



OFFICE OF RAIL AND ROAD

Network Rail Monitor Scotland

*Quarters 1-2 of Year 5 of CP5
1 April 2018 to 13 October 2018*

29 November 2018



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1. Overview

- 1.1. This edition of our Network Rail Monitor falls between the publication of our final determination for CP6 on 31 October 2018 and the findings from the second phase of our inquiry into the timetable disruption in May 2018, due to be published in December 2018. As a consequence this edition is shorter than usual, concentrating on just two areas: passenger train service performance and CP6 readiness.

Passenger train service performance in Scotland

- 1.2. Passengers in Scotland have suffered a decline in train service performance during CP5. They rely on both Network Rail and train operators working together to deliver punctual and reliable train services. ORR's remit is to ensure that Network Rail is doing all that is reasonably practicable to deliver its contribution.
- 1.3. The CP5 framework comprised national targets set in October 2013 and local targets agreed annually between Network Rail Scotland and each of its customers, the train operators. Because these targets are system-wide they do not differentiate between Network Rail action and train operator action. So, if targets are not met we must investigate further to determine the extent of Network Rail's accountability. This is a complex task because the network is increasingly busy and train performance is affected by many different factors.
- 1.4. Currently passenger train performance in Scotland is well adrift of target. At the end of period 7 2018-19, the PPM Moving Annual Average (MAA) for the franchises let by the Scottish Government was 87.5%, 5.0 percentage points (pp) below the year end regulatory target of 92.5%.
- 1.5. In the last six months, Network Rail has been implementing the recommendations from the Nick Donovan independent review of performance commissioned by the ScotRail Alliance. Our monitoring has raised concerns about the speed of implementation and tracking of the recommendations. ORR has recently commissioned an Independent Reporter to assess how effectively the recommendations are being managed and implemented.
- 1.6. With the winter months still ahead, it is too soon to conclude whether Network Rail has taken all reasonable steps to deliver its targets for this year. We will therefore continue to investigate and we will report our findings on 2018-19 as a whole in the Monitor we expect to publish next summer.
- 1.7. However, we also have seen evidence to suggest failings in Network Rail's underlying performance management capability from a series of industry reviews and our own "deep dives" into particular routes undertaken in the last two years. These

concern Network Rail's approach and commitment to performance planning and its capability to recover services following incidents on the network, working with train operators.

- 1.8. Therefore, in addition to our normal monitoring for this year, we have decided to take action now to ensure Network Rail is addressing these systemic failings ahead of the start of CP6.
- 1.9. Looking ahead, we have finalised a [different framework](#) for CP6 that should provide sharper incentives for Network Rail to deliver good performance to its customers and passengers, that more closely reflects its route-based structure. This will become fully operational in April 2019.

