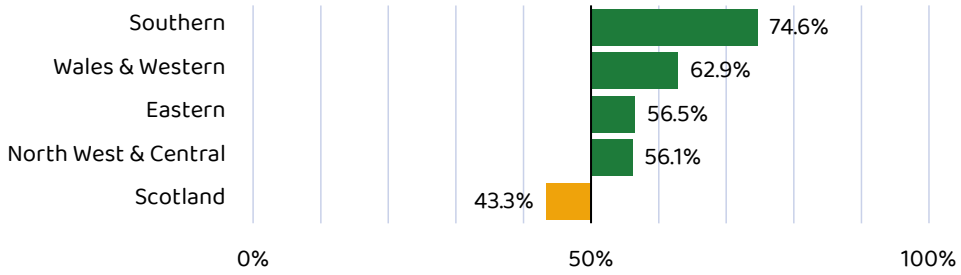
52 In PR18, we set a number of requirements specific to Scotland – reflecting what the Scottish Ministers wanted Network Rail to deliver during CP6. The company also worked with industry to establish a series of plans to deliver specific measures, including journey time improvements and freight growth.

53 Network Rail Scotland has made good progress with delivery of these requirements and plans. We consider only one area to be at risk – Network Rail Scotland's delivery of its gauge strategy. There have been delays in securing agreement with Transport Scotland on funding for the strategy and this needs to be resolved. Overall, Network Rail Scotland has shown commitment to delivering these requirements. We will continue to monitor progress in 2020-21.

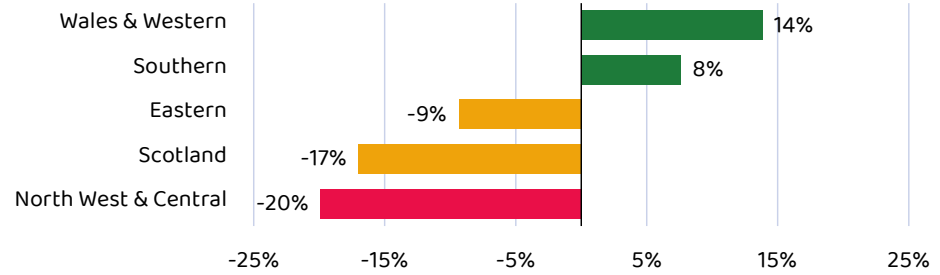
Comparison of regional performance

54 Network Rail's regions measure their performance using a set of metrics and internal targets (some of which they seek to agree with their customers) – which they report on in a "scorecard" format. We consider this alongside other indicators of performance.

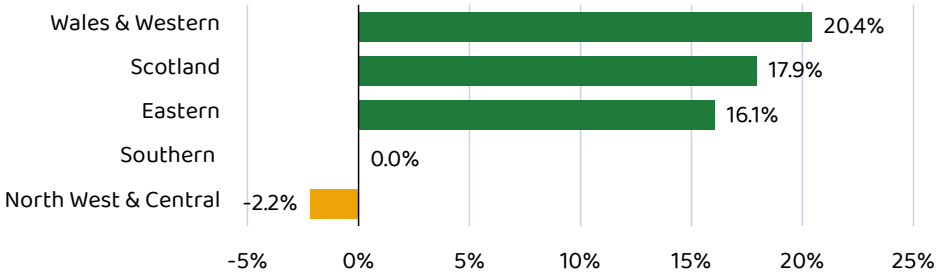
Region scorecard performance, 2019-20



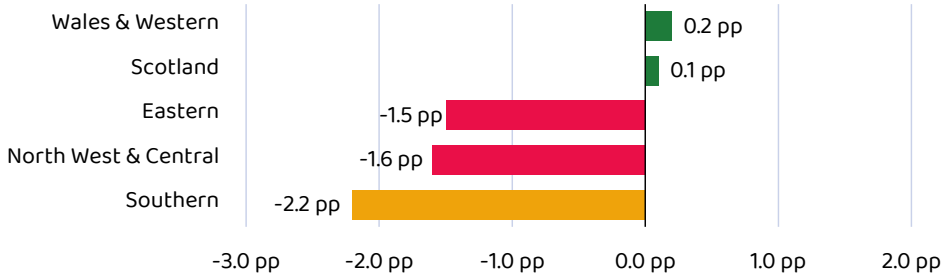
Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) – % better / worse than target, 2019-20



Efficiencies - variance of actual to plan, 2019-20



Freight train performance (FDM-R) – percentage points better / worse than regional targets, 2019-20



Above target

Below target but above regulatory floor / above minimum scorecard level

Below regulatory floor / minimum scorecard level

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Context

1. Context

1.1 The Office of Rail and Road holds Network Rail to account for its management of the rail network. We monitor how it operates the network to keep trains running on time, and how it keeps the network safe and in good condition.

Purpose of this document

1.2 This report is our 'Annual assessment of Network Rail'. It sets out our views on Network Rail's performance in 2019-20, the first year of Control Period 6 (CP6) which runs from 1 April 2019 to 31 March 2024. Separate chapters provide greater detail on network-wide performance, performance of Network Rail's regions, its Freight & National Passenger Operators function and its System Operator function.

ORR's role

1.3 ORR's role is broad. Our functions in the rail sector include: regulation of the rail industry's health and safety performance; holding Network Rail and HS1 to account for delivery of performance and value for money; protecting competition in the rail sector; and protecting passengers from breaches in consumer law.

1.4 This report centres on 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.

1.5 We assess Network Rail's performance in delivering the outcomes that matter to rail users and governments. These are captured in our Periodic Review 2018 (PR18) Final Determination, which reflects governments' High Level Output Specifications, and Network Rail's network licence.

Stakeholder engagement

1.6 We also monitor and assess the quality of Network Rail's stakeholder engagement during CP6. This is an important aspect of how we ensure that it continues to deliver the outcomes that matter to rail users and governments.

1.7 In 2019-20, we focused on how well Network Rail's regions, System Operator and Freight & National Passenger Operator (FNPO) functions have engaged on annual business planning and setting performance targets (in scorecards). We have sought feedback (including through a survey) from a range of stakeholders and funders on their experiences of engaging with Network Rail on these issues. We expect to publish our assessment of this, taking account of stakeholders' feedback, later this summer.

Network Rail's role

1.8 Network Rail operates, maintains, renews and improves the rail infrastructure to deliver a safe and reliable railway for passengers and freight customers. That includes 20,000 miles of track, 30,000 bridges, tunnels and viaducts, signalling and electrical power assets, and 20 of the largest railway stations.

1.9 In September 2019, Network Rail began its transformation programme called Putting Passengers First, creating 14 new routes, which are supported by five Network Rail regions, each led by a managing director. The devolved regions are intended to be more responsive to the local needs of train operators, passengers and freight users. They are: Eastern, North West & Central, Network Rail Scotland, Southern, and Wales & Western.

1.10 The routes are responsible for operations, maintenance and minor renewals. This includes the day-to-day delivery of train performance and the relationship with their local train operating companies. The regions are supported by the Network and Route Services functions.

Figure 1.1: Network Rail's regions and routes

Source: Network Rail

Network Rail's scorecards and reporting

1.11 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'.[8] We require Network Rail to include a set of consistent measures on all scorecards to allow comparison between regions and over time. (The version of the 2019-20 scorecards used for the purposes of this report were supplied by Network Rail to ORR on 12 June 2020. These may differ from those published later in Network Rail's Annual Return.)

1.12 Regions engage with their stakeholders to understand their priorities and determine the measures and targets to be included on scorecards for the coming year. Measures and targets set locally with train and freight operators make up a portion of region scorecards. Each region's scorecard includes six sections: safety, financial performance, investment, asset management, train performance and locally driven customer measures (although some regions combine the latter two into one 'customer measures' section). Scorecard targets vary across regions and some reflect the specific and stretching requirements of Network Rail's funders (most notably in Scotland).

1.13 Performance for each scorecard measure is expressed as a percentage achievement between zero and 100. On-target performance is shown as 50%.[9]

1.14 While scorecards are a key part of how Network Rail judges its own performance, we draw on wider information and apply greater weight to certain metrics (for example where we have specified them for regional comparison). This approach is reflected throughout this report. We are keeping our approach to scorecards under review.

1.15 Note that, throughout this document, our reporting of Network Rail's efficiency and wider financial performance is based on draft financial information provided by the company. We will report more fully on these matters in our annual efficiency and finance assessment which we expect to publish this summer.

Document outline

1.16 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 (including Scotland);
- performance of Network Rail's Freight & National Passenger Operators function;
- performance of Network Rail's System Operator function; and
- performance of Network Rail's Wales route.

[8] It also sets Freight & National Passenger Operator and System Operator scorecards – we report in the relevant chapters

[9] Information on how scorecards work and metric definitions are available on Network Rail's website: https://www.networkrail.co.uk/wp-content/uploads/2019/11/Scorecard-Guidance-2019-20.pdf.

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Network-wide performance and regional comparison

2. Network-wide performance and regional comparison

2.1 This chapter reviews performance across Network Rail's five regions and cross-cutting functions – but excluding its System Operator and Freight & National Passenger Operator functions, which are reviewed in separate chapters. It assesses performance across Network Rail as a whole and compares performance across regions.

Network Rail's reorganisation

2.2 Network Rail is in the process of restructuring to deliver through its five regions. The Putting Passengers First (PPF) programme, due to complete by the end of 2020, will see the devolution of parts of its Infrastructure Projects, System Operator and other key functions to it regions over four phases.

2.3 We have reviewed the company's detailed proposals in order to understand their impact on commitments to its customers and funders and on its relationships with stakeholders. We have provided assessments at the completion of key stages.

2.4 The first two phases of Putting Passengers First have gone well, delivering a smooth transfer of accountabilities. Network Rail adjusted its planned implementation timeline to make sure its proposed changes did not cause unnecessary disruption.

2.5 We set out previously that Network Rail should make sure that the programme does not negatively impact its delivery in the first and second years of Control Period 6 (CP6). This includes its frontline delivery and more strategic work (such as accurate public reporting). In 2019-20, there has been an impact on its ability to provide a clear narrative to support its business planning activities. This must improve for next year.

2.6 During the year, Network Rail devolved some of its System Operator functions to Network Rail Scotland. It has taken steps to make sure that the System Operator still takes primary responsibility for establishing and maintaining long-term plans for the whole network (as required by its network licence), and has engaged with us on these.

2.7 It is important that Network Rail communicates these changes to its stakeholders, and makes sure that they do not impact its ability to engage with them. Although Network Rail's engagement has improved in some areas, with more regular progress updates, there has still been considerable variation in the quality of engagement by region and function. Network Rail has committed to build on the progress it has made so far – including carrying out more stakeholder listening events. We welcome this.

Network Rail's management of its response to coronavirus has been strong

2.8 The coronavirus pandemic has presented huge challenges to Network Rail and the wider rail sector. It has been vital that it continues to deliver a safe operational railway to keep critical workers and freight moving.

2.9 In its response during 2019-20, Network Rail acted with speed and decisiveness. It worked closely with ORR, governments, the Rail Delivery Group and the wider sector to establish the industry crisis management structure. This has been working well.

2.10 It established its priorities for delivery during the current restrictions: keeping the network open; looking after its people; maintaining infrastructure integrity; delivering capital investment; and ensuring business continuity. We agree that these are the right areas of focus.

2.11 It managed safety and operational risks effectively, including quickly and effectively developing emergency standards. We worked with the company to agree its approach to those standards and their implementation.

2.12 Working with stakeholders across the industry, it quickly introduced a reduced timetable, making sure that the railway remains open for critical workers and freight flows.

2.13 It made changes to working practices and processes to deal with the coronavirus pandemic while protecting its staff – engaging collaboratively with unions and the supply chain on these measures. It continued to deliver engineering work where possible. It also took measures to support the wider sector, such as accelerating payments to suppliers and extending payment terms.

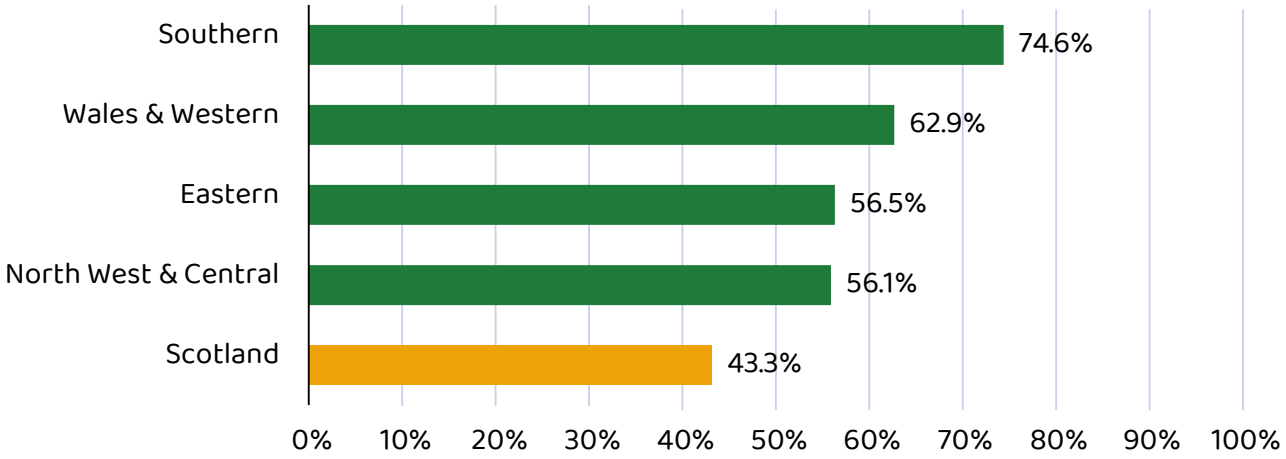
2.14 Looking across the range of activities that Network Rail carried out, we consider that its initial response to coronavirus has been strong.

2.15 The coronavirus pandemic will continue to have a huge impact on performance and delivery in 2020-21 and beyond. It is important that Network Rail plans effectively to respond to changes in operational requirements and governments' priorities. We are monitoring Network Rail's ongoing response – with a focus on its forward planning and management of risks to future delivery – and will report on this in due course. Network Rail must continue to make improvements to its business planning process, making sure it meets the needs of its customers and funders, and explicitly capturing the impact of the coronavirus pandemic on its delivery and plans.

Network Rail is largely achieving its internal performance (scorecard) targets

2.16 Network Rail measures its company-wide and regional performance using scorecards. Four of its five regions achieved more than 50% overall on their scorecards – indicating that, in the round, they exceeded their internal targets. Southern performed best, achieving 74.6%. Wales & Western, Eastern and North West & Central all exceeded 50%. Network Rail Scotland was the only region which was worse than target overall – achieving 43.3%.

Figure 2.1: Region scorecard performance, end of 2019-20

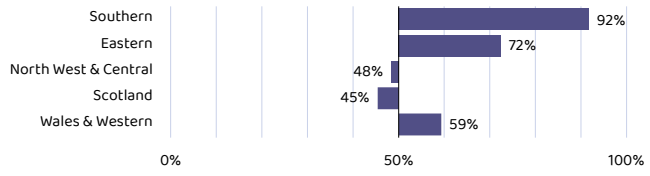


Source: Network Rail's region scorecards

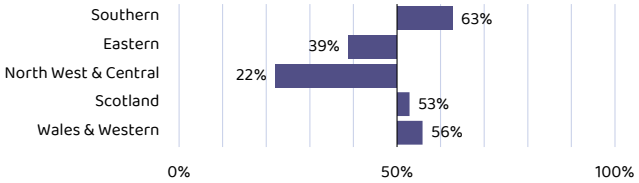
2.17 The charts below represent performance for the individual scorecard sections. A 50% score (the central vertical line) means a region met its targets. A score above 50% (to the right) means outperformance and a score below 50% (to the left) means underperformance.

Figure 2.2: Region scorecard performance by scorecard section, 2019-20

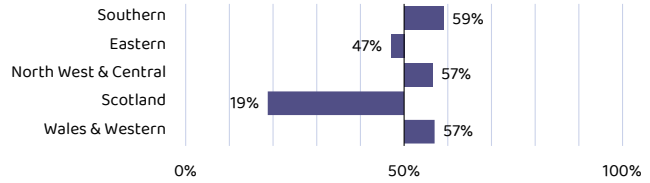
Safety



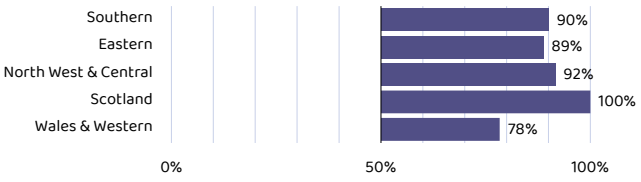
Financial Performance



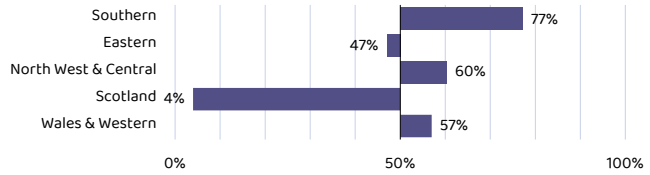
Train Performance



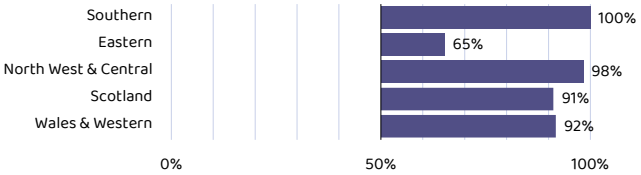
Investment



Customer Measures



Asset Management



Source: Network Rail's region scorecards

2.18 All regions delivered above their internal targets in asset management and investment. Regions delivered variable results against train performance and customer measures. Southern delivered most strongly in these areas, and Network Rail Scotland most poorly. Southern delivered most strongly in financial performance. North West & Central and Eastern both missed their internal targets for financial performance.

Passenger and freight train performance varied by region

Train performance matters to passengers and freight customers. They want trains that run reliably and arrive on time. Network Rail plays a vital role in helping connect people and deliver goods by rail. Passenger and freight performance has varied by region in 2019-20. Some regions performed above target, and others below.

Whole sector performance

2.19 Network Rail plays an important role in making sure that train performance is delivered – for example, by developing and operating the timetable, minimising the occurrences and impact of asset failures, minimising the impact of engineering works, and helping recover services after disruption. But performance delivery also depends on the actions of train operating companies, and some factors where Network Rail has less control, such as extreme weather.

2.20 So, we measure train performance using a range of indicators. Our assessment of overall train performance is based primarily on three measures:

- on-time: the percentage of passenger trains that arrive on time (within one minute of scheduled) at recorded station stops;
- cancellations: the amount of trains that are cancelled as a percentage of trains planned. The measure is a score which weights full cancellations as one and part cancellations as half; and
- Public Performance Measure (PPM): the percentage of passenger trains that arrive at their final destination within five minutes of their scheduled time (10 minutes for long-distance trains). In Scotland, we have set a PPM target of 92.5% to align with the Scottish Ministers' output requirements.

2.21 During 2019-20, on-time performance has improved across the network, but PPM has remained static. This is because cancellations have increased, impacting PPM. In Scotland, on-time performance, PPM and cancellations all improved, but Abellio ScotRail still missed the PPM target. 88.5% of Abellio ScotRail trains arrived at their destination within five minutes of their scheduled time, lower than the target of 92.5%.[10] This is discussed in the Network Rail Scotland chapter.

Figure 2.3: Punctuality and reliability, Great Britain, 2019-20

Moving annual average	2019-20	Compared with 2018-19-19
On Time	64.8%	▲ 1.4 pp
PPM	86.2%	▼ -0.1 pp
Cancellations Score	3.4%	▲ 0.5 pp

Source: ORR analysis of Network Rail data

[10] The Scottish Ministers specified a particularly challenging target of 92.5% PPM for Abellio ScotRail services in its HLOS. Network Rail Scotland was clear in its plans for CP6 that it was unlikely to achieve the target until the end of 2021-22.

Network Rail's regional performance

2.22 To compare performance across regions, we use two consistent measures:

- a consistent region measure for passenger services known as CRM-P. This is all of the delay minutes to passenger services caused by each Network Rail region, normalised per 100 train kilometres; and
- a freight delivery metric for each region known as FDM-R. This is a measure of Network Rail's ability to get commercial freight services to their destination within 15 minutes of scheduled time.

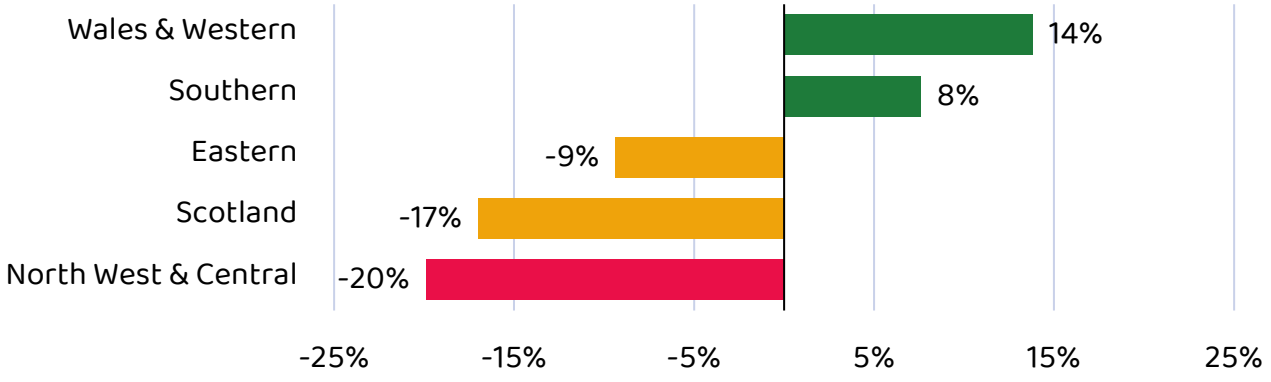
2.23 We monitor delivery of these measures for each region against an annual trajectory / target and a regulatory minimum level (or 'floor') – both of which we set in our PR18 final determination. The floor signals the point at which we are highly likely to consider investigating.

Network Rail's passenger performance was mixed

2.24 Regions' contributions to passenger train performance in 2019-20 were variable. Performance in Wales & Western and Southern regions was generally good. Performance was lower than required in Scotland, North West & Central, and Eastern regions. In North West & Central it fell below the regulatory floor.

2.25 We reviewed performance issues in North West & Central. We found that it was taking performance improvements very seriously but had not, at the time of our review, produced time-bound improvement plans. It has now produced these and must deliver them. We will monitor progress and take action if delivery stalls.[11]

Figure 2.4: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) – % better / worse than target, 2019-20



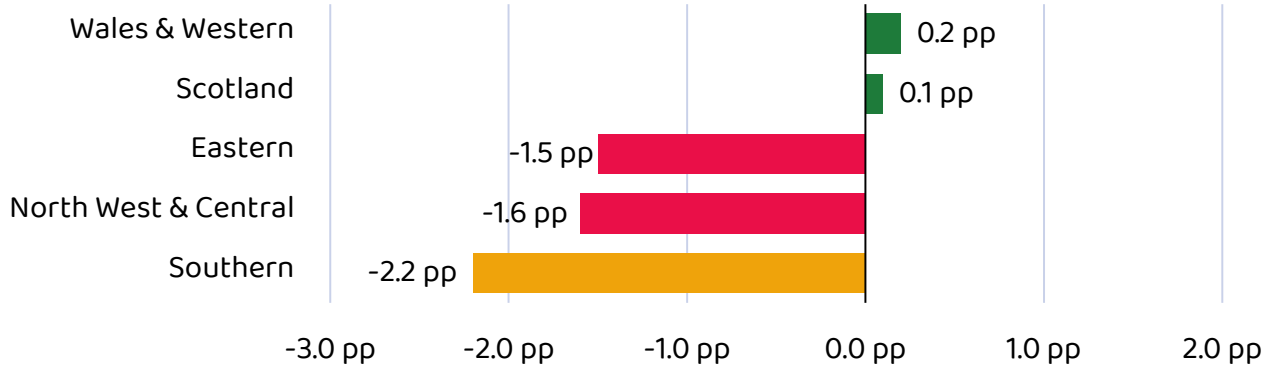
Source: ORR analysis of Network Rail data

[11] Further detail is provided in the North West & Central chapter

Network Rail's freight performance was poor

2.26 Freight performance in 2019-20 was poor. 92.8% of commercial freight services arrived at their planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay. This was worse than the target of 94%. Performance was better than Network Rail's internal targets in Network Rail Scotland and Wales & Western but worse than target in all other regions. It fell below the minimum level that we set in Eastern and North West & Central.

Figure 2.5: Freight performance (FDM-R) – percentage points better / worse than regional targets, 2019-20



Source: ORR analysis of Network Rail data

Addressing poor train performance

2.27 We have established processes for enhanced monitoring where Network Rail's contribution to train performance falls short. Rightly, Network Rail's focus is now on its response to the coronavirus pandemic, but it must continue to address underlying performance issues. We will consider further review when services have returned to a more steady state.

Wider train performance capability

Network Rail promised to make changes to improve performance in response to our enforcement action in 2018. It has made reasonable progress in implementing those changes but we have yet to see them translate into improved performance.

2.28 In 2018, ORR issued a Provisional Order[12] requiring Network Rail to improve its planning and delivery of train performance on the network. Network Rail responded by providing a plan for improvement containing commitments on the actions it would take. The company has made reasonable progress against those commitments. It has:

- made improvements to the joint performance plans, which it develops with operators – and responded well where we have identified shortcomings (for example, in the East Midlands route plan). We note that development of joint improvement plans for 2020-21 has been impacted by the more urgent need to respond to the coronavirus pandemic. To date, seven of 23 plans have been agreed with operators;

- been instrumental in developing a new Performance Improvement Management System (PIMS) to strengthen planning and delivery of improved train performance. This includes developing a new management maturity model (RM3-P) which both Network Rail and train operators are using to identify and address weaknesses in their management maturity;

- introduced new tools to look at very small delays, which cumulatively have a large effect; and

- invested in a number of programmes to pull together modelling, simulation and analysis of timetable performance to produce a more informed view around the risks associated with future timetable changes[13]. The programmes are at an early stage, but we have already seen improvements being delivered – for example, in Network Rail's assessment of capacity on the Elizabeth line. Particular focus is needed on improvements to understand the performance impacts of future timetable changes.

2.29 Not all areas have progressed as quickly as originally planned. For example, progress on the development of a new suite of leading indicators has been slow. This is now a key priority for the PIMS programme, and we expect to see significant progress in the coming months.

2.30 As well as planning and delivery of improvements, Network Rail's response identified weaknesses in its capability to recover service from incidents on the network (in collaboration with train operators). It has set up a 21st Century Operations programme to tackle declining levels of operational expertise. Initiatives include balancing the workload of Local Operations Managers and working with the Institute of Rail Operators to improve training. This is a positive step.

[12] ORR's Provisional Order issued against Network Rail to deliver improved performance: https://orr.gov.uk/rail/investigations-and-current-issues/provisional-order-issued-against-network-rail-to-deliver-improved-performance

[13] These programmes include the Industry Timetable Performance Modelling Programme (the recently re-established Whole System Modelling Programme), Data Improvement Programme, iTPS Programme, Access Planning Programme and Industry Technical Strategy.

2.31 As the controller of the rail network, Network Rail can help reduce the knock-on impact of delays on other services. We measure the ratio of 'primary delay' to 'reactionary delay'. Nationally, this has remained flat in 2019-20.

2.32 Overall, Network Rail has made positive progress on the commitments it made in its response to the Provisional Order. A constant and sustained focus is needed to ensure that benefits from these improvements are fully realised and we will continue to monitor progress.

Network Rail is making changes to improve passenger information

2.33 Rail passengers rely on good quality information when planning and making journeys. Network Rail plays a vital role in providing information to train operators, including during disruption. This can help operators provide information to their passengers on the cause of a delay and plans for the restoration of services. This role is reflected in a core passenger information duty in the network licence.

2.34 Network Rail is working well with the industry (through the Rail Delivery Group) to deliver an industry-wide passenger information improvement plan, together with an assessment tool – known as the Customer Information Measure – to help the industry drive continuous improvement in the delivery of customer information.

2.35 The System Operator aims to confirm timetables 12 weeks ahead of travel to open up ticket bookings. It achieved this for all operators in 2019-20. Further information on Network Rail's provision of passenger information will be reported in our Annual Rail Consumer Report.

Network Rail has made good progress in renewing its network, but asset performance needs focus

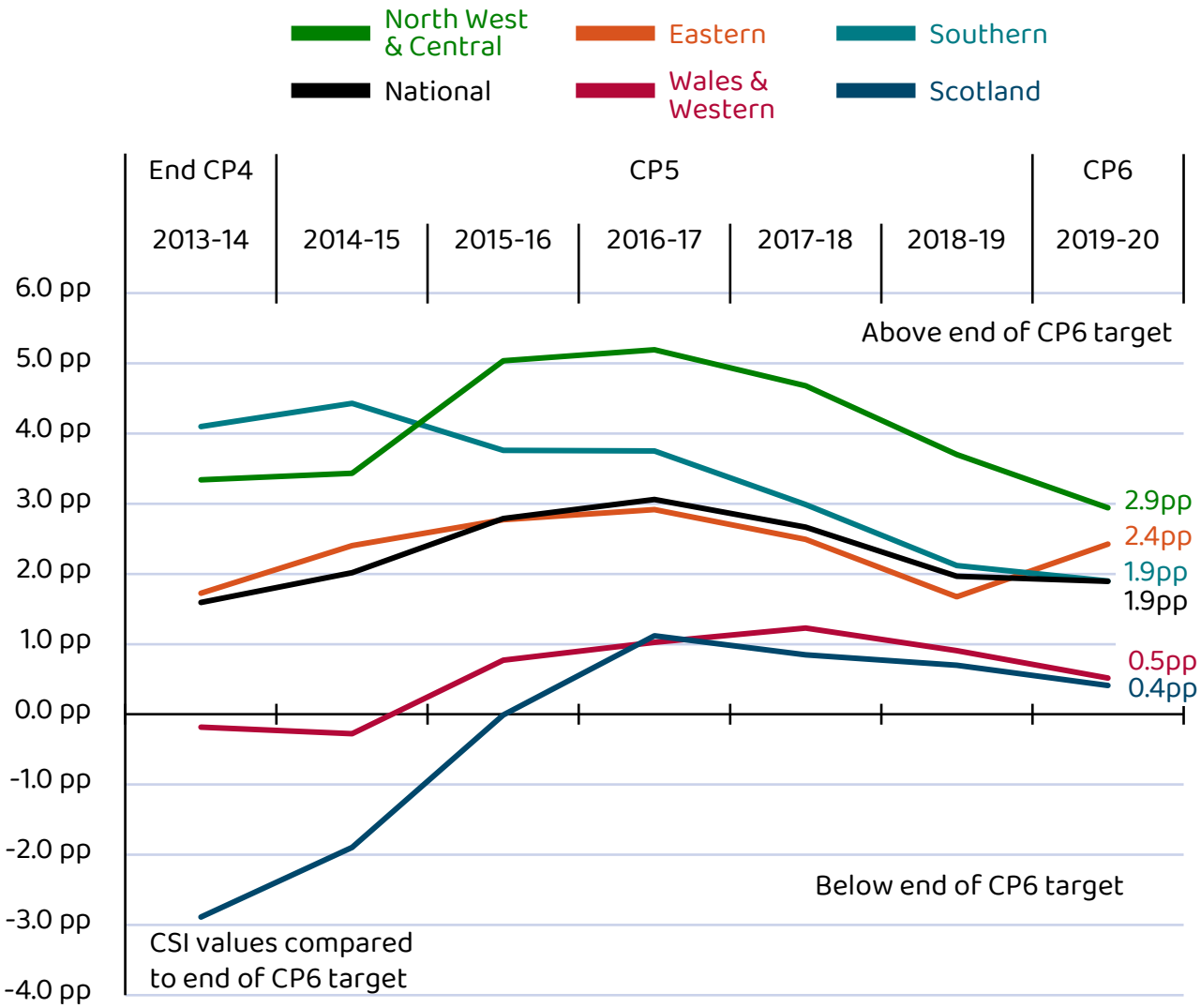
In PR18, ORR placed significant emphasis on Network Rail managing its assets to support long-term condition and performance. In 2019-20, it largely delivered the renewals work that it had planned. This is a good result. If it continues to deliver over the control period, this will support long-term network condition and performance outcomes.

2.36 Network Rail needs to manage the rail network sustainably – that is, it needs to maintain and renew its assets to minimise costs over the long-term while meeting future demand and ensuring the safe and reliable running of the network.

2.37 In CP6, we use a consistent regional measure of network sustainability called the Composite Sustainability Index (CSI). Network Rail has a target for each region for the end of the control period.

2.38 The CSI measure is currently above (better than) the target level set for the end of CP6. That said, CSI reduced in all regions from the previous year with the exception of Eastern where data have been corrected. An initial review suggests that performance is in line with expectations but we will review this further with Network Rail over the coming months.

Figure 2.6: Composite sustainability index (CSI) by region, 2013-14 to 2019-20



Source: ORR analysis of Network Rail data

2.39 Network Rail has almost fully delivered its planned number of asset renewals for its seven key asset categories in all regions. This is a good outcome.

Figure 2.7: Renewals delivery against plan, Great Britain, 2019-20

7 key volumes (renewals)	Network		
	Actual	Plan	% complete
Conductor Rail Renewal (km)	17	12	▲ 137%
Earthworks	3,408	2,856	▲ 119%
OLE re-wire and mid-life refurb (km)	151	54	▲ 279%
Plain Line	1,134	922	▲ 123%
Switches and Crossings	709	587	▲ 121%
Signalling	529	420	▲ 126%
Underbridges	50,090	41,633	▲ 120%

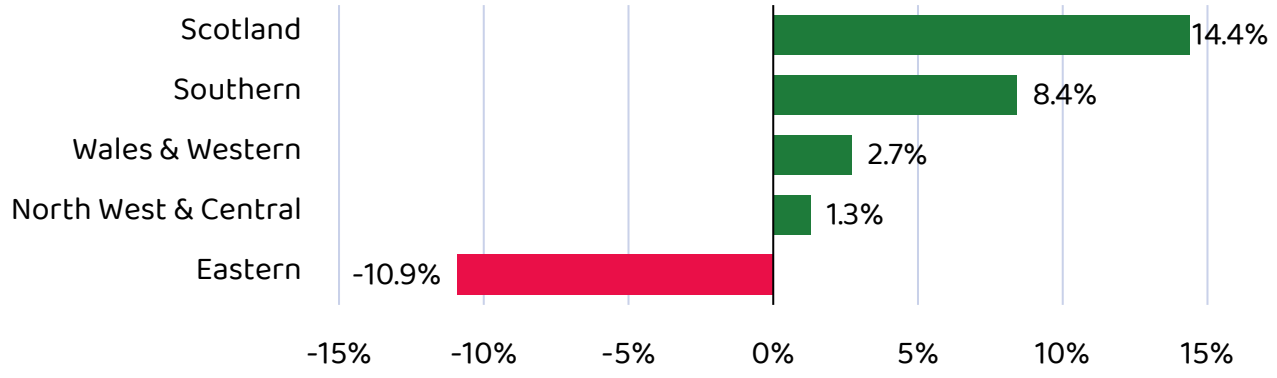
Source: ORR analysis of Network Rail data

Delays caused by asset failures are high

2.40 We measure asset reliability using the Composite Reliability Index (CRI). This measures the percentage change in reliability since the last year of Control Period 5. Despite good delivery of renewal works, asset reliability has reduced since the start of the year. Network Rail hit its internal target for four of the regions, but missed it for Eastern – where track and overhead line failure rates have been high.

2.41 Network-wide reliability has been worse than planned for track, electrification, earthworks and telecoms assets. The number of failures of electrical power assets increased during 2019-20, with more failures that impacted train performance. There were particular issues in North West & Central and Eastern regions where the design of overhead line assets makes them more susceptible to weather-related failures.

Figure 2.8: Asset reliability (composite reliability index, CRI) by region, 2019-20



Source: ORR analysis of Network Rail data

2.42 As well as renewing the network, it is vital that Network Rail carries out essential inspection and maintenance work to identify and rectify defects and failures in a timely way. Network Rail must improve its reporting of maintenance delivery to demonstrate that it is managing asset defects and carrying out routine work effectively. Data concerns are set out in more detail below.

Network Rail must continue to develop network resilience

The rail network is suffering more delays due to severe weather. Network Rail must progress its work to develop more robust resilience plans to mitigate against climate change and severe weather.

2.43 In PR18, we set a requirement for regions to deliver updated weather resilience and climate change adaptation (WRCCA) plans by August 2019, in order to improve management of the impacts of climate change on railway infrastructure.

2.44 In 2019-20, there has been a greater number of severe weather events causing performance issues on the railway. For example, the summer of 2019 saw very high temperatures at the end of June and July, which caused overhead lines to fail. There were widespread flooding events in October and November, and again in December, which caused disruption. February saw significant disruption on the network from storms Ciara and Dennis, and it was the wettest February in the UK since records began. These events highlight the need to ensure the network is resilient to severe weather and to plan for the likely increase in severe weather due to climate change.

2.45 All of Network Rail's regions have included resilience measures in their plans for CP6. Generally we found that these investments are focussed on recovery of work deferred from CP5 (earthworks, drainage and structures) and on high priority interventions to manage safety and performance risk. We found less focus on more strategic plans to address longer-term resilience.

2.46 The suite of WRCCA plans should provide this more strategic focus. To date, only North West & Central region, and the South East and Wales routes have published their completed plans. This falls short of our expectations. Network Rail also identified completion of milestones within these plans as a key performance indicator for CP6 environmental sustainability – emphasising the need for them to be completed.

Asset management data and reporting must improve

2.47 High quality asset data is essential to the development of robust plans for maintaining and renewing the network – to ensure safety and protect train performance. In CP6 we expect Network Rail to maintain its focus on achieving high quality data for all business critical assets[14].

2.48 Network Rail has been developing central governance arrangements and processes to drive data quality improvements throughout CP6, including maintaining oversight of regions' improvement plans. It has developed new minimum asset data requirements to ensure that asset data are suitably accurate and up-to-date. These are positive developments.

2.49 We continue to be concerned about Network Rail's quality assurance for its reporting of maintenance and renewals work. We have found many inaccuracies in its reporting of maintenance and renewal volumes, requiring corrections to be made. We have highlighted our concerns through our engagement with the company on its reporting statements and business plans.

