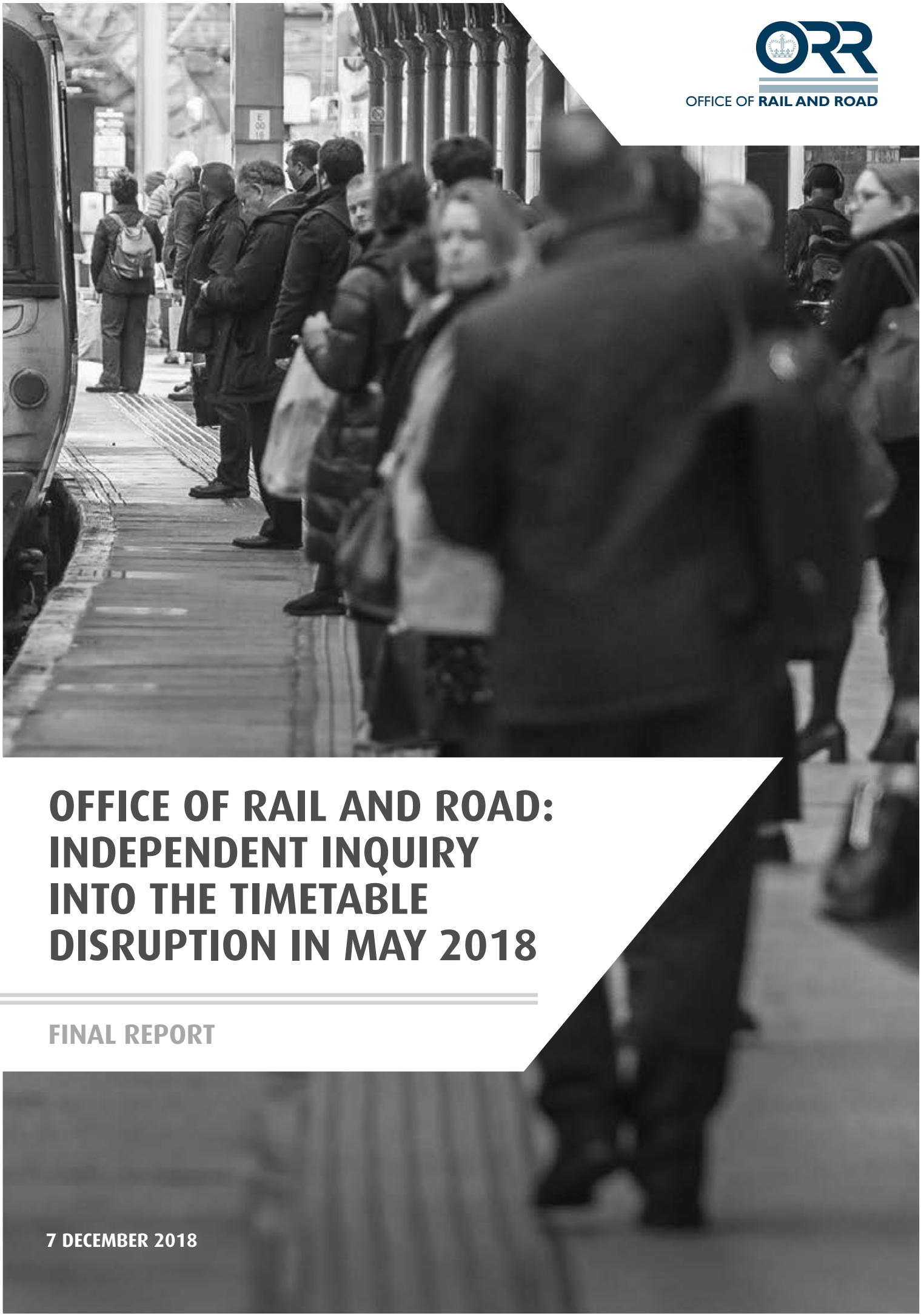

OFFICE OF RAIL AND ROAD

OFFICE OF RAIL AND ROAD: INDEPENDENT INQUIRY INTO THE TIMETABLE DISRUPTION IN MAY 2018

FINAL REPORT

7 DECEMBER 2018

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The following additional annexes can be found on the ORR website

FOREWORD

Growth in demand on the railway has been outstripping growth in capacity. The railway is becoming congested: trains interact more. Any one delay or cancellation affects more trains than in the past and the trains are fuller: many more people are inconvenienced as a result. Dealing with this requires both more care in planning and precision in operation.

A long term decline in performance came to a head with the failures in May 2018 to deliver a satisfactory timetable in two parts of the country. In September we published an Interim Report which gave an account of the facts. This is our final report. These two reports constitute our response to the Secretary of State's request for advice.

Our Interim Report found nothing but good intentions in the industry and the failures were a shock to all concerned. The realities are now better understood: people have seen the consequences of complacency over missed deadlines for taking decisions; of over-optimism about the ability to recover; and of taking decisions with incomplete or inaccurate information.

Changes in culture are necessary and to the extent that this has occurred so far this will, in itself, go some way towards the solution to the problems. Everyone needs to be willing to give and receive bad news. There must be clarity on who is responsible for making timely decisions: they must ensure that they have full and assured information and they need to have due regard to the implications of their decisions for the whole of the system and for passengers.

Crucially, the overall objective is to provide benefits to passengers and freight customers, not just to deliver railway projects.

Much has already changed. Network Rail has created a Programme Management Office to manage risks to timetables up to December 2019; it has provided better resources to its System Operator – with more to come following the ORR's Final Determination of Network Rail's funding for the five years from April 2019. Careful attention has been given by the whole industry to prepare for the next timetable changes.

In July the Office of Rail and Road found Network Rail in breach of its timetabling obligations and worked with Network Rail to secure immediate improvements. We publish our Final Order on this breach alongside this Report, to secure continued improvement.

We have commenced formal Investigations into the provision of information by the train operators Arriva Rail North (Northern) and Govia Thameslink Railway. And on 29 November we issued a

Provisional Order to require improvements in Network Rail's capability to deliver better general performance for passengers and freight customers.

The ORR will continue with our enhanced monitoring of the risks to future timetable changes until we are satisfied that the recommendations here have been acted on to strengthen the capability of the industry to manage the risks and provide for passengers and freight customers. We will report publicly on progress in the areas where we are requiring Network Rail to make change.

The recommendations made here directly address the findings in the Interim Report on the weaknesses in the current structure. They are intended to be practical and implementable quickly within current industry arrangements. Fundamental reform of the various institutions is clearly needed but that will take time to implement, and may require legislation. This is properly the subject of the major Rail Review, led by Keith Williams, announced by the Government on the day we published our Interim Report.

We believe that these changes will be needed in any future recommended by the Rail Review. Critically we conclude that the future must include the creation of an enhanced system-wide advice, audit and assurance capability, which is independent of individual programmes. The Rail Review should consider where this best sits.

This Inquiry has been a major exercise involving a number of ORR staff working to a very tight schedule. We have benefited considerably from the wisdom and experience of our Advisory Panel and the members of the ORR Board. I am grateful to them all, but especially to Dan Brown as Inquiry Director and Claire Simpson as Project Director.

Stephen Glaister
Chair

EXECUTIVE SUMMARY

1. Our Interim Report, published on 20 September 2018, focused on identifying the factors that contributed to the failure to develop and implement an effective operational timetable in May 2018, and reached conclusions about the management of operational risks created by major timetable changes, based on information received from those involved.

2. This document is the second and final report. It reviews the measures that have already been taken by industry and government since May, and puts forward recommendations for further actions we consider need to be taken. The Inquiry's Terms of Reference are in Annex B.

3. Since the publication of the Interim Report, the Inquiry has conducted further analysis and sought contributions from a wide range of stakeholders to help develop and inform our recommendations. We are grateful for the full and open engagement that the Inquiry has received from every participant. The full support that the Inquiry has received from participants illustrates a strong consensus that the industry must make changes to ensure that the scale of disruption seen in May 2018 and beyond is not repeated.

4. The rail industry has taken some actions to improve timetable preparations since May 2018, including the creation of an Industry Programme Management Office (PMO) to manage risks for the preparation of timetables up to December 2019. This Final Report reflects these actions and makes further recommendations attributable to the DfT, the Network Rail System Operator (SO), the train operators and the Office of Rail and Road (ORR) that directly address the findings made in the Interim Report.

5. Alongside publication of the Interim Report the Government established the Rail Review, led by Keith Williams, to examine the structure of the rail industry, to report by autumn 2019. The Inquiry considers it necessary to question whether changes within current industry structures are sufficient in the longer term to address the central conclusion of the Interim Report that there is a gap in accountability for major network changes, which led to 'no one taking control' in May 2018. The final recommendation in this report addresses the presence of this accountability gap, and defines the features that any future solution will need to fill in any model of rail industry organisation.

6. In addition, on 4 December 2018, the Transport Select Committee published its Inquiry report into the May 2018 timetable changes.[1] This makes recommendations to reform rail industry structures and governance arrangements in the short term - to address the three timetable changes in advance of 2020 - and the longer term. The recommendations in this Final Report therefore overlap to some extent with the issues raised by the Transport Select Committee and the remit of the Rail Review, and we do not consider our recommendations to be inconsistent with either.

[1] https://publications.parliament.uk/pa/cm201719/cmselect/cmtrans/1163/1163.pdf

7. This is because the Inquiry believes that the recommendations made in this report are relevant to any future model of organisation, and need to be implemented regardless of future changes to industry structure. They are practical improvements to current industry processes, within existing industry structures, which can therefore be implemented quickly to protect passengers from the risk of further disruption in upcoming timetable changes. We purposefully avoid making recommendations that are reliant on unknown future structural or legislative changes.

Conduct of this Inquiry

8. On 4 June 2018, the Secretary of State for Transport asked ORR, as the independent rail regulator, to undertake an Inquiry headed by ORR Chair, Professor Stephen Glaister CBE. The Inquiry was asked to review the failed introduction of the new 20 May 2018 timetable.

9. The terms of reference for the inquiry outlined three objectives:

   i. "identify factors that contributed to the failure to develop and implement an effective operational timetable in May 2018;

   ii. draw conclusions about the management of operational risks created by major timetable changes, based on evidence about the causes and consequences of the disruption in May 2018, and its subsequent management; and

   iii. where appropriate, make recommendations to the industry and government in advance of future major network changes for the benefit of passengers, other users and railway staff."

10. The Inquiry has been undertaken in two phases. An Interim Report was released on 20 September 2018, and focused on understanding the causes of the disruption to the timetable, in order to satisfy objectives i and ii above. This document is the Final Report of the Inquiry, which looks to address the underlying causes of the timetable disruption and fulfil objective iii of the Inquiry. This Final Report notes actions already taken by the rail industry and puts forward recommendations for the future.

11. Following publication of the Interim Report, we have invited further contributions from a wide range of stakeholders and we are very grateful to the numerous individuals and organisations that played a role in helping to develop and refine recommendations[2].

12. In large part, the evidence provided and our findings in the Interim Report form the basis for our recommendations. However, within the timescales of this Inquiry, we have also considered further representations provided by industry parties, including those involved in the Interim Report and freight companies, rail industry representative bodies, railway experts and the public.

[2] See Annex C for a full list of the various parties who have contributed throughout the second phase of the Inquiry.

13. As well as a number bilateral discussions with the parties noted above, we engaged with other experts across the rail industry and also experts more broadly involved in the delivery of major infrastructure programmes. The Inquiry held several events with passenger and industry groups, including stakeholder discussions held in Manchester and London attended by passenger representative groups, industry and government; and workshops with industry practitioners into systemic risk and programme management, and the timetabling process as set out in Part D of the Network Code.

Accuracy of information received & disclaimer

14. The information on which this Final Report is based is that provided by our stakeholders who participated in the development of both the Interim and Final Reports. This Inquiry has not been undertaken using ORR investigative powers that would legally require participants to provide all information that they hold. The information on which the findings and recommendations are based is only that which the parties have volunteered to share and we are grateful for their cooperation.

15. While views and facts used in this report have been cross-referenced with the holder and verified wherever possible, ORR cannot independently assure the accuracy of all of the information that it has received during the course of this inquiry. Because the findings and recommendations in this report are drawn from the limited information received they should not be relied upon for commercial, legal or regulatory purposes. ORR will correct the record if we become aware that factual inaccuracies have occurred.

Summary of recommendations

16. The Interim Report found that there were systemic weaknesses in the planning and delivery of major network changes, such as those required in preparation for the new timetable in May 2018, and concluded that there is a risk of repeated disruption if the lessons are not learnt and acted upon. This is because May 2018 was not an isolated case of major infrastructure delivery. It was one of the earliest instances of the entry into operation, through a large timetable change, of a number of large rail schemes that are currently under development across the country to build new infrastructure, enhance existing infrastructure, electrify lines, introduce new rolling stock and specify new franchised passenger rail services.

17. In the immediate term, the industry has taken action to put in place short term mitigations to the risk of further passenger disruption. A Programme Management Office has been created to manage risks for the timetable changes planned up to December 2019, and ORR has taken a number of actions (described below) using its regulatory powers. However, this is now within the context, since May 2018, of declining passenger trust in the rail industry's ability to deliver programmes of this scale successfully. The further recommendations summarised here propose necessary additional governance arrangements and capability within the existing industry structures which mean that risks associated with the delivery of major change can be better managed.

18. The ORR's Prior Role Review, conducted alongside the Interim Report, found that found that ORR has sufficiently broad powers that it can consider the risks to major timetable changes, but that it did not identify the full risks in the approach to the May timetable change, even though it had launched an investigation into Network Rail's late delivery of the timetable and the impact on passengers. The summary below also sets out the actions that the ORR is taking or will take in the near future.

19. Following this executive summary, the report is arranged in three chapters:

- Chapter A – Passenger trust and confidence

This section of the Final Report explains the impact that the 20 May 2018 timetable change has had upon passenger trust in the rail industry to deliver major timetable changes. It considers the passenger experience throughout the delivery of a major timetable change and makes recommendations around better assessment of the impact upon passengers, and the provision of passenger information. It also examines how passengers have been compensated for the cost, stress and inconvenience incurred.

- Chapter B – System Operator and the timetabling process

This section of the Final Report makes recommendations for improvements in the timetabling process and the role of the SO in the development of the timetable. This includes the contractual timetable development process under Part D of the Network Code, application of

that process and the resources and capability of the SO; and ORR's monitoring and oversight of SO capability and delivery during CP6.

- Chapter C – Systemic risk across major programmes

This section of the Final Report makes recommendations around the systems of governance that oversee the rail industry process of planning and preparing a timetable change, including the capability within the industry to provide system wide assurance and advice to decision makers.

Chapter A – Passenger trust and confidence

20. The Inquiry has examined the way in which passengers were affected by the failure of the May 2018 timetable. The Interim Report described in detail the severe effects of the May 2018 disruption, using individual case studies and quantitative data to illustrate the various ways in which passengers' lives were impacted. This chapter summarises the action that has been taken by industry, government and ORR since May. It also sets out recommendations for the sponsor to seek assurance that passenger interests have been considered during planning, and for industry to participate in an ORR-led research project on the information provided to passengers.

21. The Inquiry has found that there was insufficient consideration of passenger interests when assessing delivery risk in the infrastructure programme and timetable planning processes ahead of May 2018. The programme sponsors did not have adequate assurance, at investment decision points or change-control decisions, that the potential impact on the passenger had been taken into account. This was a contributory factor to the impact on passenger services, and industry response to disruption, once the delivery mitigations had failed.

22. An assessment of passenger impact throughout the development of major rail schemes will help to ensure that the interests of the passenger are not lost in the decision-making process from scheme specification through to delivery. It will help the sponsor, and other bodies, recognise and articulate the potential trade-offs between current passengers (for example, in terms of engineering possessions) and future passengers (for example, in terms of deferred benefits).

23. **The Inquiry recommends that programme sponsors should seek appropriate assurance that the impact on passengers has been assessed at investment decision points, and when decisions need to be made during the delivery phase of a programme (known as change control decisions) that impact the quality of the service passengers will experience, or the timing of the delivery of those services.**

Passenger Information

24. The Interim Report identified inadequate provision of passenger information during the disruption as one of the key failings. Passengers did not have the necessary information to be

able to plan their journey with confidence, or understand what the real-time status of their journey was. ORR has opened two licence investigations on the basis of these findings, to determine whether Northern and GTR were in breach of their regulatory obligations to provide accurate and timely information (to the greatest extent practicable). These investigations will conclude in early 2019.

25. The Interim Report findings have also revealed questions for the broader industry. The provision of good quality information requires successful collaboration and integration between many parties, each of whom must be clear on their role in various complex scenarios. Operators may not always consider the quality and usefulness of the information actually received by passengers, either online, on trains or at stations. ORR will therefore commission industry-wide research to examine the end-to-end provision of information to passengers.

26. **Operators and infrastructure managers should participate in the ORR-led research project into passenger information and how it can be improved. This should include active participation in the evidence-gathering phase in 2019, and further collaboration in the development and implementation of proposals.**

Chapter B – System Operator and the timetabling process

27. The Interim Report identified that although the industry timetabling process itself was not a direct cause of the failure of the May 2018 timetable, when issues arose elsewhere that impacted upon the timetable creation process, it became difficult to recover.

28. In July 2018, ORR's investigation into Network Rail's management of the changes to the timetable concluded that as a result of the failures ORR identified, Network Rail is breaching its licence. ORR required Network Rail to take specific immediate actions to address those failures and also advised it would set out further actions in a draft Final Order. This has been published alongside this Inquiry.

Part D of the Network Code

29. Part D of the Network Code prescribes the schedule and process for producing timetables, and is acknowledged by the rail industry as not currently working as envisaged. The SO has proposed an industry review of these arrangements to strengthen, in particular, its ability to manage risk and industry change.

30. Our engagement with industry parties has indicated that there are several potential areas for improvement that merit exploration, as part of this review of Part D of the Network Code. We believe that the SO is best-placed to carry out this review, but that engagement and consensus of all industry parties will be critical to its success.

31. **The System Operator is required by ORR's draft Final Order to publish a plan by 1 April 2019 for how it intends to lead an industry review of Part D of the Network Code. The Inquiry recommends that in undertaking the review, the System Operator is to:**

- **Seek to gain whole industry buy-in through following best practice stakeholder engagement and industry consultation.**
- **Any changes proposed by the industry review must be considered in light of a system-wide view of their benefits and disbenefits, including for passengers and freight, which must be clearly articulated to stakeholders.**
- **Any changes proposed by the industry review must include an assessment of the implementation of those changes and impacts upon Network Rail and operators.**

32. **ORR will take account of whether the industry review has adequately followed the above process when making its decision on whether to approve any proposed changes.**

33. **In considering the scope of the review:**

- **The System Operator is to specifically review Part D to strengthen the collaboration between operators and the System Operator with particular reference to the use of Event Steering Groups (ESGs) and any other opportunities to better align outcomes across parties for the benefit of the system as a whole. This will include considering whether participation in ESGs should be compulsory.**
- **The System Operator is to specifically consider whether Part D should explicitly set out 'go/no-go' decision points.**
- **Operators to commit to engaging constructively in this process and identifying system-wide benefits as well as representing the needs of passengers within the process.**

System Operator capability

34. The Interim Report found that timetabling teams across the industry were placed under extreme pressure as the unprecedented extent and complexity of the May 2018 rewrite became clear. Although it was not possible for the SO to increase its resource and capability at short notice, more could have been done at an earlier stage to estimate and meet the demand.

