

Network Rail's response to ORR's Draft Determination: Scotland's Railway

31 August 2023

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Executive summary

On 26 May 2023, we were proud to share our final Strategic Business Plan with ORR and Transport Scotland. This plan set out our ambitious agenda to deliver the best railway that Scotland has ever had and was [published](#) on 27 July 2023. ORR's draft determination, which was published on 15 June 2023, is an important step in its development. This document is our response to ORR's draft determination for Control Period 7 (CP7).

We welcome that ORR has been able to reflect much of the information shared in our interim Strategic Business Plan in February 2023 and overall are supportive of our positions. However, as Scottish Ministers' High Level Output Specification (HLOS) and Statement of Funds Available (SoFA) were shared later than in previous periodic reviews, we have had to work in a more iterative way than in previous control periods. As such, we sought to share supplementary information as and when it became available, in March and April 2023, as well as sharing our final Strategic Business Plan in May using that information.

The plan and the wider context in which it is being developed has continued to evolve since then and there remain areas of disagreement with some aspects of the draft determination which are set out in this response. These include the impact of inflation and input prices, the availability of funding for a dedicated train performance fund and the deliverability of performance targets. Given the challenges and the uncertainties we face in CP7, it is essential ORR is flexible and pragmatic in its approach to regulating Network Rail in CP7, recognising the level of anticipated change as PR23 is concluded.

This summary focuses on these issues as well as providing updates to ORR's proposals around additional funding in structures assets and alignment of our maintenance and renewal plans. There are a number of areas, including freight growth, accessibility, stakeholder engagement and environmental sustainability, where we broadly agree with ORR's draft determination. Our comments on those findings can be found in the main body of this response.

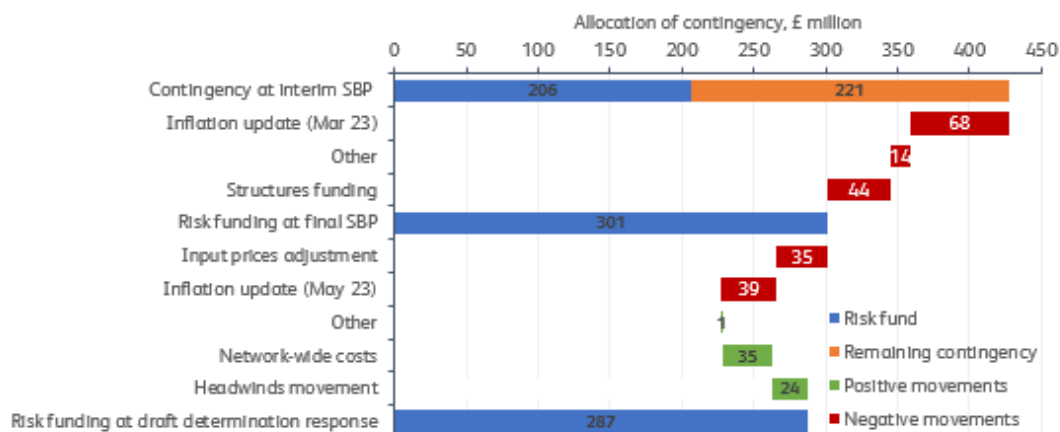
This document responds to Scotland specific issues raised in ORR's draft determination. Our response is supplemented by the GB-wide elements of Network Rail's England & Wales response to the draft determination (parts B and C) as well as the responses from the System Operator and our other national functions.

Inflation and input prices have reduced headroom available in the plan

At the time of our interim Strategic Business Plan, we held £427 million in total as contingency, this was made up of £206 million which was allocated to risk, and £221 million which was the difference between our interim Strategic Business Plan and the total SoFA value.

Since then, the majority of this contingency has been allocated to compensate for worsening forecasts of general inflation (£107 million) and input prices (£35 million), in addition to allocating more funding to our structures renewals plan (£44 million). The figure below summarises the movements since our interim Strategic Business Plan was shared in February 2023.

Figure 1.1: Allocation of contingency funding since interim Strategic Business Plan



The overall impact of these movements means that at this stage of the process, £287 million is available to allocate to risk funding.

In our final Strategic Business Plan, our financial modelling estimated there would be a risk fund of £301 million, which is now updated to £287 million. Our view is, that at this stage in the process, it is likely to be sufficient to deal with emergent risk, provided it is not of the type of ‘once in a generation’ events that were experienced during Control Period 6 (CP6) (key examples being a global pandemic and very significant and sustained industrial action).

It is important to note that this position does not allow for provision for a dedicated additional performance fund proposed by the ORR in its draft determination, over and above the specifically targeted funding for performance improvement (£24 million) that is already in the plan.

It should also be recognised that whilst the determination process properly recognises the need for risk funding because of the nature of a fixed financial settlement covering five years, it is largely a by-product of the difference between the net cost of delivery, after deducting cash realising efficiencies, and the amount of funding that has been made available by Scottish Ministers to fund railway infrastructure. As such, a risk fund only practically exists when those efficiencies are delivered in practice. It is important that this is recognised during the final determination process, in particular when the fiscal and economic context in which the Periodic Review 2023 (PR23) process is taking place is so turbulent.

We welcome ORR’s proposed train performance fund for the whole industry

We support the principle of an additional stand-alone train performance improvement fund which ORR proposed in its draft determination and believe that it is required for our joint aspiration with operators to achieve performance targets early and sustainably. We also welcome ORR’s recognition that performance is a whole industry metric which cannot be delivered by a single party alone.

However, having considered the impact of inflation and input prices, our financial modelling suggests there is currently insufficient funding available to develop an additional performance fund of the scale suggested of £100 million without leaving an intolerable level of risk funding. We

remain committed to performance improvement throughout CP7 and have already included £24 million in our plan that is intrinsically linked to the delivery of improvement initiatives within our trajectory to 92.5% that we will be held to account on in CP7. We have considered whether it might be possible to flex other aspects of the plan to realise a significant performance fund and drawn the following conclusions:

- **We developed our plan to deliver a safe and reliable railway at the lowest possible cost.** It was agreed with Transport Scotland that we would recognise public sector financial constraints and calibrate our plan to conduct fewer renewals, more targeted refurbishments and as a result conduct greater levels of maintenance to mitigate any resulting risks to meet that ambition. We recognised, as did ORR, that additional investment was required in some renewals over and above what was included in the interim Strategic Business Plan as a result of further risk assessment and assurance activity. We included that additional investment in our final Strategic Business Plan. Any reduction in renewals activity would therefore reverse that position and take us below an acceptable level of investment and associated risk assessment, as well as impacting our ability to deliver some of our outcomes. Updated assurance from our Technical Authority has indicated that our submission has met the asset sustainability requirement of the draft determination.
- **We have proposed an ambitious efficiency plan** which goes beyond the challenge we set for CP6 and which has been assessed by ORR as already stretching. Layering additional stretch on top of that plan without a clear basis for how it would be delivered would therefore risk the credibility of its delivery.
- **We have challenged our network-wide, central functions to further reduce the costs of their plans since we produced our final Strategic Business Plan.** This has delivered benefits and we will likely save a further £35 million in Scotland. This is made up of reductions in core spend, as well as a reduction in activity headwinds.
- **We will bear a greater level of inflation risk in CP7 than in CP6,** not just because of the prevailing economic climate and its effect on general price inflation and input prices but also if there is any reduction in the proportion of subsidy that comes from Fixed Track Access Charges (FTAC) which is index-linked, unlike direct grant which is not.

If there are benefits to the plan from improvements in input prices, we would likely need to hold this as risk funding because there is a need to increase the probability of successful delivery of the plan. This mirrors what has been proposed in England & Wales, in that part of the provision for input prices has been moved to risk, recognising that there is uncertainty around inflation and input prices, albeit we believe our input price assumptions are robust.

Should surpluses emerge in CP7 due to inflation being lower than assumed in our plan, there would be the option to use those for a performance fund at the appropriate time. Finally, in addition to this, our legal advice suggests that a performance fund would have limitations to its use by train and freight operators. Similarly, it may need to be made available to all train and freight operators with operations in Scotland on a non-discriminatory basis, which in theory could

lead to a potential outflow of Scottish Government funding to train operators commissioned by the Department for Transport. These issues are still the subject of ongoing legal clarification.

ORR's performance targets are not currently deliverable in practice

In our final Strategic Business Plan, we shared our ambitious and challenging plans to deliver the proposed trajectory to 92.5%PPM (inc. proposed derogation for severe weather and connections to other services and ferries) by 2027/28 (the end of the fourth year of CP7). It is important to acknowledge that this remains a very challenging ambition and the whole system, including Scotland's Railway and ScotRail Trains, has not consistently delivered the target of 92.5% in recent years.

Having revisited and revalidated our analysis, we still believe it is not credible to commit to delivering 92.5% in every year of CP7 with any degree of confidence. Setting an unachievable target for the early years of CP7 is likely to lead to reputational damage to all parties (including ORR, Transport Scotland and ScotRail Trains). As train performance is a whole system outcome, it is essential that performance plans and targets are built from an understanding of the industry's operating context for CP7.

Our current CP6 forecasted exit is 89.8% of the traditional public performance measure (PPM) or 90.3% using the Scotland train performance measure (which includes a derogation for delays caused by speed restrictions imposed due to severe weather or delays caused by holding trains to permit connections to other late running trains or ferries). Historically, the largest year-on-year improvement to PPM has been 1.1%. We remain committed to the position in our Strategic Business Plan of achieving the Scotland train performance measure of 92.5% by the end of fourth year of CP7, but this will only be achieved by track and train working together. A summary of the initiatives driving performance, alongside the relevant assumptions and dependencies, are presented in Table D.1 of Annex D.

We welcome ORR's commitment to hold us to account on our contribution to this measure. We also expect to be held to account on the initiatives within the 'medium' trajectory in our plan which will form part of our annual Performance Strategy and will work with ORR on the lead up to CP7 to develop measurements. This trajectory to 92.5% includes provisions for investment in ScotRail's fleet, which is unfunded at this current time.

It is important to note that, even in the event of a significant additional performance fund, we do not believe that it would be possible to deliver 92.5% in the early years of CP7 because:

- **The gap between our CP6 exit forecast and CP7 target is too large**, and the Scotland train performance measure is calculated on a moving annual average. This means that we would need to close that gap and outperform the 92.5% target significantly in order to meet this target in year 1.
- **We have not identified a set of deliverable interventions to bridge this gap in the first year** and it would not be possible at this stage of planning to mobilise those interventions to affect train performance in time. For Scotland's Railway to bridge this gap, we would

need to remove around 22,000 PPM failures from the system. ScotRail Trains also require urgent, significant, and sustained funding for rolling stock fleet initiatives and without this, achieving the target earlier in CP7 is extremely challenging.

We have allocated additional funding to structures to mitigate safety risks

When we shared our interim Strategic Business Plan, we noted that we would conduct further work in order to mitigate the risks which were identified by our own assurance – particularly in the structures asset class.

Whilst reviewing our workbanks across asset classes, we identified additional investment which needed to be made in structures, electrification and plant and environmental resilience. This was funded by drawing down on the contingency held in our interim Strategic Business Plan, as well as identifying opportunities to remove or revise the scope of some interventions within the plan and repurpose the funding towards higher value activity. The net impact of this was to include an additional £44 million in our plan for structures.

This funding has been allocated to assets within the structures portfolio where there is a higher likelihood of adverse impact during CP7, and it has facilitated the re-introduction of some renewals activity on culverts, coastal defences, tunnels and retaining walls.

We believe this additional investment addresses the risks which ORR has sought to address in its proposed additional £50 million of investment in the draft determination. This is reflected in the updated Corporate Risk Assessment Matrix (CRAM) scores which we included in the material shared with ORR and Transport Scotland on 25 April 2023 and our final Strategic Business Plan.

We recognise that ORR have recommended placing the additional £50 million of investment in metallic structures specifically resulting from Network Rail's Technical Authority findings. Our own detailed local assessment concluded that the maturity of asset condition information for metallic structures would enable us to apply targeted mitigations. This will be supplemented with additional operating expenditure for inspection and monitoring. The workbank mix also includes provision for refurbishment and heavy maintenance activity to implement risk mitigation and manage work arising on metallic bridges. This strategy was already included in our interim Strategic Business Plan and has been retained.

We are further aligning our maintenance and renewal plans

We recognise ORR's concerns about the change in risk profile arising from Scotland's Railway conducting fewer renewals in CP7. Particularly, the need to demonstrate alignment between our renewals and maintenance plans and the management of performance and safety risks with reduced renewals activity.

To address this, we have taken a market-led approach (an outcome-based way of planning that considers the wider market context, whilst balancing our commitment to provide a safe and reliable service for our customers) to asset management planning which has allowed us to allocate asset renewals and refurbishment funding to prioritise safety and performance. We have undertaken a systematic process to comprehensively review outstanding risks resulting from the

reduced renewals activities in CP7. This review of risk at asset and sub-asset level allowed us to identify and categorise our mitigations to produce a whole systems approach.

The findings of this analysis, along with the associated assurance from the Technical Authority, have given us further confidence that we have aligned our maintenance and renewals plans and have validated that our CP7 plan includes sufficient mitigations to limit safety and performance risks. We consider it likely that the impact of these risks will not materialise until the latter part of CP7 or beyond and the 'Better in the Making' programme that we have launched to enable the delivery of our plan will strengthen our capabilities for enhanced prediction and mitigation by improving the deployment and use of data to manage our assets.

We look forward to continued engagement as we develop the delivery plan

We will continue to engage with ORR to support the development of its final determination and ahead of the CP7 delivery plan. In particular, we will continue to work with ORR and Transport Scotland to identify the best possible approach to the delivery of whole system performance in CP7 as inflationary pressures crystallise in the real costs of delivery. We are committed to driving this forward and continuing engagement with ORR on what this means in practice for CP7.

Following the publication of ORR's final determination, we will update our CP7 plan in early 2024 (notwithstanding Network Rail's decision to accept or raise objections to the final determination in February 2024). This will form the basis for our CP7 delivery plan, which we intend to submit to ORR in March 2024.

Scotland Railway's response to ORR's PR23 draft determination settlement document

1. Introduction

This document is Scotland Railway's response to ORR's PR23 draft determination settlement document for Scotland and ORR's 2023 draft determination Scotland overview document, both issued as part of its overall PR23 draft determination.

Following that publication, we have reviewed and considered ORR's draft proposals, decisions and actions, and this document sets out our response on these areas specifically in relation to Scotland's Railway. To inform this response, we have undertaken a targeted review of our CP7 Strategic Business Plan, as part of our iterative plan development process. This update has also been reviewed and assured by subject matter experts. Recognising the limited time available to update, assure and consolidate CP7 plans, our approach has been necessarily targeted and high-level.

The CP7 regulatory process comes at a time of economic and fiscal challenge for the rail sector as a whole, as well as the Scottish Government. Due to that uncertainty, Scottish Ministers shared their output requirements for Scotland's Railway, set out in its High Level Output Specification (HLOS), and funding available, set out in the Statement of Funds Available (SoFA), on 27 January 2023. This is later than in previous periodic reviews and so it was agreed that our business plan would be shared with ORR on an interim basis on 24 February 2023 to represent our progress to date. In addition, alongside our interim plan we set out our market-led plan in more detail in our Scotland CP7 Asset Management Strategies addendum, and on 25 April 2023 we shared our CP7 Performance addendum. Our final Strategic Business Plan was consequently shared on 26 May 2023 to enable Scottish Ministers' requirements to be appropriately embedded in our plan within the available funding. Our final Strategic Business Plan can be accessed on Network Rail's [website](#). Reflecting the challenging, and at times misaligned timescales during this process, it is important to note that ORR's draft determination is largely based on our interim Strategic Business Plan.

Structure of this document

The remainder of this document comprises of the following:

Sections 1-13 set out the adjustments we have made to our CP7 plans to respond to ORR's draft determination, as well as to account for wider changes to our plans since the submission of our final Strategic Business Plan to ORR in May 2023. It also responds to ORR's proposals for our CP7 outcomes, with a focus on train performance.

This response is supplemented by the GB-wide elements of Network Rail's England & Wales response to the draft determination (parts B and C) as well as the responses from the System Operator and our other national functions. These include providing an updated overview of our efficiency plans and our asset class strategies. The ORR published 39 actions for England & Wales

and Scotland. The overall detailed response to these actions can be found in GB PR23 draft determination response supporting information Response to ORR's 39 actions.

2. Health and Safety

The purpose of this section is to respond to ORR's findings in relation to safety, as set out in the draft determination for Scotland.

ORR's draft determination did not account for our latest maintenance submission to ORR, provided in April 2023, that set out greater alignment between our maintenance and renewals plan, but recognised that further work was required. Our Activity Based Planning (ABP) models have changed significantly since our interim Strategic Business Plan in February 2023, and now take the reduction in renewals spend into account and have applied modernising maintenance principles. We are continuing to develop our maintenance plans for CP7 in an iterative manner throughout the remainder of CP6, which will be a key area of focus to the CP7 delivery plan.

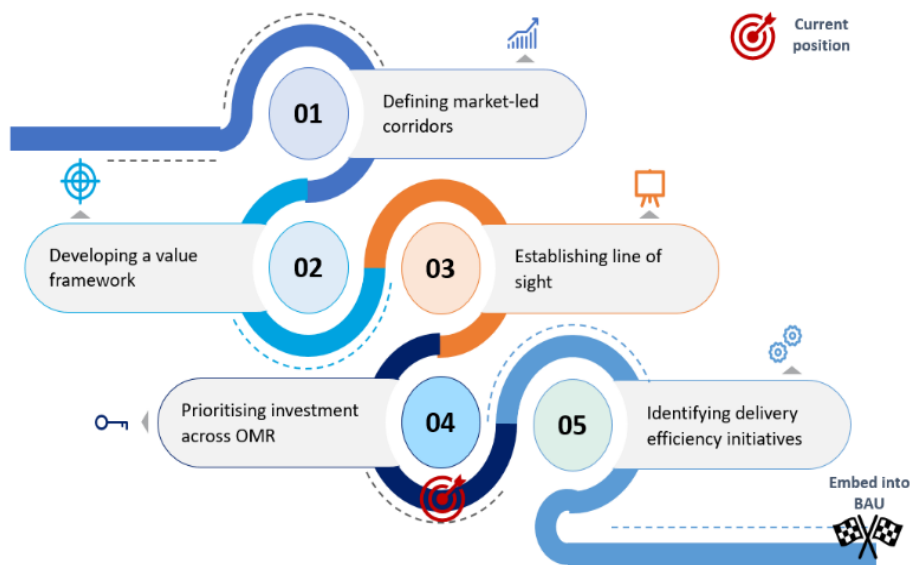
We note that network-wide information on modernising maintenance is provided in Network Rail's overall response to ORR's draft determination.

Alignment of maintenance and renewals plans

We recognise ORR's concerns regarding the change in risk profile arising from Scotland's Railway conducting fewer renewals in CP7. Particularly, the need to demonstrate alignment between our renewals and maintenance plans and the management of performance and safety risks with reduced renewals activities.

In CP7, we have taken a market-led approach, (an outcome-based way of planning that considers the wider market context, whilst balancing our commitment to provide a safe and reliable service for our customers) to asset management planning. Our approach is demonstrated in Figure 2.1, which indicates how we have defined market-led corridors, established line of sight to strategic objectives and optimised our plan for safety, performance and value for money in CP7. To do this, we undertook a prioritisation exercise across asset classes to identify the value delivered by each intervention type, in order to balance risk across our investment portfolio. This allowed us to respond to the industry cost challenge whilst maintaining or improving safety across our network with fewer full system renewals and a greater number of mid-life refurbishments. In developing our market-led planning, we have continued to validate our approach and findings with our Technical Authority who have recognised that we provided a solid evidence base in order test risk and value. We are continuing to work with the Technical Authority to inform best practice.

