ARUP

Office of Rail & Road and Network Rail

Independent Reporter – Assessment of Network Rail's CP7 Regional Performance Plans

Summary Report

Reference:

Final 3 | October 2023

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Glossary

Acronym	Meaning
CP (6 or 7)	Control Period
DD	Draft Determination
ECML	East Coast Main Line
FNPO	Freight and National Passenger Operations
FOC	Freight Operating Company
GWR	Great Western Railway
IR	Industrial Relations
LNER	London North Eastern Railway
NPAT	National Performance Analysis Team
NR	Network Rail
NW&C	North West & Central
ORR	Office of Rail and Road
PPM	Public Performance Measure
PR(23)	Periodic Review
SBP	Strategic Business Plan
TfW	Transport for Wales
TOC	Train Operating Company
TPE	TransPennine Express
TRU	Transpennine Route Upgrade
W&W	Wales &Western

1. Executive Summary

1.1 General

Arup, in its role as Independent Reporter, supported by Winder Phillips Associates has been appointed by the Office of Rail and Road (ORR) and Network Rail to review the development of Train Performance Plans by Network Rail for Control Period 7 (CP7) as part of ORR's current Periodic Review process (PR23).

The review has been undertaken in three stages and this report summarises the work. In the final stage of the work ('Stage 3') in September 2023 we assessed Network Rail's response to the ORR's draft determination[1] and the extent to which it had addressed the specific issues relating to the train performance success measure forecasts identified in Stage 2 in February 2023. Stage 3 included a review as to the extent to which Network Rail had adjusted its forecasts following the ORR draft determination.

Following the publication of the HLOS[2] [3] our mandate was updated at Stage 2 to require the Independent Reporter to make an assessment as to the degree to which Network Rail's success measure forecasts for train punctuality and reliability performance, were 'ambitious yet realistic', taking all circumstances into account. Project Team will be used in reference to our role as Independent Reporter for the rest of this report.

1.2 Approach

Our assessment was carried out in three stages, as per the mandate, with each stage involving a more detailed assessment of the forecasts. Throughout the year-long process, we worked collaboratively with both ORR and Network Rail to support the development of the forecasts.

As part of the review, the Project Team assessed the individual Network Rail Region On Time plans considering the risks, plans and opportunities for each Region, and reviewed the central schemes and assumptions made within the forecasts. The Project Team also considered Network Rail's cancellations forecasts for both passenger and freight, and reviewed Network Rail's PPM forecast (adjusted measure for CP7) for Scotland. The level of engagement by Network Rail with the train operators was also considered.

To assess the level of ambition for Network Rail's England and Wales On Time forecasts for CP7, a high-level review of Network Rail's plans was undertaken, and 47 performance schemes were selected from the performance plans for more detailed consideration. The selection of plans was made by the Project Team, based upon criteria agreed with the ORR and Network Rail.

1.3 Findings

Following the review of operator engagement, the Project Team addressed the key question to be considered during the Stage 3 mandate, namely: ***Are the success measure forecasts for train punctuality and reliability performance ambitious yet realistic, taking all circumstances into account?***

We have considered where each regional success measure forecast sits on a scale of one (the forecast is realistic/deliverable but with low ambition) to five (the forecast is stretching/ambitious but may lack realism). Regional forecasts were considered in light of the underlying performance schemes and risks within the performance plans. These performance plans were assessed by the Project Team, involving various meetings with Network Rail's regional performance teams.

We have included our assessment of the Stage 3 September 2023 forecasts based on the draft determination response as *Stage 3 (Sept)* and our earlier assessment of the Stage 2 SBP forecasts as *Stage 2 (Feb)*.

An assessment was also conducted to determine any differences in Network Rail's ambition between Y1-2 and Y3-5. This was done in light of the '2+3' approach, proposed by the ORR, where ORR sets firm point

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[1] Network Rail's response to the draft determination was received in September 2023 – Appendix A.4 Document numbers 10-16.

[2] Railways Act 2005 statement: high level output specification 2022 - GOV.UK (www.gov.uk)

[3] Scottish Ministers' High Level Output Specification (HLOS) - Control Period 7 - 2024 – 2029 | Transport Scotland

targets for Y1-2 and indicative targets for Y3-5. These indicative targets reset in Y2 of CP7.Thus, more of a focus was put on Y1-2 during the assessment but where differences in ambition exist, these have been highlighted in Section 4. However, a single CP7 overall score was provided for all Regions. The scores are <u>whole-industry</u> scores but where TOC schemes and engagement has had a larger influence on Network Rail's Region submissions, this has also been noted in Section 4. Table 1 below details our assessment of Network Rail's performance forecasts.

Table 1: Performance Forecasts Regional Assessment

Metric	Region	Realistic/Deliverable 1	2	3	4	Stretching/Ambitious 5
On-Time	NW&C		▲ S3			
	Eastern		▲ S3			
	W&W		▲ S3		△ S2	
	Southern			▲ S3		
Passenger Cancellations	NW&C	△ S2	▲ S3			
	Eastern		▲ S3			
	W&W	△ S2	▲ S3			
	Southern		▲ S3			
ScotRail PPM (adjusted)	Scotland					▲ S3
Freight Cancellations	NW&C		△ S2	▲ S3		
	Eastern		△ S2	▲ S3		
	W&W		△ S2	▲ S3		
	Southern		△ S2	▲ S3		
	Scotland		△ S2	▲ S3		

▲ Stage 3 (Sept)   △ Stage 2 (Feb)

In Stage 3 of the review, the Project Team considered further questions raised by the ORR. Variations in approach regionally, particularly around the assessment of passenger levels returning post Covid-19 were noted, and the level of detail in the plans was also variable, however it was concluded that a reasonable approach to the development of performance plans had been adopted by Network Rail for CP7.

Regional variations were also noted when considering whether there were any specific key risks or opportunities that may have been missed from the plans. It was identified that there was a general lack of consideration for the effects of climate change within the Regions, though localised weather initiatives were present in some regional plans, and we acknowledge that detailed climate change plans may be within the asset management plans which were not part of our review.

It was also noted that Regions have been significantly impacted by train operators' industrial relations issues and fleet reliability issues and did not foresee any significant improvement in either of these. Many Regions also anticipated ongoing risks to performance from significant engineering works that they did not believe could be fully mitigated for and did not foresee opportunities for improvement from the completion of previous works.

In Stage 3 of our review, we considered the level of engagement with the train operators, undertaken by Network Rail. To help inform our assessment we sent a survey to all TOCs posing specific questions, however only nine out of the nineteen responded in the time available. Our team acknowledged that engaging with TOCs was a challenging task to undertake for Network Rail with some train operators

prioritising their own annual business planning cycle over contributing to Network Rail's CP7 forecasts. It was found that there was a varied level of engagement between Network Rail and the train operators across the Regions. However, there were also some areas of good engagement and joint working noted. In some instances, lack of engagement from the train operators has meant that Network Rail has had to make assumptions about ongoing operator performance, particularly around the continuation of industrial relations issues and fleet reliability challenges. For industry measures this adds a large level of uncertainty to the forecast. Whilst we have taken into account the extent to which specific challenges are within Network Rail's control, we have scored the industry measures from an overall industry point of view when assessing the level of stretch/ambition in the forecasts.

1.4 Acknowledgements

The Project Team would like to thank both Network Rail and ORR for their assistance with this study.

2. Introduction

2.1 General

Arup, in its role as Independent Reporter, supported by Winder Phillips Associates has been appointed by the ORR and Network Rail to review the development of Network Rail's Train Performance Plans for CP7 as part of PR23.

2.2 Purpose of review

An updated purpose of the review was agreed by Network Rail and ORR following the conclusion of Stage 2 in June 2023. The main question to be answered, and the overall purpose of this review was for Arup to answer, *"Are the success measure forecasts for train punctuality and reliability performance ambitious yet realistic, taking all circumstances into account?"*.

ORR has identified three train performance success measures against which to monitor Network Rail's performance during CP7:

- **On Time**: a measure of the proportion of scheduled station stops within each Region where the passenger train arrived within one minute of scheduled time.

- **Passenger Cancellations**: a measure of the proportion of scheduled passenger trains cancelled within each Region.

- **Freight Cancellations**: a measure of the proportion of scheduled freight trains cancelled within each Region.

As part of its CP7 SBP submission[4], Network Rail has provided regional forecast ranges for each of these three train performance success measures, and the review of these forecast ranges form the basis of this study.

A full copy of the Statement of Work and the subsequent additional requirements agreed for Stage 3 is included in Appendix A.1.

2.3 Requirements

The Statement of Works set out that the study was to be conducted in three stages and time periods:

- Stage 1: Review of Network Rail's forecast methodology (October 2022 to January 2023)

- Stage 2: Review of Network Rail's SBP submission (February 2023 to May 2023)

- Stage 3: Review of any changes to Network Rail's performance plans and forecasts following ORR's draft determination (July 2023 to September 2023).

This report focuses on Stage 3 which was to review Network Rail's response to the ORR's draft determination and assess the extent to which it has addressed the specific issues relating to the train performance success measure forecasts identified in Stage 2. Stage 3 also includes an assessment of the latest forecasts used to inform ORR's final determination.

The scope of work for Stage 3 covered the following activities:

Undertake initial review meetings with each Network Rail Region:

- Establish the extent to which the current bottom-up plans can be reviewed (i.e., whether finalised or still in development).

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[4] CP7 SBPs for England and Wales and Scotland's Railway, published May 2023, can be found at https://www.networkrail.co.uk/who-we-are/publications-and-resources/control-period-7-strategic-business-plans/

- Establish the level of Train Operator engagement and assess the value and appropriate timing of contact with Train Operators.

Review the regional improvement schemes / opportunities and risks included in the forecast:

- Undertake a review of the c.160 England and Wales regional improvement schemes/opportunities and risks. Note that c.30 schemes were later added to the model.

- Triage these into high/medium/low categories for further assessment, with Project Team to propose how many are reviewed in what depth and what whole system model coverage is appropriate.

- Undertake further assessment on whether the assumed benefits and disbenefits of the selected schemes are reasonable, taking into account stated uncertainties.

- Assess the contribution of the Train Operators to the Network Rail forecasts, including an evaluation of the level of engagement Network Rail has had with Train Operators.

Review of central schemes and assumptions included in the forecast:

- Review the Network Rail central assumptions, including the associated benefits that will be realised from national schemes where not already covered by the regional schemes.

- In cases where the central assumptions on benefits cannot be quantified, make a qualitative assessment on the impacts of the national schemes.

Review of Passenger and Freight cancellations forecasts:

- Undertake an assessment as to whether the updated Network Rail passenger and freight cancellations forecasts are ambitious yet realistic.

Review of Scotland's Railway's forecasts:

- Undertake an assessment of Scotland's Railway schemes and assumptions underlying the forecasts. Look at the contributions of TOCs (particularly ScotRail) and the level of Network Rail engagement with the TOCs.

- Consider the impact of national schemes and those in other Regions. Assess the regression analysis used in Network Rail Scotland to support its forecasts.

Review Network Rail's response to the draft determination, and the response from any other relevant organisations

- Review Network Rail's response to the draft determination and refresh the analysis and conclusions to take account of any changes in the forecasts.

- Review the supporting information submitted with the response, taking account of detailed plans, uncertainty ranges and the supporting narrative.

- Assess any responses from any other organisation.

2.4   Report content

This report presents the overall findings and opinion on our review. Specifically, the report focuses on the extent to which Network Rail has addressed the issues related to train performance forecasts raised in Stage 2 and the ORR's draft determination[5]. The ORR asked for one change from the original Statement of Work – namely around the level of ambition of Network Rail's performance forecasts. In addition there was a shift in scope with elements removed from Stage 2 and added into Stage 3. The Stage 3 questions were:

1. Has Network Rail satisfactorily addressed specific issues raised in Stage 2?

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[5] Periodic review 2023: draft determination was published by the ORR on 15th June 2023.

2. Has Network Rail taken a reasonable approach to developing its train performance plans and forecasts for CP7?

3. Are the success measure forecasts for train punctuality and reliability performance ambitious yet realistic, taking all circumstances into account?

4. Are these forecasts supported by an appropriate level of detail in the plans to deliver these performance levels?

5. Has there been effective collaboration with train and freight operators in developing the forecasts, and are the dependencies on operator delivery clearly defined?

6. Is the level of uncertainty around the forecasts expressed appropriately?

7. Are there any key risks, threats, and opportunities, that have not been taken into account?

This report is structured to address the questions set out in the Statement of Works and are addressed explicitly in Section 4 and Section 5:

- Section 3 - Methodology

- Section 4 - Assessment of Network Rail performance forecasts

- Section 5 - Opinion on specific questions

- Section 6 - Conclusions

The documents that demonstrate Network Rail's response to the draft determination can be found in Appendix A.4. The information within this report will be used to support ORR's final determination.