35. The ORR has set out in the Periodic Review 2018 (PR18) Final Determination that the SO is to use the increased funds allocated to it in CP6 to deliver a more accurate and resilient timetable that is provided to the industry in a more effective manner. In particular, the SO is to deliver the CP6 plan as set out in the PR18 Final Determination and as accelerated into the last year of CP5, including by continuing its work to:

- Further reinforce its timetable planning team so that it is able to manage unexpected events better and look further ahead when planning timetables; and
- Improve the quality of advice it provides in relation to managing changes to what the network delivers by reinforcing its analytical capabilities and increasing its role in supporting franchise authorities.

36. The SO to set out to ORR by 1 April 2019 how, within CP6 reporting:

- It will integrate leading indicators on SO timetabling resource and capability; and
- It is following best practice stakeholder engagement and industry consultation.

37. The ORR will use the annual narrative report, alongside the SO's scorecards, to monitor the SO's delivery to its customers against the commitments it has made to them in its CP6 plan.

Application of the timetabling process

38. The Interim Report identified inefficiencies within the timetabling process, in terms of collaborative working and the use of technology. Although they were not direct causes of the disruption, data handling and integration processes compounded the inability of SO and train operators to recover planning timescales in time for the timetable change.

39. With the PR18 Final Determination and the increased funds allocated to it in CP6, there is an opportunity for the SO to review industry collaboration and the use of technology to support the accuracy and efficiency of the timetabling process. There has been positive innovation in this area, and there is scope for further improvements in a number of areas that may facilitate the faster creation of a new baseline timetable, with fewer errors. This will in turn allow more time for optimisation and industry review.

40. The SO will set out to ORR by 1 April 2019 how, within CP6 reporting:

- it will report on the progress of strengthening timetable technology capability, with reference in particular to the £60m programme of improvement works set out within the CP6 Final Determination; and
- it is following best practice stakeholder engagement and industry consultation.

41. The ORR will use the annual narrative report, alongside the System Operator's scorecards, to monitor the System Operator's delivery to its customers against the commitments it has made to them in its CP6 plan.

42. **As part of this, the Inquiry recommends that the System Operator review the progress of a trial with Abellio Scotrail to provide greater access to the planning system. Where benefit exists, the System Operator should roll this trial out more widely (in terms of participants and other opportunities) across the planning activity in the first year of CP6 to provide a wider industry benefit, and report on this in its annual narrative reporting.**

43. **The Inquiry also recommends that the System Operator, in close consultation with the rail industry, to create an industry timetabling technology strategy to improve the timetabling process. The System Operator is to set out the timescales for the creation of this strategy as soon as it is able and in doing so:**

- **Seek to gain whole industry buy-in through following best practice stakeholder engagement and industry consultation.**

- **Consider proposed changes to technology in light of a system-wide view of their benefits and disbenefits, including for passengers and freight, which should be clearly articulated to stakeholders.**

44. **Operators and funding authorities to participate in the development of this strategy and then consider whether there are individual business cases for bringing forward individual improvements.**

ORR monitoring and oversight of SO capability and delivery of outputs in CP6

45. ORR published a Prior Role Review alongside the Interim Report. This examined ORR's involvement in, and formal regulatory oversight of, the development and implementation of the projects and timetable processes that led up to the May 2018 timetable change.

46. The Prior Role Review noted that ORR had previously identified a number of systemic weaknesses in the performance and capability of the Network Rail SO function. It prompted ORR to consider whether it could have acted faster or earlier to ensure Network Rail addressed the issues ORR had previously detected. As a result, ORR has taken steps to monitor preparedness across the industry, including the SO, for the December 2018 and May 2019 timetable changes.

47. ORR has also taken the opportunity to consider its role in the future monitoring of the SO's timetabling capability, not just as part of this Inquiry, but also in the PR18 Final Determination. A part of this, ORR has required the SO to agree the content of its annual report with the SO Advisory Board, and for Network Rail to explain to us how it will integrate the reporting of SO timetabling capability into the wider CP6 reporting.

48. **ORR undertakes a long term role in monitoring the capability and delivery of industry institutions. In the short term, and in particular for the forthcoming timetable changes, ORR will continue its monitoring of preparedness across the industry and maintain this focus while the industry increases its timetabling capability.**

Chapter C – Systemic risk across major programmes

49. The Interim Report found that that the industry is facing new challenges: the entry into service of very large complex programmes, which carry a different level of risk between different inter-dependent programmes. The diffuse nature of accountability in the rail industry results in a lack of clarity about roles and responsibilities for the oversight and control of complex system risks. There is an apparent gap in industry responsibility and accountability for the management of systemic risks, and industry processes need to change to accommodate these responsibilities. These findings lay behind the central conclusion of the Interim Report that 'nobody took control'.

50. Because future timetable changes are dependent on the effective delivery of many similar major programmes already in development, it is important that changes are made to avoid a repeat of the failings that led to the unsuccessful introduction of the May 2018 timetable.

Programme Governance

51. The Interim Report found that the Programme Board that was created in 2015 to plan and deliver the North West Electrification improvements was not remitted to consider systemic risk arising from its specific programmes (although the Thameslink Programme Board did have a broader remit, to reflect the large complex nature of that project). This programme management structure did not identify interdependent programme risk, properly manage such risks, or make change decisions with full awareness of these risks, which should be a feature of all programme management governance for major schemes.

52. In a satisfactory programme management structure the dependencies between programmes would be monitored, communicated and managed by programme boards. This would require systemic risks, beyond the individual programme, to be considered throughout the lifecycle of a programme or project. This should facilitate greater control of risk, and allow decision makers to make trade-offs across programmes with a clearer understanding of the impact on risks and benefits, including to passengers and other end-users.

53. **The Inquiry recommends that the Terms of Reference for all programme boards and equivalent governance arrangements (including for infrastructure, rolling stock, franchising, and timetable development) include:**

- **an explicit responsibility to understand the dependent systemic risks that impact upon other programmes such as rolling stock and franchise, and to communicate these risks;**
- **an explicit responsibility to manage the risks which may materialise arising from other co-dependent programmes which impact upon its programme of work; and**
- **a requirement to cooperate with other programmes, and focus on delivering benefit realisation from a system change**

54. **This should happen as soon as possible for all programmes at all stages of their development, including the sponsor's initial planning and specification stage.**

Industry culture and collaboration

55. The Interim Report received evidence of optimism bias in the delivery of major projects, and the under-reporting of programme delivery risks. This can lead to unrealistic delivery and recovery plans, or a reluctance to communicate identified problems to other affected parties or sponsors. This may result in late decision-making in response to problems, and unrealistic expectations for project delivery up until the point that failure becomes certain.

56. Optimal risk management depends upon the behaviour of organisations and individuals: cross-system collaboration requires individuals and organisations to openly assess and report risk. Best practice in other sectors places a contractual responsibility on parties to alert others (including clients) when a risk is encountered. Ideally all participants in major rail programmes should have aligned commercial, individual and reputational incentives, embedded through contracts that encourage the sharing of 'bad news', and cooperative risk-management practices.

57. **The Inquiry recommends that Programme sponsors and clients should learn from best practice in other sectors in the specification of contracts that require all parties to identify and communicate risks at the earliest opportunity. Programme management systems should gather and escalate risks so that they can be actively managed within projects and so that clients and sponsors have complete visibility about the risks of needing to make change control decisions at all of these stages.**

Joined up programme delivery, assurance and audit

58. As rail programmes near completion and their entry into operation, they need to be coordinated with other interdependent programmes, a process of integration that must be actively managed. The Interim Report found that, while such arrangements were introduced for Thameslink with the Industry Readiness Board (IRB), this was introduced too late in the Thameslink programme and that such systems did not exist at all within the standard industry programme delivery model.

59. A strengthened IRB model would be of benefit to other rail delivery programmes. Individual programme teams may not be able to accurately assess risk across programme boundaries, and an IRB-model will allow operational teams from across multiple organisations to be aligned in the monitoring, management and mitigation of risk. This IRB-type function should be enhanced to include an independent assurance and audit capability, to ensure that decisions can be based on robust bottom-up information about the progress of schemes that is independent from the programme itself.

60. **The Inquiry recommends that as individual co-dependent programmes mature towards delivery into service of major network changes, the programmes should cooperate to establish an Industry Readiness Board or equivalent body to manage this process. This body should be established well in advance of the network change, and bring together all relevant bodies responsible for infrastructure, rolling stock, operations and the timetable. This body should have appropriate executive capability and resources to manage the preparation for the network change, and the ability to call on independent audit and assurance of the delivery of all dependent programmes and the preparedness of parties to operate the network. This should become the default arrangement for all major network changes, regardless of their sponsors or delivery agents, and be remitted to work in the interests of sponsors and the beneficiaries of the network change.**

Alignment of decision-making between dependent programmes, including the timetable

61. The Interim Report found that critical delivery programme decisions on both North West Electrification and Thameslink programmes were made too late for the consequential risks to be accommodated within the timetable development process for May 2018. Part D of the Network Code sets out a clear process and itinerary for the development of timetables, but this programme is dependent on milestone delivery programme decisions being made by certain points.

62. Delivery programmes should therefore understand and abide by any dependent decision-points in the timetabling process. Where the outputs of multiple programmes must coincide to deliver end-user outcomes, it is vital that relevant parties understand the critical path across all of these programmes. Early agreement about the relevant 'go / no-go' decisions is necessary. Flexibility may be appropriate in some circumstances, but this flexibility should not be taken for granted as mitigation for programme risks.

63. **The Inquiry recommends that all Boards responsible for dependent programmes should plan the timing of critical advice and decisions with full regard to the risks to other programmes, including for timetable development. Alignment by all programmes with the schedule set out in Part D of the Network Code would mitigate the transmission of risk between programmes. Where the critical path for timetable development is departed from by any programme, it should be a decision taken consciously by all related parties including the System Operator, and well in advance of the timetable change at 'D-40' within Part D of the Network Code.**

64. While the Inquiry considers that the recommendations above represent a necessary and urgent strengthening of existing industry arrangements in light of the lessons from the May 2018 disruption, and should implemented quickly, they are not sufficient to fully manage the material risks that arise when managing the complex interaction of multiple programmes of change being developed in parallel. This is important because of the multiple complex programmes of network change being developed in parallel across the country.

System-wide assurance and advice on change control

65. The Interim Report found that, on their own, the problems with North West Electrification and Thameslink may have been containable and manageable. However, the combination of these parallel failures overwhelmed the process for developing the timetable. Awareness and management of material risks arising between multiple major programmes is therefore necessary.

66. There is currently no authority that is both capable of making national judgements about systemic change, or trusted by sponsors and funders to advise them of the risks and potential mitigations. In the past this gap has necessitated exceptional, reactive change control processes, with assurance provided by independent experts (rather than being communicated through a defined portfolio management structure). Because of the scale of changes planned for the network in the next few years, it should be assumed that these issues are likely to reoccur in ways that will be unpredictable if they are not actively managed.

67. Three factors are critical to the establishment of a permanent capability to oversee and manage risks to the delivery of major interdependent programmes:

    a. **Authority**, derived from sponsors, to interrogate all aspects of programmes that they have commissioned on which network changes depend;

    b. **Expertise,** sufficient to audit and assure the delivery and risks across multiple technical programmes; and

    c. **Trust**, by industry that the judgements and advice received represent the best interests of the system as a whole and focus on delivering the greatest benefits for end-users.

68. To support the optimal management of system risk this advice needs to cover the whole portfolio of relevant projects, which will necessarily include programmes sponsored by multiple parties. It would need to cover technical and commercial impacts so that decision makers have a comprehensive understanding of the impacts that their decisions will have across the portfolio. This advice will necessarily consider passenger outcomes, freight end users, value for money, and commercial sustainability. To ensure that the advice is trusted, it needs to be independent of any particular programme delivery body.

69. Subject to the conclusions of the government's Rail Review, this solution could either be an enhancement to an existing arrangement such as the Industry PMO or SO, or a newly created or independently commissioned capability. However it is necessary in any model to fill this gap to address the central finding in the Inquiry's Interim Report that 'no one took control' in the preparations for the May 2018 timetable change.

70. **The Inquiry recommends that an enhanced system-wide advice, audit and assurance capability for major network changes should be introduced as soon as possible. The capability should be independent of individual programmes, and carry the authority of sponsors to represent their interests, and those of end-users across the delivery of programmes. It should be remitted to predict system-wide risks to the effective delivery of programme benefits for users, and provide advice to programmes and sponsors that prevents risks from occurring.**

CHAPTER A: PASSENGER TRUST AND CONFIDENCE

7 DECEMBER 2018

CHAPTER A: PASSENGER TRUST AND CONFIDENCE

Introduction

1.1. This chapter looks at May 2018 from the passenger perspective. The Inquiry has examined the way in which passengers were impacted by the disruption caused by the failure of the May 2018 timetable. In this chapter we look into the way passengers were considered during the preparations for May 2018. We then look at the information given to passengers, in advance and during the disruption. Lastly this chapter examines how the industry has compensated passengers for the cost, stress and inconvenience incurred as a result of the failure of the May 2018 timetable change.

"The improvements intended and related investment were great, something to be looked forward to, a 'vote of confidence' for the future- all dashed."
Passenger correspondence to the Inquiry

1.2. Passengers bore the brunt of the failures in May 2018. A loss of trust is clear not just from the personal testimonies that the Inquiry has received from passengers, but is also manifested in the thousands of individual decisions that passengers have taken as a result of disruption. Passengers have factored extra time into journeys to allow leeway for the disruption that they have learnt to expect, and chosen to use alternative transport modes (or not travel at all).

1.3. Passengers were let down in various ways and it is for the industry, government and the regulator to take action to ensure that these mistakes are not repeated. Steps have already been taken, and further activities are planned, this chapter reviews those activities and also makes recommendations about how passenger interests might better be taken into account in the future.

"The disruptions, and related losses of confidence and trust, faced particularly on Thameslink and in the North will take a very long time to overcome; that is a 'crying shame'".
Passenger correspondence to the Inquiry

1.4. The industry is faced with a tough challenge: to demonstrate to passengers that it is once again worthy of the trust and confidence that has been lost since 20 May 2018 – and that it has learnt the hard lessons of these failures. The industry must show that it can take the passenger into account when planning and delivering change; that it can allow the passenger to make informed choices; and that it is responsive to passenger complaints.

1.5. Lastly, the industry must show that it can do more than respond reactively to crisis. The experience of May 2018 illustrated a failure to predict, or recognise the warning signs, of foreseeable problems. The next 'May 2018' may be different in nature – the causes rooted elsewhere, the consequences manifested in other ways. The industry must show that it has the foresight, honesty, and collaborative instincts to tackle it before it materialises.

Background and Context

1.6. The interim report described in detail the impact of the May 2018 disruption on passengers. Quantitative data provides a stark illustration, in terms of punctuality and cancellations, of the dip in performance.[1]

Figure A1: PPM performance by four-weekly railway periods. The 20 May timetable change was in period 2. Period 1 spans 1-28 April, Period 2 spans 28 April – 26 May, Period 3 spans 27 May – 23 June. Period 4 spans 24 June – 21 July, etc[2]

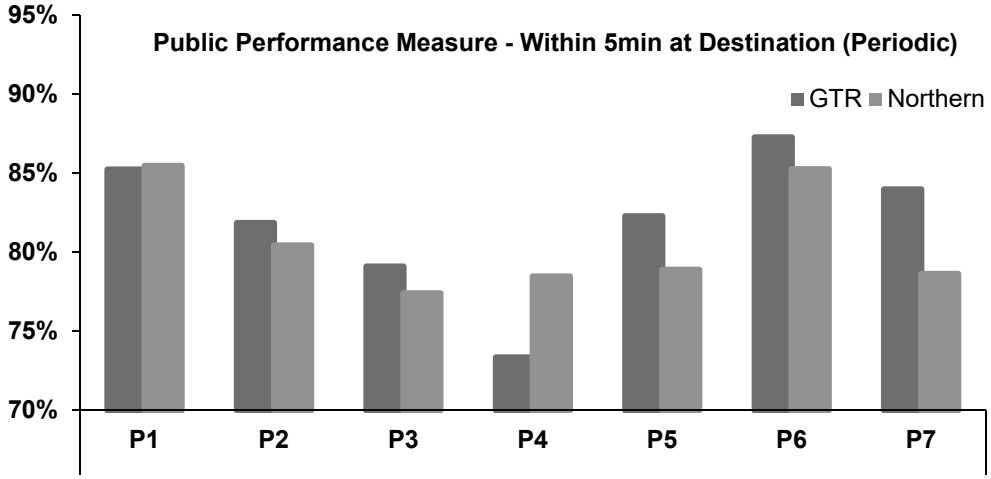
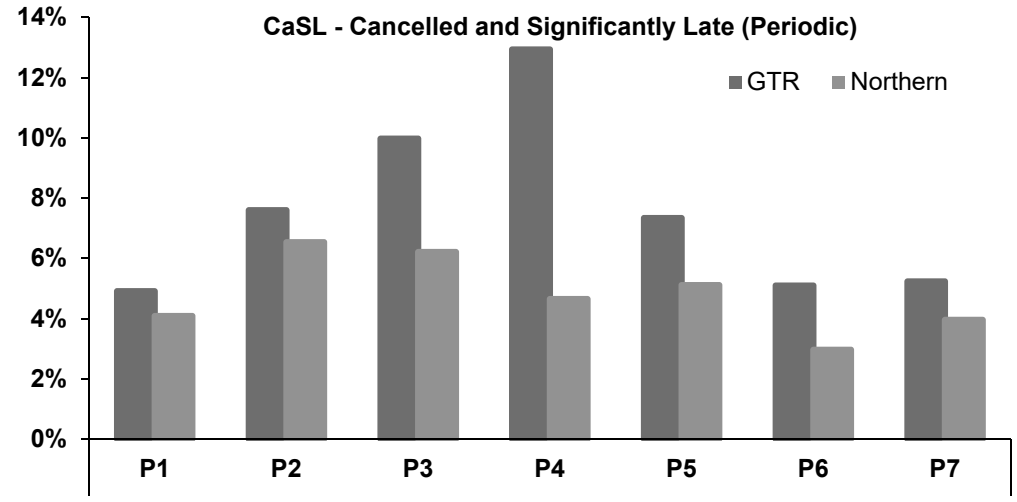


Figure A2: CaSL performance by four weekly railway period. The 20 May 2018 timetable change was towards the end of period 2. Period 1 spans 1 -28 April, Period 2 spans 28 April – 26 May, Period 3 spans 27 May – 23 June. Period 4 spans 24 June – 21 July, etc[3]



[1] ORR Timetable Inquiry Interim Report. Annex E. http://orr.gov.uk/__data/assets/pdf_file/0005/39038/may-2018-timetable-inquiry-annex-e-orr-service-performance-data.pdf

[2] ORR regulatory monitoring data.

[3] ORR regulatory monitoring data.