Figure 2.1: Our market led approach to asset management planning



We have now undertaken a similar exercise to align our maintenance workbanks to effectively manage residual performance risk. To do this, we comprehensively reviewed the outstanding risks at an asset and sub-asset class level, utilising data on PPM failures to support the assessment. We tested the resulting findings through workshops with our maintenance and asset management teams to identify mitigating actions. These mitigating actions informed the risk position at a sub-asset class level to allow us to test, and update where appropriate, our CRAM scores for performance against each asset class.

Based on the findings of this analysis, we believe that we have aligned our maintenance and renewal plans such that performance and safety risks can be managed effectively within the financial envelope available. This exercise highlighted that the maintenance plans had already started to account for the impact of reduced renewals, and has helped to supplement that thinking, document planned mitigations and identified new mitigating actions.

These mitigating actions identified can be classified into the following four categories:

- a) **People capability development** – Developing and retaining asset specific maintenance skills and resource
- b) **Asset lifecycle process improvement** – Review of processes related to the scoping, specification and planning of our maintenance projects
- c) **Continued investment planning** – prioritisation of activities that form minor renewals funds, to target outstanding risks
- d) **Technology and data** – Management of performance risks with more effective use of technology and data

Having conducted this exercise and identified further mitigations, we have gained confidence in our ability to manage the risk in the structures asset class. This has been reflected in an updated performance CRAM, which will now remain stable across CP7. Although we expect there will be an

improvement in performance in telecoms and drainage and lineside asset classes, the coarseness of the CRAM doesn't allow for a shift in risk score. Therefore, the CP7 exit CRAM scores for performance and safety across all asset classes will be held steady against their CP6 exit positions.

We expect that any anticipated impacts due to reduced asset renewals would not materialise until the later part of CP7 or beyond. This gives us time to implement the mitigations through the approach outlined below:

- Many of the mitigating actions are already incorporated into our plans for CP7 and will be rolled out accordingly
- Some additional mitigation actions will be delivered through our 'Better in the Making' programme which will support the wider changes we need to make to our business to support delivery in CP7
- The remaining mitigating actions will be scoped as one-off activities and incorporated into the PR23 delivery plan.

Once we have finalised the scope and prioritised the actions, we will update our maintenance and renewals plans within the existing funding allocation.

Implementing the action plans developed following the Carmont investigations

We are prioritising weather resilience in our plan and the recommendations from the Carmont investigations have been incorporated into our final Strategic Business Plan. We continue to engage very closely with ORR, with detailed progress updates each period at a regional level and whole-industry updates at a national level.

Our submission includes £16 million of Opex expenditure to enable to us to continue to improve our internal capability in CP7, in particular through dedicated earthworks and drainage teams and operational weather expertise, which were key recommendations from the Weather Risk Task Force.

CP7 spend on environmental sustainability, weather resilience and climate change adaptation is split across Opex and Capex which includes a proportion of the asset spend, investment within other Capex and within Opex such as the Weather Risk Task Force action plans.

An overview of our Weather Risk Task Force action plans is provided in Annex F of this response.

In addition, ORR also set out a number of other requests for further information and updates of our plans in relation to a range of health and safety aspects. Some of these queries/ points of contention have been discussed in other forums/ materials which have been shared with ORR.

The table below gives an overview of our responses to these requests.

Table 2.1: Our response to ORR’s health and safety requests

ORR request	Scotland’s Railway response
Demonstrate how its strategic objectives for employee occupational health will be achieved.	An overview of our Occupational Health and Wellbeing strategy is included in Annex C of this response.
Demonstrate how asbestos management will be assured during CP7.	<p>We continue to work to improve our management of occupational health, particularly ballast dust and asbestos. During CP5 and CP6 we ran an extensive programme to identify the types and locations of asbestos containing material (ACM) across our infrastructure. These have been risk assessed and stored in our Asbestos Risk Management System (ARMS), with this now well populated and a useful tool to management the risk associated with asbestos. We will continue and expand upon this work during CP7 and will focus upon:</p> <ul style="list-style-type: none"> • Refining and communicating our regional asbestos management plan and associated procedures • Raising general awareness of asbestos and ensuring staff are suitably trained for their role and that competence is maintained • Continuing and expanding our survey programme to reduce knowledge gaps and maintain accurate data for known ACMs, including location and condition • Using a risk based approach to the remediation and removal of ACMs, noting that at times not disturbing asbestos and leaving it in situ is the most appropriate action until such time the asset is refurbished or removed • Ensuring the accuracy of data in ARMS is improved and maintained after inspection, refurbishment and project works • Ensuring staff and contractors utilise the data contained in ARMS before undertaking work • Carrying out assurance to ensure that staff are working correctly and safely when around locations containing asbestos

ORR request	Scotland's Railway response
Provide delivery plans and milestones for the ongoing investment in track worker safety to consolidate gains made during CP6 and improve longer term sustainability plans for the delivery of expenditure to sustain and improve track worker safety.	We have included £10 million capex and £2 million Opex within our CP7 plan to continue investment in track worker safety. Capex funding will be focused on further investment in additional protection (£4 million), full plans and milestones will be developed over the coming months as we assess the effectiveness and useability of remote Track Circuit Operating Devices (TCODs), and upgrading access points (£6 million). These will be completed based on a prioritised list from data received from front line teams, and set out in our CP7 delivery plan.
Demonstrate plans and necessary expenditure to deliver the next phase of its fatigue improvement programme.	We recognise the need to become more mature in our management of fatigue and are encouraged to see a drop in the number of exceedances of the fatigue management standard in the past few periods. This demonstrates that the work undertaken is beginning to take effect. We recognise that continued improvement will be required in CP7 and are developing detailed plans for continued improvement in this area. A high level overview of these plans are included in Annex C to this document.
Evidence required to demonstrate Network Rail's understanding and subsequent management of the change in risk, after the adjustments to core renewals that we propose.	Our updated assessments of risk following changes in our proposed renewals expenditure in CP7 can be found in the asset sustainability section.
Evidence required to explain how Network Rail will manage the risks associated with an increase in operational controls.	We recognise that the planned reduction in asset renewals in CP7, and subsequent increase in refurbishment and maintenance of assets, may lead to a marginal increase in the deployment of operational controls (such as speed restrictions) towards the end of CP7. Our recent renewals and maintenance alignment has identified relevant mitigations – but weather events remain a significant driver for deployment of operational controls.
Further evidence required to provide assurance that applying the proposed market-led approach will ensure risks are reduced so far as is reasonably practicable on all lines irrespective of value.	We continue to take a market-led approach to further developing our CP7 plans. This approach aims to align the outcomes that we plan to deliver in CP7 to what the market values. Delivering a safe railway is paramount and is prioritised across all corridors within our planning approach.
Additional evidence required to demonstrate effective management of risks from the reduced	Our CP7 plans include £16 million investment to address the provision of maintenance resource in respect to drainage management. This includes dedicated drainage teams to

ORR request	Scotland's Railway response
<p>levels of earthworks renewals, and evidence of delivery of the Mair report action plans with respect to drainage management and provision of maintenance resource.</p>	<p>address the Lord Mair report. More detail can be found in the Scotland PR23 draft determination response supporting information Renewals and maintenance alignment and in Annex F of this response.</p>
<p>Evidence of management of risks associated with the reduced levels of structures renewals including the impact on examination compliance given current backlog of inspections.</p>	<p>This risk has been accounted for across most asset classes, particularly buildings and structures where there are notable performance risks. The resource needs and deliverability impact of these additional volumes will be reviewed in detail for the delivery plan. Per the Scotland PR23 draft determination response supporting information Renewals and maintenance alignment.</p>
<p>Additional details on maintenance function capability to embed modernising maintenance and deliver any additional work required.</p>	<p>Our April 2023 addendum on our CP7 maintenance plans provides an updated position on our ABPs for maintenance activity. Within this, we have included bottom-up maintenance volumes reflecting post modernising maintenance norm times and reflected additional volume to reflect a reduced renewals portfolio. We continue to refine these throughout the remainder of CP6. We are undertaking further assurance on deliverability of these volumes as we move through safety and performance validation exercises for modernising maintenance and as part of our maintenance and renewals alignment workshop findings.</p>
<p>We note that Network Rail will replace existing signs at private crossings with updated signs over the control period. The Strategic Business Plans for all regions, apart from Southern and the Scotland interim plan, covered this work. Southern and Scotland will also need to carry out this work and this will need to be included in their final plans. We would welcome further details on Network Rail's plans for level crossings to understand how they will maintain and improve safety during CP7 in the reduced renewals environment.</p>	<p>We will comply with the change in legislation and are currently working up the approach to delivering signage changes which will inform our timescales for full compliance.</p>

3. Performance

The purpose of this section is to respond to ORR's findings and draft decisions in relation to train performance, as set out in the Scotland settlement document and Scotland overview document.

We refer to the Public Performance Measure (PPM) throughout this section. When referenced in CP6, for example the CP6 exit position, this is the traditional measure. In CP7, this includes a dispensation (a derogation for delays caused by speed restrictions imposed due to severe weather or delays by holding trains to permit connections to other late running trains or ferries and expected to equate to 0.5% PPM) and is also referred to as the Scotland train performance measure.

We understand that On Time will be used for the purposes of setting Schedule 8 benchmarks and for comparison with other regions. We welcome the decision to use a reset arrangement in Years 3-5 of CP7, and reiterate the need for a flexible approach to regularly monitoring outcomes, but are disappointed that this is not expected to apply to the Scotland train performance measure given the uncertainties set out in this section.

Scotland train performance measure

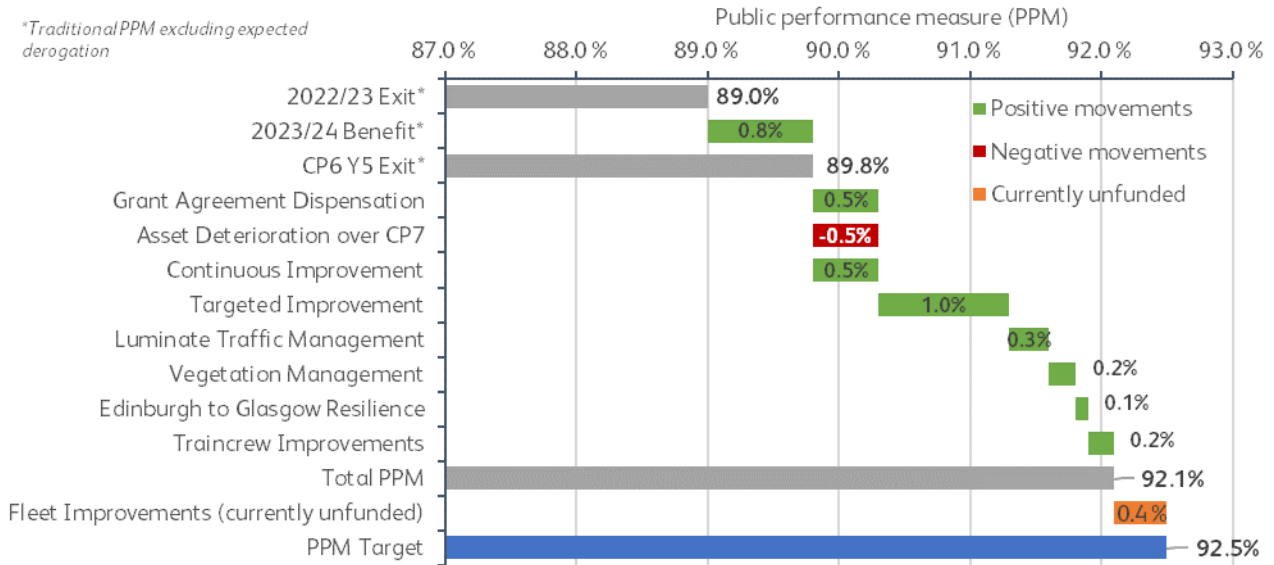
In our final Strategic Business Plan, we shared our ambitious and challenging plans to deliver the Scotland train performance measure of 92.5% by 2027/28 (the end of the fourth year of CP7). Train performance is a whole system outcome that we can't deliver alone. It's important to acknowledge that this remains a very challenging ambition and as a whole system, Scotland's Railway and ScotRail Trains has not consistently delivered the target of 92.5% in recent years. The interventions we identified as part of this work were aimed at improving our contribution to passenger train performance of ScotRail Train services, whilst representing value for money.

In its draft determination, ORR set the baseline trajectory for the Scotland train performance measure at 92.5% for each year of CP7.

Our current CP6 forecasted exit is 89.8% of the traditional PPM. From 1 April 2024 it would include the 0.5% grant dispensation and would be 90.3% using the Scotland train performance measure. Historically, the largest improvement which has been made to PPM (of which the Scotland train performance measure is based) in any given year has been 1.1 percentage points. A step change in train performance is not easy to achieve and maintain and will take whole industry alignment and effort to improve. Setting an unachievable target for the early years of CP7 is likely to lead to reputational damage to all parties (including ORR, Transport Scotland and ScotRail Trains). As train performance is a whole system outcome, it is essential that performance plans and targets are built from an understanding of the industry's operating context for CP7.

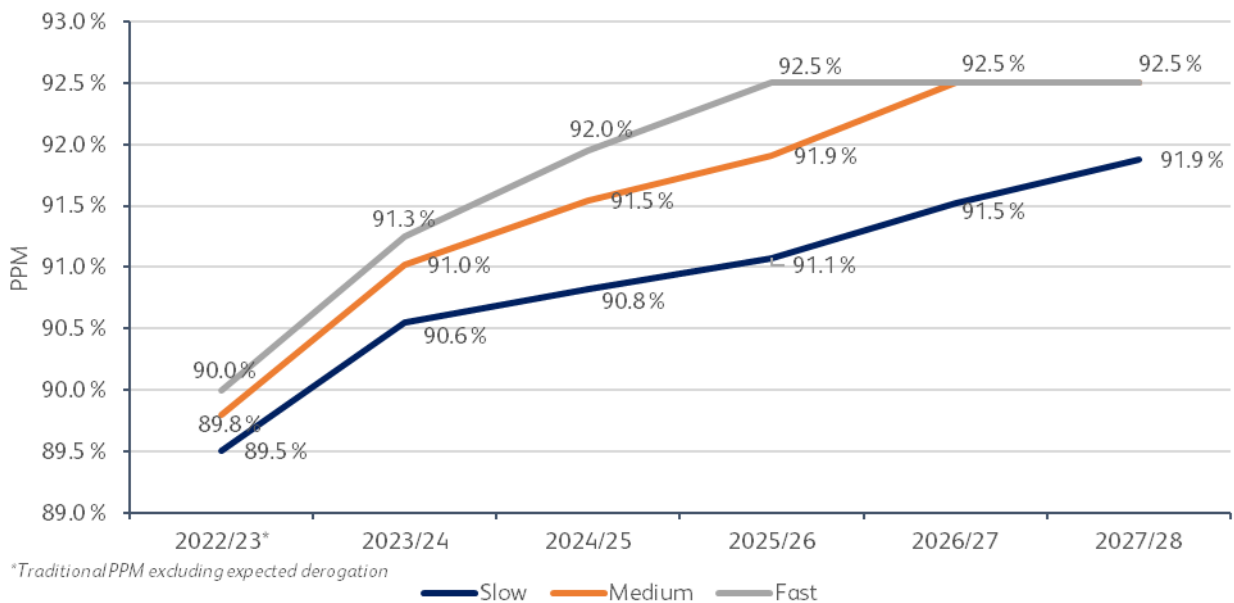
We remain committed to our position in our final Strategic Business Plan of achieving the Scotland train performance measure of 92.5% by the end of the fourth year of CP7, which will only be achievable through track and train working together. As set out in our final Strategic Business Plan, we have included a range of initiatives in our plan to deliver performance improvements, as summarised in the figure below:

Figure 3.1: Breakdown of our performance trajectory



In the final Strategic Business Plan, we set out three performance scenarios to estimate how the improvement in performance will be delivered over time, based on a range of assumptions around uncertainties relating to performance forecasting. Our scenarios are set out in the figure below:

Figure 3.2: Scotland Railway’s train performance trajectories



We noted that these trajectories reflected the latest information and assumptions available to us with varying degrees of uncertainty at that point of the business planning process. In our final Strategic Business Plan, the slow trajectory makes allowances for risks around climate change, trespass incidents, and fleet performance. The medium trajectory accounts for the waterfall breakdown set out above, with additional stretch. The fast trajectory takes an optimistic view on

potential risks and improvements, including Luminate traffic management system expansion into the West of Scotland, though this would require further investment.

There is a great deal of uncertainty in forecasting train performance accurately over a five-year horizon. Train performance is influenced by many factors that all impact on each other. Learning from recent years has demonstrated the inherent uncertainty in setting industry train performance forecasts and targets, for example due to the natural variability in factors such as weather and difficulty forecasting external factors including trespass.

Forecasting for CP7 presents even more of a challenge, with many inputs that we know to materially impact train performance still uncertain, including service patterns (which will be influenced by funders and operators' annual business planning decisions) and passenger numbers still lower overall than pre-Covid. But most notably, we cannot develop robust train performance forecasts for whole industry performance measures without appropriate input from operators.

We have undertaken additional analysis since the publication of the draft determination, considering historic and 2023/24 PPM failures to comprehensively test our assumptions behind every element of our performance trajectory. As part of this analysis, we also considered the latest findings from performance improvement case studies of recently deployed interventions (e.g. droids). We also facilitated working sessions to gather feedback from Asset Management, Maintenance and Operational teams across our organisation to develop our existing list of initiatives. Based on this analysis, we have determined that it would not be possible to credibly bring forward delivering the Scotland Railway's train performance of 92.5% to an earlier point in CP7. Even in the event of a significant dedicated performance fund, we do not believe that it would be possible to deliver 92.5% in the early years of CP7 because:

- **The gap between our CP6 exit forecast and CP7 target is too large** and Scotland train performance measure is calculated on a moving annual average for the purposes of our regulatory targets. This means that we would need to close that gap and outperform the 92.5% target significantly in order to meet this target in year 1.
- **We have not identified a set of interventions to bridge this gap in the first year** and it would not be possible at this stage of planning to mobilise those interventions in time to affect train performance. For Scotland's Railway to bridge this gap, we would need to remove circa. 22,000 PPM failures from the system. ScotRail Trains also require urgent, significant and sustained funding for rolling stock fleet initiatives and without this, achieving the target earlier in CP7 is extremely challenging.

A summary of the initiatives driving performance for each waterfall component, alongside the relevant assumptions and dependencies, are presented in Table D.1 of Annex D.

Contribution to passenger train performance

In the draft determination, ORR make it clear that they will hold Scotland's Railway to account on its 'contribution to passenger train performance'. We welcome this position and believe that it is better representative of our contribution to a metric which needs inputs from the whole industry to deliver.