3. Methodology

3.1 Overall Approach

At the outset of this commission, we agreed to work with both Network Rail and ORR to act as a reviewer but also to make suggestions on where the process could be improved. We agreed to follow a similar methodology and approach to our PR18 review encouraging open and honest discussions between all parties.

All parties were working in a challenging environment where forecast outputs and the approach were constantly changing across each of the three stages. For example, the decision from Network Rail to submit ranges for the SBP and the late change to the 2+3 approach led to Project Team having to update our assessment process. Network Rail and ORR were in contact with the Project Team, so any changes were fed into our planning as soon as possible.

3.1.1 Stage 1

The aim of Stage 1 was to review Network Rail's forecasting methodology.

In Stage 1, the Project Team:

- Reviewed the guidance issued by ORR and Network Rail.

- Met with the owner of the On Time Performance Model.

- Met with each Regional performance lead, with the exception of Wales Route. We met with Wales Route in Stage 2.

- Met with the Freight and National Passenger Operator performance lead to discuss freight performance modelling and forecasting.

- Reviewed a variety of documents provided by Regions in Stage 1.

3.1.2 Stage 2

The aim of Stage 2 was to undertake a review of Network Rail's SBP submission.

The key conclusions of the Project Team in Stage 2 were as follows:

- Most success metric forecasts provided by the Regions were not ambitious nor stretching.

- The forecasts provided were ranges – often quite large ranges – so the Project Team was not able to assess in detail. This was across all Regions and metrics.

- The level of TOC engagement was not assessed in Stage 2 as per the Statement of Work. It was agreed with Network Rail and the ORR that we would engage directly with the TOCs as part of Stage 3.

3.1.3 Stage 3

As part of the evaluation for Stage 3 of the independent review, the following steps were undertaken:

- A qualitative assessment of whether there are any clear gaps in the Regions' submission.

- An assessment as to whether the selection criteria for including schemes was appropriate.

- An assessment of the overall quality of the plans, in the context of the ranges presented in the SBP, based on the surrounding narrative on uncertainty, considering completeness, consistency and robustness.

All schemes were initially reviewed at high level whilst the ORR also requested that a sample of schemes should be selected for further consideration based upon criteria provided by the ORR. See Section 3.2 for the triaging methodology and suggested criteria for detailed scheme analysis.

3.1.4   2+3 Approach

In light of the industrial relations challenges faced by the rail industry in the latter half of CP6 and the difficulties in forecasting CP7 performance, the ORR developed a '2+3' proposal which would commit to resetting On Time and Passenger Cancellations forecasts for England & Wales in advance of year 3 of CP7.

According to the ORR in October 2023, "*Our final determination will commit to reset passenger train performance measures and trajectories for England & Wales in advance of year 3 of CP7. We consider this two-year window provides an opportunity for Network Rail to work with operators and funders, to improve the industry processes for aligning longer term performance expectations. This reset will only apply to passenger train performance trajectories and not to freight train performance or other outcome measures from our final determination.*"

We note that the mechanism for re-assessment at the end of Year 2 is still to be defined by the ORR and that ambition for Y3-5 is based on current forecasts.

As agreed by Network Rail and the ORR, On Time and Passenger Cancellations are to have one overall score, but Y1-2 has a greater weighting within the score where differences in ambition between Y1-2 and Y3-5 exist. Where these differences exist, they are highlighted in the supporting comments in Section 4.

3.1.5   Criteria for considering forecasts

As agreed at the end of Stage 2 the purpose of the Mandate was to provide ORR with assurance that Network Rail's SBP for CP7 and Network Rail's response the draft determination includes forecasts of train performance success measures that are ambitious yet realistic.

We recognised that the question of whether each forecast range is 'ambitious' or 'realistic' is subjective. Therefore, to form our views, we considered the following factors:

- Review how the P50 outputs from the On Time model compare with the SBP ranges.

- Review whether **all key factors that are likely to affect performance** during CP7 appear to have been considered in the On Time modelling; including whether the impacts shown in the waterfall charts match the model outputs, and whether the information presented in the waterfall charts aligns with the narrative in the SBP.

- Review the calculation approach for the **Passenger and Freight Cancellation** exit-CP6 forecasts and subsequent forecast ranges for CP7.

- Review how the ranges for each Regional Success Measure **compare against recent historical trends in CP6 and associated factors.**

3.2   England and Wales On Time Review

3.2.1   Triaging

Network Rail's On Time forecasts are based on the performance schemes created by Network Rail's Regions (excluding Scotland's Railway which has used a separate model for the adjusted PPM measure for CP7). These schemes have been inputted into the On Time model, created by the National Performance Analysis Team, to calculate the forecasts assessed in this report. The schemes address the risks and opportunities to the network's performance over the course of CP7. A list of these schemes can be found in Appendix A.4

Due to the large number of regional schemes (approximately 160 for England and Wales at the time of triaging), it was agreed with the ORR and Network Rail that the Project Team would select approximately 30 schemes to assess in greater detail.

The Project Team triaged the schemes into high/medium/low impact based on the extent to which they drove the forecasts in the On Time model, i.e., identifying the schemes which would have the greatest performance benefit or disbenefit. The Project Team took the sum of the total delay attributed to each scheme in the On Time model and calculated how this changed over the course of CP7 based on the figures provided by the Regions. We then took the absolute value of this change and ranked the schemes from highest impacting to

lowest impacting. This formed an element of our triage with schemes placed in either high (top 20%), medium (next 30%) or low (bottom 50%).

The Project Team then used the following criteria to select the schemes for review which was agreed with Network Rail and the ORR:

- A balance across the four Regions in England and Wales;

- A balance of risk and improvement schemes;

- A spread of high, medium and low impact schemes (prioritising high impact schemes, but with some medium and low impact schemes across the Regions);

- A sample of fleet, external factors, operating plan and fixed assets schemes;

- The list of schemes must include HS2, Southern re-signalling schemes and Transpennine Route Upgrade (TRU) (i.e., enhancements across all the Regions); and,

- Within the scheme selection, where there were logical groupings, a scheme may appear to have multiple entries and these should be treated as one scheme (for example if the same issue has risk and improvement split out into separate schemes, or where one action carried more than one line in the list of schemes).

To cover these criteria meant 47 schemes were selected for further analysis. These selected schemes are highlighted in Appendix A.2 and the breakdown of risk, improvement and mixed schemes by Region are outlined in Table 2 below.

Table 2 contains the schemes which were received during Stage 2. An additional c.30 regional schemes were included in the forecasts in Stage 3 but the pro-forma templates for these schemes were not received from Network Rail and so were not analysed in Stage 3. It was agreed between Network Rail and the Project Team at the start of Stage 3 that the majority of schemes would not change, and these formed the basis of our analysis in Section 4.

Table 2: Number of Improvement, Risk and Mixed Schemes Received per Region in England and Wales

Type of Scheme	Eastern	NW&C	Southern	W&W	Total
Improvement	15	28	17	5	65
Risk	24	26	10	15	75
Mix	9	2	1	8	20
Total	48	56	28	28	160

3.2.2   Project Team engagement with Network Rail

At the start of Stage 3, the Project Team met with each Region to understand what progress they had made since the conclusion of Stage 2 and what changes had been made to their performance forecasts. This informed our early approach to Stage 3 and allowed the Project Team to begin analysing the performance schemes of the Regions which had the least amount of change in greater detail. The Project Team kept in regular contact with Network Rail throughout Stage 3, responding to the model input and outputs as and when they were provided by the Regions.

The initial Stage 3 discussion with the Regions also discussed the level of TOC engagement with the CP7 planning process. To understand to what extent TOCs contributed to the CP7 performance planning process, the Project Team created a survey to send to TOCs. The results of this survey can be found in Appendix A.3.

As Stage 3 progressed and the Project Team had looked at the information provided by Network Rail in Stages 2 and 3, we met again with each of the Regions for a more detailed discussion on the schemes in Appendix A.2 to inform our final assessment. The questions posed included:

- What is the nature of the scheme – how will it affect performance?

- How were the performance benefits/risks of the scheme calculated?

- Prior to the onset of COVID, were there any noticeable trends in performance – were any specific categories of delay getting worse e.g., Weather, Signal Failure etc.?

- Are there any infrastructure works planned during CP7 which could create a risk to performance?

- Do you think industry re-structure brings any risks to performance?

Section 0 summarises the outcomes of these meeting alongside other information provided by Network Rail over the course of Stage 3.

3.2.3   Receipt of Network Rail data

Information from Network Rail included a copy of the On Time performance model that was used to collate and sum minutes delay and On Time changes and convert these into the On Time metric. The versions that the Project Team received in Stage 2 are contained in Appendix A.4.

The Network Rail Regions were invited to discuss a set of sample schemes in Stage 3 and they provided an explanation of the derivation of the schemes and how their impacts were calculated.

Activities in Stage 3 were delayed by not receiving the required data from Network Rail at the agreed timescales. We anticipated that all information would be received by the end of July 2023, but we were still receiving changing forecasts towards the end of September. We worked collaboratively with ORR and Network Rail to mitigate these delays as much as possible to be able to provide an assessment by the Project Team's agreed date with the ORR.

It should be noted that the Project Team did not receive all information requested of Network Rail during Stage 3. Furthermore, due to the delays in receiving information from Network Rail towards the end of Stage 3, the Project Team was not able to review everything submitted by Network Rail. The Project Team was also not party to all discussions between Network Rail and the ORR in the later stages of Stage 3.

3.3   Passenger and Freight Cancellations Review

The Project Team met with the Network Rail National Performance Analysis Team several times during Stage 3 to follow the development of the Passenger Cancellations and Freight Cancellations forecasts. These meetings, in addition to meetings with the Regions and the performance schemes provided in Stage 2, informed our assessment in Section 4 and Section 0.

It was agreed with Network Rail and ORR that the Project Team would not have direct discussions with TOCs and FOCs during Stage 3 but that the Project Team would engage with TOCs via a survey which would support our review. The Network Rail Freight and National Passenger Operator (FNPO) team engaged with the FOCs to inform their modelling and forecasts.

3.4   Review of Central Schemes

The Project Team received 8 performance schemes – all improvement schemes - created by the National Network Rail Performance Analysis team during Stage 3. Because the performance forecasts were led on a regional basis, the central schemes were not considered in as much detail as the regional schemes, and it was also agreed by the Project Team that these would have less of an impact on the forecasts overall.

3.5   Review of Network Rail's Response to the Draft Determination

The assessments in Section 4 are based on the updated numbers in the draft determination and subsequent changes by Network Rail and reflect the supporting documentation within the draft determination.

4. Assessment of Network Rail Performance Forecasts

In this section we summarise our assessment of the forecast for each performance metric and Region. Our view for each forecast has been scored 1-5 on a sliding scale. Each forecast is scored in the round and not broken down by each individual year of CP7 however we have focussed more on Years 1-2 where possible.

In terms of scoring, the Project Team consider a score of 3 to be a good balance between being realistic and ambitious, with a score of 1 being too conservative and a score of 5 being too ambitious.

4.1 Assessment of Performance Forecasts

Table 3 summarises the assessment of the Stage 3 September Network Rail forecasts in response to the draft determination (DD) alongside our assessment from Stage 2 which assessed the forecasts included in the Strategic Business Plan (SBP). This shows where, in our view, Network Rail has addressed some issues raised in Stage 2.

Table 3: Performance Forecasts Regional Assessment

Metric	Region	Realistic/Deliverable 1	2	3	4	Stretching/Ambitious 5
On-Time	NW&C		▲ (Stage 3)			
	Eastern		▲ (Stage 3)		△ (Stage 2)	
	W&W		▲ (Stage 3)			
	Southern			▲ (Stage 3)		
Passenger Cancellations	NW&C	△ (Stage 2)	▲ (Stage 3)			
	Eastern		▲ (Stage 3)			
	W&W	△ (Stage 2)	▲ (Stage 3)			
	Southern		▲ (Stage 3)			
ScotRail PPM (adjusted)	Scotland					▲ (Stage 3)
Freight Cancellations	NW&C		△ (Stage 2)	▲ (Stage 3)		
	Eastern		△ (Stage 2)	▲ (Stage 3)		
	W&W		△ (Stage 2)	▲ (Stage 3)		
	Southern		△ (Stage 2)	▲ (Stage 3)		
	Scotland		△ (Stage 2)	▲ (Stage 3)		

▲ Stage 3 (Sept)   △ Stage 2 (Feb)

4.2 2+3 Assessment

The Project Team assessed On Time and Passenger Cancellations forecasts for England and Wales using the 2+3 approach.

As agreed with Network Rail and the ORR, On Time and Passenger Cancellations are to have one overall score, but Y1-2 has a greater weighting within the score where differences in ambition between Y1-2 and Y3-5 exist. The project team conclude the following:

- For Eastern, figures for On Time Y3-5 sits comfortably at a 2 on the scale. Y1-2 would sit at 3 as Y1-2 are more ambitious targets. However, overall, the On Time score for Eastern is a 2.