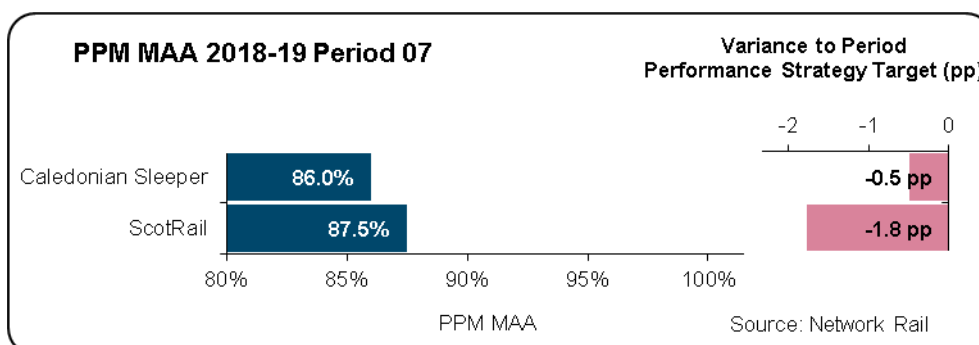
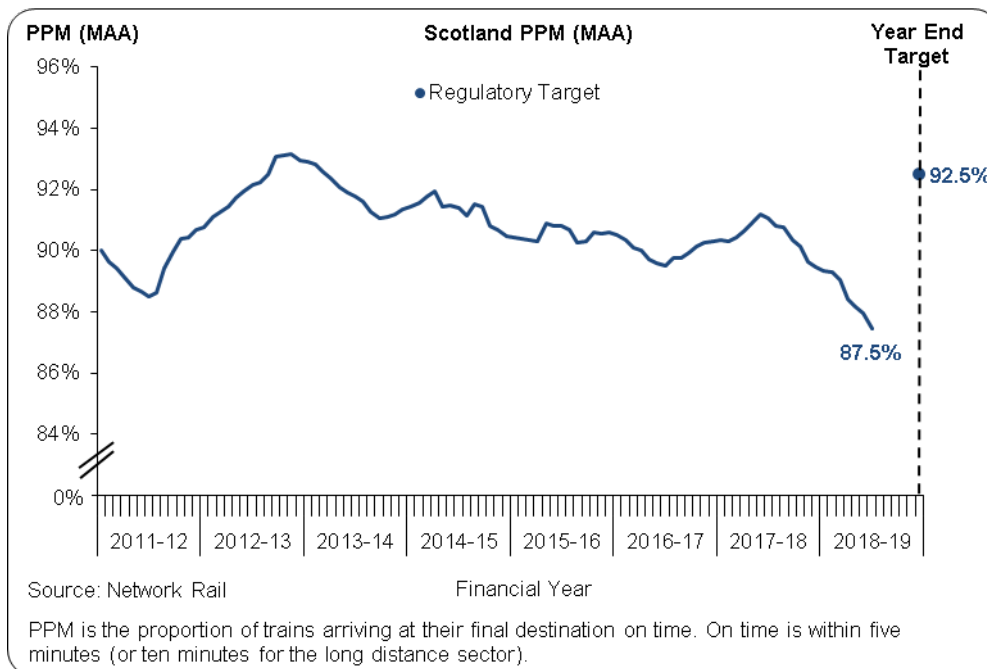
CP6 Readiness

- 1.10. In the 5 months since we raised this issue publicly, Network Rail has made progress in establishing workbanks, securing access to the railway for planned disruptive engineering and building up its maintenance resources for the start of CP6. However, initiatives to deliver efficiency savings across CP6 are less well advanced.
- 1.11. Overall, Network Rail is in a better state of readiness for CP6 than it was at the equivalent point before CP5 started. But there is more it needs to do in the remaining 4 months before CP6 starts. We will continue to monitor its readiness closely and we will report publicly again on its progress by the end of March 2019.

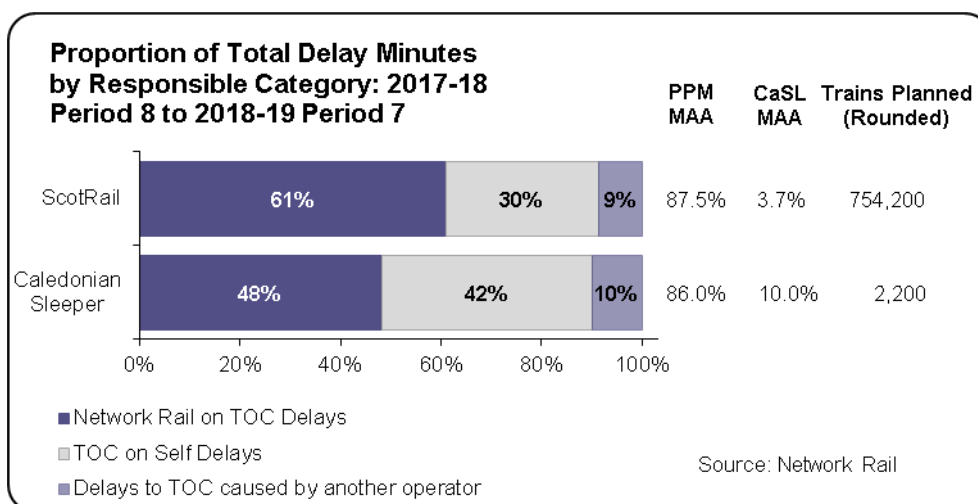
2. Passenger train service performance in Scotland

2.1. Passengers in Scotland have suffered a decline in train service performance during CP5. Passengers rely on both Network Rail and train operators to work together to deliver punctual and reliable train services. ORR's remit is to ensure that Network Rail is doing all that is reasonably practicable to deliver its contribution. As a starting point we examine the performance metrics that the industry currently uses. In Scotland this is the Public Performance Measure (PPM).