2.50 We expect Network Rail to be able to provide clear management reports (such as summary dashboards, written explanations and change logs) which give assurance that its management has the tools and processes to quality assure its data and identify issues and non-compliances. We have found particular weakness in the company's reporting of maintenance volumes which are presented in large data files with limited analysis to provide intelligence. Network Rail is aware of this issue and has started development of reporting dashboards. Further improvements are needed in this area.

2.51 As discussed previously, we have set an asset sustainability target for each region using the Composite Sustainability Index (CSI).

2.52 In PR18, we recognised that the CSI measure proposed for CP6 had limitations, in that it does not encompass all assets and all their attributes, but takes a representative sample. We said that Network Rail must provide a plan for development of an alternative measure and then implement it. Network Rail has produced initial thinking on how CSI might be improved, but further refinement and benchmarking are required to show that the proposals are the most suitable way forward.

2.53 Progress has been slower than we would like. If Network Rail is unable to develop an appropriate measure within an acceptable timeframe, we will consider using an independent reporter to develop a measure on its behalf.

[14] We expect Network Rail to achieve an asset data quality score of 'A2' indicating strong processes and a high degree of accuracy

Safety on the network needs continued focus

It is vital that Network Rail protects the safety of passengers and those that work on the railway. Safety on the rail network remains good overall – we have one of the safest railways in the world. But the tragic deaths of two workers in July 2019 and a further fatality this year clearly show that more must be done.

2.54 Our full reporting of health and safety on the rail network is in a separate publication: ORR's 'Annual health and safety report' to be published this summer. An overview of safety performance is given below.

Passenger and public safety performance was good in 2019-20, but risks need careful management

2.55 Passenger and public safety on the rail network remains good. All regions performed strongly against their scorecard measure of passenger train accident risk reduction.

2.56 Level crossings are a high risk area. Nationally, Network Rail closed 77 level crossings in 2019-20 and met its target for milestones to reduce level crossing risk. At a regional level, Eastern and Southern met or exceeded their targets while the other regions fell short.

2.57 There have been two fatalities this year at level crossings which is the equal lowest number on record. Modelled risk at level crossings (as measured by the All Level Crossing Risk Model) rose over the year. Pedestrian crossings (such as footpaths) are an area of concern but we are pleased with Network Rail's plans to strengthen arrangements at passive crossings which it published in its long-term strategy.

2.58 2019-20 saw the lowest number of trespass fatalities for 10 years, and the number of reported trespass incidents was lower than the previous year. We are monitoring this closely to understand the impacts of any behavioural change during the coronavirus pandemic.

2.59 We assess Network Rail's health and safety management maturity using the Risk Management Maturity Model (RM3). In 2019-20 we found that its maturity was primarily at the managed and standardised levels[15]. The framework set by central functions is often more mature than the delivery of rules, standards and programmes by regions. Our assessment this year found that Network Rail is showing greater consistency in its assessed maturity levels – with fewer extremes in the range of levels than in previous years. For Network Rail's maturity to improve further, regions need to own the risk control framework more fully.

2.60 There is increased pressure on the rail network, including from higher passenger numbers, more train services, more bad weather events and introduction of new technologies – so risks are changing.

[15] Maturity is measured on a five point scale: ad-hoc, managed, standardised, predictable, excellence

2.61 The overall level of modelled risk on the network has increased. This is mainly due to earthworks failures caused by more frequent and severe weather events. Network Rail has plans to address climate change but these events indicate that they are not keeping up with the pace of change.

2.62 The overall level of risk from Signals Passed at Danger (SPAD) stopped rising at the end of the year – a welcome improvement after 12 months of increasing risk. But this year also saw the highest number of SPADs recorded since 2004-05, increasing by around a fifth compared to 2018-19. The increase was driven by lower-risk SPADs (the number of highest-risk SPADs fell slightly compared to the previous year). Our inspections suggest driver performance was an issue, so we have been working with train operators to review incidents and look for possible mitigations.

Track worker safety must improve – Network Rail is responding positively to the challenge

2.63 Tragically, two rail workers lost their lives in South Wales in July 2019 and there has been a further fatality this year. The industry must make sure it learns lessons to prevent this happening again. We are working closely with Network Rail on its response, including its Track Worker Safety Task Force.

2.64 ORR has issued two national improvement notices concerning track worker safety. The company is responding positively, but with variation between regions. Eastern is most advanced in its response. We are encouraged by the resources and senior-level commitment Network Rail has put into its improvement programme since our enforcement action, but the progress we have seen on the frontlines is variable.

2.65 Measures of worker safety – the lost time injury frequency rate (LTIFR) and fatalities and weighted injuries (FWI) – show an improvement in 2019-20 compared to the previous year. But Network Rail missed its internal target for LTIFR. Southern exceeded its internal target, Eastern was on target, and the remaining regions performed poorly against their targets.

2.66 Our inspections have shown that Network Rail's leadership on occupational health and wellbeing has strengthened and collaboration with the wider industry on control of silica dust and diesel exhaust emissions has improved. There has been a significant reduction in the number of reported Hand Arm Vibration Syndrome cases. We are pleased with progress this year on asbestos management but it has taken too long for Network Rail to become legally compliant.

2.67 We have investigated a significant number of electrical safety incidents this year. These have shown weaknesses in Network Rail's risk control and raised concern over legal compliance. We are encouraged by the resource and level of governance that Network Rail has committed to the Electrical Safety Delivery Programme. However, we are concerned by the level of confusion and non-compliance our inspectors have seen during their inspections.

Network Rail has improved its financial performance and efficiency

Network Rail must deliver its work efficiently – to give the best outcomes for taxpayers' and customers' money. It has beaten its target for efficiency savings – a significant turnaround from poor financial performance in recent years.

2.68 This section examines Network Rail's efficiency and wider financial performance in 2019-20. This analysis is based on draft financial information provided by the company. Network Rail is subject to the governments' budgetary processes and there are restrictions on how much funding can be moved from year to year. We will report more fully on efficiency, financial performance and compliance with budgetary flexibility limits in our annual efficiency and finance assessment which we expect to publish this summer.

Improved financial performance

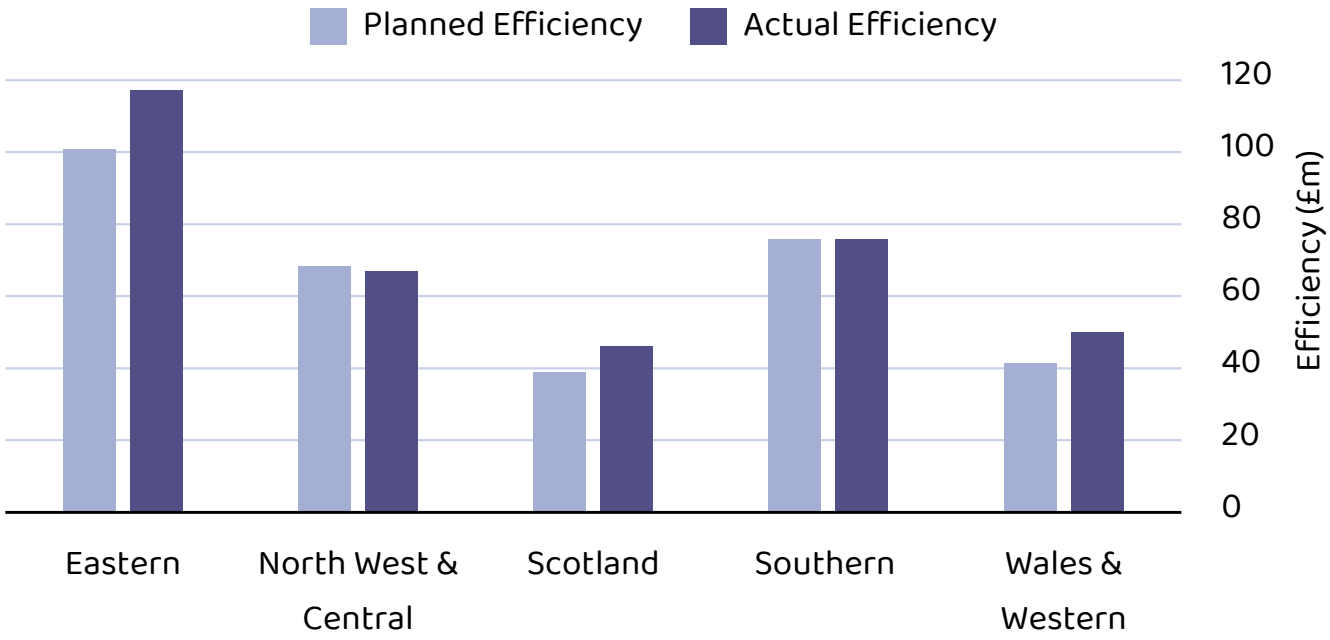
2.69 Overall, Network Rail outperformed its CP6 delivery plan by £10m in 2019-20 – a significant turnaround from its financial underperformance in CP5. This was mostly due to better than planned efficiency savings on its operations, support, maintenance and renewals activities. The company has reported £385m of efficiency, ahead of its £316m commitment.

2.70 However, in England and Wales enhancements underperformed by £94m (which equates to 5% of additional expenditure on enhancements). This was mostly due to cost increases on the Great Western Electrification Programme and Crossrail which Network Rail has attributed to an increase in anticipated final costs because of overruns and disputed costs. Although we require Network Rail to report the financial performance of its enhancements, we are not currently responsible for monitoring its efficiency in enhancements in England and Wales. Financial performance on enhancements in Scotland was better. Network Rail financially outperformed on projects such as the Highland Main Line, New Down platform works in Dunbar, Edinburgh to Glasgow Improvement Programme, and Aberdeen to Inverness improvements.

Improved efficiency

2.71 Network Rail has committed to deliver £3.5bn of efficiency in CP6. As set out above, it has delivered £385m of efficiency savings in 2019-20, exceeding its plans to deliver £316m. This is a good start to delivering its CP6 target.

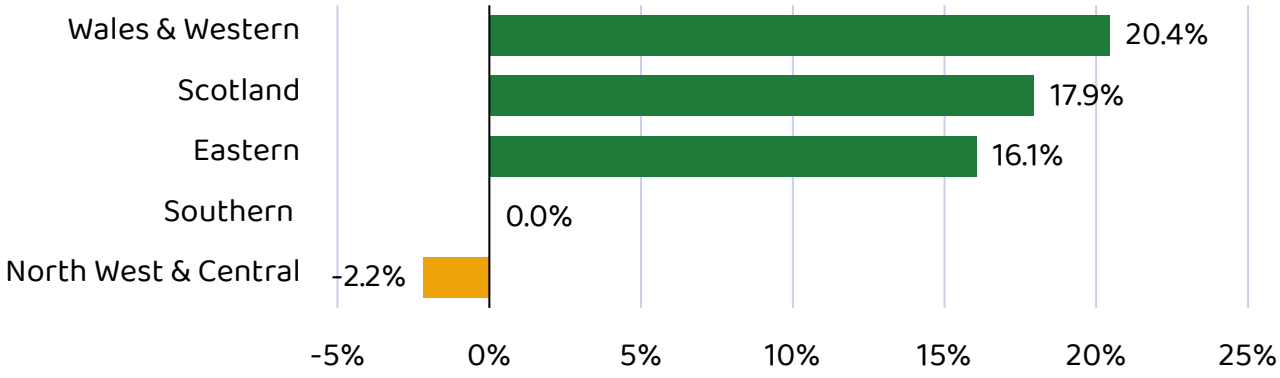
Figure 2.9: Regional contributions to efficiency, 2019-20



Source: ORR analysis of Network Rail data

2.72 Eastern, Network Rail Scotland and Wales & Western all exceeded their efficiency plans in 2019-20, with Eastern delivering the largest efficiency savings. Southern met its efficiency target. North West & Central delivered slightly less than planned.

Figure 2.10: Efficiencies – variance of actual to plan, 2019-20



Source: ORR analysis of Network Rail data

2.73 Efficiency has come from a wide range of initiatives which are being closely monitored across the regions. For example, Network Rail has gained substantial efficiency from adopting better procurement practice and from involving delivery contractors early in the design process. This helps to make sure that designs are optimised for efficient delivery.

2.74 Network Rail's National Functions delivered £70.4m of efficiency savings, outperforming its delivery plan target of £50.9m by £19.5m. Efficiencies came from sources including improved contracting strategy and organisational restructure. Further detail on regional efficiencies is provided in the regional chapters.

Efficiency planning has improved but more needs to be done

2.75 While efficiency delivery in 2019-20 was good, Network Rail needs to retain its focus to make sure it continues to deliver over the control period. Its efficiency planning for CP5 was poor, which led to poor efficiency outcomes. So, in the lead up to CP6 and during 2019-20 we have applied great focus on Network Rail's efficiency plans.

2.76 Where we previously expressed concerns about the different levels of maturity and uncertainty in routes' CP6 efficiency plans, Network Rail has responded by producing an efficiency improvement plan. It has also supported an independent reporter review of routes' renewals and efficiency plans for the first two years of CP6. We reported on this in December[16] and since then we have seen a continued effort to improve route and region efficiency plans.

2.77 But more needs to be done, particularly in relation to the quality of renewals plans – which will be critical to delivering the renewals volumes and the full committed efficiency over the control period.

2.78 We are also monitoring a wider range of leading indicators to understand Network Rail's readiness to deliver its future workbank.

2.79 These show progress in developing the renewals workbank for 2020-21. For example, 82% of remits for planned renewals have been accepted by the supply chain. But the percentage of bookings for engineering works in 2020-21 (76%) is behind Network Rail's internal target (93%) and lower than last year. The percentage of renewals projects (by value) that have completed detailed designs and received financial authorisation for delivery (69%) is also behind its internal target (83%). Both these measures show a risk to efficient delivery in 2020-21.

[16] ORR letters on Network Rail's preparations to deliver efficiently in CP6: https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/monitoring-performance/efficiency-and-finance-assessment

Figure 2.11: Leading indicators of efficiency planning in 2020-21

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
National/ GB	69%		83%	76%		93%	95%		99%

Source: ORR analysis of Network Rail data

2.80 Network Rail's analysis of leading indicators was undertaken before the coronavirus pandemic. There will be disruption, particularly to renewals delivery and related efficiencies during the first few months of 2020-21.

2.81 Over the coming year we will continue our work reviewing Network Rail's efficiency planning and delivery, including wider leading indicators of readiness. We will report on this in due course.

There has been a good start to delivery through the research and development fund

2.82 Network Rail has a £245m fund for carrying out research and development (R&D). It has made good progress in 2019-20 – both in managing a portfolio of projects and driving them forwards. During the year, Network Rail has spent £30m (in line with its plan), and commenced approximately 100 projects. Planned expenditure for 2020-21 and the remaining years of CP6 is significantly higher, so continued effort is required to deliver over the control period.

2.83 Ultimately, the success of the fund will depend on developing ideas into products that help Network Rail become more effective or efficient. The research and development programme finishes at concept demonstration and there is still a critical gap in the development and roll-out of solutions which the company must resolve.

2.84 It also needs to find an appropriate way forward, working with suppliers, to resolve questions of intellectual property rights on the work done.

Network Rail's performance data and reporting must improve

2.85 One of the primary ways in which Network Rail reports its performance is through its scorecards. It has published its scorecard results in its Interim Business Performance Report and expects to in its Annual Return.

2.86 However, we consider that their usefulness to us during the year has been undermined by data quality issues, accessibility and issues with metric definitions / clarity.

2.87 One of our key concerns has been the lack of robust quality assurance which has led to errors and inconsistencies presented in the scorecards each period. This has made it difficult for us to understand performance. Also, Network Rail has not consistently followed the change control procedure set out in our Managing Change Policy.

2.88 We have raised these points with Network Rail. It has also highlighted that there is a need to balance the level of assurance of its regular in-year reporting with how quickly it is provided, and we recognise this. Even so, 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.

2.89 We expect to use our independent reporters to assess Network Rail's production of and reporting against scorecards, and to assess the data quality of key regulatory measures (e.g. CRM-P and FDM-R) in the coming year.

Some progress has been made in delivering a digital railway

2.90 Network Rail has a long-term programme to deliver a digital railway (including digital signalling and radio communications) to improve railway operations. It has made significant progress in 2019-20, building on the Department for Transport's commitment of funds to fit digital (European Train Control System) signalling on the East Coast Main Line (South). The project team has established strong working relationships with all the involved duty holders who need to be ready for the first section of line to have conventional signals removed in 2024.

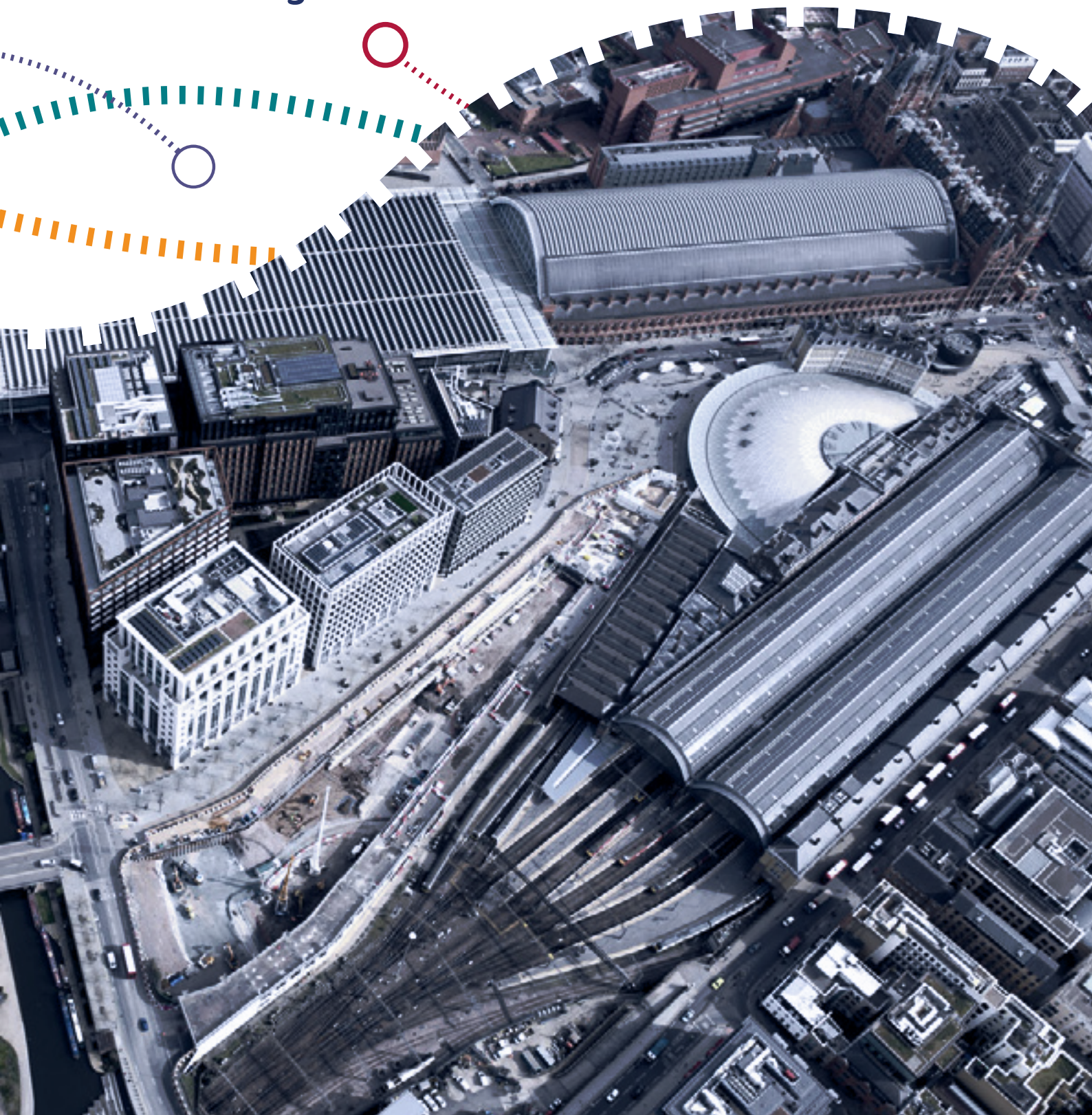
2.91 During PR18, Transport Scotland requested a specific digital rail strategy for Scotland. This was because it had little confidence that Network Rail Scotland's signalling strategy for CP6 adequately reflected the Scottish Government's strategic priorities. In response we required Network Rail Scotland to create a long term, whole system signalling strategy for Scotland. We provide an update on the progress of that strategy in Chapter 5.

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

Eastern Region



3. Performance of Network Rail's Eastern region

3.1 Network Rail's Eastern[17] region manages the East Coast Mainline, Midland Mainline and the Great Eastern Mainline. It links towns, cities, ports and freight terminals across the East of England. The region comprises four routes: Anglia, East Coast, East Midlands and North & East.

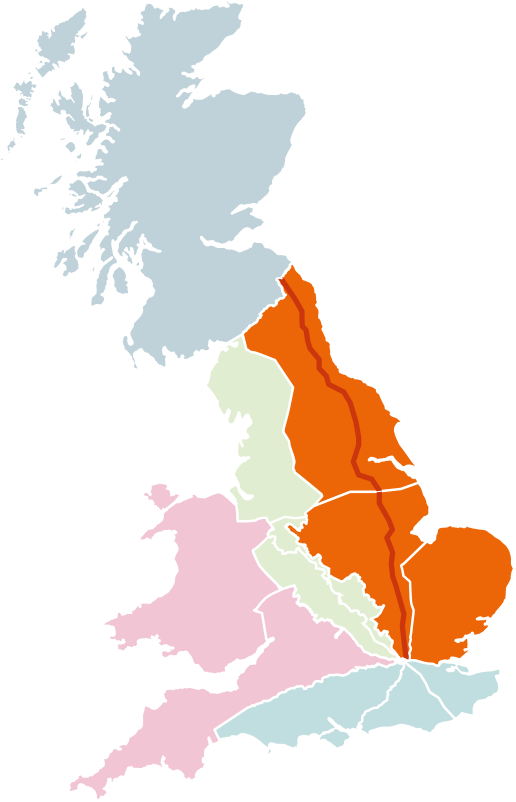
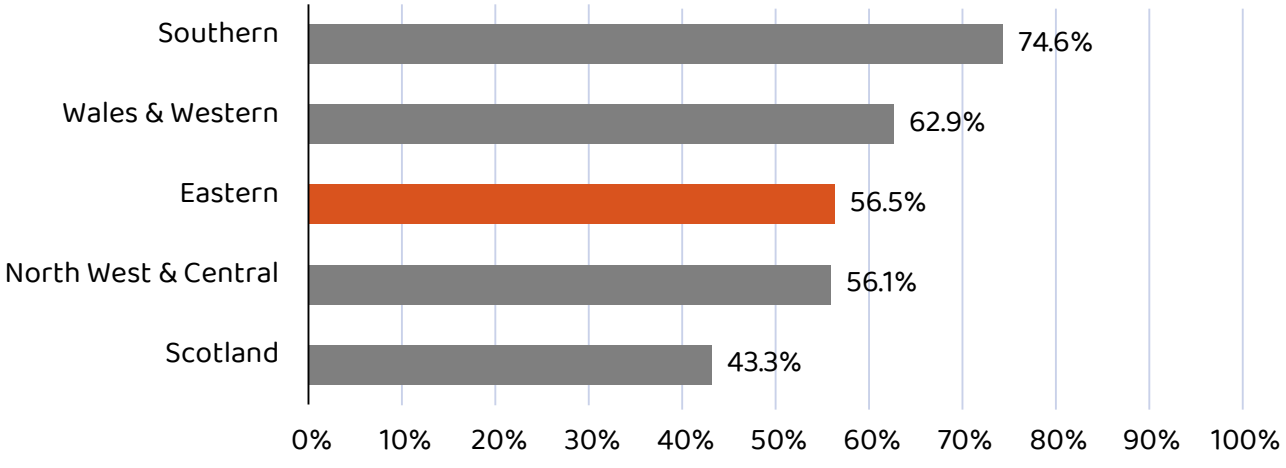


Figure 3.1: Overall scorecard performance by region, 2019-20



Source: Network Rail's regional scorecards

[17] Network Rail's Eastern region: https://www.networkrail.co.uk/running-the-railway/our-regions/eastern/

Eastern region has delivered against most of its internal targets

3.2 Network Rail uses scorecards to align its priorities with those of its customers and help it incentivise its management to deliver those priorities.

- Eastern's overall performance on its scorecard for the year was 56.5% – the third best score among Network Rail's five regions.
- The region performed well on delivering renewals and enhancement schemes, and met most scorecard safety targets.
- Eastern contribution to train performance in the Anglia route was good, but performance targets for many operators elsewhere in the region were missed.
- Performance levels for freight services were below target, and fell below the regulatory floor (minimum level) at the end of the year. Severe weather impacted train performance across the region.
- Eastern managed its assets to keep the number of failures within its target. But more of these failures occurred on high-criticality routes. Delays from track and overhead-line failures were particularly high.

Train performance in Eastern was poor

Train performance in the Eastern region was below expectations in 2019-20, but did vary between routes. Services were affected by high-impact infrastructure failures and severe weather over the winter months.

3.3 Train performance is a priority for passengers and for freight operators. In our Periodic Review 2018 (PR18)[18,19], we set specific targets for passenger and freight performance.

[18] ORR's Periodic Review 2018: https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

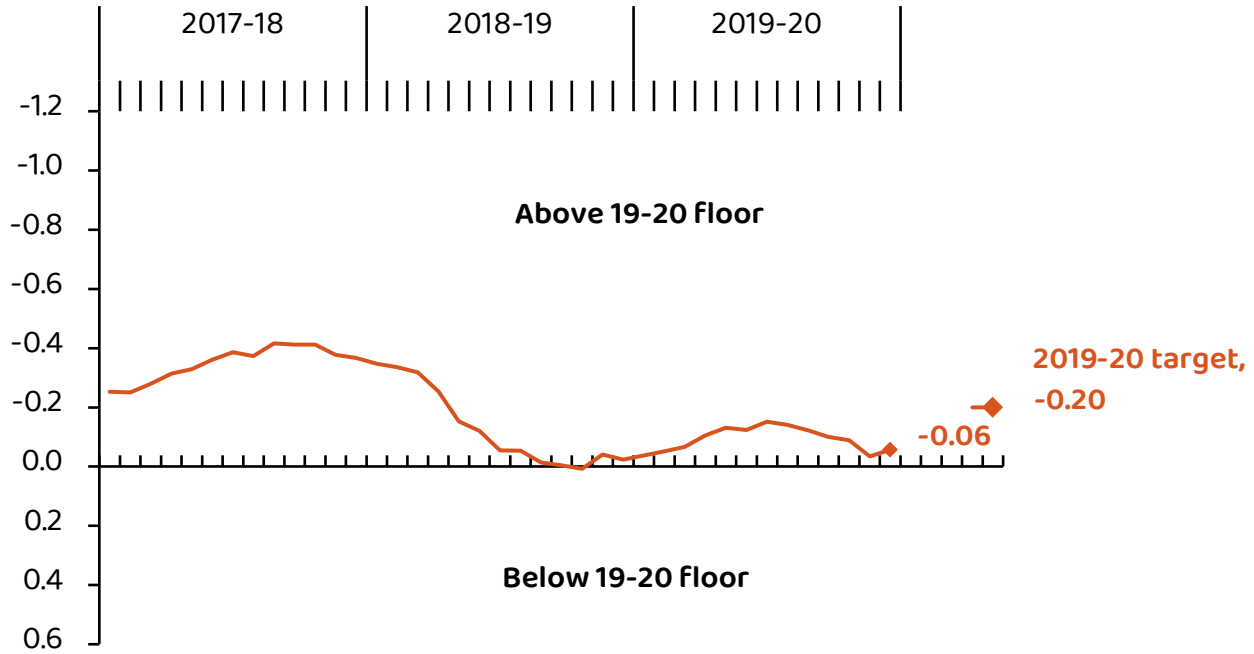
[19] ORR letter on PR18 targets: https://orr.gov.uk/__data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Passenger train performance

3.4 For passenger performance we hold Network Rail's regions to account for delivery of the 'Consistent Region Measure for Performance' (CRM-P). This measures the delay minutes caused by each region, for every 100km of train travel, and allows comparisons between regions. For Control Period 6 (CP6), we set trajectories for CRM-P and minimum levels ('floors').

3.5 Eastern's trajectory for CRM-P was based on it achieving 1.50 minutes delay per 100km of train travel. The region finished the year 0.14 minutes worse than target at 1.64 minutes, but 0.06 minutes above the floor. It has therefore caused more delay to passenger train operators than was anticipated.

Figure 3.2: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) – variance to regulatory floor for Eastern region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

3.6 The Eastern region covers a large geographic area, and its routes are distinct from each other in their operation. Accordingly, performance can vary between routes.

3.7 The Anglia route performed well in 2019-20, and was successful in reducing delay minutes to passenger operators. It focussed on addressing a rise in fatalities, trespass and route crime, improving operational response to incidents and carrying out work to improve the reliability of axle counters (an element of the signalling system). The route also adopted new technologies to enable smarter ways of working, for example using video cameras on the front of trains to assist with vegetation inspections.

3.8 Train performance on the East Coast and North & East routes was impacted by asset failures, primarily track and overhead line equipment, often associated with weather events.

3.9 The Eastern region suffered a number of severe weather events over the course of 2019-20, including several storms in the winter which led to significant disruption and flooding. Hot weather also affected the region in the summer of 2019, causing failures of overhead electrical power lines. This is discussed further in the asset management section below.

3.10 Overall the East Coast route was on target for the delay minutes attributed to Network Rail despite challenges presented by the severe weather events. The route also showed an improvement in external delay compared to the previous year. But it experienced a large increase in delays related to non-track assets.

3.11 Passenger train performance in the North & East route was below targets agreed with operators. This was due to Network Rail attributed failures relating to weather and external events, and performance impacts associated with the introduction of new rolling stock for Northern and TransPennine Express operators.

3.12 These issues impacted passenger train service performance across Northern England; delays in the North & East route have a knock-on effect on services in the North West, and vice-versa. Train operator issues in the North of England and their contribution to the overall poor performance in the North West & Central region – which led to ORR initiating a review of performance – are discussed in more detail in the North West & Central chapter.

3.13 Network Rail attributed delay minutes on the East Midlands route have been rising across most delay categories. Some of these are similar to delays experienced in the East Coast and North & East routes, for example overhead line failures and weather-related delay. However, delays related to the condition of the track have also increased, due to track quality issues through the Elstree tunnel and track alignment in the Bedford area. In response, the East Midlands route is working with the principal operators to drive performance improvements, particularly on the key St. Pancras to Bedford corridor.

3.14 Network Rail's business plans for CP6 target performance improvements throughout the control period. ORR will closely monitor the Eastern region in 2020-21 to ensure it remains focussed on the delivery of its commitments to the benefit of passengers across all routes.

Freight Performance

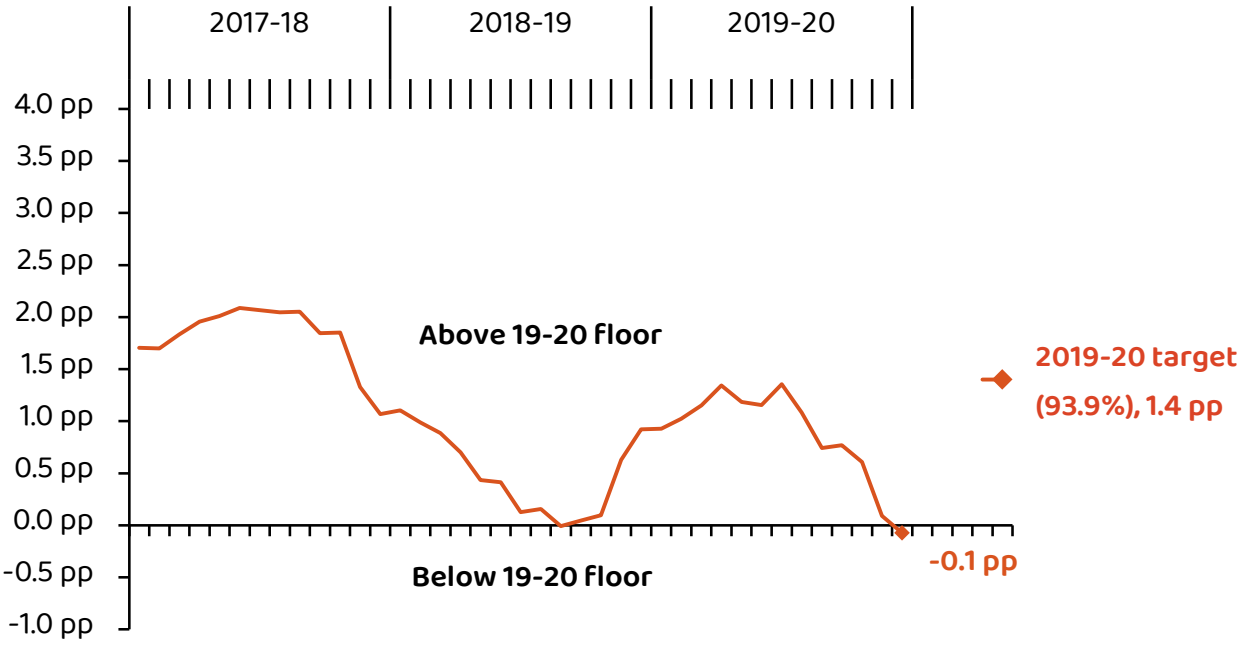
3.15 We measure freight performance using the 'Freight Delivery Metric – Region' (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay.

3.16 The Eastern region finished the year with an FDM-R of 92.4%, just below (worse than) the regulatory floor of 92.5%. As with passenger performance, freight performance decreased sharply in the second half of the year.

3.17 Freight services in the region were partly impacted by the same network issues as those impacting the passenger operators (primarily asset failures and severe weather). However, freight services across the region were impacted more heavily by delays associated with operational management of the network than by infrastructure-related delays. This is an area where the Eastern region could do more to identify impacts on freight services and take steps to improve delivery – for example working with the industry to improve regulation of train movements and better understand unexplained delay.

3.18 We will be monitoring the region closely over 2020-21 to ensure that sufficient focus is being given to the delivery of freight services for its customers in accordance with its targets.

Figure 3.3: Freight performance (FDM-R) – variance to regulatory floor for Eastern region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

Renewal work has been delivered, but asset failures are high

Eastern has broadly delivered the renewals work it planned for the year. But track and overhead line failure rates have been high, causing significant delay.

3.19 Network Rail needs to secure the maintenance, renewal and replacement of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index (CSI)). We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of control period 4 (CP4).

3.20 Eastern finished 2019-20 with a CSI of 0.7%. This represents an improvement in overall asset sustainability of 0.7% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of -1.7%.

3.21 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability. Network Rail's regional scorecards contain some of these shorter-term measures.

3.22 The Eastern region has achieved its scorecard target for delivery of key renewals volumes, and has delivered more than originally planned in these areas. This is good news. Across the wider renewals portfolio there were some areas where not as much work was completed as planned – in particular for some elements of electrification and fixed plant, and work on drainage assets.

3.23 The Eastern region achieved fewer service affecting failures than it targeted in 2019-20. However, the Composite Reliability Index (CRI), which gives a weighted measure of the impact of asset failures against a baseline of 2018-19, finished the year at -10.9%. This means that asset reliability was 10.9% worse than last year.

3.24 The CRI was heavily impacted by an increase in track and overhead line failures on the most critical routes which, alongside weather, are the areas that have caused the most disruption to train services.

3.25 We have reviewed some of the major overhead line incidents that took place in the region to understand the root causes and other contributory factors, and to assess the region's response. We found that the majority of overhead line incidents in the summer of 2019 were caused by a lack of asset resilience to hot weather conditions. The aging nature of the overhead line assets in the region was a contributory factor. However, for some incidents we found indications of inadequate maintenance and preparation for the hot weather. This needs to be addressed going forward.

3.26 While some overhead line assets need renewal over the longer-term, Eastern has responded to the current issues by focusing on mitigations and controls with existing equipment. It has amended some of its standards for improved maintenance and better preparation. Condition monitoring is also being rolled out, which will improve asset condition knowledge. We are monitoring Eastern in this area to ensure appropriate preparedness for hot weather in the summer of 2020.

Enhancement projects in Eastern are on track

Eastern has progressed the delivery of two major upgrades during the year – the Midland Mainline and East Coast Mainline.

3.27 The Eastern region has had a successful year in terms of delivery of enhancements. Work on the Midland Mainline upgrade has continued throughout the year to progress delivery of electrification from Bedford to Corby and an additional line between Bedford and Kettering. Following a delay in asset handover due to certification issues, new platforms at Market Harborough opened during the year, allowing longer trains to call at the station. A very effective cross-industry steering group has been in place, enabling good progress in developing the new timetable for December 2020. The coronavirus pandemic has caused a delay to engineering works (to late 2020 rather than August 2020) and operational readiness delays. Benefit realisation is now planned for the May 2021 timetable.

3.28 On the East Coast Mainline upgrade, two important projects were delivered in October 2019: an electrical feeder station at Potteric Carr and new sidings at Harrogate. These have allowed London North Eastern Railway (LNER) to introduce new 'Azuma' trains on the route. The Potteric Carr work was a notable success for Network Rail, as it now has full approval for the use of a new type of static frequency converters. These have the potential to provide efficiencies and flexibility in future power supply upgrades.

3.29 Plans to upgrade the power supply at the northern end of the East Coast Mainline have been delayed. Network Rail is leading work with train operators to develop the timetable outputs that will be delivered by the enhancements programme, considering the impacts of these delays.

3.30 Enhancement programmes such as those on the Midland Mainline and East Coast Mainline will be impacted by the coronavirus pandemic. Network Rail has reallocated timetabling resources to address immediate priorities in the early stages of the pandemic, and some plans will change to comply with government guidelines around social distancing. For example, work on the construction of a turnback platform at Stevenage was delayed as a result of social distancing measures, resulting in a short delay to the project. We are working with Network Rail to understand the wider impacts of the delay to this project.

Eastern is delivering its safety targets

The Eastern region has a good focus on workforce safety, and has delivered improvements to the lost time injury frequency rate. The implementation of the Safe & Effective Working initiative within the Eastern region is best practice within Network Rail.

3.31 While the Eastern Region was established in July 2019, organisational changes have not yet affected front line staff. There is significant evidence of different safety management systems in operation in the individual routes. However, these continue to function safely. Eastern is in the process of rolling out the successful Safe & Effective Working initiative (a process to move maintenance work on open lines to planned possessions or line blockages) to Anglia Route which will bring alignment across the region.

