



PR18 working paper

Working paper 4: Outputs Framework

Date of publication: 8 July 2016

Overview

This paper sets out our initial thinking in relation to the design and nature of the outputs that Network Rail will need to achieve in control period 6 (CP6). It is written in the context of our proposed approach to PR18 set out in our initial consultation document¹, and our working papers on route-level regulation and system operation. We would like to hear what stakeholders think about the ideas set out in this document and also what the priorities should be for PR18 in relation to outputs.

This document sets out some ideas and proposals for both the framework for the outputs for CP6, and ideas on the individual areas where outputs could be set. It is important, given the timescales, that we progress both areas in parallel. The issue of the appropriate levels at which to set outputs and whether Network Rail's funding is consistent with these output levels are part of a later stage in the review, and are not considered in this working paper.

There are a number of changes that affect the approach to outputs in PR18. One key change is our proposal to regulate at a route and system operation level, which raises issues in terms of whether outputs are set at a national or route-level, and how these are set. In respect of the latter, route scorecards have recently been introduced by Network Rail, which it has agreed with its customers. This raises the prospect that in CP6 certain outputs could be set by governments, others set by ORR in PR18 and for these to sit alongside other scorecard outputs that have been agreed with customers (and so could change during the control period). Ideally, there would be alignment between these outputs and user requirements, building on engagement with customers and end users. The exact relationship between outputs and scorecards needs further discussion and consideration during PR18.

Outcomes (such as contributions to economic growth) are much discussed in the industry, but on their own are impractical as a focus for setting targets for Network Rail. They are currently used in relation to Highways England in combination with key performance

¹ <http://orr.gov.uk/consultations/open-consultations/periodic-review-2018-initial-consultation>

indicators. Our current view is that we do not propose prioritising further work in this area in PR18.

In some areas, we are not proposing significant changes and expect to continue our approach taken in PR13. This is either because the approach appears fit for purpose and there is no obvious alternative (such as in relation to network capability), or simply because of the need to prioritise both our and the industry's resources.

In other areas, there are choices to be made about whether to have certain regulated outputs. For example in relation to network availability, where the existing measure has been in place for some time and efforts to find a suitable replacement have not been successful so far. This suggests a choice to either keep the existing measure or cease to set an output in this area, with Network Rail continuing to produce the related possession indicator data.

There are also a small number of areas where significant changes are being considered and have the potential to improve outcomes. For example, the National Task Force (NTF) has been leading a workstream to identify potential alternative performance measures to replace the Public Performance Measure (PPM), in order to better reflect the experience of passengers. We are also working to establish a measure that enables assessment of each Network Rail route's contribution to train operator performance, in order to support greater accountability for routes.

Finally, we are considering whether outputs could be set in new areas. We are seeking to identify an appropriate measure or set of measures for capacity, and will need to consider whether any potential measures identified are viable for CP6. We are also considering the case for outputs in relation to financial performance.

We would welcome comments from stakeholders on any aspect of this document, including comments on our ideas or proposals, or suggestions as to alternative approaches.

Our next steps will be to discuss this working paper with stakeholders and to take account of comments received on our initial consultation document. This will inform the detailed work that is currently underway to identify potential new or revised measures, and our work on the framework as a whole. We also expect to work closely with the newly established National Task Force (NTF) working group to develop the outputs framework and the outputs within it.

Overview of this document

- **Section 1** – Provides a reminder of what outputs are and what they are used for.
- **Section 2** – Puts forward some principles for the outputs framework in CP6.

- **Section 3** – Addresses the context of the proposed route- and system operator-level regulation and what this might mean for outputs.
- **Section 4** – Sets out areas where outputs could be set.

How to respond to this working paper

Working papers are intended to facilitate a more dynamic process of engagement and consultation with stakeholders, to support an iterative approach to developing policy. We welcome all responses to the paper, including less formal responses such as emails, bilateral or multilateral discussions on any aspects covered in the paper, as well as alternative ideas and proposals. We have set a deadline for responses, but this should not prevent stakeholders from sending thoughts to us ahead of this date; indeed, we hope that our ongoing conversations with stakeholders following publication of this paper mean we will be able to make significant progress by the deadline. Earlier responses on this paper, or just on particular issues raised in it, would help us in this respect.

Where written responses are made to us (particularly more formal responses), we may publish these on our website. If you wish any information that you provide, including personal data, to be treated as confidential, please say so in your response (an automatically generated confidentiality disclaimer by IT systems will not necessarily be sufficient in this respect). However, please be aware that regardless of any such request, we may be obliged to disclose or release any submissions made to us under the access to information regimes, such as the Freedom of Information Act 2000 or Data Protection Act 1998. Further information about how we may treat your response is available in paragraphs 6.40-6.43 of our [initial consultation on PR18](#).