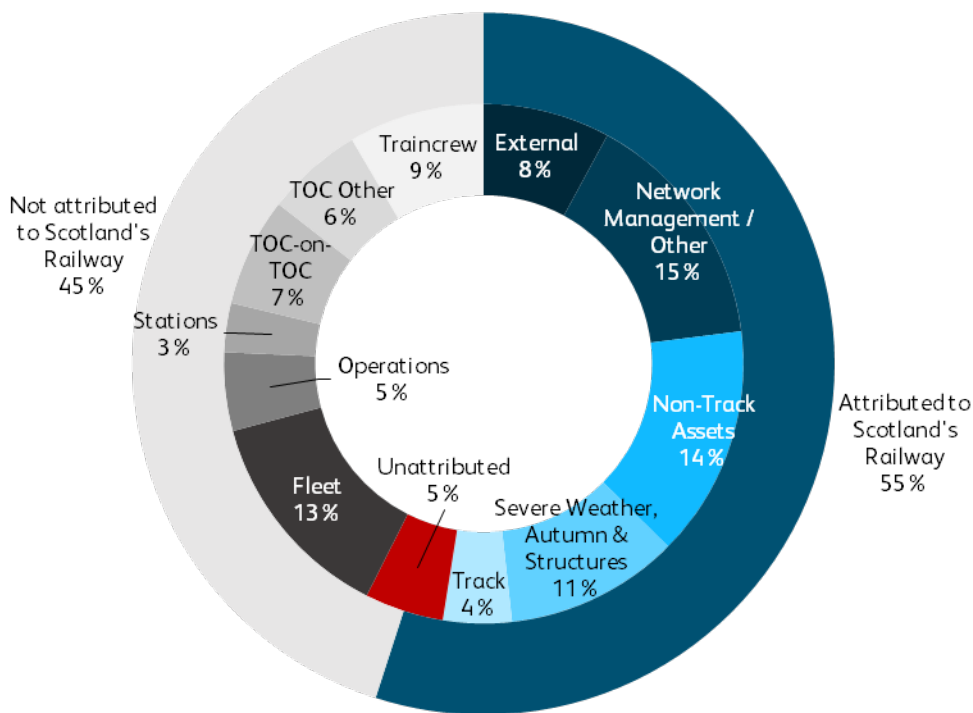
When defining our contribution to passenger train performance, we believe that ORR should consider the elements within our control in terms of potential performance improvements.

As set out in our final Strategic Business Plan, there are many reasons for delays that caused PPM failures, which can be classified as:

- **Attributed to Scotland’s Railway.** These relate to track and non-track assets (e.g. signalling, telecoms, and electrification and plant), Network Management categories (e.g. operations, possessions, and unexplained) as well as broader categories such as severe weather, autumn and structures assets and external events (e.g. fatalities, trespass, and bridge strikes)
- **Not attributed to Scotland’s Railway,** such as areas of fleet, station delays, and traincrew, controlled by ScotRail Trains
- **Unattributed,** which comprises PPM failures that haven’t been investigated as per commercial agreement across Network Rail (e.g. comprise of less than three minute delay across section of route).

Figure 3.3 sets out a breakdown of delay causes in these areas.

Figure 3.3: Train delay causes from 2014/15-2022/23



We have influence on around 52% of PPM failures historically, when excluding our share of unattributed delay, which leaves around 48% of PPM failure outside of our control. Following an incident attributed to NR, we are not entirely responsible for all delay minutes. For example, effective recovery and reactionary delay from an asset-related failure depends on fleet availability, train availability, train crew route knowledge and timetabling. It is vital that train operator assumptions, and contributions to performance improvement, are correctly and fully identified

and accounted for. We will continue to engage with ScotRail Trains to develop joint and operator led initiatives and iterate our performance trajectory to incorporate new schemes as they are identified.

While there are challenges in accurately forecasting train performance, we have committed to implementing a number of schemes aimed at improving the Scotland train performance measure. We anticipate being held to account to the implementation and delivery of the initiatives within our medium trajectory (as shown in Figure 3.2) which will form part of our annual Performance Strategy and will work with ORR on the lead up to CP7 to develop measurements for this.

Other performance measures

On Time and Schedule 8

The regulatory measure for train performance in Scotland is the Scotland train performance measure, which includes specific derogations to the traditional PPM measure. This is the performance measure that Scotland's Railway will be held to account on in CP7. We note that On Time performance will be used as a secondary measure for the purposes of setting Schedule 8 benchmarks and as a comparator to performance in other regions.

ORR's proposed approach to Schedule 8 will lead to a misalignment between our funder's output specification (which sets a target for the Scotland train performance measure) and our financial incentives (which relate to On Time) as optimising performance against these metrics necessitates different operational decisions. There is a clear risk of misalignment across a number of areas which does not drive the collaboration we know is needed to deliver the best performance outcomes.

As a minimum, we expect that the Schedule 8 benchmarks which underpin our financial incentives for performance reflect these impacts which are not accounted for in ORR's On Time performance trajectory in the draft determination in order to avoid unnecessary and unfairly large payments through Schedule 8. This is particularly important to avoid putting our plan under unnecessary financial pressure and to keep funding where it is needed to improve train performance and other outcomes.

We do not support ORR's decision to not fully implement the lower Network Rail Schedule 8 Payment Rates at the start of CP7. We believe the new proposal (average 45% reduction in CP7 rate compared to CP6) is not appropriate as it does not reflect the latest empirical evidence and economic best practice, resulting in train operators being overcompensated for delays caused by Network Rail. We are not clear on ORR's justification for this proposal nor on how ORR have accounted for the risks of removing funding from vital infrastructure works that would arise from the overpayment to train operators as a result of unrealistic benchmarks and unjustified payment rates. Therefore, we believe that the full reduction (75%) should be applied from the start of CP7. Network Rail's overall response to ORR's draft determination sets out more detail on the response around the Schedule 8 payment rates and associated financial implications.

As we have set out in our engagement with ORR since its publication of the draft determination, we have a number of issues with the approach that has been taken to estimating our On Time trajectories. We believe that ORR's approach does not appropriately account for the:

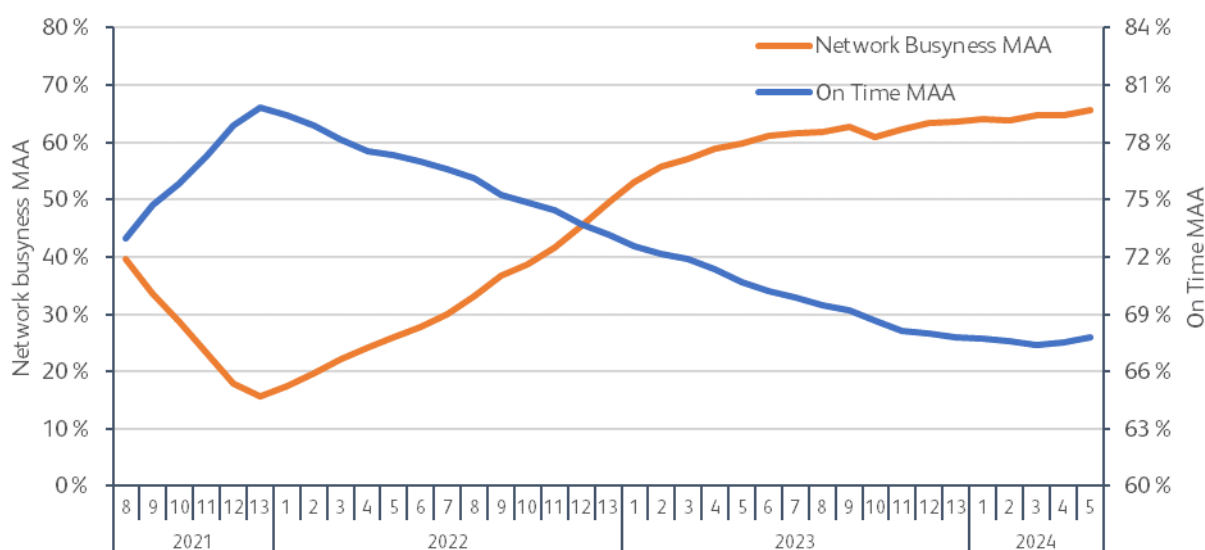
- **Historical data which is available** – ORR's regression modelling accounts for data covering the last two years. This only accounts for a short time period, during which service levels are not representative of pre-pandemic levels or account for the progressive increase of train levels we anticipate over CP7. During this two-year period, on average only 78% of pre-covid levels of train services used the network, allowing for significantly higher levels of train performance which do not reflect day-to-day operations of the railway when running at a higher capacity.

We analysed the model and data set provided by ORR where train counts and passenger volumes in the earlier years are more in line with our CP7 projections. Our analysis demonstrates that the ORR's proposed On Time values for CP7, which are based on two years of data, would have corresponded to the stated PPM in fewer periods when considering the On Time trajectory we set out in the final Strategic Business Plan than when using seven years of data. We consider the seven-year dataset used is more reflective of CP7 operational conditions, given the close link between network busyness and On Time performance. This is set out in more detail in Annex E.

There is no direct evidence that the relationship between PPM and On Time considered by ORR for the two-year period will continue in CP7. Given we will be held to account on our contribution to PPM as well as financially through Schedule 8, it is important that any chosen correlation between PPM and On Time delivery metrics is as accurate as possible to minimise any divergence in train performance requirements over CP7.

- **Projected network busyness over CP7** – There is a direct relationship between On Time performance and network busyness, which is not accounted in ORR's regression modelling. With more passengers returning to the network post Covid-19, network busyness (a proxy measure derived from the product of weekday train count and Network Rail managed stations footfall (each appraised as a %age of pre-COVID)). The calculation is simplistic in using the average of the last 13 period values) is increasing, causing a relative decrease of on time performance, as shown in Figure 3.4. With the anticipated projected train count increase over CP7, we believe that on time delivery will slightly decrease in years 1 and 2 of CP7 due to the downward pressure on performance as busyness moves towards pre-pandemic levels, and remain relatively consistent in years 3 to 5 as train count and footfall start stabilising.

Figure 3.4: Scotland Railway’s On Time Delivery performance relative to network busyness

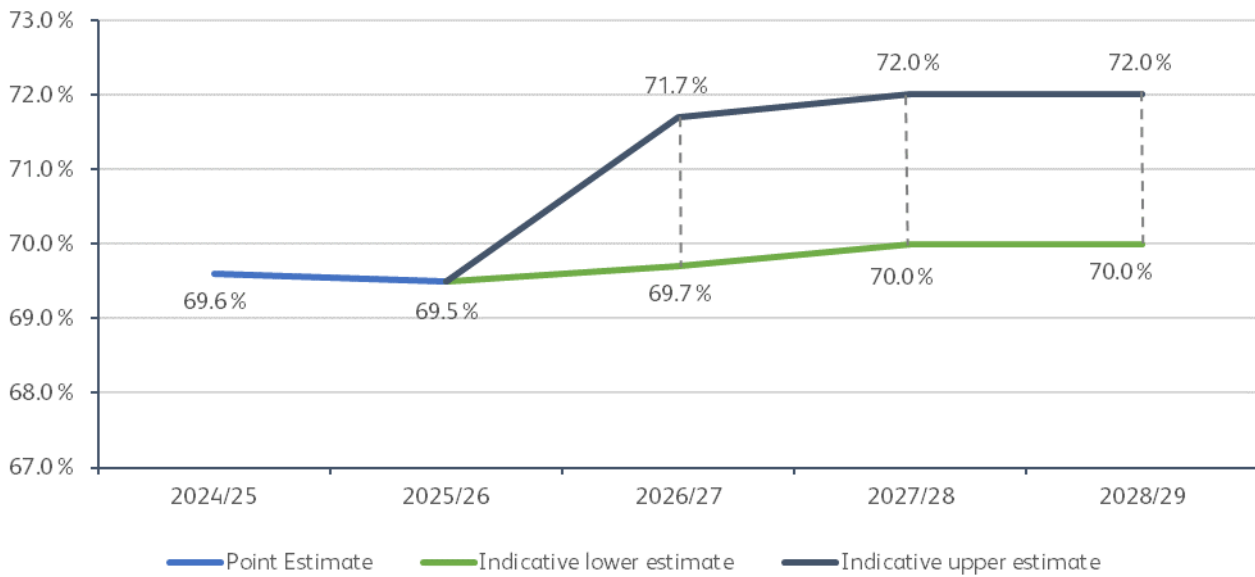


We understand that as we submit this response, ORR intends to set regulatory baselines for train performance as point values for years 1 and 2 in the final determination, although the values for years 3-5 will be set as ‘a range’ and subject to a in control period recalibration. This would also reset the Schedule 8 benchmarks for Network Rail and passenger operators. We welcome this approach to setting targets for performance benchmarks as it is reflective of the uncertainties around forecasting performance over a five-year period. It is disappointing that this approach does not however, also apply to the Scotland Train Performance measure in CP7 given the same uncertainties apply to this measure.

While we continue to challenge ourselves to deliver the best possible performance in CP7, our analysis shows that proposed On Time figures in ORR’s draft determination are not credible or realistic in the CP7 operating context. Recognising the funding pressures we, and wider industry, face in CP7, setting baselines at an unrealistic level will set the industry up to fail. This will cause unnecessary reputational damage to the whole industry and slowing down the industry’s efforts to bring passengers back to rail and recover industry revenue. Setting Schedule 8 benchmarks against unrealistic baselines would further add to funding pressures by causing unnecessary financial flows, diverting investment away from performance improvement. It is even more important to set realistic Schedule 8 benchmarks given ORR’s decision to set payment rates that are not based on the economic evidence available. We discuss our concerns around the impact of unachievable performance trajectories and inaccurate Schedule 8 payment rates in more detail in the England & Wales detailed response document.

Following discussions with ORR on 27 July 2023, 22 August 2023 and 29 August 2023, we acknowledge that approaches to targeting the regression model for translating PPM into On Time estimates were inconsistent between both parties. Based on the above approach to setting regulatory baselines for On Time performance, our latest and final On Time trajectory is set out in Figure 3.5 below. This is based on the methodology set out in Annex E.

Figure 3.5: Scotland Railway’s On Time train performance trajectories



Our view is that the indicative lower and upper estimates presented above align with the constructive discussions held between Network Rail and ORR on the proposed reset in On Time trajectories. This addresses some of our main concerns with ORR’s initial point value trajectory set out in the draft determination, and presents a more appropriate, approach to setting the CP7 baselines for this measure.

Passenger Cancellations

ORR has stated that we will be held to account on our Passenger Cancellations measure as a Tier 1 outcome success measure. We accept ORR’s stretching trajectory and will work to deliver against this trajectory throughout CP7. We consider this target achievable in years 1 and 2 provided that our performance improvement plans are delivered to time and cost, and no unexpected external incidents or industrial action disrupt the railway in CP7. We understand that ORR’s alternative “2+3” approach to setting on time baselines will also apply to passenger cancellations. We look forward to working with ORR and the industry to planning and delivering the reset of the passenger train performance measures for years 3 to 5 during year 2, to update the indicative values provided in Annex A.

Freight Cancellations and Lateness (FCaL)

As set out in its December 2022 consultation on the CP7 outcomes framework, ORR stated that it expects to use Freight Cancellations and Lateness (FCaL) as its preferred metric to measure freight performance in CP7. We acknowledge that ORR recognise the importance of cancellations caused to freight services and the positioning of Freight Cancellations as a Tier 1 outcome success measure, but welcome ORR’s decision to place more focus on FCaL in its approach to monitoring and holding us to account on freight train performance in line with the HLOS.

Our position is that it would be considered appropriate for FCaL to be used as Scotland’s Tier 1 outcome success measure rather than Freight Cancellations. Given our HLOS commitments, our primary objective is to deliver trains successfully through improvements across all three of the failure types that comprise FCaL (Delay Event Failures, Service Variations and Freight

Cancellations), so being held to account on Freight Cancellations as an additional Tier 1 measure would place undue emphasis on this failure type in particular. This is in line with the rationale to hold us to account on PPM rather than On Time for passenger performance.

Our FCaL trajectory for CP7 has been produced using forecasts developed by the national freight performance team, using historic analysis and information on potential future impacts on performance in Scotland. Our freight performance metrics differ from passenger metrics in that the baseline year uses a four-year average between April 2017 and March 2022, excluding 2020/21 where performance was most significantly impacted by the COVID-19 pandemic. Our point forecasts have been calculated in principle as the total number of freight trains Network Rail failed to deliver to satisfaction as a proportion of total trains run, using train kilometres run within Scotland for our regional split of the national trains run value.

We acknowledge ORR's position on the FCaL trajectory in line with our HLOS requirement that we do not exceed 5.5% in any year across CP7. We consider this target deliverable from Year 2 of CP7 only, as there will be a lag in the realisation of benefits from performance improvement programmes. This trajectory will be achievable under the assumption that there is no further industrial action in CP7, there are no unexpected external events disrupting the railway, and that maintenance and renewals volumes are delivered as planned.

Freight Cancellations

We reiterate our position that Freight Cancellations should be used as a supporting measure for Scotland given our HLOS' focus on FCaL and ORR's decision to hold us to account on this measure.

Our freight cancellations trajectory has improved slightly since our final Strategic Business Plan in line with FCaL. We acknowledge ORR's decision to continue to exclude mistimed trains from the measure, but consider this to be of no material impact to Scotland given that Rescheduling Failures (RSF) are low relative to other regions.

Freight Cancellations is a component of our core FCaL performance measure. As such, the process to develop our CP7 forecasts is in line with FCaL and is produced using national freight performance team analysis as stated above.

It is important that ORR considers the potential for variability in freight cancellations that could result from a number of factors including changing weather patterns, aging assets, unpredictable shock events, the volume of freight services and the impact of industry timetabling arrangements.

Caledonian Sleeper Right Time

In Scottish Ministers' HLOS, we were set the requirement of maintaining the network in such a manner as to enable the operators of the Caledonian Sleeper to meet their Right Time targets and/or any other performance measures defined for Sleeper services prior to the start of CP7. We have set out our position on the delivery of this requirement in the HLOS addendum submitted alongside our final Strategic Business Plan.

Targeted performance fund

In its draft determination, ORR proposed the creation of a targeted £100 million fund dedicated to improving train performance in Scotland. The ORR states that Scotland's Railway should prioritise unallocated funding towards the development of this fund (net of its proposed additional expenditure in renewals).

We support the principle of an additional stand-alone train performance improvement fund which ORR proposed in its draft determination and believe that it is required for our joint aspiration with operators to achieve performance targets early and sustainably. We also welcome ORR's recognition that performance is a whole industry metric which cannot be delivered by a single party alone.

In our Financial Adjustments section, we set out our conclusions that, at this time, there is no scope in the plan at this stage for a performance fund due to the impact of inflation. Should surplus funding emerge in CP7 due to that inflation not materialising, there would be the option to use those funds for a performance fund. This section therefore focuses on the proposed scope and governance of a fund.

Regardless of size, Scotland's Railway is supportive of the principle of a performance fund which supports track and train working together. The purpose of the fund is to support investments which allow Network Rail and train and freight operators to realise their performance targets and contribute to the whole industry performance targets within Scotland.

Having reviewed the current legislation as well as our Network Licence and Network Code, within the current legislation, we have put a proposal on the governance of any targeted train performance fund to ORR and Transport Scotland for consideration, noting that the intentions are different in ORR's proposal for the performance improvement and innovation fund (PIIF) in England & Wales, so governance arrangements may look different.

It needs to be recognised that a return on any investment cannot be guaranteed and as such if investment is made under the fund and within governance it is deemed as efficiently incurred and Scotland's Railway and the applicant will not be exposed to regulatory sanctions if the intended outputs are not realised.

Cross-border routes and services

As acknowledged by ORR, Scottish Ministers' HLOS sets out requirements in relation to the availability and performance of cross-border services. We consider these requirements as deliverable and have set out our positions on the delivery of these requirements in the HLOS addendum submitted alongside our final Strategic Business Plan. Scotland's Railway is working with System Operator, Eastern and North West & Central regions around meeting this requirement.

4. Freight growth

Our Strategic Business Plan sets out a clear commitment to deliver our freight growth target, which has been accepted in ORR's draft determination. We welcome ORR's agreement around a freight growth target of 8.7% net tonne kilometres for Scotland's Railway. We note that, consistent with CP6, the freight growth target is net rather than gross. We developed this target using a combination of Scotland-specific 'bottom up' market knowledge and an understanding of the existing capacity and capability of each rail corridor in Scotland. This information was shared with ORR in November 2022. We have assumed 8.7% net tonne kilometres of freight growth in our market-led asset management and maintenance plans.

We have reviewed our existing markets and identified those at risk of reduction in volume moved by rail and will support those customers and relevant operators to continue to move their goods by rail. We have also identified where existing markets could increase or new markets could develop. We have identified those flows, and what paths they would need in the timetable for each relevant rail corridor. We will support those customers and relevant operators to secure this potential modal shift to rail.