3.32 The Eastern region has maintained focus on ensuring workforce safety, and was successful in reducing the long-term injury frequency rate below 0.3. This trend was consistent in all parts of the region, with the exception of the East Midlands route, which has seen an increasing trend. In 2019-20 the region has seen an increase in high potential incidents involving a risk of train accident or injury to workers, although the absolute incident numbers remain low.

3.33 The Safe & Effective Working initiative has established the Eastern region as the exemplar for others to follow and the region has provided guidance to other areas of Network Rail. The London North Eastern / East Midlands (LNE/EM) area (pre-Putting Passengers First) is ahead of other parts of Network Rail in dealing with two Improvement Notices with respect to track worker safety served by ORR in July 2019. Despite this, the Eastern region still has significant work to do to achieve full compliance.

3.34 Further information on ORR's safety inspection activity, alongside a more detailed assessment of Network Rail's safety performance will be published in ORR's Annual Health and Safety Report (due for publication later this year).

Eastern has delivered efficiencies but has slightly underperformed financially

The Eastern region has broadly delivered to budget, and provided good evidence of efficiency improvements delivered in 2019-20. Improvements are needed in the planning for efficient delivery in 2020-21 and future years.

Financial performance was slightly below target

3.35 Our primary measure of Network Rail's financial performance, the financial performance measure (FPM) covers most of Network Rail's activities. It provides a better understanding of Network Rail's financial performance than simple income and expenditure variances.

3.36 FPM compares actual income and expenditure to Network Rail's annual budgets, and to the financial assumptions in our PR18 final determination (which underpin the company's funding). It ensures that Network Rail does not benefit from delaying work or failing to deliver required outputs. A positive FPM means that Network Rail has outperformed and vice versa.

3.37 The Eastern region spent £2,498m against a budget of £2,499m in 2019-20, but financially underperformed against its CP6 delivery plan by £33m (or 1.1%). This was largely the result of higher than expected costs for some renewals, and higher than planned payments to train operators as a result of poor levels of operational performance in autumn and winter.

Eastern has delivered more efficiencies than target

3.38 In CP5 Network Rail generally delivered poorly across renewals and efficiency targets. In PR18, we set Network Rail a £3.5bn efficiency improvement challenge to improve its core operations, support, maintenance and renewals activities across the business.

3.39 Network Rail responded to our challenge by developing an efficiency improvement plan, which we have reviewed. In 2019-20 the Eastern region delivered £117m of efficiency improvements, which is higher than the £100m target in its 2019-20 delivery plan. Eastern's largest efficiency initiative was £33m from improved contracting strategies – largely a result of better contracting rates for signalling work.

3.40 Achieving £16m more efficiency than target is a good result for the Eastern region. But the efficiency challenge increases in future years as the Eastern region is committed to delivering between £795m and £953m of efficiency improvements over CP6 (with a central forecast of £859m).

3.41 Efficiencies are planned to increase in 2020-21. Network Rail, in its CP6 readiness report, considers that nearly 80% of Anglia's efficiencies in 2020-21 will be achieved from projects that have already been delivered or have clear project plans. For the former LNE/EM route this is 99%. This means that around 20% of Anglia's 2020-21 target efficiencies have no clear project plans, or have plans in place but low confidence in delivery.

3.42 Therefore the region still needs to focus efforts on delivering these efficiencies. In particular, the region could improve its documentation and forecasting of efficiencies, and the development of renewals efficiency plans associated with capital delivery works.

Leading indicators of efficient delivery

3.43 Poor planning for CP5 resulted in a number of the issues with Network Rail's renewals delivery and efficiency. In light of this, we required Network Rail to demonstrate that it was better prepared to deliver efficiently from the start of CP6 – in part through developing and reporting on new leading indicators.

3.44 We have seen progress with these leading indicators of efficient delivery, although we have had concerns in some areas. The table below provides an update on the Eastern region's preparations to deliver efficiently in 2020-21[20]. Network Rail's underpinning analysis was undertaken before the significant recent impact of the coronavirus pandemic. There is likely to be disruption and we will report on this in due course.

Figure 3.4: Leading indicators for efficient delivery in 2020-21, Eastern region

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
Anglia	60%	🔴	75%	51%	🔴	96%	93%	🔴	100%
LNE/EM	78%	🔴	86%	87%	🔴	100%	104%	🟢	100%
National/ GB	**69%**	🔴	**83%**	**76%**	🔴	**93%**	**95%**	🔴	**99%**

Source: Network Rail CP6 readiness report

3.45 Efficient renewals planning is important to ensure a stable profile of work over time within Network Rail's supply chain. To track this Network Rail measures the percentage of renewal projects which have financial authorisation. At the end of 2019-20 the routes within the Eastern region were below their target for financial authorisations.

[20] This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First have not yet been implemented. Information in this section is therefore presented by Network Rail's old route structure – in which Anglia and LNE/EM make up the new Eastern region.

3.46 This level of financial authorisation gives some cause for concern. However, we can also consider earlier stages of the planning lifecycle, such as remits issued and accepted by the supply chain. Within the Eastern region, remits have been accepted by the supply chain for 73% of renewals in Anglia and 93% in the former LNE/EM route.

3.47 The Eastern region is behind target for the booking of disruptive access to the network that is required for planned engineering work in 2020-21.

3.48 We consider that the Eastern region has made progress in developing its 2020-21 renewals workbank. However, not as much as we would have expected by the start of 2020-21. Putting aside the impact of the coronavirus pandemic, this represents a risk to the efficient delivery of renewals in Eastern in 2020-21.

3.49 Like most routes across the country, Anglia has a maintenance headcount shortfall compared to its required maintenance headcount for 2020-21. It should be noted that the former LNE/EM route is the only route within Network Rail that has exceeded its target for maintenance headcount.

3.50 Further information on Network Rail's financial performance, efficiency initiatives and preparations for 2020-21 will be published in ORR's Annual Efficiency and Finance Assessment (due for publication in summer 2020).

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

North West & Central Region

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

4.1 Network Rail's North West & Central region[21] runs from London Euston and Marylebone in the south to Gretna near the Scotland/ 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[22].

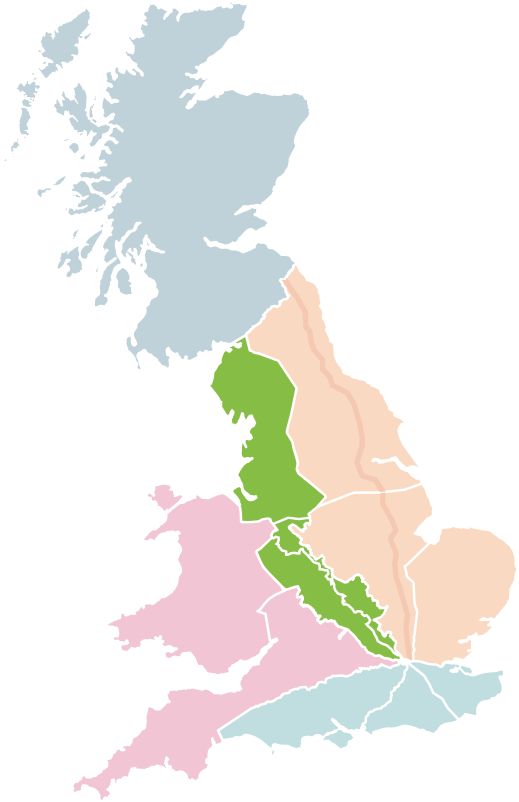
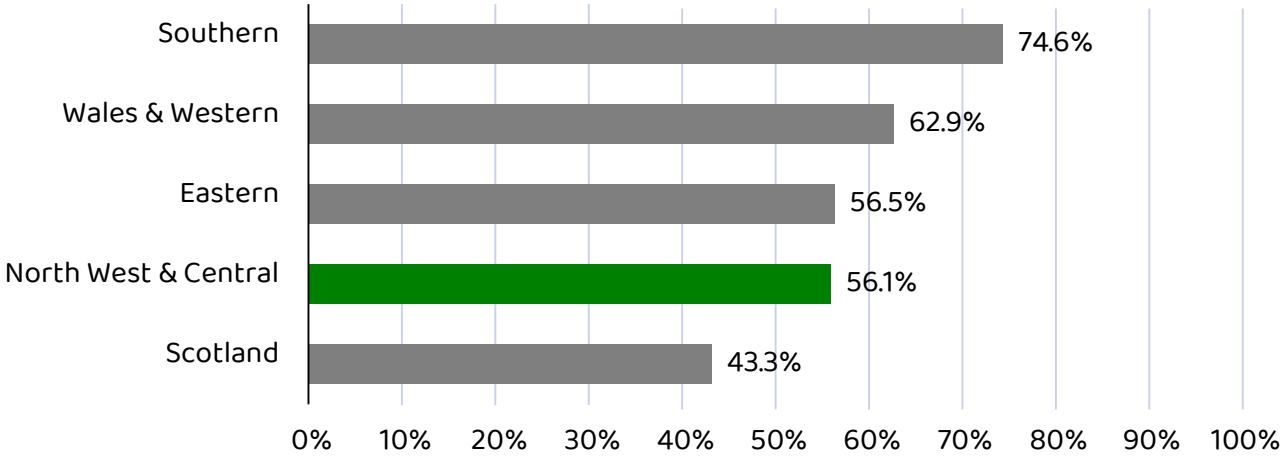


Figure 4.1: Overall scorecard performance by region, 2019-20



Source: Network Rail's regional scorecards

[21] https://www.networkrail.co.uk/running-the-railway/our-regions/north-west-and-central/

[22] https://www.networkrail.co.uk/running-the-railway/our-routes/west-coast-mainline-south/

Mixed delivery in North West & Central, but poor train performance

4.2 Network Rail uses scorecards to align its priorities with those of its customers and helps it incentivise its management to deliver those priorities.

- North West & Central's overall scorecard performance was 56.1% – the second lowest score of Network Rail's five regions.
- It delivered poor train performance for passenger and freight operators and mixed outcomes in local measures, and health and safety.
- North West & Central delivered well against its asset management scorecard targets but there is a maintenance backlog.

Train performance in North West & Central has been unacceptable

North West & Central's contribution to passenger train and freight performance has been worse than planned, with both falling below the minimum levels set by ORR. The main causes of poor performance in the region have been an increase in delays due to asset failures, the May 2019 timetable change, severe weather and train crew issues.

4.3 Train performance is a priority for passengers and for freight operators. In our Periodic Review 2018 (PR18)[23,24], we set regional trajectories for passenger and freight performance.

4.4 For passenger performance we hold Network Rail's regions to account for delivery of the 'Consistent Region Measure for Performance' (CRM-P). This measures the delay minutes caused by each region, for every 100km of train travel, and allows comparisons between regions. For CP6, we set trajectories for CRM-P and minimum levels ('floors').

4.5 North West & Central's trajectory for CRM-P was based on it achieving 1.71 minutes of delay per 100km of train travel. The region finished 0.34 minutes worse than target, at 2.05 minutes of delay, and 0.03 minutes worse than the floor. It has therefore caused more delay to train operators than was anticipated – a poor outcome for passengers.

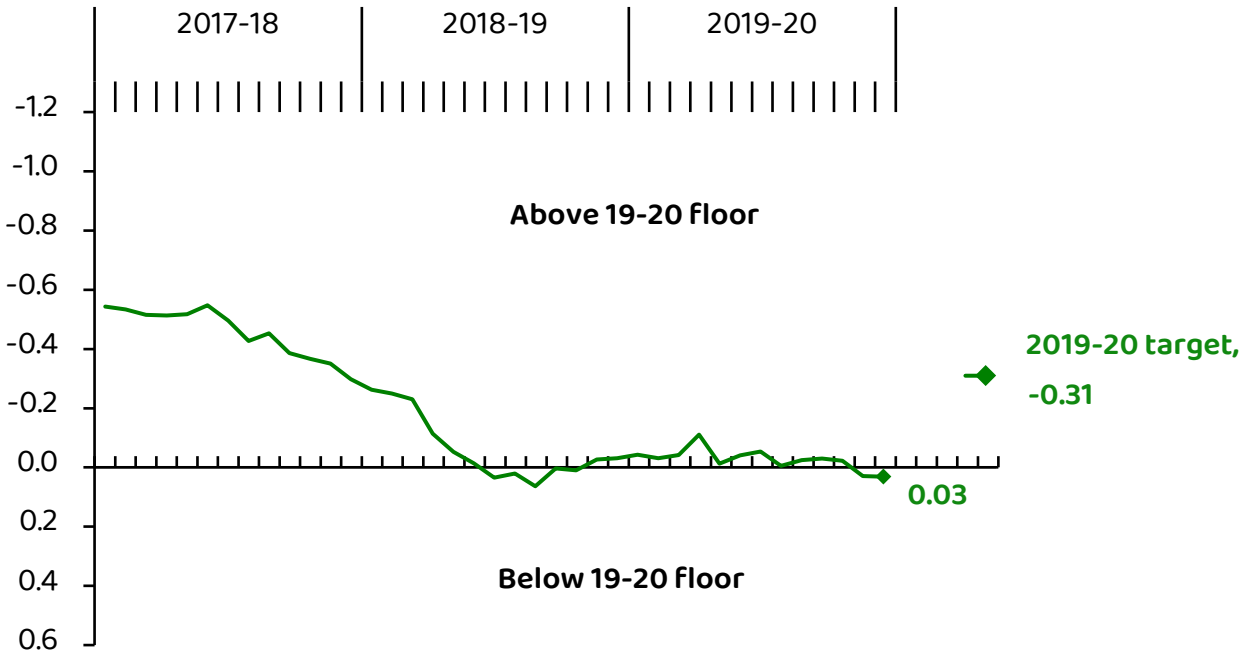
4.6 Cancellations across the region have been high. While cancellations can be an important element of service recovery, particularly during disruption, they can be frustrating for passengers. North West & Central needs to focus on reducing the level of cancellations across the region for the benefit of its passengers.

4.7 North West & Central's share of delay to passenger rail services in the region has reduced from 57.3% in 2018-19 to 52.2% in 2019-20.

[23] https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

[24] https://orr.gov.uk/__data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Figure 4.2: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) - variance to regulatory floor for North West & Central region, 2017-18 to 2019-20

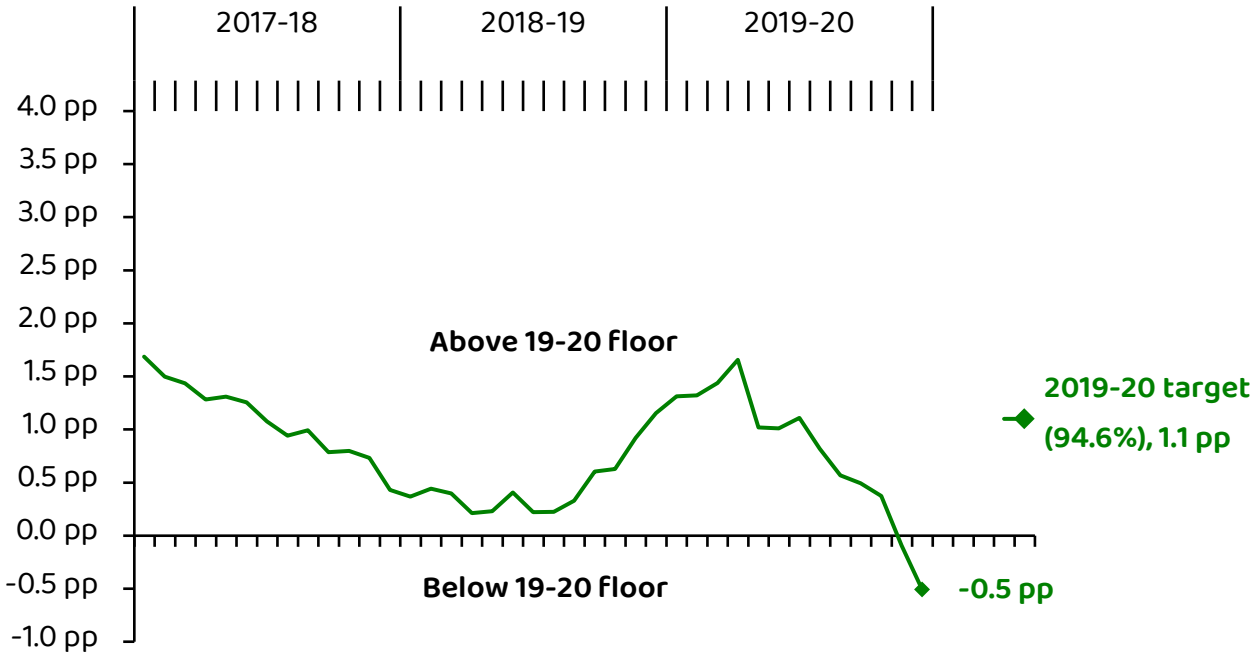


Source: ORR analysis of Network Rail data

4.8 We measure freight performance using the Freight Delivery Metric for Regions (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay.

4.9 North West & Central ended the year with FDM-R at 93.0%, lower than the target of 94.6%. Following a positive start, FDM-R declined for the last two thirds of the year. It was impacted by the implementation of the May 2019 timetable change which joined some poor and better performing services together. In addition, later in the year, severe weather (high temperatures and storms) caused overhead line failures, blew trees onto the line and caused flooding.

Figure 4.3: Freight performance (FDM-R) – variance to regulatory floor for North West & Central region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

ORR performance review of North West & Central region

In early 2020, ORR reviewed North West & Central's activities to establish whether it was doing all it could to improve performance in the region. Our review found that the region had identified the main causes of poor performance, and we identified recommendations to build on the region's developing plans. We will monitor North West & Central's improvement plans closely.

4.10 Passengers and freight customers in the North West & Central region experienced increasingly poor performance through 2019-20. With delay incidents in the region lasting longer, and the region struggling to recover services, it launched a performance recovery management team in November 2019, called Project Alpha (led by its Regional Managing Director). The purpose was to identify the root causes of the region's performance issues, and to build a recovery plan that delivered the quickest improvement in train service reliability.

4.11 In early 2020, ORR commenced a review of North West & Central's performance to establish whether it was doing everything reasonably practicable to improve performance in the region. When the review was launched, North West & Central had fallen too far behind its targets and ORR needed assurance that the region was taking sufficient action to turn its performance around for passengers and freight users.

4.12 Our review focused on the region's approach to understanding and addressing its performance issues and looked at evidence provided by the region and key stakeholders. While the review looked at issues impacting performance in the region dating from mid-2017, it also identified those issues which occurred within 2019-20, particularly around the significant timetable change and severe weather events.

4.13 Our review showed that a range of factors impacted North West & Central. Some of these were within Network Rail's control – including the May 2019 timetable change and asset management failures (particularly with overhead line equipment) – and some were predominantly outside its control, such as operator delays and cancellations.

4.14 Our review found that North West & Central had identified the main causes of poor performance but at the time of the review, it had not yet fully developed improvement plans or established when they would be delivered.

4.15 The region has now developed remedial action plans (through Project Alpha) and we are working with North West & Central to monitor these plans closely.

4.16 We recognise that this review was undertaken prior to action taken in response to the coronavirus pandemic. It is therefore a snapshot in time generating conclusions and recommendations which will be more relevant when Network Rail and the industry returns to a more normal operating environment.

4.17 Our review showed that the scale of the challenge facing North West & Central means that it will need to continue efforts over a number of years before asset performance is fully optimised. Monitoring and reporting process going forward will need to be robust and flexible enough to respond to changes in demand and environmental factors.

Asset failures are decreasing and there is work to do in the wider renewals portfolio

Asset reliability in the region as a whole has improved. However the reliability of electrical power and structures has shown significant decline in North West & Central in 2019-20. The region has generally delivered its internal target for renewals volumes – a good start to delivery in CP6, but more work needs to be done in the wider renewals portfolio.

4.18 Network Rail needs to secure the maintenance, renewal and replacement of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index, CSI). We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of control period 4 (CP4).

4.19 North West & Central finished 2019-20 with a CSI of -0.4%. This represents a decline in overall asset sustainability of 0.4% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of -3.3%.

4.20 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability.

4.21 Network Rail's regional scorecards contain some of these shorter-term measures and North West & Central has delivered well against them. The region experienced fewer service affecting failures than the scorecard target. This contributed to the region achieving a Composite Reliability Index (CRI) score of 1.3%. This means asset reliability on the route in 2019-20 was 1.3% better than it was in the final year of CP5. Within this composite measure, the reliability of track and signalling has improved over 2019-20, whilst the reliability of electrical power and structures reliability has declined.

4.22 The region experienced a number of overhead line failures through 2019-20 with high associated delay. In March 2020 in north-west London, a defect contributed to a 1km dewirement and extensive delay of 21,654 minutes. The second highest delay occurred in same vicinity in November 2019 due to a fault and resulted in 18,321 minutes of delay. In North West & Central in 2019-20 there were 13 overhead line failures which each caused in excess of 5,000 minutes delay.

4.23 North West & Central has now set short, medium and long-term strategies to improve the resilience of the overhead line contact system. These encompass maintenance based on weather patterns, new technologies and early climate change risk assessments. We will work with the region over the next year to monitor improvements.

4.24 Earthworks failures are not included within the CRI because they are relatively infrequent and are strongly linked to wet weather. Historically, large peaks in earthworks failures correspond to periods of adverse or severe weather. In 2019-20, heavy rainfall caused a number of delay incidents in the North West & Central region. One of the largest delays caused 14,112 delay minutes, due to a landslip between Weaver Junction to Winsford (between Warrington and Crewe) in February 2020.

4.25 North West & Central is taking action to address the risk of earthwork failures. Plans for weather resilience in CP6 include earthwork schemes with improved drainage and cross-team working to jointly identify and treat high risk locations to reduce the likelihood of future earthwork failures causing disruption to services.

4.26 North West & Central has exceeded its internal scorecard target for renewing seven key asset volumes – with switches and crossings being the only area which under-delivered against target. However, in the larger scope of renewals work the region did not deliver the volumes expected in a number of areas. This included a significant volume of work on tunnels that was deferred to later years and contributed to under-delivery in the area of structures. Overhead line structures refurbishment volumes were also deferred to 2020-21 due to weather conditions.

4.27 Buildings renewals volumes did not meet targets due to a prior year adjustment and work at a number of franchised station sites being deferred to later in the control period. This was due to issues with procurement and prioritisation of works at managed stations as part of the Putting Passengers First programme. These changes have been managed according to Network Rail's deferral process. In the remaining years of CP6, the North West & Central region will need to focus on planning, as well as liaising with key stakeholders in order to manage the delivery of these additional works.

Inspection of tenanted arches

4.28 In 2018, Network Rail sold leases to commercial spaces under railway arches to a third party, Arch Co. A number of the arches sold under this agreement are within the North West & Central region.

4.29 We note that there is still significant non-compliance for visual and detailed examination of tenanted arches. We will be monitoring Network Rail to ensure it enforces its contract with Arch Co and completes the necessary examinations to return to compliance with its examination standards.

The major improvement programme to electrify key routes in the North West was delivered

North West Electrification Programme

4.30 In 2019-20, phases 4 and 5 of the approximately £1bn North West Electrification Programme (NWEP) were delivered in the North West & Central region. The programme to electrify and upgrade the lines between Blackpool, Wigan, Bolton, Liverpool and Manchester was delivered in phases between 2014 and 2019. Phase 3 delivered electrification, re-signal and re-control of Preston to Blackpool North and re-signal & re-control of Kirkham to Blackpool South in 2018. Phase 4 (delivered in May 2019) electrified the line between Manchester and Euxton, delivering overhead line equipment, power distribution and journey time improvement works as well as capacity works at Bolton station and rolling stock gauge clearance.

4.31 Phase 5, which was completed in July 2019 in time for the December 2019 timetable change, was aimed at producing journey time improvements between Manchester Victoria and Stalybridge. In addition it delivered power supply resilience for Phase 4, additional overhead line equipment at the east end of Manchester Victoria and overhead line equipment enabling works elsewhere. It also provided a new grid supply point at Heyrod.

4.32 As part of the final phases, platform extensions at Mossley and Greenfield were successfully delivered in November 2019, in time for the December 2019 timetable change. The final phases of the NWEP project saw 20 bridges reconstructed to make space for new overhead equipment and 1,659 foundations, the remaining steel masts and wiring completed to allow more electric trains to run.

4.33 While successfully delivered in 2019-20, NWEP was not delivered to original planned timescales. It had numerous revised milestones and the final milestone was delivered four months late. The final project costs are still being determined but, given the overrun, it is expected that NWEP will be over budget.

4.34 Learning from NWEP, Network Rail and train operators have improved processes for timetable production and readiness. Within North West & Central, the lessons from NWEP (and other large programmes) have been embedded, and completion milestones are no longer declared until a robust programme has been produced and peer reviewed. Network Rail has introduced the investment decision framework, providing defined stage gates which allow it and the Department for Transport (as an informed client), to challenge projects on their business cases and also pause / stop where appropriate.

North West & Central's health and safety performance was mixed

ORR's inspection and investigation work has identified mixed health and safety management: some examples of good management, and other areas where attention is required.

4.35 North West & Central performed well for two of its four scorecard safety measures. The Lost Time Injury Frequency Rate (LTIFR) showed an improvement over the previous year but the region did not meet its end of 2019-20 target.

4.36 Potential high risk train accidents showed a slightly reducing trend over the past year. However, level crossing events are of concern in the region as they have increased in 2019-20, after reducing last year. This appears largely due to level crossing events increasing in the North West route, whilst instances in the other two routes have remained static. The region has a £25m fund for improving level crossing safety and has made good progress with closures during the year – but progress with warning systems at open crossings has been disappointing.

4.37 Whilst not specific to the North West & Central region, Network Rail is looking at the potential impact of changes of working on a live railway when trains are running, across its whole network. Our improvement notices on Track Worker Safety[25] aim to reduce this 'unprotected' working, and while North West & Central is responding to the notices, it is still at an early stage. Initial monitoring does show that changes are occurring and 'unprotected' work is reducing.

4.38 Over 2019-20, the region underwent many changes, both in relation to Putting Passengers First and the Performance Review. While the changes were disruptive in the short-term they offer the promise of a strengthened, well-directed approach to health and safety management. Overall, there is a defined, structured process for managing change, albeit with some evidence of it being less well applied for organisational change when compared to engineering change.

4.39 Further information on our health and safety inspection activity, alongside a more detailed assessment of Network Rail's health and safety performance will be published in ORR's Annual Health and Safety Performance Report (due for publication later this year).

[25] ORR improvement notices:
https://orr.gov.uk/rail/publications/enforcement-publications/improvement-notices/improvement-notices-2019

North West & Central has underperformed financially but delivered efficiency

North West & Central exceeded its efficiency target for 2019-20 but more work needs to be done to prepare for the planning and delivery of efficiencies in 2020-21 and the later years of CP6. This may be hampered by the current disruption to renewals work due to the coronavirus pandemic – and ORR will continue to monitor its impact.

Financial performance was below target

4.40 Our primary measure of Network Rail's financial performance, the financial performance measure (FPM), covers most of Network Rail's activities. It provides a better understanding of Network Rail's financial performance than simple income and expenditure variances.

4.41 FPM compares actual income and expenditure to Network Rail's annual budgets, and to the financial assumptions in our PR18 final determination (which underpins the company's funding). It ensures that Network Rail does not benefit from delaying work or not delivering required outputs. A positive FPM means that Network Rail has outperformed and vice versa.

4.42 North West & Central region spent £1,622m against a budget of £1,779m in 2019-20, but financially underperformed against its CP6 delivery plan by £61m. This equates to a 5% overspend. This underperformance was mostly due to lower Schedule 4 and 8 income. There was also underperformance of renewals due to reduced volumes but no reduction in corresponding overheads.

Efficiency has improved but there is more work to do

4.43 In the previous control period (CP5) Network Rail generally delivered poorly across renewals and efficiency targets. In PR18 we set Network Rail a £3.5bn efficiency improvement challenge for its core operations, support, maintenance and renewals activities.

4.44 North West & Central responded to this by developing an efficiency improvement plan, which we have reviewed. In 2019-20, the region delivered £70m of efficiency improvements, which was ahead of the £68m assumed in its delivery plan. This level of efficiency is good news. The largest efficiencies were achieved in reduced activity due to new technologies being introduced in 2019-20. Supply chain organisation initiatives were the second largest contributor, with efficiencies achieved by negotiating better contract rates for the treatment of trains for autumn and winter preparations.

Efficiencies case study – Docker Garths Viaduct

The Docker Garths Viaduct in Cumbria was a structures renewal in 2019-20. Works consisted of recasting defective masonry, de-vegetation works, re-pointing, and installation of anchors to address cracks in the viaduct. This would have previously required the installation of a full scaffold system to provide access to undertake the works. By engaging a specialist sub-contractor, an innovative solution was proposed to provide access – a suspended gantry, which moved vertically and horizontally.
North West & Central's total saving against this project was £0.6m. While this is a one-off saving, the lessons will be taken forward and applied in the future.

4.45 The efficiency challenge increases in future years – North West & Central is forecasting to deliver between £500m and £700m efficiencies over CP6 (central forecast of £590m) – so continued focus on efficiency planning is needed.

4.46 North West & Central considers that 47% of the target efficiencies for 2020-21 will be achieved from projects that have already been delivered or have clear project plans. The remaining 53% of efficiencies have no clear project plans or plans with low confidence of efficiency delivery. This is low compared to other regions and the region still needs to firm up its plans for delivering these efficiencies.

More to do to plan for efficient delivery

4.47 Learning from declining efficiency in CP5, we required Network Rail to demonstrate that it was better prepared to deliver efficiently from the start of CP6 – in part through developing and reporting on new, leading indicators.

4.48 We have seen progress with these leading indicators of efficient delivery. The table below provides an update on North West & Central's preparations to deliver efficiently in 2020-21[26]. Network Rail's underpinning analysis was undertaken before the significant recent impact of the coronavirus pandemic. There is likely to be disruption and we will report on this in due course.

Figure 4.4: Leading indicators for efficiency delivery in 2020-21, North West & Central region

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
NW&C	73%	●	100%	65%	●	100%	99%	●	100%
National/ GB	**69%**	●	**83%**	**76%**	●	**93%**	**95%**	●	**99%**

Source: Network Rail CP6 readiness report

4.49 Efficient renewals planning is important to ensure a stable profile of work over time within Network Rail's supply chain. To track this, Network Rail measures the percentage of renewal projects which have financial authorisation. North West & Central is behind its own internal targets – at 73% – but ahead of the national average.

4.50 We can also consider earlier stages of the planning lifecycle, such as remits issued and accepted by the supply chain. Under this measure the supply chain has accepted 57% of planned renewals for 2020-21. The region unperformed against its internal target for booking disruptive access to the network for planned engineering work in 2020-21.

4.51 These leading indicators are a cause for concern and show that action must be taken to improve efficiency planning.

4.52 The region's current maintenance headcount is more positive – with only 1% shortfall compared to the need in 2020-21.

[26] This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First reorganisation have not yet been implemented.

4.53 North West & Central has made further progress including strengthening of resources and more robust programme-level oversight. However, substantially more still needs to be done, particularly in relation to the quality of renewals efficiency plans, as these are critical to delivering required renewals volumes and the increasing efficiency challenge in later years of CP6.

4.54 Further information on Network Rail's financial performance, efficiency initiatives and preparations for 2020-21 will be published in ORR's Annual Efficiency and Finance Assessment (due for publication in summer 2020).

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

Scotland

5. Performance of Network Rail Scotland

5.1 Network Rail Scotland looks after Scotland's rail infrastructure.

5.2 Most rail services in Scotland are operated by Abellio ScotRail (ScotRail). Caledonian Sleeper, London North Eastern Railway (LNER), Avanti West Coast, CrossCountry Trains, TransPennine Express (TPE) and freight operators also operate rail services between Scotland and the rest of Great Britain.

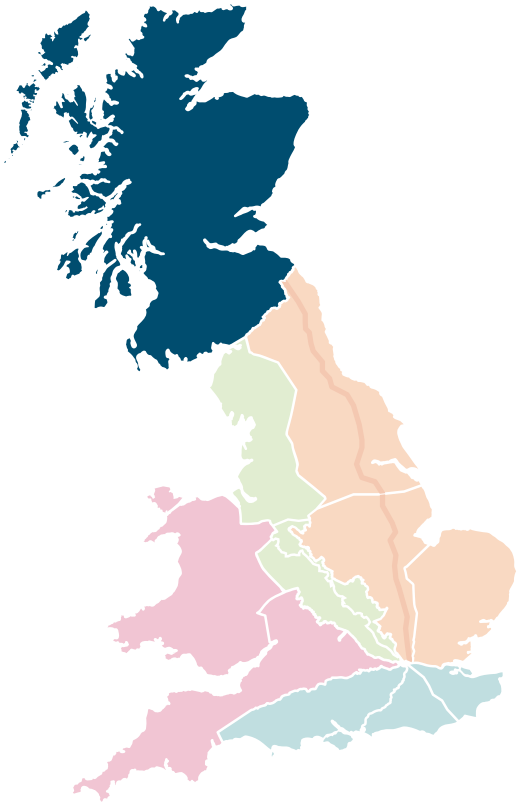
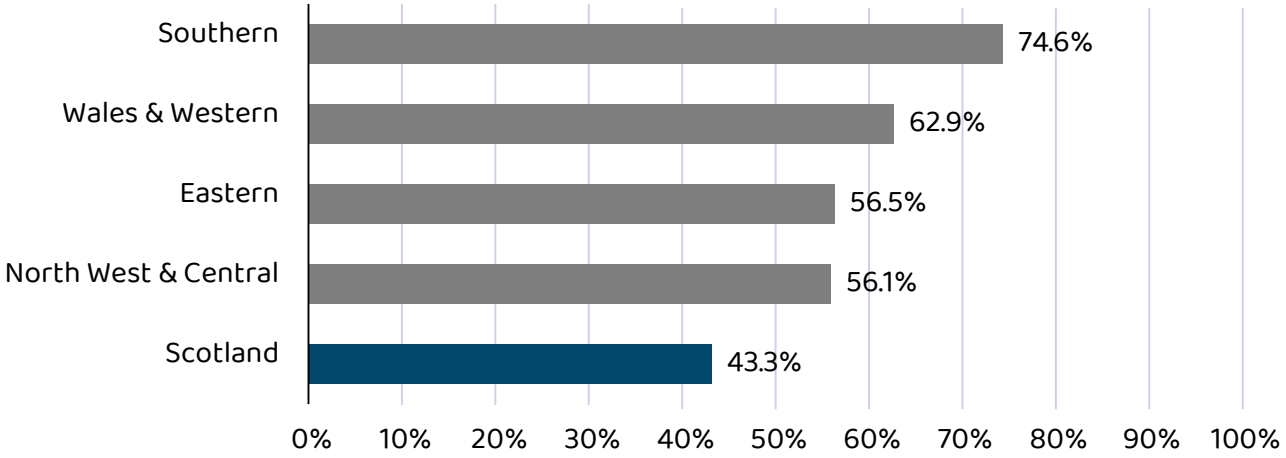


Figure 5.1: Overall scorecard performance by region, 2019-20



Source: Network Rail's regional scorecards

Network Rail Scotland's overall performance in 2019-20 was mixed

5.3 Network Rail uses scorecards to align its priorities with those of its customers and help it incentivise its management to deliver those priorities. Network Rail Scotland's scorecard sets out what it is seeking to deliver for its customers and for the Scottish Ministers.

5.4 We hold Network Rail Scotland to account for:

- its overall performance against its scorecard; and
- the specific outputs that the Scottish Ministers require Network Rail to deliver throughout Control Period 6 (CP6)[27], which we refer to as the Scotland High Level Output Specification (HLOS) requirements'.

5.5 Network Rail Scotland's overall scorecard performance was the lowest of all five regions (achieving 43.3%). The strongest performing areas of the scorecard were in safety, investment and asset management. However, Network Rail Scotland did not achieve its targets for train service performance or locally driven measures[28]. Both of these areas significantly lowered the percentage of its overall scorecard achievement.

5.6 Network Rail Scotland has generally made good progress in delivering the Scotland HLOS requirements in the first year of CP6.

Train performance in Scotland continues to improve but was below target

Other than its freight performance target, Network Rail Scotland did not deliver the targets set by the Scottish Ministers or those agreed with its customers. However it has demonstrated that it understands what it needs to do to achieve its performance targets and, working closely with its customers, has plans in place to deliver these improvements.

5.7 Train performance is a priority for passengers, freight operators and their customers. In our Periodic Review 2018 (PR18)[29], we set specific targets for performance. These targets reflect the level of performance that the Scottish Ministers expect Network Rail Scotland to deliver throughout CP6.

[27] Control Period 6 covers from 1 April 2019 to 31 March 2024.

[28] Locally driven measures (such as customer satisfaction, reduction in works complaints and performance management) are set in alignment with Network Rail Scotland and its stakeholders' priorities.

[29] PR18 is our assessment of what Network Rail must achieve in CP6.

5.8 We hold Network Rail Scotland to account for its delivery of both the ScotRail Public Performance Measure (PPM)[30] target of 92.5% and 80% Right Time Arrival[31] for Caledonian Sleeper services. We measure freight performance using the Freight Delivery Metric for Regions (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay. Network Rail Scotland is required to achieve all three targets to the greatest extent reasonably practicable.

5.9 In addition to the targets referred to above, we measure the delay minutes caused for every 100km of train travel – known as the 'Consistent Region Measure of Performance' (CRM-P). This measure allows us to compare how much delay Network Rail Scotland caused compared with other Network Rail regions.

5.10 In its plans for CP6, Network Rail Scotland were clear that it was unlikely to achieve the PPM target of 92.5% until the end of 2021-22. For the first two years of CP6, it forecast PPM of 90.5% and 91.5%. We recognised there were some potentially significant challenges in achieving the 92.5% PPM target, but we decided to set this as the CP6 ScotRail performance target for each year of CP6 to reflect the level of performance required by the Scottish Ministers' High Level Output Specification[32]. As set out above, the obligation on Network Rail is to achieve the PPM target to the greatest extent reasonably practicable.

[30] The Public Performance Measure (PPM) is the percentage of trains arriving at their final destination within 5 minutes of their scheduled arrival time (within 10 minutes for long distance services).

[31] Right-time performance measures the percentage of trains arriving early or within 59 seconds of schedule.