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Responses to this paper are requested by 16 September 2016

1. Introduction

- 1.1 The purpose of this document is to consider how the current context and recent developments within Network Rail and in the industry affects the approach to regulated outputs in CP6. This working paper is intended to support discussion and debate, and to prompt ideas and proposals from stakeholders.
- 1.2 This introduction section explains the role of 'regulated outputs'; what they are and what they are used for.

What are regulated outputs?

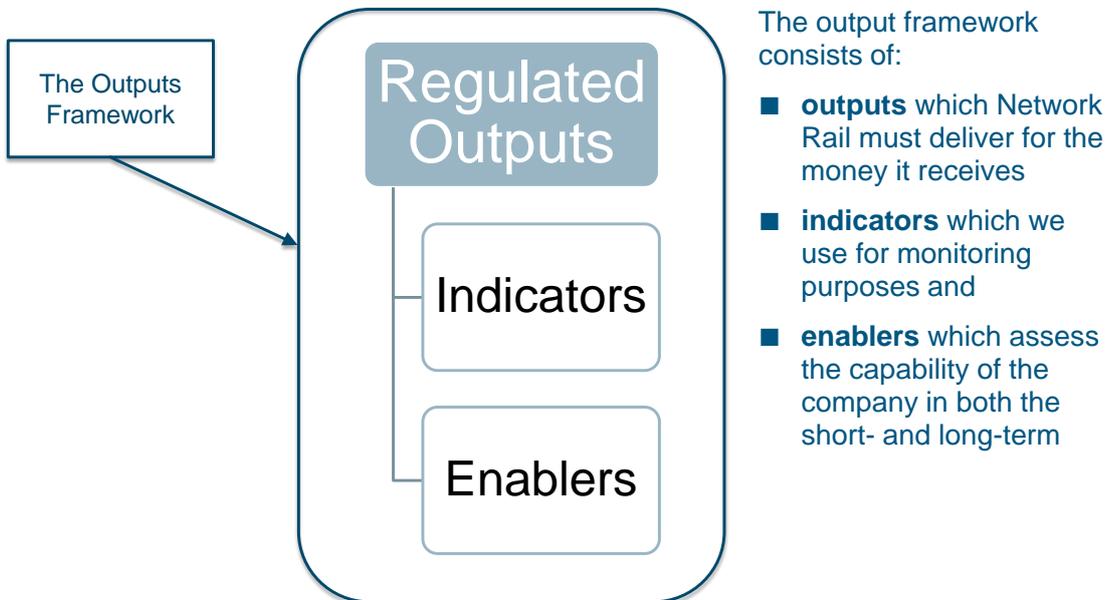
- 1.3 In simple terms, the 'regulated outputs' are what Network Rail is required to deliver for funders, customers and stakeholders with the funding it receives within a control period.
- 1.4 The final regulated outputs for CP6 will be set out in our 'final determination' document as part of the periodic review process. They will have been developed through the periodic review, based on what the industry and Network Rail consider they want to achieve in the control period on behalf of passengers and freight customers, what funders want the industry to achieve, what is affordable (via the HLOSs and SoFAs²) and, finally, what Network Rail considers it can achieve. Our role is to assess the balance between these competing requirements and identify any additional or different requirements we think are appropriate, consistent with our statutory duties.
- 1.5 Network Rail's network licence obliges it to deliver the regulated outputs 'to the greatest extent reasonably practicable having regard to all relevant circumstances including the ability of [Network Rail] to finance its licensed activities'.
- 1.6 In CP5, alongside the 'regulated outputs' are a series of other measures that support the monitoring of Network Rail in the form of an outputs framework, referred to as 'indicators' and 'enablers'³. This framework is summarised in Figure 1.1, below.
- 1.7 The targets for Highways England for the English strategic roads network are structured in a similar way, with Key Performance Indicators, Performance Indicators and Requirements, which are similar in role to outputs, indicators and enablers respectively. The targets are all aligned to specific outcomes.
- 1.8 Many of the issues we are considering for PR18 are relevant to the design of the Performance Specification for the second Road Investment Strategy from 2020. In

² High Level Output Statements and Statements of Funds Available

³ The full set of outputs, indicators and enablers can be found on pages 125 to 127 of our ['Final determination of Network Rail's outputs and funding for 2014-19'](#), and at Appendix A to this paper.