- Scores for North West & Central, Southern and Wales & Western **are the same for On Time** for Y1-2 and Y3-5.

- Scores for Y1-2 and Y3-5 **are the same for Passenger Cancellations** across all Regions in England and Wales.

4.3 On Time Model Assessment

The analysis of the model is based on the version received during Stage 2 and assumes no change to the methodology. The Project Team acknowledges that the outputs from the model in Stage 3 have changed to reflect the updates performance schemes. No new information on the model was received during Stage 3.

The model received during Stage 2 was analysed by the Project Team to verify that the model was working as described by Network Rail. The version received is contained in Appendix A.4.

Through speaking with the Network Rail National Performance Analysis Team and conducting sample checks on parts of the model, the Project Team is comfortable that the model is calculating On Time forecasts as claimed. However, the model would have benefitted from additional commentary explaining how the numbers were calculated for the benefit of the Project Team's understanding.

There were no specific concerns raised by any of the Regions with the model forecasts based on their inputs.

4.4 Regional On Time Assessment

The forecasts discussed in this section are summarised in Appendix A.5.

We note that all Regions sought engagement from TOCs, but some Regions had more success in receiving inputs than others. Regions have not been assessed on the level of engagement they received from TOCs, but they have been assessed on the level of ambition in the TOC schemes included in their submission. TOC engagement is discussed further in Section 5.4.

4.4.1 North West & Central

The Project Team has given North West & Central a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious.

Despite a good balance of risk and improvement schemes, our view is that there has been a greater focus on risk (such as increased traffic growth) and less ambition shown towards performance improvement opportunities (such as performance mitigations for new timetables).

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- We acknowledge that the Region has applied a Network Rail attributable stretch in Years 1-2 based upon a historic share the Network Rail share of On Time failures. Performance in Years 1-2 is forecast to decline on CP6 exit, despite the proposed stretch and improvement since the SBP submission.

- The major risks highlighted were timetable changes, which will increase service levels and increase reactionary delay, and major programmes (HS2 & TRU) which will present risk at key parts of the network.

- The Region has assumed limited improvements from TOCs. The submission and engagement with operators did not detail any performance mitigation initiatives being undertaken with TOCs to ensure future timetables minimise their impact on performance.

Demonstrating more ambition:

- The forecast provided by NW&C has improved on the SBP submission. This is largely due to an improved CP6 exit forecast which was 60.0-62.4% in the SBP and is now forecasted to be 63.1%.

- The DD response states that '*On Time has improved since the SBP, we consider that 'a current abnormal levels of cancellations are resulting in an artificially less congested railway, supporting this improvement'*. The forecast for cancellations is to improve by 0.2% in year 1 and then again in year 2 of CP7. This will add to congestion and impact reactionary delays however we have not seen any modelling to show the effect this will have to On Time.

Therefore, on balance, North West & Central have been scored as more realistic/deliverable than stretching/ambitious.

4.4.2   Eastern

The Project Team has given Eastern a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious.

We have scored this towards the realistic/deliverable end of the scale as our view is that there is more of a focus on risks over risk mitigations and improvements; and a lack of detail as to how the improvement schemes will improve asset reliability, mitigate timetable risks via timetabling modelling and substantially improve unattributed delays.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- From our assessment of the modelling and discussions with the Region, there is a greater understanding and focus on risks rather than improvements and risk mitigations. For example, on the TRU risk, the team described the risks involved in the project, but it was unclear if strategies such as golden asset policies were being implemented to mitigate the risks.

- There was a lack of identifiable benefits from any of the infrastructure works during CP7 when compared with other Regions.

- Y3-5 of CP7 show a range that has greater uncertainty than the SBP submission, with the upper range remaining the same and the lower end being lower than the SBP submission. We understand this has been updated to reflect the P20-P80 model range. However, the Project Team has not reviewed these outputs.

- Since the SBP submission, the CP6 exit position has improved. Other Regions have updated their forecasts using this change (both positively and negatively) but Eastern has lowered their Y3-5 forecast since the SBP submission.

- Even with a Network Rail attributable stretch applied, the Region is still forecasting a decline in performance in CP7. The Project Team understand that this is largely due to the increase in passenger demand in the Region.

Demonstrating more ambition:

- The forecast provided by the Region is on the upper end of the SBP range - largely due to an improved CP6 exit forecast which was 69-70% in the SBP and is now forecasted to be 70.6%. This has been carried through into years 1-2 where the submitted forecast is close to the upper range of the SBP.

- Therefore, Y1-2 demonstrate more ambition than Y3-5. If we were to assess Y1-2 and Y3-5 separately, they would receive a score of 3 and 2 respectively. Despite Y1-2 being more on the ambitious side, the lack of ambition shown for Y3-5 means that the overall score for Eastern On Time is a 2.

Therefore, on balance, Eastern Region has been scored as more realistic/deliverable than stretching/ambitious.

4.4.3   Wales & Western

The Project Team has given Wales & Western a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious.

We have scored this towards the realistic/deliverable end of the scale as our view is that Wales & Western could have been more ambitious in several areas such as in 'new asset' performance schemes which should improve performance over time and a focus on mitigating the impact of service increases rather than considering the benefits that service increases can provide.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- The forecast provided by the Region has declined since the SBP submission largely due to a reduced CP6 exit forecast. The SBP CP6 exit forecasted 63.4-64.8% and the recent submission is now 60.6% so a 2.8-4.2 percentage point drop. This has been explained by the introduction of the Elizabeth line which is causing a greater than expected increase both in TOC delays and overall delay in the Thames Valley area. In addition, there have been major axle counter failures, TfW fleet problems and GWR industrial action which have impacted upon the CP6 exit number.

- This drop has been carried over into CP7 where the forecast for Y1-2 has dropped since the SBP submission. This is despite the proposed Network Rail attributable stretch the Region has put in place for Y1 of 0.5% and Y2 of 0.6%.

- There are two references to fleet reliability improving (MTR Fleet MTIN improvements and TfW introduction of new fleet). However, beyond this there is minimal discussion detailing the 'bathtub curve' which will see reliability of assets introduced in CP6 (fleet, axle counters etc) improve over time. Based on experience elsewhere, new fleet will become more reliable and axle counters are widely agreed to perform more reliably than track circuits.

Demonstrating more ambition:

- Wales Route had previously detailed their biggest risks to performance in CP7 as being the introduction of new services on the South Wales Metro with enhanced service frequencies on both the Core Valley Lines. This was assessed by the Project Team as lacking in ambition, as we believe that the magnitude of service change is more mitigatable than the risk level would suggest. However, the benefit of the introduction of new TfW fleet were re-calculated in Wales's 14th September submission which removed the year 2 dip from the previous Wales forecast, which benefitted the submission.

- Western Route was able to clearly describe the steps and underpinning logic in the development of their schemes and risks. They included mitigation schemes which were developed to cancel out performance risks around HS2 timetable work, and schemes to reduce likelihood and effects of trespass and fatality. Western also included some TOC improvements such as the modification of software on the Class 345 fleet.

Therefore, on balance, this Region has been scored as more realistic/deliverable than stretching/ambitious. When assessing the SBP submission, we scored Wales & Western as the most ambitious Region for On Time. This was largely a top-down assessment based on previous performance as we were not given the model inputs that were used to create these forecasts. Since then, the Region has shared more detail to enable us to make a more detailed assessment. However, this was received late into Stage 3 which has meant we have not been able to assess the plans in as much detail as much as for other Regions.

4.4.4   Southern

The Project Team has given Southern a score of 3 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious.

We have scored Southern at a higher level of ambition compared with the other three England and Wales Regions because there are no dips in the forecasts and improvements are expected in Y1-2 of CP7.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating more ambition:

- The forecast provided by the Region for Y1-2 is on the upper end of the SBP submission. In addition, their forecast for Y1-2 shows an improvement on CP6 exit which is evidence of ambition in the Region's plans. Y3-5 have minimal change besides a slight improvement of 0.2% in the lower end of the forecast.

- The schemes modelled cover a range of areas with a focus on major re-signalling enhancements. The team have undertaken a comprehensive analysis to understand risks associated with the works and the expected benefits when the work has been completed. While most schemes focus on major re-signalling projects, smaller schemes have also been included which aim to capture the work taking place in other parts on the industry including operations and safety.

- The plan also includes committed schemes from TOCs within the Region and their impact; both positive and negative. In addition, the Region has also modelled improvements to external impacts (trespass, vandalism etc) and included benefits from national schemes. A strong holistic performance approach covering all elements of the full system model has been created with risk, mitigations and improvement included.

Southern Region has shown a reasonable level of ambition in their forecasts covering a wide range of benefits alongside numerous risks. The Project Team has assessed that there is a strong level of ambition however it is achievable and not overly stretching.

Therefore, on balance, Southern has been assessed as having ambitious forecasts that are also realistic and deliverable.

4.5 Regional Passenger Cancellations Assessment

For clarity, the scores discussed in this section are whole-industry scores based on both Network Rail and TOC cancellations. Commentary has been included where TOCs are thought to have a larger influence on Passenger Cancellations. The forecasts discussed are summarised in Appendix A.6.

4.5.1 North West & Central

The Project Team has given North West & Central a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious. This is driven mainly by cancellation forecasts being higher than what has been achieved in previous years on a more congested network.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- An improvement on CP6 has been forecast however the CP6 exit is historically high. In 2018/19, with a more congested network, the Region achieved 2.7% which is not forecast to be achieved even on the optimistic side of the CP7 range. This is against a backdrop of increasing TOC levels of cancellations and changes in operating procedures following Carmont which we have taken into account in our review.

Demonstrating more ambition:

- The Region has included a 0.1% Network Rail attributable stretch on their modelled outputs 'assuming industrial relations issues are resolved' which appears a small improvement as industrial relations issues are stated as one of the high-risk areas.

- Since the SBP submission, NW&C Region has updated their forecast for Y1-2 to be more ambitious with a 0.2% year on year improvement included. This is largely due to the Network Rail level of cancellations improving since the SBP which is reflected in their updated forecast.

Therefore, on balance, North West & Central have been scored as more realistic/deliverable than stretching/ambitious for Passenger Cancellations, based upon both Network Rail and TOC elements as this is

an industry measure. This is an improvement on our SBP score (1) as the updated forecasts have improved in ambition.

4.5.2 Eastern

The Project Team has given Eastern a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious. This is driven mainly by an increase in cancellations over the last few years in the Region and a lack of evidence to reduce this during CP7.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- Eastern Region has submitted a forecast to remain the same in Y1 and improve by 0.1% in year 2 both of which are on the less ambitious range of the SBP submission. This is against a backdrop of the Network Rail causes of cancellations increasing in this Region for two years and the latest period shows it is almost double that of 4 years ago.

- The operator element has been the main reason for the increase in cancellations and will remain a risk into CP7. The Region has not included any Network Rail attributable stretch in their forecast and has stated that 'improvements in cancellations will mainly be delivered by the operators. There is minimal discussion in the evidence reviewed on how Network Rail will target categories of incidents that impact cancellations more than On Time e.g., overhead line delays, weather delays, fatalities etc.

Demonstrating more ambition:

- The Y1-2 forecasts are on the higher rate of cancellations proposed within the SBP range.

Therefore, on balance, Eastern been scored as more realistic/deliverable than stretching/ambitious for Passenger Cancellations, based upon both Network Rail and TOC elements as this is an industry measure.

4.5.3 Wales & Western

The Project Team has given Wales & Western a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious. This is driven mainly by an increase in cancellations over the last few years in the Region and a lack of evidence to reduce this during CP7.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- The operator element has been the main reason for the increase in cancellations and will remain a risk into CP7. However, the number of Network Rail caused cancellations has doubled in the past 2 years (21/22 P4 to 23/24 P4). In the evidence we have seen, there is minimal discussion on how Network Rail will target categories of incidents that impact Passenger Cancellation more than On Time e.g. overhead line delays, weather delays, fatalities etc.

Demonstrating more ambition:

- Wales & Western Region has submitted a forecast to improve cancellations by 0.2% in Y1 of CP7 and to maintain this through Y2. This includes a 0.2% Network Rail attributable stretch that has been applied to Y1 from their CP6 exit position. It is against a backdrop of Network Rail cancellations increasing in this Region for the last two years.

Wales and Western Region has shown a level of ambition in their forecasts however the level of risk outweighs the level of ambition in the round. Therefore, on balance, Wales & Western has been scored as more realistic/deliverable than stretching/ambitious for Passenger Cancellations, based upon both Network Rail and TOC elements as this is an industry measure. The score of 2 is an improvement on our SBP score (1) as the updated forecasts have improved in ambition overall.

4.5.4   Southern

The Project Team has given Southern a score of 2 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious. This is driven mainly by an increase in cancellations over the last few years in the Region and a lack of evidence to reduce this during CP7.