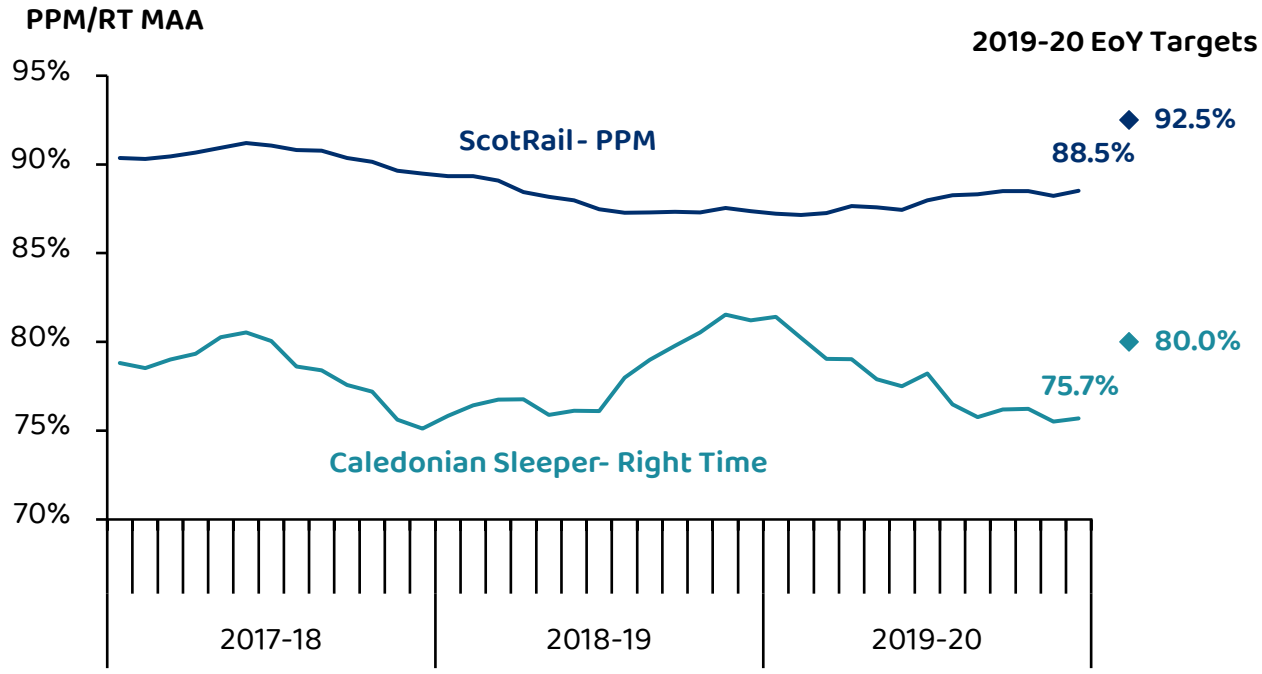
[32] The Scottish Ministers' High Level Output Specification for CP6, published 20 July 2017: https://www.transport.gov.scot/media/39496/high-level-output-specification-hlos-for-control-period-6-final.pdf

5.11 In 2019-20, 88.5% of Abellio ScotRail trains arrived at their destination within five minutes of their scheduled time. This is lower than the target of 92.5% but does represent an improvement on 2018-19 performance. This is illustrated in figure 5.2 below.

5.12 The portion of train delay in Scotland that is attributed to Network Rail was lower in 2019-20 than the previous year. Improved infrastructure performance and more robust summer and autumn preparedness contributed to Network Rail Scotland reducing its share of delay on Abellio ScotRail services from 58.5% to 54.4%.

5.13 Right time arrival (RTA) for Caledonian Sleeper services was 75.7% which is significantly below the target of 80%, as also shown in figure 5.2. However Network Rail Scotland's share of delays affecting Caledonian Sleeper services has also fallen. (Network Rail Scotland was responsible for 31.6% of delay in 2019-20, compared with 41.4% in 2018-19.)

Figure 5.2: Abellio ScotRail PPM and Caledonian Sleeper RTA performance 201718 to 2019-20



Source: ORR analysis of Network Rail data

5.14 The reduction in Network Rail Scotland caused delay is in part a result of improvements in infrastructure performance and more robust summer and autumn preparedness – both have resulted in a reduction in service affecting failures (2019-20 target was 2,259, total service affecting failures for the year was 1,978).

5.15 Network Rail Scotland has also successfully delivered targeted improvements. For example, its Glasgow Maintenance Delivery Unit was restructured to enable better geographical focus and introduce 24 hour response team coverage. Network Rail Scotland is learning from this to deliver similar improvements in its Perth Maintenance Delivery Unit. This should help to deliver much needed performance improvements in the Intercity sector[33] which is currently the lowest performing route within Scotland, with a PPM Moving Annual Average (MAA)[34] of 77.7%.

5.16 While the reliability of Network Rail Scotland's infrastructure is improving, it is important that it focuses on other areas where the proportion of delay remains high. Network Rail Scotland knows it must do this and has recently put in place plans and dedicated resources to help reduce delays associated with its operational management of the network[35]. Network Rail Scotland is specifically focused on reducing the level of 'unexplained' delay by investigating the worst performing routes to better understand the factors impeding performance.

5.17 Severe weather has also impacted performance in Scotland during 2019-20. In particular there were a number of flooding incidents – with the second wettest February and third wettest August in Scotland since records began. We look at what Network Rail Scotland is doing to address flooding issues in the next section.

5.18 Network Rail Scotland undertook more robust summer and autumn preparedness in 2019-20, which led to lower levels of weather-related delay. For example, there was a 79% reduction[36] in failures caused by heat.

5.19 In terms of CRM-P performance, Network Rail Scotland achieved a CRM-P MAA of 1.24 minutes delay per 100km of train travel in 2019-20, 0.18 minutes worse than target, but 0.01 minutes above the floor. If Network Rail Scotland continues to deliver targeted improvements, such as those set out above, we expect CRM-P performance to improve.

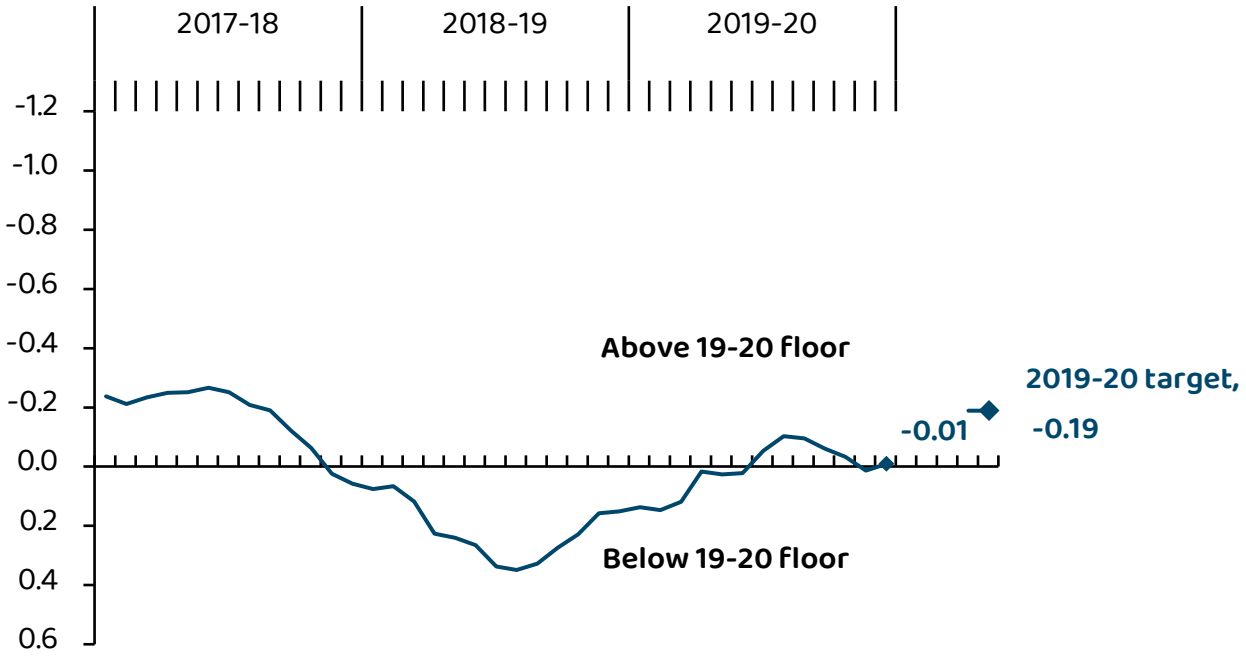
[33] Intercity refers to the following sectors within Scotland - Edinburgh to Aberdeen, Glasgow to Aberdeen and Glasgow/ Edinburgh to Inverness.

[34] Moving annual average - the average of the last 13 four-week time periods.

[35] The Network Management Other delay category includes areas such issues with Network Rail operations and/or timetable problems.

[36] During summer of 2018-19 there were 1630 PPM failures attributed to heat, in 2019-20 there were 337.

Figure 5.3: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) – variance to regulatory floor for Network Rail Scotland, 201718 to 2019-20

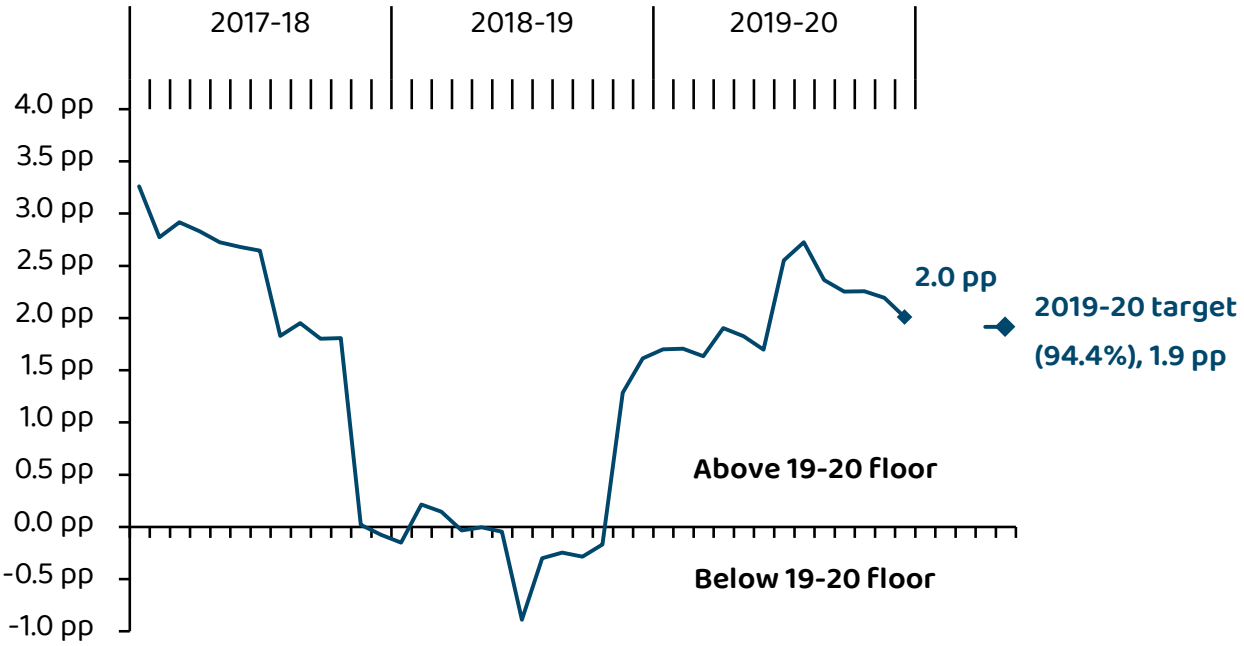


Source: ORR analysis of Network Rail data

5.20 For freight performance, the Scottish Ministers required delivery of 93% FDM-R at the start of CP6, moving through staged improvements towards 94.5% at the end of the control period.

5.21 In 2019-20, FDM-R in Scotland was 94.5%, ahead of the regulatory target of 93% and better than the more stretching scorecard target of 94.4% which Network Rail Scotland agreed with its customers.

Figure 5.4 Freight performance (FDM-R)
- variance to regulatory floor for Network Rail Scotland 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

5.22 Overall, apart from the FDM-R target, Network Rail Scotland did not deliver the targets set by the Scottish Ministers or those agreed with its customers. But, from our monitoring of performance in 2019-20, we consider that it understands the areas where improvements are required. Network Rail Scotland has reduced its share of delay to both Abellio ScotRail and Caledonian Sleeper and has demonstrated that it has plans in place to target areas causing the highest proportion of delay.

5.23 We have also seen evidence that Network Rail Scotland is working closely with its customers to deliver performance improvements. The implementation of its plans for autumn and the work of Network Rail's Seasonal Delivery Team is a good example of this. It is important that this collaboration continues.

5.24 Over the next year we will closely monitor progress to ensure Network Rail Scotland continues to deliver on the areas it has committed to improve.

Renewals work was delivered, asset reliability remains strong

In 2019-20 Network Rail Scotland had fewer service affecting failures than target, as reflected in the improvements in train service performance discussed above. But higher levels of rainfall resulted in an increase in earthwork failures. Network Rail Scotland's plans for CP6 focus clearly on weather resilience (including significant investment in earthworks). It is vital that these plans are implemented.

5.25 Network Rail must secure the maintenance, replacement and renewal of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index (CSI)).

5.26 The CSI measures the 'remaining asset value' on the network (with value reflecting the remaining useful life of the asset), weighted by the relative value of the asset. We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of Control Period 4 (CP4).

5.27 Asset sustainability in Scotland is better than in the other Network Rail regions, and is above the baseline at the end of CP4. Network Rail Scotland finished 2019-20 with a CSI of 3.3%. This represents an improvement in overall asset sustainability of 3.3% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of 2.9%.

5.28 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability. Network Rail's regional scorecards contain some of these shorter-term measures – and Network Rail Scotland performed well against them.

5.29 Network Rail Scotland experienced fewer service affecting failures than target, which contributed to it achieving a composite reliability index (CRI) score of 14.4%. This means asset reliability in 2019-20 was 14.4% better than it was in the final year of CP5. In particular, the reliability of track and signalling showed a marked improvement. There was reduced reliability for buildings and telecoms assets. Network Rail Scotland has not highlighted any specific reliability concerns with buildings and it has attributed the underperformance to incorrect reporting of two hour and 24 hour faults. It has assured us that issues have now been addressed. This is an area we will continue to monitor for improvement in 2020-21.

5.30 Earthworks failures and flooding are not included within the CRI metric. The impact of earthwork failures and flooding varies significantly from one incident to another and is largely governed by rainfall and local geology, whereas CRI assumes that incidents at busier locations will have greater impact.

5.31 Network Rail Scotland experienced more earthworks failures in 2019-20 than previous year, but also higher rainfalls. The pattern of failures was dominated by two distinct peaks[37], relating to severe weather events. These peaks corresponded with some significant delays on the network, for example, in August flooding closed the railway between Linlithgow and Edinburgh Haymarket. In early 2020, incidents included a landslip between Dumfries and Kilmarnock and closure of the railway between Stirling and Perth after Network Rail Scotland engineers found damage at the Mill O'Keir viaduct, as part of their proactive severe weather management protocol.

[37] In periods 5, and 12 to 13.

5.32 Network Rail's plans for CP6 have a clear focus on weather resilience. They include expenditure of around £10m on sites prone to repeat flooding, and £130m on earthworks resilience, which covers cutting and embankment renewals / refurbishments necessary to mitigate the risk of landslides caused by intense or prolonged rainfall.

5.33 Network Rail Scotland has made a good start in delivering against its CP6 resilience plans. This is an important area which we will continue to monitor. For example, it delivered a weather resilience scheme on the Kyle line[38]. It spent £5.2m improving the resilience of embankments and soil cuttings to heavy rainfall, renewing and improving drainage and installing rockfall protection measures.

Case Study: Network Rail's response to flooding at Dalmarnock station

Flooding is a significant contributor to delay at Dalmarnock station. It is susceptible to flooding due to the local geography and its location in a cutting.

In 2014, Network Rail Scotland installed fixed pumps to remove excess water from the trackbed. On investigation, it found that the local drains could not carry water away from the railway fast enough. To address this Hydraulic accumulators were installed at the station to hold flood water so that water can be pumped away at a rate the local infrastructure can accommodate.

Towards the end of last year, Network Rail Scotland installed new remote condition monitoring on the pump system and the hydraulic accumulators, including remotely accessible CCTV.

The remote monitoring enables preventative action and quicker rectification of faults so that the impact of floods on train performance can be minimised. It also reduces the amount of working at height required.

5.34 It is important that Network Rail Scotland maintains a sustainable programme of vegetation clearance works. It reports that it delivered above its planned targets in both vegetation inspections and maintenance volumes in 2019-20. During the year, our monitoring found that Network Rail Scotland understands its level of non-compliance with the required standard, has appropriate mitigations in place and is making progress on developing its vegetation plan.

5.35 We identified a specific concern in the way that Network Rail Scotland manages vegetation clearance to avoid risk of encroachment on overhead line equipment. In 2020-21, we will hold a separate review workshop with the region to assess its progress on vegetation management.

[38] From Inverness to Kyle of Lochalsh.

5.36 Network Rail Scotland has generally delivered its planned renewal volumes in 2019-20, and has exceeded its internal scorecard target. Five of the six key volumes met or exceeded their targeted volumes[39]. It was behind on is the delivery of planned underbridges volumes due to deferrals in scour works. This was partly due to severe weather events. Flooding / high water levels meant that this work could not be re-programmed within the year. Network Rail Scotland has prioritised this for delivery in early 2020-21.

5.37 During the year we have had concerns about the deferral of signalling volumes from 2019-20 to later years in CP6[40]. In response to this issue, Network Rail Scotland established a pipeline of renewals to draw on in the event of planned renewals being deferred. This is an area we continue to monitor but Network Rail Scotland has, to date, demonstrated successful implementation of this pipeline which has helped it mitigate against a significant underspend for 2019-20. This is important so that Network Rail operates within its budget flexibility rules[41] and will also be a useful tool for Network Rail Scotland to deploy if it has to re-plan its renewal work in light of the coronavirus pandemic.

5.38 The CP6 settlement included significant funding for the Carstairs renewal (£103m). The track layout at Carstairs dates from the 1970s and Network Rail Scotland consider that the infrastructure is now life expired, with a number of temporary speed restrictions in place to allow trains to run safely.

5.39 At the time of our PR18 determination, the plans for Carstairs were at an early stage of development (where outputs were being defined[42]) and there was no firm estimate of costs.

5.40 While Carstairs is not an enhancement, we considered that it was appropriate to require a review of costs associated with this renewal given the project was at such an early stage of development. A review would ensure that Network Rail Scotland's costs were justified and that a robust option process had been followed. In our determination we also said that we would involve Transport Scotland in Network Rail Scotland's plans for Carstairs both ahead of and during the cost review to ensure the optimal solution is being delivered.

5.41 Throughout 2019-20 there has been substantial engagement between us, Network Rail Scotland and Transport Scotland on the Carstairs renewal. There were some initial delays to the scheme due to discussions between Network Rail and Transport Scotland to agree the renewal design. These discussions resulted in important changes – for example Network Rail Scotland now plans to make the station fully accessible for all passengers by ensuring it provides step-free access to the station platform. The project is now proceeding at pace and it is important that this continues. We expect to start our review of efficient costs in the next few months.

[39] Network Rail Scotland record six key volumes instead of seven as it does not have any conductor rail.

[40] We noted our concerns in a letter to Transport Scotland on Network Rail's funding for network grant related expenditure in year 1 of CP6, published 3 December 2019: https://orr.gov.uk/__data/assets/pdf_file/0019/42175/network-rails-funding-for-network-grant-related-expenditure-in-year-1-of-CP6.pdf

[41] As discussed in the Financial Framework document for CP6, published 31 October 2018: https://orr.gov.uk/__data/assets/pdf_file/0004/39307/pr18-final-determination-financial-framework.pdf

[42] Governance for Railway Investment Projects (GRIP) stage 1.

5.42 In our PR18 determination, we also required Network Rail to demonstrate and improve its asset management capability. All of its regions committed to improve their asset management capability by achieving compliance or alignment with the ISO55001 standard[43], and set their own target dates that varied between March 2020 and March of 2021. In its CP6 plan, Network Rail Scotland set itself a target date of March 2020.

5.43 In 2019-20, we undertook an assurance review of progress against Network Rail Scotland's commitments on asset management capability. Our review found that it was not sufficiently prepared to meet its strategic objective of achieving ISO55001 alignment by March 2020. Prompted by our assurance review, Network Rail Scotland undertook its own assessment and decided to revise the target date to March 2021 which it believes to be more realistic and consistent with other regions. Since then, Network Rail Scotland has shown greater commitment to improvement and has developed an action plan to develop the core features of the asset management system (framework) capabilities required by the ISO55001 standard.

5.44 Our review highlighted that Network Rail Scotland's course of action, proposed initiatives and plans were positive developments. However there were some risks and concerns for which recommendations have been made.

Enhancement projects were delivered within budget

Network Rail Scotland has progressed well with two major enhancement schemes – Aberdeen to Inverness and Glasgow Queen Street redevelopment. Both projects are within budget and will deliver significant benefits to passengers.

5.45 In 2019-20, Network Rail Scotland made good progress with two major enhancement schemes – Aberdeen to Inverness and Glasgow Queen Street redevelopment. While these were rollover projects from CP5, both have been progressing to their revised programme and importantly, are within budget.

5.46 The Aberdeen to Inverness project is now complete and has delivered benefits for passengers including an hourly service between Elgin and Inverness, additional Elgin-Aberdeen early morning and late evening services, and a half-hourly service all day between Inverurie and Aberdeen. This project will also deliver improvements for freight operators.

[43] ISO55000 is a series of International Standards for Asset Management. ISO55001 defines the requirements for management system for asset management.

5.47 The Glasgow Queen Street station redevelopment (pictured) has also progressed well throughout the year. The extended platforms have increased capacity with Abellio ScotRail operating longer trains and, once completed, the transformation of the station should deliver further improvements for both passengers and operators using the stations.

5.48 In 2019-20, Network Rail Scotland also delivered a new 271 metre platform and fully accessible footbridge at Dunbar. This project was completed on time for the December 2019 timetable change and was within budget. Works also included the renewal of overhead power line equipment and the installation of new information screens and new waiting shelters.

5.49 In addition to the above projects, in 2019-20 Network Rail Scotland also continued to deliver enhancements to provide obstacle free, accessible route to and between platforms for passengers at several locations. For example:

- it delivered a fully-accessible footbridge and lifts at Kilwinning station;
- it installed lifts at Cleland, Fauldhouse and Addiewell stations; and
- it completed access-for-all improvements at Stirling station with the refurbishment of the listed footbridge and the addition of new lifts as part of the Stirling, Dunblane, Alloa electrification project.

Health and safety performance showed some improvement

Network Rail Scotland has shown improvements in a number of areas. Track geometry continues to improve, potential high risk train accidents show a downward trend, steps are being taken to improve track worker safety and it is improving its risk assessment of plain line signals. But improvements are needed in the Lost Time Injury Frequency Rate (LTIFR) for workers and in compliance with standards for selecting assurance targets at delivery unit level.

5.50 Network Rail Scotland's LTIFR[44] is above the region's target and the highest of all regions. It appears to be experiencing difficulty in reducing the number of minor injuries, especially slips, trips and falls among workers. The region has developed campaigns and initiatives to raise situational awareness as part of risk control, but significant reductions in incidents have yet to materialise.

5.51 During 2019-20, our safety inspections identified issues with Network Rail Scotland's compliance with its own standards for selecting assurance targets at delivery unit level. We found that it did not always target its assurance at the most critical risk controls. We continue to seek evidence that it is taking all necessary steps to fully address this issue.

5.52 More positively, track geometry continues to improve and potential high risk train accidents show a downward trend, as does level crossing risk. Infrastructure wrong-side failures[45] hazard ranked 50+ (those failures which present a potentially very serious risk) have declined.

5.53 Network Rail Scotland is aware of the steps it needs to take in response to two national improvement notices concerning track worker safety. Our dialogue with the regional managers indicates that it is responding positively to the substantial task ahead. Steps being taken to improve risk control include the provision of automatic protection and warning equipment, on all the West Coast Main Line (from Carstairs to the English border).

[44] Lost Time Injury Frequency Rate measures the number of lost time accidents normalised by the number of hours worked.

[45] A failure that causes a piece of equipment to cease functioning in such a way as to cause danger to the safety of the line.

5.54 Network Rail Scotland is also taking steps to improve its risk assessment of plain line signals. Its risk-based assessment plan will run throughout CP6 and aims to address plain line signals and other areas such as ground position lights. Options to reduce risk could include the fitment of train protection equipment to trains and track which can reduce risks from signals passed at danger and over-speeding[46]. This includes Train Protection and Warning Systems (TPWS)[47] which Network Rail Scotland has recently installed at two of the highest risk plain line signals. It has also undertaken a number of steps to further mitigate risk, including:

- prioritising the risk of 156 plain line signals at stations with line speeds greater than 60mph;
- incorporating a second stage risk assessment to support the Signal Overrun Risk Assessment Tool; and
- identifying and developing a fitment programme for TPWS at 10 signals with a further 26 signals being incorporated into current and future projects.

5.55 Network Rail Scotland has also identified the reduction of train accident risk as a key aspect of its Whole System Signalling Strategy (this strategy is discussed in more detail in the next section). The increased use of engineering controls such as TPWS is evidence of Network Rail Scotland's approach to proactive risk management.

Network Rail Scotland is making good progress in delivering Scottish Ministers' requirements

Network Rail Scotland has made good progress with many of the Scottish Minister's CP6 requirements. It has collaborated with the wider rail industry to develop plans to improve journey times, encourage freight growth and develop depot and stabling facilities within Scotland.

5.56 In our PR18 determination, we set a number of requirements for Network Rail Scotland to deliver throughout CP6[48]. These requirements reflected what the Scottish Ministers required Network Rail Scotland to deliver in this control period – as set out in their HLOS.

5.57 To monitor progress against each of these requirements, Network Rail Scotland developed an HLOS tracker prior to the start of CP6 which was jointly agreed with Transport Scotland and ORR[49]. The tracker provides a tool through which we can monitor Network Rail Scotland's delivery of each of the HLOS requirements.

[46] A signal is passed at danger when a train passes a stop signal when not allowed to do so.

[47] Train Protection and Warning Systems are designed to automatically apply a train's brakes if it approaches a designated point (for example on the approach to a set of signals) too fast, or if it fails to stop at a signal set to "danger" (red).

[48] The requirements are set out in Annex A.1 of the Final Determination, published 31 October 2018: https://orr.gov.uk/__data/assets/pdf_file/0020/39305/pr18-final-determination-scotland-conclusions-and-route-settlement.pdf

[49] A copy of the tracker is available here: https://orr.gov.uk/__data/assets/pdf_file/0010/39484/pr18-scotland-hlos-tracker.pdf

5.58 Before the start of CP6, Network Rail Scotland worked with its rail industry stakeholders, to establish a series of plans to deliver specific measures. This included plans for journey time improvements (for both freight and passenger services) and for freight growth. This is important as it provided Network Rail Scotland with clear and agreed objectives and a plan of how it would deliver certain requirements from the start of CP6.

5.59 We have engaged closely with Transport Scotland to monitor how well Network Rail Scotland is delivering against the HLOS requirements. Our monitoring in 2019-20 has shown that good progress has been made with many of the requirements.

5.60 In particular, Network Rail Scotland has demonstrated strong collaborative engagement with the wider rail industry in a number of areas, including development of plans to improve journey times and production of its depot and stabling strategy. Its plans for freight growth were welcomed by the freight industry. The plans show strong commitment to help identify and create opportunities for future growth. It is important that this collaborative work continues. We note that it is likely that freight growth has and will continue to be impeded by the coronavirus pandemic. However Network Rail Scotland and the Freight and National Passenger Operators (FNPO) function are working closely with the freight industry to identify and work through what service provision could look like in the future.

5.61 Figure 5.5 below outlines progress made with each requirement in 2019-20. The red, amber, green status illustrates our confidence in Network Rail Scotland delivering each requirement within the required timescales. This shows that there has been good progress in the majority of the requirements, but we think that Network Rail Scotland's delivery of its gauge strategy is at most risk. As explained below, there have been delays as Network Rail Scotland has not yet secured agreement from Transport Scotland on funding and this needs to be resolved. We are concerned that further delays on the delivery of this strategy will impact Network Rail Scotland's ability to deliver improvements by the end of CP6.

Figure 5.5: Network Rail's delivery of the Scottish HLOS requirements

Requirement		On course
Passenger journey time improvements	• Network Rail submitted its ScotRail Journey Time and Freight Average Speed Industry Plan to ORR on 31 March 2019. • This plan was developed in collaboration with Abellio ScotRail. • Network Rail's plan seeks to identify opportunities to improve journey times through for example the timetable or through infrastructure interventions (i.e. through targeted interventions to remove the need for temporary speed restrictions). • In 2019-20, the journey time measure (ScotRail Average Timetabled Minutes per Mile Travelled) was 1.586. While this was 0.002 minutes worse than Network Rail Scotland's own scorecard target of 1.584, it was 0.001 minutes better than the requirements in the final determination and Abellio ScotRail Franchise Agreement (to deliver a mile per minute target of 1.587 by December 2019).	G
Passenger satisfaction	• Autumn 2019 results showed improvement, from 79% to 89%[50]. This is a notable nine point increase from the autumn 2018 survey where satisfaction with ScotRail services was at its lowest for 16 years.	A
Quality of station services	Work undertaken in 2019-20 included: • footbridge refurbishments / repairs; • franchised station platform refurbishments; and • high footfall train shed refurbishments.	G

[50] Source: Transport Focus National Rail Passenger Survey, published 28 January 2020.

Freight journey times	• Plan submitted to ORR on 31 March 2019. Plan was developed with Freight Operators. • Network Rail continue to look for opportunities to improve journey times (i.e. reviewing freight flows and paths to help identify how average freight speed could be improved). • The baseline average speed for CP6 was 34.95 miles per hour (mph) – the baseline reflects the average scheduled speed of all commercial freight trains between period 6 and 13 2018-19. In 2019-20, Network Rail Scotland did not achieve any improvement in freight speeds (average speed for 2019-20 was 35.05mph, which is 0.1 mph worse than the CP6 baseline. • Network Rail Scotland has reported a number of fluctuations in the average speed of class 4 empty, class 5 (Empty Postal) and class 6 empty trains. It has committed to undertake further analysis to understand what is driving those fluctuations. It has also committed to review the impact of the December 2019 timetable change.	G

Freight growth	• Network Rail submitted its freight growth plan to ORR on 31 March 2019. This plan was developed with the Freight industry.
	• Throughout 2019-20, Network Rail has continued to demonstrate collaborative engagement with the Freight industry and several freight projects have been progressed in the first year of CP6, for example:
	  • At Blackford, in partnership with Transport Scotland and Highland Spring, Network Rail Scotland supported its Client through the GRIP and land planning processes resulting in the efficient delivery of the infrastructure required to connect the new terminal at Blackford to the rail network in very short timescales from conception to construction.
	  • Network Rail has also supported a project to load timber on the line-side on the West Highland line and, while this project is still in Feasibility Stage, Network Rail has supported its Client throughout the development of the project and secured train paths for the service and amended possession times to allow the train to load overnight.
	  • There are several other projects and trials, also currently in feasibility stages, where Network Rail has worked closely with customers to develop a method of work for the operations, to secure train paths and to support trials.
		G

Asset data quality	• Network Rail Scotland has maintained data quality at an A2 standard for the following disciplines: Drainage; Earthworks; Electrical Power; Signalling; and Structures. • However it has reported it being below the A2 standard for both Buildings and Track. • Network Rail aims to address these two areas in its data quality improvement plan which it is currently progressing.	A
Carbon emissions reduction and climate change	• Before the start of CP6, Network Rail Scotland Developed metrics for continuous carbon emissions reductions and to reduce overall traction and nontraction energy use by the end of CP6. • Throughout 2019-20, it has continued to report quarterly on these metrics (to both ORR and Transport Scotland).	G
Network capability and capacity	Network Rail Scotland did not include the cost of delivering the Scottish gauging strategy in its plan for CP6. It could not confirm costs as analysis was needed to establish what works were required. As costs were not known we did not include funding for this in our final determination. Instead, we said that once better cost estimates were available, Network Rail Scotland should present its case for funding to Transport Scotland and Transport Scotland should decide whether to provide these funds. Network Rail presented its gauging strategy to ORR and Transport Scotland in March 2019. At this meeting, Transport Scotland confirmed its support for Network Rail to submit a funding request. In September 2019, following work undertaken by Network Rail Scotland to refine the estimated cost, it wrote to Transport Scotland to ask for funding to cover years 1 and 2 of CP6. This is to pay for: • Clearance of the West Highland and Far North Lines for Class 153 and 158 introduction; • Survey/analysis/design/cost estimate for 242 sites where physical interventions will be required; • Probabilistic analysis of potential sites; and • Some physical works to coincide with planned vehicle introductions.	R

Network capability and capacity (cont)	In the final determination we said that Network Rail Scotland needed to establish a rolling programme to deliver the Scottish Gauge Requirement, no later than 1 April 2019 and be completed by the end of CP6. Network Rail Scotland has established a plan to deliver this requirement, however without confirmation on funding we are concerned that this requirement will not be delivered on time by the end of CP6. Network Rail and Transport Scotland must therefore seek to agree funding of this requirement as this will allow Network Rail to progress the areas outlined above	
Development of an efficient electrification specification	Submitted to ORR and Transport Scotland at the start of CP6.	Complete
Depots & stabling strategy	• Plan in place for year 1. Plan was developed with train and freight operators. • 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.	G
Support for the rural economy and tourism	There are two areas that Network Rail must fulfil for this requirement: • to support the reasonable requirements of charter, tourist and other special train operators; and • to ensure vegetation on rural and scenic routes should be controlled and maintained so as to facilitate views from the train, and to prevent damage to trains. In 2019-20, Network Rail has made the following progress: • Network Rail has worked with Charter train operators to review charter contracts and industry track access rights to investigate whether there were options to protect a limited amount of capacity for charter train operation. It had agreed proposed changes with industry however Network Rail has since confirmed that there is currently no appetite in the wider industry to pursue those proposals further; and • Network Rail complete 100% of its plans to clear vegetation on the areas that it had deemed to be scenic. Further Network Rail has confirmed that it has issued remits and work scope for CP6 Y2 scenic clearance sites.	G

Delivery of whole system signalling strategy

5.62 In response to Transport Scotland's concerns around digital rail, we required Network Rail Scotland to create a long term, whole system signalling strategy for Scotland. We said that this should incorporate its existing signalling renewal strategy, the elements of the GB Digital Rail Strategy applicable to Scotland and rolling stock plans. This requirement is in addition to the HLOS requirements set out above.

5.63 At the start of CP6, Network Rail Scotland recruited dedicated resource and established a small development team to deliver this strategy. Once this team was in place, development of the strategy started to gain momentum in autumn 2019 with Network Rail Scotland establishing a steering group, working closely with Transport Scotland and Abellio ScotRail.

5.64 While Network Rail Scotland has been developing its whole system signalling strategy, progress has been made with other strategies and areas of government policy which are linked but separate to this strategy – for example Network Rail's Depot and Stabling Strategy. Network Rail Scotland recognises both the opportunity and need to align this strategy with these other workstreams.

5.65 Network Rail Scotland has recently confirmed that it will shortly present its signalling strategy to industry, finalise its programme milestone plan and launch detailed workstreams. We will continue to report on progress in this area.

Network Rail Scotland has delivered on financial performance and outperformed its efficiency target

In 2019-20, Network Rail Scotland financially outperformed against its internal budget by £1m. It also delivered £46m of efficiency improvements – £7m more than planned.

5.66 This section examines Network Rail Scotland's efficiency and wider financial performance in 2019-20. 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.

Efficiency has improved

5.67 We monitor the efficiency of Network Rail Scotland's core business activities. These are operations, support, maintenance and renewals. Network Rail Scotland delivered £46m of efficiency improvements in 2019-20. This was ahead of the £39m of efficiency improvements assumed in its delivery plan for the year.

5.68 Network Rail Scotland is forecasting to deliver between £340m and £372m of efficiency improvements in CP6, with a central forecast of £347m. This is ahead of its £339m efficiency target for CP6.

5.69 Given the issues with Network Rail's efficiency that we reported on in CP5, one of the important changes to our monitoring in CP6 has been to require Network Rail's regions to show in much more detail how they are planning and delivering efficiency improvements. We most recently reported on Network Rail Scotland's CP6 efficiency plans in December 2019[51]. Figure 5.6 shows the main initiatives that have contributed to Network Rail Scotland's efficiency improvement in 2019-20.

Figure 5.6: Network Rail Scotland's main efficiency initiatives in 2019-20

Source: Network Rail 2019-20 P13 efficiency pack and ORR analysis

5.70 Network Rail Scotland's largest efficiency initiative in 2019-20 was the implementation of a new contractor framework for the delivery of geotechnical works (£10m efficiency). This is included within 'improved contracting strategies' in figure 5.6. The new collaborative partnership should result in lower costs for the specialist rock-cutting supplier. This has enabled lower contractor rates for the planned work.

5.71 Significant efficiencies were also generated through optimisation of track access, totalling £13.8m over the course of 2019-20. These included a variety of different initiatives aimed at making disruptive possessions more efficient, including using extended possessions to reduce repetition of setup and handback activities on multiple possessions, and coordinating disruptive access requirements across different asset types to minimise the need for additional possessions on the same areas of the East Coast Mainline and West Coast Mainline.

5.72 There can be no let-up in the focus that Network Rail needs on delivering efficiency improvements in Scotland in CP6. Since reporting on this in December, we have seen a continuing effort to improve Scotland's CP6 efficiency plans and delivery. Over the coming year we will continue our work reviewing Scotland's efficiency planning and delivery, including wider leading indicators of readiness, and we will report publicly on these matters. We will provide further information in our annual efficiency and finance assessment, which we plan to publish in summer 2020.

[51] Preparations to deliver efficiently in Scotland in CP6, published 13 December 2019: https://orr.gov.uk/__data/assets/pdf_file/0003/42177/network-rails-preparations-to-deliver-efficiently-in-scotland-in-CP6.pdf

Financial performance is good

5.73 The regulatory financial performance measure (FPM) provides a better understanding of Network Rail's financial performance than simple income and expenditure variances. FPM compares a region's actual income and expenditure to its CP6 delivery plan across most items of income and expenditure. The FPM measure ensures that a region does not benefit from underspend by delaying work to a later date if that work will still need to be done[52].

