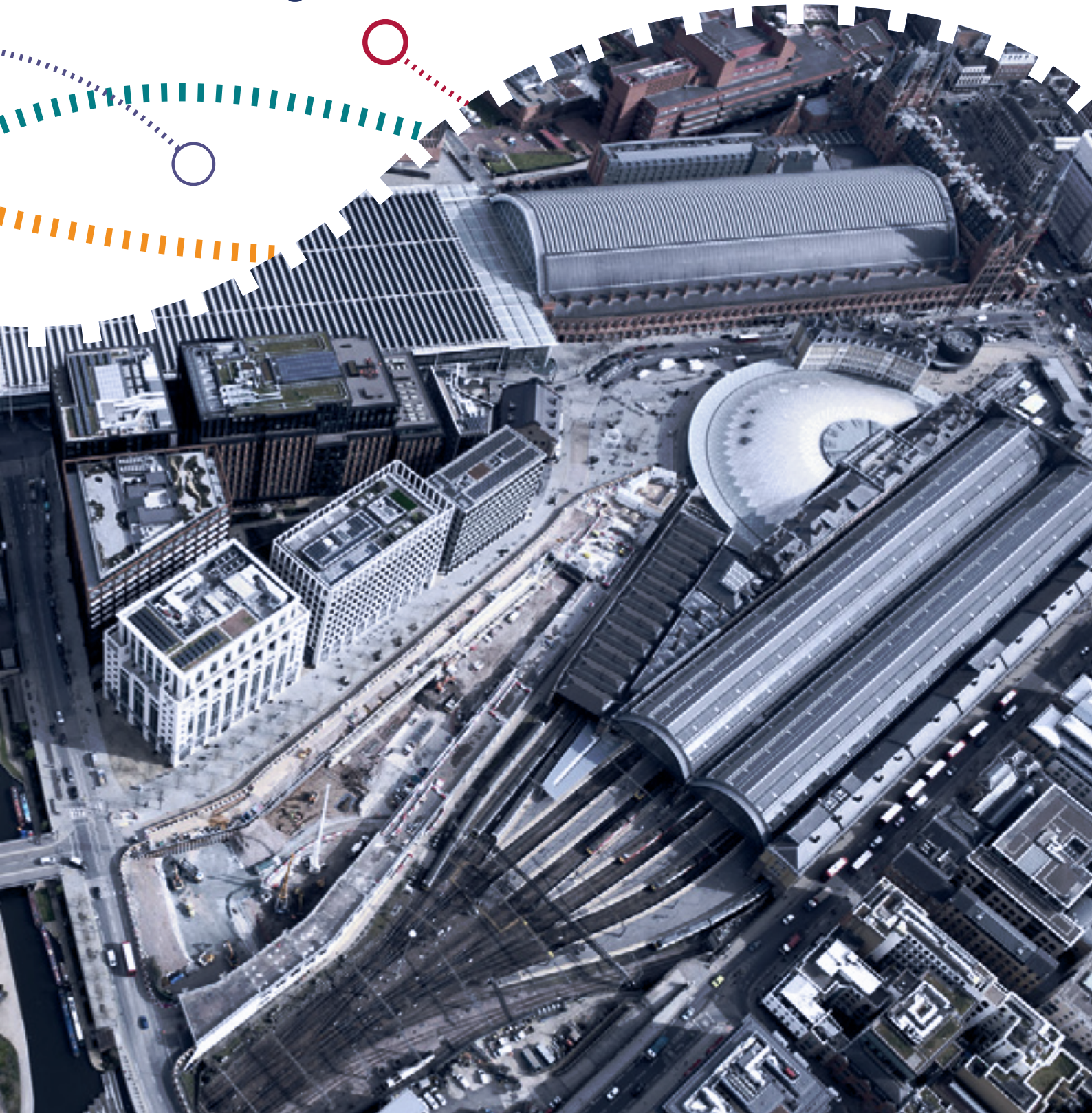# ORR
## OFFICE OF RAIL AND ROAD

# 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.
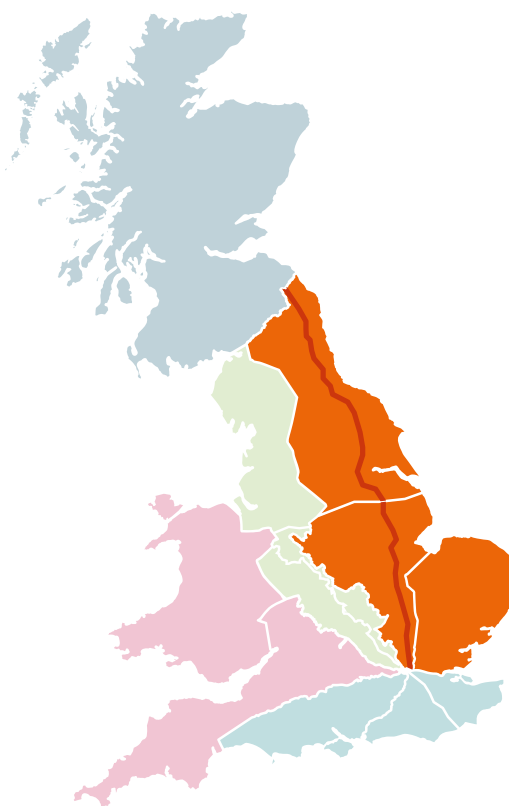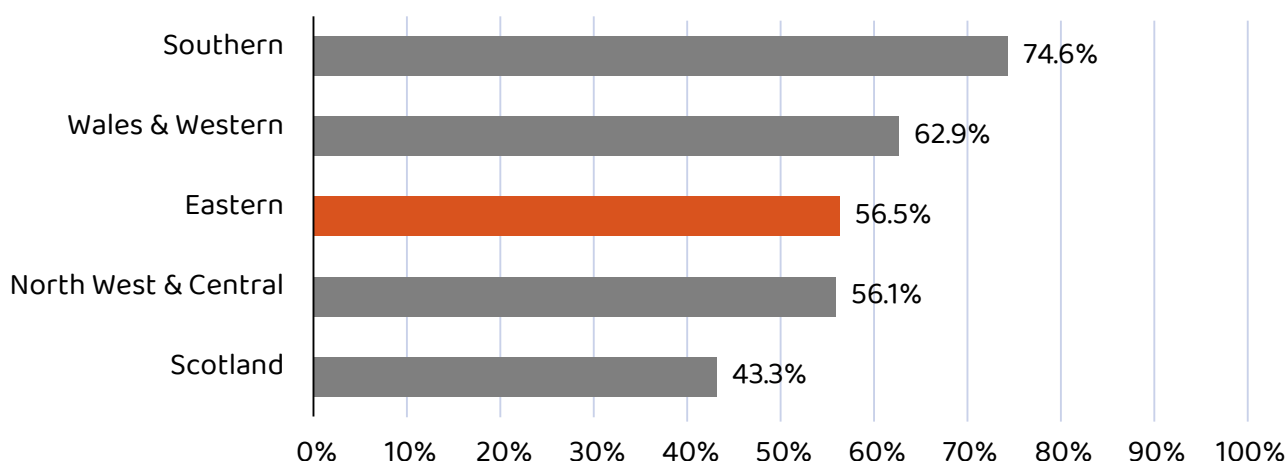


**Figure 3.1: Overall scorecard performance by region, 2019-20**



Source: Network Rail's regional scorecards

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# 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.