The Project Team have considered the following points, based on meetings with the Region and evidence provided, in the overall assessment for the Region.

Demonstrating less ambition:

- TOC performance has been the main reason for the increase in cancellations in Southern Region in CP6 and this will remain a risk into CP7. However, in Southern Region the split between NR and TOC causes much closer compared with other Regions so there less reliance on TOCs for improvements in Southern Region.

Demonstrating more ambition:

- Southern Region has submitted a forecast to improve from CP6 exit by 0.1% in Y1 and remain the same in year 2. Both forecasts sit within the mid-range of the SBP submission and there is no decrease in ambition in the forecasts compared with the SBP submission.

Southern Region has shown a level of ambition in their forecasts however the level of risk outweighs the level of ambition in the round. Therefore, on balance, Southern has been scored as more realistic/deliverable than stretching/ambitious for Passenger Cancellations, based upon both Network Rail and TOC elements as this is an industry measure.

4.6   Scotland's Railway Performance Assessment

4.6.1   PPM (adjusted)

Scotland's Railway submitted a forecast for (adjusted) ScotRail PPM during Stage 2 of our process. Since then, we have received no update nor additional commentary on the adjusted PPM measure forecasts for CP7, and we have not seen sufficient evidence to provide confidence that 92.5% PPM by Y4 of CP7 is likely to be achieved.

- The achievement of 92.5% is dependent on a significant and sustained performance uplift by both Network Rail and the primary TOC, which the TOC has, thus far, been unable to commit to. Network Rail has included PPM benefits of 0.2 percentage points from the Luminate traffic management system which includes an option to expand the system to the West of Scotland which would require additional investment.

- There has been minimal collaboration and commitments from the main TOC when developing the forecasts. However, the dependency on operator delivery is clearly stated in the modelling and in the plan. The desired level of performance is unlikely to be achieved without operator improvements.

- The model shared by Scotland's Railway details the baseline and each initiative that will improve or deteriorate performance across CP7. Each initiative has a numerical value which is backed by broad assumptions and there is a clear line of sight from the model to the trajectories in the SBP. The exclusions to PPM will provide an immediate uplift in CP7 performance however consistency achieving the performance required to reach a 92.5% MAA will be a challenge.

- In conclusion, we have scored adjusted ScotRail PPM on the maximum end (5) of our stretching/ambitious scale.

4.6.2   On Time and Passenger Cancellations

- Scotland On Time and Passenger Cancellations have been calculated using regression analysis from the adjusted PPM metric for CP7. We highlighted concerns via the Stage 2 process on this analysis and how the On Time forecast produced did not align with the PPM trajectory.

- Since then, we have seen evidence that Network Rail have updated their approach and analysis and produced an On Time trajectory trying to align with their PPM trajectory. The same can be said of the Passenger Cancellations trajectory.

- We are aware that there are ongoing discussions between ORR and Network Rail on the dataset used for the regression analysis however we have not been involved and can make no judgement on the most accurate analysis to use.

4.7   Freight Cancellations Assessment

The Project Team has given all Regions a score of 3 on the scale of 1 – Realistic/Deliverable to 5 – Stretching/Ambitious. The Freight Cancellation figures discussed in this section are summarised in Appendix A.7.

- The Freight Cancellations forecasting methodology has been in constant development since the SBP submission. It is our understanding that the national performance team calculated a baseline CP6 exit number based upon recent year to date performance (P1-5) and for the remainder of the year (P6-13) an average of the previous 4 years.

- This has given P1-5 performance in the current year more weighting. If a 4-year average (excluding Covid-19) was used by all Regions then the CP6 exit would be higher in Southern, W&W and NW&C by 0.3-0.4% compared to the 4-year average. For Eastern there would be no change.

- This CP6 exit has then been suggested by the Network Rail FNPO team to the Regions as the forecast outputs each year of CP7. This is a new metric and due to the small number of freight services operated in comparison to passenger services, is more sensitive to large disruptive incidents.

- We have some concerns about how CP6 exit may be a worse than average year and this poorer performance is then passed through to each year of CP7. We suggest Network Rail provide sensitivity analysis to ORR on what an average CP6 year looks like and why Y5 of CP6 performance should be the baseline year. This could be used to inform their final determination decision making.

Despite the concerns above, all Regions have improved their forecast from the SBP submission. Eastern Region is now forecasting better performance than the range stated in the SBP. The other Regions have all improved and sit at the more ambitious end of the SBP range. For these reasons we have moved our assessment for all Regions to a more ambitious score; from a 2 to a 3.

5. Opinion on Specific Questions

5.1 Has Network Rail satisfactorily addressed specific issues raised in Stage 2?

In Stage 2, the Project Team **raised concerns across all Regions about the lack of line of sight from the model into the forecasts**. Network Rail has made progress in addressing our **issues around the level of detail** raised in Stage 2 by increasing the number of performance schemes in the model and updating some schemes to reflect changes to network performance since Stage 2. Network Rail has also provided additional context to On Time, passenger and freight cancellations forecasts which has assisted the Project Team in assessing the forecasts against the criteria.

Throughout the process our team has had some concern that the On Time forecasts do not reflect the outputs from the model. We still have some concerns around this as no updated iterations of the model have been received since Stage 2.

For all Regions, delay in receiving data has continued from Stage 2 into Stage 3 and when it has been received, has been considerably beyond the agreed timescales.

We also raised an issue about the **lack of input from passenger and freight operators** due to the TOCs Annual Business Planning process. Evidence of TOC collaboration did improve in Stage 3 as several TOCs were working closely with the Regions to update their schemes to reflect updated performance positions.

5.2 Has Network Rail taken a reasonable approach to developing its train performance plans and forecasts for CP7?

Strategic performance forecasting is acknowledged to be an extremely complicated process. Network Rail have kept us informed of their approach which has changed a number of times during the course of the assessment. However, it is the view of the project team that, in the round, Network Rail's approach has been reasonable.

Inevitably, given devolution the Regions have adopted a different approach in how the plans have been developed with these differences proving a challenge to make direct comparisons. This has made it difficult to understand the base position at the exit point of CP6. The use of 2019/20 as a base in one Region, meant it was at times difficult to understand the actual impact of schemes, although CP6 exit points were provided in the September submission.

In the development of schemes, Network Rail has largely taken a reasonable approach to developing its underlying train performance plans. In most Regions Network Rail is anticipating significant performance challenges associated with engineering work and asset reliability (due to average asset age), fleet reliability and the continuation of TOC performance challenges from industrial relations issues affecting CP6 exit. Consequently, the Regions are forecasting limited performance improvement following implementation of their plans, and almost flat performance.

This difference in approach between Regions was particularly noticeable with the treatment of traffic recovery from Covid traffic levels. Given that traffic growth is such an important factor in predicting future performance, this presented a challenge to the assessors in understanding the forecasts. There are inevitably differences in expected Covid recovery and traffic growth but application of the suggested national approach to this would have assisted all parties.

5.3 Are these forecasts supported by an appropriate level of detail in the plans to deliver these performance levels?

Due to the devolved nature of CP7 planning it is not possible to answer this question at a GB wide level as each Region has provided their own inputs, process and outputs to create their forecasts. The Project Team has produced a high-level summary covering each Region based on their inputs to the On Time Performance Model and their various other submissions across Stages 1, 2 and 3.

5.3.1 North West & Central

- The Region submitted the highest number of schemes out of all the Regions, demonstrating a high level of engagement with the process within the Region itself. There is also a balance between improvement schemes and risk schemes.

- North West & Central employed PAK Rail Solutions to carry out the performance planning for CP7. Starting in September 2022, PAK Rail Solutions worked to understand and quantify the benefits and risks of the activities and works affecting North West & Central performance in CP7 to inform the Region's CP7 performance forecasts. PAK Rail Solutions met with the project managers of all their performance schemes to ensure the schemes were well understood so that their methodology produced forecasts what were realistic and robust.

- PAK Rail Solutions created their own model alongside the Central Model which incorporated other metrics such as PPM, T-3, and Cancellations. This model initially matched the outputs of the initial iteration of the central model, but the Region was unable to state whether their own model matched the current iteration of the central model.

- North West & Central have invested heavily in ensuring the performance plans were realistic and based on historic data to ensure they did not provide forecasts that were over-ambitious and unachievable. North West & Central also demonstrated an excellent level of stakeholder engagement. They met with the project managers of every scheme they submitted and worked closely with Eastern Region on their 'cross-border' schemes to ensure benefits and risks were captured and 'double-counting' avoided.

5.3.2 Eastern

- The schemes covered a broad range of areas with a focus on a review of both risks and opportunities during CP7. The team have undertaken a comprehensive analysis to understand risk across the categories, both for Network Rail and TOC schemes.

- The Eastern Region team have also worked closely with North West & Central, identifying the interconnectivity between the Regions and the inter-dependent nature of the railway system across the north of England.

- The use of the 2019/20 base position made it difficult to understand exactly how performance was likely to change in CP7 based on the CP6 exit point. This was particularly the case with the Covid-19 recovery category where the actual impact was not clear from the description. The Southern approach of predicting performance impact based on differing growth scenarios gave a clearer understanding of what was being forecast. The fact that Anglia Route had not followed the same process as the other three routes within Eastern Region meant there was not a consistent approach applied across the Region.

5.3.3 Wales & Western

- Compared with the other Regions, Wales Route provided limited evidence to support their schemes in meetings with the Route. Although, we do recognise that Wales Route did not receive much engagement from TfW during the early stages of the process which affected the level of detail Wales could provide.

- Wales Route had to correct scheme input errors late in the process and the resulting delay in receiving the final figures has meant that the Project Team has not been able to assess Wales & Western in as much detail as other Regions.

- Western were able to clearly describe the steps and underpinning logic in the development of their schemes and risks. Western included mitigation schemes which were developed to cancel out performance risks, such as schemes to mitigate HS2 timetable work, newly restored rail services between Okehampton and Bere Austin, and schemes to reduce likelihood and effects of trespass and fatality.

- Western also developed a range of improvement schemes including those related to TOC performance (modification of software on the Class 345 fleet) and Network Rail internal schemes such as trespass and fatality mitigation.

- Western explained the calculation of the impacts of schemes and risks in a logical way and the Project Team agreed with the approach and methodology.

5.3.4   Southern

- The Region's performance schemes covered a range of areas with a focus on major re-signalling enhancements. The regional team have undertaken comprehensive analysis to understand risks associated with the works and the expected benefits when the work has been completed. While most schemes focus on major re-signalling projects, smaller schemes have also been included which aim to capture the work taking place in other parts on the industry including operations and safety.

- Southern Region presented the Project Team with the modelling and analysis undertaken by the Performance team. This demonstrated a thorough understanding of the performance schemes, which were based on historic performance events to forecast CP7 performance as accurately as possible. Furthermore, Southern Region provided a number of well-rounded schemes from Southeastern TOC which benefitted the submission.

- The Project Team challenged Southern Region on the Network Rail Central Passenger Demand Forecasting Model scheme (which addresses the negative impact of increasing passenger numbers throughout CP7) on why 'All Delay' was modelled and not Passenger Delay at Stations. Southern explained that this was a deliberate choice based on how previous performance has been impacted by increasing passenger numbers. Southern Region was keen that this risk was captured in the model which was agreed to be sensible and realistic by the Project Team.

5.4   Has there been effective collaboration with train and freight operators in developing the forecasts, and are the dependencies on operator delivery clearly defined?

As part of Stage 3, the ORR requested the Project Team to assess the level of TOC engagement with Network Rail's performance forecasts. Particularly, has there been effective collaboration with train and freight operators in developing the forecasts, and are the dependencies on operator delivery clearly defined?

To assess the level of TOC engagement with the CP7 performance forecast process, we submitted a survey to TOC representatives consisting of the following questions:

i.   Has Network Rail sought your TOC(s)'s input regarding these forecasts for 2023/24 or CP7? How comprehensive was this engagement?

ii.   Have you provided Network Rail with any information on forecasts of train performance, TOC performance schemes or risks to performance in 2023/24 and CP7? Did Network Rail request that you provide any information to inform the forecast?

iii.   Based on the engagement you have had to date, are you content that Network Rail has sufficiently considered and taken account of the information you have provided to produce its CP7 train performance forecasts?

iv.   Please provide any additional comments on Network Rail's engagement on CP7 train performance or the CP7 performance planning process more generally.

We received responses from: South Western Railway, MTR Elizabeth line, LNER, Chiltern Railways, Southeastern, Merseyrail, TransPennine Express, East Midlands Railway and TfW Rail.

The Project team have recently been informed that GWR did submit a response to the survey, but it was blocked by GWR's IT system. The Project Team are not aware if this has been an issue for other TOCs.

- Overall, engagement from TOCs with the CP7 planning process has been mixed. Network Rail have reached out to TOCs for input into On Time forecasts, but detailed schemes have not been forthcoming (due to TOC funding arrangement constraints) which has meant Network Rail has often had to make assumptions on their behalf. This was a particular issue in Wales Route and in Scotland.