July 2016, we published a study by Economic Insight⁴ that looked at the outcomes and outputs that exist in other regulated sectors to seek to understand the advantages and disadvantages of different approaches. Where relevant, we will use the findings to inform our work for PR18.

Figure 1.1 – the CP5 outputs framework



What are they used for?

1.9 In reviewing our approach to outputs in CP6, it is important to understand how the outputs framework is currently used, and how it may be used in CP6.

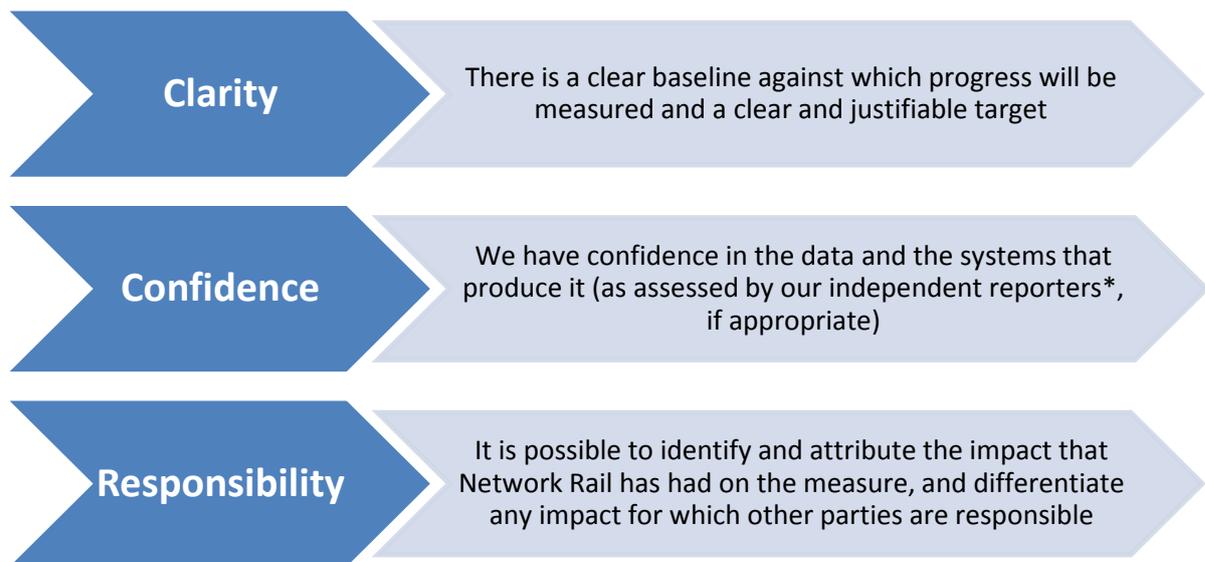
1.10 The outputs framework is a key part of how Network Rail is held to account within the control period, by:

- setting expectations for delivery and then measuring outturn performance against these (including through considering compliance with Network Rail's network licence obligations);
- supporting financial monitoring, as comparing performance against outputs helps us to understand whether lower/higher spend indicates improved/reduced efficiency levels; and
- providing wider transparency in terms of Network Rail's delivery for stakeholders, governments, and within Network Rail itself.

⁴ <http://orr.gov.uk/highways-monitor/publications/review-of-outcome-frameworks-in-other-regulated-sectors>

- 1.11 The outputs that are set for CP6 should therefore reflect customer and end-user views, the requirements of funders, and Network Rail’s understanding of its own business.
- 1.12 Outputs play an important role in how we seek to enforce Network Rail’s network licence. If, during a control period, Network Rail does not deliver an output, this could potentially be a breach of its licence (if we conclude that Network Rail has not done everything reasonably practicable to achieve that output). In CP5, a failure to deliver either an enabler or an indicator would not be considered as a potential licence breach, although it might highlight wider problems which could themselves be a potential licence breach.
- 1.13 In order to support effective monitoring, and to support enforcement of Network Rail’s network licence, any regulated outputs should meet the requirements as set out in Figure 1.2 below:

Figure 1.2 – requirements for regulated outputs



* The role of independent reporters is to provide us with professional advice on the quality of Network Rail’s provision of railway services, as specified in their licence.