2.2. We are holding Network Rail Scotland to account for delivery of its regulated performance targets throughout CP5. The PPM MAA for the franchises let by the Scottish Government (ScotRail and Caledonian Sleeper) at the end of period 7 of 2018-19 was 87.5%, 5.0 percentage points (pp) below the year-end regulatory target of 92.5% and 3.6pp worse than at the same time last year.



- 2.3. The CP5 framework comprised national targets set in October 2013 and local targets agreed annually between Network Rail and each of its customers, the train operators. Because these targets are system-wide they do not differentiate between Network Rail action and train operator action. So, when targets are not met we must investigate further to determine the extent of Network Rail's accountability. This is a complex task because the network is increasingly busy and train performance is affected by many (often interrelated) factors.
- 2.4. We work closely with Network Rail and TOCs to understand performance trends. We analyse the data that the industry routinely gathers about delays and who they are attributable to and we undertake regular site visits to see at first hand the challenges Network Rail faces and how it plans to tackle them.
- 2.5. Over the last year, 61% of delay minutes affecting ScotRail and 48% of delay minutes affecting Caledonian Sleeper were attributed to Network Rail. The remaining delay minutes were attributed to the operators themselves and other operators.



- 2.6. The data shows there is also an increase in delay per incident (DPI). In Scotland, the level of delay attributed to certain categories has increased (mainly non-track asset failures, severe weather and structures). We see a similar trend in DPI for non-track asset failures (and other categories) in all routes in England. Wales is the only route where DPI is decreasing.
- 2.7. Performance in Scotland 2018-19 has been affected by significant weather events. Snow and sub-zero temperatures in late February and early March 2018 caused severe disruption across Scotland and resulted in the closure of the entire rail network after the Met Office issued a red alert weather warning. In June and July 2018 soaring temperatures caused further disruption for passengers due to services being either suspended or temporary speed restrictions being imposed. More

recently Storm Ali in September 2018 caused major line blockages due to trees on the line or damage to overhead wires.

- 2.8. Network Rail Scotland has said that problems implementing the May 2018 timetable change affected cross border services which in turn impacted services in Scotland. We have already taken action in response to Network Rail's failings in relation to the May 2018 timetable and we will assess the impact of this in the next Monitor.
- 2.9. Partly in response to the decline in performance, in March 2018 the ScotRail Alliance commissioned an independent review of performance by Nick Donovan (former TransPennine Express Managing Director). It accepted and committed to implement the 20 recommendations in the review. We have been monitoring implementation of these recommendations and we have some concerns around the speed of implementation and management of their tracking. It is also unclear to us how the recommendations sit with Network Rail Scotland's wider performance improvement plan. To address these concerns, ORR has recently commissioned an Independent Reporter to assess how effectively the Donovan recommendations are being managed and implemented. This will conclude in December 2018 and will be published on our website. Additionally, we have been liaising closely with Network Rail Scotland, reviewing its operational management and implementation of the improvement plan every two months. We will continue our close scrutiny of Network Rail's delivery in Scotland.
- 2.10. While it is Network Rail's responsibility to manage overall performance, some issues affecting performance are mainly for the train operators. Given this complexity and that the winter months of 2018-19 are still to come, it is too soon to conclude whether Network Rail Scotland has taken all reasonable steps to deliver its targets for this year. We will therefore continue to monitor performance for the rest of the year and to investigate Network Rail's role. We will report our findings on 2018-19 as a whole in the Monitor next summer.
- 2.11. However, we also have seen evidence to suggest failings in Network Rail's underlying performance management capability from a series of industry reviews and our own "deep dives" into particular routes undertaken in the last two years. These concern Network Rail's approach and commitment to performance planning; and its capability to recover services following incidents on the network, working with train operators.
- 2.12. Therefore, in addition to our normal monitoring for this year, we have decided to take action now to ensure Network Rail is addressing these systemic failings ahead of the start of CP6.

- 2.13. Looking ahead, we have finalised a different framework for CP6 that should provide sharper incentives for Network Rail to deliver good performance to its customers and passengers as it more closely reflects Network Rail's route based structure. This will become fully operational in April 2019.
- 2.14. An important element in the new approach is the Scotland Route scorecard. Network Rail first introduced route scorecards in 2016-17 to monitor its key performance indicators and to align its train performance more closely with its customers' requirements. Both ScotRail and Caledonian Sleeper have scorecards which allow them to hold Network Rail Scotland to account for the delivery of their specific requirements. We use the data in the scorecards as evidence to help us determine whether Network Rail is doing everything reasonably practicable to meet its train service performance targets.