- Responses from the TOCs indicate that Network Rail have endeavoured to effectively engage TOCs, but this has not been consistent across all TOCs.

- The Project team also recognise that Network Rail has a difficult task in engaging TOCs during CP7 planning as the Annual Business Plan process generally takes precedence for TOCs.

- Instances of effective collaboration between Network Rail and TOCs have been demonstrated with some targeted and detailed TOC schemes inputted into the model. Southeastern is a good example of this which has benefitted Southern's submission.

Detailed responses to the survey can be found in Appendix A.3.

5.5   Is the level of uncertainty around the forecasts expressed appropriately?

Modelling the level of uncertainty in any performance forecast is a challenging task which becomes even more challenging the further into the future a forecast is required. This led the ORR to propose a 2+3 approach where a single point forecast was provided for years 1-2 of CP7 and a range provided for years 3-5 until forecasts are reset in Y2 of CP7.

The ranges themselves appear sensible to the Project Team but without model outputs and confidence levels attached to the upper and lower end of the ranges, a number of assumptions have had to be made by the Project Team to assess the level of ambition within the forecasts. For example, if the upper end is ambitious but the lower end is not ambitious, a modelled distribution would be required for us to score it accurately. As this was not provided, our team has assessed the overall range, and the movement of the range from previous submissions.

5.6   Are there any key risks – threats and opportunities - that have not been taken into account?

There are a variety of themes where we have assessed some risks have not been taken into account at a GB wide level across Network Rail. We have highlighted these below. We then detail some specific findings on a Region-by-Region basis.

It is our view that overall; the plans focus more on risk than opportunity. Risks have been developed based upon known issues. However, compared to previous Periodic Reviews, there was far less discussion and modelling of future opportunities. For example, schemes about new timetables had risk maintained throughout CP7 with minimal mention of improvements to performance post-implementation.

TOC performance is anticipated to broadly continue as it has over the last few years despite industrial relations being a significant factor affecting TOC performance. With no prospect of industrial relations issues being resolved soon, Network Rail has not included any schemes which address this issue. As Network Rail has no influence on TOC industrial relations, this is to be expected but it is nevertheless noted.

There have also been significant fleet reliability issues in some areas. There is potential for fleet reliability to improve during CP7, but it is not clear if Network Rail has fully assessed the likelihood of this challenges continuing with the TOCs as the Project Team have not seen the various iterations of this scheme in Stage 3.

Based on the material provided, it is unclear to what extent climate change related weather events have been sufficiently accounted for. Localised weather schemes have been listed, but the increasing incidence of significant weather events caused by climate change appear to not be listed as risks and do not appear to be mitigated for. However, it may be the case that the asset management plans within Network Rail are addressing this challenge but the review of these is outside the scope of our work.

Network Rail anticipates significant performance disruption to be caused by enhancement works such as the TRU schemes. Although there are some improvement schemes related to enhancement works in regional submissions, it is not clear if Network Rail has included the benefits associated with the completion of enhancement works in CP6 or if the assumption is the enhancements are required to increase capacity for additional services.

5.6.1   North West & Central

In previous Control Periods, changes to traffic levels were captured using a traffic growth factor. Due to the significant impact of the Covid-19 pandemic on the rail industry, the service level base plans no longer

have the stability to accurately forecast changes over the course of a Control Period. Therefore, this unknown is a significant risk to performance over the course of CP7.

Compared with other Regions, North West & Central submitted more schemes related to the effect of extreme weather.

5.6.2 Eastern

It was unclear from the scheme descriptions and discussion with the Region how risks will be mitigated and what impact the schemes and mitigation would have on the final forecasts. Further clarification on some of the schemes is still outstanding as answers were not available in the meeting. One such clarification involves a greater understanding of how Cambridge South station will reduce all categories of delay. Additionally, within Eastern, it was queried why further mitigations for the TRU operational risks such as 'golden asset policies' were not implemented, and this is still not understood by the Project Team.

As with other Regions, whilst regional schemes to cover the risks posed by weather events were developed, there was no evidence to suggest that the overwhelming risk caused by climate change was evaluated and mitigated for. On Eastern Region, schemes such as those implemented to mitigate flooding events were developed, but these appeared to be developed as mitigations to nullify the re-occurrence of historic flooding events. However, there was little by way of mitigation for wider risks of climate change in the evidence we have seen; however, we are aware this may be covered in the Route Asset Management plans as opposed to the performance plans.

There seemed to be a greater degree of focus on risk in the plans rather than opportunities. Whilst the risk around the TRU scheme is valid, there does not appear to be a balancing improvement scheme for improvements as a result of infrastructure and other schemes due to be delivered by the end of CP6. It is unclear whether the benefits predicted for ECML re-signalling will bring benefits in CP7 in line with those put forward in the original plans. At the meeting, it was said that the Region was currently recalculating the CP6 end point and the benefits from existing schemes would be included.

There also appeared to be a lack of identifiable benefits from any of the infrastructure works during CP7. There are very few benefits that appear to be attributable to renewals work during the control period for example, in contrast to other Regions which have shown modest improvements based on renewals work.

5.6.3 Wales & Western

Much of the current poor performance of the fleet in Wales is not due to reliability, but availability – not enough train sets to operate the timetables – and even if performance of the new trains improves, simply having more stock available will have significant performance benefits. Wales have revised their fleet schemes with TfW to reflect this benefit during Stage 3. However, it is not clear if Network Rail has fully assessed the likelihood of the challenges continuing with TfW during CP7 as the Project Team has not seen how the TfW schemes have developed during Stage 3.

It was noted that Wales had fewer large infrastructure schemes which stand to benefit performance over the course of CP7 compared with other Regions.

Western, as with other Regions, had a lack of schemes related to the risks associated with climate change.

Western Route provided a positive account of their processes for developing and evaluating the impact or their schemes and risks. However, the Route appears to consider HS2 work at Old Oak Common a significant factor in risk, such that there is a resulting performance deterioration. Additionally, GWR has suggested that poor TOC performance will continue to affect performance.

There were no other missing or underestimated opportunities identified for Western Route, however there were insufficient plans to fully mitigate identified risks.

5.6.4 Southern

It was identified that Southern did not have any schemes explicitly addressing the challenge of climate change and the increasing incidence of extreme weather events – namely prolonged heat and flooding for Southern Region.

Southern Region assured the Project Team that there have been a lot of discussions about the effect of extreme weather on performance with the Structures teams but that ultimately the investment going into this aims to prevent any worsening of performance. Therefore, it was decided that no scheme specifically addressing climate change was required. It was noted that the Balcombe tunnel scheme addresses the effect of water ingression in the tunnel on performance.

5.6.5 Scotland's Railway

Scotland's plans were completed in isolation from other Regions and focussed mainly on ScotRail PPM which is their primary success measure adjusted for CP7. They have also included forecasts for On Time and Passenger Cancellations but there has been minimal engagement with other Regions or long distance or freight operators on this which leaves a risk that the forecasts do not take into account possible impacts from Eastern and North West & Central.

The plans and modelling from Scotland covered a variety of opportunities with the aim of showing how the 92.5% PPM target can be achieved. However as stated by Network Rail, achieving 92.5% is extremely challenging. The plan could have discussed more on the uncertainty of achieving the targets and what the main risks were e.g., climate change, whole system not achieving a high enough PPM on good days etc.

6.   Conclusions

Our detailed review of the performance forecasts and the Network Rail approach are described in the above sections however we have summarised our response to the three key aspects below.

6.1   Our assessment of the Network Rail approach

The Project Team concluded that **a reasonable approach to development of performance plans was utilised**, whilst there were variations regionally, particularly around the assessment of passenger levels returning post pandemic. The level of detail in the plans was also variable.

Specific questions for the Project Team to be specifically addressed were raised by the ORR and are detailed, together with our response, in Section 0 of this report. Of note, a concern raised in Stage 2 that **the that the On Time forecasts did not reflect the outputs from the forecasting model** could not be addressed, as no updated iterations of the model were sent to the Project Team.

Regional variations were also noted when assessing if the Regions had not taken into account any specific risks or opportunities. Key items of note included the assessment that there was a **general lack of consideration for the effects of climate change within the Regions' forecasts** (although these may be covered in the asset plans which we have not reviewed), though localised weather initiatives were present in some regional plans.

It was also noted that Regions that had been impacted by **TOC industrial relations issues and TOC fleet reliability issues, did not foresee any significant improvement** in either of these, and no opportunities for improved performance were developed by the TOCs on these issues. Network Rail are not able to commit to improvements to these issues on their behalf. The Regions also anticipated risks to performance from significant engineering works that they did not believe could be fully mitigated for and did not necessarily foresee opportunities for improvement from the completion of works in CP6 that have not yet been realised.

6.2   Our assessment of Network Rail's performance forecasts

To assess Network Rail's success measure forecasts for train punctuality and reliability performance, the Project Team considered elements from previous stage reviews including Network Rail's response to the issues raised in Stage 2, and also undertook a review of regional and central performance schemes and how they impacted the forecasts. The review considered how the Regions had optimised the balance between realism and ambition. **The forecasts were adjudged using a sliding scale between one and five, where a score of one would indicate that forecasts were realistic but lacking any ambition, and a five would indicate that forecasts were very ambitious but possibly stretching**. The scoring was applied to each Region's passenger train On Time forecasts, each Region's Passenger Cancellations forecasts and each Region's Freight Cancellations forecasts.

We have included our full assessment of the latest forecasts based on the draft determination response as *DD (Sept)* and also our earlier assessment of the SBP response *SBP (Feb)* in Section 4 of this report.

An assessment was also conducted to determine differences in ambition between Y1-2 and Y3-5. Where differences exist, these have been highlighted in Section 4. However, a single overall score was provided for all Regions. The scores are <u>whole-industry</u> scores but where TOC schemes and engagement has had a larger influence on Network Rail Region submissions, this has also been noted in Section 4.

The Stage 3 review concluded that On Time forecasts for three Regions - **North West & Central, Eastern, and Wales & Western - all attained a score of two**, **indicating that plans lacked ambition**. **Southern were concluded to have attained a score of three**, indicating a better balance between realism and ambition, whilst Scotland who utilised the adjusted PPM metric, attained a score of five, indicating an ambitious and a potentially stretching target.

For Passenger Cancellations **North West & Central, Eastern, Southern, and Wales & Western all attained a score of two, indicating that the forecasts lacked ambition**. Scotland Passenger Cancellations were covered within the use of PPM. For **freight cancellations, all five Regions were adjudged to have attained a score of three, indicating a better balance between realism and ambition**.

6.3   Our assessment of Train Operator engagement

In the initial phase of the Stage 3 review, the Project Team considered Network Rail's engagement with the train operators. The review found that **there was a varied level of engagement between the train operators and the Regions**. There were challenges in extracting information on operator performance schemes and in many instances, Network Rail has made assumptions on train operator performance. We concluded that Network Rail took a reasonable approach to engaging with train operators. However, the lack of engagement, largely due to operator's focussing on the annual business planning 2-year timelines, does **leave a large level of uncertainty within the On Time and Passenger Cancellations forecasts** which are an industry measure. The 2+3 proposal does allow Network Rail to focus on the initial years of CP7 and this seems a sensible approach.

To understand operator views, a survey was sent to the operators, to which nine operators responded. The responses received indicate that **Network Rail has generally endeavoured to effectively engage TOCs**, but there have been areas of inconsistency. Engagement from the passenger operators has been made more difficult due to operators prioritising their own annual business planning processes. Instances of effective collaboration between Network Rail and TOCs have been demonstrated with some targeted and detailed TOC schemes input into the model. Southeastern is a good example of this which has benefitted Southern's submission.

A.1   Statement of Work

The following pages set out the statement of work, agreed between Network Rail and the ORR.