We will continue to work closely with our freight operating partners, freight customers and potential freight customers to provide solutions to deliver modal shift from road to rail. This work is continuous and is governed by our quarterly Freight Joint Board, which consists of Freight Customers, Freight Operators, Transport Scotland, Rail Freight Group and ORR.

We have also identified where further freight growth could be delivered if additional funding was secured subject to business case.

We note that the cost of electricity for traction has led to several customers returning to diesel haulage, however, we would like to highlight that the Scottish growth target assumptions were not predicated on trains being electrically hauled.

Our policy position on access charges, including Variable Usage Charge (VUC), is included in Network Rail's overall draft determination response document, with further detail supporting our response included as an annex in that document.

5. Asset sustainability

The purpose of this section is to respond to ORR’s findings and draft decisions in relation to asset sustainability, as set out in the Scotland settlement document and Scotland overview document.

Proposed additional investment in metallic structures

When sharing our interim Strategic Business Plan, we noted that we would look to conduct further work in order to mitigate the risks which were identified by our own assurance – particularly in the structures asset class.

When reviewing our workbanks across asset classes, we identified additional investment which needed to be made in Structures, Electrification and Plant and environmental resilience. This was funded by drawing down on the contingency held in the interim Strategic Business Plan as well as identifying opportunities to remove low value renewals interventions from the plan. The net impact of this was to include an additional £44 million of investment in our plan.

The outcomes of this work were shared on 25 April 2023 and formed the basis of our final Strategic Business Plan. Table 5.1 below summarises the main changes.

Table 5.1: Movements in renewals expenditure since the interim Strategic Business Plan

Asset class / objective	Rationale	Impact (£ million)
Structures	Address safety risks by increasing investment in structures	+ £87m
Electrification and plant	Address poor condition of signalling power supplies and overhead line (OLE)	+ £9m
Environmental resilience	Address impacts of severe weather on safety	+ 4m
Structures	Reduce preventative interventions elsewhere within the structures workbank	- £25m
Track	Points intervention change, reduction in reactive switches and crossings works	- £20m
Signalling	Level crossings renewal reduction, signalling life extension	-£15m
Impact of headwinds and efficiencies		+ £4m
Net impact		+ £44m

We are comfortable that this additional investment addresses the risks which ORR has sought to address in its proposed additional £50 million of investment in the draft determination. Updated Technical Authority assurance has confirmed that our plans no longer breach minimum investment levels. Our own assurance has returned updated CRAM scores which we included in the addendum shared on 25 April 2023.

Our detailed local assessment of metallic structures concluded that the maturity of its asset condition information would enable us to apply targeted mitigations. This will be supplemented with additional operating expenditure for inspection and monitoring. The workbank mix also includes provision for refurbishment and heavy maintenance activity to implement risk mitigation

and manage work arising on metallic bridges. This strategy was already included in our interim Strategic Business Plan and has been retained.

In addition, ORR also set out a number of other requests for further information and updates of our plans in relation to a range of health and safety aspects. Some of these queries/ points of contention have been discussed in other forums/ materials which have been shared with ORR.

The table below gives an overview of our responses to these requests.

Table 5.2: Our response to ORR’s asset sustainability requests

ORR request	Scotland’s Railway response
Describe ongoing work / development of CP7 maintenance plans and how you are considering these alongside renewals volumes.	We continue to work in a cross-discipline way to align our maintenance and renewal plans for CP7, noting that the Scotland’s Railway approach is being used to inform other regions’ approaches to responding to this ORR request. The implications of this work have been set out in our response in the Health and Safety section.
Summary of updated Composite Sustainability Index (CSI) forecast for CP7 reflecting any adjustments to core asset renewals expenditure.	<p>We submitted our final Strategic Business Plan on 26 May 2023. This included our CSI position.</p> <p>We are now able to provide a more accurate forecast of CSI. We have provided the forecast and methodology to ORR, which is based on:</p> <ul style="list-style-type: none"> • Revised changes in inventory and expected condition at the end of CP6 • Recalibrated model results • Revised CSI definition (as agreed between Technical Authority and ORR) <p>Recognising the composition of our renewals volumes has not changed since final SBP, we forecast to exit CP7 at -2.1% (baselined at CP7 entry).</p>
Network Rail’s plans for Polychlorinated Biphenyl (PCB) removal during CP7 given the sunset clause for removal of all PCBs expires during CP7.	We have a Special Inspection Notice (SIN) to carry out testing of assets to be completed by October 2023. This is currently being progressed. Upon completion of all testing, we will then follow up on any assets that required to be removed.
Clarity regarding vegetation programmes and whether Network Rail’s regions will maintain the current agreed timelines for delivering a compliant lineside vegetation profile.	<p>We are developing a Vegetation Programme to manage the impacts of vegetation on the performance of our railway and also improve compliance of our lineside vegetation. The programme enables us to prioritise the level of vegetation clearance and maintenance to be undertaken across each route in order to optimise reliability, performance and safety of the network. We have considered the following parameters in prioritising vegetation interventions:</p> <ul style="list-style-type: none"> • Vegetation PPM failures

ORR request	Scotland's Railway response
	<ul style="list-style-type: none"> • Compliance to current standards • Consequences of potential derailment • Line electrification • Dead, Dying and Diseased (DDD) survey results • Corridor Criticality, accounting for expected freight and passenger growth rates. <p>Our approach has progressed our compliance state and we will progress to full compliance by CP8. ORR were specifically concerned with our ability to manage the risk of Ash Die Back, which will be addressed within the DDD surveys. We acknowledge that the DDD surveys have not been completed across the route. We will complete these surveys before CP6 exit and will be able to incorporate the information into the vegetation programme.</p>
Set out any use of High Output machinery in CP7	<p>ORR's draft determination proposed not refurbishing our high output ballast cleaning system (BCS) in CP7, delivering a saving of £4 million against our network wide function costs. However, in our final Strategic Business Plan, no costs were included for High Output attributable activities so no saving can be made. In addition, there it is assumed we would not deliver any high output volumes in CP7. As noted in our overall draft determination response, discussions continue regarding the use of high output across the company.</p>
Respond to ORR's view on digital signalling expenditure	<p>ORR's draft determination proposed reducing funding for our digital signalling expenditure included within the Network-wide cost allocations by £2 million in CP7.</p> <p>Following review, we believe our expenditure continues to be an appropriate basis for planning at this stage of development, and do not support proposals to apply a further challenge to this at this stage in line with the England & Wales position. Therefore, we have not further reduced the funding for digital signalling enabling activities in CP7.</p>

6. Accessibility

Following publication of the draft determination ORR has confirmed that the information we included in our final Strategic Business Plan on accessibility addresses the action from the draft determination.

In Section 2.6 “track and train working together” of our final Strategic Business Plan, we outline our accessibility commitments in line with legislation and Network Rail standards and describe our draft accessibility Strategy.

The draft strategy provides a framework for how the rail business in Scotland can target investments which consider our passengers’ end-to-end journey and how this may improve our service to existing customers, encouraging more people to choose to travel by rail. The draft strategy is being consulted with external stakeholders and will be established before December 2023.

Our Sustainable Travel to Stations Strategy, which is one of the four pillars of our overarching draft accessibility Strategy, can be accessed on our [website](#).

Our Strategic Business Plan sets out to manage lifts and escalators as we do today through regular maintenance supplemented by reactive repair. We have processes in place for this with funding provision in line with existing operating costs. We have very good data on our lift and escalator portfolio performance including real time monitoring.

Following the incident at Glasgow Argyle Street where an escalator failed, we have been reviewing our renewals strategy. This is an example of an area of the plan that may be subject to change and reprioritisation as we respond dynamically to business needs. Any changes will be sustained within the overall Strategic Business Plan funding envelope.

We can confirm that we will follow the updated [Diversity Impact Assessment](#) including in the updated Network Rail standard NR/L2/OHS/00135.

We will continue to work with ORR ahead of the start of CP7 to develop effective metrics and reporting to capture improvements in accessibility, covering areas such as lift availability and performance, passenger assistance performance and general compliance with key standards.

7. Financial adjustments

Inflation and input prices

The financial model in our interim Strategic Business Plan – which was shared with ORR in February 2023 – was presented in real terms in 2023/24 prices, after the application of efficiencies and headwinds. The inflation forecasts used to do this were based on Office for Budget Responsibility's (OBR's) November 2022 forecasts. Since then, economic conditions have continued to evolve, and inflation has remained higher for longer than previously forecast.

In our final Strategic Business Plan, we included a cost adjustment of £68 million as to our financial summary to reflect changes from November 2022 to March 2023 OBR inflation forecasts. The estimated impact of inflation to the real value of our CP7 settlement (which is set in cash prices) continues to grow and taking account of the May 2023 Bank of England update (which this response is based on) forecasts that the impact will be a further £39 million of costs.

We have carried out a high-level assessment of the impact of the latest August 2023 forecast on our plans. Whilst inflation for 2023/24 is marginally lower than the May 2023 forecast, inflation through CP7 is largely unchanged. Therefore, we believe that our response is broadly consistent with latest forecasts.

In addition, our modelling continues to suggest that we will face financial pressures over and above this in relation to input prices. In its draft determination, ORR states that it expects the pressure on our input prices to be £72 million lower than we have estimated in our interim Strategic Business Plan. Our latest assumptions, which are informed by analysis we have commissioned from Oxera, are significantly higher than the £90 million assumed by ORR in its draft determination, based on analysis by Europe Economics. We believe that the analysis by Europe Economics that ORR used to come to this position does not properly account for the current inflationary environment, and we note that Europe Economics' analysis applied a generalised model from the water sector that does not reflect Network Rail's unique circumstances compared to other regulated industries. Furthermore, we note that Europe Economics' analysis was systematically biased against identifying input prices – in particular, it was too focused on mitigating the risk of finding them where there are none, at the expense of failing to find input prices where they are likely. The analysis' use of materiality thresholds meant that input prices for about 21% of Opex and 13% of renewals were not considered. Thresholds were also applied inconsistently, allowing negative input prices for electricity when it is only around 2% of Opex.

Our modelling suggests that we will in fact experience a further £35 million pressure on our costs than had previously been estimated in our final Strategic Business Plan. A key factor driving input prices in CP7 is the impact of the lag between when contractual uplifts are applied compared to the headline rate of inflation. For example, contracts that have effect in 2024/25 will generally use November 2023 CPI to uplift costs for 2024/25. Whilst this lag would normally be immaterial – when inflation is relatively flat and around 2% – the expected rapid slowdown in inflation from significantly higher inflation means that contractual costs for 2024/25 are expected to be higher.

Our contractual approach has delivered input price benefits earlier in CP6 i.e., when headline inflation was rapidly rising and many of our costs were rising by inflation contractually linked to the previous year's inflation. The full findings of our work on input prices for CP7 has been included as part of Network Rail's overall response to the draft determination.

We will continue to monitor the impacts of inflation as we move towards the delivery plan as it is one of the major risks to the delivery of our CP7 plans.

Efficiency

We note ORR's acceptance of our overall efficiency targets (10% for operating expenditure efficiency and 15% for capital expenditure efficiency) on the basis they are stretching but realistic. We also note ORR's observation that delivery of the required efficiencies will be challenging. While we continue to commit to the overall efficiencies in our plans, there are risks and challenges to delivering these targets, particularly given the impact of inflation on our plans. Since the development of the final Strategic Business Plan, Scotland's Railway has launched a transformation programme called 'Better in the Making' to deliver the improvements detailed in our CP7 plan across our five strategic priorities.

In the final Strategic Business Plan, we referenced 'Strategic property opportunities' as part of our plan to deliver more transformational efficiencies. This was also noted in the interim Strategic Business Plan Efficiency Appendix. Now that our plans are further progressed, we are recategorising some of those stretch income-generating initiatives from our efficiency programme into 'other income' within our financial model to better reflect their true nature. This results in £19 million being moved from efficiencies into income, which means that the efficiency programme for CP7 now totals around £361 million. It is important to note that this is a recategorisation and has no overall impact on the net cost of our plan. It also helps better clarify that the additional property stretch income ORR included in its draft determination had in fact already been more than accounted for in both the interim and final Strategic Business Plans.

The total for the efficiency programme therefore now comprises £118 million of operating expenditure efficiency and £243 million of renewals expenditure efficiency.

We have also reconsidered the delivery profile across each year of CP7. In line with feedback from ORR and more closely aligned to the national planning assumptions profile, our updated plan targets a phased approach which reduces the delivery challenge in the first two years of the control period whilst still achieving a 10% exit position on Opex. Our annual efficiency challenge, however, remains more ambitious than if we were to apply national planning assumptions.

As our CP7 targets depend upon achieving additional efficiencies, with many opportunities already enabled in previous control periods, the scale of the efficiency challenge required is ambitious and will require a more transformative approach. We're therefore developing an efficiency programme for CP7 that will be delivered through a combination of conventional renewals and operational efficiencies, together with a series of step-change initiatives that will form an important workstream within our 'Better in the Making' transformation programme. The 'Better in

the Making' programme will be led by a dedicated member of Scotland's executive management team, supported by five senior leaders as dedicated programme leads, with each programme lead responsible for one of the five strategic priorities. This programme is being established to apply focus and dedicated effort across Scotland's Railway to deliver the improvements detailed in the final Strategic Business Plan.

We see value in ORR monitoring both the total efficiencies and the percentage of efficiencies achieved so that monitoring remains proportionate to the wider financial and economic context. ORR will also monitor the financial performance measure through CP7, and has set trajectories in line with our existing CP6 approach to target performance in line with annual budget.

Our response to the draft determination on Scotland's CP7 efficiency programme is set out in the Scotland PR23 draft determination response supporting information Efficiency. As requested by ORR, this provides further detail on our efficiency programme, including on the approach to delivery.

Finally, it is important to recognise that the delivery of these cash releasing efficiencies is critical to the overall delivery of the plan, in particular in creating the scope for a risk fund. If some of these efficiencies cannot be delivered in practice then the lack of ability to reduce the scope of the plan has a direct impact on what is then available for risk. Confidence levels should be expected to grow as we progress to delivery plan and then into year 1 delivery itself, helping us to calibrate the level of prevailing financial risk better.

Headwinds and tailwinds

Network-wide information on headwinds and tailwinds are provided in Network Rail's overall response to ORR's draft determination.

We have revised our headwinds assumptions since the submission of our final Strategic Business Plan. The headwinds reflected in our high-level CP7 plan updates are broadly consistent with the draft determination proposal (i.e., we have reduced the assumptions from the interim Strategic Business Plan by 50%).

This does represent more stretch in our plan against our past experience of headwinds and so we will have to work with ORR to manage expectations on our ability to take on large improvement schemes or other additional activity from more stringent standards.

Our latest assumptions reflect some recategorisation of headwinds in Route Services into pre-efficient cost changes and input price effects to better reflect the nature of these costs. Overall, we have reduced the headwinds in our plans, compared to the Strategic Business Plan, by £44 million, £20 million of which from the Network-Wide cost allocations. The remaining £24 million reduction is against direct expenditure, with a reduction in our activity headwinds provision.

8. Other elements of our plan

We have reviewed our CP7 income forecasts as part of the development of our draft determination response.

Income

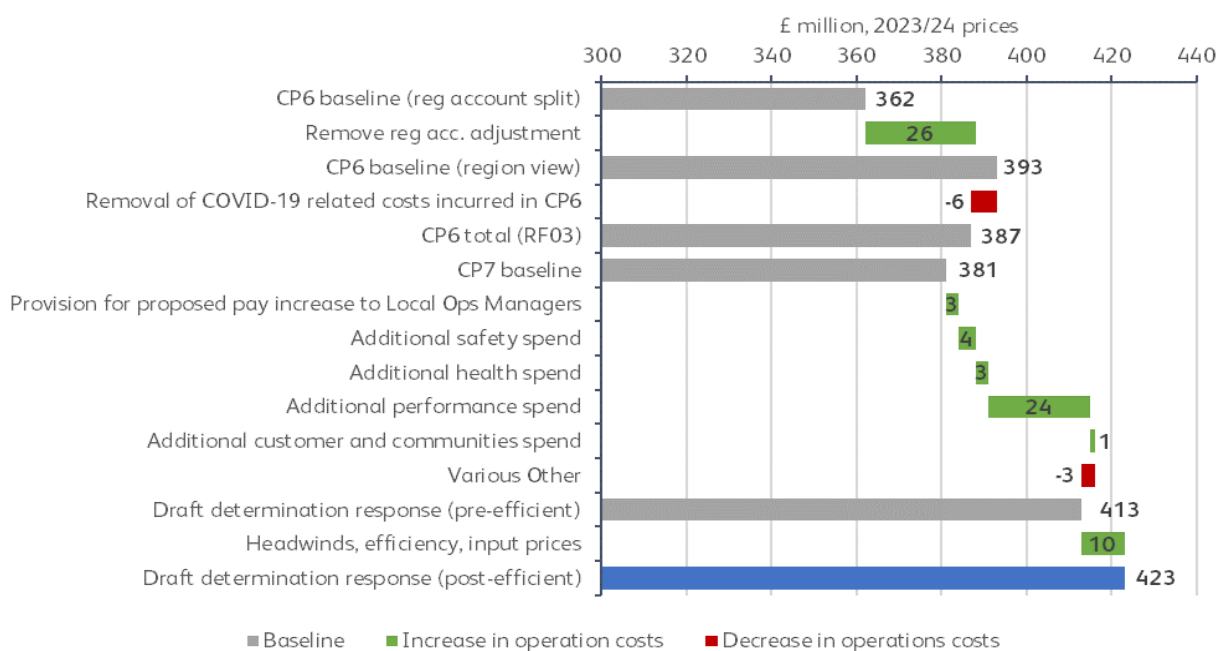
We have responded to ORR’s challenge on property income as well as the specific feedback on where efficiencies are produced. ORR proposed that we include an additional £10 million in property income over CP7.

We accept this challenge on the basis that our proposed property sales are low when compared to England & Wales. Following ORR consultation, we are targeting an additional £19 million in property revenue from increased income growth within our existing portfolio in addition to disposal of land and development sites. As noted above, this additional revenue is a reallocation of £19 million from our transformational efficiencies to property income in order to formalise our position. This does not impact net cost, because this income has always formed part of our plan albeit, previously recorded as an efficiency.

Operations costs

Operations expenditure covers the diverse range of signalling, electrical control, mobile operations and station functions required to keep the railway moving. Operations is at the core of what we deliver, day in, day out, and where all the varied parts of the industry come together to deliver for our customers, running around 2,000 passenger and freight services across the network each day. Operations is crucially about people – and people who require an increasingly diverse range of skills to meet changing needs. CP7 will see targeted additional performance spend in operations as well as increased spend on health and safety in line with our strategic priorities.

Figure 8.1: Changes in Operations Costs - CP6 into CP7



9. Financial risk

At the time of our interim Strategic Business Plan we held £427 million in total as contingency, this was made up of £206 million which was allocated to risk, and £221 million which was the difference between our interim Strategic Business Plan and the SoFA.

Since then, the majority of this contingency has been allocated to compensate for worsening forecasts of general inflation (£107 million) and input prices (£35 million) in addition to allocating more funding to our structures renewals plan (£44 million). The figure below summarises the movements since our interim Strategic Business Plan was shared in February 2023. We will bear a greater level of inflation risk in CP7 than in CP6, not just because of the prevailing economic climate and its effect on general price inflation and input prices but also if there is any reduction in the proportion of subsidy that comes from Fixed Track Access Charges (FTAC) which is index-linked, unlike direct grant which is not. Informed by our engagement with Transport Scotland, we have assumed a split of 16% FTAC and 84% grant.