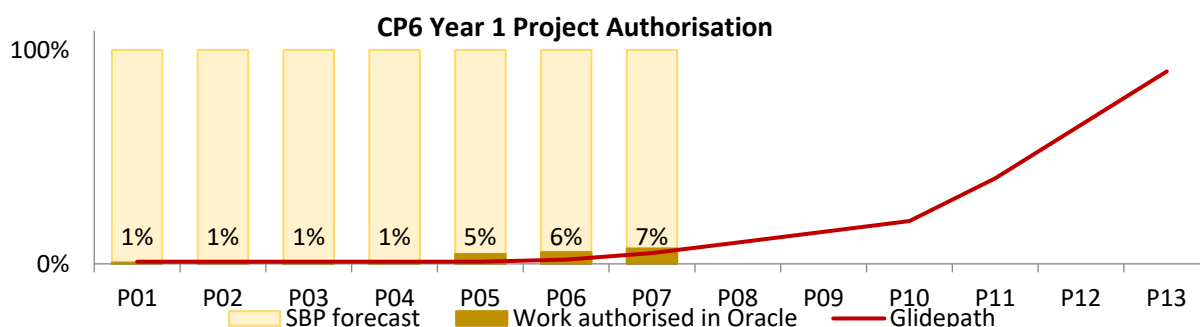
3. CP6 Readiness

- 3.1. We have reviewed Network Rail's leading indicators of efficient delivery for Scotland for 2019-20, the first year of CP6. We first reported on these indicators in the Scotland Monitor that we published in July 2018. At that time we recognised this was new management information (though based on existing data sources) and that we would expect Network Rail's analysis to evolve.
- 3.2. We reported that it was difficult to draw firm conclusions from the information available in July 2018. However, the available information did not clearly show that the Scotland route was well prepared to deliver efficiently from the start of CP6. We said the route and Network Rail's central teams needed to do more to demonstrate this.
- 3.3. We have now reviewed the route's progress largely based on information up to the end of period 5 and subsequently updated for period 7. Our review included in-depth interviews with Network Rail Scotland's directors about its preparations. Most of our commentary below focuses on the output from these interviews.
- 3.4. In the 5 months since we raised this issue publicly, the route and Network Rail's central teams have made progress in establishing workbanks, securing access to the railway for planned disruptive engineering and building up maintenance resources for the start of CP6.
- 3.5. However, initiatives to deliver efficiency savings across CP6 are less well advanced. There are different levels of maturity and uncertainty about these plans and there is more to do to set out what these plans will deliver, how Network Rail Scotland will deliver them, the delivery risks and how the route will mitigate those risks.
- 3.6. Overall, our review has found that Network Rail Scotland is in a better state of readiness for CP6 than it was at the equivalent point before CP5 started. But there is more it needs to do in the remaining 4 months before CP6 starts.
- 3.7. Our review identified differences between the information collated and used by Network Rail's central team compared to the information that is being used by routes themselves to monitor their own progress. Network Rail has made changes between period 5 and period 7, and is continuing to develop its leading indicators to improve their usefulness for assessing routes' preparations.
- 3.8. We will check Network Rail's progress on CP6 readiness at our regular director-level meetings and we will further report publicly on this issue by the end of March 2019.

Renewals planning

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

Percentage of renewals projects in 2019-20 with financial authorisation¹



Source: Network Rail

3.10. In Scotland, only 7% of renewals projects for 2019-20 (by value) had complete detailed designs and had received financial authorisation for delivery by the end of period 7. This represented a 6pp increase in work authorised compared to our last review and was in line with the route's internal target of 7%.

3.11. Our review has found that additional information needed to be considered to assess Network Rail Scotland's progress in planning its renewals programmes for 2019-20. Based exclusively on this key indicator we would be concerned at the progress made around the authorisation of projects. However, drawing on this additional information, we consider that the route has generally progressed further than suggested. In particular, the route stated that all planned renewals projects for 2019-20 had been shared with the supply chain. We also note that the level of authorisation was consistent with the route's internal target with the route expecting to obtain authorisation for a further 25% of planned renewals as a single batch by the end of November.