5.74 Overall, Network Rail Scotland financially outperformed its CP6 delivery plan by £1m in 2019-20.

Figure 5.7: Scotland's financial performance in 2019-20[53]

£m	Full year budget	Full year forecast	Budget variance better/(worse)	FPM out/(under) performance
Turnover	378	373	(5)	(5)
Schedules 4 & 8	(33)	(34)	(1)	(2)
Operations and support	(144)	(137)	7	(1)
Maintenance	(180)	(172)	8	4
Profit & Loss			**10**	**(5)**
Renewals	(379)	(343)	36	(3)
Enhancements	(205)	(190)	15	9
Total			**61**	**1**

Source: Network Rail financial reporting

[52] See our regulatory accounting guidelines for further details, https://orr.gov.uk/rail/publications/economic-regulation-publications/regulatory-accounts

[53] Note that the figures quoted differ from the Scotland regional scorecard amounts as they capture all relevant Scotland expenditure including – expenditure of Network Rail Scotland; the amount recharged by Network Rail Scotland to the Freight & National Passenger Operator (FNPO); and the share of the FNPO's own support and operations expenditure, and recharged System Operator costs, attributable to freight operations in Scotland.

5.75 As shown in Figure 5.7, FPM was £1m ahead of delivery plan mostly due to outperformance in enhancements, including the Highland Main Line, New Down platform works in Dunbar, Edinburgh to Glasgow Improvement Programme, and Aberdeen to Inverness improvements. This was partly offset by increased costs on Profit & Loss activities and renewals. Turnover underperformed due to a delay in the sale of the Queen Street leasehold to Glasgow City Council.

Good progress in planning for efficient delivery

5.76 Poor planning for CP5 caused a number of the problems with Network Rail's renewals delivery and efficiency. To avoid a repeat of these issues, we have pressed Network Rail to demonstrate that it is better prepared to deliver efficiently from the start of CP6. This section provides an update on Network Rail Scotland's preparations to deliver efficiently in 2020-21[54].

[54] This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First reorganisation have not yet been implemented.

5.77 Table 5.8 illustrates Network Rail Scotland's preparations to deliver efficiently in 2020-21. Network Rail's underpinning analysis was undertaken before the significant recent impact on society of the coronavirus pandemic. There will be disruption, particularly to renewals delivery and related efficiencies during at least the first six months of 2020-21. We will report on this in due course.

Figure 5.8: Leading indicators for efficiency delivery in 2020-21, Network Rail Scotland

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
Scotland	76%		60%	103%		100%	88%		100%
National/ GB	**69%**		**83%**	**76%**		**93%**	**95%**		**99%**

Source: Network Rail CP6 readiness report

5.78 Effective renewals planning is important because it improves the robustness of the rail network and reduces costs. It provides a stable profile of work for Network Rail's supply chain, it can avoid more critical work than necessary being squeezed into the final quarter of the year (when weather conditions can be most challenging) and it can prevent slippage of work into the following year.

5.79 For Network Rail Scotland, 76% of renewals projects for 2020-21 (by value) had completed detailed designs and had received financial authorisation for delivery. This was ahead of the internal target of 60% and above the 69% national average.

5.80 Financial authorisation only provides a partial picture of renewals workbank planning. Remits issued and accepted by the supply chain shows progress made at an earlier stage of the planning lifecycle. Network Rail Scotland has issued, and its supply chain accepted 93% of planned renewals in 2020-21. We consider that Network Rail Scotland has made progress in developing its 2020-21 renewals workbank, and we will continue to monitor levels of authorisations.

5.81 Network Rail Scotland has achieved its internal target for booking disruptive access for planned engineering work in 2020-21. Of all Network Rail regions, it had the highest percentage of disruptive possessions booked, with all expected possessions in place for 2020-21.

5.82 Network Rail Scotland is currently operating with a maintenance staffing level of 12% lower than the overall headcount requirement. It supplements the difference with subcontracted labour. It is working to increase direct labour staff levels but identifies hiring to remote locations as a risk.

5.83 Network Rail considers that nearly 60% of its 2020-21 target efficiency will be achieved from projects that have already been delivered or have clear project plans. The remaining 40% of 2020-21 target efficiencies have no clear project plans, or have plans in place but low confidence in delivery.

5.84 We previously commissioned the independent reporter, Nichols, to review Network Rail's efficiency plans for year 1 and 2 of CP6[55]. Since this work concluded, Network Rail Scotland has made further progress, including the strengthening of resources and more robust programme-level oversight. It is important that Network Rail Scotland continues to build on this progress. The quality of renewals efficiency plans is critical to delivering required renewals volumes and the increasing efficiency challenge in later years of CP6.

[55] Review by Nichols of Network Rail's renewals and efficiency planning for years 1 and 2 of CP6, 11 July 2019: https://orr.gov.uk/__data/assets/pdf_file/0013/41602/interim-nichols-review-of-network-rails-renewals-and-efficiency-planning.pdf

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

Southern Region

6. Performance of Network Rail's Southern region

6.1 Network Rail's Southern[56] 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 of Sussex, Kent and Wessex, and does not cover Network Rail High Speed.

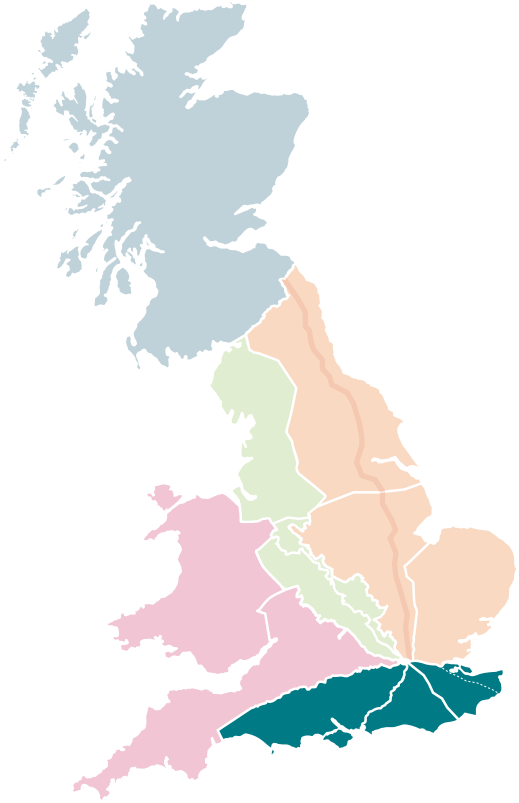
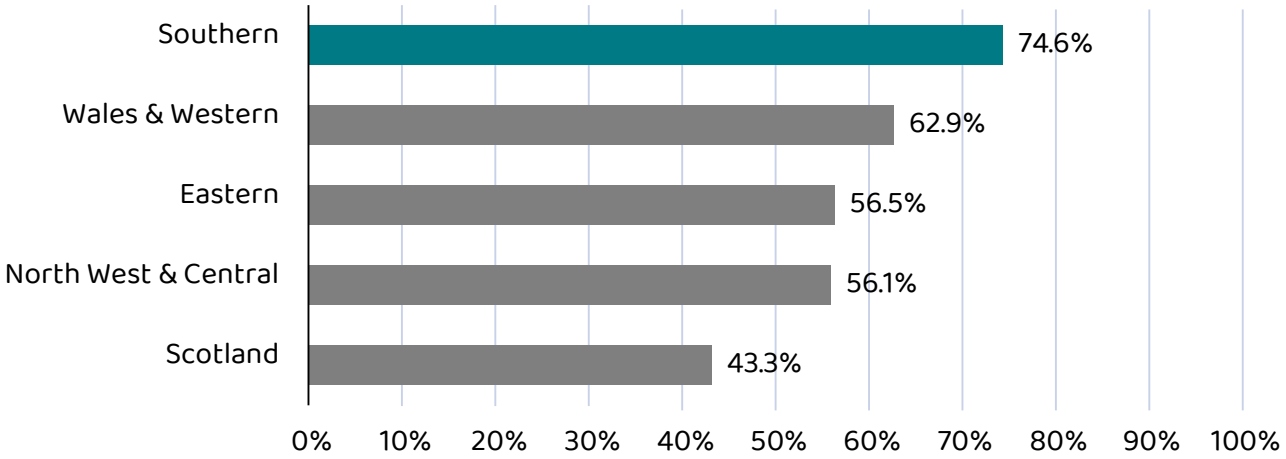


Figure 6.1: Overall scorecard performance by region, 2019-20



Source: Network Rail's regional scorecards

[56] Network Rail's Southern region: https://www.networkrail.co.uk/running-the-railway/our-regions/southern/

The Southern region was top in delivering scorecard targets

6.2 Network Rail uses scorecards to align its priorities with those of its customers and help it incentivise its management to deliver those priorities.

- Southern's overall scorecard performance was good and, at 74.6%, the highest of Network Rail's five regions.
- Southern delivered strong train performance to a number of operators. It delivered good performance in health and safety, investment and asset management scorecard measures.
- Train performance delivery on the Wessex route was poor and needs to improve.

Passenger train performance improved; freight train performance worsened at the end of the year

Southern's contribution to passenger train performance has generally been above the levels that it agreed with its customers. Its management of the network has led to less delay than the levels projected in PR18. But freight performance has worsened at the end of the year.

6.3 Train performance is a top priority for passengers and freight. In our Periodic Review 2018 (PR18)[57,58], ORR set regional trajectories for passenger and freight performance.

Passenger train performance in Southern has improved – and is better than target

6.4 For passenger performance we hold Network Rail's regions to account for delivery of the 'Consistent Region Measure for Performance' (CRM-P). This measures the delay minutes caused by each region, for every 100km of train travel, and allows comparisons between regions. For CP6, we set trajectories for CRM-P and minimum levels ('floors').

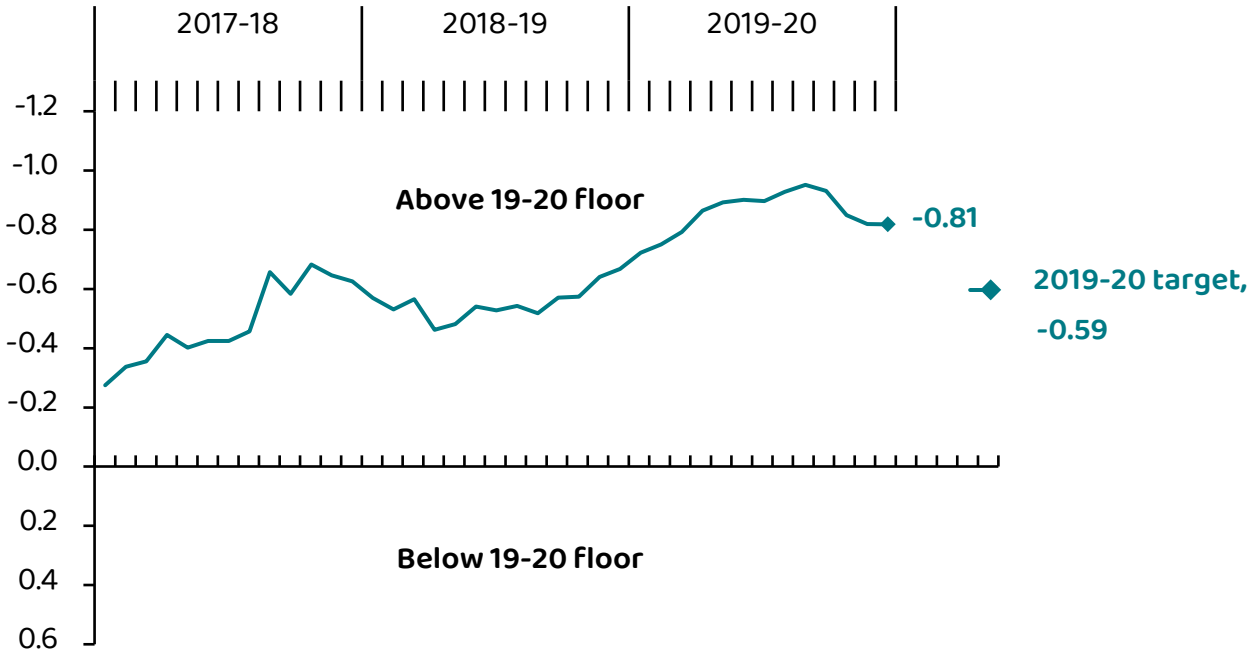
6.5 Southern's trajectory for CRM-P was based on it achieving 2.90 minutes delay per 100km of train travel. The region finished the year 0.22 minutes better than target at 2.68 minutes (and 0.81 minutes above the floor). It has therefore caused less delay to train operators than was anticipated – a good outcome for passengers. Performance was particularly good in Kent and Sussex.

6.6 Despite this, cancellations across the region have been high. While cancellations can be an important element of service recovery, particularly during disruption, they can be frustrating for passengers. Southern needs to focus on reducing the level of cancellations across the region for the benefit of its passengers.

[57] ORR's Periodic Review 2018: https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

[58] ORR letter on PR18 targets: https://orr.gov.uk/__data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Figure 6.2: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) – variance to regulatory floor for Southern region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

Figure 6.3: Cancellations versus target by operator, 2019-20

Operator	Cancellations	
	2019-20	Target
Govia Thameslink Railway	4.5%	3.2%
Southeastern	2.5%	2.2%
South Western Railway	3.7%	1.7%

Source: ORR analysis of Network Rail data

6.7 While Southern's overall contribution to train performance was good, it did vary across the routes in the region. The Wessex route struggled in terms of passenger performance, in particular for South Western Railway.

6.8 Network Rail and South Western Railway agreed joint 2019-20 performance targets for the 'Public Performance Measure' (PPM), which measures the percentage of trains that arrive at the final destination within five minutes of schedule and the 'Cancellations and Significant Lateness' (CaSL) metric, which measures the proportion of trains that fail to call at one or more stop or are greater than 30 minutes late at their final destination.

6.9 South Western Railway finished the year with a PPM of 80.5% and a CaSL of 5.7%, these values were worse than their respective agreed targets (87.0% and 4.1%).

6.10 There are a number of factors behind the performance issues for South Western Railway, including many which are outside Network Rail's control (for example industrial relations issues and train crew / fleet issues). However, the Southern region has acknowledged that performance on the Wessex route must improve, and has identified two areas within its control that are impacting heavily on train performance: fatalities / trespass and network management.

6.11 We stepped up our monitoring in this area in autumn 2019, and have raised these issues with the region. Southern has taken action to address them, for example it has stationed trespass and welfare officers at key locations to reduce the frequency of trespass and attempted suicide on the railway. However this did not have a material impact on the full year performance figures.

6.12 We met Southern's Wessex performance team and visited the Network Rail and South Western Railway Joint Performance Improvement Centre. We consider this to be an example of good practice in the industry's attempts to improve train performance and are encouraged by this strong collaborative working which we expect to continue.

6.13 We will continue to monitor Southern's delivery of performance improvement initiatives closely over the next year to ensure it focuses relentlessly on better train performance for passengers.

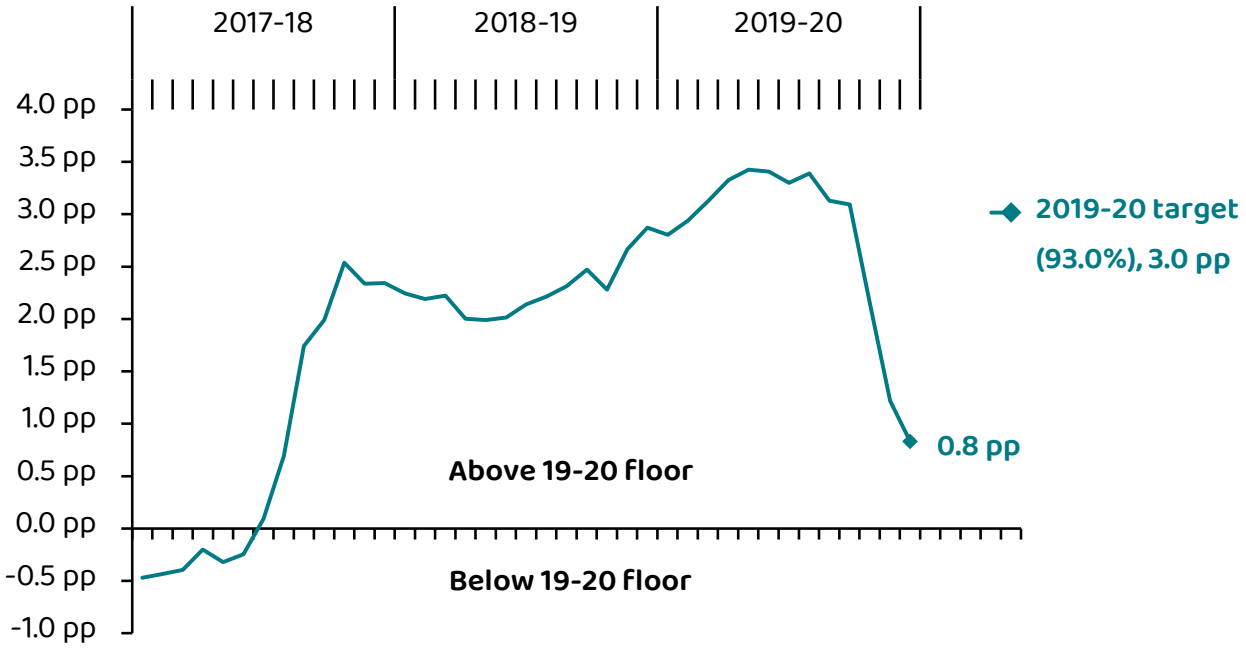
Freight train performance worsened at the end of the year

Freight performance was steady for most of the year but declined significantly at the end due to a derailment and severe bad weather.

6.14 We measure freight performance using the 'Freight Delivery Metric – Region' (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay.

6.15 For Southern the end of year FDM-R was 90.8% – lower than the target of 93.0%. However, for much of the year the region was performing better than target, before a sharp drop in the last few periods. We have discussed this drop with Southern, who have attributed it to the impact of a freight train derailment at Eastleigh and a significant number of earthworks failures within the region following prolonged heavy rainfall. The increase in earthworks failures is covered in the asset management section below.

Figure 6.4: Freight performance (FDM-R) – variance to regulatory floor for Southern region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

Case Study: The use of social media platforms to keep passengers informed

Network Rail has increased its efforts to engage directly with railway passengers, particularly in relation to disruptive events on the railway but also to publicise planned service alterations and safety warnings. Within the Southern region the South East (Sussex and Kent) route has historically been proactive on social media platforms such as Twitter. Recently, a similar approach has been adopted by the Wessex route.

Network Rail has also published increased levels of content on its website to provide further information for the travelling public – for example around the freight train derailment at Eastleigh[59]. We support Southern's proactive use of different media to engage more directly with its passengers.

[59] Network Rail communication about the freight derailment at Eastleigh: https://www.networkrail.co.uk/stories/eastleigh-derailment-and-other-incidents

Asset management in Southern has improved

Fewer infrastructure assets have failed in the region compared to previous years, and renewal work has been delivered in line with plans.

6.16 Network Rail needs to secure the maintenance, renewal and replacement of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index, CSI). We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of control period 4 (CP4).

6.17 The Southern region finished 2019-20 with a CSI score of -2.2%. This represents a decrease in overall asset sustainability of 2.2% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of 4.1%.

6.18 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability.

6.19 Network Rail's regional scorecards contain some of these shorter-term measures, for which the Southern region has generally performed well. The region experienced fewer service affecting failures than target. This contributed to the region achieving a composite reliability index score of 8.4%. This means that asset reliability on the route in 2019-20 was 8.4% better than it was in the final year of CP5. In particular the reliability of the track showed significant improvement.

6.20 Due to the relative infrequency of their occurrence, earthworks failures are not included within the composite reliability index. Historically, large peaks in earthworks failures correspond to periods of adverse weather.

6.21 Over the winter of 2019-20 the Southern region experienced prolonged severe weather, which corresponded with the highest number of earthworks failures since the winter of 2013-14, and a deterioration in train performance (particularly for freight services). Southern responded well to these failures, for example rebuilding the line between Epsom and Ewell West over the festive period, and reopening the Redhill to Tonbridge line early following a landslip at Edenbridge.

6.22 The region is taking action to address the risk of earthworks failures and landslips, using remote monitoring technologies and undertaking works at high risk sites. We will be monitoring the region closely to understand how it can manage the infrastructure safely and efficiently while minimising the disruption to passengers. This is particularly important given the predicted effects of climate change.

6.23 The Southern region has delivered its planned key renewals volumes in 2019-20, delivering more than its target in many areas. This is a positive outcome, and demonstrates the strength of the region's renewals planning process.

6.24 However Southern has reported some areas where renewals work did not deliver the volumes expected. In particular, buildings work at a number of franchised station sites was deferred to later in the control period due to issues with procurement and prioritisation of works at managed stations as part of the Putting Passengers First programme. These changes have been managed according to Network Rail's deferral process. In the remaining years of CP6, the Southern region will need to focus on planning, as well as liaising with key stakeholders in order to manage the delivery of these additional works.

Inspection of tenanted arches

6.25 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.

6.26 We note that there is still significant non-compliance for visual and detailed examination of tenanted arches. We will be monitoring Network Rail to ensure it enforces its contract with Arch Co and completes the necessary examinations to return to compliance with its examination standards.

Major works on the Thameslink enhancement programme were completed

Network Rail delivered the final Thameslink milestone in December 2019, completing infrastructure that will enable 24 trains per hour through the Thameslink core.

6.27 The Thameslink Programme is a £5bn, multi-year project to upgrade and expand the Thameslink rail network, providing services to the north and south of London. The project uses advanced in-cab signalling and control technology (European Train Control System) and Automatic Train Operation which will improve capacity and capability through the Thameslink core, enabling the very high volume of trains per hour and a faster recovery following timetable disruption. In December 2019, Network Rail delivered the final milestone of this project, completing the London Bridge station reconstruction and entry into service of infrastructure that will provide 24 train paths per hour between St. Pancras and Blackfriars.

6.28 The May 2019 timetable change introduced a service level of 20 trains per hour. Network Rail and operators are making preparations for increasing the service level, including a major driver training programme which commenced in October 2019[60]. It is a positive development that following the completion of the works passengers within the region are now experiencing an improving service. However, there is still more to do in delivering a reliable and consistent service.

[60] Full driver training has not yet started due to coronavirus pandemic restrictions.

Southern has delivered good safety performance

The Southern region has made improvements in a number of health and safety areas. It beat its internal target for worker safety – reducing the lost time injury frequency rate. However, there are weaknesses in safety critical communications.

6.29 Overall safety performance in the Southern region was good in 2019-20. The region performed well for all four of its scorecard safety measures. The lost time injury frequency rate measure improved, although there were significant differences between routes.

6.30 The Southern region achieved its scorecard targets for train accident and level crossing risk reduction milestones. However, overall level crossing risk on the region remains broadly unchanged. The Sussex route is achieving gradual reductions in the number of track faults.

6.31 Considerable effort has gone into strengthening safety assurance processes. A lot of assurance activity, structured and informal, takes place and is broadly very effective. There are, however, some areas of weakness where Southern should improve. For example, assurance in the areas of track worker safety and safety critical communications varies in extent, rigour and lasting effect.

6.32 Weaknesses in safety critical communications have been a factor in a number of recent incidents. ORR inspections have identified that, while many communications are to a good standard, there is a continuing tolerance of less professional communications, which needs to be removed.

6.33 Progress is being made in occupational health matters, for example in protection of staff against asbestos and respirable silica dust. Southern has set up an occupational health clinic at London Victoria station, an excellent initiative bringing both better health care and resource efficiency. There is scope for improvement in arrangements for the manual handling of heavy equipment, for instance rail stressing kit.

6.34 Further information on ORR's safety inspection activity, alongside a more detailed assessment of Network Rail's safety performance will be published in ORR's Annual Health and Safety Report (due for publication in summer this year).

Southern has performed well financially and delivered efficiencies

The Southern region has broadly delivered to budget, and provided good evidence of efficiency improvements delivered in 2019-20. It can make improvements in the planning for efficient delivery in 2020-21 and future years.

Financial performance was on target

6.35 Our primary measure of Network Rail's financial performance, the financial performance measure (FPM) covers most of Network Rail's activities. It provides a better understanding of Network Rail's financial performance than simple income and expenditure variances.

6.36 FPM compares actual income and expenditure to Network Rail's annual budgets, and to the financial assumptions in our PR18 final determination (which underpin the company's funding). It ensures that Network Rail does not benefit from delaying work or not delivering required outputs. A positive FPM means that Network Rail has outperformed and vice versa.

6.37 The Southern region spent £1,450m against a budget of £1,483m in 2019-20, and financially outperformed against its CP6 delivery plan by £4m (0.2%). This outperformance was primarily driven by good performance in a number of areas which led to payments from train operators under the schedule 8 regime as well as the delivery of operational and support efficiencies. This was partially offset by renewals underperformance. Whilst the region delivered more volumes than expected, costs were also higher – in particular for track and earthworks, the resignalling scheme at Feltham and electrical substation costs.

Efficiency has been delivered in line with plans

6.38 In CP5 Network Rail generally delivered poorly across renewals and efficiency targets. In our Periodic Review 2018 we set Network Rail a £3.5bn efficiency improvement challenge to improve its core operations, support, maintenance and renewals activities across the business.

6.39 Network Rail responded to our challenge by developing an efficiency improvement plan, which we have reviewed. In 2019-20 the Southern region delivered £76m of efficiency improvements, in line with the £76m assumed in its delivery plan. The largest efficiencies were achieved in LEAN initiatives, for example new styles of working with contractors and a reduction in lost shifts, and reduced activities due to new technologies.

6.40 These efficiencies are positive, particularly given the improvements since CP5. However, the efficiency challenge increases in future years as Southern is forecasting to deliver between £641m and £729m efficiencies over CP6 (central forecast of £710m).

6.41 Efficiencies are planned to increase in 2020-21. Network Rail, in its CP6 readiness report, considers that 62% of the 2020-21 efficiencies in Southern will be achieved from projects that have already been delivered or have clear project plans. However, this means that 38% of target efficiencies have no clear project plans, or plans in place but low confidence in delivery.

6.42 Therefore the region still needs to focus efforts on delivering these efficiencies – particularly in relation to the quality of renewals efficiency plans, which are critical in delivering both the required renewals volumes and the associated efficiencies.

Leading indicators show progress in planning efficient delivery

6.43 Poor planning for CP5 resulted in a number of the issues with Network Rail's renewals delivery and efficiency. In light of this, we required Network Rail to demonstrate that it is better prepared to deliver efficiently from the start of CP6 – in part through developing and reporting on new leading indicators.

6.44 We have seen progress with these leading indicators of efficient delivery, although we have had concerns in some areas. The table below provides an update on the Southern region's preparations to deliver efficiently in 2020-21[61]. Network Rail's underpinning analysis was undertaken before the significant recent impact of the coronavirus pandemic. There is likely to be disruption and we will report on this in due course.

Figure 6.5: Leading indicators for efficient delivery in 2020-21, Southern region

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
South East	72%	●	72%	102%	●	73%	92%	●	95%
Wessex	60%	●	77%	102%	●	80%	88%	●	96%
National/ GB	**69%**	●	**83%**	**76%**	●	**93%**	**95%**	●	**99%**

Source: Network Rail CP6 readiness report

6.45 Efficient renewals planning is important to ensure a stable profile of work over time within Network Rail's supply chain. To track this, Network Rail measures the percentage of renewal projects which have financial authorisation. At the end of 2019-20 the South East route was on target for financial authorisations, however the Wessex route was below the national average, and below target.

6.46 This level of financial authorisation gives some cause for concern. However, we can also consider earlier stages of the planning lifecycle, such as remits issued and accepted by the supply chain. Under this measure the supply chain for the Southern region has accepted around 90% of planned renewals for 2020-21 (87% for South East, 93% for Wessex).

6.47 Southern achieved, and exceeded, its internal target for booking disruptive access to the network for planned engineering work in 2020-21. All expected possessions were in place for 2020-21 at the start of the year.

[61] This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First have not yet been implemented.

6.48 Overall, we consider that Southern has made progress in developing its 2020-21 renewals workbank compared to previous years, but authorisations in Wessex need to be progressed.

6.49 Like most regions across the country, Southern has a maintenance headcount shortfall compared to its required maintenance headcount for 2020-21. It has recognised this issue and has recruitment plans in place to deal with it.

6.50 Further information on Network Rail's financial performance, efficiency initiatives and preparations for 2020-21 will be published in ORR's Annual Efficiency and Finance Assessment (due for publication in summer 2020).

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

Wales & Western

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

7.1 Network Rail's Wales & Western region[62] 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 Wales & Western are operated by Great Western Railway, Transport for Wales and CrossCountry. Rail freight services are also very important, moving various commodities within the region and beyond.

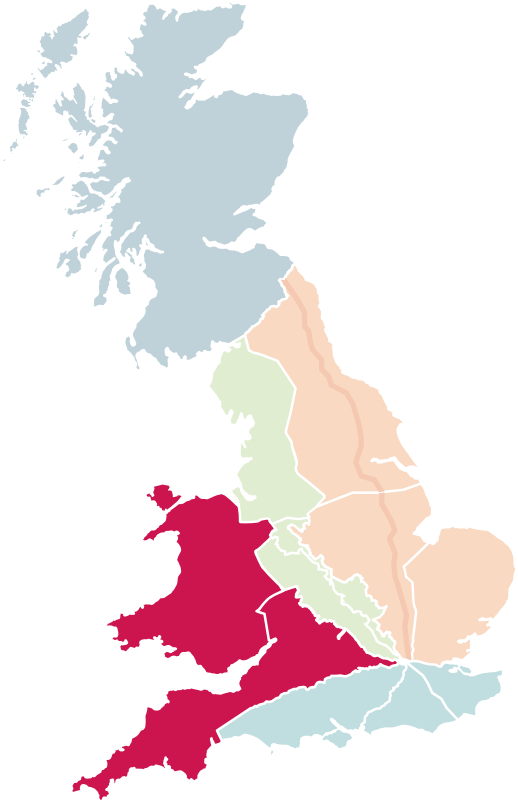
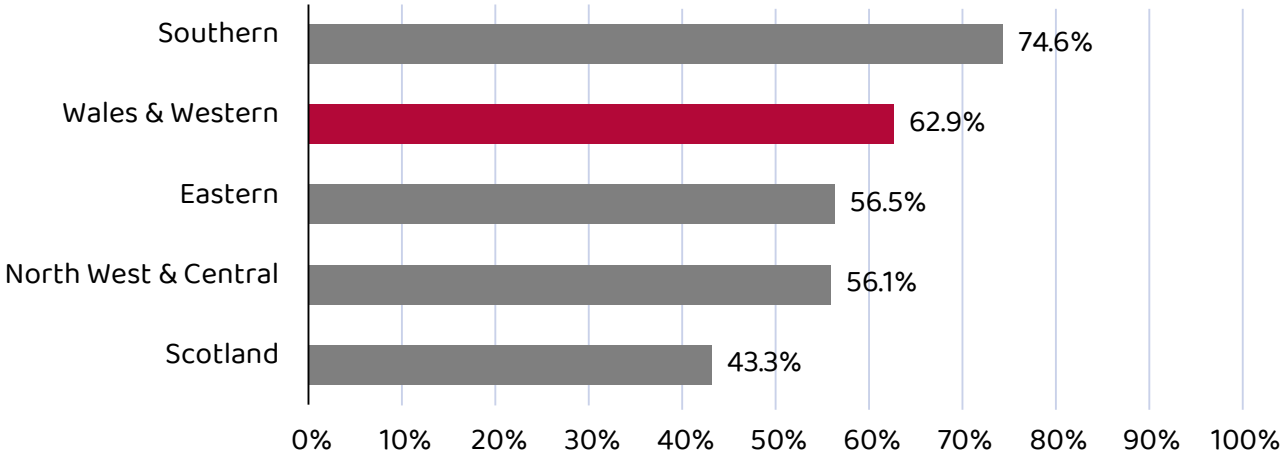


Figure 7.1: Overall scorecard performance by region, 2019-20



Source: Network Rail's regional scorecards

[62] https://www.networkrail.co.uk/running-the-railway/our-regions/wales-and-western/

Performance of the Wales & Western region was strong

7.3 Network Rail uses scorecards to align its priorities with those of its customers and to help it incentivise its management to deliver those priorities.

- Wales & Western's overall scorecard performance was good, and, at 62.9%, the second highest of Network Rail's five regions.
- The region delivered good train performance and positive outcomes in investment and asset management scorecard measures.
- Performance of the Wales route has not been as expected, and needs to improve.

Train performance was above target

Passenger train and freight performance in the Wales & Western region has been better than the levels agreed with its customers – and better than the planned levels at the start of the year. The Western route achieved a very good level of performance, delivering the best train service for a decade, for all operators; but Wales route's contribution to passenger train and freight performance has been worse than planned.

7.4 Train performance is a priority for passengers and for freight operators. In our Periodic Review 2018 (PR18)[63,64], we set regional trajectories for passenger and freight performance.

7.5 For passenger performance we hold Network Rail's regions to account for delivery of the 'Consistent Region Measure for Performance' (CRM-P). This measures the delay minutes caused by each region, for every 100km of train travel, and allows comparisons between regions. For CP6, we set trajectories for CRM-P and minimum levels ('floors').

7.6 Wales & Western region's trajectory for CRM-P was based on it achieving 1.88 minutes of delay per 100km of train travel. The region finished 0.26 minutes better than target at 1.62 minutes of delay (and 0.61 minutes above the floor). It has therefore caused less delay to train operators than was anticipated – a good outcome for passengers.

7.7 Wales & Western's share of delay to passenger rail services has reduced from 54.3% in 2018-19 to 52.9% in 2019-20.

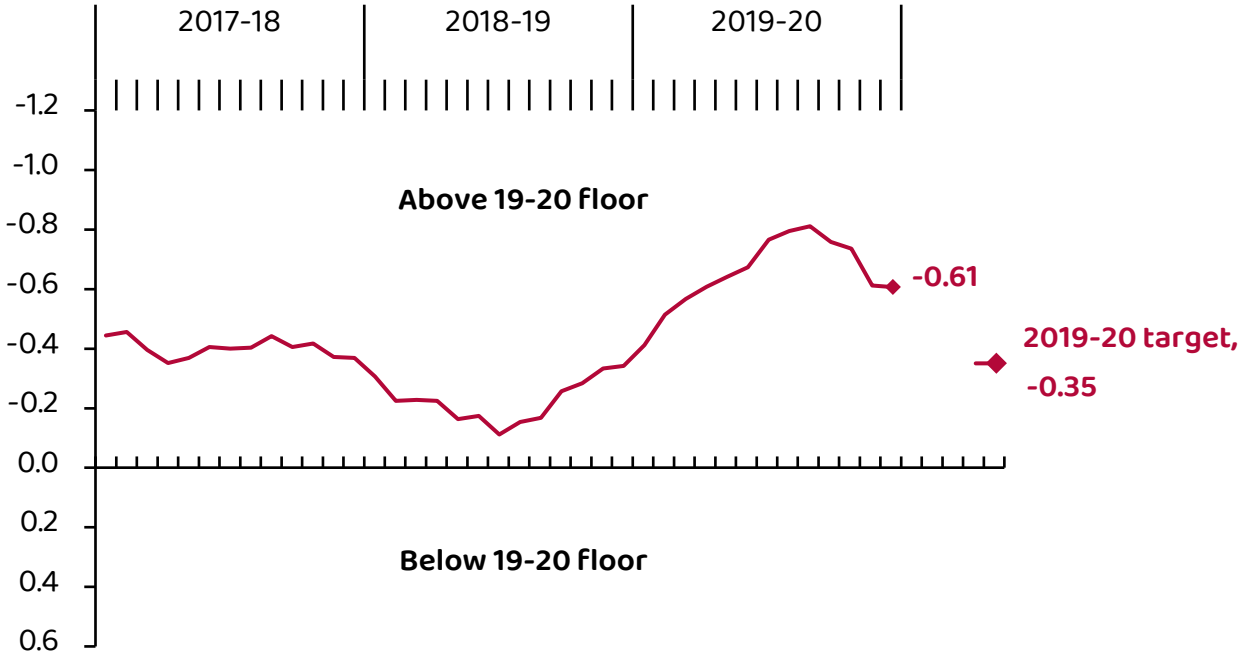
7.8 In the Western route, passenger train service performance finished above target, providing the best train service delivery for a decade, for all operators. The CRMP target was based on it achieving 2.03 minutes of delay per 100km of train travel and the region finished with 1.58 minutes of delay.

[63] https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

[64] https://orr.gov.uk/__data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

7.9 In contrast, passenger train performance in the Wales route finished worse than target. The CRM-P target was based on it achieving 1.59 minutes of delay per 100km of train travel and the region finished with 1.67 minutes of delay. It has therefore caused more delay to train operators than was anticipated. However, the route's performance was significantly impacted by severe weather in the last quarter. Figure 7.2 shows how CRM-P in the Wales & Western region has tracked over time.

Figure 7.2: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) - variance to regulatory floor for Wales & Western region, 2017-18 to 2019-20

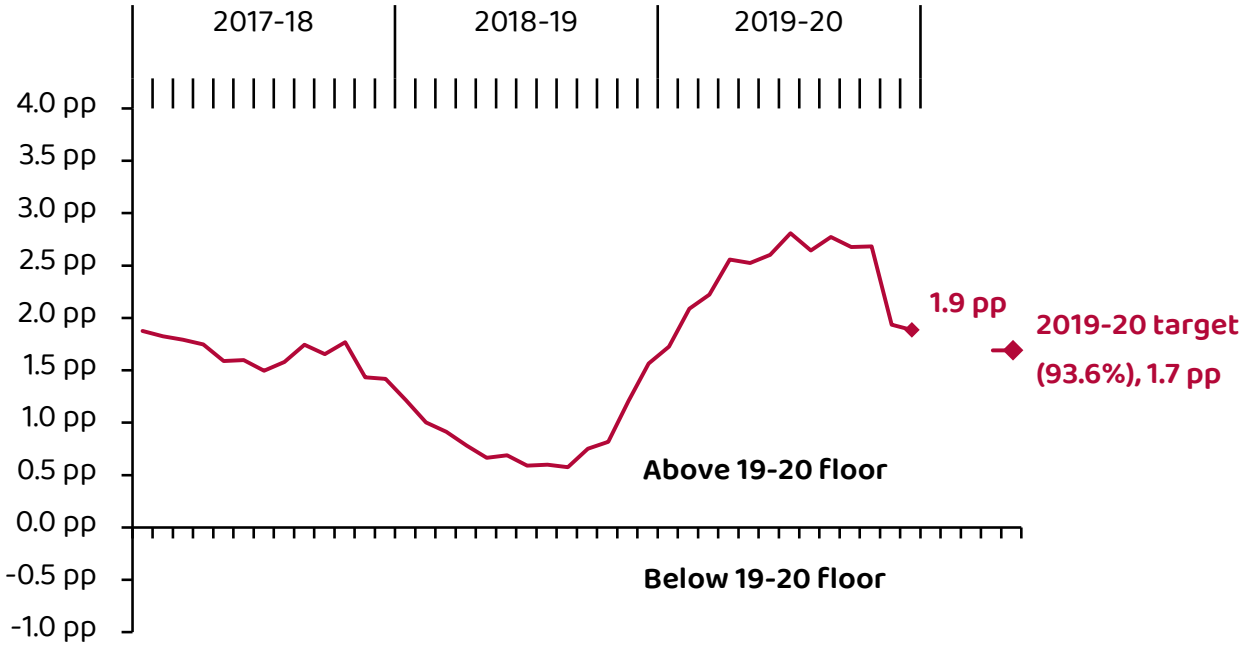


Source: ORR analysis of Network Rail data

7.10 We measure freight performance using the Freight Delivery Metric for Regions (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay.