2.0 COMMISSION OVERVIEW	
Abbreviations	CP – Control Period FCaL - Freight Cancellations and Lateness HLOSs - High Level Output Specifications NPR - Network Performance Team OM&R - Operations, Maintenance and Renewal ORR – Office of Rail and Road SoFAs – Statements of Funds Available SBP – Strategic Business Plan
2.1 Background	The Office of Rail and Road's (ORR's) current periodic review process (PR23) will conclude in 2023. PR23 will determine funding and output requirements for the infrastructure manager of the national rail network (currently Network Rail) for control period 7 (CP7). CP7 is the five year period from April 2024. The ORR has recently published consultations on a proposed outcomes framework for CP7 (chapter 6) and the train performance 'success' and 'supporting' measures included in the outcomes framework (chapter 4). Further information on PR23 can be found on the PR23 pages on ORR's website. In autumn 2022, the UK and Scottish Governments will issue their respective High Level Output Specifications (HLOSs) and Statements of Funds Available (SoFAs). These HLOSs will define the strategic outcomes, including operational train performance, that funders wish the infrastructure manager to provide. In response to these requirements, Network Rail will prepare a Strategic Business Plan (SBP) for submission to ORR, currently expected in February 2023. The SBP will include forecasts of expected levels of operational performance and will set out the plans for delivering these and other outcomes. Network Rail's SBP will include separate plans for each Network Rail region, the System Operator and core national functions (namely Route Services and the Technical Authority). The ORR recently published its guidance to Network Rail on the preparation of its SBP for CP7. ORR will scrutinise Network Rail's SBP and expects to publish its Draft Determination for CP7 in June 2023. Work on PR23 is taking place during a period of change in the rail sector. The UK Government is progressing its Williams-Shapps Plan for Rail, an ambitious programme seeking to deliver better outcomes and greater value for funders and railway users. It is a challenging time for the wider economy and the rail industry. Decisions about the level of funding the network receives over CP7 will be made in light of the prevailing fiscal and inflationary pressures. Decisions will also need to reflect that the number of passenger journeys and industry revenue remain below pre-pandemic levels, as well as the work industry is undertaking to deliver savings, including with respect to its workforce. This context brings additional uncertainty around future train service levels, passenger usage and levels of train performance.

2.2 Business Objectives and Priorities	The purpose of this work is to provide ORR with assurance that Network Rail's SBP for CP7, including its plans by region, includes forecasts of train performance success measures that are realistic. If the reporter concludes Network Rail's forecasts are not realistic i.e. not deliverable or overly pessimistic, it should provide advice on the steps Network Rail needs to take to improve these forecasts.
	This work should also seek to review if Network Rail has taken a reasonable approach to the level of uncertainty around its forecasts and the risks to delivery.
	The scope includes:
• expectations relating to passenger train performance success measures including On Time and Cancellations;
• expectations relating to freight train performance success measures including Freight Cancellations and Lateness (FCaL); and
• the supporting Operations, Maintenance and Renewal (OM&R) activities set out in the SBP to deliver these outcomes.
	ORR is proposing three train performance success measures as set out above and in its consultation on the measures in the proposed outcomes framework for CP7. These are subject to change based on the responses to the consultation. Also, one or two additional success measures may be added to reflect the contents of respective UK and Scottish Government HLOSs, which would need to be reviewed as part of this study.
	Approach:
The study will be conducted in three stages, outlined below. At the start of stages 2 and 3, the outputs from the previous stage will be reviewed and may result in amendments to scope and/or timing, which will be mutually agreed via change control processes.

• Stage 1 Review methodology – October 2022 - January 2023
• Stage 2 Review SBP submission – February 2023 to May 2023
• Stage 3: Review SBP submission - From publication of the Draft Determination (expected June 2023) to the Final Determination (expected October 2023).

Stage 1: Review methodology. October 2022 to January 2023.
Review the approach taken by Network Rail regions and the System Operator in compiling the operational performance elements of their plans. The Reporter should take account of the context in which the plans are developed and provide timely feedback to enable improvement in the quality of the plans, as well as advice to ORR on the robustness of Network Rail's approach. This stage includes reviewing:
• the guidance issued by Network Rail to the regions, for the SBP in general and performance aspects in particular;
• the approach taken by Network Rail regions and the System Operator to develop their train performance forecasts and the interaction with the development of their supporting OM&R delivery plans; |

- how approaches taken by different regions and/or System Operator compare e.g. where is best practice?;
- the current operating context in which CP7 forecasts are being developed, including CP6 performance and forecasts, levels of passenger and freight rail usage and timetable provision, both actual and projected;
- whether the assumptions made by Network Rail about future demand and timetables and other key inputs are realistic and consistent with wider plans;
- the forecasting model(s) and methodology used to develop train performance forecasts, to assess whether they are robust and provide accurate and credible outputs;
- the level and ranges of uncertainty around forecasts, to ensure they are realistic;
- the assurance undertaken and support provided within Network Rail to develop the forecasts e.g. by each region, the Network Performance Team (NPT) in the System Operator or by the Technical Authority; and
- the effectiveness of collaboration with passengers and freight operators and other stakeholders in developing joint performance plans and forecasting train performance outcomes.

The Reporter should provide feedback and recommendations for improvement during this stage where there are opportunities to improve the quality of the SBP submission.

Stage 2: **Review SBP submission.** From February 2023 to May 2023 to inform ORR's Draft Determination.
Review the performance forecasts and supporting delivery plans that Network Rail has submitted, to support ORR in developing its Draft Determination for PR23.
Review any updates to the approach taken by Network Rail in compiling the operational performance elements of its plans (as per Stage 1 above).
Based on these reviews, provide advice on whether the performance forecasts for success measures in the SBP are realistic and are based on a consistent confidence level (e.g. P50 or P80, which is a measure of confidence in the plan based on probability). This should be in line with funders' preferences in this respect. The advice should consider all known circumstances, including the funding available in the Statements of Funds Available ("SoFAs").
Identify specific issues to be addressed by Network Rail regions and the System Operator following the publication of the Draft Determination.

Stage 3: Review response to Draft Determination. From publication of the Draft Determination (expected June 2023) to the Final Determination (expected October 2023).
Assess the extent to which Network Rail has addressed the specific issues relating to the train performance forecasts identified in Stage 2, or has made material changes to its forecasts to inform ORR's Final Determination.
The detailed scope and timing of this work will be informed by the outcomes of Stage 2.

3 .0 SCOPE OF SERVICE AND DELIVERABLES	
3.1 Key requirements	The Independent Reporter should address these key questions in each stage. **Stage 1** 1. Has Network Rail taken a reasonable approach to developing its train performance plans and forecasts for CP7? 2. Are there material improvements that could be made <u>before</u> the SBP is submitted? **Stage 2** 1. Are the success measure forecasts for train punctuality and reliability performance realistic, taking all circumstances into account? 2. Are these forecasts supported by an appropriate level of detail in the plans to deliver these performance levels? 3. Has there been effective collaboration with train and freight operators in developing the forecasts, and are the dependencies on operator delivery clearly defined? 4. Is the level of uncertainty around the forecasts expressed appropriately? 5. Are there any key risks – threats and opportunities - that have not been taken into account? **Stage 3** 1. Has Network Rail satisfactorily addressed specific issues raised in Stage 2?
3.2 Key skills required	It is essential that the successful bidder has the resource with the required skills and experience for this project. Bidders will need to demonstrate how they meet the following key skills and experience: • technical expertise in whole system operational train performance and application to the development of strategic performance plans; • capable of producing a reliable and efficient method for analysis and assessment; and • the ability to work collaboratively with key stakeholders at all levels.
3.3 Key deliverables	**Stage 1** Ongoing feedback through weekly progress reports to Network Rail and ORR. Presentation of emerging findings and recommendations in mid-January 2023. Final report by end of January 2023 on the suitability of Network Rail's approach, addressing the key questions in section 1.3 above. **Stage 2** Ongoing feedback through weekly progress reports to Network Rail and ORR.

	Presentation of emerging findings and recommendations in mid-April 2023 Final report by 31 May 2023, addressing the key questions in section 1.3 above and identifying specific issues to be addressed by Network Rail. **Stage 3:** Presentation of emerging findings at end July 2023. Final report by 20th October2023, addressing the key question in section 1.3 above. The final reports are required to meet web accessibility requirements (https://www.gov.uk/service-manual/helping-people-to-use-your-service/understanding-wcag). This includes the use of charts, tables, maps and colours.
3.4 Proposed approach	*[Inserted at contract award stage]* [Demonstrate and detail the proposed approach for the project, covering all areas of the projects scope and clearly state the requirement(s)]
3.5 Schedule & timings	Contract Start Date: 24th October 2022 Contract End Date: 31st October 2023* *These are indicative dates and will be agreed once the contract has been awarded and the PO has been approved. [Insert details pertaining to the commission's intended start and end date, as well as a commission schedule e.g., a Gantt chart with tasks and attributive start/end dates]
3.6 Relationship applicable for performing the duties under this statement of works contract	Data Controller and Data Processor. The only processing that the Supplier is authorised to do is listed as in Appendix 1 and may not be determined by the Supplier.

4.0 KNOWLEDGE TRANSFER	
4.1 Knowledge Transfer	*[Inserted at contract award stage]* [Explain and detail how knowledge transfer is to be enabled throughout the commission and how the final output will be delivered and presented to Network Rail and ORR.]

5.0 RESOURCE & COMMERCIAL DETAILS	
5.1 Supplier Resource	*[Inserted at contract award stage]*

A.1.1 Stage 3 Remit

The following updated remit for Stage 3, agreed between Network Rail and the ORR, was issued to the Project Team on 12th June 2023.

Stage 3: Review response to draft determination

From publication of the draft determination (expected June 2023) to the final determination (expected October 2023). Assess the extent to which Network Rail has addressed the specific issues relating to the train performance forecasts identified in Stage 2 or has made material changes to its forecasts to inform ORR's final determination. In particular to undertake the following activities:

Initial review meetings with each Network Rail region [DD publication to end June]

- *Establish the extent to which the current bottom-up plans can be reviewed now (if these are unlikely to change).*
- *Establish the level of train operator engagement and assess the value/appropriate timing of contact with train operators.*

Review of the regional improvement schemes/opportunity and risk [July/August]

- *Undertake light touch review of the c.160 England and Wales regional improvement schemes/opportunities and risks. Note a further c.30 schemes were later submitted.*
- *Triage these into high/medium/low categories for further assessment. Arup to propose approach to how many are reviewed in what depth and what whole system model coverage is appropriate.*
- *Undertake further assessment to assess to what extent the assumed benefits and disbenefits are reasonable, taking account of defined uncertainty.*
- *Assess the contribution of train operators which underlies Network Rail's forecasts. Assessment will include the level of engagement Network Rail has had with train operators.*

Central schemes [August/September]

- *Review the Network Rail central assumptions over the benefits that will be realised from national schemes, not already covered by the regional schemes.*
- *If these central assumptions over benefits can't be quantified, then a qualitative assessment is to be undertaken on the impacts of the national schemes.*

Passenger and Freight Cancellations forecasts [August/September]

- *Undertake an assessment as to whether Network Rail updated Passenger and Freight Cancellations forecasts are ambitious yet realistic.*

Scotland [June to September]

- *Undertake an assessment of the Scotland Network Rail schemes/opportunities and risks and assumptions underlying Scotland forecasts. Look at contribution of train operators (particularly ScotRail) and the level of Network Rail engagement with train operators. Consider impact of national schemes and those in other regions. Assess regression analysis used in Network Rail Scotland to support its forecasts.*

Network Rail response to DD (and relevant sections of responses from any other organisations [September]

- *Review Network Rail's response to the DD and refresh analysis and conclusions to take account of changes in forecasts and the supporting information submitted, taking account of detailed plans, uncertainty ranges and the supporting narrative.*
- *Assess responses on performance from other organisations.*

*In terms of **outputs** from Arup we expect to see the following:*

- *Proposed methodology/plan for reviewing detailed plans [mid-June]*
- *Draft report – based on pre-DD responses [end August]*
- *Second draft – do additional info/numbers materially change assessment [mid-September]*
- *Final report [end September]*

***Key questions** for Arup to answer:*

1. Has Network Rail satisfactorily addressed specific issues raised in Stage 2?

2. Has Network Rail taken a reasonable approach to developing its train performance plans and forecasts for CP7?

3. Are the success measure forecasts for train punctuality and reliability performance ambitious yet realistic, taking all circumstances into account?

4. Are these forecasts supported by an appropriate level of detail in the plans to deliver these performance levels?

5. Has there been effective collaboration with train and freight operators in developing the forecasts, and are the dependencies on operator delivery clearly defined?