1.7. The interim report also provided qualitative evidence of the impact that the disruption had on individuals.[4] Specific case studies captured the testimony of passengers and staff and showed the variety of people negatively affected. This demonstrated the impact of the disruption on family life, work, and finances. This analysis was echoed by submissions from individuals, local passenger representative groups, and bodies such as Transport Focus and London Travelwatch.

Impact assessments

1.8. Timetables are changed in order to deliver benefits for passengers; faster journey times, improved punctuality, higher service frequency or new rolling stock, are normally all introduced into the operational railway via the twice-yearly revision of the working timetable. In order to facilitate improvements it is often necessary to close the railway, or reduce services, to allow works to take place. When despite prior promises of improved services, passengers are instead faced with weeks of disruption, they may ask whether the potential impact on them had been properly considered.

1.9. The current model for rail investment makes assumptions about the impacts on passengers at various stages of development and delivery. Government specifies and procures infrastructure and franchise service improvements on the passenger's behalf, and holds operators to account, with elected representatives answerable to passengers and taxpayers at the ballot box. Train operators consult with passengers and then represent the passenger interest throughout the timetable development process.

1.10. In the period preceding May 2018, when plans were changed at short notice, this representation of the passenger interest did not work as anticipated, in particular for passengers on Northern and GTR services. The Interim Report found that the voice of the passenger was lost when assessing delivery risk. Consequently, when the mitigation measures put in place failed, the impacts to passengers had not been fully considered, slowing down the implementation of good practice, such as allowing those affected to travel via other operators and routes. Short notice fixes were put in place to try and manage the impacts upon passengers, as opposed to being clear in advance how the potential effects of disruption would be managed.

1.11. The benefit of many rail investments is realised through passenger experience, this is continually assessed as business cases are developed. However, once the NWEP and Thameslink programmes were underway there was limited evidence that a full consideration of the risk of negatively impacting the experience of passengers was considered as plans were changed.

[4] ORR Timetable Inquiry Interim Report, Part A. http://orr.gov.uk/__data/assets/pdf_file/0018/39042/inquiry-into-may-2018-timetable-disruption-september-2018-findings.pdf

Recommendation

1.12. **The Inquiry recommends that the sponsor (as described in Chapter C) seeks appropriate assurance that the impact on passengers has been assessed at investment decision points, and when decisions need to be made during the delivery phase of a programme (known as change control decisions), that impact the quality of the services passengers will experience, or the timing of the delivery of those services.**

1.13. When investment and change control decisions are made by the sponsor they should seek assurance from appropriate parties that the likely impact of different options on the passenger have been taken into account, including any steps taken or planned to mitigate this impact. This assurance should include the views of operators who have a direct relationship with passengers on a day-to-day basis, but also from Network Rail Routes and the SO.

1.14. This recommendation refers specifically to a major system change as described in Chapter C, not decision making that is part of the day-to-day operation of the railway. In terms of operational delivery, including possession planning and incident management during disruption, train operators are best-placed to assess, respond to and mitigate any passenger impacts without escalation to the sponsor.

1.15. An assessment of passenger impact will help to ensure that the interests of the passenger are not lost in the decision-making process for a major system change. It will help the sponsor, and other bodies, recognise and articulate the potential trade-offs between current passengers (for example, in terms of engineering possessions) and future passengers (for example, in terms of deferred benefits).

1.16. The potential impact on passengers is not the sole criteria by which difficult decisions are made. There are a number of other factors that must play a role in decision making. Nonetheless, a requirement for the sponsor to seek confirmation that passenger impacts have been taken into account will help reassure passengers that their interests have been given the necessary consideration.

Passenger information

1.17. A train being late or cancelled causes inconvenience for the passenger. This frustration is worsened when the passenger is unable to find out whether the service is on time, or running at all. Before the timetable change there were significant issues with the availability of advance booking information for passengers. Following the introduction of the May 2018 timetable poor performance was exacerbated by a lack of real-time information. This section of the chapter reports on the availability of information to passengers throughout the planning, implementation and aftermath of the timetable change. It also reviews the different ongoing pieces of work in this area, including current ORR licence investigations.

"Informed Traveller"

1.18. The lack of reliable information was not just isolated to the period of disruption. In February 2018, Network Rail announced that it was not able to produce finalised timetables for weekend

engineering work and periods of disruption for operators twelve weeks in advance (a process known as T-12). These issues left passengers unable to access journey information from several operators, and make bookings within the usual timescales (typically journey information is available twelve weeks in advance). However the majority of long distance operators continued to publish timetables more than twelve weeks in advance, and advertise advanced ticket sales on their own websites, reducing the overall impact on passengers.

1.19. The obligation on Network Rail to meet these information requirements comes from Part D of the network code. It is also an element of Network Rail's network licence timetable conditions. The delays to the Part D timetabling process, described in Chapter B of this report, meant that in the preceding months passengers were unable to book tickets in advance with confidence, on those routes where there was planned weekend disruption.

1.20. The itinerary for timetable planning was highly compressed in the preparations for May 2018, to the extent that the standard twelve week timespan for a firm advance timetable was reduced to six weeks. Since then Network Rail has been working to re-establish the stable and reliable provision of advance timetable information, twelve weeks ahead.

1.21. A phased approach was chosen by Network Rail in order to gradually recover the twelve week timescale. This has involved squeezing five weeks' worth of work into every four weeks, gradually extending the timeframe of short-term planning within which tickets can be booked. The original plan put forward by Network Rail entailed recovery of the full twelve weeks by December 2018.

1.22. ORR has met regularly with Network Rail to monitor progress against this ambitious plan. In light of the May 2018 experience, with disruption caused in part by a belated 'go/no-go' decision, Network Rail took the decision to de-risk the delivery of the December 2018 timetable change. ORR considers this to be a prudent and proportionate decision in the circumstances. However, this has had the effect of delaying the recovery to a full twelve-week short term plan, which Network Rail now anticipates will be restored by early April 2019 for the timetable operating in June 2019.

Action taken by ORR

1.23. **ORR will continue to monitor progress and, where necessary, hold Network Rail to account for bringing its timetable planning back within timeframes that correlate with its licence obligations.**

Passenger Information licence investigation

1.24. The travelling public are not only reliant on accurate information well in advance of their journey. Passengers also depend on timely, accurate information on the status and whereabouts of their service throughout the day of the journey itself.

1.25. When setting out on a journey a passenger is likely to rely on information from a number of sources: internet and social media updates; in-station customer information screens, public

address announcements and staff advice; on-board notices from the driver, crew and on board passenger information screens.

1.26. The timely and accurate provision of this real-time information is important, and the industry's record of ensuring that it works has not always been good enough. In 2012 ORR introduced a general obligation for train and station operators as part of their licence. In 2014 research carried out by Transport Focus found that passengers did not think information had improved. As a result the industry developed its improvement plan, including 50 industry actions. Improvements such as banner messages on websites when there is disruption and better awareness of compensation are now standard across the industry.

1.27. Condition 4 of the licence sets out a purpose and a general duty:[5]

> ***Purpose***
>
> *The purpose is to secure the provision of appropriate, accurate and timely information to enable railway passengers and prospective passengers to plan and make their journeys with a reasonable degree of assurance, including when there is disruption.*
>
> ***General duty***
>
> *The licence holder shall achieve the purpose to the greatest extent reasonably practicable having regard to all relevant circumstances, including the funding available.*

1.28. From the evidence gathered for the Interim Report, ORR has identified concerns with GTR and Northern's provision of passenger information relating to the May 2018 timetable. In particular, the provision of appropriate, accurate and timely information to passengers and prospective passengers, both in the weeks immediately prior to the implementation of the timetable and then during the subsequent disruption. A small sample of the evidence collected as part of the Interim Report findings, can be found in Part A of the interim report. This not only includes passenger testimony, but also the experience of operational staff, who frequently found themselves with no more access to accurate information than the passengers who they were trying to assist.

Action taken by ORR

1.29. **ORR has therefore opened two separate licence investigations, one into each company, to examine whether GTR and Northern met their licence obligations.[6] As part of this process ORR has conducted in-depth interviews with, and received further document submissions from, both operators.**

[5] http://orr.gov.uk/rail/licensing/licensing-the-railway/licence-obligations

[6] See the 'case to answer' letters to GTR and Northern

http://orr.gov.uk/__data/assets/pdf_file/0009/39357/concerns-with-gtr-compliance-with-passenger-information-obligations-2018-10-03.pdf

http://orr.gov.uk/__data/assets/pdf_file/0010/39358/concerns-with-northern-compliance-with-passenger-information-obligations-2018-10-03.pdf

1.30. These investigations are probing a number of specific questions related to the provision of information to passengers. The investigation will examine the steps that operators have taken, or are taking, to address the issues, whether there are any systemic issues, and whether there are any mitigating factors that should be taken into consideration.

1.31. In addition to the requirements of condition 4 of the licence, ORR's published 'Guidance on meeting the licence condition' (paragraph 25) makes provision for running trains when the information is not perfect:[7]

> *'The licence obligations are not intended to undermine the primary objective of providing the best available service for passengers. Making justified changes to the train plan to meet passenger needs should not be conditional on providing perfect advance information about these. However, we would expect licence holders to use reasonable endeavours to get such information out as widely as possible and as quickly as possible. We will take circumstances into account during any assessment of compliance.'*

1.32. The investigations will test whether the purpose of the licence condition was achieved to the greatest extent reasonably practicable, having regard to all of the circumstances. If GTR or Northern are found to be in breach of their licence obligations, ORR will consider the appropriate next steps which may include formal enforcement action such as a financial penalty.

1.33. These ORR investigations will reach their conclusions and publish their findings in early 2019.

Passenger information research project

1.34. The regulatory interventions described above, into Network Rail's provision of T-12 information, and GTR's and Northern's provision of information during disruption, focus on the compliance of individual licence-holders.

1.35. However, the findings of the Inquiry have revealed significant broader industry questions regarding the quality of information provided to passengers. Despite the focus on this area over recent years, passengers often remain dissatisfied with how the rail industry performs. Customer expectations in this area are often set by the experience of other sectors, a comparison that may not flatter the rail industry.

1.36. Getting good quality information to rail passengers requires successful collaboration and integration between many parties, each of whom must be clear on their role in this process. They must be committed to putting passengers' interest front and centre of their decision making in a variety of complex operational scenarios. Previous work has shown that operators often focus on getting information into industry systems but do not always consider the quality and usefulness of the information actually received by passengers online (including apps), on trains or at stations.

[7] http://orr.gov.uk/__data/assets/pdf_file/0015/4353/information-for-passengers-guidance-on-meeting-the-licence-condition.pdf

Action taken by ORR

1.37. **ORR will therefore commission industry-wide research, to examine the end-to-end provision of information to passengers. ORR's aspiration is for appropriate information to be easily available when and where it is needed. ORR seeks industry buy-in for this research project.**

1.38. **Operators, infrastructure managers and representative bodies such as Transport Focus should participate in the ORR-led research project into passenger information, and how it can be improved. This should include active engagement in the evidence-gathering phase in 2019, and further collaboration in the development and implementation of proposals.**

1.39. The objective is to stimulate measurable and sustained improvement in the quality of information provided to passengers and for all train operators to deliver information to an agreed minimum standard. It will focus on identifying what works well, and what does not, and will conduct case studies that will help to:

- Identify areas of good practice, that can be shared more widely;
- Highlight gaps or weaknesses, where the industry can make improvements, and;
- Suggest minimum standards that will improve the passenger experience.

1.40. The initial stage of this research project is projected for completion by summer 2019. ORR will share the evidence with industry and passenger representative groups, including Transport Focus, and use it as the basis for any further collaborative work in this area. This may include developing a maturity model for passenger information.

Passengers with disabilities

1.41. The Interim Report noted that there were examples of good practice by both Northern and GTR in mitigating the impact of the May 2018 disruption on passengers with disabilities or reduced mobility, including the use of taxis. Nonetheless, the number of complaints received about accessibility issues did increase, and the impact of inadequate information on passengers with disabilities was severe.

1.42. Train and station operators are required by their operating licences to establish, and comply with, a Disabled People's Protection Policy (DPPP). A DPPP sets out, amongst other things, the arrangements and assistance that an operator will provide to protect the interests of people with disabilities who are using its services, and to facilitate such use. These DPPPs must be approved by ORR, and we note the Transport Select Committee's recommendations in this area.

1.43. ORR is currently consulting on proposals to change the Disabled People's Protection Policy (DPPP) Guidance for train and station operators on how to write their policies for helping people with disabilities to travel by rail. This is the culmination of the work we have undertaken so far to understand passengers' experience of this service and to develop concrete proposals that are designed to bring greater quality, consistency and reliability to the assistance available for disabled passengers.

1.44. Our proposals include increasing the reliability of assistance for disabled passengers, reducing the notice period for booking assistance, and ensuring all train companies provide compensation to passengers if they do not receive the assistance they have booked. Consultation responses are invited by 18 January 2019, after which we will update the guidance in the light of responses.[8]

1.45. ORR will continue to be responsible for approving DPPPs, and will continue to monitor and, where necessary, take enforcement action to ensure that operators are meeting their licence obligations in this area.

Passenger rights and compensation

1.46. The severity, extent and duration of disruption following the May 2018 timetable change has seen a corresponding increase in the number of compensation claims from passengers. Although financial reimbursement cannot always offset the inconvenience to passengers, this is an important area of industry activity. Where passengers have paid good money for poor service, compensation can provide a tangible acknowledgement of where the industry has fallen short of passenger expectations and contractual requirements. This recognition is one of the necessary steps to shore up passenger trust in the rail sector, even if it is not sufficient in itself.

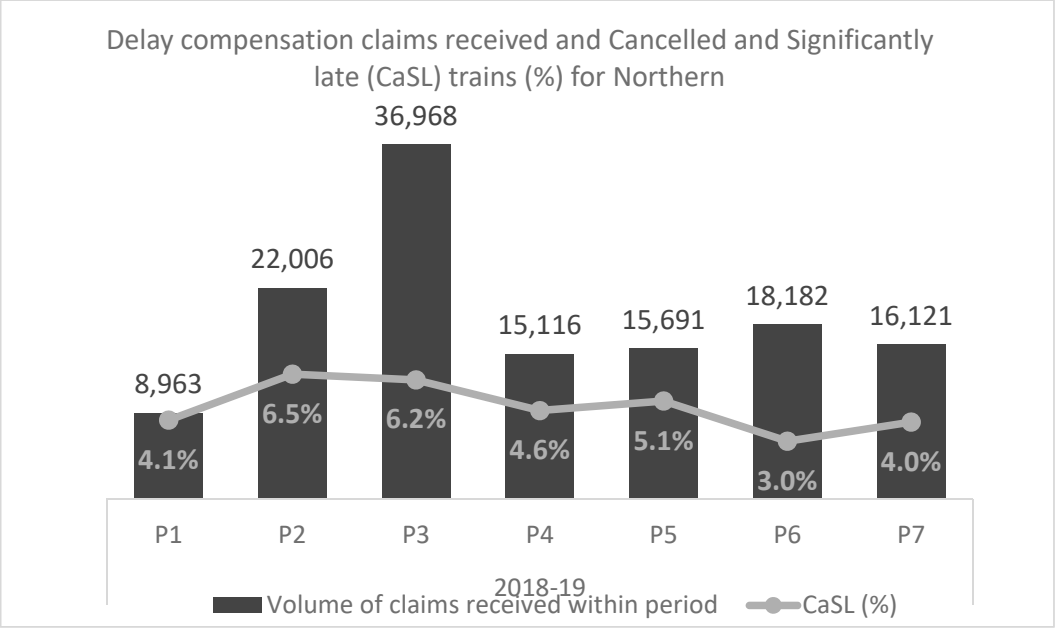
1.47. This section provides information about the action that has been taken by operators to respond since May 2018. It also summarises ORR work in this area, and gives an outline of recent industry developments and planned activities in a complex area of consumer policy.

Northern

1.48. The graph below shows the level of compensation claims received by Northern for the financial year to date, measured for each four-week 'rail period'. Performance figures for cancellations and significant lateness are also shown.

[8] http://orr.gov.uk/rail/licensing/licensing-the-railway/disabled-peoples-protection-policy

Figure A3: Northern compensation claims received. Each period covers four weeks. Period 2 spans 28 April – 26 May, Period 3 spans 27 May – 23 June. Period 4 spans 24 June – 21 July, etc[9].



1.49. The timetable change occurred three-quarters of the way through period 2, but the severity of the disruption in the final week meant that compensation claims more than doubled for the period as a whole, when compared with the previous. The following period was the worst affected in terms of punctuality, and witnessed a quadrupling of the level of compensation claims from the baseline. A revised timetable was introduced on 4 June, and service levels have since stabilised as a result. Since period 4, which began on 24 June, the level of compensation claims has diminished, although it should be noted that they have not returned to the levels seen before the timetable change. This reflects a lag in the submission of some complaints and may also indicate that since the disruption in May and June 2018, passengers perhaps have greater awareness of compensation mechanisms, and more willingness to make use of them.

1.50. ORR notes the extension to the 'Delay-Repay' compensation scheme for Northern passengers, announced by DfT on the 13 September.[10] Under this scheme, the right of passengers to claim compensation for delay will from December 2018 be extended to include services that are delayed by more than 15 minutes (previously the threshold was 30 minutes). This follows the announcement of 'enhanced compensation' measures on 28 June for season ticket-holders on the Northern network,[11] which allow for season ticket holders to claim for extended periods of disruption.

[9] ORR regulatory monitoring data.

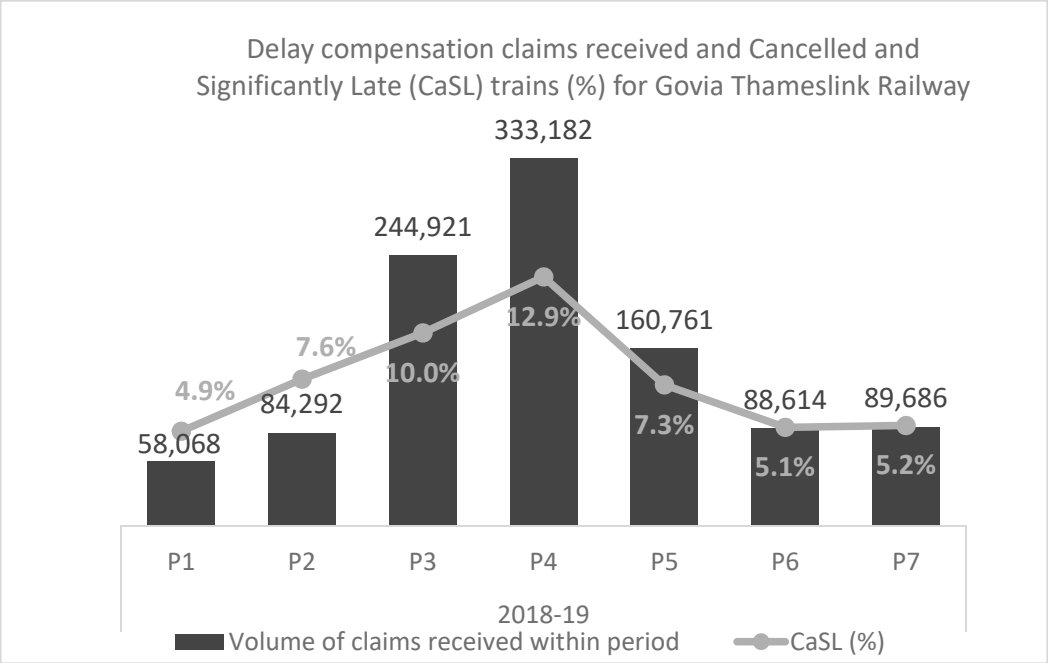
[10] https://www.gov.uk/government/news/compensation-boost-for-northern-passengers-as-delay-replay-is-extended

[11] https://www.gov.uk/government/news/rail-passengers-in-the-north-to-start-being-compensated-in-early-july

GTR

1.51. The graph for GTR shows a slightly different profile. The full impact of the disruption was not felt until after the first week of the new timetable had passed, but lasted longer due to the relative delay in the introduction of a revised timetable. Accordingly, it is not until period 3 that the data shows a marked increase in the level of compensation claims. Similar to Northern, this increase is compounded in the following period, before a gradual reduction. Again, we see a subsequent stabilisation of the figures, but to a level higher than those before the introduction of the new timetable.