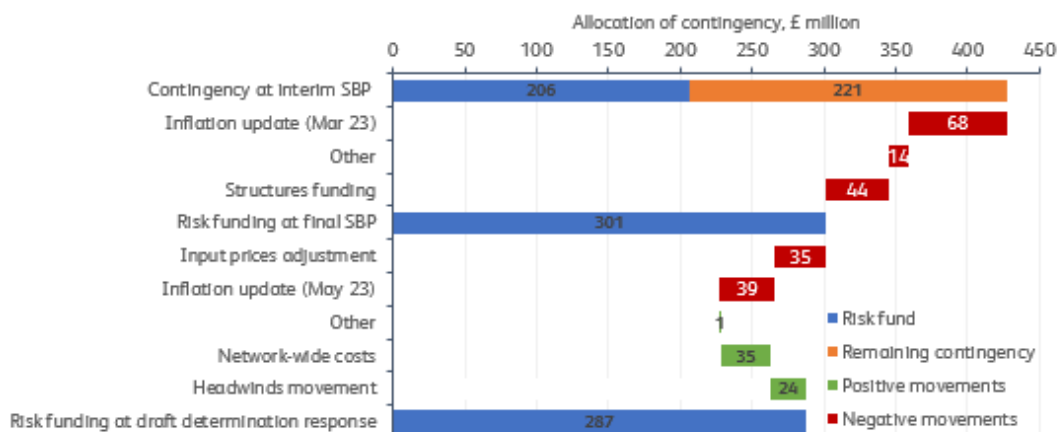
Reduction to national programmes

ORR's draft determination proposed that we reduce the level of Scotland funding allocated to Route Services by around £10 million in CP7 (£100 million network-wide). We have accepted ORR's proposal and have reduced Route Services' funding accordingly. At this stage in the planning process, Route Services has provided an indicative set of reductions to national programmes to achieve the £100 million target. As discussed in more detail in Network Rail's detailed response to ORR's draft determination, there will be a series of deep dives arranged with Scotland's Railway and the regions in England & Wales to explore the programmes that could deliver these potential reductions ahead of our delivery plan, which will include identifying any knock-on impact on delivery in CP7.

We have also identified a further around £5 million savings from our other national functions' plans relating to Scotland expenditure. This includes around a £2 million reduction to our Technical Authority plan, around £2 million reduction to our System Operator plan and around £0.5 million from our Corporate Services plan. More information on the breakdown of these savings are discussed in our System Operator and national function response documents.

The remainder of the reduction is a result of the reduction in our headwinds provision, in line with the proposed reduction in the draft determination.

Figure 9.1: Allocation of contingency funding since interim Strategic Business Plan



The overall impact of these movements means that at this stage of the process, £287 million is available to allocate to risk funding.

Key drivers of risk in CP7

We've identified the main drivers of risk and uncertainty we expect to face during the next control period. These include the impact of abnormal or extreme weather and other serious incidents, potential costs from the performance regime (Schedule 8), higher than forecast inflation, and the risk of missing our stretching forecast efficiencies. Table 9.1 summarises the main risk drivers based on our high-level assessment and provides an approximate financial impact if that risk materialised in CP7.

Table 9.1: Drivers of CP7 financial uncertainty

Risk	Description	Indicative value
Inflation and input prices	Inflation in CP7 is materially higher than assumed in the SoFA, leading to higher costs	Around £60 million, based on a 1% increase of inflation above the levels forecast in our plan for each year of CP7. Noting this could be even higher if inflation remains stubbornly high across CP7
Train performance and Schedule 8	Train performance is lower than forecast and/or ORR set unrealistic performance regime (Schedule 8) benchmarks. Alongside reputational risk there is a financial consequence through Schedule 8	Around £25 million Schedule 8 costs if performance is in line with CP6
Efficiency	Efficiency plans not delivered in full. Opex efficiencies targeted are 10% by the end of CP7 (£118 million) and	Around £55 million if efficiencies are 2% lower than plan

Risk	Description	Indicative value
	Capex 15% by the end of CP7 (£243 million) over CP7	
Weather resilience and climate change	Weather related incidents cause high levels of service disruption, cost (asset repair, Schedule 8) and reputational impact	Costs assumed captured in other lines in this table
Safety	Unanticipated safety issues arise in CP7 that we have to divert funding towards – for additional Opex/Capex	Around £25 million for potential additional Opex/Capex (including any ‘task force’) or standards changes driven by ORR - based on CP6 experience
CP6 exit	Failure to exit CP6 as planned (e.g. maintenance backlog, train performance) puts extra pressure into CP7 plans (financial and outputs)	Around £10 million for additional Schedule 8 and maintenance (impact from CP6 feeding into CP7)
Rail industry transition	Funding, outputs and wider regulatory framework decisions in PR23 hinder the smooth transition of Network Rail in terms of regulatory obligations for infrastructure	Captured by other lines, for example train performance if impact on operational performance; efficiencies become more challenging to achieve; and reputational impact if it leads to delays in transition

On this basis, our view is, that at this stage in the process, we have become comfortable with a risk fund of £287 million. A fund of this size is likely to be sufficient to deal with emergent risk, provided it is not of the type of ‘once in a generation’ events that were experienced during Control Period 6 (CP6) (key examples being a global pandemic and very significant and sustained industrial action).

It should also be recognised that whilst the determination process properly recognises the need for risk funding because of the nature of a fixed financial settlement covering five years, as is noted in the efficiencies section above, it is largely a by-product of the difference between the net cost of delivery, after deducting cash realising efficiencies, and the amount of funding that has been made available by Scottish Ministers to fund railway infrastructure. As such, a risk fund only exists when those efficiencies are delivered in practice. It is important that this is recognised during the final determination process, in particular when the fiscal and economic context in which the PR23 process is taking place is so turbulent.

Availability of funding for a dedicated performance fund

We remain dedicated to performance improvement throughout CP7. However, having considered the impact of inflation and input prices, our financial modelling suggests that there is currently

insufficient funding available to develop an additional performance fund of the scale suggested without leaving an intolerable level of risk funding. A risk fund of £287 million does not currently allow for provision for a dedicated additional performance fund, over and above the specifically targeted funding (£24 million) for the delivery of improvement initiatives within our trajectory to 92.5% that we will be held to account on in CP7 that is already in the plan.

10. Stakeholder engagement

We note ORR's comments in relation to Scotland Railway's stakeholder engagement in CP7 and recognise the continued importance of this as we refine our plans both over the remainder of CP6, and CP7 itself.

We have engaged with our train and freight operating colleagues, all of whom we will collaborate with to deliver many of the requirements in Scottish Ministers' HLOS. We have worked closely with Transport Scotland and ORR in very challenging PR23 timeframes to share our plan as it has developed and evolved. We have engaged with our supply chain in developing our plan, particularly around delivery and cost. Finally, we have, and will continue to engage with stakeholders external to the rail industry in Scotland to provide us with constructive challenge and help us harness best practise from other businesses in Scotland.

We have sought to utilise existing stakeholder forums to share our emerging plans and listen to feedback from our stakeholders. Where this is not possible, we have set up bespoke sessions.

We commit to continuing this engagement with stakeholders as we incorporate their views and advice into our CP7 delivery plan which will be published in March 2024.

Summary of our engagement to date

Prior to Scottish Minister's publishing the HLOS and SoFA in February 2023, we developed a market-led approach to planning our business which demonstrates how we will contribute towards the Scottish Government's net zero commitments so that more people and businesses choose rail, improving value for money and reducing the net cost of the public service we provide. For business planning purposes, this is articulated in terms of train services and infrastructure capability we need to plan for across CP7, for each rail corridor in Scotland, and built upon the foundations of Scottish Government policy. It was developed with the rail industry across Scotland and was endorsed by Scotland Investment Review Group, which includes representatives from ScotRail Trains, cross-border passenger operators and freight operators on 14 July 2023.

The tables in Annex B outline the engagement we have undertaken prior to the publication of our final Strategy Business Plan, engagement since publication, and engagement we commit to undertake in developing our delivery plan.

11.Scottish Ministers’ HLOS requirements

We will continue to work with Transport Scotland and ORR to reach tripartite agreement on each of Scottish Ministers’ HLOS requirements before the publication of our delivery plan in March 2024.

We note the content of Table A.1 in the Scotland Settlement document “HLOS requirements and our expectations of delivery of the associated outputs in CP7” and would provide the following update:

Table 11.1: Update on Scottish Ministers’ HLOS requirements that ORR state in the draft determination that they will provide a further comment on in the final determination

#	HLOS requirement	Update
1	To establish and operate (with ScotRail Trains Ltd.) a joint Scotland-based timetabling team to deliver all activity on the Scottish network. The team should be operational by the start of CP7 and co-located, with one management structure responsible for the delivery of the timetable product, with a demonstrable understanding of Scotland’s geography, economy and network operating characteristics.	Scotland’s Railway and System Operator led a joint industry workshop on 23 August 2023 to listen to the views of operators across Scotland on how we could deliver the requirement in accordance with the Network Rail licence and the Network Code. This will be shared with Transport Scotland and ORR at the earliest opportunity.
2	Network Rail is required to ensure that structure clearance is maintained on routes that Charter and Heritage Operators vehicle types are authorised to run on, removing the need for annual reapplication for authority to run vehicles on routes they were previously authorised to run over.	<p>Scotland’s Railway is reviewing the charter vehicles which have exercised movements during CP6 from a structure gauge and a structures/earthworks/track perspective, linking with our developing Charter Strategy (HLOS reference 3.27) for how we will promote and facilitate charter operations in Scotland. We will develop a proposal about how we can improve rail industry efficiency, from a market-led perspective, which we will share with industry partners, Transport Scotland and ORR at the earliest opportunity.</p> <p>Our assumption in the Strategic Business Plan is that clearance is maintained to existing provision as at CP6 exit. We have not included provision for reinstatement of capability to cater for historic access rights or to provide for structure clearance to legacy standards.</p>

#	HLOS requirement	Update
3	<p>Network Rail is required to maintain the Structural Clearance CP6 baseline capability throughout CP7 and to restore any structural clearance which has been allowed to deteriorate.</p>	<p>Working with the regional gauging engineer we will monitor and maintain the CP6 baseline position for structural clearance. We assume this is only related to structural clearance since the beginning of CP6, and restoration of any previous clearance capability that existed prior to CP6 is excluded. The regional gauging engineer has put in place an updated maintaining gauge process, which puts structure and assurance around preserving gauge capability on Scotland's Railway.</p> <p>Where we establish any deterioration against the CP6 baseline, a suitable intervention programme will be instigated that aligns with condition-led asset renewals.</p> <p>Following completion of the ongoing Scottish Gauge and Heritage Gauge analysis, Scotland's Railway will deliver an option selection report for Transport Scotland to review and advise on their preferred implementation approach.</p>
4	<p>It is imperative that any works proposed on the rail network are considered as a 'Whole System Approach'. Therefore, Scottish Ministers require Network Rail to consider the sequencing of enhancement schemes alongside existing renewal and maintenance programmes to ensure maximum efficiency, whilst minimising disruption to passengers and freight.</p>	<p>ORR has confirmed that the information we included in our final Strategic Business Plan on Whole System Approach is sufficient and no further information is required.</p>
5	<p>Infrastructure readiness for rolling stock</p> <ul style="list-style-type: none"> The efficient introduction of new rolling stock will require Network Rail to maintain infrastructure asset capability, and to provide assured data about this capability upon which operators will be able to place reliance when specifying, designing and introducing new rolling stock. Data on capability, infrastructure gauge, electro-magnetic compatibility and vehicle–platform interfaces, should be 	<p>This requirement shall be adhered through a collaborative industry process (to be established) to review, update and re-issue of the Train Infrastructure Interface Specification (TIIS) from Scotland's Railway. This revised multi-disciplinary document shall create a baseline of industry understanding to inform future proposals and shall contain relevant information applicable to the geographical area in where new rolling stock is to be deployed.</p>

#	HLOS requirement	Update
	<p>maintained now for the safe operation of existing rolling stock.</p>	<p>The asset capability and data will continue to be maintained at present state under “business as usual” activities and in line with published network capability. This information will form part of the TIIS appendices for the given geography along with infrastructure asset management requirements (inclusive of onboard monitoring). We assume no cost or scope change to our Strategic Business Plan as this requirement relates to the provision of data that Network Rail holds on capability and configuration existing assets. This does not extend to the provision of new and /or amended data sets.</p>

12.Environmental sustainability

Biodiversity

We aspire to achieve a 4% improvement in biodiversity by the end of CP7. We will present updates through our annual 'State of Nature' reports which will detail progress against the target, as well as the other relevant work streams that are positively contributing to biodiversity but fall outside of the metric. We do not believe it is appropriate to commit to annual targets as biodiversity initiatives often require time to demonstrate progress and the current metric is not mature enough to accurately measure this improvement.

The metric itself presents significant challenges and limitations:

- The metric is relatively new, immature and may require further adjustments.
- The metric was not designed for use by linear infrastructure. Due to the margins for error in the remotely sensed satellite data being greater than the potential annual changes in biodiversity units our trajectory now presents only the final year (2028/29) forecast for biodiversity units. This is because this is a slow-moving measure and annual margins of error risk any real changes being lost.
- Offsetting schemes, such as tree planting, of railway land is not fully recognised by the current metrics used within the Sustainability Land Use Framework.
- We are already doing great projects to improve biodiversity for example working with Forestry and Land Scotland at Glenfinnan, introducing pine marten dens and installing raised beds for the Fairlie landslip remediation. These initiatives are not recognised within the new metric which is disincentivising.

Whilst we accept the 4% improvement as an aspirational target, we currently lack sufficient evidence to measure and track our progress over a 12-month period. Moreover, because this is such an immature area of the business, implementing biodiversity initiatives and creating an evidence base involves unknown additional costs that may potentially impact unit cost and volumes. We need time to better understand how our planned workbanks will influence the metric, what capabilities are required to create positive change and how this will all impact existing budgets.

We are currently in the process of finalising our CP7 biodiversity delivery plan which will build on our previous efforts in delivering nature positive initiatives. It will identify the necessary capabilities and operational process changes required to realise our biodiversity objectives and focus action towards achieving the biodiversity target.

We aim to deliver biodiversity improvements by leveraging workstreams and resources within our existing core processes. For example, our vegetation management strategy presents an opportunity to enable a proportion of the work required to achieve the target by the end of CP7. While the extent of biodiversity improvements through the vegetation management strategy is yet

to be finalised, we believe that this is the most cost effective and efficient way to achieve the target by the end of CP7.

Carbon emissions scope 1 and 2

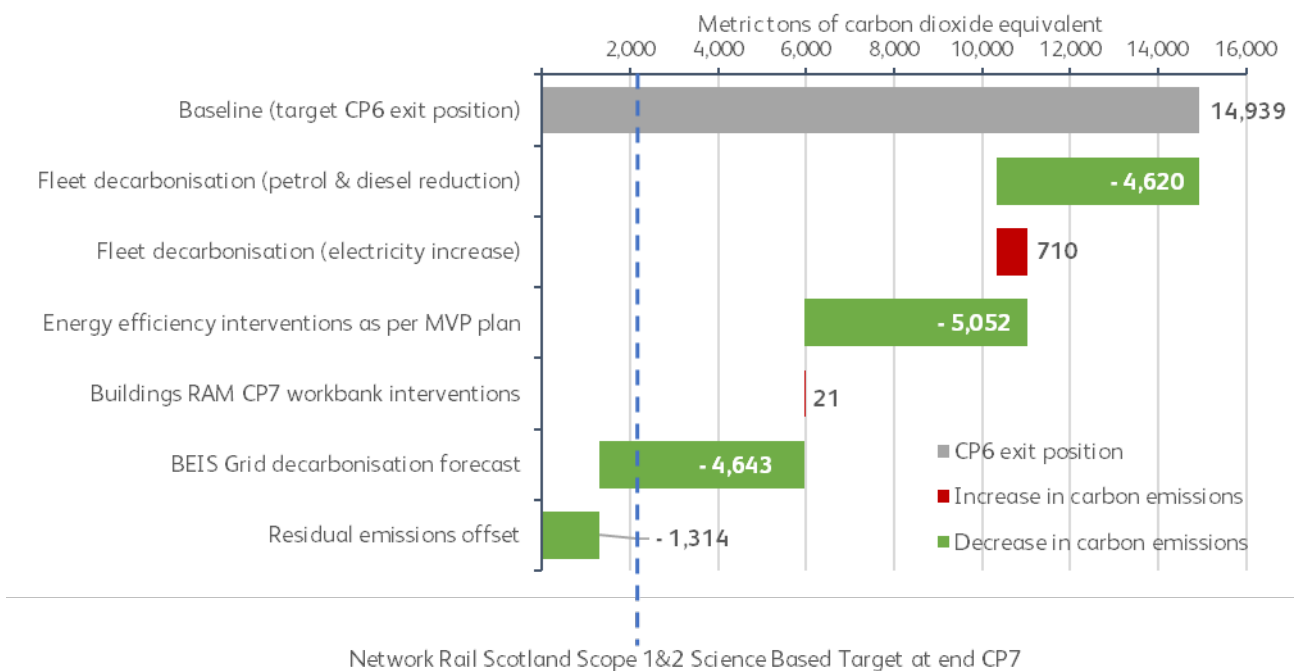
In our final Strategic Business Plan, decarbonisation is monitored through our scope 1 and 2 carbon emissions outcomes, which capture the emissions we directly control from use of fossil fuels and purchased non-traction electricity and heat. In CP7 we aim to improve upon our CP6 exit forecast of a 25% reduction in scope 1 and 2 CO₂e emissions against the CP5 exit baseline in 2018/19, reaching a total reduction of 46.2% by 2028/29 against the same baseline.

In the draft determination, ORR have sought further clarity on the details of our carbon emissions scope 1 and 2 plans, and specifically our plans for external offsetting.

In communications between Scotland’s Railway and ORR in April 2023 we provided an update on our approach to offsetting residual emissions to reach our targets.

We outlined that our science-based target net zero trajectory has residual scope 1 and 2 emissions in 2029 of 2067 tCO₂e and, therefore, our strategy (without offsetting) takes us beyond our science-based target for scopes 1 and 2 emissions. Figure 12.1 shows Scotland’s Railway scope 1 and 2 decarbonisation forecast for CP7. We have chosen to offset our remaining residual emissions of 1314 tCO₂e in order to achieve zero emissions. Part of our work in the early years of CP7 will be to source offsetting methods appropriate to Scotland’s Railway, and this may be through tree planting or biodiversity improvement schemes on Network Rail owned land, working with our supply chain to find mutually beneficial offset schemes within Scotland, or partnering with organisations who may manage offsetting schemes through which the railway runs, for example Scottish Forestry.

Figure 12.1: Scope 1 and 2 carbon emissions forecasts for Scotland’s Railway in CP7



13. Next steps

We will continue to engage with ORR to support the development of its final determination. Given the financial challenges we are facing and reflecting the continued need for tough choices and funding prioritisation, further iteration of our plans is absolutely critical. We are committed to driving this forward and continuing engagement with ORR on what this means in practice for CP7. In particular, we welcome ongoing collaboration between ORR, Transport Scotland and ourselves in identifying the best possible approach to the delivery of whole system performance in CP7 as inflationary pressures crystallise in the real costs of delivery.

More broadly, ahead of rail reform, it is important the industry works together to identify opportunities to deliver better outcomes for our customers, the communities in which we serve and the taxpayer. All organisations across the railway system have important roles to play in building trust and confidence in the industry, following the challenges faced during CP6, and the need to improve revenues and become more cost efficient. Flexibility and agility from all organisations, including ORR, will be vital in order to enable the industry to succeed in CP7 and beyond.

Following the publication of ORR's final determination, we will update our CP7 plans in early 2024 (notwithstanding Network Rail's decision to accept or raise objections to the final determination in February 2024). This will form the basis for our CP7 delivery plan, which we will submit to ORR in March 2024. We will continue to engage with our customers as we further develop our CP7 plans.