7.11 For the Wales & Western region, the end of year FDM-R was 93.8%, higher than the target of 93.6%. It was the second best performing region in 2019-20. For much of the year the region was performing substantially higher than target, before a drop in the last few months. This was due to severe weather (particularly Storms Ciara and Dennis) which caused damage to overhead lines and blew trees onto the line. Figure 7.3 shows how the Wales & Western region FDM-R has tracked over time.

Figure 7.3: Freight performance (FDM-R) - variance to regulatory floor for Wales & Western region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

Wales & Western has delivered its renewals plans but there is work to do in the wider renewals portfolio

Asset reliability in Wales & Western has been broadly stable, but the reliability of track, buildings and telecoms has declined in 2019-20. The region has delivered its internal scorecard for renewals – a good start to delivery in CP6, but more work needs to be done in the wider renewals portfolio.

7.12 Network Rail needs to secure the maintenance, renewal and replacement of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index, CSI). We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of control period 4 (CP4).

7.13 Wales & Western finished 2019-20 with a CSI of 0.7%.This represents an improvement in overall asset sustainability of 0.7% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of 0.2%.

7.14 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability.

7.15 Network Rail's regional scorecards contain some of these shorter-term measures – and Wales & Western has performed well against them. It experienced fewer service affecting failures than target. This contributed to the region achieving a composite reliability index score of 2.7%. This means asset reliability on the route in 2019-20 was 2.7% better than it was in the final year of CP5. In particular, the reliability of electrical power, signalling and points has improved. However track, buildings and telecoms reliability has declined over 2019-20.

7.16 Earthworks failures are not included within the route CRI metric because they are relatively infrequent and are strongly linked to wet weather. Historically, large peaks in earthworks failures usually correspond to periods of adverse or severe weather conditions. In 2019-20, Wales & Western was particularly impacted by severe weather resulting in flooding in multiple locations, which caused a number of delay incidents. The largest delay due to severe weather was in January 2020, between Hullavington to Westerleigh Junction (to the north-east of Bristol), which caused 5,440 delay minutes and resulted in 43 cancelled, and 702 delayed, trains.

7.17 Wales & Western has generally delivered its planned renewals volumes in 2019-20, and exceeded its internal scorecard target. However, in the larger scope of renewals work, the region reported under delivery in the areas of signalling due to the deferral of level crossing works, and electrical power due to the deferral and mis-allocation of work.

Wales & Western delivered large enhancement projects

Western Capacity

7.18 Wales & Western's completion of capacity work in the South West (between Plymouth and Penzance) to improve capacity and reliability in Cornwall in 2018 enabled enhanced two trains per hour services to be operated from May 2019. More upgrades were introduced in conjunction with the December 2019 timetable release and finalisation of the Great Western Electrification Project, enabling London to Plymouth / Penzance services to run non-stop between Reading and Taunton in faster average journey times.

Great Western Electrification Project

7.19 In 2019-20, the Wales & Western region delivered the final section of the Great Western Electrification Project (GWEP), enabling faster and more frequent electric rail services to run between London and Cardiff from January 2020 (excluding through the Severn Tunnel which was fully electrified on 31 May 2020). The wider Great Western Route Modernisation programme also included resignalling and station upgrades with train operating companies improving services through the introduction of new rolling stock.

7.20 The final GWEP milestone (electrification from Newport to Cardiff) was delayed by two months from November 2019 to January 2020 due to construction issues and worse than forecast productivity, as well as ongoing work at Severn Tunnel to resolve conductor beam corrosion issues.

7.21 Corrosion to the conductor beam caused by damp and salty conditions in the 7km Severn Tunnel provided a significant challenge for Wales & Western in the final months of the project. As it was potentially unsafe to energise the beam, trains had to run through the tunnel under diesel mode resulting in a slight delay to services. The region has now successfully managed to resolve this issue and following extensive testing the beam was safely commissioned at the end of May 2020. The tunnel will continue to be monitored to check for any changes or potential failures.

7.22 The final delivery of GWEP provides faster, greener and more frequent services. However, over the lifetime of the scheme, GWEP suffered from delays, inefficiencies and substantial cost increases. More recently, performance has shown improvement, with the schedule and costs becoming more stable, but the final delivery milestone of November 2019 was missed. It is imperative that Network Rail continues to learn from GWEP and implements changes to its delivery of enhancements, and electrification schemes in particular, during CP6.

7.23 While some of these issues have been thoroughly reviewed, the region has recognised the need to review lessons from the delivery of the scheme and has committed to do this in 2020-21.

Core Valley Lines divestment

7.24 The Core Valley Lines network consists of tunnels, track and associated infrastructure from Cardiff to Treherbert, Aberdare, Merthyr Tydfil, Coryton, and Rhymney. It connects to the Network Rail infrastructure at two points – Cardiff Central Station and to the north of Ninian Park Station.

7.25 During 2019-20, the Wales & Western region managed this infrastructure, but on 28 March 2020 the infrastructure assets were transferred to Transport for Wales (Welsh Government). Transport for Wales leases the assets to Amey Keolis Infrastructure / Seilwaith Amey Keolis Limited (AKIL) who are the current Infrastructure Manager for the Core Valley Lines network.

7.26 In preparing for the transfer, Wales & Western worked closely with Transport for Wales to set out clear agreements on management of the network (including at the interfaces) and operational arrangements. The region also worked with ORR to ensure that authorisations (licensing, safety and track access) required under statutory obligations, were granted approval before the transfer took place.

7.27 The transfer has created one of the few instances on the rail network where rail services move between two different railway networks. Given this complexity, the transfer went well.

7.28 The Wales & Western region has engaged with ORR on the Core Valley Lines divestment, setting out the safety, financial and performance impacts. It has also updated its business plans accordingly to reflect this change to the Wales route network.

Two track workers tragically lost their lives in July 2019

In July 2019, two track workers tragically lost their lives when they were struck by a train in South Wales. The industry must make sure it learns lessons to prevent this happening again. We have seen long-term improvements in the region in asset safety management but there is a need for significant change in how staff working on the ground are monitored.

7.29 Wales and Western had a mixed health and safety performance in 2019-20. The region performed well in two of its four scorecard safety measures, achieving 100% for its Risk Management Maturity Model (RM3) and the Train Accident Risk Reduction Measure. However, while the Lost Time Injury Frequency Rate (LTIFR) showed an improvement over the previous year, the region did not meet its end of 2019-20 target.

7.30 Level crossing risk in the region has also slightly risen over the year, due to increasing numbers of trains and crossing users. This shows the importance of continuing to look for improvements in risk controls at level crossings.

7.31 In July 2019, two track workers tragically lost their lives when they were struck by a train while working on lines open to traffic at Margam, near Port Talbot. We are currently undertaking an investigation into the event and will report on the outcome in due course.

7.32 Whilst not specific to the Wales & Western region, Network Rail is looking at the potential impact of changes of working on a live railway, across its whole network. Our Improvement Notices on Track Worker Safety[65] aim to reduce this 'unprotected' working. While the Wales & Western routes are responding to the track worker safety improvement notices, this is still at an early stage and progress is slow.

7.33 As part of our safety reviews, we have looked at whether the region is doing all that is reasonably practicable to install automatic warning systems at footpath and user-worked level crossings that do not have active protection (such as lights, alarms and barriers). Our analysis suggests that Wales & Western's plans may not be sufficiently ambitious and we have encouraged it to review its plans as a result. Follow up work after near-miss incidents at user-worked and footpath crossings suggests that risks are generally well-controlled.

7.34 In 2019-20, the region underwent a significant maintenance reorganisation. This followed good change control practice with the new maintenance organisation designed to correct section sizing, enhance and centralise planning, improve HR support, improve engineering assurance, and introduce many other improvements. Evidence suggests that this was carried out as an integrated programme, with good communications and staff participation.

Wales & Western's efficiency has improved but there is financial underperformance for enhancements

Wales & Western exceeded its efficiency target for 2019-20. It has made progress in preparing to deliver efficiently in 2020-21 and later years of CP6 but there is more to do. There is a financial underperformance for enhancements. The region has identified that more work remains to be done around planning of renewals efficiencies. This may be hampered by the current disruption to renewals work due to the coronavirus pandemic – and ORR will continue to monitor its impact.

Financial performance was below target

7.35 Our primary measure of Network Rail's financial performance, the financial performance measure (FPM), covers most of Network Rail's activities. It provides a better understanding of Network Rail's financial performance than simple income and expenditure variances.

7.36 FPM compares actual income and expenditure to Network Rail's annual budgets, and to the financial assumptions in our PR18 final determination (which underpins the company's funding). It ensures that Network Rail does not benefit from delaying work or not delivering required outputs. A positive FPM means that Network Rail has outperformed and vice versa.

7.37 Wales & Western spent £1,199m against a budget of £1,362m in 2019-20, but financially underperformed against its CP6 delivery plan by £41m. This equates to a 4% overspend. This underperformance was primarily due to enhancements, and predominantly GWEP. Wales & Western also underperformed on renewals which was due to delays caused by aligning to other major projects and changes to original designs.

[65] ORR improvement notices:
https://orr.gov.uk/rail/publications/enforcement-publications/improvement-notices/improvement-notices-2019

Efficiency has improved

7.38 In the previous control period (CP5) Network Rail generally delivered poorly across renewals and efficiency targets. In PR18 we set Network Rail a £3.5bn efficiency improvement challenge for its core operations, support, maintenance and renewals activities.

7.39 Network Rail responded to this by developing an efficiency improvement plan, which we have reviewed. In 2019-20, the Wales & Western region delivered £50m of efficiency improvements, which was ahead of the £42m assumed in its delivery plan. The largest efficiencies were achieved in early contractor involvement, which allows contractors to refine designs earlier in the project process and become more fully embeded in the team. This level of efficiency is good news.

Case Study – Early contractor involvement[66]

In 2019-20, and underbridge renewal was undertaken at Basildon Skew, near Reading. Initial remits and designs were produced for the complex renewal, which previously would have required the temporary removal of the overhead line equipment. By engaging the supply chain early, a different approach was identified and the overhead line equipment remained in place during construction.

Wales & Western's total saving for project was £1.4m. While this is a one-off saving, the lessons from involving contractors early, especially for bridge renewals, will be taken forward and applied to future years.

7.40 The efficiency challenge increases in future years – Wales & Western is forecasting to deliver between £390m and £490m efficiencies over CP6 (with a central forecast of £430m) – so continued focus on efficiency planning is needed.

7.41 Wales & Western considers that 80% of the target efficiencies for 2020-21 will be achieved from projects that have already been delivered or have clear project plans. The remaining 20% of efficiencies have no clear project plans or plans with low confidence of efficiency delivery. Therefore the region still needs to firm up plans for delivering these efficiencies.

There is more to do on planning efficient delivery

7.42 Learning from declining efficiency in CP5, we required Network Rail to demonstrate that it was better prepared to deliver efficiently from the start of CP6 – in part through developing and reporting on new, leading indicators.

7.43 We have seen progress with these leading indicators of efficient delivery. The table below provides an update on Wales & Western's preparations to deliver efficiently in 2020-21[67]. Network Rail's underpinning analysis was undertaken before the significant recent impact of the coronavirus pandemic so there is likely to be disruption, which we will report on in due course.

[66] https://www.networkrail.co.uk/news/abergavenny-to-hereford-line-to-reopen-ahead-of-schedule-updated/

[67] This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First reorganisation have not yet been implemented.

Figure 7.4: Leading indicators for efficiency delivery in 2020-21, Wales & Western region

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
Wales	46%		88%	78%		90%	91%		100%
Western	59%		100%	80%		82%	93%		100%
National/ GB	**69%**		**83%**	**76%**		**93%**	**95%**		**99%**

Source: Network Rail CP6 readiness report

7.44 Efficient renewals planning is important to ensure a stable profile of work over time within Network Rail's supply chain. To track this, Network Rail measures the percentage of renewal projects which have financial authorisation. The two routes which make up the Wales & Western region are both significantly behind their own internal targets, and behind the national average.

7.45 This level of financial authorisation is concerning. However, we can also consider earlier stages of the planning lifecycle, such as remits issued and accepted by the supply chain. Under this measure the supply chain has accepted 92% of planned renewals for the Western route and 77% for the Wales route for 2020-21.

7.46 The region unperformed slightly against its internal target for booking disruptive access to the network for planned engineering work in 2020-21. In addition, both routes have a shortfall (Wales 9% and Western 7%) compared to the required maintenance headcount for 2020-21.

7.47 Wales & Western has made further progress including strengthening of resources and more robust programme-level oversight. However, substantially more still needs to be done, particularly in relation to the quality of renewals efficiency plans, as these are critical to delivering required renewals volumes and the increasing efficiency challenge in later years of CP6.

7.48 Further information on Network Rail's financial performance, efficiency initiatives and preparations for 2020-21 will be published in ORR's Annual Efficiency and Finance Assessment (due for publication in summer 2020).

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

Freight & National Passenger Operators function

8. Network Rail's Freight & National Passenger Operators (FNPO) function

8.1 FNPO was established to support freight operators, national passenger operators, charter operators and potential future operators, representing their needs in their interactions with Network Rail.

8.2 In our Periodic Review 2018 (PR18) final determination[68], we required FNPO to deliver:

- Performance for freight operators as measured by the Freight Delivery Metric[69] (FDM). FDM is recorded at a national level (FDM) and for the regions (FDM-R). We set a target of 94% and a regulatory floor of 92.5% for FDM. Network Rail proposed targets and trajectories for FDM-R that would be sufficient to deliver FDM nationally;
- Performance for CrossCountry of 90% measured by the Public Performance Measure[70] (PPM);
- Specific actions to improve governance and stakeholder engagement; and
- £22m of renewals expenditure to address and mitigate safety risks for FNPO customers through the FNPO Safety Improvement Programme.

8.3 We said in our PR18 final determination that we would take account of the levels of performance developed by Network Rail with its customers and captured in its 'scorecard' reporting. We hold FNPO to account for its delivery to its diverse customer base.

[68] ORR's Periodic Review 2018 (PR18) final determination for FNPO: https://orr.gov.uk/__data/assets/pdf_file/0005/39317/pr18-final-determination-freight-and-national-passenger-operator-route-settlement-document.pdf

[69] FDM measures the percentage of commercial freight services that arrive at planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator caused delay.

[70] PPM for long-distance operators measures the percentage of trains that arrive within 10 minutes of their scheduled arrival time.

8.4 As part of Network Rail's Putting Passengers First transformation programme[71], FNPO became part of the newly formed Network Services directorate (having previously been stand-alone). As part of the move to Network Services, the structure of FNPO is also changing; there will be a division delivering services to freight, charter and Caledonian Sleeper, and a division for national passengers and customer experience. This change is expected to be implemented by the autumn of 2020.

FNPO requirements in Scotland

8.5 Our PR18 final determination reflected the requirements specified by the Scottish Government in its High-Level Output Specification. For FNPO this included:

- a FDM target of 93%[72] in 2019-20, moving up to 94.5% by the final year of CP6 (although Network Rail Scotland committed to a more stretching target each year of 94.5%[73]);
- a requirement to develop a freight journey time metric to support an increase in average speeds;
- a requirement to facilitate growth of rail freight traffic of 7.5%, of which at least 7.5% will be new traffic flows;
- a right time performance target of 80% for Caledonian Sleeper; and
- a requirement to support charter, tourist and special trains.

8.6 Further details are provided below and in the Network Rail Scotland chapter.

FNPO scorecard performance was mixed

8.7 Network Rail uses scorecards to align its priorities with those of its customers and help it incentivise its management to deliver these priorities. FNPO's scorecard includes sections on safety, train performance, local measures, investment & asset management, financial performance and people.

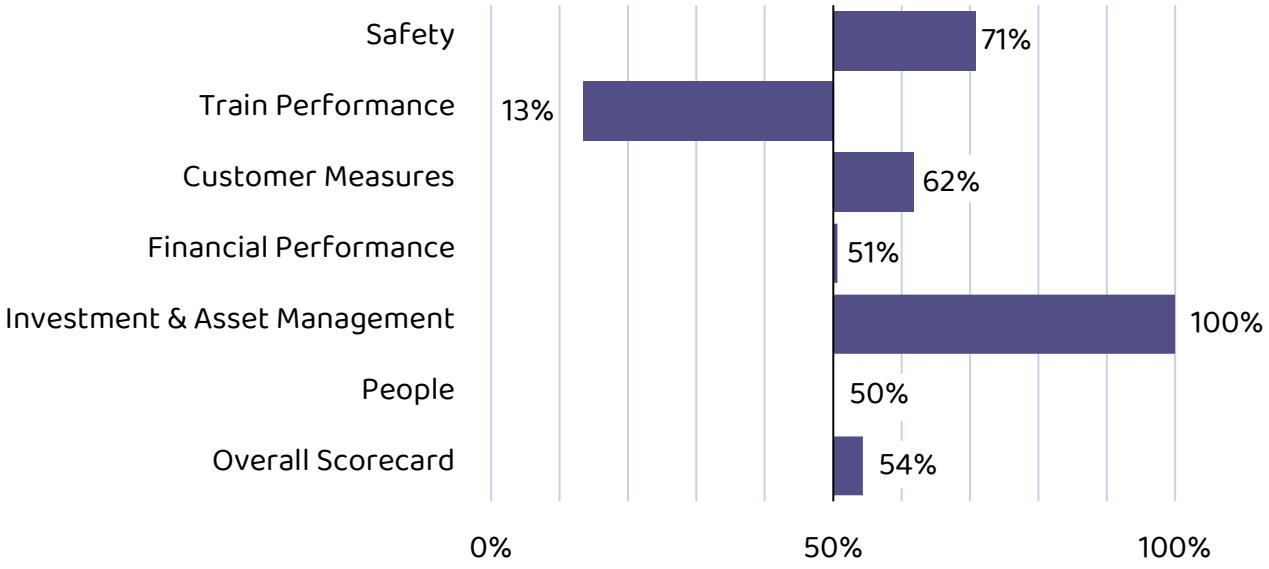
8.8 FNPO ended the year with an overall scorecard achievement of 54.3%. This score reflects a mixed picture with some very strong performance in delivering on milestones for service plan reviews and strategic capacity, and some very poor performance in CrossCountry and Caledonian Sleeper train performance.

[71] Network Rail's Putting Passengers First transformation programme: https://www.networkrail.co.uk/putting-passengers-first/

[72] FDM measures the percentage of commercial freight services that arrive at planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator.

[73] ORR's Periodic Review 2018 (PR18) final determination for Scotland: https://orr.gov.uk/__data/assets/pdf_file/0020/39305/pr18-final-determination-scotland-conclusions-and-route-settlement.pdf

Figure 8.1: FNPO scorecard performance against targets 2019-20



Source: FNPO scorecard

FNPO governance, accountability and transparency must improve

Our final determination for CP6 highlighted the importance of FNPO accountability, transparency and governance for stakeholders. Its operational engagement is strong with freight operators, but it should strengthen its strategic engagement and transparency of decision making. We will monitor the impact the Putting Passengers First transformation programme has on how effectively FNPO is able to engage with the regions on behalf of these operators.

8.9 In our PR18 final determination, we required FNPO to improve its governance, accountability and transparency to stakeholders. This reflected our concerns that stakeholders did not know how to influence the priorities of FNPO, or have sight of how their views influenced decision making. FNPO has not yet delivered on these requirements – they must be addressed over the coming year.

8.10 FNPO demonstrates strong engagement with customers in resolving operational issues. There are structures in place for regular customer engagement, including regular operator surveys (known as 'pulse checks') and engagement with freight end users.

8.11 FNPO is reviewing its structures to improve representation of its customers' interests within Network Rail's regions. Some freight stakeholders have expressed concerns that the strategic voice of FNPO and the freight sector may have been weakened by the move to Network Services. It is too early to determine if this is the case.

8.12 It is important that FNPO has governance arrangements which provide transparency and an effective feedback loop to its customers. This is particularly important within the context of increasing devolution to the regions in England and Wales. We have heard good feedback about FNPO's support to freight in Scotland, and are aware that forums such as the Scotland Joint Freight Board are supporting collaborative working. FNPO will need to work effectively with the System Operator and the regions to ensure that the needs of the freight sector are taken into account, and that freight and national operators are not disadvantaged by the regional focus.

FNPO responded well to the coronavirus pandemic

8.13 FNPO was effective in delivering the governments' strategic priorities during the coronavirus (COVID-19) pandemic. It supported the movement of freight and critical workers, and successfully facilitated and supported collaboration across industry. We have received positive feedback about its support to freight and passenger operators through strong customer engagement and sharing of industry knowledge.

Network Rail's performance for freight operators was below target

At the end of 2019-20, the Freight Delivery Metric (FDM) was 92.8%, below its target of 94%. Severe weather was a factor in poor performance, but network management issues and non-track asset failures caused significantly more delay minutes. Freight performance in North West & Central and Eastern regions ended the year below the minimum level that we set.

8.14 Nationally, FDM was below target, ending the year at 92.8% against a target of 94%. Network Rail Scotland's FDM-R of 94.5% exceeded the Scottish High Level Output Specification (HLOS) target of 93% and met its more stretching scorecard target of 94.5%. Wales & Western met its target for freight performance. The other regions all missed their targets. Eastern and North West & Central ended the year below the regulatory floor.

Figure 8.2: Freight performance 2019-20

	Performance %	Target %	Regulatory floor %	Commentary	
National FDM	92.8	94.0	92.5	A	Below target but above the regulatory floor
Eastern FDM-R	92.4	93.9	92.5	R	Below the regulatory floor
North West & Central FDM-R	93.0	94.6	93.5	R	Below the regulatory floor
Scotland FDM-R	94.5	94.5	92.5	G	Performance at target
Southern FDM-R	90.8	93.0	90.0	A	Below target but just above the regulatory floor
Wales & Western FDM-R	93.8	93.6	91.9	G	Performance above target

Source: ORR analysis of Network Rail data

8.15 It is notable that passenger service performance has also been below target levels in Eastern and North West & Central (as set out in the relevant chapters).

8.16 We looked at the causes of poor performance in Eastern and North West & Central during the year and concluded that freight performance was primarily impacted by the same factors as passenger performance. We are carrying out enhanced monitoring of both regions to make sure train performance improvements are delivered for both passenger and freight. The factors affecting performance are discussed in further detail in each regional chapter.

8.17 Network Rail has reported that severe weather was a factor in poor freight performance, with higher than usual weather related incidents over several periods[74]. Delay associated with weather related incidents increased in 2019-20 compared to the previous year (making up 11% of Network Rail caused delay compared to 8.4% in 2018-19). But there was more delay associated with Network Rail's network management and non-track assets than weather during 2019-20. Network Rail needs to address these underlying issues to improve freight performance.

8.18 In 2019-20, FNPO and its freight customers agreed performance strategies, which set out key priorities and activities, in areas such as train planning and asset reliability. This is a positive step, which we expect to continue in 2020-21. We will continue to place close scrutiny on these documents.

[74] These included multiple incidents of flooding in periods 5, 8, 9, 12 and 13 and a temporary ban on freight trains due to extreme heat on the Anglia route in period 5

FNPO has supported whole industry performance improvements

8.19 FNPO facilitates the Freight Industry Performance Group which works to improve industry-wide performance. This forum is attended by the freight operating companies and is independently chaired. One initiative discussed at the forum, which is in its early stages of development and appraisal, is the establishment of a mobile 'break down resource' for the North London Lines. This could reduce disruption to other services from any freight trains breaking down and is an initiative we welcome.

8.20 We also saw evidence this year of good, proactive engagement between FNPO and Network Rail's seasonal specialists on autumn and winter preparations. They utilised evidence and experience from previous years in developing strategies. A good example of this is included in the Scotland chapter. We have seen evidence that FNPO is trying to drive good performance by learning from past experience.

8.21 It will need to work collaboratively with the industry to ensure innovations that have been identified are delivered over the next few years. We will continue to monitor the role of FNPO in supporting whole industry performance improvements.

Network Rail's performance for national passenger operators has been below expected levels

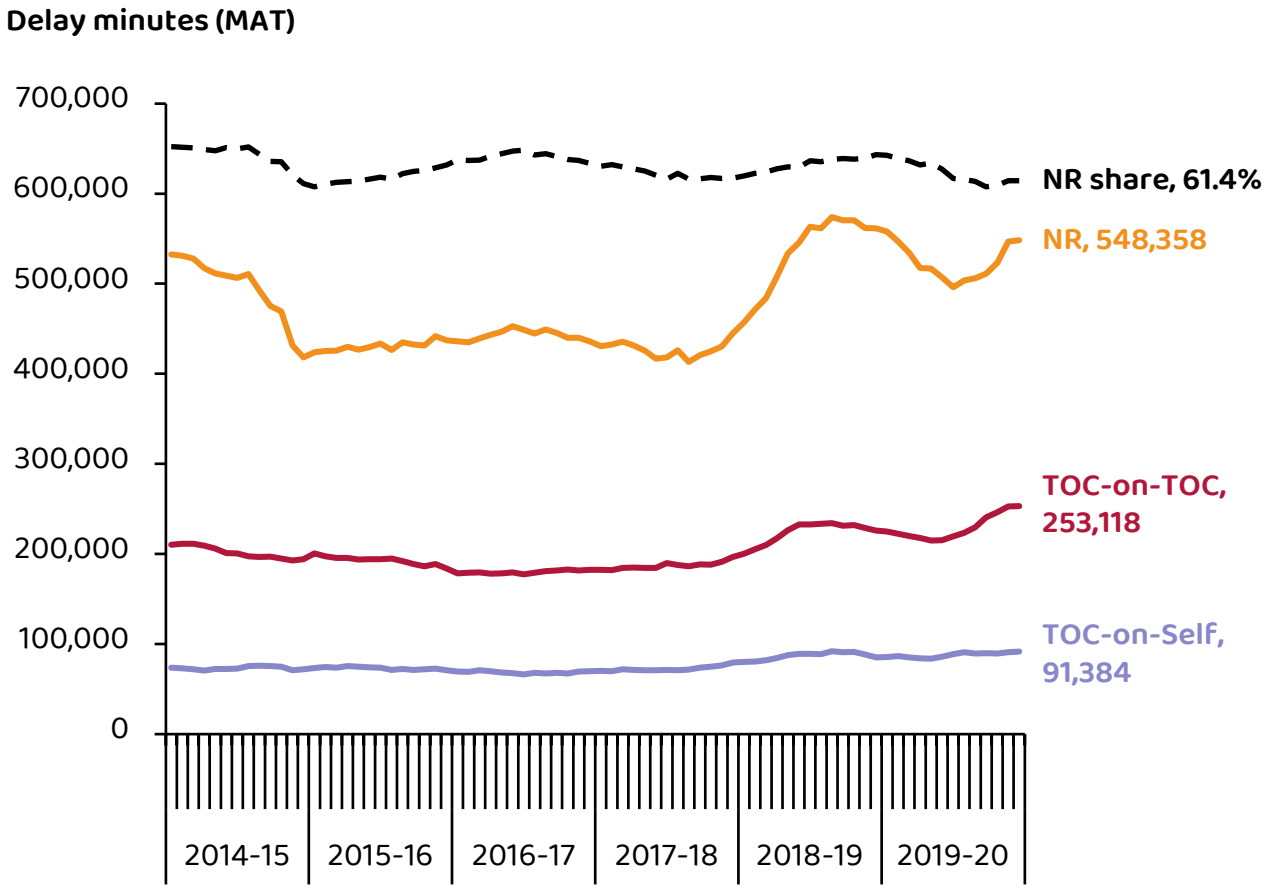
Network Rail's delivery of performance for XC Trains Limited (CrossCountry) has been significantly below levels agreed with the operator this year. But FNPO has worked well to increase awareness within Network Rail of the unique challenges facing the operator.

Caledonian Sleeper's train performance has been below the target of 80% of trains arriving on time, with the operator experiencing issues with new trains. FNPO has worked to support Caledonian Sleeper in addressing these issues.

CrossCountry performance

8.22 CrossCountry performance has been significantly below target this year, with all CrossCountry's performance measures (PPM, cancellations, Time to 3, Time to 15) on the FNPO scorecard ending the year at 0% achievement. CrossCountry is subject to a high proportion (61.4%) of Network Rail caused delay.

Figure 8.3: Causes of delay to CrossCountry Trains, 2014-15 to 2019-20



Source: ORR analysis of Network Rail data

8.23 During the year, we were concerned about the levels of delay to CrossCountry caused by Network Rail. This was in part based on feedback from CrossCountry, about the engagement between the operator, FNPO and regions. We raised these concerns formally with Network Rail.

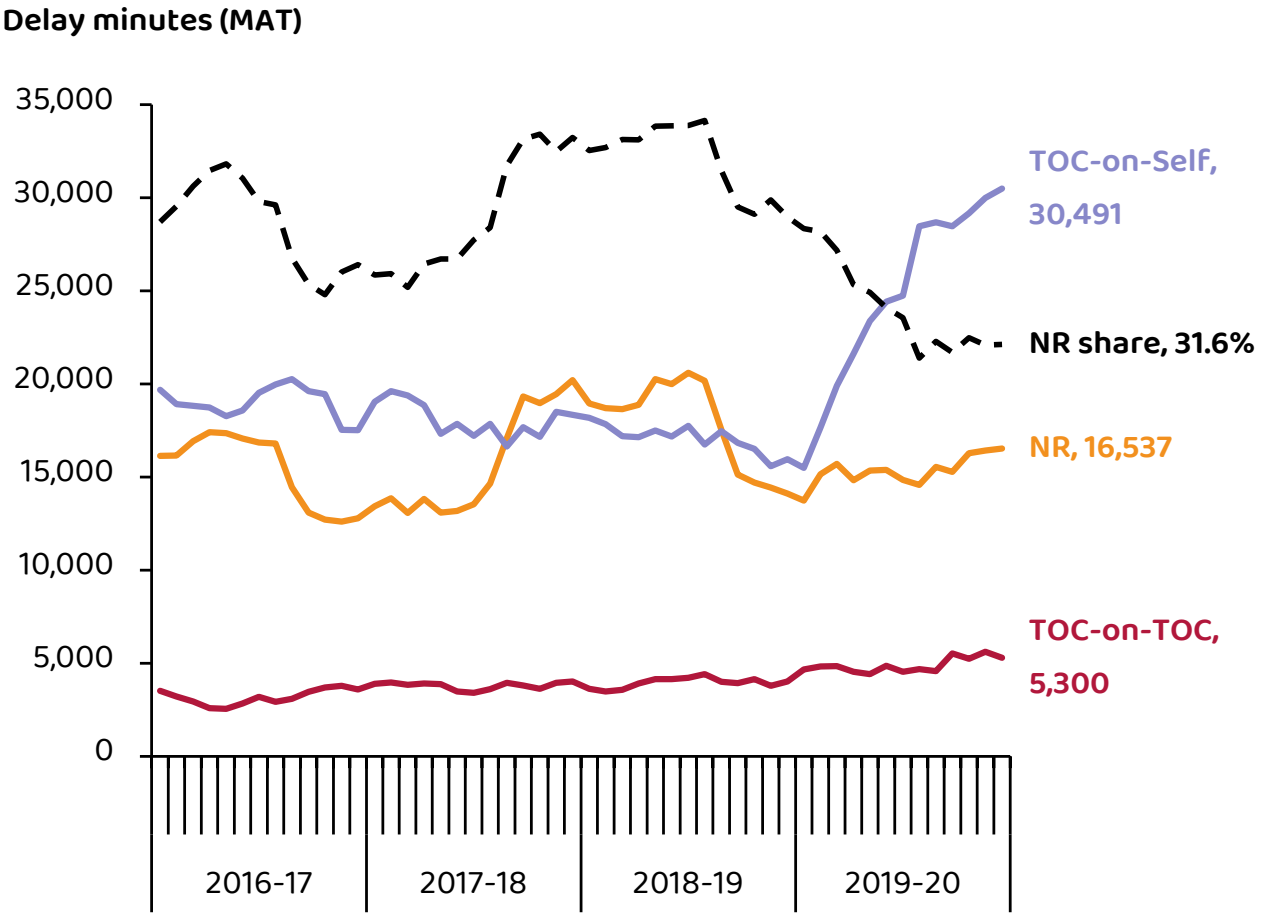
8.24 FNPO responded well to this issue. It worked collaboratively with CrossCountry to create a new scorecard which focuses on key metrics at a regional level that can be influenced by individuals from that region. This activity was recognised by all parties as a key step to enable the delivery of stretching, but achievable performance levels whilst acknowledging the unique complexities that exist in running a national passenger operation.

8.25 It also undertook performance deep-dive reviews and used workshops with CrossCountry to understand the causes of poor performance and to develop a new, wide ranging performance strategy. The strategy includes increased internal communications within Network Rail about how it can support the specific requirements of CrossCountry. Implementation of this new strategy has been put on hold due to the focus on the response to the coronavirus pandemic. We will continue to monitor progress on this.

Caledonian Sleeper performance

8.26 Performance on Caledonian Sleeper has been poor this year, with only 75.7% of trains arriving on time against a target of 80%. 58.3% of delay was attributed to Caledonian Sleeper, 31.6% to Network Rail and 10.1% to other operators. The data shows that the majority of delays were the result of significant operator issues experienced by Caledonian Sleeper, the majority of which were caused by new rolling stock. FNPO worked hard to ensure that Network Rail supported their delivery this year.

Figure 8.4: Causes of delay to Caledonian Sleeper trains, 2016-17 to 2019-20



Source: ORR analysis of Network Rail data

FNPO has taken action to support freight growth

8.27 FNPO undertakes a range of activities to support freight growth including using the Strategic Freight Network to deliver enhancements to support freight in England and Wales. The Strategic Freight Network is a cross industry group, chaired by FNPO which makes recommendations on freight enhancements. This group engages freight operators, other parts of Network Rail and the Department for Transport. It has been effective in allowing the freight operators to be heard by the System Operator and other parts of Network Rail.

8.28 This year saw the successful delivery of the Felixstowe Capacity project which was funded by the Department for Transport and Hutchinson Ports. This 1.4km passing loop delivered three additional freight paths, enabling an increase from 34 to 37 freight trains per day. The scheme delivered all its planned outputs, slightly early and within budget. It was a good example of Network Rail working well with a third-party funder. This scheme is also an enabler for future capacity increases between Felixstowe and the Midlands, although this will require other works to unlock the full benefit.

8.29 The Southampton Freight Train Lengthening project encountered major delays in January 2019, when Network Rail's System Review Panel prevented works from starting because the project could not demonstrate compliance with safety requirements. This meant that the project could not deliver its outputs (some of which would have been in use by now). The project was replanned in three phases, which are due to deliver works in April 2020 (new sidings), December 2020 (line speed improvements) and February 2021 (freight train lengthening). The first siding was completed in April 2020, with the second due to follow. The project has faced major funding and schedule issues as it tries to get back on track.

8.30 Members of the Strategic Freight Network have highlighted the importance of unlocking capacity constraints around Ely, and we will continue to monitor how Network Rail responds to this. The project has now developed a draft level crossing strategy and is working closely with ORR as it moves forward. Funding has been secured for the outline business case and outputs are beginning to take shape. There is still a lot of uncertainty over budget and outputs, and further work will be needed on benefits and timescales for delivery.

8.31 Freight operators tell us that they are concerned about their ability to access the increasingly busy network to deliver freight services and grow their business. FNPO has been engaging positively to support freight growth, including in working with the System Operator to increase freight speeds, weights and train lengths. It has engaged productively with the System Operator to ensure that freight improvements are included within strategic planning. For example, it ensured the inclusion of the freight baseline and growth trajectory in West Coast Mainline capacity study.

8.32 The FNPO worked to support new rail flows across the network through its ongoing railhead development work and assistance in identifying paths. FNPO has also been supporting those freight operators who currently use short-term access arrangements to submit applications for longer-term access. We are supportive of these efforts and will continue to monitor this process.

FNPO delivery of freight growth in Scotland

8.33 In Scotland, FNPO has worked productively and collaboratively. This has included working with the Scotland Freight Joint Board, the Freight Development Group and the Freight Working Group. It has also worked collaboratively with industry and Transport Scotland to develop the Industry Growth Plan in Scotland. Freight capacity in Scotland has been improved through electrification to the Grangemouth terminal, gauge clearance on the Shotts line, a new southern connection at Blackford and a crossover at Aberdeen Craiginches.

8.34 FNPO did not meet the specific targets for freight growth in Scotland, mainly due to traffic reductions caused by market conditions. We have received positive feedback from the freight industry about FNPO's approach and engagement with freight in Scotland. However, freight growth and new traffic were not delivered this year and freight traffic in Scotland was down 4.2% against a target of a 1.5% increase.

Charter and aspirant open access operators

8.35 FNPO is continuing to engage with charter operators[75], and holds a charter operator workshop twice a year. It has developed a charter industry scorecard which was a requirement in our PR18 final determination, and is continuing work with the System Operator to establish strategic charter paths. FNPO's scorecard showed 65% performance (above target) for charter planning compliance. This is important in FNPO's delivery against the Scottish HLOS requirements as well as broader support to the charter sector.

8.36 FNPO is also the first point of call for aspirant open access operators[76]. FNPO has been developing tailored support and governance arrangements for each of the aspirant operators to reflect customer requirements. We are however aware that some aspirant operators have found it difficult to engage with Network Rail on the issue of what capacity is available to support new services. This is an area where FNPO and System Operator need to work together and we will monitor progress.

[75] Charter trains are operated by those train operators holding Charter Passenger Track Access Contracts. The main distinction between charter services and other open access services is that charter services are typically one-off, bespoke operations, rather than the operator of regular passenger services. In addition, there is often an end customer or promoter who charters the train from a charter train operator.

[76] Non-franchised train operators who are seeking to run scheduled passenger services

Freight safety needs continued focus

FNPO initially made a slow start to spending of safety funds but has since put dedicated resource in place to manage their allocation. There have been more derailments in 2019-20 than targeted.