3.12. Network Rail uses framework agreements with its supply chain for the majority of its renewals delivery contracts. There were problems with changes to framework agreements in late CP4 and early CP5 (in particular for track and civils) which disrupted planning and led to deferral of work. Network Rail is currently in the process of renewing and extending most of these framework agreements. This

¹ The glidepath line shows both actual and forecast information.

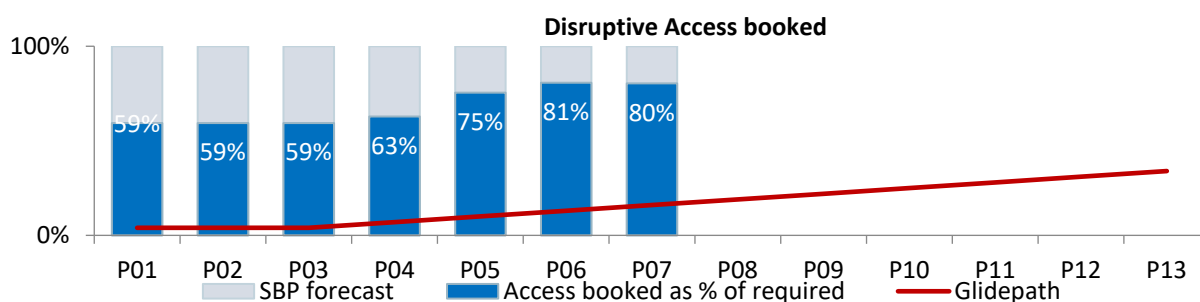
appears to be on schedule and we expect the majority of the new framework agreements to be awarded before the start of CP6. Where necessary, Network Rail has plans in place to extend other framework agreements to cover the start of CP6.

3.13. We are currently discussing with Network Rail how additional information can be used to improve understanding of the development and subsequent stability of Network Rail Scotland’s renewals workbanks. This will include reviewing whether this metric is fit for purpose given how routes plan their renewals.

Securing engineering access to the railway

3.14. Network Rail Scotland appears to be on track for booking disruptive access to the network for planned engineering work in 2019-20. By period 7, the route had booked 80% of planned disruptive access work in Network Rail’s possession planning system. This is above the national rate of 57% of forecast disruptive possessions and above Network Rail’s 30% internal target. As explained below, we consider that this understates the level of routes’ planned network possessions.

Percentage of required network access in 2019-20 booked



Source: Network Rail

3.15. Network Rail’s leading indicator for booking engineering access to the railway is currently under development. Until period 5, this indicator did not distinguish between disruptive and non-disruptive possessions and there are important differences between these. Disruptive possessions require longer lead times because of their disruption to train services. On the other hand, non-disruptive possessions can be obtained more quickly and easily because they should have a more limited impact on users, so don’t need to be booked as early. We consider that the booking of disruptive possessions is the most important component to assess at this stage before the start of 2019-20, because of the different lead times.

3.16. Our period 5 review found that over 90% of the disruptive possessions required to undertake planned renewals in Scotland in 2019-20 had been booked in Network Rail’s possession planning system. Network Rail Scotland route expects this to be 100% by the start of the year. This is higher than suggested by the information

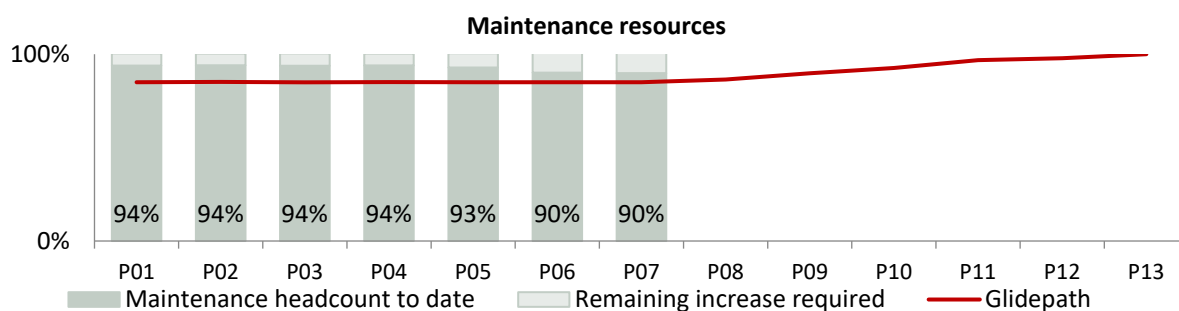
presented above. The reason for this difference is that the forecast total access required includes an estimate of unplanned disruptive access that will be needed (for example, where Network Rail has to take a network possession to remedy damage caused by severe weather). We consider the data presented is confusing and we are discussing with Network Rail how the indicator can more clearly distinguish between planned and unplanned network possessions.