Figure A4: GTR compensation claims received. Each period covers 4 weeks. Period 2 spans 28 April – 26 May, Period 3 spans 27 May – 23 June. Period 4 spans 24 June – 21 July, etc.[12]



1.52. Delay Repay at fifteen minutes was introduced for GTR passengers in 2016 and is available to any passenger who has experienced a delay of fifteen minutes or more to their journey. Following the May 2018 timetable introduction, Delay Repay eligibility was extended to accommodate both the timetable advertised in advance, and the timetable that ran on the day. This arrangement continued until the end of July 2018. Enhanced compensation was also made available to ticket holders. GTR has implemented an additional compensation scheme to compensate those passengers on Thameslink and Great Northern most affected by the disruption. This scheme, which was extended to non-season ticket holders, enables passengers to receive up to four weeks compensation.

[12] ORR regulatory monitoring data

1.53. Compensation and passenger rights are complex areas of rail industry consumer policy. Different legal and policy regimes apply in different circumstances and to different parts of the industry.[13]

1.54. ORR is responsible for enforcing consumer rights in the rail sector, and plays a proactive role in monitoring performance and promoting best practice in this area. To this end, ORR has published guidance and regular summaries of the sector's performance, and works with the industry to develop and champion best practice.

1.55. In February 2016, ORR published a review of the rail industry's performance with respect to compensation claims, in response to a super-complaint from *Which?*[14] ORR identified that passengers' awareness of their rights is not high enough and the information they receive needs to be improved. The report proposed seven concrete steps that the industry should take, and a set of criteria by which different operators' compensation processes should be assessed[15].

1.56. Over the last couple of years, train companies have delivered significant improvements in the area of delay compensation – making it easier for passengers to claim compensation and increasing the range of payment methods available. ORR notes DfT's recent publication which shows that the total amount paid to passengers has risen 80% in two years, with more than two-thirds of all claims now resolved within two weeks (compared with less than half in 2016).[16]

1.57. ORR publishes an annual *Measuring Up* consumer report to provide a regular snapshot of progress in a variety of areas relating to consumer policy, including complaints, compensation and DPPPs.

1.58. A summary of the industry's performance relating to the number of compensation claims, processing times, and the number of complaints rejected will be included within the next *Measuring Up* report, scheduled for publication in spring of 2019.

Dispute resolution and technology.

1.59. There has been significant innovation in the area of passenger rights and compensation recently, in response to a changing legal and technological landscape. The dust has not yet settled and the full implications of this change are not yet clear, but ORR will continue to monitor developments and take proactive action if necessary. A brief survey is provided here.

[13] For example: Domestic law – Consumer Rights Act; EU law – Passenger rights regulation; diverse contractual agreements within franchise contracts; individual TOC passenger charters.

[14] http://orr.gov.uk/rail/consumers/annual-rail-consumer-report

[15] http://orr.gov.uk/rail/consumers/what-we-do-for-consumers/rail-compensation-super-complaint

[16] https://www.gov.uk/government/news/rail-passengers-to-benefit-from-one-click-compensation

Rail Ombudsman

1.60. Passenger complaints should be directed, in the first instance, to the relevant operator. Most complaints are resolved at this stage, but for passengers to have confidence in the system as a whole it is important for there to be a point of recourse if the response from the company is not to the customer's satisfaction.

1.61. A new Rail Ombudsman scheme commenced on 26 November 2018.[17] All mainline operators and Network Rail have signed up to join the scheme, whereby passengers will have a free and independent means of complaint resolution if the operator's response is not satisfactory.

1.62. The Ombudsman scheme has been developed by RDG, working with Government, Transport Focus, London TravelWatch, and ORR as part of an Ombudsman Task Force. The scheme has been approved under the Alternative Dispute Resolution (ADR) Regulations, and by the Ombudsman Association. Unlike many other statutory regulators, ORR does not have specific powers in legislation to require an ADR scheme to be established in the rail sector, or to approve a scheme as meeting the required standards as a Competent Authority. Nevertheless, to ensure that the scheme meets the expectations of passengers, ORR will take a proactive oversight role in the ADR arrangements in keeping with the role taken by other regulators.

1.63. ORR's aim is to ensure that consumers have the ability to obtain a free and binding means of independent redress from a scheme that also drives train companies to deliver improvements and provide passengers with a better service. ORR has consulted on a potential modification of operator and network licences to require membership of an ADR scheme from 1 April 2019, and to widen the scope to cover charter, concession, and station operators. As part of this, we have set out the role we will take, and used the complaints handling guidance as a vehicle to set higher standards for the ADR scheme itself. We expect to publish our decision to modify the licence, and proceed with the statutory licence modification process, before the end of 2018.

Technology and third party intermediaries

1.64. ORR notes that the government has announced an intention to promote 'one-click compensation': the introduction of simple and quick automated claims systems, available via smartphones and smartcard registration, has already been rolled-out on the GTR network. We also note the Transport Select Committee's recommendation in this area.

1.65. There has also been a recent and rapid growth in the number of third party intermediary companies (TPIs), offering assistance to passengers in claiming Delay Repay compensation. Some of these TPI companies have sought to develop technical process solutions to the issue, including the development of smartphone software and use of data.

[17] https://www.raildeliverygroup.com/media-centre/press-releases/2018/469773891-2018-11-26.html

1.66. The emergence of TPI companies is a new development in the rail passenger compensation market, although one that mirrors previous similar commercial initiatives in other sectors (such as utility services). There are a number of potential benefits, including increased passenger awareness, ease of claim, and pressure on incumbent operators to innovate in their provision. At the same time, there are a number of potential concerns, including a lack of transparency in the pricing of the service offered to claimants or operators, and reticence on the part of operators in dealing with TPI companies.

1.67. ORR is mindful of the experience of regulators in other sectors, and we have opted to undertake a proactive review of the TPI market. We expect to complete this initial review by May 2019, following which we will decide whether any further regulatory action is required.

CHAPTER B: SYSTEM OPERATOR AND THE TIMETABLING PROCESS

CHAPTER B: SYSTEM OPERATOR AND THE TIMETABLING PROCESS

Introduction

2.1. In this chapter we consider the industry timetabling process and Network Rail's System Operator (the SO) and its role in this process.

2.2. The Interim Report identified that although the industry timetabling process itself was not a direct cause of the failure of the May 2018 timetable, when issues arose elsewhere that impacted upon the timetable creation process, it became difficult to recover. These findings are set out throughout this chapter.

2.3. We have split our recommendations for improvements in the timetabling process and role of the SO into four areas:

- First, we have considered the timetable process itself, and particularly have focused on Part D of the Network Code;
- Second, we have considered the delivery of the timetable process, and in particular the resource and capability of the SO;
- Third, we have considered the application of the process, including collaborative methods and the use of technology;
- Fourth, we have set out ORR's monitoring and oversight of the SO capability and the delivery of outputs in CP6.

Background and Context

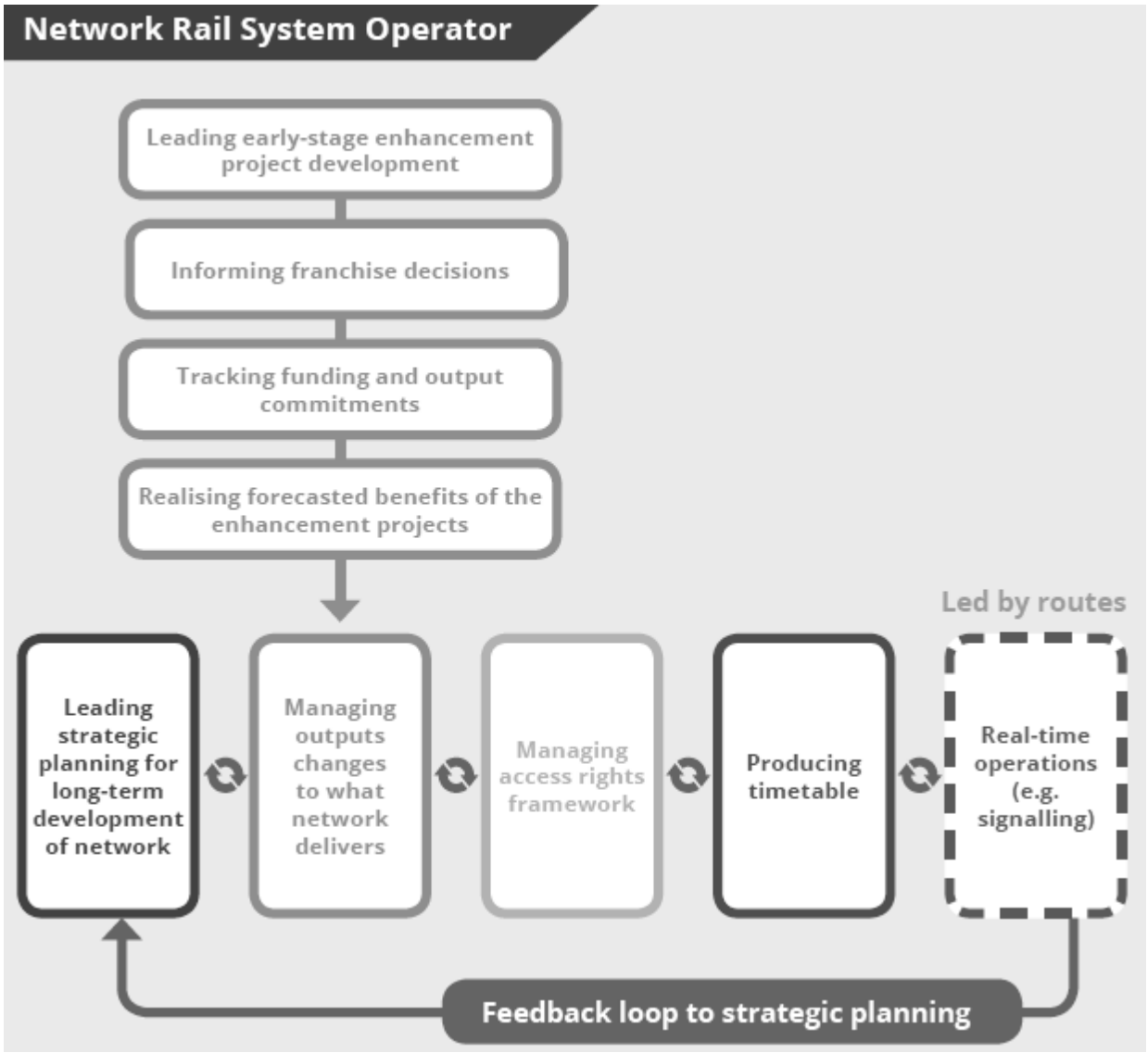
2.4. The SO is a relatively new business unit in Network Rail. Before 2016, the SO's functions were undertaken separately throughout Network Rail. In 2016, these functions came together to form 'Network Strategy and Capacity Planning', which subsequently evolved into the SO. The SO's role and prominence has developed in response to wider Network Rail changes, such as the devolution of responsibilities to Route businesses, to ensure that planning decisions remain integrated, and to support a more incremental 'pipeline' approach to developing and funding enhancements.

2.5. The SO has overall responsibility for the production and publication of the rail timetable. The SO works with train operators to decide the best allocation of capacity, and with Route businesses (who may want to access the network to conduct engineering works). In doing this, it translates the train operators' access rights and the train paths that they bid for into the timetable. The SO coordinates the process for establishing a base timetable twice a year and also for making short-term changes to it.

2.6. The timetable is the SO's final product which it produces as part of a set of wider and longer-term activities, namely:

- Managing the access rights framework;
- Managing changes to what the network delivers, including managing the overall enhancement projects portfolio;
- Advising franchising authorities about the services the network can accommodate;
- Managing Event Steering Groups that bring the industry together to prepare for major timetable changes; and
- Leading the industry's long-term planning process, including analysing the future needs of the network and working with the industry to advise funders on the options for how the network should develop.

2.7. The current SO operating model is illustrated below:



2.8. Recently, ORR has completed Network Rail's Final Determination for Control Period 6 (CP6, April 2019 – March 2024). In undertaking this work, one of the funded priorities was that Network Rail needed to further develop the SO function. Consequently, the SO has received a significant increase in funding, which is to be focused on raising the capability of people and processes in order to make better use of the national network, deliver better timetabling of trains and better support funders and franchising authorities in increasing the capability of the network.

2.9. Additionally, in light of the emerging delays to the process for developing the May 2018 timetable following the failure to deliver NWEP4 in December 2017, ORR initiated an investigation into Network Rail's compliance with its licence with regard to the timetabling process.

2.10. In July 2018, ORR's investigation into Network Rail's management of changes to the timetable concluded that, as a result of the failures ORR identified, Network Rail is breaching its licence.[1] ORR required Network Rail to take specific immediate actions to address those failures and also advised it would set out further actions in a draft Final Order. This has been published alongside this Inquiry.

[1] *Breach of timetabling conditions in Network Rail's network licence*, 27 July 2018

Operation and delivery of the timetable process

2.11. As part of our Inquiry, we have considered the operation and delivery of the timetable process. In our Interim Report, we did not find that issues within the timetable process itself were direct causes of the failure in May 2018. We did, however, identify that when issues arose elsewhere in the system, inefficiencies in the timetabling process meant that any chance of recovery was slim.

2.12. We have identified that there is scope for improvement in the following areas of the timetabling process:

- Part D of the Network Code;
- The resource and capability of the SO; and
- Application of the timetable process, including collaboration and use of technology..

2.13. These areas are interconnected and should not be considered in isolation of each other. They share the same objectives of delivering a high quality timetable through an efficient and effective timetabling process.

2.14. We have aimed to produce recommendations that will enable the industry to deliver a number of key outputs to address issues in the timetabling process, either raised by us in our Interim Report or by stakeholders during the course of our Inquiry. In particular, if enacted properly, the recommendations should enable Network Rail and operators to:

- Ensure the benefits of timetable changes for passengers and freight companies are not deferred unnecessarily;
- Better identify and mitigate timetable delivery risks that impact on passengers and freight customers;
- Make improvements and ensure adherence to Part D of the Network Code;
- Provide better quality timetable submissions with fewer errors as part of the Part D process;
- Resource more predictively for large timetable changes;
- Work with more agility; and
- In alignment with our recommendation in Chapter one, paragraph 1.55, improve the quality and timeliness of advice to decision makers.

Part D of the Network Code

Findings of the Interim report

2.15. The Network Code is a common set of rules and industry procedures that apply to all parties who have a contractual right of access to the track owned and operated by Network Rail. The Network Code is incorporated by reference into each Track Access Contract so is contractually binding.

2.16. Part D of the Network Code sets out the process, including the main milestones, which Network Rail and operators must follow in order to compile the timetable.

2.17. The Interim Report found that the schedule prescribed by Part D of the Network Code for the timetabling process was applied flexibly by the SO and train operators in preparing the May 2018 timetable, and noted that it did not judge flexibility to be inappropriate in certain circumstances. It further noted that it remains critical that the timing of decisions about infrastructure projects avoids compressing the time available to develop the timetable, by being made in alignment with the Part D process, even if this schedule varies in different circumstances.

2.18. The SO did, however, acknowledge that the timetabling process set out in Part D of the industry's Network Code is not working as envisaged and has proposed to lead an industry review of these arrangements, particularly to strengthen the SO's ability to manage risk and industry change.

Background

2.19. Under its Network Licence and the requirements of Part D of the Network Code, it is the responsibility of Network Rail to establish timetables. It uses industry processes set out in Part D of the Network Code to plan and produce the national timetables, with shared accountability with train operators to work collaboratively in carrying out timetable processes efficiently, and establishing and maintaining the necessary systems and resources.[2]

2.20. Part D of the Network Code has been updated on a number of occasions, including undergoing a significant rewrite in 2010 and a number of smaller changes since then. Modification of the Network Code usually occurs by industry agreement, and requires the subsequent approval by ORR of a Proposal for Change (PfC).

2.21. A PfC may be sponsored by Network Rail, operators or ORR, and usually follows discussions within industry working groups to review the Network Code and agree the changes that are required. ORR usually participates in such working groups as observer, facilitator or as a source of advice on specific aspects of the regulatory framework. Before being submitted to ORR for approval, Network Rail, all operators and any prospective operators are consulted on the PfC. The PfC and consultees' responses are then considered by the Class Representative Committee. This is a committee comprising Network Rail and representatives of each class of operator (i.e. franchised and open access passenger and freight operators).

2.22. There are appeal mechanisms within the Network Code, which a participant can trigger if it considers the Network Code has not been adhered to. ORR is the final appeals body for appeals relating to timetabling. Separately, if a participant thinks it has been treated unfairly, discriminated against or is any other way aggrieved, it can appeal directly to ORR under Regulation 32 of The Railways (Access, Management and Licensing of Railway Undertakings) Regulations 2016.

2.23. Further, if ORR judges that there is a significant issue with Network Rail's obligation to run an efficient and effective process for establishing a timetable, it can instigate licence enforcement action against Network Rail, as it did following its investigation into the management of changes to the national rail timetable leading up to the May 2018 timetable change.

[2] Condition D1 of Part D of the Network Code.

Part D milestones

2.24. Part D of the Network Code sets out the process, including the main milestones, which Network Rail and operators must follow in order to compile the timetable. These milestones are set out in Figure B1 below.

2.25. The information provided to us during our Inquiry confirms that, for the original 'Working Timetable' for May 2018, key Part D milestones were generally achieved. This included the SO providing the timetable to the industry on 17 November 2017 ("D-26" for the May 2018 Timetable).[3]

Figure B1: Part D Network code summary table

Preparation of the timetable	
The timetable is changed twice each year; at the Principal Change Date in December and the Subsidiary Change Date in May. The process is set out in Part D of the Network Code. Network Rail is required to maintain a Calendar of Events, looking forward at least 4 years, showing events which are likely to require significant changes to the timetable. This is informed by events proposed by operators and funders.	
D-X is used to show the number of weeks before the start of a new timetable for each step or milestone in the process.	
D-55	Train operators intending to introduce significant new services or make significant changes to its services should notify Network Rail at the earliest opportunity and, where possible, before D-55.
D-55 to D-40	Train operators should discuss their proposals with Network Rail who then carries out a consultation and facilitation process with other operators. Where Network Rail considers an operator's changes may necessitate a substantial timetable change it may start this initial consultation before D-55.
D-45	Network Rail issues the Prior Working Timetable, against which train operators should bid their changes.