8.37 FNPO has continued to work collaboratively with the industry and Rail Safety and Standard Board to support both freight and charter operators. The revised Rail Freight Project Charter[77] was endorsed in July 2019, demonstrating the commitment of senior leaders across the freight sector. The charter aims to continue the development of the integrated freight safety plan and support safety improvements across the sector. Cross-industry collaboration by FNPO through groups such as the National Freight Safety Group, the Cross-Industry Freight Derailment Prevention Group and the Heritage Train Risk Group has continued to deliver tangible improvements in health and safety risk control.

8.38 There have been a number of safety incidents on the network this year, including 11 derailments, against a target of nine. FNPO and FOCs performed better than target in 'Operator lost time incidents on Network Rail infrastructure', with five this year against a target of 11.

8.39 PR18 allocated £22m of safety funds to the FNPO Safety Improvement Programme to drive safety improvements across the network and to ensure that Network Rail fulfils its duties to its employees and rail users. These funds are intended to be accessed by both freight and national operators. FNPO customers are invited to propose schemes which are reviewed against a set of criteria before a decision is made on whether to go ahead.

8.40 To date proposals have included improvements to workplace conditions at operational sites, as well as funding for industry-wide project management resource. Although there has been a relatively slow uptake in proposal of projects and some delays in delivery of agreed schemes, FNPO now has dedicated resource in place to manage the allocation of FNPO Safety Improvement Programme funds across all five years of the control period.

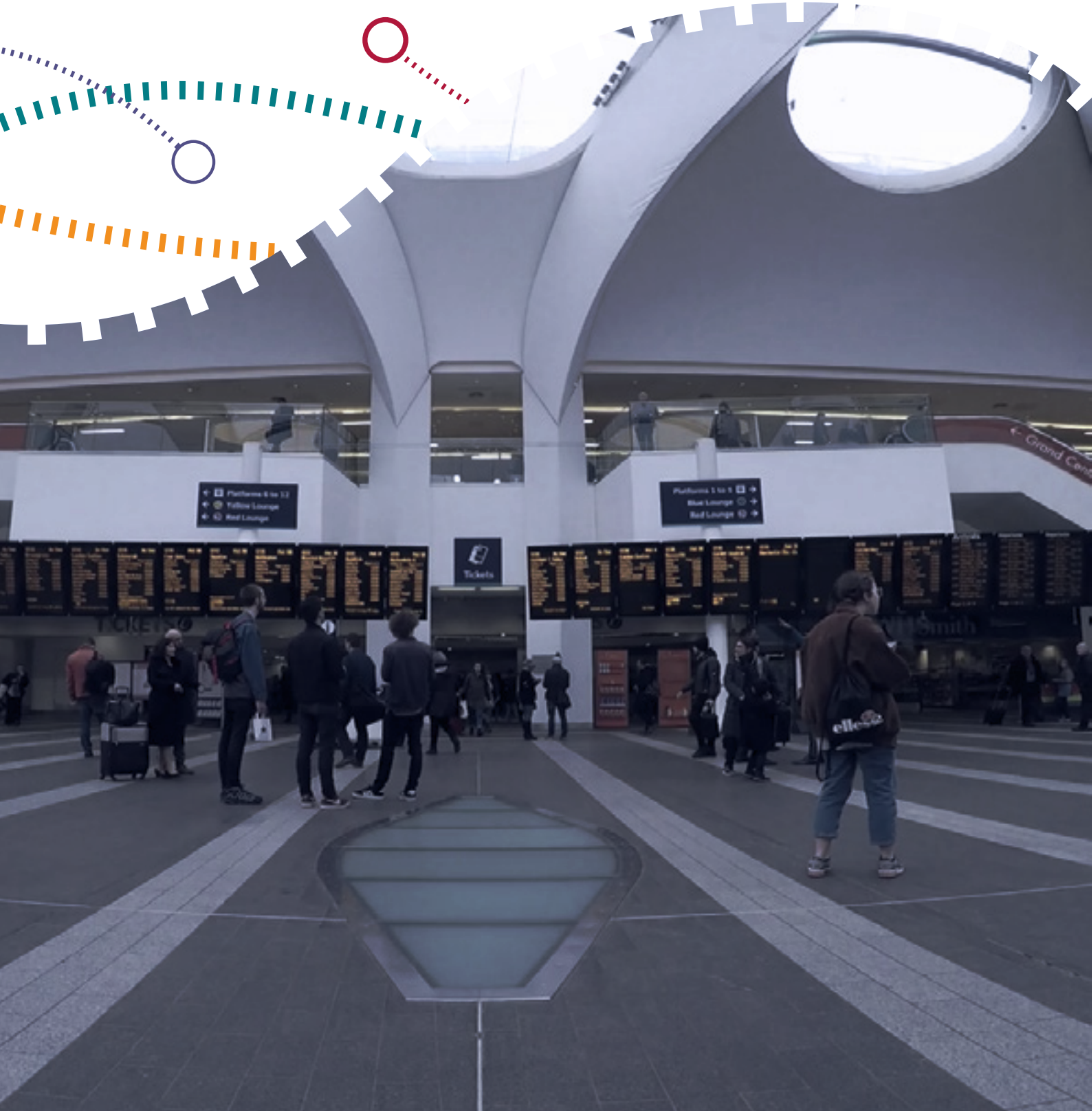
[77] The revised Rail Freight Project Charter: https://www.rssb.co.uk/-/media/Project/RSSB/Platform/Documents/Public/Public-content/Learn-and-Connect/Groups-and-Committees/NFSG-rail-freight-project-charter-2019.pdf

OFFICE OF RAIL AND ROAD

Annual assessment of Network Rail

April 2019 – March 2020

System Operator



9. Network Rail's System Operator function

9.1 Network Rail's System Operator carries out a range of vital network-wide functions, including:

- strategic planning – leading on the industry's long-term planning process;
- managing changes to what the network delivers, for example, working with the industry to prepare for major timetable changes;
- managing operator access to the network; and
- producing the timetable.

9.2 It carries out its activities in collaboration with Network Rail's regions and the broader industry.

9.3 In 2019-20, we focused our monitoring of the System Operator on:

- delivery of the timetabling process, and the development of the Industry Timetable Change Assurance Programme Management Office (PMO);
- ensuring that the System Operator's capital improvement programmes to support better timetabling and capacity allocation are delivered effectively and efficiently to realise industry-wide benefits; and
- improvements to the process for agreeing access to the network with operators (the 'sale of access rights' process).

9.4 Since the start of Control Period 6 (CP6), the Putting Passengers First transformation programme has resulted in some of the System Operator's responsibilities being transferred to the Network Rail regions. These are:

- the early stages of timetable planning;
- advice to funders on passenger franchise specifications; and
- early stages of enhancement projects and the coordination of changes to the network.

9.5 In addition, the strategic assessment of long-term network need and options analysis was also transferred to Network Rail's Scotland region. This activity remains with the System Operator for other regions. These changes have not impacted on the requirement for Network Rail as a whole to deliver on the requirements of the final determination for CP6.

The System Operator's governance and accountability have improved

9.6 Effective governance and stakeholder engagement is vital for the System Operator. Our Periodic Review 2018 (PR18) final determination included requirements for an external governance framework and transparent reporting through a published 'scorecard' of performance and an annual report.

9.7 Network Rail is meeting these requirements. It has established an Advisory Board to hold the System Operator to account for the development and delivery of its business plan on behalf of its funders, customers and end users. The System Operator has published its scorecard, annual report, and a summary of its Advisory Board meetings online.

9.8 The System Operator also undertakes an annual survey of its customers. It uses the results from this to improve its activities, including developing its future plans.

The System Operator's scorecard performance was good in 2019-20

9.9 Network Rail uses scorecards to align its priorities with those of its customers and help it incentivise its management to deliver those priorities. The System Operator's scorecard includes measures on:

- delivering an improved timetable service;
- safety;
- timetable performance;
- strategic planning;
- managing output changes to the network;
- customer advocacy;
- improvement programmes; and
- finance.

9.10 Its scorecard performance this year has been good, with a weighted achievement of 85.4%.

The System Operator has responded quickly and decisively to the impact of the coronavirus pandemic

The System Operator made an exceptional effort to deliver an emergency timetable in response to the impact of the coronavirus pandemic. It was delivered quickly with collaboration across the industry.

9.11 The System Operator's response to the coronavirus pandemic was excellent. It successfully developed and delivered the contingency timetable at very short notice, and facilitated strong cross-industry collaboration.

9.12 Social distancing measures presented the System Operator with a significant resourcing problem due to the challenges of timetable planners working from home. It sensibly prioritised limited resources on delivering the contingency timetable to support critical workers and freight.

9.13 The System Operator and PMO identified the impact this approach would have on the delivery of the May 2020 and December 2020 timetable changes, and communicated effectively with industry and government. The PMO facilitated a collective industry decision that when normal service was resumed, it would be restored to the May 2020 timetable. For the December 2020 timetable change, the PMO facilitated discussions which recommended that the change be scaled back to focus the limited timetable planning resource on performance improvement work packages.

9.14 The work to prepare for May 2021 and December 2021 will mostly be undertaken by the System Operator and the PMO during 2020-21. However, we have been pleased to note that the PMO is already considering the impact of the coronavirus pandemic on these forthcoming timetable changes.

9.15 The System Operator aims to confirm timetables 12 weeks ahead of travel to open up ticket bookings. It achieved this for all operators in 2019-20, but these timescales have been impacted by the response to the coronavirus pandemic as Network Rail rightly focuses on contingency timetables while protecting its workforce from harm.

The System Operator has taken steps to embed lessons learnt from May 2018

9.16 Our PR18 final determination required the System Operator to ensure the delivery of an accurate and resilient timetable. We required it to ensure it implemented the lessons learnt from the unsuccessful May 2018 timetable including the recommendations from ORR's independent inquiry into the timetable disruption (known as 'the Glaister Review')[78] and the requirements of our Final Order[79].

9.17 We are satisfied that the System Operator has taken steps to learn lessons from May 2018. We consider that the establishment of the PMO has helped manage the industry risks associated with timetable change and the System Operator has taken steps to improve its timetabling capacity and capability through initiating a number of improvement programmes. Both these aspects are discussed further below.

9.18 As recommended in the Glaister Review, during the year the System Operator has also completed a review of the industry processes for establishing the timetable (contained in Part D of the Network Code[80]). This has resulted in a number of changes in the process and has formalised the role of the PMO. The System Operator has also identified areas for further consideration, and it intends to continue a regular process of review. We support this approach of continuous improvement.

[78] ORR's Independent Inquiry into the timetable disruption in May 2018:
https://orr.gov.uk/rail/consumers/inquiry-into-may-2018-network-disruption

[79] ORR's final order in respect of Network Rail's contravention of license conditions 1.23 and 2.7:
https://orr.gov.uk/__data/assets/pdf_file/0020/40385/network-rail-timetable-final-order-2019-01-30.pdf

[80] Network Code: https://www.networkrail.co.uk/industry-and-commercial/information-for-operators/network-code/

The timetable changes in May 2019 and December 2019 were introduced smoothly and the industry PMO continues to mature and evolve

9.19 The System Operator is responsible for developing the timetable. This includes the base timetable which changes twice a year in May and December, the rolling weekly updates to the timetable and any additional changes required at short notice.[81]

9.20 The purpose of the PMO is to provide a robust and collaborative joint industry mechanism to identify and address risks and issues that arise in relation to timetable change. Although the PMO is based in the System Operator, it acts independently to provide assurance across the industry that timetable change can be successfully delivered. In July 2019[82] we set out our view that the PMO had increased confidence in the delivery of the timetable, based on evidence from the December 2018 and May 2019 timetable change. Since then, the role of the PMO has continued to mature.

9.21 The May 2019 and December 2019 timetables were successfully delivered and have introduced many benefits for passengers. For example, improvements to services operated by GWR were delivered through the December 2019 timetable – and are the result of significant investment on the Great Western Mainline in recent years. In other areas of the country, timetable changes delivered benefits from the introduction of new rolling stock or from new services as a result of investment on the network, such as the electrification of the line between Glasgow and Edinburgh.

9.22 However, while many passengers benefited from the changes introduced in May 2019 and December 2019, in some areas of the country passengers experienced a decline in performance.

[81] Note that, as part of the Putting Passenger First programme, responsibility for timetable planning activity more than forty weeks prior to the timetable change has been transferred from the System Operator to the regions.

[82] ORR's letter setting out our view that Network Rail met the terms of the final order made on 30 January 2019: https://orr.gov.uk/__data/assets/pdf_file/0004/41548/breach-of-timetabling-conditions-in-network-rails-network-licence-letter-2019-07-25.pdf

9.23 In particular, passengers in North West & Central experienced a decline in performance following the introduction of the May 2019 timetable. This formed part of the scope of the ORR investigation into the causes of poor performance in North West & Central this year. We concluded that aspects of the timetable, principally the introduction of splitting and joining of services at Birmingham New Street together with West Midlands Train's insufficiently robust train plan, contributed to poor performance.

9.24 While it is the train operating companies who are responsible for their train plans, we consider that the System Operator could have done more to ensure that the performance implications of a timetable change were considered in advance of starting the detailed timetable development process. However, we have been pleased to see that since May 2019 the System Operator has increased its capacity to undertake performance modelling, including developing a new team which is undertaking modelling work which has been prioritised by the National Performance Board[83].

9.25 We also note that some TPE passengers experienced significant disruption to their service immediately after the introduction of the December 2019 timetable. This was due to delays to rolling stock introduction and the subsequent impact on driver training. TPE informed passengers of service cancellations in November and December. However, the PMO had carried out deep dive reviews of the readiness of TPE to deliver the timetable earlier in the year, but TPE had not flagged this issue as a material risk to the delivery of the timetable. We consider that the PMO could have done more on this occasion to ensure the risks of the timetable were understood. We note that the PMO has carried out its own lessons learnt exercise to identify how it can improve its assurance activity for future timetable changes.

The System Operator has delivered early work on vital improvement programmes

The System Operator is at an early stage of developing and delivering high priority improvement programmes to support timetable development. During 2019-20, it has been working to define the outputs from these programmes. Some quick wins have been delivered, such as upgrades to train planning software.

9.26 The System Operator has a significant portfolio of capital and operational improvement programmes to deliver over the course of CP6 to support better timetabling and capacity allocation. In total there is £100 million of funding allocated to these programmes during CP6 and we are monitoring delivery closely. This includes funding for the recommendation in the Glaister Review that a strategy should be developed to address underlying technical issues which had limited the industry's ability to plan effectively.

[83] The Network Performance Board:
https://www.raildeliverygroup.com/about-us/governance/strategic-boards/network-performance-board.html

9.27 These capital programmes had not been scoped prior to CP6, and so the System Operator spent the first year of the control period working to define what the programmes would deliver. It has now developed the programmes to the point where they have a business case and defined benefits. We have been pleased to see that the System Operator has delivered on some quick wins alongside its work on the broader programmes, including:

- delivering hardware and software upgrades to the train planning system;
- releasing 5,000 hours of planner time by improving the software for platform planning; and
- releasing 7,000 hours of planner time by introducing machine reading of signalling scheme plans.

9.28 To provide assurance that the System Operator was well equipped to deliver its capital expenditure programme in CP6, ORR and Network Rail commissioned an independent reporter to review its process and controls for capital expenditure. This review generated a number of recommendations, and the final determination required the System Operator to address these. The System Operator has been tracking these recommendations and they were adequately addressed over the first year of CP6.

9.29 The System Operator is also improving its operational delivery through a People Plan. It has developed a robust plan to ensure it maintains timetable planner resource and capability. Its targets for the operational planner vacancy gap and capacity planning capability have been exceeded this year.

Improvements are needed in the timescales for agreeing access to the network

The System Operator runs the process to agree train operators' access to the network. Too many applications are being approved late. It is working with industry to bring applications for access rights forward, but more work is needed across the industry to make sure applications are agreed on time.

9.30 Passenger and freight operators need a track access contract to run services on Network Rail's network. ORR approves access agreements between Network Rail and train operators in accordance with our statutory duties[84].

[84] ORR's track access factsheet: https://orr.gov.uk/rail/access-to-the-network/track-access/track-access-factsheet

9.31 We are concerned that applications for track access rights are being made too late, and this is limiting our ability to consider performance and capacity issues, including concerns raised by other operators, and reach a decision which can be reflected in the timetable. We wrote to the industry about the access rights process in May 2019.[85] Our letter asked the industry to commit to the following:

- operators to start the access rights process as soon as possible, with the aim of operators having approved access rights before the detailed timetable development processes starts;
- operators to engage early in order to understand access rights sought by other operators and how these may impact their own services in order to support early resolution of any objections. We also asked Network Rail to establish a clear process to ensure that operators are made aware of how plans of other operators may impact on their own plans; and
- Network Rail to facilitate a broader discussion of the reasons for the delay in submitting access rights applications and whether any changes are need in the process.

9.32 The System Operator has carried out analysis with the industry as to the reasons for delay and what changes may be required. However, we note that resolving this issue relies on the whole industry agreeing to changes in the way things are done and needs to be supported by early modelling of the performance implications of a timetable. The improvement programmes that the System Operator is undertaking during CP6 should help support this. We will continue to work with the industry to identify how current processes can be improved.

[85] ORR's letter to industry on problems with the sale of access rights process:
https://orr.gov.uk/__data/assets/pdf_file/0013/41215/problems-with-sale-of-access-rights-process-letter-2019-05-30.pdf

OFFICE OF RAIL AND ROAD

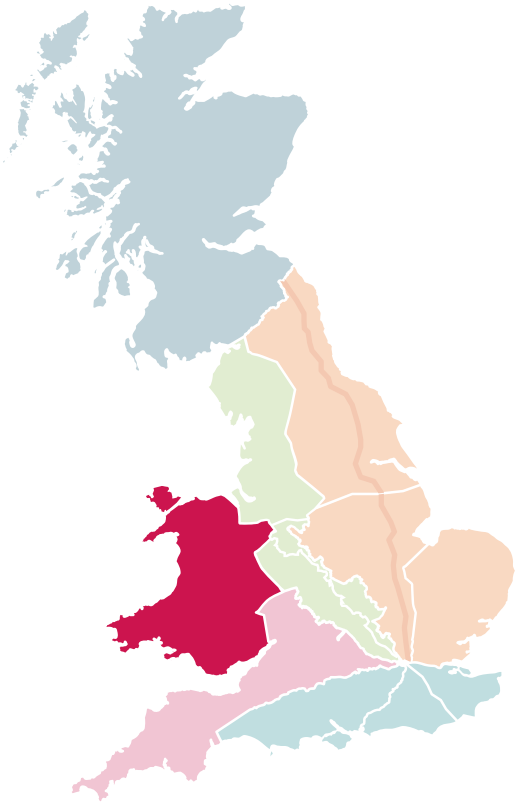
Annual assessment of Network Rail

April 2019 – March 2020

Wales

10. Performance of Network Rail's Wales route

10.1 Network Rail's Wales route[86] links the major towns and cities of Cardiff, Newport, Swansea, Wrexham and Shrewsbury, as well as providing connectivity in more rural areas. The route is part of the wider Wales & Western region. This chapter provides our assessment of Network Rail's delivery for its Wales route including commentary on train performance, expenditure and financial performance which is provided in response to stakeholder feedback.



10.2 Most passenger rail services in Wales are operated by Transport for Wales and Great Western Railway. CrossCountry and Avanti West Coast also operate passenger services between Wales and the rest of Great Britain.

10.3 Rail freight services are also very important, moving various commodities (particularly steel on the South Wales Main Line) within Wales and beyond.

10.4 As with the rest of Great Britain's rail network, rail infrastructure in Wales is managed by Network Rail. (The Core Valley Lines network was transferred from Network Rail to Transport for Wales on 28 March 2020.)

Performance of the Wales route was below target

10.5 Network Rail uses scorecards to align its priorities with those of its customers and to incentivise its management to deliver those priorities.

- Wales route's overall scorecard performance, at 45%, was poor and lower than its targeted 50%.
- There was weak delivery of train performance to operators, but there were positive outcomes in locally driven customer scorecard measures, such as through joint partnership agreements.
- Performance delivery in Wales has not been as expected and needs to improve.

[86] https://www.networkrail.co.uk/running-the-railway/our-routes/wales/

Train performance was below target

Passenger train performance in Wales, including Network Rail caused delays, has been significantly worse than expected. Freight performance was also lower than targeted.

10.6 Train performance is a priority for passengers and for freight operators. In our Periodic Review 2018 (PR18)[87,88], we set regional trajectories for passenger and freight performance.

10.7 For passenger performance we hold Network Rail's regions to account for delivery of the 'Consistent Region Measure for Performance' (CRM-P). This measures the delay minutes caused by each region, for every 100km of train travel, and allows comparisons between regions. For CP6, we set trajectories for CRM-P and minimum levels ('floors').

10.8 While we hold the Wales & Western region to account for delivery of its agreed scorecard targets and the CRM-P measure, we do not specifically regulate against a CRM-P floor for the Wales route. However, its scorecard has a target level of performance against this metric.

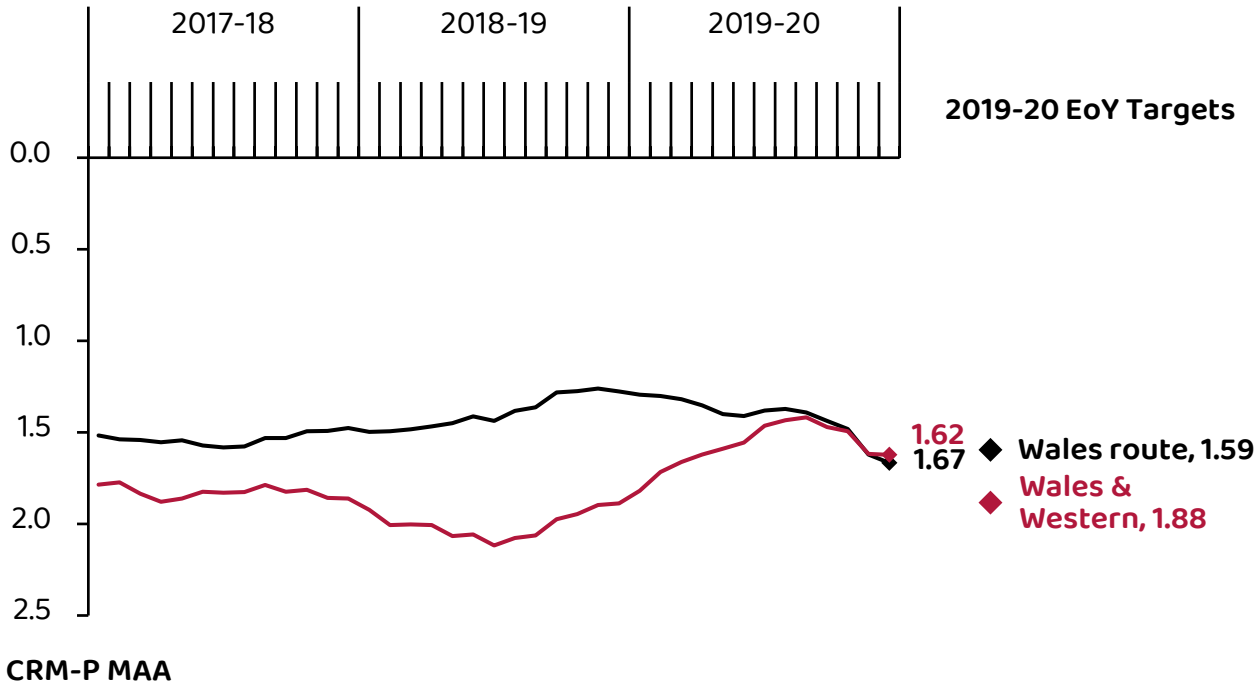
10.9 Wales' trajectory for CRM-P was based on it achieving 1.59 minutes delay per 100km of train travel. The route was performing well until a drop in the last quarter due to severe weather and it finished the year below target at 1.67 minutes of delay. It has therefore caused more delay to train operators than was anticipated. Figure 10.1 shows how the Wales route CRM-P has tracked over time, alongside Wales & Western region's performance.

10.10 The Wales route's share of delay to passenger rail increased from 45.2% in 2018-19 to 45.6% in 2019-20.

[87] https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

[88] https://orr.gov.uk/__data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Figure 10.1: Passenger train performance (Network Rail caused delay minutes normalised, CRM-P) for Wales route and Wales & Western region, 2017-18 to 2019-20

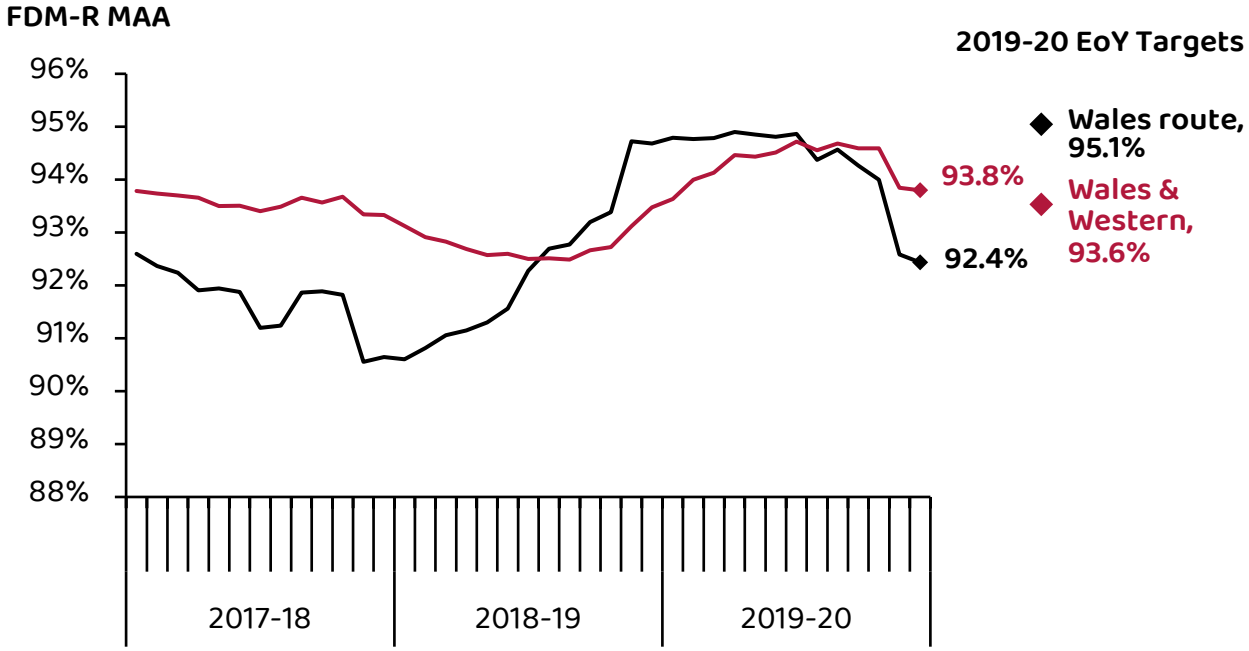


Source: ORR analysis of Network Rail data

10.11 We measure freight performance using the Freight Delivery Metric for Regions (FDM-R). This measures the percentage of commercial freight services that arrive at a planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay. As with CRM-P, we do not specifically regulate against an FDM-R floor for the Wales route, but the route scorecard has a target level of performance.

10.12 For the Wales route, the end-of-year FDM-R was 92.4%, worse than its scorecard target of 95.1%. For much of the year the route was performing better than target, before a drop in the last few months. This was due to severe weather (particularly Storms Ciara and Dennis) which caused damage to overhead lines and blew trees onto the line. Figure 10.2 shows how the Wales route FDM-R has tracked over time, alongside Wales & Western region's performance.

Figure 10.2: Freight performance (FDM-R) for Wales route and Wales & Western region, 2017-18 to 2019-20



Source: ORR analysis of Network Rail data

The Wales route has delivered its renewals plans but asset failures are increasing

Asset reliability in Wales has declined in 2019-20, including for track assets. The Wales route has contributed to Wales & Western delivering its internal scorecard for renewals – a good start to delivery in CP6. However more work needs to be done in the wider renewals portfolio.

10.13 Network Rail needs to secure the maintenance, renewal and replacement of the network so it is safe and operable, and do so in a way that is sustainable and efficient over the long-term. In CP6, we test this using a measure of asset sustainability (the Composite Sustainability Index, CSI). This is set at regional level so we cannot report on CSI for the Wales route. We have agreed Network Rail's target for the end of CP6, based on a defined level of change since the end of control period 4 (CP4).

10.14 Wales & Western finished 2019-20 with a CSI of 0.7%.This represents an improvement in overall asset sustainability of 0.7% since the end of CP4. The region's trajectory for CP6 is to end the control period with a CSI of 0.2%.

10.15 The measure of sustainability is slow-moving, because of the very long operational life of railway assets. We therefore also monitor asset failure rates (and their impact), volumes of maintenance and renewal delivery, and certain other asset-specific measures, which can be used as a proxy for longer-term sustainability.

10.16 Network Rail's regional scorecards contain some of these shorter-term measures – and Wales & Western region performed well against them. At a route level however, Wales achieved a composite reliability index (CRI) score of -4.2%. This means asset reliability on the route in 2019-20 was 4.2% worse than it was in the final year of CP5. In particular, the reliability of track has declined significantly, while other asset reliability has generally improved over 2019-20.

10.17 The CRI contribution from track has been impacted by a high number of track failures occurring on Wales' highest criticality track sections, meaning the impact of these failures has the potential to be high. It is a priority that Network Rail clarify the reasons for this and we will monitor improvements.

10.18 Earthworks failures are not included within the route CRI metric because they are relatively infrequent and are strongly linked to wet weather. Historically, large peaks in earthworks failures usually correspond to periods of adverse or severe weather conditions. In 2019-20, Wales was particularly impacted by severe weather resulting in flooding in multiple locations, which caused a number of delay incidents. The largest delay in February 2020, between Cardiff Central to Pontyclun, caused 4,948 delay minutes and resulted in 72 cancelled, and 426 delayed, trains.

Case Study – Marches line flooding[89]

In late October 2019, parts of the Marches Line between Abergavenny and Hereford were washed away due to heavy rainfall. The line was closed until 2 November 2019 when, after significant work which required 300 tonnes of foundation and 600 tonnes of ballast, the line reopened earlier than expected.

Flooding again closed the line in February 2020 for a further week when Storms Ciara and Dennis greatly impacted the region.

10.19 The Wales route does not have a separate route scorecard target for planned renewals volumes, but it did contribute to the Wales & Western region exceeding its internal scorecard target in 2019-20. In the larger scope of renewals work, Wales' route reported over-delivery in a number of areas, particularly structures due to additional scope at existing schemes such as Ffestinniog Tunnel, and the acceleration of planned future works. However the route has reported under-delivery in the area of signalling, due to the deferral of level crossing works, and electrical power due to the misallocation of work.

[89] https://www.networkrail.co.uk/news/abergavenny-to-hereford-line-to-reopen-ahead-of-schedule-updated/

The Wales route has benefited from large enhancement projects delivered in the Wales & Western region

Great Western Electrification Project

10.20 In 2019-20, the Wales & Western region delivered the final section of the Great Western Electrification Project (GWEP), enabling faster and more frequent electric rail services to run between London and Cardiff from January 2020 (excluding through the Severn Tunnel which was fully electrified on 31 May 2020). The project also included resignalling and station upgrades with train operating companies improving services through the introduction of new rolling stock.

10.21 The final GWEP milestone (electrification from Newport to Cardiff) was delayed by two months from November 2019 to January 2020 due to construction issues and worse than forecast productivity, as well as ongoing work at Severn Tunnel to resolve conductor beam corrosion issues.

10.22 Corrosion to the conductor beam caused by damp and salty conditions in the 7km Severn Tunnel provided a significant challenge for Network Rail in the final months of the project. As it was potentially unsafe to energise the beam, trains had to run through the tunnel under diesel mode resulting in a slight delay to services. Network Rail has now successfully managed to resolve this issue and following extensive testing the beam was safely commissioned at the end of May 2020. The tunnel will continue to be monitored going forward to check for any changes or potential failures.

10.23 The final delivery of GWEP provides faster, greener and more frequent services. However, over the lifetime of the scheme, GWEP suffered from delays, inefficiencies and substantial cost increases. More recently, performance improved, with the schedule and costs becoming more stable, but the final delivery milestone of November 2019 was missed. It is imperative that Network Rail continues to learn from GWEP and implements changes to its delivery of enhancements, and electrification schemes in particular, during CP6.

10.24 While some of these issues have been thoroughly reviewed, Network Rail has recognised the need to review lessons from the delivery of the scheme and has committed to do this in 2020-21.

Core Valley Lines divestment

10.25 The Core Valley Lines network consists of tunnels, track and associated infrastructure from Cardiff to Treherbert, Aberdare, Merthyr Tydfil, Coryton, and Rhymney. It connects to the Network Rail infrastructure at two points – Cardiff Central Station and to the north of Ninian Park Station.

10.26 During 2019-20, Network Rail managed this infrastructure, but on 28 March 2020 the infrastructure assets were transferred to Transport for Wales (Welsh Government). Transport for Wales leases the assets to Amey Keolis Infrastructure / Seilwaith Amey Keolis Limited (AKIL) who are the current Infrastructure Manager for the Core Valley Lines network.

10.27 In preparing for the transfer, Network Rail worked closely with Transport for Wales to set out clear agreements on management of the network (including at the interfaces) and operational arrangements. Network Rail also worked with ORR to ensure that authorisations (licensing, safety and track access) required under statutory obligations, were granted approval before the transfer took place.

10.28 The transfer has created one of the few instances on the rail network where rail services move between two different railway networks. Given this complexity, the transfer went well.

10.29 The Wales & Western region has engaged with ORR on the Core Valley Lines divestment, setting out the safety, financial and performance impacts. It has also updated its business plans accordingly to reflect this change to the Wales route network. ORR, as the health and safety regulator for the rail industry, will continue to deliver advice and enforcement on this network.

Two track workers tragically lost their lives in July 2019

In July 2019, two track workers tragically lost their lives when they were struck by a train in South Wales. The industry must make sure it learns lessons to prevent this happening again. We have seen long-term improvements in the region in asset safety management but there is a need for significant change in how staff working on the ground are monitored.

10.30 The Wales route had a mixed health and safety performance in 2019-20. The Lost Time Injury Frequency Rate (LTIFR) has risen (i.e. worsened) over the year. Level crossing risk has also risen slightly, due to increasing numbers of trains and crossing users, which shows the importance of continuing to look for improvements in risk controls at level crossings.

10.31 In July 2019, two track workers tragically lost their lives when they were struck by a train and killed while working on lines open to traffic at Margam, near Port Talbot. We are currently undertaking an investigation into the event and will report on the outcome in due course.

10.32 Whilst not specific to the Wales & Western region, Network Rail is looking at the potential impact of changes of working on a live railway, across its whole network. Our Improvement Notices on Track Worker Safety[90] aim to reduce such 'unprotected' working, and while the Wales & Western routes are responding to the track worker safety improvement notices, this is still at an early stage and progress is slow.

10.33 As part of our safety reviews, we have looked at whether the region is doing all that is reasonably practicable to install automatic warning systems at footpath and user-worked level crossings that do not have active protection (such as lights, alarms and barriers). Our analysis suggests that Wales & Western's plans may not be sufficiently ambitious and we have encouraged it to review its plans as a result. Follow up work after near-miss incidents at user-worked and footpath crossings suggests that risks are generally well-controlled.

The Wales route's efficiency has improved but there is financial underperformance for enhancements

Wales has exceeded its efficiency target for 2019-20 and has made good progress in preparing to deliver efficiently in 2020-21 and later years of CP6, but there is an underperformance for enhancements. The route has identified that more work remains to be done around planning of renewals efficiencies. This may be hampered by the current disruption to renewals work due to the coronavirus pandemic – and ORR will continue to monitor its impact.

Financial performance was below target

10.34 Our primary measure of Network Rail's financial performance, the financial performance measure (FPM), covers most of Network Rail's activities. It provides a better understanding of Network Rail's financial performance than simple income and expenditure variances.

10.35 FPM compares actual income and expenditure to Network Rail's annual budgets, and to the financial assumptions in our PR18 final determination (which underpins the company's funding). It ensures that Network Rail does not benefit from delaying work or not delivering required outputs. A positive FPM means that Network Rail has outperformed and vice versa.

10.36 The Wales route financially underperformed against its CP6 delivery plan by £32m in 2019-20. This equates to a 1.1% overspend. This underperformance was primarily due to enhancements, and predominantly GWEP.

[90] ORR improvement notices:
https://orr.gov.uk/rail/publications/enforcement-publications/improvement-notices/improvement-notices-2019

Efficiency has improved

10.37 In the previous control period (CP5) Network Rail delivered poorly across renewals and efficiency targets. In PR18 we set Network Rail a £3.5bn efficiency improvement challenge for its core operations, support, maintenance and renewals activities.

10.38 Network Rail responded to this by developing an efficiency improvement plan, which we have reviewed. In 2019-20, the Wales route delivered £19.5m of efficiency improvements, which was ahead of the £15.2m assumed in its delivery plan.

10.39 This level of efficiency is good news. The efficiency challenge increases in future years – the route is forecasting to deliver between £120m and £160m efficiencies over CP6 (with a central forecast of £138m) – so continued focus on efficiency planning is needed.

10.40 The Wales route considers that 88% of the target efficiencies for 202021 will be achieved from projects that have already been delivered or have clear project plans. The remaining 12% of efficiencies have no clear project plans or have plans with low confidence of efficiency delivery. Therefore the Wales route still needs to firm up plans for delivering these efficiencies.

There is more to do on planning efficient delivery

10.41 Learning from declining efficiency in CP5, we required Network Rail to demonstrate that it was better prepared to deliver efficiently from the start of CP6 – in part through developing and reporting on new, leading indicators.

10.42 We have seen progress with these leading indicators of efficient delivery. The table below provides an update on the Wales route's preparations to deliver efficiently in 2020-21[91]. Network Rail's underpinning analysis was undertaken before the significant recent impact of the coronavirus pandemic so there is likely to be disruption, which we will report on in due course.

Figure 10.3: Leading indicators for efficiency delivery in 2020-21, Wales route

Route/ Region	Renewals Planning			Securing Engineering Access			Maintenance requirement 2020-21		
	Work authorised in Oracle		Target	% of required access booked		Target	Current headcount		Target
Wales	46%	●	88%	78%	●	90%	91%	●	100%
National/ GB	**69%**	●	**83%**	**76%**	●	**93%**	**95%**	●	**99%**

Source: Network Rail CP6 readiness report

[91] This section is disaggregated by route rather than region. This is because some of the internal reorganisation from routes into regions as part of Putting Passengers First reorganisation have not yet been implemented.