Annex A: Updated financials and outcomes

Table A.1: Financial table - expenditure

£m in 2023/24 prices	Direct costs			Allocated costs			Total costs		
	CP6 (RF3)	StrategicB business Plan	DD Response	CP6 (RF3)	StrategicB business Plan	DD Response	CP6 (RF3)	StrategicB business Plan	DD Response
Operations	362	419	423	15	0	0	377	419	423
Maintenance	1,051	1,041	1,075	49	62	60	1,100	1,104	1,135
Support	147	116	117	343	360	363	489	476	480
Industry costs and rates *	0	0	0	170	200	204	170	200	204
Electricity for traction (EC4T)	0	0	0	247	429	468	247	429	468
Total operating expenditure (excl. EC4T)	1,560	1,576	1,615	577	623	627	2,137	2,199	2,241
Renewals	2,183	1,939	1,921	72	57	50	2,254	1,996	1,970
Other capital expenditure	56	2	55	151	122	113	207	124	167
Total capital expenditure	2,239	1,942	1,975	223	179	162	2,462	2,120	2,138
ETCS enablers	0	0	0	0	10	10	0	10	10
Risk funding	0	427	287	0	0	0	0	427	287
Total Expenditure (excl. EC4T)	3,798	3,945	3,877	800	811	798	4,598	4,756	4,675

* Excluding BTP

Table A.2 Financial table - income

£m in 2023/24 prices	Direct costs			Allocated costs			Total costs		
	CP6 (RF3)	StrategicB usiness Plan	DD Response	CP6 (RF3)	StrategicB usiness Plan	DD Response	CP6 (RF3)	StrategicB usiness Plan	DD Response
Passenger access charges (VUC, EAUC, FTAC)	-1,941	-1,959	-1,945	-26	-52	-52	-1,967	-2,011	-1,997
Stations and Depots: Station LTC, Stations Lease, QX and Depots	-181	-294	-307	0	0	0	-181	-294	-307
Freight and open access track access charges	-17	-19	-22	0	0	0	-17	-19	-22
Electricity for Traction (EC4T)	0	0	0	-245	-429	-468	-245	-429	-468
Property and other income	-64	-81	-100	-14	-7	-7	-78	-88	-107
Schedule 4 access charge supplement	-46	-50	-49	-53	-25	-47	-100	-75	-96
Schedule 4 and 8	246	57	56	-1	25	47	246	82	103
Network grant	0	0	0	-2,501	-2,352	-2,249	-2,501	-2,352	-2,249
Total Income	-2,003	-2,345	-2,367	-2,840	-2,840	-2,777	-4,843	-5,185	-5,144
Total Income (excl. EC4T)	-2,003	-2,345	-2,367	-2,595	-2,411	-2,308	-4,598	-4,756	-4,675

Table A.3: Latest outcome measure CP6 exit forecasts and CP7 baselines

Strategic theme	Measures	Amendments	CP6 year 1	CP6 year 2	CP6 year 3	CP6 year 4	CP6 exit forecast	Proposed forecast trajectories				
								24/25	25/26	26/27	27/28	28/29
Safety	Fatality weighted index (FWI) (workforce)	-	x	0.1	0.08	0.15	0.055	0.054	0.052	0.049	0.048	0.047
	Train accident risk reduction (TARR)	-	93%	89%	93%	80%	95%	95%	95%	95%	95%	95%
Train Service Delivery	Passenger On Time	Yes – range	x	81%	76%	69%	66.75%	69.60%	69.50%	69.70%-71.70%	70.00%-72.00%	70.00%-72.00%
	ScotRail Trains PPM / Scotland train performance measure ¹	-	89%	93%	90%	89%	89.80%	91.02%	91.54%	91.91%	92.50%	92.50%
	Passenger Cancellations	Yes – decrease (aligned with ORR proposal) – includes range					3.40%	2.30%	2.30%	2.30% - 3.00%	2.30% - 3.00%	2.30%-3.00%
	Freight cancellations	Yes – decrease in 24/25 and 25/26	x	2%	2%	8%	2.44%	2.21%	2.00%	2.00%	2.00%	2.00%
	Freight Cancellations and Lateness (FCaL)	Yes – decrease in 24/25 and 25/26					6.08%	5.70%	5.50%	5.50%	5.50%	5.50%
	Service Affecting Failures (excluding Telecoms)	-	1978	1674	1794	1777	1821	1833	1845	1858	1871	1885
	Composite reliability index	-	14%	31%	24%	30%	29%	-0.8%	-1.4%	-2.1%	-2.8%	-3.5%
	Composite sustainability index ²	-	3.25%	2.84%	3.76%	3.51%	2.16%	0%	-	-	-	-2.10%
	Passenger satisfaction (wavelength)	-	x	x	8.11	8.02	8.03	-	-	-	-	8.07

Strategic theme	Measures	Amendments	CP6 year 1	CP6 year 2	CP6 year 3	CP6 year 4	CP6 exit forecast	Proposed forecast trajectories				
								24/25	25/26	26/27	27/28	28/29
Customers and communities	Managed stations satisfaction (wavelength)	-	x	89%	0%	69%	70.00%	-	-	-	-	70.80%
	Freight growth (net tonne miles, cumulative on baseline)	-	-3%	-12%	10%	-15%	7.5%	3.77%	4.28%	5.71%	8.70%	8.70%
Sustainable Growth	Carbon emissions - scope 1 and 2	Amended baseline	-5%	-10%	-15%	-20%	-25%	-4.4%	-8.6%	-12.8%	-17%	-21.2%
	Biodiversity units	Yes – increase (aligned with ORR proposal)										4%
Efficiency, Financial Performance	Financial Performance Measure (FPM) (£)	-	-3	-65	-52	-104	0	0	0	0	0	0
	Efficiency (£) (FY24 Prices)	Yes – updated figures since final Strategic Business Plan	60	83	77	106	72	27	63	77	90	103

¹ Note that our CP6 forecasted exit of 89.8% refers to the traditional PPM measure. From 1 April 2024, this exit value would include the expected 0.5% grant dispensation and would therefore be 90.3% using the Scotland train performance measure. Our CP7 forecast trajectories are presented in Scotland train performance measure terms, including the dispensation.

² CP7 CSI forecast is baselined at CP7 entry.

Annex B: Stakeholder engagement

Figure B.1: Our stakeholders



Table B.1: List of stakeholder engagements that Scotland’s Railway undertook prior to submission of our final Strategic Business Plan

# Prior to the submission of the final Strategic Business Plan, we have undertaken the following stakeholder engagement:	
Broader rail industry engagement on market-led approach and Scottish Ministers’ HLOS:	
1	Scotland Investment Review Group (quarterly meeting of all operators, Rail Delivery Group and Transport Scotland)
2	Joint presentation slides provided to Avanti Alliance Board with North West and Central region (27/03/23)
Freight specific engagement on market-led approach and Scottish Ministers’ HLOS:	
3	Freight Industry Heavy Axle Weight group (30/03/23) – joint briefing with all other regions
4	Freight Joint Board 26/04/23 (quarterly meeting of freight operators and freight customers)
Alliance specific engagement on Scottish Ministers’ HLOS and delivery of “joint” requirements:	

#	Prior to the submission of the final Strategic Business Plan, we have undertaken the following stakeholder engagement:
5	Scotland's Railway Executive (our Directors – Network Rail and ScotRail Trains) and Alliance Board (Network Rail/ScotRail Trains/Scottish Rail Holdings/Transport Scotland)
Supply chain specific engagement:	
6	Deliverability and unit rates - consultation with current civils and signalling supply chain on deliverability and rates for early years of CP7
7	Supply Chain market engagement – in person events with supply chain for CP7 procurement models. Attendance by Civil Engineering Contractors Association (CECA) and Rail Industry Association (RIA)
8	Follow up briefs – briefed CP7 procurement principles at several recent RIA forums events on the workbank mix
9	Transport Scotland and ORR – briefed both organisations on our supply chain strategy
Asset Management specific engagement:	
10	Transport Scotland and ORR – specific sessions to discuss our market-led approach
11	ORR – specific session to discuss the results of cross-asset prioritisations, post interim Strategic Business Plan
12	Transport Scotland and ORR tri-lateral engagement – specific updates on market-led planning principles and cross-asset prioritisation results
13	ORR – specific session to discuss the approach to further aligning renewals and maintenance plans
14	Transport Scotland – various engagements on HLOS requirements
15	ORR – various asset specific deep dive reviews on asset plans
Performance specific engagement:	
16	Performance Improvement Executive (PIE) meeting with ScotRail Trains/Scottish Rail Holdings/Transport Scotland (ORR attend as an observer) – discussing ScotRail Trains public performance measure (PPM)
17	ORR and Transport Scotland bi-lateral and tri-lateral engagement on ScotRail Trains PPM

Table B.2: List of stakeholder engagements that Scotland's Railway has undertaken since the publication of our final Strategic Business Plan

#	Since our final Strategic Business Plan has been published, we have undertaken the following:
1	Performance Session (19/07/23) – engagement with Deputy Director Operations (ORR) on Performance Addendum and On Time
2	Freight Joint Board (27/07/23) - engagement on final Strategic Business Plan – offering 1-2-1 briefing sessions to all customers/operators if they wish

#	Since our final Strategic Business Plan has been published, we have undertaken the following:
3	Scotland On Time (27/07/23) – engagement with ORR to discuss appropriate parameters for On Time metric for CP7
4	Scotland Performance Fund (27/07/23) – engagement with ORR and Transport Scotland to discuss possibilities and legalities of a dedicated performance fund in Scotland
5	Scotland Investment Review Group (02/08/23) - engagement on final Strategic Business Plan – offering 1-2-1 briefing sessions to all customers/operators if they wish
6	ScotRail Trains Senior Leadership Group (15/08/23) – engagement with all ScotRail Trains “Heads of Service” on how we collaborate to deliver the joint HLOS requirements
7	Scotland’s Railway Stakeholder Panel (16/08/23) (external challenge session from Scottish business and community stakeholders) – discussion on final Strategic Business Plan focussing on Market-Led workstream and management of financial uncertainty

Table B.3: List of stakeholder engagements that Scotland’s Railway commit to undertaking ahead of the publication of our delivery plan in March 2024

#	Between our draft determination response and the publication of our delivery plan in March 2024 we commit to the following:
1	Continue to provide engagement updates and opportunities to challenge at Scottish Investment Review Group and Freight Joint Board
2	Hold further engagement sessions with ScotRail Trains and Scottish Rail Holdings as the development of the delivery plan progresses, particularly on the 44 requirements we must collaborate on
3	Continue to work closely with Transport Scotland and ORR at regularly tri-partite meetings and topic specific discussions
4	Continue to work with our Supply Chain to deliver efficient investment
5	Bespoke session with Regional Transport Partnerships and Transport Focus (September 2023)
6	Bespoke session with Trade Union colleagues (September 2023)
7	External challenge session with regulated utility (September 2023)
8	Work with the freight industry to develop the Freight Growth Plan by the middle of CP7

Annex C: Occupational Health and Worker Safety

Our Occupational Health and Wellbeing strategy for CP7, links to the occupational health frameworks which are being produced by the Technical Authority on hand arm vibrations (HAVs), noise, fume (including diesel engine exhaust emissions (DEEE), weld fume and respirable crystalline silica (RCS) ballast dust) and musculo-skeletal disorders (MSDs). Our strategy also drives improvement in mental health and wellbeing. Our strategy is a working document which will also respond to any changes in work practices, legislative changes and other factors. We have a number of measures to help us monitor progress against this strategy including; health monitoring and sickness absence, with our overall aim to reduce impact to workforce and create efficiencies in the business. We will continue to monitor other health conditions that relate to occupational health risks, e.g., new and existing HAVs and proactive and reactive mental health indicators.

Data Insights and Analysis of Performance

We will use multiple data streams to give us insight and direction within our occupational health and wellbeing (OH&W) processes. These data insights and accompanying management insights, will direct our approach to understanding our health and wellbeing needs and then measuring our effectiveness in supporting them.

We will maximise how we collect, analyse and strategically use our OH&W data and work collaboratively with the wider organisation striving to improve these. We will demonstrate the day-to-day value of the in sourced occupational health services Scotland's Railway provides. We will outline common metrics and key performance indicators, for how OH&W contributes to Scotland's Railway and our supply chain organisations.

While input measures are valuable (volumes and source of referrals, appointments, cancellations etc.) we will also focus on output measures to demonstrate the true impact and value of our OH&W services (treatment outcomes, successful return to work, management of long-term conditions, health surveillance data as examples). We will work in partnership with our occupational health service to ensure it meets our needs and maximises efficiencies in terms of access to the service and the reduction of long and short-term sickness absence.

Our data, used in the right way, will help us to understand the specific health and wellbeing needs of our people. This will allow us to focus on preventative measures rather than reactive interventions.

Respirable Crystalline Silica Ballast Dust

By identifying those roles at risk of exposure, the information will inform our Health Surveillance Programme protocols. The risk of exposure will be reduced by eliminating the risk, reducing exposure with exclusion zones, dust suppression, controlling the height of ballast drops, suitable respiratory protective equipment (RPE) and management controls required filling a key gap in exposure monitoring data. We are actively working with our supply chain to deliver a comprehensive exposure monitoring programme and conduct significant baseline testing with

principal contractors, Rail System Alliance Scotland (RSAS), project operations managers in all ballast delivery, construction, and renewals sites. Our exposure monitoring is discussed quarterly at our safety action group which includes all suppliers and workstreams.

We've arranged a suite of monitoring at our main ballast depots in Scotland through the project operations manager team which will look at the following:

- Air quality monitoring at distances commensurate to the Technical Authority risk assessment scenarios
- Dust loading through swab sampling of personal protective equipment (PPE)
- Review of current suppressants under trial including chemical additions to mitigate dust.

As we continue to see the global temperatures rise and more excessive dry spells especially in summer, we will use this latest sampling data to update risk assessments locally and in conjunction with those produced by the Technical Authority. Risk assessments have been provided by the Technical Authority for five typical scenarios as a guide to planners and line managers when planning ballast moving activities. Our health surveillance will continue to be in line with the requirements of the Technical Authority occupational health and wellbeing team.

Within Scotland, we have now established a local ballast dust working group which will feed directly into the National ballast dust working group chaired by Route Services.

Scotland continues to work in conjunction with supply chain operations to better understand the process of ballast from quarry to track. This includes the typhoon processes at source to how ballast is delivered and suppressed at depots to delivery and placement trackside. Scotland are also awaiting the outcome of the BDC6300 trial for chemical ballast wrapping and any wider control of substances hazardous to health (COSHH) implications of this substance prior to use. We are engaged with our route logistics team to ensure that safety mitigations, from an occupational health point, are suitable – removing the silica risk via engineered solutions and safest working methodologies. This is captured via Planned Assurance Inspection and Site Surveillance (PAISS) assurance and individual monitoring, coupled with job role identification of those at risk of potential exposure.

Hand arm vibrations

The aim of our developing Hand Arm Vibrations (HAVs) management programme is to eliminate vibration exposure completely, through engineering controls, technical advancements and capturing the Occupational Hygiene on all plant. We need to work to reduce vibration exposure to as low as possible and prevent employees from developing HAVs or symptoms worsening for those who already have it.

The previously established HAVs programme is currently facilitated by Optima (Network Rail's occupational health provider) and in the main involves a telephone assessment which will include HAVs questionnaire and will also include questionnaires for respiratory, noise and skin and night workers. Those individuals who are due their Health, Safety and Wellbeing (HSW) medical will also

be taken through these health surveillance questionnaires and the occupational health technician will be responding to self-declaration of exposure at this point.

Our plan involves driving collation of data on treatment type, tools used, typical m/S2, Unit and task, time taken per unit, number of units per shift, trigger times, total Health and Safety Executive (HSE) points per shift, maximum units per shift and HAVs control measures. Once this data is assured, training and engagement will be conducted prior to a programme of pre hygiene assessments. We are engaged in the plant strategy which will positively affect lower vibrating tool purchasing which will give us a standardised Scotland's Railway approach.

In period 5 2023, Scotland is conducting live tool reviews and occupational hygiene within Works Delivery sites. This will include physical measurements and training. Having previously trialled the 'HAVi' brand of wearable monitors, it was concluded that the quality of accurate data was not acceptable. Scotland is working in conjunction with the Technical Authority in our HAVs working group, focussing on collective emissions by task rather than wearable technology. This will measure the vibration by task type and allowing accurate risk assessment of every task where vibrating tools are used.

Our figures regionally are positive with attendance at HAVs appointments, and the Health Management Action Plan (HMAP) process is being conducted in conjunction with Scotland's senior occupational health and wellbeing specialist, with commentary present in the Scotland periodic Safety Health and Environment Performance (SHEP) report.

Diesel Engine Exhaust Emissions and fumes

Scotland are engaged in role identification of staff and workstreams where exposure to Diesel Engine Exhaust Emissions (DEEE) is present. Our CP7 approach also ties in with the regional plant team to influence the direction of their purchasing.

Scotland has conducted extensive research throughout this year to understand which machines can be used when working in our tunnels and what mitigations are in place to ensure safety. In CP7 we will be focussing on electrical plant and on track machines (OTMs) where possible and where not, we will have vehicles fitted with selective catalytic reduction, BlueTEC 6 technology, and retrofitted filtration units to adapt our fleet. These have been trialled and are fitted to several of our Mobile Elevated Work Platforms (MEWPs).

In CP7, funding has been assigned for the air quality monitoring of our 14 highest risk tunnels in the first instance. This risk ranking is based on the completed tunnel risk assessment process the health and safety team have been engaged in. The measuring of ambient air movement and quality will be in conjunction with specialist consultants and will enable us to understand conditions prior to adding plant and vehicles to the tunnel setting. When added to the risk assessment for each tunnel, it will inform planning on additional protection measures such as engineering controls and RPE. The risk ranking also encompasses emergency arrangements.

Scotland is also looking to trial and eventually replace diesel generators with battery fed generators. We are currently trialling generators which will remove fume generation in both DEEE and carbon monoxide.

Musculoskeletal Disorders

Scotland continues to experience staff absence through musculoskeletal pain. Manual handling and slip / trip / falls (STF) are the main contributory cause.

The Sure-Footed campaign was created in Scotland in 2020 and was shared nationally in the reduction of STF accidents and subsequent musculoskeletal disorders (MSD) occupational health impact. Through assurance in iAuditor, staff capture data on risks driving MSD and mitigation through additions of equipment such as walking poles, suitable footwear etc. Our analysis and reporting is depicting the impact and reduction through this programme and increased awareness and proprioception in our teams. In CP7, we will be revisiting the Sure-Footed Campaign with a follow up programme called “next steps”. This will look to build on the positive impact of the 2020 campaign and focus on areas where our data demonstrates risk and issue.

Scotland is actively involved in the manual handling improvement programme, sponsored by the head of corporate safety, for the end of CP6 and into CP7. Our focus has been on moving items to site. We have currently completed milestones 1 (mobilising and defining the programme for each priority area, understanding the problem, and identifying any quick win solutions), and 2 (developing the manual handling controls further if required, such as creating or trialling options, and testing with end-users to ensure feasibility).