Maintenance resources

3.17. To ensure that it has adequate capacity to deliver a planned increase in maintenance activities for 2019-20, Network Rail Scotland intends to recruit a further 105 full time employees before the end of 2018-19. We consider that the route has adequate plans and capacity to manage this. The route recently undertook a recruitment campaign that received over 1200 applications. Interviews have been completed and offers are currently being finalised.

3.18. The current position on maintenance resources/maintenance capacity is set out below.

Increase in maintenance headcount compared to 2019-20 requirement



Source: Network Rail

Efficiency plans

3.19. This section summarises the efficiency improvements that we expect Network Rail Scotland to achieve in CP6, the route's plans to deliver these improvements, its internal governance, and our assessment of its progress to date.

3.20. Our PR18 draft determination challenged Network Rail to make further efficiency savings than were set out in its CP6 strategic business plans. Network Rail responded positively by including around £30m of additional savings relating to Network Rail Scotland. These were included in its updated plans agreed with the route's managing director. This means that unlike in previous control periods, there is more route ownership of the efficiency plans.

3.21. In our PR18 final determination, we accepted Network Rail’s revised proposals on efficiency. However, we recognised that, in the context of Network Rail’s current efficiency levels at the end of CP5, achieving the target efficiencies at the start of CP6 and continued improvement during the control period, will be challenging. This is one of the reasons why it is important that we are closely monitoring Network Rail’s plans for delivering efficiently in CP6.

3.22. Network Rail is developing plans to achieve our £314m CP6 net efficiency challenge. This net number included £337m of gross efficiencies (including £279m of savings in CP6 and £58m of savings in baseline costs) offset by £23m of headwinds. The contribution of the route and central functions to the £279m of savings that Network Rail Scotland is expected to deliver in CP6 is summarised in the table below.

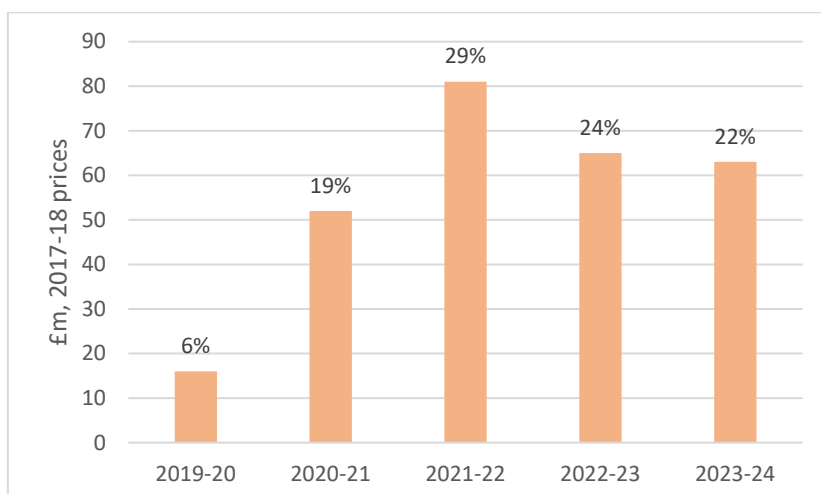
Network Rail’s expected savings in Scotland in CP6

£m, 2017-18 prices	2019-20	2020-21	2021-22	2022-23	2023-24	CP6
Route efficiencies	(15)	(42)	(68)	(55)	(54)	(234)
Central function efficiencies	(1)	(11)	(14)	(10)	(9)	(45)
Scotland total efficiencies	(16)	(53)	(82)	(65)	(63)	(279)

Source: PR18 analysis

3.23. The £30m of additional savings have been included by Network Rail Scotland in its efficiency plans and allocated across the various initiatives detailed below (LEAN etc.). However, the route does not have well-developed plans for delivering these. In particular, it has not identified how £13m will be delivered. We expect Network Rail to provide more detail on how it will deliver these additional efficiencies before the start of CP6.