10.43 Efficient renewals planning is important to ensure a stable profile of work over time within Network Rail's supply chain. To track this, Network Rail measures the percentage of renewal projects which have financial authorisation. The Wales route is significantly behind its own internal targets, and behind the national average.

10.44 This level of financial authorisation is concerning. However, we also consider earlier stages of the planning lifecycle, such as remits issued and accepted by the supply chain. Under this measure the supply chain has accepted 77% of planned renewals for the Wales route for 2020-21.

10.45 The route also unperformed against its internal target for booking disruptive access to the network for planned engineering work in 2020-21. In addition, the Wales route has a shortfall (9%) compared to its required maintenance headcount for 2020-21.

10.46 Wales route has made further progress including strengthening of resources and more robust programme-level oversight. However, substantially more still needs to be done, particularly in relation to the quality of renewals efficiency plans, as these are critical to delivering required renewals volumes and the increasing efficiency challenge in later years of CP6.

10.47 Further information on Network Rail's financial performance, efficiency initiatives and preparations for 2020-21 will be published in ORR's Annual Efficiency and Finance Assessment (due for publication in summer 2020).

OFFICE OF RAIL AND ROAD

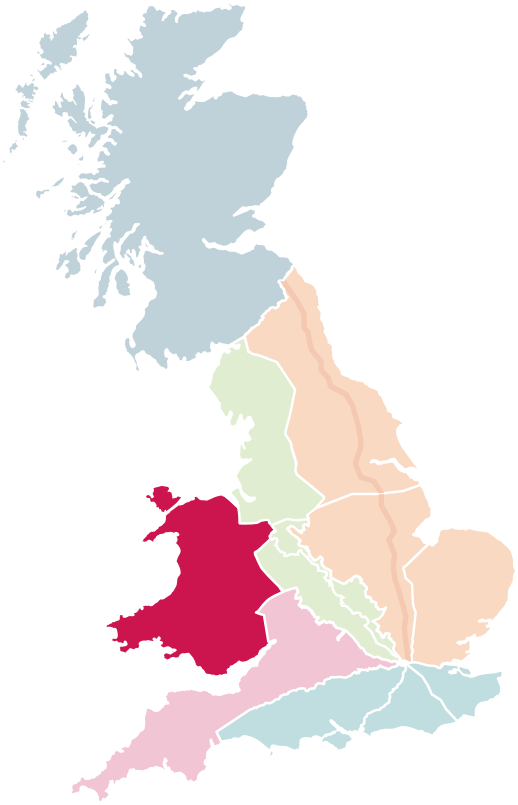
Annual assessment of Network Rail

Ebrill 2019 - Mawrth 2020

Cymru

11. Perfformiad llwybr Cymru Network Rail

11.1 Mae Llwybr Cymru Network Rail[92] yn cysylltu'r prif drefi a dinasoedd Caerdydd, Casnewydd, Abertawe, Wrecsam ac Amwythig, yn ogystal â chysylltu ardaloedd mwy gwledig. Mae'r rheilffordd yn rhan o ranbarth ehangach Cymru a'r Gorllewin. Mae'r bennod hon yn rhoi ein hasesiad o'r hyn a gyflawnodd Network Rail i'w reilffyrdd yng Nghymru, gan gynnwys sylwadau ar berfformiad trenau, gwariant a pherfformiad ariannol a roddir mewn ymateb i adborth rhanddeiliaid.



11.2 Caiff y mwyafrif o wasanaethau teithwyr rheilffordd yng Nghymru eu gweithredu gan Trafnidiaeth Cymru a'r Great Western Railway. Mae CrossCountry ac Avanti West Coast hefyd yn gweithredu gwasanaethau teithwyr rhwng Cymru a gweddill Prydain.

11.3 Mae gwasanaethau cludo nwyddau ar y rheilffyrdd hefyd yn bwysig, sy'n symud amrywiol nwyddau (yn enwedig dur ar brif reilffordd De Cymru) o fewn Cymru a'r tu hwnt.

11.4 Fel gyda gweddill rhwydwaith rheilffyrdd Prydain, caiff seilwaith rheilffyrdd yng Nghymru ei reoli gan Network Rail. (Cafodd rhwydwaith Rheilffyrdd Craidd y Cymoedd ei drosglwyddo o Network Rail i Trafnidiaeth Cymru ar 28 Mawrth 2020.)

Roedd perfformiad llwybr Cymru yn is na'r targed

11.5 Mae Network Rail yn defnyddio cardiau sgorio i gysoni ei flaenoriaethau â blaenoriaethau ei gwsmeriaid ac i gymell ei reolwyr i gyflawni'r blaenoriaethau hynny.

- Roedd perfformiad cyffredinol cerdyn sgorio llwybr Cymru – 45% – yn wael ac yn is na'r targed o 50% a bennwyd ar ei gyfer.
- Roedd perfformiad trenau i weithredwyr yn wan, ond roedd canlyniadau cadarnhaol mewn mesurau a yrrwyd yn lleol gan gardiau sgorio cwsmeriaid, megis trwy gytundebau partneriaeth ar y cyd.
- Nid yw perfformiad yng Nghymru wedi cael ei gyflawni cystal â'r disgwyl ac mae angen iddo wella.

[92] https://www.networkrail.co.uk/running-the-railway/our-routes/wales/

Roedd perfformiad trenau yn is na'r targed

Mae perfformiad trenau teithwyr yng Nghymru, gan gynnwys oedi a achoswyd gan Network Rail, wedi bod yn sylweddol waeth na'r disgwyl. Roedd perfformiad cludo nwyddau hefyd yn is na'r hyn a dargedwyd.

11.6 Mae perfformiad trenau yn flaenoriaeth i deithwyr ac i weithredwyr cludo nwyddau. Yn ein Adolygiad Cyfnodol 2018 (PR18)[93,94], fe wnaethom bennu trywyddau rhanbarthol ar gyfer perfformiad cludo teithwyr a nwyddau.

11.7 Ar gyfer perfformiad cludo teithwyr rydym yn dal rhanbarthau Network Rail i gyfrif am gyflawni'r 'Mesur Rhanbarthol Cyson ar gyfer Perfformiad' (CRM-P). Mae hyn yn mesur y munudau o oedi a achosir gan bob rhanbarth, am bob 100km o deithio ar drên, ac mae'n caniatáu ar gyfer cymariaethau rhwng rhanbarthau. Ar gyfer cyfnod rheoli 6, gosodasom drywyddau ar gyfer CRM-P a lefelau isafswm ('lloriau').

11.8 Er ein bod yn dal rhanbarth Cymru a'r Gorllewin yn gyfrifol am gyflawni ei dargedau cardiau sgorio ac am fesur CRM-P, nid ydym yn rheoleiddio'n benodol yn erbyn llawr CRM-P ar gyfer rheilffordd Cymru. Fodd bynnag, mae gan ei gerdyn sgorio lefel targed o berfformiad yn erbyn y metrig hwn.

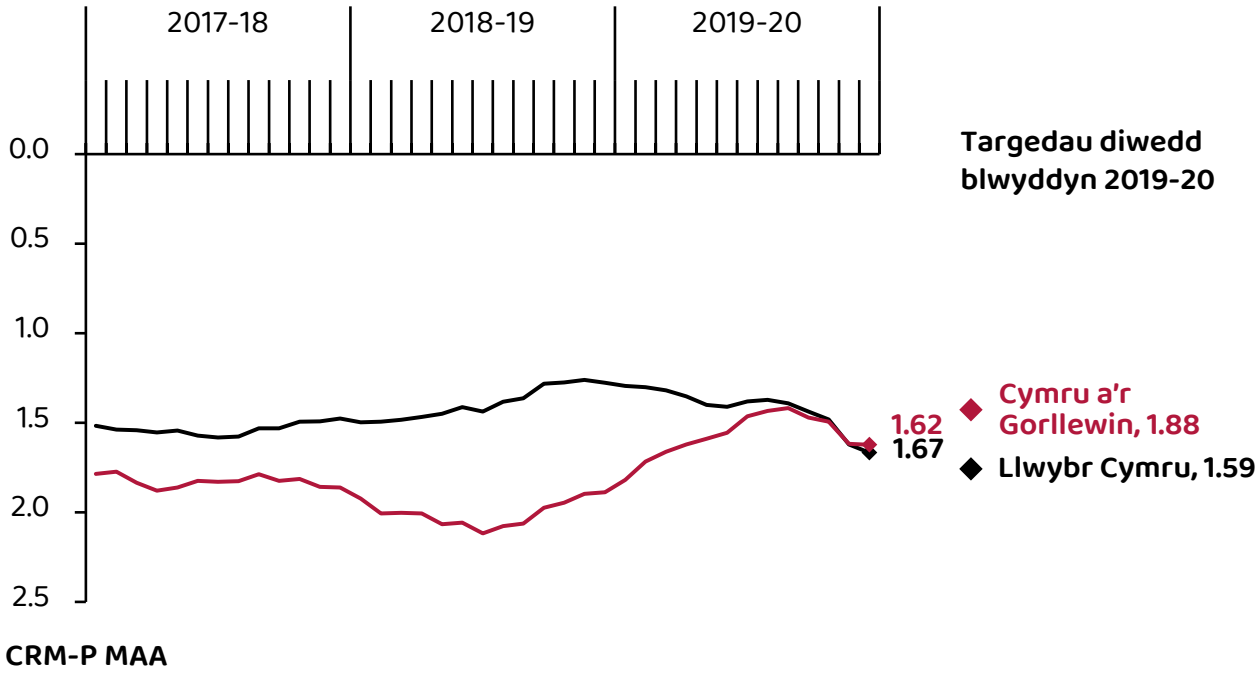
11.9 Roedd trywydd Cymru ar gyfer CRM-P yn seiliedig arno'n cyflawni 1.59 munud o oedi am bob 100km o deithio ar drên. Roedd llwybr Cymru'n perfformio'n dda tan y bu cwymp yn y chwarter olaf yn sgil tywydd garw a gorffennodd y flwyddyn yn is na'r targed gyda 1.67 munud o oedi. Mae felly wedi achosi mwy o oedi i weithredwyr trenau nag a ragwelwyd. Dengys Ffigur 10.1 sut mae CRM-P rheilffordd Cymru wedi'i wneud dros amser, ochr yn ochr â pherfformiad rhanbarth Cymru a'r Gorllewin.

11.10 Cynyddodd cyfran llwybr Cymru o oedi i deithwyr rheilffyrdd o 45.2% yn 2018-19 i 45.6% yn 2019-20.

[93] https://orr.gov.uk/rail/economic-regulation/regulation-of-network-rail/price-controls/periodic-review-2018/publications/final-determination

[94] https://orr.gov.uk/__data/assets/pdf_file/0010/41311/holding-network-rail-to-account-letter-2019-06-19.pdf

Ffigur 10.1: Perfformiad trenau teithwyr (wedi normaleiddio munudau oedi a achoswyd gan Network Rail, CRM-P) ar lwybr Cymru a rhanbarth Cymru a'r Gorllewin, 2017-18 i 2019-20

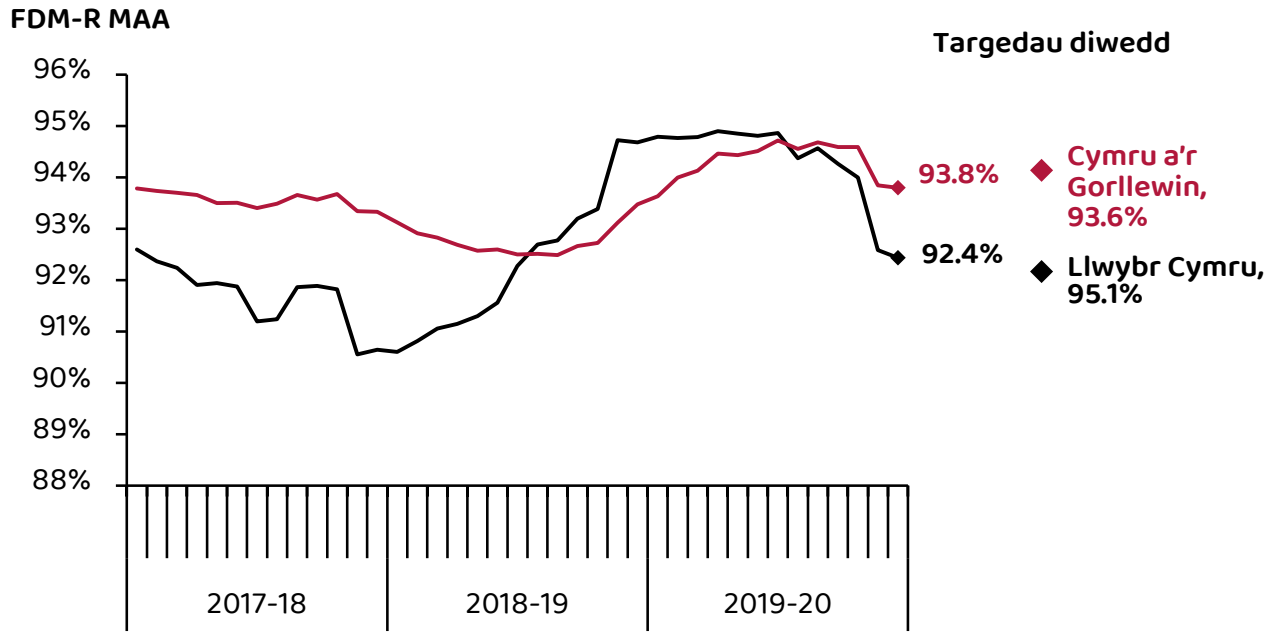


Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

11.11 Rydym yn mesur perfformiad cludo nwyddau trwy ddefnyddio'r Metrig Dosbarthu Nwyddau ar gyfer Rhanbarthau (FDM-R). Mae hwn yn mesur y ganran o wasanaethau cludo nwyddau masnachol sy'n cyrraedd cyrchfan a fwriadwyd o fewn 15 munud i'r amser cyrraedd a archebwyd neu gyda llai na 15 munud o oedi wedi'i achosi gan Network Rail neu weithredwyr cludo nwyddau. Fel gyda CRM-P, nid ydym yn rheoleiddio'n benodol yn erbyn llawr FDM-R ar gyfer llwybr Cymru, ond mae gan gerdyn sgorio'r rheilffordd lefel targed o berfformiad.

11.12 Ar gyfer llwybr Cymru, roedd yr FDM-R diwedd blwyddyn yn 92.4%, a oedd yn waeth na'i darged cerdyn sgorio o 95.1%. Am lawer o'r flwyddyn, roedd y llwybr yn perfformio'n well na'r targed, cyn cwymp yn yr ychydig fisoedd olaf. Roedd hyn yn sgil tywydd garw (yn enwedig Stormydd Ciara a Dennis) a achosodd ddifrod i linellau uwchben ac a chwythodd goed ar y rheilffordd. Mae Ffigur 10.2 yn olrhain FDM-R llwybr Cymru dros amser, ochr yn ochr â pherfformiad rhanbarth Cymru a'r Gorllewin.

Ffigur 10.2: Perfformiad cludo nwyddau (FDM-R) llwybr Cymru a rhanbarth Cymru a'r Gorllewin, 2017-18 i 2019-20



Ffynhonnell: Dadansoddiad ORR o ddata Network Rail

Mae llwybr Cymru wedi cyflawni ei gynlluniau adnewyddu ond mae cynnydd mewn methiannau asedau

Mae dibynadwyedd asedau yng Nghymru wedi dirywio yn 2019-20, gan gynnwys asedau trac. Mae llwybr Cymru wedi cyfrannu at ranbarth Cymru a'r Gorllewin gan gyflawni ei gerdyn sgorio mewnol ar gyfer adnewyddiadau – cychwyn da ar gyfer cyflawni yng Nghyfnod Rheoli 6. Fodd bynnag mae angen i fwy o waith gael ei wneud ym mhortffolio ehangach adnewyddu.

11.13 Mae angen i Network Rail sicrhau cynnal a chadw ac adnewyddu'r rhwydwaith fel ei fod yn ddiogel a modd ei weithredu, a gwneud hynny mewn modd sy'n gynaliadwy ac effeithlon dros yr hirdymor. Yng nghyfnod rheoli 6, byddwn yn profi hyn wrth ddefnyddio mesur o gynaliadwyedd asedau (Mynegai Cynnaliadwyedd Cyfansawdd, CSI). Caiff hyn ei bennu ar lefel ranbarthol felly ni allwn adrodd ar CSI ar gyfer llwybr Cymru. Rydym wedi cytuno ar darged Network Rail ar gyfer diwedd Cyfnod Rheoli 6, ar sail lefel ddiffiniedig o newid ers diwedd cyfnod rheoli 4.

11.14 Fe wnaeth rhanbarth Cymru a'r Gorllewin ddiweddu 2019-20 gyda CSI o 0.7%. Mae hyn yn cynrychioli gwelliant mewn cynaliadwyedd asedau cyffredinol o 0.7% ers diwedd cyfnod rheoli 4. Nod y rhanbarth ar gyfer cyfnod rheoli 6 yw diweddu'r cyfnod rheoli gyda CSI o 0.2%.

11.15 Mae'r mesur o gynaliadwyedd yn symud yn araf, oherwydd bywyd gweithredol hir iawn asedau rheilffyrdd. Rydym felly yn monitro cyfraddau methiannau asedau hefyd (a'u heffaith), symiau cyflawni cynnal a chadw ac adnewyddu, a rhai mesurau penodol i asedau eraill, y gellir eu defnyddio fel procsi ar gyfer cynaliadwyedd mwy hirdymor.

11.16 Mae cardiau sgorio rhanbarthol Network Rail yn cynnwys rhai o'r mesurau mwy byrdymor hyn – ac fe wnaeth rhanbarth Cymru a'r Gorllewin berfformio'n dda ochr yn ochr â hwy. Ar lefel llwybr fodd bynnag, cyflawnodd Cymru sgôr mynegai dibynadwyedd cyfansawdd (CRI) o -4.2%. Golyga hyn fod dibynadwyedd asedau ar y llwybr yn 2019-20 yn 4.2% gwaeth nag roedd yn mlwyddyn olaf cyfnod rheoli 5. Yn benodol, mae dibynadwyedd y trac wedi dirywio'n sylweddol, tra bod dibynadwyedd asedau eraill wedi gwella'n gyffredinol dros 2019-20.

11.17 Effeithiwyd ar gyfraniad CRI o'r trac gan nifer uchel o fethiannau trac yn digwydd ar adrannau mwyaf allweddol trac Cymru, gan olygu bod gan effaith y methiannau hyn y potensial o fod yn uchel. Mae'n flaenoriaeth i Network Rail egluro'r rhesymau dros hyn a byddwn yn monitro gwelliannau.

11.18 Ni chynhwysir methiannau gwrthgloddiau o fewn metrig CRI y llwybr oherwydd maent yn gymharol anaml ac â chysylltiad cryf â thywydd gwlyb. Yn hanesyddol, mae pegynnau mewn methiannau gwrthgloddiau yn cyfateb fel arfer â chyfnodau o amodau tywydd andwyol a garw. Yn 2019-20, cafodd Cymru ei tharo'n neilltuol o galed gan dywydd garw a arweiniodd at lifogydd mewn llawer o leoedd, gan achosi nifer o achosion o oedi. Fe wnaeth yr oedi mwyaf ym mis Chwefror 2020, rhwng gorsafoedd Caerdydd Canolog a Pontyclun, achosi 4,948 o funudau oedi ac arweiniodd at ganslo 72 o drenau, a pheri oedi i 426 o drenau.

Astudiaeth Achos – Llifogydd ar reilffordd y Gororau[95]

Tuag at ddiwedd mis Hydref 2019, cafodd rhannau o reilffordd y Gororau rhwng y Fenni a Henfford eu golchi ymaith yn sgil glawiad trwm. Bu'r rheilffordd ar gau hyd at 2 Tachwedd 2019, pryd y gwnaeth y rheilffordd ailagor yn gynt na'r disgwyl, ar ôl gwaith sylweddol a olygai'r angen am 300 tunnell o sylfaen a 600 tunnell o balast.

Achosodd llifogydd gau'r rheilffordd eto ym mis Chwefror 2020 am wythnos arall pan wnaeth Stormydd Ciara a Dennis daro'r rhanbarth yn ddrwg.

11.19 Nid oes gan lwybr Cymru darged cerdyn sgorio ar wahân i'r llwybr ar gyfer faint o adnewyddu a gynllunir, ond fe wnaeth gyfrannu at lwyddiant rhanbarth Cymru a'r Gorllewin i ragori ar ei darged cerdyn sgorio mewnol yn 2019-20. Yng nghwmpas ehangach gwaith adnewyddu, fe wnaeth llwybr Cymru adrodd gor-gyflawni mewn nifer o feysydd, yn enwedig adeiladweithiau yn sgil cwmpas ychwanegol mewn cynlluniau a oedd yn bod eisoes megis Twnel Ffestiniog, a chyflymu gweithiau a gynlluniwyd ar gyfer y dyfodol. Fodd bynnag, fe wnaeth y llwybr adrodd tan-gyflawni ym maes signalau, yn sgil gohirio gweithiau croesfannau rheilffordd, a phŵer trydanol yn sgil camddyrannu gwaith.

[95] https://www.networkrail.co.uk/news/abergavenny-to-hereford-line-to-reopen-ahead-of-schedule-updated/

Mae llwybr Cymru wedi elwa o brosiectau gwella mawr a gyflawnwyd yn rhanbarth Cymru a'r Gorllewin

Prosiect Trydaneiddio'r Great Western

11.20 Yn 2019-20, fe wnaeth rhanbarth Cymru a'r Gorllewin gwblhau adran derfynol Prosiect Trydaneiddio'r Great Western (GWEP), gan alluogi gwasanaethau trên trydan cyflymach ac amlach rhwng Llundain a Chaerdydd o fis Ionawr 2020 (ac eithrio trwy Dwnel Hafren a gafodd ei drydaneiddio'n llawn ar 31 Mai 2020). Roedd y prosiect hefyd yn cynnwys ail-signalu ac uwchraddio gorsafoedd gyda chwmnïau rhedeg trenau'n gwella gwasanaethau trwy gyflwyno cerbydau newydd.

11.21 Cafodd cam olaf GWEP (trydaneiddio o Gasnewydd i Gaerdydd) ei oedi ddau fis o fis Tachwedd 2019 tan fis Ionawr 2020 yn sgil problemau adeiladu a chynhyrchiant gwaeth na'r hyn a ragwelwyd, yn ogystal â gwaith parhaus yn Nhwnel Hafren i ddatrys problemau rhwd mewn trawstiau dargludo.

11.22 Fe wnaeth rhwd yn y trawst dargludo a achoswyd gan amodau llaith a hallt yn Nhwnel 7km Hafren achosi anhawster sylweddol i Network Rail ym misoedd olaf y prosiect. Gan y gallai fod yn beryglus egnioli'r trawst, roedd yn rhaid i drenau redeg trwy'r twnel o dan bŵer diesel gan arwain at ychydig o oedi i wasanaethau. Mae Network Rail bellach wedi llwyddo i ddatrys y broblem hon yn llwyddiannus ac yn dilyn profi helaeth cafodd y trawst ei gomisiynu'n ddiogel ddiwedd mis Mai 2020. Bydd y twnel yn dal i gael ei monitro wrth wirio am unrhyw newidiadau neu fethiannau posibl.

11.23 Mae cwblhau terfynol GWEP yn golygu gwasanaethau cyflymach, gwyrddach ac amlach. Fodd bynnag, dros oes y cynllun, mae GWEP wedi dioddef o oedi, aneffeithlonrwydd a chynnydd sylweddol mewn costau. Yn fwy diweddar, mae'r perfformiad wedi gwella, gyda'r amserlen a'r costau'n dod yn fwy sefydlog, ond methwyd â chyrraedd nod y cwblhau terfynol ym mis Tachwedd 2019. Mae'n hanfodol fod Network Rail yn parhau i ddysgu oddi wrth GWEP ac yn gweithredu newidiadau i'r ffordd mae'n cyflawni gwelliannau, a chynlluniau trydaneiddio yn enwedig, yn ystod cyfnod rheoli 6.

11.24 Er bod rhai o'r materion hyn wedi cael eu hadolygu'n drylwyr, mae Network Rail wedi cydnabod yr angen i adolygu gwersi o weithredu'r cynllun ac mae wedi ymrwymo i wneud hyn yn 2020-21.

Gwaredu Rheilffyrdd Craidd y Cymoedd

11.25 Mae rhwydwaith Rheilffyrdd Craidd y Cymoedd yn cynnwys twnelau, trac a seilwaith cysylltiedig o Gaerdydd i Dreherbert, Aberdâr, Merthyr Tudful, Coryton, a Rhymni. Mae'n cysylltu â seilwaith Network Rail mewn dau bwynt – Gorsaf Ganolog Caerydd ac i'r gogledd o Orsaf Parc Ninian.

11.26 Yn ystod 2019-20, Network Rail oedd yn rheoli'r seilwaith hwn, ond ar 28 Mawrth 2020 cafodd yr asedau seilwaith eu trosglwyddo i Trafnidiaeth Cymru (Llywodraeth Cymru). Mae Trafnidiaeth Cymru yn prydlesu'r asedau i Amey Keolis Infrastructure / Seilwaith Amey Keolis Limited (AKIL) sy'n gweithredu fel Rheolwr Seilwaith presennol rhwydwaith Rheilffyrdd Craidd y Cymoedd.

11.27 Wrth baratoi ar gyfer y trosglwyddo, cydweithiodd Network Rail yn agos gyda Trafnidiaeth Cymru i osod cytundebau clir ar reoli'r rhwydwaith (gan gynnwys ar y rhyngwynebau) a'r trefniadau gweithredu. Gweithiodd Network Rail hefyd gydag ORR i sicrhau bod awdurdodaethau (trwyddedu, diogelwch a mynediad i'r trac) gofynnol o dan rwymedigaethau statudol, yn cael eu cymeradwyo cyn i'r trosglwyddo ddigwydd.

11.28 Mae'r trosglwyddo wedi creu un o'r ychydig enghreifftiau ar y rhwydwaith rheilffyrdd lle mae gwasanaethau rheilffyrdd yn symud rhwng dau rwydwaith rheilffyrdd gwahanol. O ystyried y cymhlethdod hwn, aeth y trosglwyddo'n dda.

11.29 Mae rhanbarth Cymru a'r Gorllewin wedi bod yn cydweithio â'r ORR ar waredu Rheilffyrdd Craidd y Cymoedd, gan ddangos yr effeithiau ar ddiogelwch, cyllid a pherfformiad. Mae hefyd wedi diweddaru ei gynlluniau busnes yn unol â hynny i adlewyrchu'r newid hwn i rwydwaith llwybr Cymru. Bydd ORR, fel rheoleiddiwr iechyd a diogelwch y diwydiant rheilffyrdd, yn parhau i gynghori a gorfodi ar y rhwydwaith hwn.

Collodd dau weithiwr trac eu bywydau mewn trychineb ym mis Gorffennaf 2019

Ym mis Gorffennaf 2019, collodd dau weithiwr trac eu bywydau mewn trychineb wrth iddynt gael eu taro gan drên yn ne Cymru. Rhaid i'r diwydiant sicrhau ei fod yn dysgu gwersi i rwystro hyn rhag digwydd eto. Rydym wedi gweld gwelliannau hirdymor i reoli diogelwch asedau yn y rhanbarth ond mae angen am newid sylweddol mewn monitro sut mae staff yn gweithio ar lawr gwlad.

11.30 Cafodd llwybr Cymru berfformiad cymysg o ran iechyd a diogelwch yn 2019-20. Mae'r Gyfradd Amlder Amser a Gollwyd yn sgil Anafiadau (LTIFR) wedi codi (sef wedi gwaethygu) dros y flwyddyn. Mae risg croesfannau rheilffordd hefyd wedi codi ychydig, yn sgil niferoedd cynyddol o drenau a defnyddwyr croesfannau. Dengys hyn bwysigrwydd parhau i chwilio am welliannau mewn rheolaethau risg ar groesfannau rheilffordd.

11.31 Ym mis Gorffennaf 2019, collodd dau weithiwr trac eu bywydau mewn trychineb pan gawsant eu taro gan drên a'u lladd wrth weithio ar reilffyrdd agored i draffig ym Margam, ger Port Talbot. Rydym wrthi ar hyn o bryd yn cynnal ymchwiliad i'r digwyddiad a byddwn yn adrodd ar y canlyniad maes o law.

11.32 Er nad yw hyn yn benodol i ranbarth Cymru a'r Gorllewin, mae Network Rail yn edrych ar effaith posibl newidiadau i weithio ar reilffordd fyw, ar draws ei holl rwydwaith. Nod ein Hysbysiadau Gwella ar Ddiogelwch Gweithwyr Trac[96] yw lleihau gweithio 'diamddiffyniad' o'r fath, ac er bod llwybrau Cymru a'r Gorllewin yn ymateb i'r hysbysiadau gwella diogelwch gweithwyr trac, mae'n dal yn gynnar ar hyn o bryd ac araf yw'r cynnydd.

11.33 Fel rhan o'n adolygiadau diogelwch, rydym wedi edrych a yw'r rhanbarth yn gwneud popeth sy'n rhesymol ymarferol i osod systemau rhybudd awtomatig ar groesfannau llwybrau troed, a chroesfannau a weithredir gan ddefnyddwyr, sydd heb amddiffyniad gweithredol (megis goleuadau, larymau a rhwystrau). Awgryma'n dadansoddiad nad yw cynlluniau Cymru a'r Gorllewin yn ddigon uchelgeisiol ac rydym wedi eu hannog i adolygu eu cynlluniau o ganlyniad. Mae gwaith dilynol ar ôl digwyddiadau lle osgowyd trychineb trwy drwch blewyn ar groesfannau a weithredir gan ddefnyddwyr a chroesfannau llwybrau troed yn awgrymu bod risgiau'n cael eu rheoli'n dda ar y cyfan.

Mae effeithlonrwydd llwybr Cymru wedi gwella ond mae tanberfformiad ariannol sy'n gofyn am welliannau

Mae Cymru wedi rhagori ar ei darged effeithlonrwydd ar gyfer 2019-20 ac wedi gwneud cynnydd da wrth baratoi i gyflawni'n effeithlon yn 2020-21 a blynyddoedd diweddarach cyfnod rheoli 6, ond mae tanberfformiad sy'n gofyn am welliannau. Mae'r llwybr wedi nodi bod mwy o waith sy'n dal angen ei wneud ynghylch cynllunio effeithlonrwydd adnewyddu. Gall hyn gael ei lesteirio gan y tarfu presennol ar weithiau adnewyddu yn sgil y pandemig coronafeirws (Covid-19) – a bydd ORR yn parhau i fonitro ei effaith.

Roedd y perfformiad ariannol yn is na'r targed

11.34 Mae ein prif fesur o berfformiad ariannol Network Rail, y mesur perfformiad ariannol (FPM), yn berthnasol i'r mwyafrif o weithgareddau Network Rail. Mae'n rhoi dealltwriaeth well o berfformiad ariannol Network Rail nag amrywiadau syml incwm a gwariant.

[96] Hysbysiadau gwelliannau ORR:
https://orr.gov.uk/rail/publications/enforcement-publications/improvement-notices/improvement-notices-2019

11.35 Mae'r FPM yn cymharu incwm a gwariant gwirioneddol â chyllidebau blynyddol Network Rail, ac â'r tybiaethau ariannol ym mhenderfyniad terfynol ein hadolygiad cyfnodol (PR) 18 (sy'n sail i gyllid y cwmni). Mae'n sicrhau nad yw Network Rail yn elwa o ohirio gwaith nac wrth beidio â chyflawni allbynnau gofynnol. Mae FPM cadarnhaol yn golygu bod Network Rail wedi rhagori ar ei berfformiad ac FPM negyddol yn dangos y gwrthwyneb yn yr un modd.

11.36 Fe wnaeth llwybr Cymru danberfformio'n ariannol o £32m yn 2019-20 o gymharu â'i gynllun cyflawni ar gyfer cyfnod rheoli 6. Mae hyn yn gyfwerth â gorwariant o 1.1%. Roedd y tanberfformiad hwn i'w briodoli'n bennaf i welliannau, a'r rhain yn ymwneud yn bennaf â GWEP.

Mae effeithlonrwydd wedi gwella

11.37 Yn y cyfnod rheoli blaenorol (CP5) cyflawnodd Network Rail yn wael ar draws targedau adnewyddu ac effeithlonrwydd. Yn adolygiad cyfnodol18 fe wnaethom osod her gwelliant effeithlonrydd o £3.5bn i Network Rail ar gyfer ei weithgareddau craidd, cymorth, cynnal a chadw ac adnewyddu.

11.38 Ymatebodd Network Rail i hyn trwy ddatblygu cynllun gwella effeithlonrwydd, a adolygwyd gennym. Yn 2019-20, fe wnaeth llwybr Cymru gyflawni £19.5m o welliannau effeithlonrwydd, a oedd yn fwy na'r £15.2m a dybiwyd yn ei gynllun cyflawni.

11.39 Mae lefel hon o effeithlonrwydd yn newyddion da. Mae'r her effeithlonrwydd yn cynyddu mewn blynyddoedd i ddod. Rhagwelir y bydd y llwybr yn cyflawni rhwng £120m a £160m o effeithlonrwydd dros gyfnod rheoli 6 (gyda rhagolwg canolog o £138m) – felly mae angen parhau i ganolbwyntio ar gynllunio effeithlonrwydd.

11.40 Mae llwybr Cymru'n rhagweld y bydd 88% o'r effeithlonrwydd a dargedir ar gyfer 2020-21 yn cael ei gyflawni o brosiectau sydd eisoes wedi eu cyflawni neu sydd â chynlluniau prosiect clir. Nid oes gan y 12% o effeithlonrwydd sy'n weddill unrhyw gynlluniau prosiect clir neu mae ganddynt gynlluniau nad oes iddynt fawr o hyder o gyflawni effeithlonrwydd. Felly mae angen o hyd i lwybr Cymru gryfhau cynlluniau ar gyfer cyflawni'r effeithlonrwydd hwn.

Mae mwy i'w wneud ar gynllunio cyflawni effeithlon

11.41 Gan ddysgu o ddirywiad mewn effeithlonrwydd yng nghyfnod rheoli 5, fe'i gwnaethom yn ofynnol i Network Rail ddangos ei fod wedi paratoi'n well ar gyfer cyflawni'n effeithlon o gychwyn cyfnod rheoli 6 – yn rhannol trwy ddatblygu prif ddangosyddion newydd ac adrodd arnynt.

11.42 Rydym wedi gweld cynnydd gyda'r dangosyddion arweiniol hyn o gyflawni effeithlon. Mae'r tabl isod yn rhoi diweddariad ar baratoadau llwybr Cymru i gyflawni'n effeithlon yn 2020-21[97]. Cafodd dadansoddiad sylfaenol Network Rail ei gyflawni cyn effaith sylweddol diweddar Covid-19 felly mae tarfu'n debygol o fod, y byddwn yn adrodd arno maes o law.

[97] Caiff yr adran hon ei dadgyfuno yn ôl llwybr yn hytrach na rhanbarth. Mae hyn oherwydd bod rhywfaint o'r ad-drefnu mewnol o lwybrau i ranbarthau fel rhan o ad-drefnu Rhoi Teithwyr yn Gyntaf heb gael ei weithredu eto.

Ffigur 10.3: Y prif ddangosyddion ar gyfer cyflawni effeithlonrwydd yn 2020-21, llwybr Cymru

Llwybr	Cynllunio adnewyddu			Mynediad diogel i waith peirianyddol			Gofyniad cynnal a chadw 2020-21		
	Gwaith a awdurdodwyd yn Oracle		Targed	Canran o'r mynediad gofynnol a archebwyd		Targed	Cyfrif pennau		Targed
Cymru	46%	●	88%	78%	●	90%	91%	●	100%
Cenedlaethol/ Prydain	**69%**	●	**83%**	**76%**	●	**93%**	**95%**	●	**99%**

Ffynhonnell: Adroddiad parodrwydd cyfnod rheoli 6 Network Rail

11.43 Mae cynllunio effeithlon ar gyfer adnewyddu yn bwysig er mwyn sicrhau proffil sefydlog o waith dros amser o fewn cadwyn gyflenwi Network Rail. I olrhain hyn, mae Network Rail yn mesur y ganran o brosiectau adnewyddu sydd wedi eu hawdurdodi'n ariannol. Mae llwybr Cymru yn sylweddol y tu ôl i'w dargedau mewnol ei hun, a thu ôl i'r cyfartaledd ar gyfer Prydain.

11.44 Mae'r lefel hon o awdurdodi cyllidol yn peri pryder. Fodd bynnag, rydym hefyd yn ystyried camau cynharach o'r cylch oes cynllunio, megis cylchoedd gwaith a gyflwynwyd ac a dderbyniwyd gan y gadwyn gyflenwi. O dan y mesur hwn mae'r gadwyn gyflenwi wedi derbyn 78% o'r adnewyddu a gynlluniwyd ar gyfer llwybr Cymru yn 2020-21.

11.45 Fe wnaeth y llwybr danberfformio hefyd yn erbyn ei darged mewnol ar gyfer archebu mynediad a fyddai'n tarfu ar y rhwydwaith ar gyfer gwaith peirianyddol a gynlluniwyd yn 2020-21. Yn ogystal, mae gan lwybr Cymru ddiffyg (9%) o gymharu â'i gyfrif pennau cynnal a chadw gofynnol ar gyfer 2020-21.

11.46 Mae llwybr Cymru wedi gwneud cynnydd pellach gan gynnwys cryfhau adnoddau a goruchwyliaeth cadarnhach ar lefel rhaglenni. Fodd bynnag, mae mwy fyth sy'n dal angen ei wneud, yn enwedig o safbwynt ansawdd cynlluniau effeithlonrwydd adnewyddu, gan fod y rhain yn allweddol er mwyn cyflawni'r symiau gofynnol o adnewyddu a'r her o effeithlonrwydd cynyddol ym mlynyddoedd diweddarach cyfnod rheoli 6.

11.47 Bydd gwybodaeth bellach ar berfformiad ariannol, mentrau effeithlonrwydd a pharatoadau Network Rail am 2020-21 yn cael ei cyhoeddi yn Asesiad Effeithlonrwydd a Chyllid Blynyddol ORR (disgwylir ei gyhoeddi yn haf 2020).

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