- 1.14 The way that we hold Network Rail to account is set out in our ‘Economic enforcement policy and penalties statement’⁵, which we update as required⁶. Network Rail has recently introduced corporate and route level scorecards for its

⁵ <http://orr.gov.uk/what-and-how-we-regulate/regulation-of-network-rail/enforcement>

⁶ This is separate to our health and safety enforcement powers (<http://orr.gov.uk/what-and-how-we-regulate/health-and-safety/health-and-safety-enforcement>) and our enforcement of roads targets (<http://orr.gov.uk/highways-monitor/enforcement-policy-for-highways-england>)

business. For CP5, we are beginning to take account of these scorecards in considering whether Network Rail is doing everything reasonably practicable to achieve its performance outputs, although the use of route scorecards is still in its infancy. We address the role that scorecards could play in CP6 in section 3 of this document.

2. Principles for a CP6 outputs framework

2.1 This section sets out the context for setting outputs in CP6, and some high level principles for what the outputs framework might look like and what it might achieve.

What is the context for CP6?

2.2 The PR18 initial consultation document sets out our high-level approach to the periodic review, in the context of:

- growing use of the network;
- Network Rail's delivery of performance and efficiency;
- the impact of reclassification and public spending requirements;
- a background of increasing political and operational devolution;
- the recent reviews of the industry structures and incentives; and
- technological change and High Speed 2.

2.3 We also set out proposals in relation to route-level regulation, a new approach to regulating the system operator activity and more flexible approaches to enhancements. These documents also take into account recent reviews including the Shaw Report⁷.

2.4 The proposals on route-level regulation would involve a separate 'settlement' for each of Network Rail's routes, with each route having its own financial settlement (i.e. forecasts of efficient cost, assumed required revenue and the regulatory asset base) and a set of outputs. The precise form of the System Operator settlement is not yet clear but would, in all likelihood, include a set of regulated outputs.

2.5 Of the changes set out in our initial consultation document, there are some specific issues that are most relevant to setting outputs:

- Network Rail's recent **introduction of route level scorecards** to report route level delivery, which provide an opportunity for additional locally important measures to be agreed between Network Rail and its customers;
- the **potential for significant asset sales** by Network Rail in England and Wales, potentially including telecoms, electrical assets, stations and depots, which may affect who is responsible for the delivery of certain activities; and

⁷ <https://www.gov.uk/government/publications/shaw-report-final-report-and-recommendations>

- the move towards **greater political devolution**, including of franchising decisions. This is also leading to greater diversity in how services and infrastructure are coordinated and delivered. For example, in Scotland there is the Alliance Agreement between Abellio ScotRail and the Network Rail Scotland Route⁸, consideration of concession models for the Welsh Valley lines and additional responsibilities for Transport for London in respect of rail services in London.

2.6 In addition, legislation places a number of requirements on parties that affect how outputs are set, notably:

- the Secretary of State must set out his requirements for the railways in England & Wales (and, for Great Britain, in respect of safety-related outputs), which in PR13 he did in the form of the high-level output specification (HLOS).
- the Scottish Ministers must set out their requirements for the railways in Scotland, which in PR13 they also did in the form of an HLOS.

2.7 Both HLOSs were accompanied by statements of the funds available (SoFAs), which set out what funding the respective governments expect to be available to support the delivery of the outputs included in the HLOSs.

2.8 The shape and content of the HLOSs are for the respective governments to determine; they could be high level statements of principles to be achieved or a more detailed set of requirements. Funders are in particular reviewing, with the industry, how best to treat enhancements in the HLOSs and SoFAs. This may lead to a more direct arrangement between Governments and Network Rail, with decisions on some enhancements taking place outside of the HLOS and instead taking place throughout the control period. The impact of this on the wider outputs framework would need to be considered, as significant changes to the programme of enhancements may have impacts on the appropriate performance targets, for example.

2.9 We discuss in our route-level regulation working paper the links between the form of the HLOSs and route-level regulation. In particular, the HLOSs play an important role in facilitating sufficient route-level variation, so that customers can play a larger role in determining what routes should deliver, and so that route teams have sufficient freedom to vary their approaches.

2.10 A further important element of the context for CP6 is that Network Rail is not currently meeting its performance and enhancements outputs. The levels that are set for outputs must be set against the background of the likely 'exit position' for CP5.

⁸ A redacted version of this alliance agreement can be found at <http://www.networkrail.co.uk/working-with-us/alliances/>

2.11 Finally, we now have a role in monitoring and enforcing the performance and efficiency of Highways England in relation to the English strategic roads network⁹. While our roles are materially different in the respective sectors, there are some consistent themes that are important to both, such as focusing on what is most important to customers and stakeholders and taking into account the extent to which the regulated organisation can control the outcomes it is required to deliver. The equivalent of the rail periodic review process is the development of a new Road Investment Strategy (RIS). Road Period 1 (RP1) runs from 2015 to 2020, and the targets for this period were set by the Department for Transport (DfT). We are beginning to prepare for the second RIS and as such there are linkages between our roads role for the next RIS and PR18. As we move forward in developing the requirements for PR18 and RIS2, we will continue to share best-practice between our road and rail responsibilities.