6. Is the level of uncertainty around the forecasts expressed appropriately?

7. Are there any key risks – threats and opportunities - that have not been taken into account?

A.2 Sample Schemes for Review

Table A.2.1: Selected Eastern Region Schemes

Scheme	Type of Scheme	Whole System Category	Delay Type
CP6 End Covid Factor - EC, EM, N&E	Improvement	Operating	Reactionary
Major Enhancements - Transpennine Route Upgrade - Reactionary Delay 1	Risk	Fixed Assets	Reactionary
Major Enhancements - Transpennine Route Upgrade - Primary Delay 1	Risk	Fixed Assets	Primary
Timetable - EM - Reactionary Delay	Mix	Operating	Reactionary
Timetable process and tools - EM, N&E	Improvement	Operating	Reactionary
Liverpool Street IECC Traffic Management	Improvement	Operating	Reactionary
Flood Risk Mitigation - N&E - All Delay	Improvement	External	All
GA Fleet	Improvement	Fleet	Primary
Major Enhancements - Transpennine Route Upgrade - Primary Delay 2	Risk	Fixed Assets	Primary
Cambridge South Station	Improvement	Operating	All
Major Enhancements - Transpennine Route Upgrade - Reactionary Delay 2	Risk	Fixed Assets	Reactionary

Table A.2.2: Selected NW&C Region Schemes

Scheme	Type of Scheme	Whole System Category	Delay Type
Timetable Changes - NR	Risk	Operating	Reactionary
Traffic Management	Improvement	Recovery	Reactionary
Timetable Changes - TOC	Risk	Operating	Reactionary
Asset Strategy 100%	Mix	Fixed Assets	Primary
Regulation Principles	Improvement	Performance and Change Management	Primary
HS2 - MBR	Risk	Operating	Reactionary
HS2 - Euston	Risk	Operating	Primary
Increase in freight traffic	Risk	Operating	Primary
Training Facilities & Tools - Reactionary	Improvement	Recovery	Reactionary

Scheme	Type of Scheme	Whole System Category	Delay Type
Northern Traincrew	Improvement	People	Primary
Incident Response	Improvement	Recovery	Primary
HS2 - Handsacre	Risk	Operating	Primary
Northern Fleet	Improvement	Fleet	Primary

Table A.2.3: Selected Southern Region Schemes

Scheme	Type of Scheme	Whole System Category	Delay Type
NR Central Passenger Demand Forecast Model	Mix	Operating	All
Passengers delay at Stations	Risk	Operating	Primary
South Western Railway TOC - New Metro "Arterio" Train Fleet	Improvement	Operating	All
Roll Out of IMS (Incident Management System)	Improvement	Operating	Reactionary
Farncome to Petersfield Re-signalling	Improvement	Fixed Assets	All
Havant Re-signalling	Improvement	Fixed Assets	All
Southeastern TOC - Workforce Modernisation Programme	Risk	Operating	All
Victoria Phase 5 Re-signalling	Improvement	Fixed Assets	All
Victoria Phase 6 Re-signalling	Improvement	Fixed Assets	All
Mid-Kent Re-signalling	Improvement	Fixed Assets	All
Victoria Phase 4 Re-signalling	Improvement	Fixed Assets	All
Wimbledon ASC TEML Re-control	Improvement	Fixed Assets	All
East Kent 3 Phase 3 Re-signalling	Improvement	Fixed Assets	All

Table A.2.4: Selected Wales & Western Region Schemes

Scheme	Type of Scheme	Whole System Category	Delay Type
TFW Fleet introduction	Mix	Fleet	Primary
New line of route	Risk	Operating	All
HS TT mitigation	Improvement	Operating	All
New railway	Risk	Fixed Assets	All
Western Region – Passenger Demand	Mix	Operating	All
Service Affecting Failures - Western	Mix	Fixed Assets	All
TSR management	Risk	Fixed Assets	Primary

Scheme	Type of Scheme	Whole System Category	Delay Type
Service affecting failures - SAFs	Risk	Fixed Assets	All
Trespass & Fatality mitigation	Improvement	External	All
Class 345 software modifications	Improvement	Fleet	All

A.3   TOC Responses to Survey

Has Network Rail sought your TOC(s)'s input regarding these forecasts for 2023/24 or CP7? How comprehensive was this engagement?

Table A.3.1: TOC Responses to Question (i)

TOC	Response
South Western Railway	Yes, asking us what schemes we have planned for CP7.
MTR Elizabeth line	We input into this workstream, however, it is very difficult to provide much outside a longer term MTIN trajectory.
LNER	Fairly comprehensive
Chiltern Railways	Yes - NR NW&C we have been fully engaged with the process, with multiple meetings to agree performance expected delivery, risks, improvement schemes and funding
Southeastern	There has been engagement, with the Southern region team liaising with us at all stages around the inputs to the forecast.
Merseyrail	We did have some discussion for 23-24 but not for CP7
TransPennine Express	Yes, we provided our known risks and initiatives that are being fed into our target setting process for use by Network Rail to create their forecasts. We had some discussions on the details of these risks.
East Midlands Railway	Yes - East Midlands has a Joint Performance Team, so EMR has provided input to the development of performance forecasting since September 2021
TfW Rail	yes - 5 year forecast

Have you provided Network Rail with any information on forecasts of train performance, TOC performance schemes or risks to performance in 2023/24 and CP7? Did Network Rail request that you provide any information to inform the forecast?

Table A.3.2: TOC Responses to Question (ii)

TOC	Response
South Western Railway	We have the fleet introduction at the beginning of CP7 however it is difficult to give any further plans due to the NRC contracts and we do not have funding past March 25
MTR Elizabeth line	Yes, fleet MTIN trajectories, details of performance improvement schemes. The challenge is a longer term view, the MTREL concession will be re-tendered next year, so anything beyond 2025 is unknown.
LNER	Yes
Chiltern Railways	Yes Chiltern provided information to NR. Reviewed risks and expected performance impact. We also collaboratively reviewed NR performance forecast of both NR and Chiltern performance so that the submission that was issued to ORR had strong foundations
Southeastern	Risks and schemes for the current year were shared previously, as part of the joint Performance Strategy process. For CP7, some information was provided about known risks and projects. However, this is limited by the current process with DfT where business plans and funding are defined annually - this makes it difficult to be certain of what funding / improvements might be available beyond the current year.
Merseyrail	There have been no comprehensive discussions on CP7 performance
TransPennine Express	Yes, we have passed over the data and information that were used for our forecasts and target setting, including a quantification of the risks and benefits that we foresee.

TOC	Response
East Midlands Railway	Yes EMR has provided information to NR on performance risks and opportunities relating to both the current Control Period and CP7. Changes which were agreed to be material to train service performance outputs have been discussed extensively with Network Rail. Information provided included anticipated changes to rolling stock and timetables; this was considered holistically alongside anticipated changes to infrastructure and operational processes and systems. EMR was unable to provide firm details relating to timetables and rolling stock strategy due to the constraints of the Annual Business Planning cycle under the NRC.
TfW Rail	yes - 5 year forecast

Based on the engagement you have had to date, are you content that Network Rail has sufficiently considered and taken account of the information you have provided to produce its CP7 train performance forecasts?

Table A.3.3: TOC Responses to Question (iii)

TOC	Response
South Western Railway	I have not seen the final forecast however Network Rail have engaged with us regarding our schemes
MTR Elizabeth line	Yes.
LNER	Not clear
Chiltern Railways	Yes we are, it was a collaborative process between NR and Chiltern.
Southeastern	Yes, although as above the TOC information for CP7 is limited by the DfT annual business planning process.
Merseyrail	I think this is definitely an area that needs to be reviewed with a view to improve existing process
TransPennine Express	Yes, although I have concerns that it may have been misunderstood or applied incorrectly. We have been using different performance benchmarks from Network Rail, ours being a 2021-22 year with a number of 'background' adjustments to take into account train service levels and changes - this attempting to be 'clean' of industrial action influences on performance. Our risks and benefits must be understood against that benchmark, but I have little visibility of how they have been applied after being supplied to NR - my concern is that the significant risks that we have identified have been applied to a scenario where those risks (plus other risks that were not known or accounted for) have already been realised, and that instead these should be seen as performance benefits.
East Midlands Railway	Yes - Network Rail has been very open to input from EMR, if anything the level of information EMR has been able to provide has been less than NR would have wanted.
TfW Rail	yes

Please provide any additional comments on Network Rail's engagement on CP7 train performance or the CP7 performance planning process more generally.

Table A.3.4: TOC Responses to Question (iv)

TOC	Response
South Western Railway	-
MTR Elizabeth line	I have felt engaged by the lead route (Western), who ran the process well. Less engaged with the Anglia route and this needs to be looked at next time. I do feel that the longer term performance forecasting would be better off undertaken by an external party, with information provided by the NR and TOC teams. We are disappointed that the targets are not more challenging for NR and await confirmation of how the delta between the ORR's requirements and NR's commitments will be met.

TOC	Response
LNER	Still lacking clarity on CP7 performance forecasts
Chiltern Railways	NW&C used external resource to develop the performance impact assessment so that it was not subject to influence/bias. The external team used were acknowledged industry experts.
Southeastern	Following-up on the comments above, the TOC and NR funding and planning processes are not aligned which does make planning a year ahead difficult, let along five years ahead.
Merseyrail	I am of the view the level of engagement was not sufficient and needs to be reviewed
TransPennine Express	In general, we have a good working relationship with NR for creating forecasts. However, I would question the collaboration that we have on producing the forecasts - we easily agree on a list of expected changes and risks and can roughly quantify them together, but then apply that information in different ways, resulting in significantly different forecasts. I would welcome some movement to align on the mechanical and quantitive stages of forecasting more, to give us better visibility of the forecasts each are producing. This aspect is also not helped by the focus on different metrics, with NR focussed on the On Time forecast, with less attention paid to T3 and T15, also with cancellations not always given the same precedence by NR as we would like within TPE.
East Midlands Railway	As a TOC which is striving to deliver better performance for customers, the overall level of funding commitment to maintaining current assets and operational mitigations i.e., maintenance and renewals, seasonal delivery, etc is disappointing and will make delivering good performance even more challenging for everyone in future.
TfW Rail	With so much transformation on going on Wales route it's difficult to forecast next year never mind 5 years ahead so in many ways a waste of time and resource. Timescales for the requested data were also difficult to achieve. We also find it even more time consuming when we must interpret our forecasts and then calculate percentage change to go into the CP7 model. Not the best process and not really clear on hat value it brings.

A.4   Documents Received

No.	Document Name
1	Various superseded by documents in Stages 2 and 3
2	CP7 Ontime Calculator v1.45 run.xlsb
3	CP7 Ontime Forecast for SBP with updated CP6 exit.xlsb
4	NR SBP Submission 24th Feb 2023.zip
5	Scotland Performance Model 2.4 CP7 .xlsx
6	Cover letters and overviews (DD response).zip
7	Function response documents.zip
8	Region Response Documents.zip
9	Supporting evidence (DD response).zip
10	2023 09 14_PR23 DD response addendum_CP7 train performance trajectories
11	PR23 draft determination response addendum_CP7 train performance trajectories_Eastern
12	PR23 draft determination response addendum_CP7 train performance trajectories_NW&C
13	PR23 draft determination response addendum_CP7 train performance trajectories_Southern
14	PR23 draft determination response addendum_CP7 train performance trajectories_Wales & Western
15	PR23 draft determination response_CP7 train performance trajectories_NW&C overview
16	Wales and Western CP7 performance submission to ORR September 2023
17	J - G - Signalling - All Delay - Final.xlsm
18	J - G - OLE - All Delay.xlsm
19	J - V - West Hampstead Life Extension Works - All Delay.xlsm
20	J_H_WAML_Recast.xlsm
21	J - I - Trespass and Vandalism - All Delay.xlsm
22	J - I - Track - All Delay - Constrained.xlsm
23	J - V - TOC - Fleet - All Delay.xlsm
24	J - GV - Timetable Process & Tools - Final.xlsm
25	J - G - Timetable Change Impact - Reactionary Delay - Final.xlsm
26	J - G - Timetable Change Impact - Reactionary Delay.xlsm
27	J - I - Timetable Change Impact - Reactionary Delay - Final.xlsm
28	J - V - Timetable - Reactionary Delay - Final.xlsm
29	J_H_Speed_Restrictions.xlsm

30	J_H_Reactionary_Delay.xlsm
31	J - V - OLE 125 - All Delay.xlsm
32	J - I - OLE - All Delay - Constrained.xlsm
33	J - G - Track - All Delay - Constrained.xlsm
34	J - V - Network Management and Ops - All Delay.xlsm
35	J - V - MML Phase 3 Electrification - All Delay.xlsm
36	JR - TRU - Reactionary Delay 2.xlsm
37	JR - TRU - Reactionary Delay 1.xlsm
38	JR - TRU - Primary Delay 2.xlsm
39	JR - TRU - Primary Delay 1.xlsm
40	JR - TRU - Disturbance All Delay.xlsm
41	J_H_LST_Traffic_Management.xlsm
42	J - V - Leicester Capacity Enhancement - All Delay.xlsm
43	J_H Externals.xlsm
44	J_H Track Harwich .xlsm
45	J_H_GEML_Recast.xlsm
46	J_H_GA_Fleet.xlsm
47	J - G - Flood Risk Mitigation - All Delay - Constrained.xlsm
48	J - I - Flood Risk Mitigation - All Delay - Constrained.xlsm
49	J - G - Externals - All Delay.xlsm
50	J - V - ETCS - Reactionary Delay.xlsm
51	J - V - Enhancements Committed - All Delay.xlsm
52	J - V - Track - All Delay - Constrained.xlsm
53	J - I - Signalling - All Delay - Constrained.xlsm
54	J - I - Digital Railway - All Delay - Final.xlsm
55	J_H_Crossrail_Risk.xlsm
56	J - GIV - CP6 End Covid Factor.xlsm
57	J_H Clay Bank c2c.xlsm
58	J_H Cambridge Upgrade.xlsm
59	J_H Cambridge South Station .xlsm
60	J_H Structures.xlsm
61	J_H Beaulieu Park Station.xlsm