[3] *ORR Inquiry into May 2018 timetable disruption: GTR/NR working on Timetable: Bottom up assessment*, Network Rail submission to Inquiry, 31 July 2018; Northern submission to Inquiry, 16 July 2018 and GTR submission to Inquiry, 16 July 2018.

D-40	At D-40, known as the Priority Date, train operators formally submit their new proposed timetables. This is called an Access Proposal in Part D, and colloquially know as a 'bid'.
D-40 to D-26	During the 14 week Timetable Preparation Period, Network Rail develops the new national timetable from all these bids, checking and resolving any conflicts between different operators' bids to arrive at the best overall timetable. Train operators can make additional bids or revise their bids during this period.
D-26	Network Rail provides the rail industry with a national timetable, enabling train operators to start planning logistics, produce rotas and train staff.
D-0	The new timetable comes into operation.

According to Part D, the timetable issued at D-26 should be the final version of the 'base' timetable and only amended if determined following any formal appeals to the Timetable Panel of the Access Disputes Committee or ORR. However, for some time Network Rail and train operators have been treating this timetable as a draft, asking operators for a response by D-24 and finalising it at D-22.

Once the 'base' timetable is finalised, work starts on a rolling programme to refine each week of the timetable (Timetable Week) to take account of engineering works. The intention is that the timetable for each Timetable Week is finalised twelve weeks in advance ('**T-12**'), in order that it can be published to passengers and enables advance tickets to go on sale. This is known as the Informed Traveller obligation.

Part D and major timetable change events

2.26. Part D sets out the process for Event Steering Groups (ESGs) which are designed to manage the transition of major timetable changes. Network Rail is required to maintain a Calendar of Events, looking forward at least 4 years, showing events which are likely to require significant changes to the timetable. This is informed by events proposed by operators and funders.

2.27. For each event included in the Calendar of Events, Network Rail is required to set up and chair an ESG. ESGs consist of representatives of Network Rail, relevant funders and operators and prospective operators that are likely to be affected by the change, and who agree to participate.

2.28. An ESG should be set up in sufficient time prior to the change so that it can achieve its objectives, which are to:

- Agree a project plan to achieve a smooth transition for the necessary timetable changes by way of timely industry input into the process;
- Oversee and facilitate delivery of the project; and
- Carry out appropriate consultation with passenger and industry representatives.

2.29. There was an ESG in place for the timetable changes resulting from the Thameslink Programme, which was the first time that an ESG had been in place for a major infrastructure change. In contrast to the Thameslink Programme, there was no ESG in place for timetable changes in the North of England.

2.30. Our enquiries revealed that there could be improvements in the ESG process. Industry parties have highlighted the need for ESGs to be set up earlier in the development of a timetable, driven by the Calendar of Events maintained by Network Rail. Concerns with the effectiveness of these groups were also raised by operators. In its own internal review of the timetable production, Network Rail also highlighted lessons learned for the ESG process.[4] The parties recognised that there is a need for greater commitment and engagement with the process from all sides and there was discussion as to whether participation in ESGs should be made compulsory rather than voluntary. The parties also recognised that there needs to be improved clarity on responsibilities and greater alignment between ESGs and other industry processes, which could include the clearer recognition of the role of ESGs within the wider industry delivery of major timetable change events.

Network Rail's industry review of Part D of the Network Code

2.31. ORR has taken enforcement action against Network Rail following its investigation into the management of changes to the national rail timetable leading up to the May 2018 timetable change. In response to this, Network Rail has proposed to lead an industry review of Part D of the Network Code. ORR has canvassed views on the Part D process from operators. The clear message from operators was that the Part D process is not 'broken', but that there are areas within it that could be improved.

[4] *ORR Inquiry into May 2018 timetable disruption: GTR/NR working on Timetable: Bottom up assessment*, Network Rail submission to Inquiry, 31 July 2018.

2.32. ORR welcomes the SO proposals to lead an industry review. ORR believes that as the owners of the timetable process, the SO is the organisation best placed to carry out an industry review of Part D. However, we are clear that all industry parties can propose changes to Part D of the Network Code, and that it is crucial to the success of the review that all parties are fully engaged in it.

2.33. ORR has participated in a workshop with the industry where specific areas of improvement have been discussed. These have included: the scope and role of ESGs, aligning decision making with dependent programmes and including awareness of 'go/no-go' decision points in dependent programmes, improving the collaboration between participants, and improving the quality of submissions during the process by the SO and operators.

2.34. It is also clear that any improvements will need to fit with wider changes in industry processes as a result of the recommendations of this Inquiry. For example, any changes to ESGs should be cognisant of developments of the function described in Chapter C (Systemic risk across major programmes) and clearly define the relationship between ESGs and these arrangements.

2.35. ORR has included in its draft Final Order the requirement for the SO to publish a plan by 1 April 2019, as to how it intends to lead an industry review of Part D of the Network Code and how this plan meets the recommendations set out in this Inquiry report. Within this, it is clear that any review of the Part D process is dependent on the full engagement and buy-in of all industry parties, including funders, train and freight operating companies, and Network Rail.

Recommendations

2.36. **The System Operator is required by the draft Final Order to publish the plan by 1 April 2019 for how it intends to lead an industry review of Part D of the Network Code. The Inquiry recommends that in undertaking the review:**

- **The System Operator seeks to gain whole industry buy-in through following best practice stakeholder engagement and industry consultation.**
- **Any changes proposed by the industry review must be considered in light of a system-wide view of their benefits and disbenefits, including for passengers and freight, which must be clearly articulated to stakeholders.**
- **Any changes proposed by the industry review must include an assessment of the implementation of those changes and impacts upon Network Rail and operators.**

2.37. **ORR is to take account of whether the industry review has adequately followed the above process when making its decision on whether to approve any proposed changes.**

2.38. **The System Operator is to specifically review Part D to strengthen the collaboration between operators and the System Operator with particular reference to the use of Event Steering Groups and any other opportunities to better align outcomes across parties for the benefit of the system as a whole. This will include considering whether participation in ESGs should be compulsory.**

2.39. **The System Operator is to specifically consider whether Part D should explicitly set out 'go/no-go' decision points.**

2.40. **Operators to commit to engaging constructively in this process and identifying system-wide benefits as well as representing the needs of passengers within the process.**

System Operator capability

Findings of the Interim Report

2.41. As noted above, the SO is a relatively new business unit within Network Rail, and is still developing its processes and scope of responsibilities within the industry.

2.42. As preparations for May 2018 developed, it became clear that the scale of change for the May 2018 timetable was unprecedented, with a significantly higher number of individual timetable changes than seen previously. It was also the first in a series of very large timetable changes that the SO was gearing up to deliver.

2.43. The Interim Report found that timetabling teams across the industry were placed under extreme pressure in early 2018 as the unprecedented extent and complexity of the need to rewrite the timetable became clear, and that the teams involved made extraordinary efforts to complete the work then required.

2.44. Additionally, the Interim Report found that the resources available to the SO could not reasonably have been increased at short notice to mitigate problems as they emerged in the timetabling process for May 2018. However, the Interim Report noted that the SO could have done more to estimate the resource demands at a much earlier stage and consider other mitigations, as is now being done in anticipation of future timetable changes.

2.45. We have used our PR18 settlement and investigation into Network Rail's timetable planning capability as the basis for recommendations. These recommendations should enable the SO to work with more agility and resource more predictively for large timetable changes in order to ensure the benefits of timetable changes for passengers are not deferred unnecessarily.

Periodic Review 2018 (PR18)

2.46. The recent PR18 settlement has provided Network Rail, as it requested, with a larger budget in CP6 to manage the timetabling process within the SO function.

2.47. In particular this includes an increase in operational expenditure designed to enhance the SO's capability to deliver a more accurate and resilient timetable to the industry in a more effective manner. As part of this, the SO has been funded to:

- Reinforce its timetable planning team so that it is able to manage unexpected events better and look further ahead when planning timetables;
- Improve the quality of advice it provides in relation to managing changes to what the network delivers by reinforcing its analytical capabilities and increasing its role in supporting franchise authorities; and
- Reduce its vacancy gap.

2.48. The SO has demonstrated to us that it has accelerated these plans in the last year of CP5 and has already begun to make improvements. It advises us that it has now met its commitment around the vacancy gap and currently has no unplanned vacancies. Whilst this addresses the immediate issue of the vacancy gap, it is important that Network Rail continues to improve the competency of its staff. Therefore, as part of the draft Final Order, ORR has further proposed to require Network Rail to set out how it will integrate the leading indicators it has developed around resource capability into CP6 reporting.

2.49. The SO has committed to produce and publish an annual narrative report in CP6 to explain its performance and reflect on the quality of its service and areas for improvement. ORR required in its PR18 settlement that the SO agree the content of this annual report with the SO Advisory Board. The new SO Advisory Board provides independent and expert scrutiny and challenge of the SO's work and processes, as well as providing assurance to its customers. It is independent and is able to provide comment directly to the Network Rail Board.

ORR's investigation into timetable delays

2.50. As part of ORR's separate investigation into Network Rail's timetable planning capability, ORR investigated the SO's capability and resource. ORR required Network Rail to immediately accelerate its plan to strengthen its timetabling resources and capability, and to produce leading indicators to allow ORR to assess whether it is on course to deliver both the quantity of resource available, and improvements to the technical skills and operational awareness of the team.

2.51. ORR has monitored the SO's recent work to implement improvements to its timetabling capability, and in particular its preparations for upcoming timetable changes. Since July 2018, Network Rail has provided ORR with a draft of its proposals to accelerate plans to strengthen its timetabling resources and capability. It reports that it has halved the turnover of operational planners in the previous six months and it has recruited 82 new operational planners since 1 April 2018.

2.52. Network Rail has demonstrated that it has taken steps to increase the number of timetable planning staff. For the May 2019 timetable it has assessed the timetable staff resource available to undertake the process. Network Rail has also demonstrated that it plans to accelerate projects that will improve the retention, capability and capacity of staff, and has proposed some indicators to monitor this capacity.

2.53. While the actions undertaken so far, including addressing staffing challenges (and setting up the Industry PMO), have resulted in a more efficient, effective, fair and transparent process for the December 2018 and May 2019 timetable changes, these changes need to be embedded in the SO. To achieve this, ORR has published a draft Final Order alongside this report, requiring Network Rail to set out to ORR how it will integrate leading indicators on SO timetabling resource and capability, and how it is following best practice stakeholder engagement and industry consultation by 1 April 2019.

Action taken by ORR

2.54. **The System Operator is to use the funds allocated to it in CP6 to deliver a more accurate and resilient timetable that is provided to the industry in a more effective manner. In particular, the System Operator is to deliver the CP6 plan as set out in the PR18 final determination and as accelerated into the last year of CP5, including by continuing its work to:**

- **Further reinforce its timetable planning team so that it is able to manage unexpected events better and look further ahead when planning timetables; and**
- **Improve the quality of advice it provides in relation to managing changes to what the network delivers by reinforcing its analytical capabilities and increasing its role in supporting franchise authorities.**

2.55. **The System Operator is to set out to ORR by 1 April 2019 how, within CP6 reporting:**

- **It will integrate leading indicators on System Operator timetabling resource and capability; and**
- **It is following best practice in stakeholder engagement and industry consultation.**

2.56. **ORR will use the annual narrative report, alongside the System Operator's scorecards, to monitor the System Operator's delivery to its customers against the commitments it has made to them in its CP6 plan.**

Application of the timetabling process

Background

2.57. The Interim Report identified some inefficiencies within the timetabling process. For example, stakeholders noted the quantity of errors in submitted timetables (both by operators and Network Rail), and the large resource required to deal with the manual transfer and input of information into timetabling technology systems. We have concentrated on identifying recommendations in areas where better interaction between Network Rail and operator timetable planners could enable a more efficient and effective timetable process. We have particularly focused on collaboration between different parties and, as part of this, how technology improvements could enable improved collaboration.

2.58. The Interim Report found no evidence that issues around the use of technology within the timetabling process were a direct cause of the disruption. However, stakeholders told us that once issues arose, technology compounded the inability of the SO and train operators to recover in time for May 2018. As a consequence, we consider this to be an opportunity to review collaboration and the use of technology to support the accuracy and efficiency of the timetabling process. The Inquiry has engaged with Network Rail and train operators to better understand the possibilities technology offers to improve the timetabling process.

2.59. Improvements are aimed at the faster creation of a new timetable with fewer errors. This will create a more robust timetable earlier in the industry process, allowing more time for optimisation and industry review before the timetables go live, improving the experience of passengers and freight customers when changes occur.

The current position of timetable technology

2.60. The Inquiry found that collaboration and interaction across the timetable process was somewhat limited by the available timetable planning systems and data. Discussions with Network Rail and operators have highlighted three underlying challenges that must be addressed to improve the current position: a lack of a consistent database all parties use to plan timetables, a lack of integration between systems, and issues with the data handover points. These issues are described in more detail below.

Baseline dataset

2.61. There is no unified dataset on which all industry train planning activity is based. Such a dataset would hold, amongst other things, the authoritative position of the track layout of the railway, how long it takes trains to cover sections of track, and the rules about how trains can use the infrastructure.

2.62. The absence of a unified dataset means that mismatches between individual operator and Network Rail datasets can occur, meaning that operators and Network Rail can be planning train services based on different assumptions. These mismatches lead to avoidable rework of timetabling proposals and inefficient use of the scarce capacity of timetable planning resource.

Multiple software platforms

2.63. In addition to the lack of a version-controlled and uniform dataset, the industry has built up a network of non-integrated timetabling systems used in order to plan trains. Passenger and freight operators generally use one of the Voyager Plan, Train Plan, ATTune or TPS systems to produce their timetables, whilst the SO uses TPS. Transferring data between these systems can require a high level of manual intervention and, in the worst case, manual data entry.

Data standards

2.64. The timetable development process is not underpinned by specific data standards or regulations relating to the type of data the systems generate. Additionally, Part D of the Network Code[5] sets out the minimum information an access proposal is required to include, but not the format in which data should be provided. The lack of an agreed data transfer format between systems has caused three main breakdowns in the process:

- Operators provide datasets in varying formats which are not transferrable into the SO TPS system. These datasets require manual file transfer or input by the SO.
- Data from the Network Rail possessions planning process is not structured in a digital format and requires significant human intervention to format it for both the SO TPS system and train planning systems of the operators.
- The outputs of the SO TPS is not always compatible with operator systems. This requires further manual intervention to make them useable by the operator.

2.65. The challenges of not having a uniform dataset, a lack of integrated systems, and no standard way of transferring data between systems have implications upon the ability of the industry to deliver timetable change. Network Rail estimates that roughly 10% of industry train planners' time is spent undertaking avoidable manual data activities to compensate for a lack of integration and for ensuring uniformity of data. We have not verified whether this figure is accurate for operators, but evidence we have received from operators notes that data quality also causes them integration issues, requiring manual rework. As well as the time taken to input data, manual intervention also carries the risk of inserting new errors into the data transfer process. Across an industry of over 650 planners and a further 150 support staff, Network Rail estimates that this would equate to approximately 100,000 employee hours per year that could be reinvested into improving the quality of the train plan[6] through engagement and collaboration with the operators.

CP6 investment Programme

2.66. As part of the Final Determination for CP6, the SO has set out proposals for £60m of capital investment to begin to improve industry timetabling capability, and to start to rectify the three

[5] Condition 2.5 – Content of an access proposal.

[6] Estimate from the SO train planning team based upon a qualitative review of planning time.

underlying challenges encountered above. This work requires careful engagement with the wider rail industry and can only succeed if all parties are engaged in the proposed solution. The SO is funded during CP6 to carry out the data improvement, better access planning and TPS improvement programmes, and is aware that to succeed this will require the work to be set up as industry programmes. To begin this collaborative approach, the SO is engaging with the industry through a series of questionnaires, and is now starting to collate and review the evidence. As part of its ongoing engagement, the SO must follow best practice stakeholder engagement in order to achieve whole industry buy-in to the programmes.

Data Improvement

2.67. The data improvement programme will work with operators and across Network Rail to improve the quality of train planning data, how it is exchanged between parties and how it is used in the timetabling process.

2.68. The programme aims to create a unified track layout, timings and rules database, on which all train planning across the industry is based. This database will have version control, and temporary standalone sandbox functionality to enable industry parties to test proposals at an early stage before they are used in the formal train planning process.

2.69. Additionally, the programme aims to enable the seamless transfer of electronic timings data between industry parties through the introduction of a common data transfer standard. Whole industry access to a standard set of information will improve the interaction between industry parties and reduce the need for rework as data passes between industry systems.

Better access planning

2.70. One of the main aims of the better access planning programme is to produce possession data in a structured, digital format so it is easily imported into train planning systems. This will help address the current issues with data exchange and the subsequent level of manual intervention that is required.

2.71. Additionally, the SO plans to create a way of understanding the best use of access to the network, allowing for more transparent decision making when balancing the need for possessions of the railway versus the need to run train services.

Enhancements to capability of current timetabling technology

2.72. In addition to the challenges encountered with the underlying dataset, there are opportunities to use existing but unused system functionality to enhance the planning process. The SO has proposed to review how it might activate some of that functionality once the quality of the baseline dataset is improved sufficiently.

The TPS Programme

2.73. The SO has begun a programme to use more of the functionality available in the TPS system. Using the full functionality would materially improve the efficiency and effectiveness of the timetabling process through, for example, the reduction in manual data checking. As TPS has approximately 225 system interfaces across the industry[7], the SO must work collaboratively with the industry to make this programme a success.

2.74. An example of the unused functionality is that the TPS software has the ability to detect train service conflicts automatically. A trial in 2014 of the line of route between Oxford and Birmingham highlighted that the functionality could be applied and materially improve the accuracy and speed of development of the timetable. In order to use this functionality, the SO will work with operators to improve the quality and detail of the train planning dataset over the course of CP6.

2.75. It is clear that these programmes are required in order that the efficiency and responsiveness of timetabling process can be improved, and that these programmes are the minimum baseline required for future improvements to the timetabling process. Therefore, the Inquiry recommends that the SO should look to deliver the commitments it has set down in its CP6 delivery plan.

Action taken by ORR

2.76. **The System Operator to set out to ORR by 1 April 2019 how, within CP6 reporting:**

- **It will report on the progress of strengthening timetable technology capability, with reference in particular to the £60m programme of improvement works set out within the CP6 Final Determination; and**
- **It is following best practice stakeholder engagement and industry consultation**

2.77. **The ORR will use the annual narrative report, alongside the System Operator's scorecards, to monitor the System Operator's delivery to its customers against the commitments it has made to them in its CP6 plan.**

System Operator and operator collaboration

2.78. Better collaboration between the SO and operators has the potential to streamline the timetabling process. Where there is no impact on the commercial or competitive outcomes for other operators, allowing an operator to take responsibility for activities presently undertaken by the SO will reduce the reliance on the need for system integration and deliver benefits through the removal for the need to double-handle data and protect planning time for value-adding activities.

[7] Estimate from the Network Rail train planning team.