Scotland Route's CP6 expected gross efficiency improvements in CP6²



Source: Network Rail

3.24. Network Rail has summarised how it intends to improve its efficiency in CP6 in an internal company-wide CP6 efficiencies portfolio overview document that it has shared with us. This describes the efficiency initiatives that Network Rail is developing across 17 themes. This document is an important step in better explaining the business changes that routes and central functions are currently planning in order to achieve the CP6 efficiency improvements that they have committed to deliver.

3.25. The £279m of efficiencies that Network Rail is aiming to deliver for Scotland include the following initiatives:

- improved contracting strategies (£24m);
- LEAN (£29m);
- optimisation of access (£24m);
- early contractor involvement (£39m);
- improved workbank stability (£15m);
- supply chain operations initiatives (£22m);
- national operating strategy (£15m); and
- other (£111m)

² Each bar shows the share of the total CP6 efficiency improvements expected to be delivered in that year.

- 3.26. We comment below on Network Rail's progress to date in developing its plans to deliver these initiatives.
- 3.27. **Improved contracting strategies** encompass a number of business-wide changes to improve procurement and reduce supply chain costs. These centre on taking a more strategic approach to procurement and improved collaboration between routes and Network Rail's central procurement team. We are discussing with Network Rail what these changes will mean in practice and how it can robustly measure the efficiency improvements (or otherwise) from these changes to procurement.
- 3.28. **LEAN** is a business approach that seeks to empower employees to continuously identify and eliminate waste in business processes. Network Rail has established LEAN academies within each of its routes. By its nature, the specific changes to business processes resulting from LEAN techniques have not yet been identified by Network Rail for CP6 and we are not clear how Network Rail intends to identify and record related efficiency improvements. This means that there is significant uncertainty around the amount of efficiency improvements that LEAN should deliver in CP6.
- 3.29. Network Rail is aiming to improve how it **optimises its own access** to the rail network to undertake engineering works. Network Rail has provided examples of initiatives that the Scotland route has undertaken and is planning. For example, for multi-disciplined teams to undertake different types of work within a single network possession to increase productivity and reduce disruption to rail users. At this stage it is difficult to assess the extent to which these represent real changes to current ways of working. We intend to work with Network Rail to better understand the Scotland route's efficiency plan in this area.
- 3.30. Network Rail is seeking ways to **engage its supply chain earlier** than in the development of its workbanks. Through this, Network Rail hopes to improve delivery confidence and avoid overruns. As reported in the renewals planning sections above, we consider that renewals planning has improved compared to preparations for CP5. We are discussing with Network Rail how these efficiency improvements can be separately identified from the 'improved contracting strategy' and 'improved workbank stability' initiatives, and whether there is a risk of double counting possible future benefits.
- 3.31. The **improved workbank stability** initiative is focused on giving Network Rail's supply chain a more predictable workbank, with the aim of reducing supply chain costs. Network Rail has stated that it intends to optimise and stabilise its renewals workbank by improving the packaging of work and, avoiding peaks and troughs in activity by improving collaboration across routes. We are discussing with Network

Rail how these efficiency improvements can be separately identified from the 'improved contracting strategy' and 'early contractor involvement' initiatives. We are also discussing whether there is a risk of double counting possible future benefits.

- 3.32. The **supply chain operations** initiative is underpinned by Network Rail's Supply Chain Operations (SCO) transformation themes and supported by benchmarking outcomes. Network Rail plans to achieve these efficiencies through synergies across the supply chain for a number of key services and the optimisation of the High Output maintenance and operations model. The efficiencies that Network Rail expects to achieve from this programme are limited to internally purchased and recharged products as opposed to previously mentioned contracting strategies that focus on external efficiencies. We are discussing with Network Rail how these efficiency improvements can be separately identified from the 'intelligent infrastructure' and 'new technologies' initiatives, and whether there is a risk of double counting possible future benefits.
- 3.33. The **national operating strategy** is based on Network Rail's National Operations Strategy (NOS) team consolidating signalling and control activities into central Rail Operating Centres (ROC). The Scotland route expects to achieve its proposed efficiencies throughout CP6 by migrating signal boxes. Network Rail expects this to generate efficiencies through improved operational control and risk reduction. We are discussing with Network Rail how these efficiency improvements can be measured via operational efficiencies and risk reduction, and whether there is a risk of double counting of these efficiencies in other areas.