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[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**
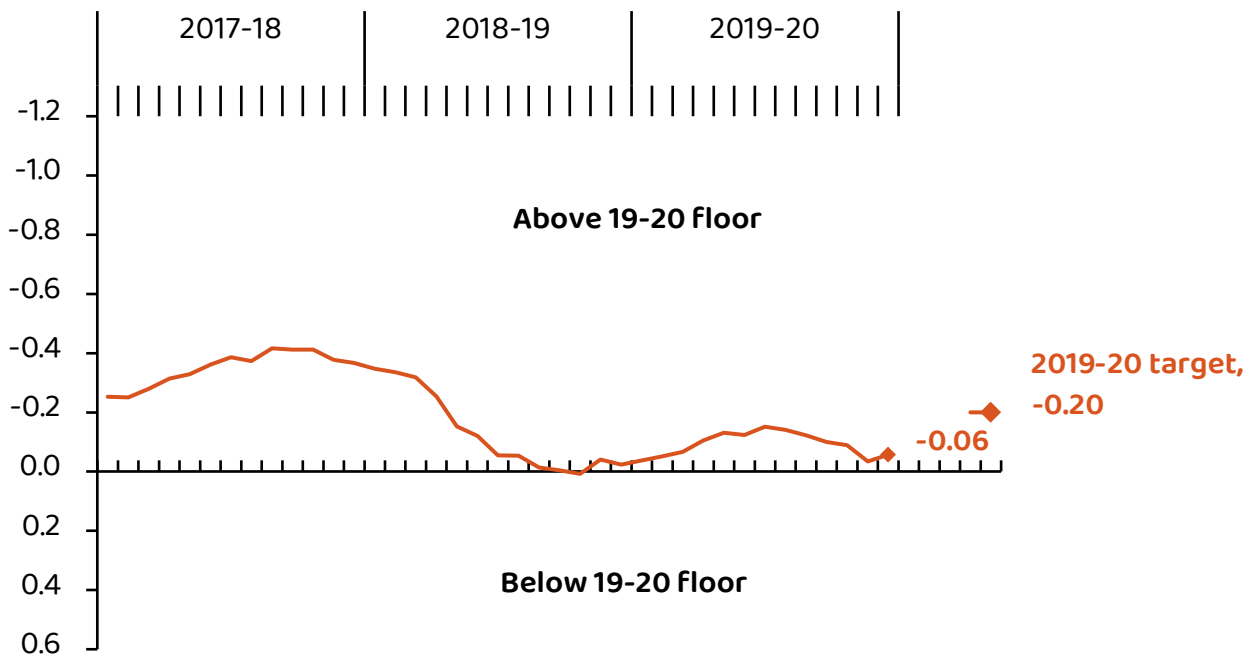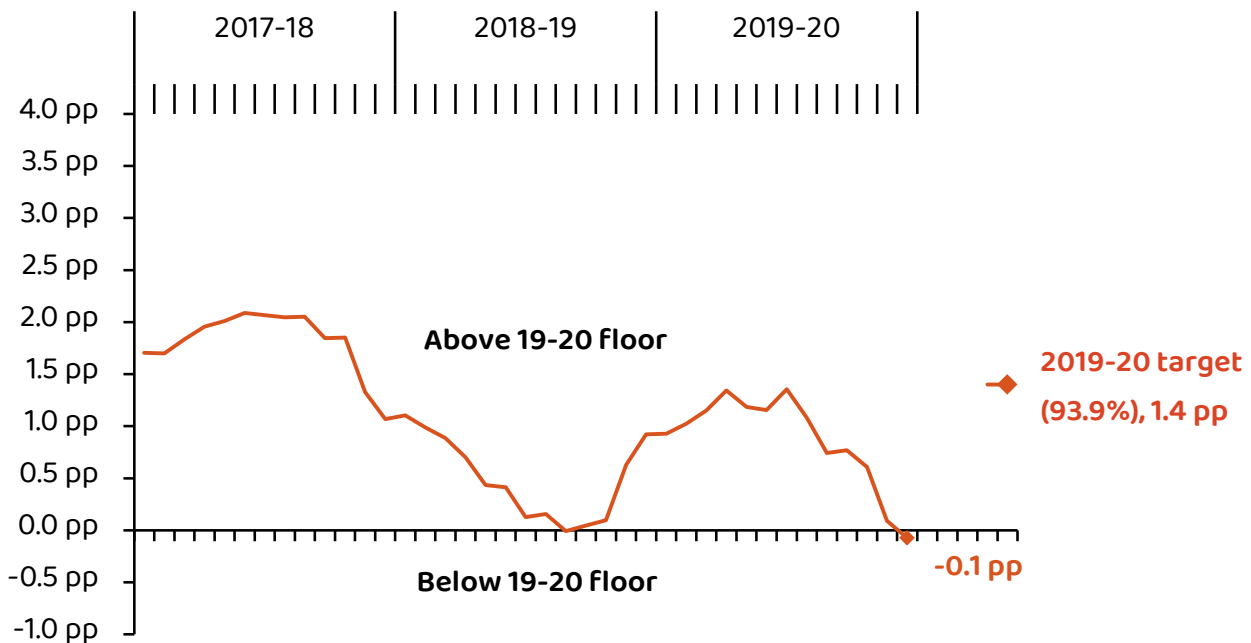


Source: ORR analysis of Network Rail data

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.

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[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).