62	J_H_Barking_Riverside_Extension.xlsm
63	J_H Asset Management.xlsm
64	J_H Anti Social Behaviour.xlsm
65	R - R - WMT Traincrew (D).xlsm
66	R - R - WMT Fleet (D).xlsm
67	R - R - Wigan - Bolton (D).xlsm
68	R - R - West Midlands New Stations (D).xlsm
69	R - R - Weather (D).xlsm
70	R - R - WCML North - Reactionary (D).xlsm
71	R - R - WCML North - Primary (D).xlsm
72	R - R - WCML North - Benefit (D).xlsm
73	R - R - Watford North Jn Crossover (D).xlsm
74	R - R - Trespass & Vandalism Mitigation (D).xlsm
75	R - R - Training Facilities & Tools - Reactionary (D).xlsm
76	R - R - Training Facilities & Tools - Primary (D).xlsm
77	R - R - Traffic Management (D).xlsm
78	R - R - TPE Traincrew (D).xlsm
79	R - R - TPE Fleet (D).xlsm
80	R - R - Timetable Changes - TOC (D).xlsm
80	R - R - Timetable Changes - NR (D).xlsm
81	R - R - Seasonal Preparedness (D).xlsm
82	R - R - Regulation Principles (D).xlsm
83	R - R - Northern Traincrew (D).xlsm
84	R - R - Northern Fleet (D).xlsm
85	R - R - MNTP Config State 2 - Construction (D).xlsm
86	R - R - MNTP Config State 2 - Completion (D).xlsm
87	R - R - Midlands Rail Hub - Risk (D).xlsm
88	R - R - Midlands Rail Hub - Benefit (D).xlsm
89	R - R - Merseyrail Traincrew (D).xlsm
90	R - R - Merseyrail Class 777s - Risk (D).xlsm
91	R - R - Merseyrail Class 777s - Benefit (D).xlsm
92	R - R - LUL Modernisation (D).xlsm

93	R - R - Installation of TPWS (D).xlsm
94	R - R - Increase in freight traffic (D).xlsm
95	R - R - Incident Response (D).xlsm
96	R - R - HS2 - MBR (D).xlsm
97	R - R - HS2 - Handsacre (D).xlsm
98	R - R - HS2 - Euston (D).xlsm
99	R - R - Hope Valley - Reactionary (D).xlsm
100	R - R - Hope Valley - Primary (D).xlsm
101	R - R - External - Route Crime (D).xlsm
102	R - R - EWR Stage 2 (D).xlsm
103	R - R - Electrification (D).xlsm
104	R - R - Crewe Hub - Reactionary (D).xlsm
105	R - R - Crewe Hub - Primary (D).xlsm
106	R - R - Crewe Hub - Completion (D).xlsm
107	R - R - Chiltern Traincrew (D).xlsm
108	R - R - Chiltern Passengers (D).xlsm
109	R - R - Chiltern Fleet (D).xlsm
110	R - R - C-DAS (D).xlsm
111	R - R - Camp Hill New Stations (D).xlsm
112	R - R - Bushey Power Supply - Reactionary (D).xlsm
113	R - R - Bushey Power Supply - Primary (D).xlsm
114	R - R - Birmingham Resignalling - Reactionary (D).xlsm
115	R - R - Birmingham Resignalling - Primary (D).xlsm
116	R - R - AWC Traincrew (D).xlsm
117	R - R - AWC New Fleet - Risk (D).xlsm
118	R - R - AWC New Fleet - Benefit (D).xlsm
119	R - R - Asset Strategy 100% (D).xlsm
120	SR - Railway Operations - Signaller - IMS.xlsm
121	SR - TOC - HU HoPPS New Isle of Grain Service - All Delay.xlsm
122	SR - Railway Operations - Signaller - State of the Railway Complier.xlsm
123	SR - Railway Operations - Signaller - Time Table Assurance.xlsm
124	SR - Railway Assets - Track - All Delay.xlsm

125	SR - Railway Assets - Civils Structures - Balcombe Tunnel.xlsm
126	SR - Railway Assets - Signalling - Wimbledon TEML Re-control - All Delay.xlsm
127	SR - Enhancements - Signalling - Victoria Resignalling Phase 6 - All Delay.xlsm
128	SR - Enhancements - Signalling - Victoria Resignalling Phase 5 - All Delay.xlsm
129	SR - Enhancements - Signalling - Victoria Resignalling Phase 4 - All Delay.xlsm
130	SR - Railway Assets - Signalling - Mid-Kent - All Delay.xlsm
131	SR - Enhancements - Signalling - Havant - All Delay.xlsm
132	SR - Enhancements - Signalling - Farncombe to Petersfield - All Delay.xlsm
133	SR - Enhancements - Signalling - East Kent 3 Phase 3 - All Delay.xlsm
134	SR - Railway Assets - E and P - Wessex Route - All Delay.xlsm
135	SR - Railway Assets - E and P - Kent Route - All Delay.xlsm
136	SR - Railway Assets - Signalling - Wessex Signalling Maintenance - All Delay.xlsm
137	SR - Railway Assets - Signalling - Sussex Signalling Maintenance - All Delay.xlsm
138	SR - Railway Assets - Signalling - Kent Signalling Maintenance - All Delay.xlsm
139	SR - Railway Operations - Passenger Demand Impact.xlsm
140	SR - TOC - HU Workforce Modernisation - All Delay.xlsm
141	SR - TOC - HU New Fleet - All Delay.xlsm
142	SR - TOC - SWR (HY) New Fleet Implementation - All Delay.xlsm
143	SR - External - Security Culture.xlsm
144	SR - Station Risk.xlsm
145	SR - External - Welfare Patrols.xlsm
146	SR - Railway Operations - Signaller - ARS.xlsm
147	SR - External - Schemes at top 20 locations.xlsm
148	D - New railway.xlsm
149	D - TOC - open access operator.xlsm
150	D - TOC - new operator.xlsm
151	D - HS2 TT improvement.xlsm
152	D - External trespass & fatality - improvement.xlsm
153	D - External trespass & fatality growth.xlsm
154	D - Signalling - Cheltenham resignalling.xlsm
155	D - HS2 OOC - EF.xlsm
156	D - HS2 OOC - HM.xlsm

157	D - HS2 OOC - EX.xlsm
158	D - Railway Operations - Passenger Demand Impact.xlsm
159	D - MTR Fleet MTIN .xlsm
160	D - OLE update.xlsm
161	CP7 Assessment form - TFW Fleet Cancellations.xlsm
162	Wales_CP7_TSRs.xlsm
163	D - Western Timetable.xlsm
164	CP7 Assessment form - TFW TT changes.xlsm
165	CP7 Assessment form - TFW Fleet.xlsm
166	T&V.xlsm
167	D - Western SAFs.xlsm
168	Wales SAFs - CP7 Assessment form.xlsm
169	CP7 Assessment form - south wales schemes.xlsm
170	Infrastructure.xlsm
171	External events.xlsm
172	timetable.xlsm
173	CP7 Assessment form - national programmes.xlsm
174	CP7 Assessment form - chester modelling.xlsm
175	CP7 Assessment form - wales funding.xlsm

A.5 Summary of Network Rail On Time Regional Forecasts

The proposed forecasts below (NR Proposed Regulatory Baseline) were submitted to our Project Team in September 2023 and were used in our final Stage 3 assessment.

Note: The forecasts in the tables below contain those received by the Project Team at time of assessment and may not fully reflect the forecasts in the final determination.

Table A.5.1: Summary of NW&C On Time Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
NW&C	63.1%	60.0-62.5%	NR Modelled Output	62.6%	62.5%	-	-	-
			NR Proposed Stretch	0.3%	0.4%	-	-	-
			NR Proposed Regulatory Baseline	62.9%	62.9%	61.5-64.6%	61.6-64.7%	61.7-64.9%

Table A.5.2: Summary of Eastern On Time Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
Eastern	70.6%	68.4-70.8%	NR Modelled Output	70.2%	70.1%	-	-	-
			NR Proposed Stretch	0.2%	0.3%	-	-	-
			NR Proposed Regulatory Baseline	70.4%	70.4%	68.2-70.9%	68.1-70.9%	68.0-70.8%

Table A.5.3: Summary of W&W On Time Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
W&W	60.6%	63.2-64.7%	NR Modelled Output	59.9%	59.8%	-	-	-
			NR Proposed Stretch	0.5%	0.6%	-	-	-
			NR Proposed Regulatory Baseline	60.4%	60.4%	58.9-65.3%	58.5-64.9%	58.6-65.0%

Table A.5.4: Summary of Southern On Time Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
Southern	68.1%	66.0-68.9%	NR Modelled Output	68.4%	68.3%	-	-	-
			NR Proposed Stretch	0%	0%	-	-	-
			NR Proposed Regulatory Baseline	68.4%	68.3%	66.2-68.8%	66.2-68.9%	66.0-68.9%

A.6 Summary of Network Rail Passenger Cancellations Regional Forecasts

The proposed forecasts below (NR Proposed Regulatory Baseline) were submitted to our Project Team in September 2023 and were used in our final Stage 3 assessment.

Note: The forecasts in the tables below contain those received by the Project Team at time of assessment and may not fully reflect the forecasts in the final determination.

Table A.6.1: Summary of NW&C Passenger Cancellations Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
NW&C	3.9%	3.2-4.5%	NR Modelled Output	3.8%	3.6%	-	-	-
			NR Proposed Stretch	0.1%	0.1%	-	-	-
			NR Proposed Regulatory Baseline	3.7%	3.5%	3.0-4.5%	3.0-4.5%	3.0-4.5%

Table A.6.2: Summary of Eastern Passenger Cancellations Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
Eastern	3.4%	2.7-3.8%	NR Modelled Output	3.4%	3.3%	-	-	-
			NR Proposed Stretch	0%	0%	-	-	-
			NR Proposed Regulatory Baseline	3.4%	3.3%	3.2-3.8%	3.0-3.6%	2.7-3.3%

Table A.6.3: Summary of W&W Passenger Cancellations Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
W&W	4.2%	2.8-3.8%	NR Modelled Output	4.0%	4.0%	-	-	-
			NR Proposed Stretch	0%	0%	-	-	-
			NR Proposed Regulatory Baseline	3.8%	3.8%	3.3-4.3%	3.3-4.3%	3.3-4.3%

Table A.6.4: Summary of Southern Passenger Cancellations Forecasts

Region	CP6 Exit Forecast	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
Southern	3.6%	3.1-4.3%	NR Modelled Output	3.5%	3.5%	-	-	-
			NR Proposed Stretch	0%	0%	-	-	-
			NR Proposed Regulatory Baseline	3.5%	3.5%	3.1-4.3%	3.1-4.3%	3.1-4.3%

A.7 Summary of Network Rail Freight Cancellations Regional Forecasts

The proposed forecasts below (Proposed regulatory baseline (CP7 definition)) were submitted to our Project Team in September 2023 and were used in our final Stage 3 assessment.

Note: The forecasts in the tables below contain those received by the Project Team at time of assessment and may not fully reflect the forecasts in the final determination.

Table A.7.1: Summary of NW&C Freight Cancellations Forecasts

Region	CP6 Exit Forecast (CP6/CP7 definition)	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
NW&C	1.4%/1.3%	1.0-1.9%	Proposed regulatory baseline (CP6 definition)	1.3%	1.3%	1.3%	1.3%	1.3%
			Proposed regulatory baseline (CP7 definition)	1.2%	1.2%	1.2%	1.2%	1.2%

Table A.7.2: Summary of Eastern Freight Cancellations Forecasts

Region	CP6 Exit Forecast (CP6/CP7 definition)	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
Eastern	1.4%/1.3%	1.5-2.8%	Proposed regulatory baseline (CP6 definition)	1.4%	1.4%	1.4%	1.4%	1.4%
			Proposed regulatory baseline (CP7 definition)	1.3%	1.3%	1.3%	1.3%	1.3%

Table A.7.3: Summary of W&W Freight Cancellations Forecasts

Region	CP6 Exit Forecast (CP6/CP7 definition)	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
W&W	1.9%/1.9%	1.6-3.3%	Proposed regulatory baseline (CP6 definition)	1.9%	1.9%	1.9%	1.9%	1.9%
			Proposed regulatory baseline (CP7 definition)	1.9%	1.9%	1.9%	1.9%	1.9%

Table A.7.4: Summary of Southern Freight Cancellations Forecasts

Region	CP6 Exit Forecast (CP6/CP7 definition)	SBP Range	CP7	2024/25	2025/26	2026/27	2027/28	2028/29
Southern	1.6%/2.5%	2.2-4.0%	Proposed regulatory baseline (CP6 definition)	1.6%	1.6%	1.6%	1.6%	1.6%
			Proposed regulatory baseline (CP7 definition)	2.5%	2.5%	2.5%	2.5%	2.5%