Trial of improved collaboration methods

2.79. The SO and Abellio ScotRail have confirmed that they have initiated a trial to streamline planning processes through improved collaborative working and the sharing of TPS access. The pilot is expected to 'go live' in early 2019 following the completion of technology testing and staff training.

2.80. The SO has confirmed that the pilot will share write-access to TPS with Abellio ScotRail, the main train operator on the Route, for a controlled data subset of the station workings at Glasgow Queen Street. In providing access, the SO must be alert to its obligations to maintain fair and equal access for all parties to train planning services, and ensure that Abellio ScotRail does not gain an unfair advantage over other operators or receive access to confidential information. This access is therefore being given with access limitations, a ruleset and assurance process to ensure Abellio ScotRail acts only within the area that it is responsible for. The SO has confirmed that this access trial is intended to reduce the double handling of planning activity and data, and also allow the operator to quickly make changes to data that would be of a lower priority for the SO, thereby better balancing the accountabilities of the SO and operators, improving the quality of information and streamlining this part of the timetabling process.

2.81. In addition to access to TPS, the SO and the operator have explained that they are working to use technology to connect their teams virtually, allowing for shared content management, combined project planning and instant messaging without the need for co-location. The SO and the operator anticipate that by reducing the barriers to communication and collaboration, the quality of material passed between teams will improve, and earlier engagement will lead to earlier resolution of issues raised.

2.82. The SO has confirmed that the trial also includes the promotion of earlier collaborative working for new timetables in advance of the contractual date at which operators must share their timetable proposals. The SO considers that this will improve the understanding of all parties of the challenges that will need to be addressed in the development period of the timetable.

2.83. The SO also considers that the use of technology to improve collaboration and remove barriers is clearly an area that could improve the timetable process and all parties are hopeful that benefits will be seen quickly. The SO has already begun discussions with other operators to carry out similar working arrangements in the first year of CP6, should elements of the trial prove successful.

Recommendation

2.84. **The System Operator is to review the progress of the trial with Abellio ScotRail to provide greater access to the planning system. Where benefit exists, the System Operator is to roll this trial out more widely (in terms of participants and other opportunities) across the planning activity in the first year of CP6 to provide a wider industry benefit and report on this in its annual narrative reporting.**

Industry technology strategy

2.85. The Inquiry has found that there are underlying technological issues that are limiting the ability of the industry to plan timetables effectively. The CP6 funding given to the SO aims to ensure that there is a better level of functionality within the technology used for timetabling by the end of CP6.

2.86. However, it is clear that there is still fragmentation within the system and areas in which the industry could further improve. Consequently, it is important that the industry looks further than solely bringing current technology up to a properly functioning steady-state.

2.87. The Inquiry therefore believes that there is a need for the industry to be clear on the longer term goals for the future of the timetabling process, and that a strategy should be created that shows how it is proposed that the timetabling technology offer should evolve over a longer period.

2.88. This work should look at all industry systems, across operators and Network Rail, and be clear how further improvements to data quality, seamless data transfer, transparency and collaboration can be achieved. The Inquiry believes that the SO should lead this work as the established interface between industry parties within the timetabling process. This work requires engagement and collaboration from the whole industry in order to best deliver the required outcomes, and should consider utilising the appropriate industry forums, such as the cross-industry Operational Planning Strategy Group.

2.89. Once the overarching strategy for the improvement of the timetabling technology offer is clear, it will provide funders and operators visibility and assurance on the potential incremental improvements to systems. The strategy will help reduce uncoordinated and piecemeal change.

2.90. Although the SO CP6 settlement funds upgrades and updates to the TPS system, the delivery of wider technology improvements is currently unfunded. The identified improvements may have separate business cases that can be brought forward as funding becomes available or as current technology reaches life expiry, therefore allowing the ongoing advancement of the timetabling technology offer.

Recommendation

2.91. **The System Operator is to, as part of its technological change programme:**

- **Seek to gain whole industry buy-in through following best practice stakeholder engagement and industry consultation.**
- **Consider proposed changes to technology in light of a system-wide view of their benefits and disbenefits, including for passengers and freight, which should be clearly articulated to stakeholders.**

2.92. **The System Operator, in close consultation with the rail industry, to create an industry timetabling technology strategy to improve the timetabling process. The System Operator is to set out the timescales for the creation of this strategy as soon as it is able.**

2.93. **Operators and funding authorities to participate in the development of this strategy and then consider whether there are individual business cases for bringing forward individual improvements.**

ORR monitoring and oversight of SO capability and delivery of outputs in CP6

2.94. A Prior Role Review was published to accompany our Interim Report. The purpose of the review was to develop a full understanding of ORR's involvement in, and formal regulatory oversight of, the development and implementation of projects and timetable processes leading to the May 2018 timetable changes. The review was asked, if necessary, to make recommendations to the ORR board on how ORR can continuously improve its regulatory activities on the basis of the analysis of the evidence.

2.95. In relation to SO capability and delivery, the review found that:

"Over the 10-year period this Review is considering, ORR identified a number of weaknesses in the performance and capability of the Network Rail System Operator timetabling function, both formally through licence investigations, and informally through other work with the System Operator, for example on open access applications.

ORR described Network Rail's failings in this regard as "systemic" and in breach of its licence in its 2018 conclusions to the T-12 licence investigation. However, ORR should consider whether it could have acted faster or earlier to ensure Network Rail addressed the issues ORR had identified a number of years earlier. Further action may have helped processes reflecting best practice and apply those improve capability and reduced the likelihood of the May timetable failure."[8]

2.96. As a result of this, ORR has monitored preparedness across the industry, including the SO, for the December 2018 and May 2019 timetable changes. This has included regular engagement with Network Rail at a senior and working level, and monitoring and reporting against the immediate actions set out in the timetabling investigation letter to Network Rail of 27 July 2018. These actions included the requirement of Network Rail to provide us with an initial report demonstrating how it is running an efficient, fair and transparent process for the December 2018 and May 2019 timetables, and for Network Rail to update its T-12 recovery plan, to publish the plan and to report publicly against it thereafter. We have included in our cover letter to the draft Final Order, which has been published alongside this report, our assessment of how Network Rail has met these requirements.

2.97. Furthermore, in Phase 2 of this Inquiry, in our PR18 Final Determination and in our timetable investigation, we have considered our future monitoring of the SO's timetabling capability and resource.

2.98. As noted above, the SO has committed to produce scorecards and publish an annual narrative report in CP6 to explain its performance and reflect on the quality of its service and areas for improvement. ORR required in its PR18 settlement that the SO agree the content of the annual report with the SO Advisory Board.

[8] *ORR Prior Role Review*, September 2018.

2.99. In our Final Order, we have required Network Rail to set out to us how it will integrate the reporting of the leading indicators on SO timetabling capability and resource into the wider CP6 reporting. Network Rail must also report on the progress of strengthening timetable technology capability, with reference in particular to the £60m programme of improvement works set out within the CP6 Final Determination, by 1 April 2019. Based on Network Rail's response to this action, we will develop our longer-term monitoring of the SO's capability and delivery of outputs for CP6.

Action taken by ORR

2.100. **ORR is to have a long term role to monitor the capability and delivery of industry institutions. In the short term, and in particular for the forthcoming timetable changes, ORR is to continue its monitoring of preparedness across the industry and maintain this focus while the industry increases its timetabling capability**.

CHAPTER C: SYSTEMIC RISK ACROSS MAJOR PROGRAMMES

7 DECEMBER 2018

CHAPTER C: SYSTEMIC RISK ACROSS MAJOR PROGRAMMES

Introduction

3.1. The Interim Report found that that the industry is facing new challenges in the delivery of major network changes on which timetable changes depend. The May 2018 timetable change relied on the parallel delivery of two separate such network changes, in the North West and South East of England, consisting of programmes of infrastructure, rolling stock, and franchise service commitment changes. In the past timetables have tended to involve incremental changes, but the May 2018 timetable change represented an example of the entry into service of very large complex programmes which carry a different level of risk between different inter-dependent programmes.

3.2. The Interim Report found that the diffuse nature of accountability for these different programmes across the industry and government results in a lack of clarity about roles and responsibilities for the oversight and control of complex system risks. There is an apparent gap in industry responsibility and accountability for the management of systemic risks, and industry process needs to change to accommodate these responsibilities. This finding lay behind the central conclusion of the Interim Report that 'nobody took control'.

3.3. Because future timetable changes are dependent on the effective delivery of many similar major programmes already in development, it is important that changes are made to avoid a repeat of the failings that led to the unsuccessful introduction of the May 2018 timetable.

3.4. This section proposes recommendations to support the management and mitigation of system wide risks. The recommendations are in two parts.

3.5. The first set of recommendations seeks to strengthen the current arrangements in the rail industry programme management structure. These recommendations should be acted upon immediately:

- Programme governance
- Industry culture and collaboration
- Joined-up delivery, assurance and audit
- Alignment of decision making between dependent programmes, including the timetable

3.6. However, while these recommendations are necessary we do not consider that they will be sufficient in successfully mitigating future risks and do not address, in a comprehensive way, the failings of May 2018 and the unacceptable impact it had on passengers. Our final recommendation may take more time to fill the gap for authoritative advice to sponsors of rail investment on managing systemic risk to the delivery of major programmes.

3.7. The final recommendation is in relation to system-wide assurance and change control.

3.8. The recommendations in this chapter have been developed through a series of bilateral meetings with the rail industry, government, and organisations and individuals with experience of delivering transformational complex programmes. In addition to this we held a workshop to discuss potential recommendations with representatives from across the breadth of the rail industry and governments.

Background and context

Capacity growth, new investment and reduced resilience

3.9. The Inquiry heard a number of explanations for why industry systems and processes, which have generally been successful for the past twenty years, revealed weaknesses in the preparation and implementation of the May 2018 timetable. There is a broad consensus that that scale of change being driven by major investment in the rail network is removing some of the resilience that industry processes have which are more suited to managing the more incremental changes that have happened in the past.

3.10. The Interim Report described why future timetable changes will create challenges for the system as a whole rather than individual projects or programmes. A number of significant network improvement programmes are planned over the next few years, which will bring into service the results of significant investment in the rail system. New infrastructure and rolling stock programmes are due to complete which will see new services introduced in many of the busiest parts of the network. Among others, major investments are all under development for the next decade including the completion of Thameslink, the introduction of Crossrail, the development of High Speed 2, the new InterCity upgrade programme on Great Western and the East Coast Main Lines, Northern Powerhouse Rail, the Welsh valley's scheme, and the Transpennine Route Upgrade, and the many new rolling stock programmes on which these schemes rely.

3.11. The railway must avoid becoming a victim of rising demand for its services. If the systemic risks are not addressed, and further Timetable Event Changes repeat the experiences of May 2018, public trust in rail as a service will decline, and the planned benefits of these investments to the UK as a whole will not be fully realised.

Leadership and accountability

3.12. The Interim Report found that the current industry structure disaggregates responsibilities across the system, leading to split accountability for all of the programmes that need to be delivered in concert for a major timetable change. The Inquiry is attempting to make practical and implementable recommendations to strengthen the capability and accountability of individual parties, but it is legitimate to ask whether alternative structures that aggregate or centralise accountability could be more effective in the future.

3.13. The Inquiry has heard suggestions for structural changes that could address this 'leadership lacuna', where ultimate accountability for rail programmes rests with public bodies including the DfT, that are not well placed to actively manage their risks. These suggestions have ranged from the creation of new strategic rail authorities to guide the industry from the top, to greater downward devolution of client and sponsorship responsibilities to industry parties including Network Rail Routes. The Transport Select Committee in its report published on 4th December recommended that: *"the national rail timetabling process requires genuinely independent oversight, following accepted principles of professional project management, including the appointment of an independent Project Sponsor or Senior Responsible Owner for the whole national timetabling project. We believe this role would need to be located outside of Network Rail, so that it is more effectively insulated from commercial and political pressures*." [1]

3.14. In the case of public bodies that sponsor and fund major programmes, the Inquiry is aware that any such structural changes to industry accountabilities create fiduciary challenges, because it may not be possible within current statute for parties to completely delegate or change accountabilities under public accounting rules where these have fiscal consequences for which they are accountable. These structural issues are the focus of the Williams Review, which was established by the UK Government in response to the Inquiry's Interim Report, and go to the heart of the central conclusion that 'no one took control'.

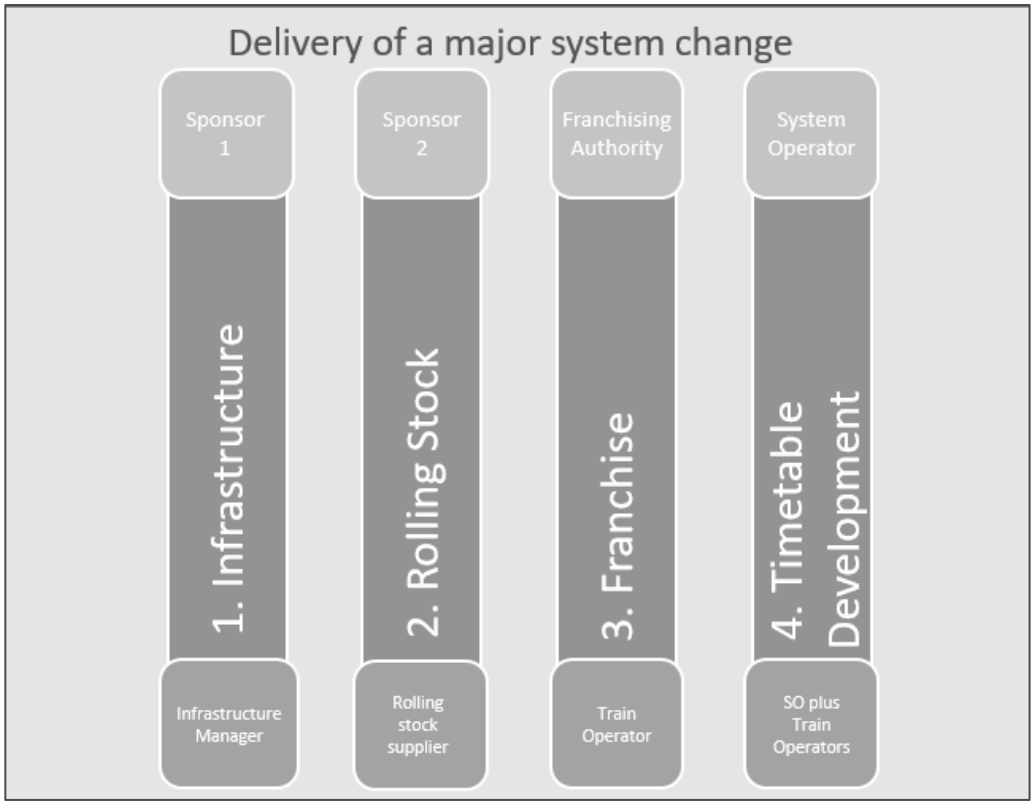
3.15. The Inquiry has focused its recommendations to work within current statutory framework for the railway, and judges that these recommendations to strengthen the capability and accountability of industry parties and programme management processes are relevant to any future model of industry accountability following the Williams Review. As they are to planned industry changes, including developing greater autonomy and capability of Network Rail Routes as the clients for infrastructure programmes.

Systemic risks arising from inter-related programmes

3.16. Self-contained operator timetable changes, where only one operator is affected by the network change are becoming rarer. Thus the ability to contain risk to one programme or even one area of the country is limited. In order to deliver a major network change, up to four or more overall programmes are often required to deliver in parallel:

[1] Transport Select Committee report, available here

Figure C1: Showing the four programmes often required to deliver in parallel



3.17. **The commissioning of new infrastructure** (usually developed by Network Rail under Programme Boards chaired by the DfT, but this can also be led other authorities like Transport Scotland, Transport for Wales, Crossrail, HS2, and TfL);

3.18. The infrastructure programme is the one that is the longest in gestation, often by many years. It is natural then that the architecture for governing these programmes will be focussed, at least initially, on the infrastructure. It is also where the most financial risk lies for the funder. However, as the programme nears the operationalisation of the asset and bringing into service there needs to be greater consideration of the risks of service introduction and its integration with other related programmes in the approach a timetable change. This could be several years before the planned introduction into service.

3.19. **The procurement and introduction of new rolling stock** (which can be procured by DfT, the other commissioning authorities noted above, or train operators);

3.20. Timetable changes can be reliant on a cascade of rolling stock from one operator to another. With the introduction of new technologies comes an additional element of risk. The new trains entering service across the network are increasingly reliant on new technologies that integrate track, signalling and train control systems. If risks emerge on the introduction of new fleets this can delay the cascade of stock to other parts of the network limiting, or delaying, the introduction of new services to benefit passengers. This can have a similar effect on the network of the failure to deliver a vital piece of infrastructure.

3.21. **The specification and tendering of franchises,** with service specifications embedded in contracts, often several years in anticipation of a network change (let by DfT or authorities in Scotland, Wales or English regional transport authorities);

3.22. The business case for investment is based on what is known as the Indicative Train Service Specification (ITSS). This is, at a high-level, a timetable which is expected to deliver benefits which can be inter alia financial, socio-economic, or service based. This forms the counter to the anticipated cost of investment. As the programme of work develops the ITSS is refined as more is known, for example further detail is known about the achievable line speed or responses to public consultations are addressed at various stages of infrastructure or franchise specification.

3.23. **Timetable development** (led by Network Rail's System Operator (the SO));

3.24. As discussed above these programmes do not exist in isolation and planned changes in other parts of the network, and possibly at different times, can create inbound or outbound dependencies. In the past any conflicts in train services have been dealt with by the industry through Part D of the Network Code, a process that describes the creation of a contractual obligation between Network Rail and an operator encapsulated within a timetable. 55 Weeks (known as D-55) before a timetable change an operator must inform Network Rail if it wishes to make a significant change to its timetable. The Industry PMO (described further below) which has been created by Network Rail following the May 2018 timetable failure is currently remitted to provide advice as to whether there is sufficient resource to deliver all the timetable change requests Network Rail receives at D-55 and advise funders on the choices if there are conflicts.

3.25. These programmes are managed through separate programme management processes, led by different sponsors and involving a range of different delivery bodies. The Inquiry has sought to learn from best practice in other infrastructure sectors about the governance of major programmes. It has heard that the type of complex network inter-dependence in the railway has material differences to other comparable sectors, because of the nature of the railway and the organisation of the sector. Measures have been taken to address these complexities, but the Interim Report found that these proved to be insufficient in the preparation for the May 2018 timetable, and they require change as described further below.

Strengthening current programme management arrangements

3.26. The first set of recommendations in this section focus on directly addressing weaknesses in current industry arrangements for the delivery of major programmes that contribute to network change. The Interim Report found that there is diffuse accountability for different programmes that need to be delivered in parallel for successful network change. Because dependent programmes can transmit risks to each other across these boundaries, programme governance arrangements and the cross-industry process that manage them need to be strengthened to identify and manage these systemic risks. The growing scale, complexity and interdependence of these programmes for future timetable changes mean that these recommendations should be acted on as soon as possible by sponsors and their delivery agents.