Worker Safety and Occupational Health

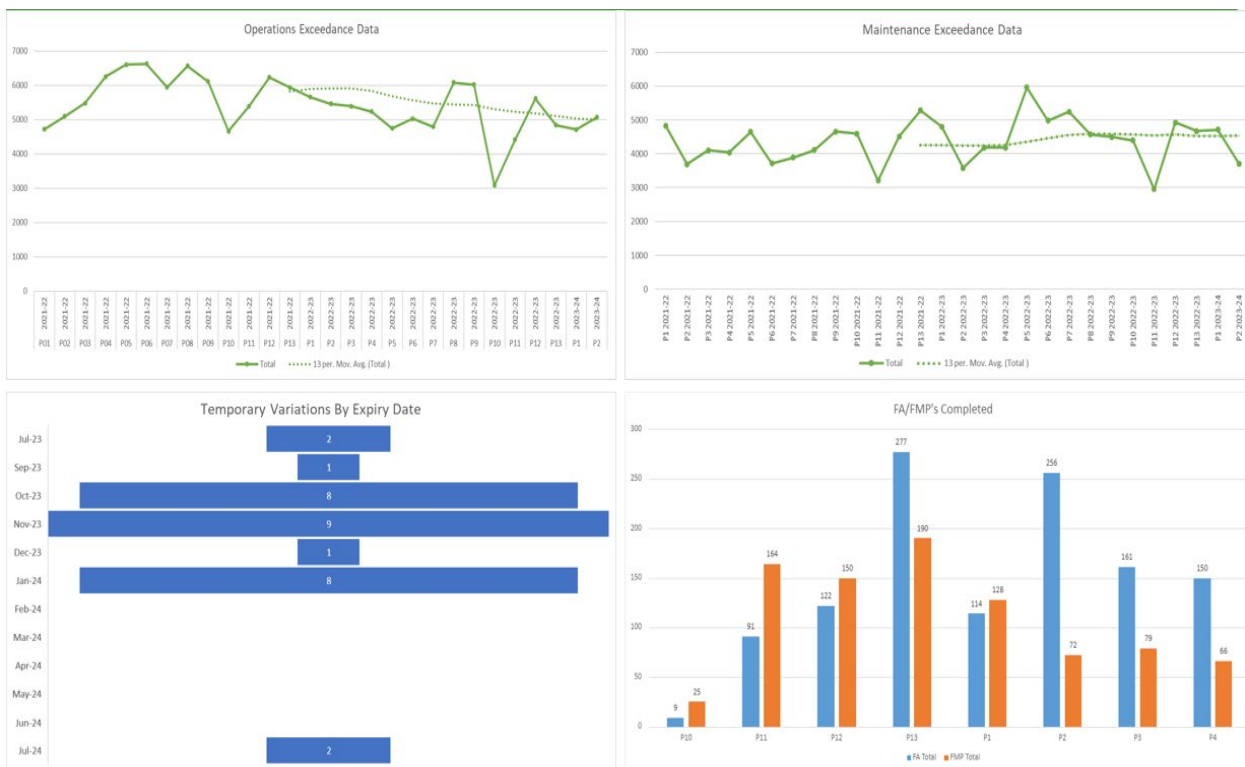
We welcome the positive encouragement from ORR on our progress with trackworker safety and continue to prioritise improvements in trackworker safety in CP7, as laid out in our Strategic Business Plan. In CP7 we are prioritising investment into technology that will remove the need for workers to access the track, and on automated trackworker warning and protection technology. Detailed plans are still in development for some of the new technology, for example the Technical Authority is developing a national strategy for geo-fencing technology by September 2023, and these will be developed as part of our delivery plans for March 2024, and in regional delivery plans. Many of our proposed technologies for use in CP7 are being trialled in this final year of CP6, and the proposed change to the rulebook to allow T3 possessions (full possessions) without the use of detonators will encourage take up of the new technology, realising safety and efficiency benefits. We will continue to refine and evolve the competence framework for track staff leaders.

We continue to work to improve our management of occupational health, particularly ballast dust and asbestos. Regarding occupational health our primary focus is the insourcing of our occupational health service, to reduce costs and deliver a service that reflects the needs of our business. Our medicals focus on overall health and wellbeing and have targeted questions to pick up on potential occupational ill health as early as possible. We have developed a high-level occupational health

strategy and continue to work to develop detailed implementation plans for this strategy. These will be developed as part of our delivery plan for March 2024 and beyond.

The Technical Authority strategy in introducing the requirements of the new fatigue standard has been to allow temporary variations (30+) to the new standard and give the routes and functions time to adapt rosters in a way that meets both the business needs and the need to effectively manage fatigue. Progress on compliance has been challenging but we are seeing reductions in exceedances, increased training and awareness and regular use of the fatigue assessments and fatigue management plans. We also have a clear glidepath to achieve a substantial reduction in the amount of temporary variations. This progress is tracked in our dashboard shown below.

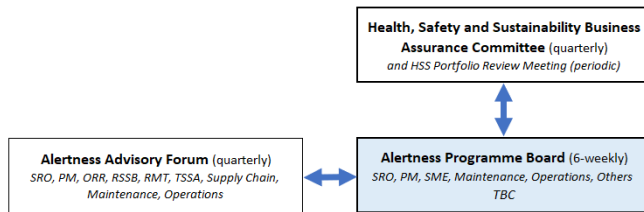
Figure C.1: Fatigue Dashboard



Our blueprint for CP7 recognises that there is significant further work required even after compliance to the new standard has been achieved. This has been demonstrated in two recent road traffic accidents where the drivers fell asleep but the investigation shows both cases were compliant to the existing standard. We have secured funding in CP7 for further development of our control framework and the diagram in Figure C.2 sets out our plan to maximise alertness and performance for all. This includes the development of a fatigue risk management system, and requirements gathering for this is already underway.

Figure C.2: Fatigue Improvement Plan

Aim: 'to maximise alertness and performance for all'



Management System	Competency	Data, Measurement & Reporting	Planning	Culture
23/24 - Regional review 23/24 - FRMS requirements gathering 23/24 - Fatigue Standard updated CP7 - Build and implement FRMS CP7 - Assurance model for FRMS	23/24 - Roster Clerk training 23/24 - Key roles upskilled 23/24 - eLearning updated 23/24 - Fatigue Video CP7 - Qualifications	23/24 - KPIs/targets for Fatigue CP7 - Replacement FMP/FRAAs tools CP7 - Biomathematical Model CP7 - SPI driven Fatigue reports CP7 - Alertness measurement & KPIs	23/24 - II Rostering Tool delivered 23/24 - Review contract pricing/hours CP7 - II Rostering Tool optimisation CP7 - Planning tools for non-Rostered	23/24 - Hybrid Working Policy 23/24 - Roster changes 23/24 - Comms/engagement re. Alertness 23/24 - Understand shift preferences CP7 - Action on Presenteeism CP7 - Supporting self-declaration

Annex D: Performance

The table below presents a summary of the initiatives driving PPM for each component of our performance trajectory, alongside the remaining relevant assumptions and dependencies after revisiting our position since the draft determination.

Figure D.1: Breakdown of our performance trajectory

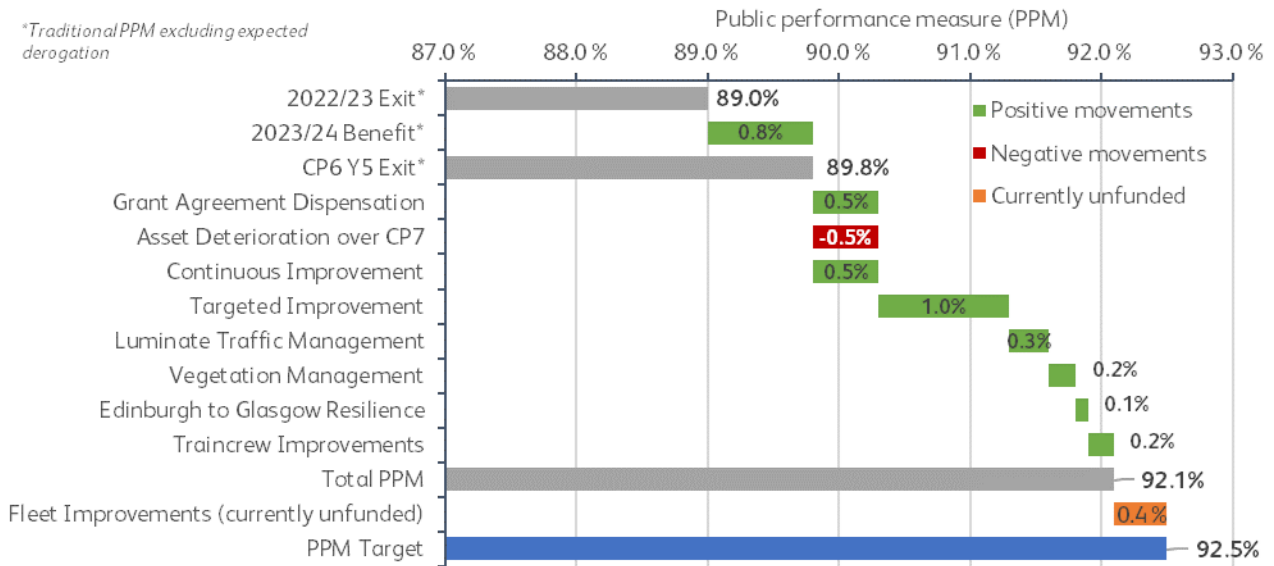


Table D.1: Performance initiatives driving PPM and relevant dependencies/ assumptions

PPM Component	Initiatives to drive PPM	Relevant Dependencies and Assumptions
2023/24 Benefit	<p>23/24 Benefit consists of the below initiatives:</p> <ul style="list-style-type: none"> • +0.1% benefit from prioritised Non-Track Assets initiatives and associated removal of PPM failures, as per the Maintenance Improvement plan • +0.3% benefit due to normalisation of weather patterns in autumn compared to 22/23 • +0.1% benefit due to interventions being implemented as part of 23/24 Autumn Plan to drive PPM improvement, including 31% increase in vegetation clearance compared to 22/23, Rail Head Treatment Train improvement, 25% increase in Leaf Fall teams, additional sand boxes and Traction Gel Applicators, overhaul of Network Rail Online Logistic and innovations for the future (e.g., hydrophobic sand, cryogenics, and weather resistant drones). • +0.1% benefit from performance improvement fund schemes in early 2023. Including installation of Intelligent Infrastructure on assets throughout the Finnieston Area, purchase of SmartWeld kits to reduce weld times, cameras for misused level-crossings and droids for known trespass areas. • +0.1% benefit from Traincrew short-term resourcing improvements • +0.1% benefit from Network Management Other improvements 	<ul style="list-style-type: none"> • Projected improvement based on data from historic initiatives and dependent on allocation of full planned spend • Uncertainty of climate change worsening weather patterns over CP7 • Interventions as part of 23/24 Autumn Plan are based on cross-industry Lessons Learned sessions during our Autumn review in previous years • Assume that collated benefits of performance improvement schemes should remove circa 700 PPM failures from the network • ScotRail Train’s 23/24 traincrew targets have not been aligned to compensate for industrial action
Grant Agreement Dispensation	<ul style="list-style-type: none"> • +0.5% overall benefit based on Scottish Government’s derogation from the 92.5% target to allow emergency speed restrictions during periods of severe weather or 	<ul style="list-style-type: none"> • Split of derogation between the impact of severe weather and connections is based on historic PPM failure data

PPM Component	Initiatives to drive PPM	Relevant Dependencies and Assumptions
	<p>instances when trains have been delayed to permit connections from other late running trains or ferries</p>	<p>Full benefit of Grant Agreement Dispensation has been accounted in CP7 year 1</p>
<p>Asset Deterioration over CP7</p>	<ul style="list-style-type: none"> While we originally assumed asset deterioration as -0.5% PPM over CP7 in our original Strategic Business Plan, we will continue working with our Asset Management, Maintenance and Operational teams to mitigate this as low as reasonably practical 	<p>-0.1% asset deterioration assumed for every year in CP7 to account for:</p> <ul style="list-style-type: none"> A forecast of increased number of train journeys and reduced renewal spend Modernising maintenance across the network being a new initiative and projections for the impact on response times are solely based on historic performance Post implementation of modernisation interventions, response times may differ, but will be continually monitoring those
<p>Continuous Improvement</p>	<ul style="list-style-type: none"> We have launched our ‘Better in The Making’ programme, with a lead solely on delivering a reliable railway. This role will focus on elements of continuous improvement and developing plans for this in CP7 We have undertaken various workshops with our Route Asset Management (RAM) and Maintenance teams to identify performance risks due to reduced asset renewals and increased maintenance in CP7 and validate mitigating actions that are already in plan. We have agreed initiatives across four themes which will drive improvement to most Scotland’s Railway controlled JPIP categories over CP7: a) People and Capability; b) Investment prioritisation; c) Lifecycle Management Processes; and d) Technology and Data 	<ul style="list-style-type: none"> Embedding market-led approach to planning is a new initiative and its effectiveness to help prioritisation of key performance risks will be proven post its full implementation. We will continually review funding allocation towards highest priority areas throughout CP7. As we continue to drive a performance culture, a benefit of +0.1% is assumed to be progressively realised every year in CP7

PPM Component	Initiatives to drive PPM	Relevant Dependencies and Assumptions
<p>Targeted Improvement</p>	<ul style="list-style-type: none"> • Installation of Dual Variable Rate Sanders (DVRS) driving an overall PPM improvement of 0.8% across multiple JPIP categories, including fleet • We have recently installed droids at three locations (Priesthill and Darnley, Camelon and Hamilton Central) and we have been constantly monitoring their effectiveness to deter trespasses and understand emerging trespass hotspots to maximise the impact of similar interventions over CP7 • Additional initiatives we are planning include Forward Facing CCTV to confirm suspicious fatalities and drones from BTP to confirm trespass incidents, reducing hand-back time 	<ul style="list-style-type: none"> • Benefit from DVRS assumes Full Fleet Sanding Roll Out and full investment of £12 million - to date £4 million still remains unfunded • Projected improvement for the installation of droids is based on emerging benefits from recent case studies • Effectiveness of the additional initiatives can be only proven post their full deployment • Targeted improvement will be progressively realised every year and we have assumed a 0.2% benefit every year in CP7 to account for the continuous deployment of improvement interventions
<p>Luminate Traffic Management</p>	<p>+0.3% benefit based on our analysis of Anglia Route’s known KPIs is anticipated to be realised in CP7 year 1. Installation of Luminate Traffic Management will allow us to:</p> <ul style="list-style-type: none"> • Establish real-time current and projected performance view across the deployed areas • Facilitate validation and updates to station working and platform assignments through platform dockers increasing flexibility • Introduce train graphs covering the entire line of route to enhance visibility of all approaches to important locations, operational planning and distribution systems 	<ul style="list-style-type: none"> • Assumed correlation of timetable/ trains/ geography when comparing with Anglia Route to benchmark effectiveness of initiative to Edinburgh IECC • Projected improvement based on the average of historic correlation between PfPI Minutes with PPM Failures and in scope delays attributed to ScotRail Trains • Availability of IT software to enable testing period from December 2023 • Timely and adequate training of SSMs from signaller pool • We have accounted for an additional +0.3% benefit in CP7 year 2 for our fast trajectory, albeit this investment is currently unfunded and would be dependent on successful first tranche roll out. This additional funding (c. £12.5 million) can further improve PPM performance, albeit Luminate Traffic Management is not compatible with all

PPM Component	Initiatives to drive PPM	Relevant Dependencies and Assumptions
		regions' signalling systems, which may require additional investment to become compatible.
Vegetation Management	<ul style="list-style-type: none"> +0.2% benefit from vegetation management due to significantly more de-vegetation funding in CP7, resulting in a 30% reduction of PPM failures attributed to vegetation over CP7 	<ul style="list-style-type: none"> CP7 funding should allow us to achieve high rates of compliance to the standard NR/L2/OTK/5201 by the end of CP7. In accordance with the vegetation strategy for CP7, vegetation clearance and maintenance will be prioritised using the market-led approach Projected improvement based on historic PPM failure data attributed to delays caused by vegetation For our slow and medium trajectory, we have assumed +0.1% benefit in CP7 year 2 and year 4. For our fast trajectory, further improvement from targeted vegetation management can be realised: +0.05% PPM in CP7 year 2 and year 3, rising to +0.1% PPM in years 4 and 5 – this will require additional investment which is currently unfunded to ensure full compliance by end of CP7
Edinburgh to Glasgow Resilience	<ul style="list-style-type: none"> +0.1% benefit from Edinburgh to Glasgow resilience works due to a £10 million investment in three earthwork sites in the Croy area. Works are currently in progress and benefit is based on the removal of most PPM failures attributed to speed restrictions during heavy rainfall, in alignment with the earthworks' design specification 	<ul style="list-style-type: none"> Projected improvement based on 22/23 PPM failure data across the three earthwork sites As works are currently in progress, full benefit is anticipated to be realised in CP7 year 1
Traincrew Improvements	<ul style="list-style-type: none"> +0.2% benefit based on ScotRail Train's long-term plan to address traincrew shortages by 2027 	<ul style="list-style-type: none"> Projected improvement based on ScotRail Train's commitments. We continue to work closely with ScotRail Trains and have requested to review ScotRail Train's resourcing plan.

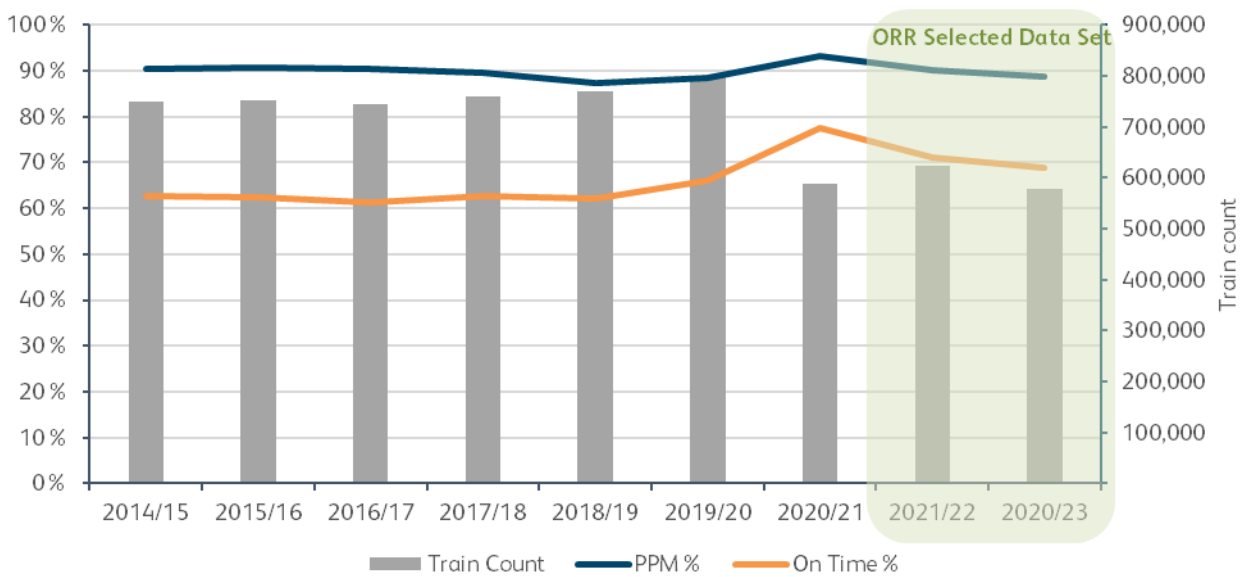
PPM Component	Initiatives to drive PPM	Relevant Dependencies and Assumptions
Fleet Improvements	<ul style="list-style-type: none"> +0.4% (currently identified as a gap in our performance trajectory) due to urgent, sustained, and significant investment in the ScotRail Train rolling stock fleet 	<ul style="list-style-type: none"> Information presented by ScotRail Trains at Performance Improvement Executive meeting – April 2023 Initiative remains to date unfunded. Without funding, this puts our trajectories to 92.5% at risk

Annex E: Further analysis of On Time performance trajectory

Use of historical data in modelling On Time trajectories

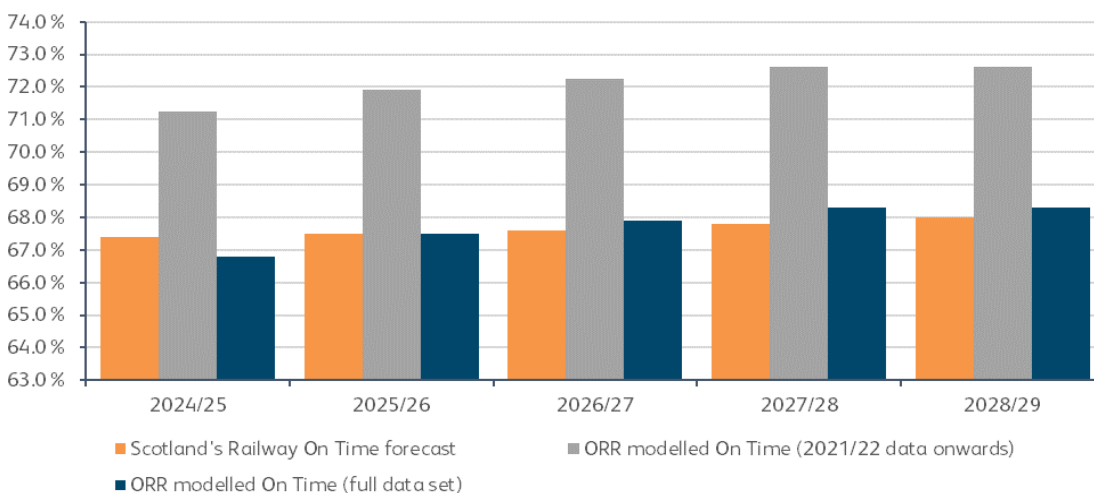
As stated in the performance section of our draft determination response, we believe that ORR’s approach to setting On Time trajectories does not appropriately account for the available historical data. The ORR has used the most recent two years (2021/22 – present) of performance data to generate an On Time forecast equivalent to 92.5% PPM as shown in Figure E.1 below. The remaining data set has been excluded.