Summary of efficiency plans

- 3.34. Network Rail is developing its capability around the development and delivery of route efficiency initiatives. This includes the recent creation of a benefits calculation working group that includes representatives from each of the routes, and an executive-led Efficiencies Assurance Board.
- 3.35. Network Rail has developed opex and capex (renewals) efficiency trackers to document the route's progress in developing their CP6 efficiency plans. They summarise the maturity of each route's plans across each of the efficiency themes noted above. Network Rail Scotland has defined owners and milestone plans in place across the majority of its efficiency plans. However, the current management information does not yet capture sufficient information to fully understand the progress and risks around routes' efficiency plans.
- 3.36. Overall, we consider that Network Rail has made substantial progress in its efficiency planning for CP6 compared to this point in the run up to CP5. There are different

levels of maturity and uncertainty about these plans and there is more to do to set out what these plans will deliver, how Network Rail will deliver them, the delivery risks and how Network Rail will mitigate those risks.

3.37. Based on our discussions with routes and with Network Rail's central team, we are not yet clear as to how some of the most significant initiatives will generate genuine efficiencies that can be robustly measured.

3.38. Network Rail is engaging with us about this work and we expect to see continuous progress over the next few months. We will check Network Rail's progress at our regular director-level meetings and will report on it publicly by the end of March 2019.

4. Glossary

Term	Explanation
Alliances	The term 'alliances' is currently being used to describe a wide range of different relationships from project-based partnerships through to potentially long-term and comprehensive commercial arrangements covering a wide range of activities carried out by Network Rail routes and train operators. The common factor is that Network Rail and a train operator reach agreement to work together more closely and share the benefits of doing so, within the framework of their existing individual accountabilities and responsibilities. As currently being discussed, alliances do not involve the creation of new legal entities such as formal joint ventures
CAPEX	Refers to the funds used by Network Rail to acquire or upgrade physical assets on the railway and related infrastructure in order to maintain or increase the scope of their operations. Such expenditure is referred to as Renewals (of existing infrastructure e.g. works that will provide long term benefits such as replacing a section of track) or Enhancements (upgrading existing or building new infrastructure, e.g. electrification of a railway line).
Control Period	<p>A control period is the period to which an access charges review (e.g. a periodic review) applies. Control periods are typically five years in length, but maybe shorter or longer depending on what the regulator decides as part of the review.</p> <ul style="list-style-type: none"> • CP6 covers from 1 April 2019 to 31 March 2024 • CP5 covers from 1 April 2014 to 31 March 2019 • CP4 covers from 1 April 2009 to 31 March 2014 • CP3: 1 April 2004 to 31 March 2009 • CP2: 1 April 2001 to 31 March 2004 • CP1: from the privatisation of Railtrack to 31 March 2001
Independent Reporter	A consultant whose role is to provide ORR with independent, professional opinions and advice relating to Network Rail's (as the railway licence holder) provision or contemplated provision of railway services, with a view to ORR relying on those opinions or advice in the discharge by ORR of its functions.
Moving Annual Average (MAA)	Moving annual average - the average of the last 13 four-week time periods.
OPEX	<p>Operating expense: as distinct from CAPEX (capital expenditure), OPEX refers to ongoing costs incurred by Network Rail to maintain the railway infrastructure.</p> <p>Examples of OPEX include routine safety checks on the railway tracks or repairing signalling when it fails.</p>

Term	Explanation
Possessions	Network Rail needs to restrict access to its network to carry out many of its maintenance and renewals activities. These restrictions of access are referred to as possessions.
Public Performance Measure (PPM)	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).
Renewals	Major capital works or replacement of the network in order to maintain its required capability. These may be required at specific times but are more often carried out according to Network Rail's own timetable
Temporary Speed Restriction	Temporary speed restriction imposed for safety reasons. This can arise from the poor condition of track, structures, earthworks, hot weather effects, or following track relaying until the track bed is stabilised.
TOC	Train operating companies: run the passenger trains and services on the network.



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