3.27. These recommendations apply not just to infrastructure programmes, but also to the programmes that deliver rolling stock, train operating franchises and timetable development, because these programmes are co-dependent and the challenges facing future timetable development are likely to be different from those experienced in May 2018. While the problems that caused the May 2018 disruption arose from a combination of the NWEP infrastructure programme, and the Thameslink franchise programme, future problems could arise, for instance, within the large number of new rolling stock programmes under development, or non-Network Rail delivered infrastructure schemes. As such the recommendations are not just relevant to DfT and Network Rail, but to all sponsors and delivery agents for programmes on the mainline railway, including authorities in Scotland, Wales and the English regional transport authorities. This is important given the scale of changes already planned for the network, including Crossrail, the development of High Speed 2, the new InterCity programme on Great Western and the East Coast Main Lines, Northern Powerhouse Rail, the Welsh valley's scheme, and the Transpennine Route Upgrade among others.

3.28. It should be accepted that risk cannot ever be fully removed from the delivery of major programmes. The purpose of these recommendations are to assure the sponsors of those programmes that risks are being properly identified and actively managed, so that decisions can be taken with appropriate awareness and judgement about the level of risk that sponsors decide is acceptable to themselves and to users of the railway.

Programme governance

3.29. The Interim Report described the programme management arrangements for the Thameslink and NWEP schemes. These are both schemes sponsored by the DfT and delivered by Network Rail, but involving many other companies and industry bodies. They are both overseen by Programme Boards chaired by the DfT, as the programmes' sponsor, but the arrangements differ in important ways. The Interim Report found weaknesses in the structure and remit of both boards, which provide lessons for how governance arrangements for major programmes should be constituted in the future.

Current approach

3.30. The Interim Report found that the programme management structure for Thameslink was bespoke for that project, and differed significantly from the DfT's standard model for Network Rail infrastructure programme governance. The Thameslink Programme had its own focused Programme Board, rather than being overseen by the regional boards, because of the scale and complexity of the projects within the programme. It had a broader terms of reference, a structure that brought together and integrated all elements of programme delivery (infrastructure, rolling stock, timetable development and operation) and all responsible parties.

3.31. The Programme Board which oversaw the NWEP scheme followed the DfT's standard model for Network Rail infrastructure programme governance, which is in place for projects across all English regions, focused predominantly on managing risks to the cost and timing of the scheme's delivery, but had a more narrow focus on whole-system delivery and benefits realisation.

3.32. Although the creation of these Programme Boards by DfT in 2015 was a necessary strengthening of infrastructure programme governance, and control of costs, they are not remitted to consider systemic risks arising from the programmes. As such the programme management structure did not look across the system to actively identify interdependencies and the impact of risks associated with individual programmes upon the whole system, properly manage those risks or make change decisions with full awareness of those risks. The Interim Report found that this was a material cause of the timetable disruption in May 2018, which arose partly from the high-risk approach to delivering the NWEP scheme on which the Northern timetable depended.

The change required

3.33. In a satisfactory programme management structure the dependencies between programmes both physically and in time should be identified, communicated to all parties, and actively managed within the programme cognisant of the impact on related programmes. This is particularly important when decisions are taken to change the quality, or timing, of an output i.e. at a Stage Gate or as part of change control mid-stage.

3.34. The interdependent nature of the portfolio means that dependencies are created as soon as a programme or project is initiated. This will require the system risk to be considered throughout the lifecycle of a programme or project. Therefore as programmes evolve over time the phenomenon of importing and exporting risk across programmes which are separated either geographically, temporally, or both in an uncontrolled manner is reduced.

3.35. This should facilitate greater control of risk and allow decision makers to make trade-offs across programmes with a clearer understanding of the impact on benefits, and in the case of rail on passengers as end users.

3.36. This oversight needs to include all programmes and projects which will deliver a system change that impacts the mainline railway regardless of delivery agent and sponsor. This means that dependent programmes across infrastructure, rolling stock, rail franchise specification and delivery, and timetable development all need to be remitted to identify and communicate outbound risks, receive inbound risks, and to collaborate to best manage and mitigate those risks.

Recommendation

3.37. **The Terms of Reference for all Programme Boards and equivalent governance arrangements (including for infrastructure, rolling stock, franchising, and timetable development) include:**

- **an explicit responsibility to understand the dependent systemic risks that impact upon other programmes such rolling stock and franchise, and to communicate these risks;**
- **an explicit responsibility to manage the risks which may materialise arising from other co-dependent programmes which impact upon its programme of work; and**
- **a requirement to cooperate with other programmes, and focus on delivering benefit realisation from a system change.**

3.38. **This should happen as soon as possible for all programmes at all stages of their development, including the sponsor's initial planning and specification stage.**

3.39. The acceptance of this recommendation is necessary to facilitate the effective cooperation between different parties as programmes mature towards completion, as highlighted in the next recommendation.

Industry culture & collaboration

3.40. The Interim Report described the positive characteristics of a 'can-do' attitude across the rail industry when delivering major projects, managing disruption, and keeping the railway running. The Inquiry also heard from several participants that the industry may, however, suffer from an inherent optimism bias about the delivery of major projects. At best, this may be characterised by a belief that time can be made up after unplanned delays and delivery milestones met even as the remaining time available becomes compressed. At worst, this may be characterised by an avoidance among individual projects to communicate problems across institutional boundaries to affected parties or sponsors when they are identified, even where these are broadly known within the project.

Current approach

3.41. Programme sponsors have a very strong interest in receiving early information and advice from their programmes about problems and risks that cannot be reasonably managed within the programme, and which could require a change to project specification, costs or benefits realisation. However the impact on sponsors and end-users is often under-prioritised or consideration of this is avoided within programmes by the agents appointed by the sponsors to deliver them.

3.42. The Inquiry heard from industry expects who have attributed this behaviour to multiple recent problems with major programmes, including an optimism bias about the delivery of NWEP, the risks around driver availability and training on Thameslink, and more recently (outside the scope of this Inquiry) the delayed entry into service of Crossrail. This can lead to late decision-

making in response to problems and unrealistic optimism for the probability of project delivery, up until the point that failure becomes certain. Costs to sponsors increased unexpectedly, and the benefits to users delayed or cancelled.

The change required

3.43. To achieve optimal risk management in project and programme delivery requires maximum collaboration and communication within programmes. The Inquiry heard that the key to successful project delivery is the behaviour of the organisations and individuals involved. The Inquiry heard that collaboration across the system to mitigate risks requires individuals and organisations to openly assess and report risk.

3.44. The Inquiry heard that in the construction industry the most modern forms of contract require and incentivise the identification and communication of problems and risks at the earliest stage so that affected parties can come together to ensure that that objectives of the project are achieved. When a risk is encountered by one party it has a contractual responsibility to alert the other parties and its client that that risk exists. If it is later found to have known about a risk and not alerted other parties it may face individual liabilities. At this stage the party which has discovered the risk does not need to have assessed the risk, and is not assumed to be liable for the costs of mitigating its consequences. The risk can then be assessed and if appropriate a review takes place with all parties that may be impacted by the risk. An assessment of who is best placed to manage the risk is made and the appropriate actions taken which could involve more than one of the parties responsible for delivering the project.

3.45. One barrier to introducing effective contractual incentives for projects on the mainline railway is that they often involve contracts between different public bodies, for whom reputational incentives may be more powerful that financial incentives, leading to optimism biases or avoidance behaviours in response to emerging problems and risks.

3.46. Nevertheless, all participants in major programmes, whether in the public or private sectors, should have aligned commercial, individual, as well as reputational incentives, to encourage the surfacing of risks and issues at an early stage. These should be embedded in contracts as standard requirements, with appropriate penalties for non-compliance. Appropriate incentives should also exist for the solving of risk across system boundaries. These incentives would necessarily need to be replicated across each delivery agent and their supply chains. For this to be successful sponsors need to ensure that they are also seen to be open to receiving what could be perceived as 'bad news' and working with delivery agents to find the best solution to managing risk as soon as it is identified.

Recommendation

3.47. **Programme sponsors and clients should learn from best practice in other sectors in the specification of contracts that require all parties to identify and communicate risks at the earliest opportunity. Programme management systems should gather and escalate risks so that they can be actively managed within projects and so that clients and sponsors have complete visibility about the risks of needing to make change control decisions at all of these stages.**

Joined-up programme delivery, assurance & audit

3.48. As programmes mature through their stages of delivery, the need to coordinate with other dependent programmes increases. As the entry into service of a major network change is anticipated (including but not always through a timetable change), system integration between related programmes needs active management. The Interim Report found that while such arrangements were introduced for the Thameslink programme, based on a model used by Crossrail, they do not exist within the standard model of major programme delivery elsewhere on the mainline railway.

Current approach

3.49. The Interim Report described how the Thameslink programme established an Industry Readiness Board (IRB) to manage this process, 17 months prior to May 2018 timetable change which introduced the new services. The Interim Report found broad agreement across industry parties and government that this was an example of good practice, through which many problems were solved and risks managed as the entry into service of the Thameslink programme approached.

3.50. The Interim Report described that the IRB was established too late in the development of the programme to provide timely advice to DfT as sponsor when it was determined that the specification of the scheme should change from 20 trains per hour in May 2018 to 18 trains per hour, requiring a later re-write of the timetable. It also had insufficient ability within its remit and resources to conduct truly independent audit and assurance on the readiness of the dependent programmes and parties responsible for delivering the new services. While it was aware of the risks about driver availability and training by GTR that contributed to the disruption on Thameslink, the Inquiry heard the IRB's separate Independent Assurance Panel relied on information provided by GTR into their readiness. It had a limited remit to conduct its own independent audit and lacked resources to commission advice from external experts. Had The IRB been established earlier in the programme, and with a stronger audit and assurance capability then these risks would more likely have been identified and mitigated in a way that avoided the consequential disruption to passengers.

3.51. Nevertheless, despite these weaknesses, the Inquiry judges that the IRB is an example of good practice in major programme delivery, which should be strengthened and extended to other mainline railway programmes that rely on co-dependent delivery of different elements by different parties. On NWEP, there was no equivalent Industry Board and the DfT told us that they received conflicting information from different parts of the Network Rail (the Route, Infrastructure Projects, and the SO) as to what the risks to delivery were.

The change required

3.52. When approaching the introduction intro service of a major network change, which relies on the delivery of multiple projects or programmes by different parties, active management of the transition from the project state to the operational state is crucial. It requires integration of technical systems, human processes, planning and testing before operation can successfully begin. It is normal that during the planning of the project not all eventualities will have been considered and previously unforeseen risks will become apparent. These are not always risks that the programme delivery agents can manage and mitigate on their own, it requires the delivery agents and the end operator functions to operate in tandem. In a complex system like the railway this may involve operational teams from across multiple organisations to be aligned in their activities to manage and mitigate risk.

3.53. In addition it is crucial that as decisions are made which may impact on the end user the information decision makers are acting upon is reliable. Through no fault of their own project or operational teams may not be able to accurately assess risk, or indeed the compounding effect of multiple risks, across programme or organisational boundaries. To combat this an additional line of defence which can independently verify data and report decision makers has been demonstrated as an effective mechanism. In every aspect of this system integration and delivery process, the realisation of benefits for end users should be the driving consideration of the decisions that are made and the actions taken.

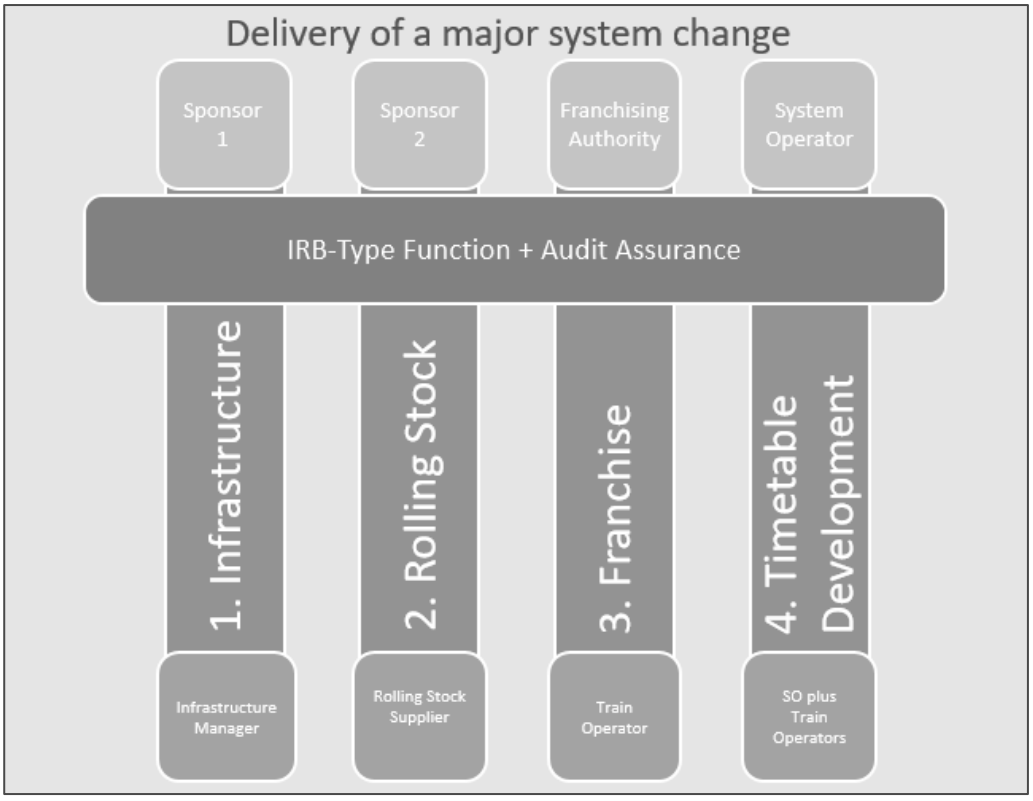
3.54. To support decisions on system risk it is important that the information on which individual programme decisions are based is robust. In order to facilitate this, embedded within the programme management structure should be independent bottom-up audit-type assurance, similar to an internal audit function which reports directly to an organisation's Board. The assurance should have the ability, with the sponsor's authority, to carry out verification activities within any project or programme in the portfolio and owe its duty of care to the sponsor.

3.55. Where this programme integration process identifies problems or risks that require a change to the specification of the programme outputs, this should be coordinated and agreed between parties through this process whether possible. Sometimes this may require a decision to be made by the sponsors of the different programmes, and advice should be offered in good time, and centred around the impact on end users and the realisation of benefits.

Recommendations

3.56. **As individual co-dependent programmes mature towards delivery into service of major network changes, the programmes should cooperate to establish an Industry Readiness Board or equivalent body to manage this process. This body should be established well in advance of the network change, and bring together all relevant bodies responsible for infrastructure, rolling stock, operations and the timetable. This body should have appropriate executive capability and resources to manage the preparation for the network change, and the ability to call on independent audit and assurance of the delivery of all dependent programmes and the preparedness of parties to operate the network. This should become the default arrangement for all major network changes, regardless of their sponsors or delivery agents, and be remitted to work in the interests of sponsors and the beneficiaries of the network change.**

Figure C2: IRB or equivalent body to bring together relevant bodies in preparation for network change



3.57. This industry readiness function is facilitated by the extended Programme Board remit recommended earlier. While the Programme Boards are focused on the planning, design and delivery of individual scheme projects, the function described here is solely focussed on the satisfactory delivery of a major network change and related timetable changes and managing the systemic risks associated with the introduction of new services.

Alignment of decision-making between dependent programmes, including the timetable

3.58. The Interim Report found that critical decisions within both the Thameslink and NWEP programmes about programme specification and delivery were made too late to for the consequential risks to be accommodated within the process for developing the timetable, which was subsequently delivered very late.

Current approach

3.59. Currently critical decisions on programme changes and 'go/no-go' events in preparation for timetable changes, happen with isolated accountability to the impact on other dependent programmes, even where the risks are known.

3.60. The Interim Report found that the NWEP programme did not sufficiently consider aligning the timing of its decisions with the timetabling process, and that the final decision to alter the specification of the Thameslink scheme by DfT was also made after GTR was required to bid into the timetable process on the basis of the old specification. The SO did not press for alignment of these decisions with Part D despite being aware of some of the risks.

3.61. While the Inquiry does not judge that flexibility is inappropriate in certain circumstances, it is critical that decisions about programmes on which the timetable depends avoid compressing the time available to develop the timetable, by being made in alignment with the Part D process, even if this schedule varies in different circumstances.

3.62. The timeline set out in the Network Code is itself a risk mitigation measure allowing Network Rail and train operators time to plan the introduction of the timetable. However in the approach to May 2018 critical 'go/no-go' points in the development of the timetable were missed by the programmes and their sponsor (the DfT in both of these cases), who took decisions outside of the timelines set out in Part D of the Network Code.

The change required

3.63. Where multiple programmes of work need to come together to deliver an end user outcome it is vital that the critical path across all of those programmes is understood. This is a further illustration of the need for dependencies across programmes to be understood, tracked, and actively managed. In usual programme management practice the Inquiry had heard that in the approach to a 'go/no-go' decision at set of criteria across dependent programmes or work packages would be developed and agreed. If at the decision point one of these criteria were not met then the decision should be no-go.

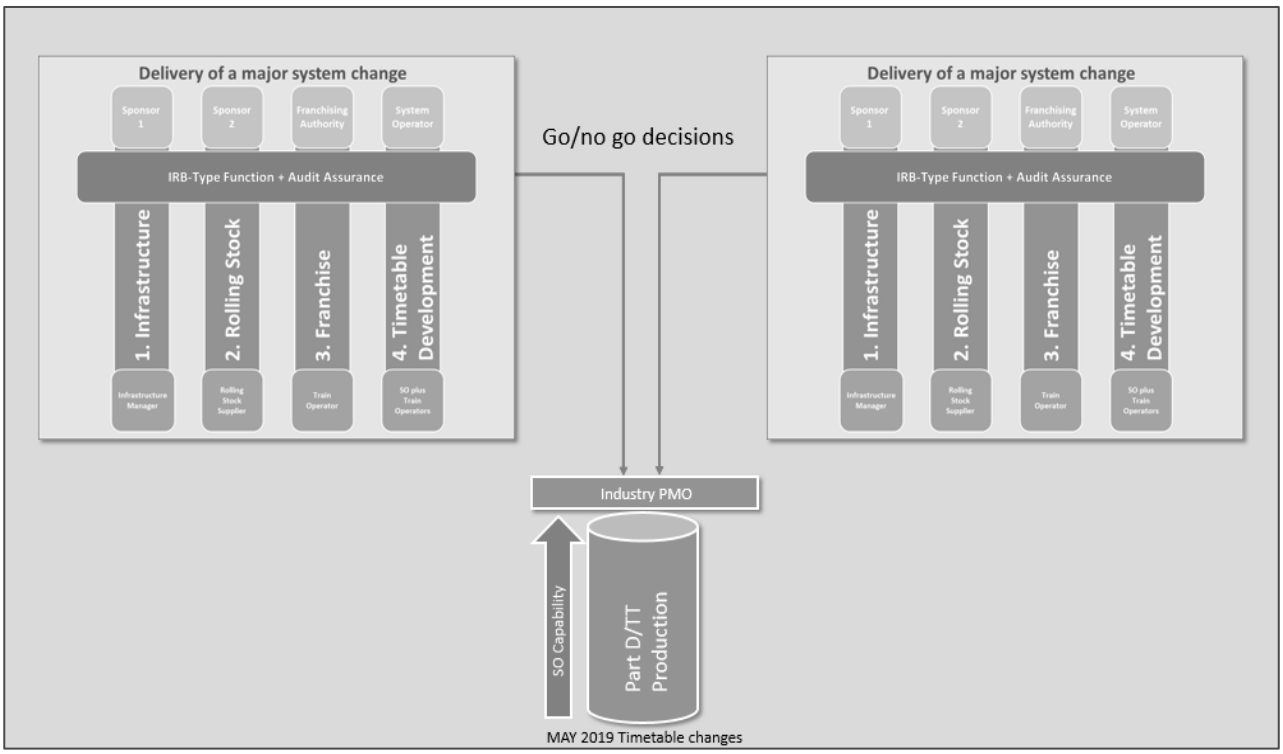
3.64. Each dependent programme on which a timetable relies must make its own judgement about the critical 'go/no-go' decision points in its development. It should seek to align the timing of these decisions so far as possible with the Part D schedule. While risk is unlikely to ever be entirely avoided, where individual programmes are aware that their progress creates dependent risks for other programmes, including for the development of the timetable, particular caution and/or mitigations should be taken in concert with other programmes. Industry Readiness Board should facilitate judgements about these co-dependent risks and the timing of these decisions.