Figure E.1: ORR On Time regression data



When this exercise is repeated with full ORR data set (2014/15 – present) to convert the PPM values into On Time equivalents, we have discovered that the figures are in line with Scotland Railway’s forecasts, as shown in Figure E.2 below.

Figure E.2: Comparison of On Time regression outputs (using final Strategic Business Plan)



We have concerns regarding the methodology used, in that ORR have selected just 26 data points (2021/22 – present) capturing a timeframe where the train counts were reduced to a level well below the anticipated CP7 train count (see Figure E.1).

Whilst there appears to be a strengthening in the relationship between On Time and PPM% for the final three years of CP6, there is no direct evidence to explain or guarantee that this relationship would continue into CP7. The only observable change is the Covid-19 pandemic, which coincided directly with the relationship observed.

As we analysed the data set provided by ORR in more detail, we uncovered observations concerning the historic accuracy of On Time CP7 values for Scotland’s Railway in relation to the full dataset of the most up to date PPM% trajectory provided in the final Strategic Business Plan. We found that the accuracy of the Network Rail figures was greater than those submitted by ORR in the Draft Determination. This is shown in Table E.1 below.

Our analysis demonstrates that ORR’s proposed On Time values for CP7, which are based on two years of data, would only have corresponded to the stated PPM in approximately 40% of periods, compared to 60% of periods suggested when using an On Time trajectory we modelled following submission of the final Strategic Business Plan using a seven-year period (excluding 2020/21 which was significantly affected by Covid-19). We consider the seven-year dataset used is more reflective of CP7 operational conditions, given the close link between network busyness and On Time performance.

Table E.1: Comparison of On Time regression analysis accuracy over a 7-year period

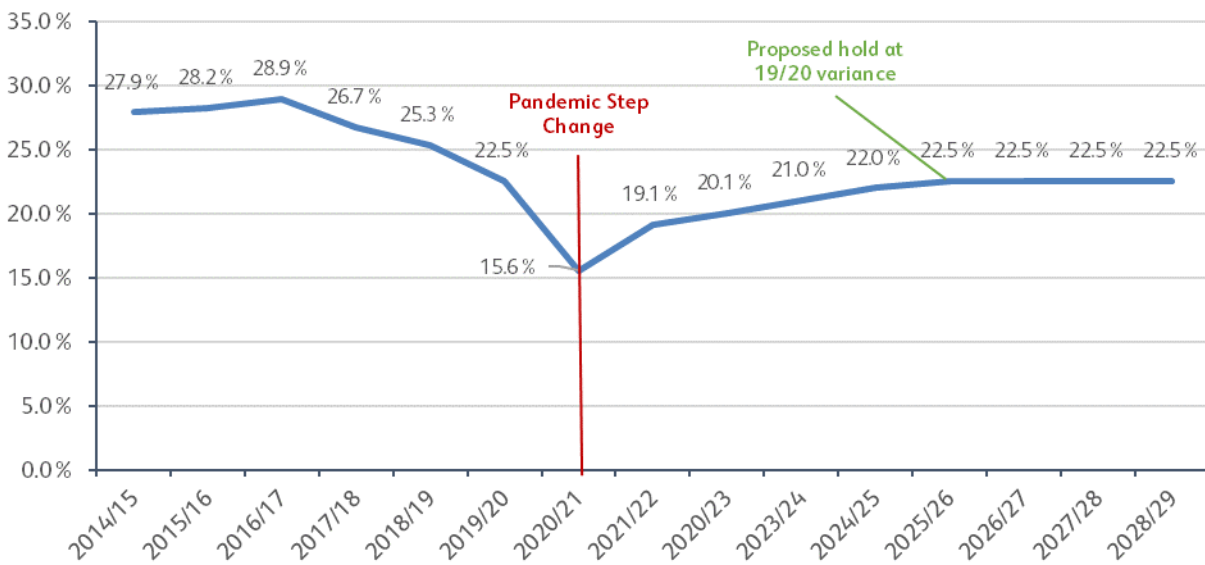
Period	ORR’s On Time trajectory – accuracy over a 7-year period			Scotland's Railway trajectory accuracy over a 7-year period		
	PPM% <i>(interim plan)</i>	On Time % <i>(ORR’s DD)</i>	Accuracy %	PPM % <i>(final plan)</i>	On Time % <i>(modelled on final plan)</i>	Accuracy %
2024/25	91.5	71.2	38	91.0	67.4	60
2025/26	92.0	71.9	41	91.5	67.5	62
2026/27	92.3	72.3	39	91.9	67.6	61
2027/28	92.5	72.6	37	92.5	67.8	58
2028/29	92.5	72.6	37	92.5	68.0	58

Proposed On Time trajectory

Figure E.3 below shows the relationship (variance) between PPM and On Time. We observed that, whilst some strengthening in the relationship was evident up to 2019/20, the ‘Step Change’ occurred during the Pandemic and since rebounded by more than 4 percentage points.

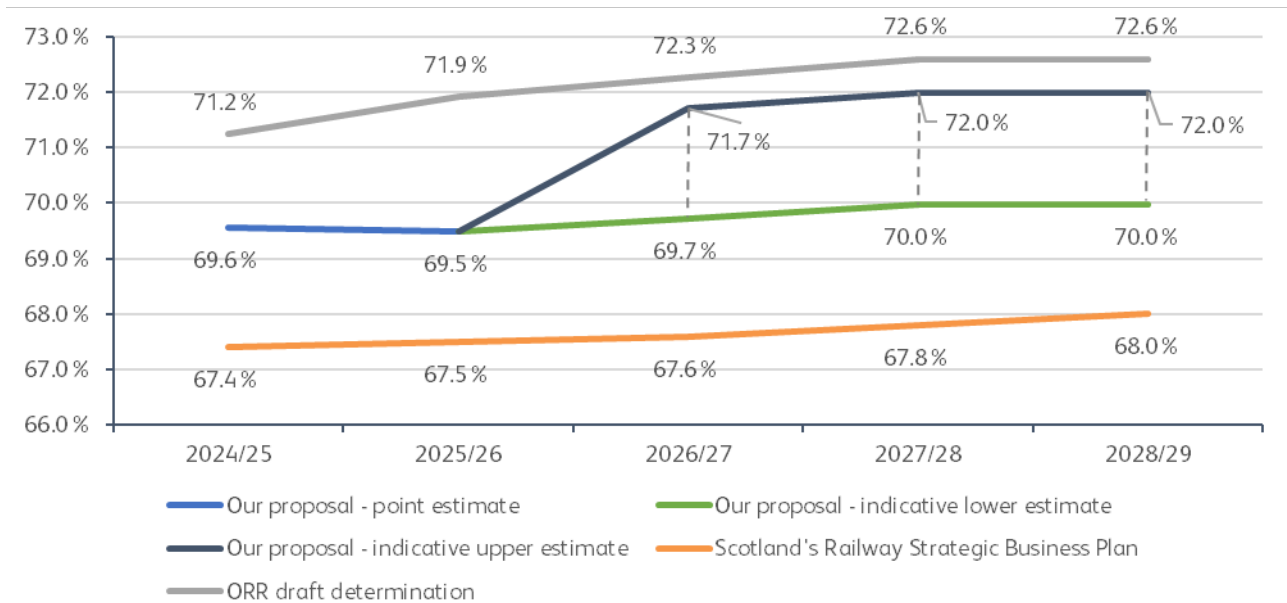
Following constructive discussions with ORR, we are proposing that we incorporate the findings from both organisations with the aim of proposing a value that best represents the likely change in the relationships between measures throughout CP7. We propose that we extrapolate the movement in the variance (+0.95%) from the most recent year (2022/23) and apply that to each year of CP7 until we hit a cap, which we propose should be the 2019/20 variance of 22.5%.

Figure E.3: PPM % vs On Time variance



The resulting proposed values in Figure E.4 below better reflect the likely change in the relationship between these measures as Passenger Numbers and Train counts increases in CP7 (see Figures E.5-E.7).

Figure E.4: Comparison of On Time trajectories



The evidence supports assertions from ORR and Scotland’s Railway:

- ORR asserted that the full data set may not be fully representative of the changes that were occurring prior the Pandemic.
- Scotland’s Railway asserted that, based on the evidence that this relationship is loosening in the aftermath of the Pandemic, there is strong evidence that there will be a regression to the mean, which we believe is best reflected in 2019/20.

Relationship between On Time and busyness

Figures E.5-E.7 below, generated by the National Performance Team, show that there is a high level of sensitivity between On Time performance and footfall, train count and network busyness, which combines footfall and train count.

As we enter CP7, we have shown that it would be inaccurate to determine the likely relationship between PPM% and On Time% by looking at this relationship through the previous two years in isolation, where we know Train Count and Passenger numbers were significantly fewer than will be the case in CP7.

A further consideration is that the model uses both 2021/22 and 2022/23 as the base for this calculation. We have specific concerns regarding the 2022/23 train count, which was significantly disrupted by the strike actions across the industry. It is notable that ScotRail Trains have already delivered 24% more trains in 2023/24 YTD than in 2022/23.

Figure E.5: On Time delivery relative to footfall

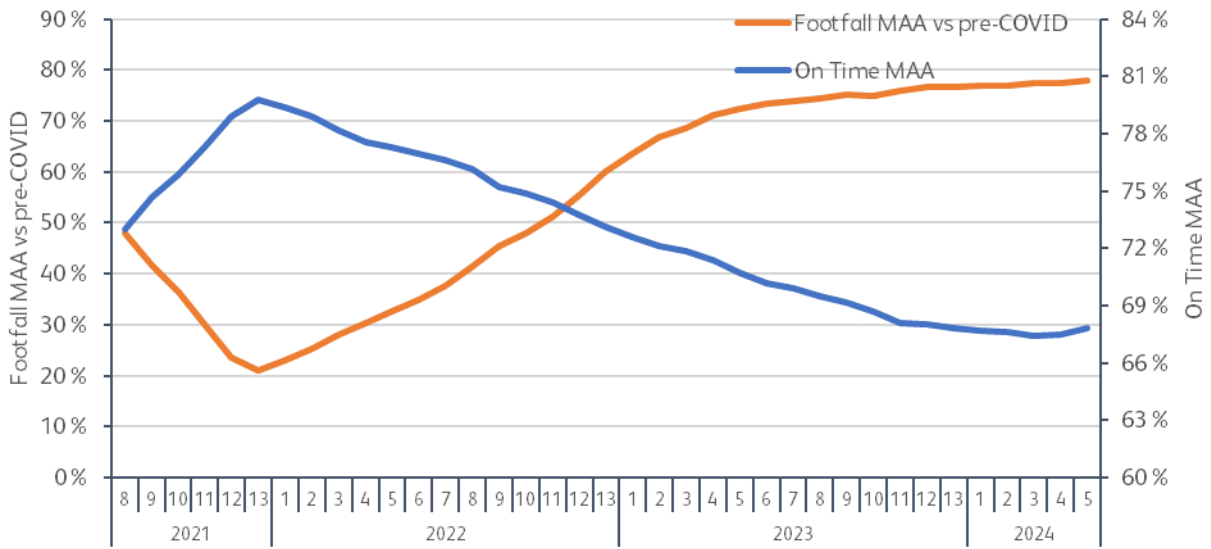


Figure E.6: On Time delivery relative to train count

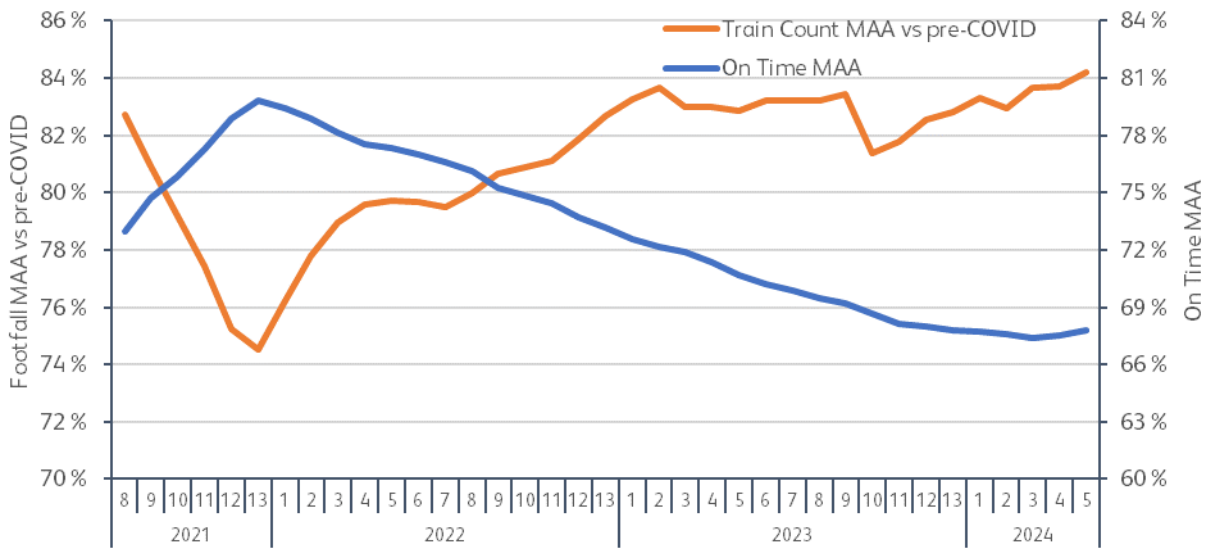
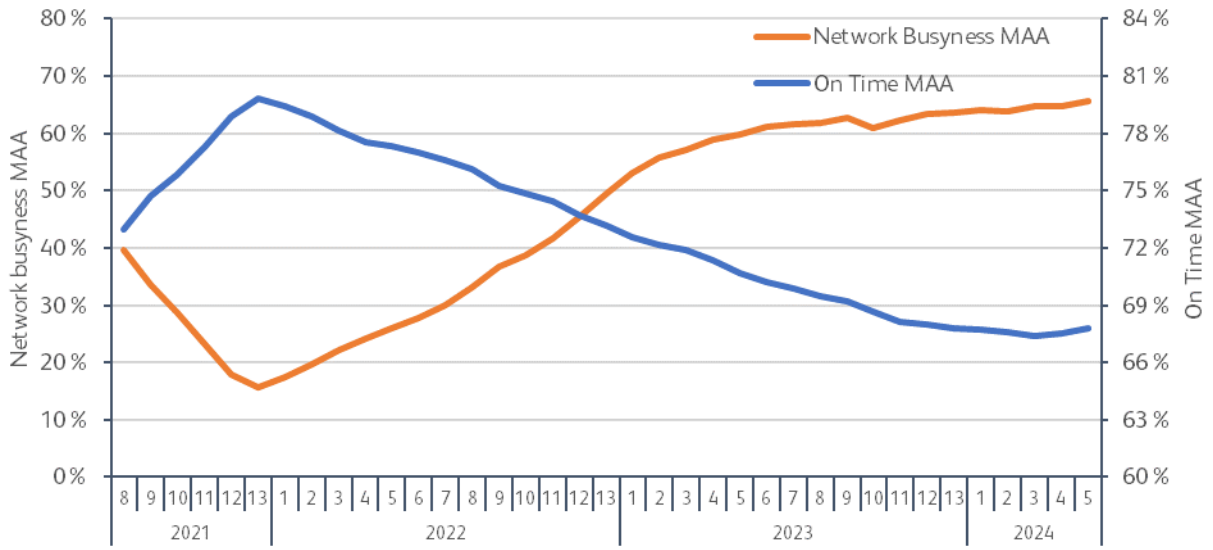


Figure E.7: On Time delivery relative to network busyness



Annex F: Weather Risk Task Force

Table F.1: Status of Carmont recommendations

#	Recommendation	Track	Drainage and inside	Earthworks	Structures	Signalling	Electrification and Plant	Maintenance	Operations	Train perator	O Open/ Closed	Comments
1	Reviewing contractual arrangements and installing as design	x	x	x	x	x	x				Open	KPIs in place to monitor Safety, Construction, Sustainability Metrics
2	Review asset management systems and conduct a quality check	x	x	x	x	x	x	x			Open	Audits complete for maintenance and on two projects
3	Review and update drainage policy/design for climate change	x	x	x	x						Open	Evaluation and Design process drafted. To be published with training
4	AMEY and Network Rail to jointly review mixed cutting standard			x							Closed	Examinations carried out in accordance with standard & guidance
5	Review adequacy and clarity of Mixed cutting standard			x							Closed	NR/L3/CIV/065
6	Improved processes for mitigations for weather-related risks	x	x	x	x		x	x	x	x	Open	National Closure Statement accepted at NRRP (Pending Closure)
7	Improved control rooms capability during complex conditions								x	x	Open	Additional resources in place. Seven Control Managers
8	Assurance review and improve processes for control staff								x	x	Open	Compliant with what exists today under National Ops Procedures
9	Review changes to "Learning from Events"	x	x	x	x	x	x	x	x	x	Open	Specific L2 audit commissioned test effectiveness of the changes implemented
10	Risk assessment mitigations for response to weather		x	x	x			x	x	x	Open	Model developed. Work to continue to determine if model is effective

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11	Agree & define industry-agreed process: 'Route Proving Trains'									x	x	Open	National Closure Statement being gathered for review
12	Assessment of measures/improved guidance to derailed trains									x	x	Open	Project expected to complete late 2024, progress continues on plan
13	Review process for guard-rail & containment kerb installation	x	x	x	x					x	x	Open	Reviewed effectiveness of guard rail and containment kerb performance in historical incidents. Work continues
14	HST Power car lifeguards										x	Open	On track for Operational fleet complete by end July
15	Bodyside window: risk reduction of lacerations detached shards										x	Open	Closure statement V3 complete. Await response from ORR
16	Folding tables – injury risk reduction										x	Open	New design agreed, Scottish HST fleet prioritised. Likely end date Jan 24
17	Drivers' cab secondary impact– injury risk reduction										x	Open	Closure statement V3 complete. Await response from ORR
18	Corrosion management										x	Open	Work for HST and 380/334 aims to complete by end AUG, other fleets to follow
19	Crashworthiness and continued operation of HSTs										x	Open	Risk Assessment of HST vs. Modern Standards completed. Out for comments.
20	Battery fire risk reduction										x	Open	With Rail Safety and Standards Board (RSSB) closure statement now with ORR