3.65. Timetable development within the Part D process should be treated as a dependent programme itself. As a programme it should be aware of its own risks, concerning the complexity of the timetable revision and the resources required to deliver it, and communicate these risks to other parties so that they can be managed. It may then be judged that flexible application of the Part D schedule is appropriate in light of all known risks, but this is a judgement that needs to be taken consciously, rather than the assumption that underlay the preparation for May 2018 that flexibility in Part D is an available mitigation for risks arising from other programmes than can be accommodated without itself creating risk.

Recommendation

3.66. **All Boards responsible for dependent programmes should plan the timing of critical advice and decisions with full regard to the risks to other programmes, including for timetable development. Alignment by all programmes with the schedule set out in Part D of the Network Code would mitigate the transmission of risk between programmes. Where the critical path for timetable development is departed from by any programme, it should be a decision taken consciously by all related parties including the System Operator, and well in advance of the timetable change at 'D-40' within Part D of the Network Code.**

Figure C3: Timing of critical advice and decisions with full regard to other programme and timetable development



3.67. This report discussed earlier the question of whether and how Part D of the Network Code should be reviewed to ensure that it is fit for purpose in preparation for future major network changes.

System-wide assurance and advice on change control

3.68. While the Inquiry considers that the recommendations above represent a necessary and urgent strengthening of existing industry arrangements in light of the lessons from the May 2018 disruption, and should implemented quickly, they are not sufficient to fully manage the material risks that arise when managing the complex interaction of multiple programmes of change being developed in parallel. This is important because of the multiple complex programmes of network change being developed in parallel across the country.

3.69. The Interim Report found that, on their own the problems with the North West programme and the Thameslink programme may have been containable and manageable. However the combination of these parallel failures overwhelmed the process for developing the timetable. Awareness and management of material risks arising from multiple major programmes is therefore necessary.

3.70. While Industry Readiness Boards will bring together participants in any given region for a particular change, there is currently no authority that is both capable of making national judgements about the viability and risks of the totality of change or trusted by sponsors and funders to advise them of the risks that they face and the changes they may need to make to mitigate these risks. As a sponsor is, in most cases, the only body able to take a view on any material financial implications those risks bear - either in a material increase in costs or the cost associated with the loss of passenger benefits.

3.71. The closest current authorities to provide technical assessment of national viability and risks of the totality of change are the SO and the new Industry Programme Management Office. These are considered in further detail below.

3.72. The recommendation at the conclusion of this section relates to the need for an additional cross-industry governance of major network change. In order to introduce additional resilience into the process for managing systemic risks arising from the interaction of multiple programmes that may be delivered by multiple different parties. This may be an enhancement to an existing arrangement, or it may be a newly created capability, but it is necessary to address the central finding in the Inquiry's Interim Report that 'no one took control' in May 2018.

Current approach

3.73. The Interim Report described how in the current governance system, the DfT as a sponsor has the greatest breadth and authority across the dependent programmes in infrastructure, rolling stock, franchising and timetable development. But while the DfT is the largest funder of the network and the largest franchising authority, it is not the only sponsor of major network changes. Authorities in Scotland, Wales and the English regional transport bodies also have responsibilities for commissioning infrastructure, rolling stock and letting train operating franchises.

3.74. The industry delivers major changes to the network, including Network Rail, rolling stock companies and train operators, and they are the parties best able to manage the project risks within their respective delivery responsibilities. Assurance and advice on risk is provided in a number of ways.

3.75. The SO provides advice on the viability of Train Service Specifications that are put into franchise agreements, it coordinates the long-term assessment of the needs of the rail network through the Route Area Studies and Initial Industry Advice.

3.76. The Inquiry heard that the SO provides advice to the Enhancements Programme Boards, as do Network Rail's Routes, and Infrastructure Projects division, but their advice is not always consistent. Train operators also provide advice on passenger franchises and readiness for services.

3.77. In general, this approach has proved reasonably successful for delivering incremental changes to the rail network, without excessive risk or disruption. However, the experience of the May 2018 timetable change shows that this model is under strain in the presence of growing interdependence between larger and more numerous programmes across the country. The scale of systemic risks in the delivery of rail programmes has become greater than the sponsor's available capability at managing them, as demonstrated in May 2018.

3.78. The Interim Report described how this gap has necessitated exceptional change control processes. DfT, as funder and sponsor of several major programmes, has previously sought to bring in external experts such as Chris Gibb, Peter Hendy, and Andrew Haines to perform assurance across the rail system in exceptional change control events.

3.79. These examples illustrated that recent change control decisions have been triggered by events that were unpredictable or that became unmanageable by the DfT as sponsor, despite their responsibility for programme costs and benefits. This recent experience also illustrates that these decisions were each made in an exceptional way, rather than being the product of industry advice received through a defined structure of portfolio management.

Developments since May 2018

3.80. In light of the experience of 20 May, Network Rail has created a new temporary business unit to oversee the process for developing timetables up to December 2019. This new Industry Programme Management Office (PMO) is a relatively small function that sits above the SO, which continues to develop the timetable, coordinating input from multiple dependent programmes across Network Rail's portfolio. Where necessary it is providing advice to DfT and other sponsors on change control where there are consequences for franchise and rolling stock programmes.

3.81. This welcome development directly addresses a finding in the Interim Report that Network Rail did not manage risks between its portfolio of projects and the timetable processes sufficiently well.

3.82. Network Rail has set out that the purpose of the Industry PMO is to provide a robust and collaborative joint industry mechanism to identify and address risks and issues that arise in relation to timetable change. The Industry PMO's terms of reference state that its role covers:

a. Reporting risks arising from programmes associated with December 2018, May 2019 and December 2019 timetable changes;

b. Coordinating work with the SO and industry to assess and propose timetable changes for December 2018, May 2019 and December 2019 that are 'de-risked' and deliverable with the timetable planning resources available;

c. If, following the proposal on the scope of timetable change, there is additional resource available in Network Rail's Capacity Planning function (e.g. unused contingency) then the Industry PMO coordinates the ranking and selection of additional timetable work packages that operators want and have proposed to the Industry PMO;

d. Undertaking ongoing assurance assessments for the December 2018, May 2019 and December 2019 timetable changes - for infrastructure, rolling stock and track & train operations;

e. Commissioning risk mitigation / contingency plans and interventions, and leading (where appropriate) resolution of emerging issues; and

f. Providing regular reports and escalation of issues to the Industry PMO Steering Group, National Task Force, DfT and other sponsors and funders.

3.83. In addition to the core role above, the Industry PMO is also:

a. Leading work to identify timetabling process improvements; and

b. Considering the 'business as usual' role for Industry PMO assurance activities.

3.84. The Industry PMO does not alter established industry regulatory and legal processes for timetable change (such as the Network Code), and has no accountable authority over the programmes on which future timetables depend. It is an informal, and currently temporary, arrangement which provides a vehicle for agreeing in a coordinated and collaborative way the scale of change for the timetable change and so avoid or minimise the risk of multiple competing bids and disputes late in the timetable process; as well as assurance of asset and operational dependencies for timetable change.

3.85. We have heard that the new structure has provided transparency by giving clearer criteria around changes to the timetable that will be acceptable and around the ability of the SO to deliver proposed changes, based on the resources they have available. Additionally, the new Industry PMO process has added in risk assessment and mitigation considerations that were not previously undertaken, and allowed for an extra challenge of risks in infrastructure projects. This improved transparency in decision making and assessment has meant that the recommendations on courses of action are clearer and better evidenced than before.

ORR Licence Investigation: Final Order

3.86. The ORR is releasing the draft final order in relation to Network Rail's contravention of its Network Licence at the same time as the Inquiry Final Report, and considers that the draft

final order provides appropriate direction for how Network Rail must take this area forward.

3.87. As stated in the draft final order, ORR is requiring that Network Rail should provide ORR with a report by 1 April 2019 setting out how it will continue to run an efficient, effective, fair and transparent process for the timetables due to be published after May 2019.

3.88. This document should include the following:

a. A description of how the Industry PMO will become embedded into the business as usual activity of timetable production and how the sales of access rights process will interact with this.

b. An explanation of how Network Rail will play its role in increasing the transparency of the timetable process and decisions to all stakeholders.

3.89. However, the Inquiry notes that the Industry PMO's remit is limited in critical respects, and it does not currently fill an important gap in industry arrangements. Several concerns have been raised with the Inquiry by the sponsors of major programmes and train operators with regard to the Industry PMO's current remit and capability.

3.90. The Industry PMO's remit is specifically to recover from the May 2018 timetable failure, and Network Rail have committed to maintaining it until December 2019. In the longer term, it is not currently clear if it will form a permanent part of the industry, or how it should be resourced. It is therefore not advising on planned programmes beyond this point, such as the East Coast Mainline upgrade in 2021.

3.91. It does not have complete visibility over all relevant programmes. It has limited oversight of the rolling stock and franchising programmes run by DfT and other sponsors; limited visibility of non-Network Rail enhancements like Crossrail; and no remit to consider the viability or impact of major network changes still in the planning or early delivery phase, such as HS2 and East-West Rail.

3.92. It does not have a remit to carry out independent audit or verification of programme delivery across the portfolio, although it can ask programmes to commission this themselves.

3.93. A further concern, whether perceived or real, has been raised by sponsors: that the constitution of the Industry PMO may lead it to prioritise Network Rail objectives, and be excessively risk-adverse in its judgements and advice, rather than objectively representing the interests of sponsors and promoting benefits for end-users.

The change required

3.94. It is apparent to the Inquiry that while the role of the Industry PMO is valued and necessary, decisions need to be taken to address the continuing gap in advice and assurance created by its limited remit.

3.95. Three factors are critical to the establishment of a permanent capability to oversee and manage risks to the delivery of major interdependent programmes:

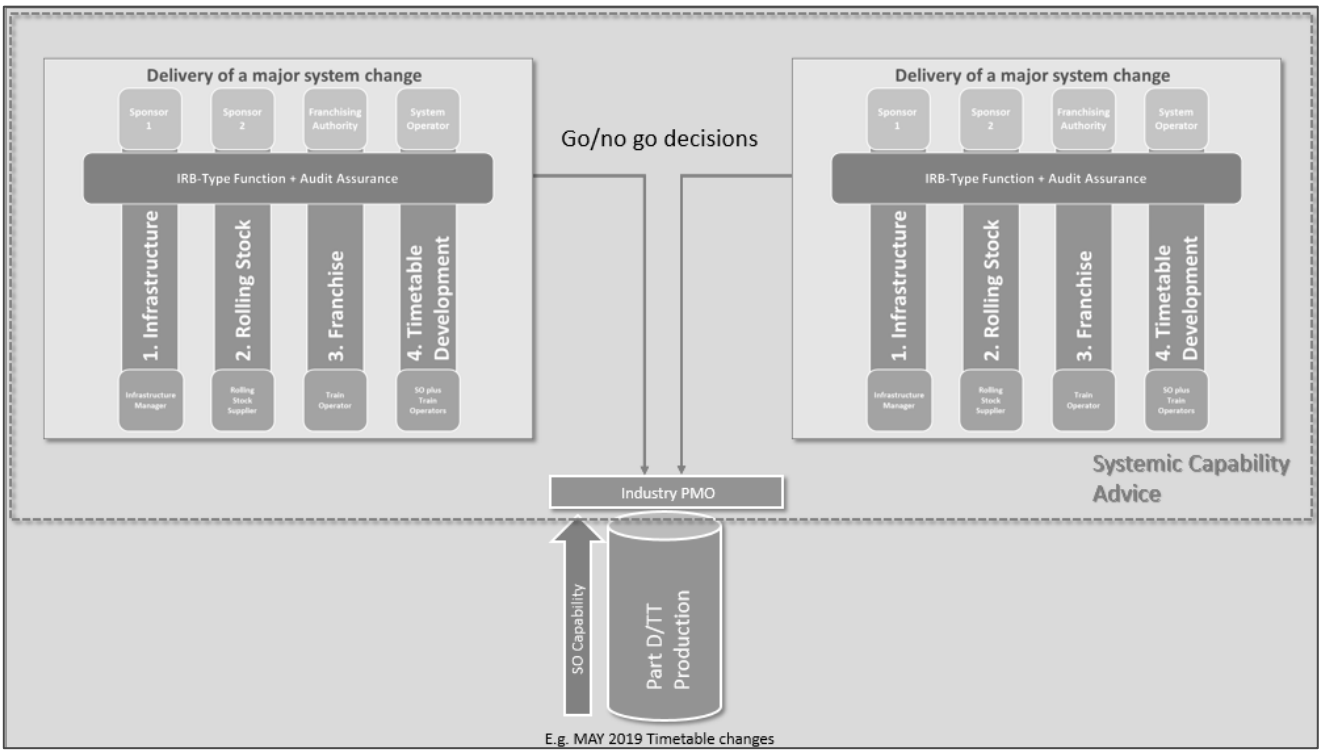
a. **Authority**, derived from sponsors, to interrogate all aspects of programmes that they have commissioned on which network changes depend;

b. **Expertise,** sufficient to audit and assure the delivery and risks across multiple technical programmes; and

c. **Trust**, by industry that the judgements and advice received represent the best interests of the system as a whole, and focus on delivering the greatest benefits for end-users.

3.96. To support the optimal management of system risk this advice needs to cover the whole portfolio of relevant projects, which will necessarily include programmes sponsored by multiple parties. It would need to cover technical and commercial impacts so that decision makers have a comprehensive understanding of the impacts that their decisions will have across the portfolio. This advice will necessarily consider passenger outcomes, freight end users, value for money, and commercial sustainability. To ensure that the advice is trusted, it needs to be independent of any particular programme delivery body.

Figure C4: Permanent capability to oversee and manage risks



3.97. The Inquiry has sought to learn from expert organisations and individuals who have been involved in successful major change programmes from within rail and beyond, including airports, utilities, and the London Olympics. The Inquiry has heard that as part of a normal programme or project management architecture the sponsor would typically be represented throughout the programme at all levels, if not by themselves then by an appointed 'design authority' which has the remit to see that all parties were delivering the sponsor's objective or vision. The authority is trusted as a function independent from the delivery agents to be able to advise the sponsor on whether the functional and non-functional requirements will deliver their aims. This would include at its heart the needs of the customer and end-user. This would be in place from the inception to completion of the project or programme, ensuring that the needs of the end-user are at the heart of the programme and driven through every element.

3.98. While the analogy to the complex network of sponsors and delivery agents across the rail system is not perfect, these examples of best practice in other sectors illustrate the nature of the gap in advice and assurance that exists through the system in the railway.

3.99. The presence of this gap, combined with the increasingly complex nature of improvement programmes, means that current structures and processes are not capable of managing dependent programmes and their risks in parallel, and failures of future programmes are likely to reoccur without prediction.

3.100. While the solution could either be an enhancement to an existing arrangement such as the Industry PMO or SO, or a newly created or independently commissioned capability, it is necessary to fill this gap to address the central finding in the Interim Report than 'no one took control' in the preparations for the May 2018 timetable change.

3.101. The existence of this new capability would not remove the responsibility for successful programme delivery from the programmes. Sponsors would necessarily remain publicly accountable for decisions about specifications and costs of programmes. The new capability would allow facilitation between major programmes, and work with the industry to enable programme decisions (although not be the decision maker itself) to be made in a way that is fully informed and that predicts risks. It would provide recourse to the sponsor where a material change looks likely, but with the confidence through audit, assurance and reporting that those material changes were timely and justified.

Recommendation

3.102. **An enhanced system-wide advice, audit and assurance capability for major network changes should be introduced as soon as possible. The capability should be independent of individual programmes, and carry the authority of sponsors to represent their interests, and those of end-users across the delivery of programmes. It should be remitted to predict system-wide risks to the effective delivery of programme benefits for users, and provide advice to programmes and sponsors to prevent risks from occurring.**

ANNEX A: TIMETABLE INQUIRY GLOSSARY

Organisations

DfT	Department for Transport
GTR	Govia Thameslink Railway
HS2	High Speed 2
Northern	Arriva Rail North
NR	Network Rail
(NR) IP	Network Rail Infrastructure Projects
(NR) Routes	Network Rail is split into nine devolved route businesses
(NR) SO	Network Rail System Operator
ORR	Office of Rail and Road
RDG	Rail Delivery Group
TfL	Transport for London

Boards & Panels

ESG	Event Steering Group
IAP	Independent Assurance Panel
IRB	Industry Readiness Board
NTF	National Task Force
SO Advisory Board	System Operator Advisory Board
SRG	System Review Group
TPB	Thameslink Programme Board

Infrastructure Projects

NWEP	North West Electrification Project
- Phase 1	Electrification between Newton-le-Willows and Castleford Junction
- Phase 2	Electrification between Liverpool and Wigan and Liverpool and Earlstown
- Phase 3	Electrification between Blackpool and Preston
- Phase 4	Electrification between Wigan, Bolton and Manchester, also known as the 'Bolton Corridor'
- Phase 5	Electrification between Manchester and Stalybridge
Thameslink Core	a section of track running between London Blackfriars station and London St Pancras station

Terms

CP5	Control Period 5 (2014 – 2019)
CP6	Control Period 6 (2019 – 2024)
FOC	Freight Operating Company
Industry PMO	Industry Project Management Organisation
Informed Traveller	(See T-12)
ITSS	Indicative Train Service Specification
PfC	Proposal for Change – The document used to request a change to the Network Code
Part D of the Network Code	Part D of the Network Code – The section of the Network Code setting out the processes and deadlines for timetable production
PR18	Periodic Review 2018 – The review run by the ORR that will determine what Network Rail must deliver in Control Period 6
TPS	Train Planning System – The software used by the System Operator and some operators to create the timetable
TOC	Train Operating Company
TPIs	Third party intermediary companies
T-12 (aka Informed Traveller)	Once the 'base' timetable is finalised, work starts on a rolling programme to refine each week of the timetable to take account of engineering works. The intention is that the timetable for each Timetable Week is finalised twelve weeks in advance ('T-12'), in order that it can be published to passengers and enable advance tickets to go on sale to passengers

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