2.12 We have sought to anticipate in this document the changes or potential for change arising from the context for PR18, but we welcome views at this early stage on how best to take account of the likely industry context in CP6.

What should an outputs framework achieve in CP6?

2.13 The outputs framework plays an important role in delivering the aims and objectives for PR18, and must be consistent with the wider incentives framework for Network Rail (e.g. charges, other financial incentives). Our initial consultation document sets out the high level outcomes we are seeking to achieve in PR18, these are summarised in Figure 2.1.

⁹ The motorways and main 'A' roads in England, managed by Highways England.

Figure 2.1 – High-level outcomes to be delivered by Network Rail

A network that is...		
More efficient	Better used	Expanded effectively
Taking cost-effective decisions on operating, maintaining and renewing the network.	Finding ways of improving performance and accommodating more services on the current network.	Informing decisions on enhancements, and delivering agreed projects in a safe, timely and cost-effective way.
Safer	Available	Reliable
Maintaining, and finding ways to improve, safety standards on the current network and as it is enhanced.	Taking effective decisions around possessions, mitigating the overall impact of these on end users.	Taking effective decisions to limit delays and cancellations, and their impact on users.

2.14 The outputs framework can play an important role in supporting delivery against a range of these outcomes. However, in our Initial Consultation Document we set out our proposed relative priorities, and our view that the outputs framework would particularly support delivery of a network that is ‘reliable’, ‘better used’ and ‘available’. In addition, we set out proposals for our work on outputs to focus on:

- **improving the measurement of the performance delivered to passengers**, so that it reflects more closely the impact of Network Rail’s delivery on outcomes for passengers (*which goes to ‘an available and reliable network’*);
- **setting outputs at a route level**, including changes to reflect Network Rail’s closer engagement with train operators and its stakeholders (*which goes to ‘a more efficient network’*); and
- developing better **output measures for the national system operator** (*which goes to ‘a better used network’*).

2.15 The move towards route-level regulation may also affect the overall balance of the outputs framework, and may allow us to step back from more detailed monitoring where a route has demonstrated that it is effective in a particular area. Similarly, we will need to look at the extent of our role as Network Rail becomes increasingly accountable to its train operator customers as they, in turn, take a bigger role in setting requirements with Network Rail, e.g. via scorecards. This is particularly likely where train operators have shared and aligned interests with passengers (e.g. in relation to short term operations). However, there may be areas where these

interests are not sufficiently aligned. For example, franchised train operators with short franchises may be less focused on issues such as the long term condition and sustainability of assets. In such areas we are likely to take a more active role to secure the right outcomes in the longer term in the interests of passengers, freight end users and funders.

2.16 These proposals also mean that we need to consider whether it may be necessary to set outputs for Network Rail's central core and the route support functions.

2.17 An important, but conscious, omission from the above list of priorities is freight performance. We do not propose to focus on reforms to the measurement of freight performance, as the feedback we have received to date indicates that Freight Delivery Metric (FDM) is broadly fit for purpose. However, it may be appropriate to supplement FDM with additional measures.

2.18 The outputs framework will continue to reflect the broad set of outcomes that Network Rail is responsible for. However, the above areas reflect where we think our work should focus in respect of prioritisation of our work in PR18. Outside of these priority areas, we are more likely to be considering incremental changes, such as to address known issues.

Potential criteria for the CP6 outputs framework

2.19 Reflecting the above, we propose that changes to the regulated outputs framework should be assessed against the following criteria:

- supports the delivery by Network Rail of outcomes for passengers and freight customers (consistent with the proposed PR18 priorities)¹⁰;
- facilitates greater involvement by customers and local funders, and the move towards route-level regulation; and
- provides greater focus on the performance of the national system operator.

2.20 In doing so, we will need to ensure that the overall framework:

- is affordable within the constraints provided by funders;
- supports transparency and provides confidence to passengers, freight customers and funders that their interests are being delivered;

¹⁰ Including by supporting the delivery of requirements set out in franchises.

- complements the wider incentive framework (e.g. the possessions and performance regime, and Network Rail's overall financial and reputational incentives); and
- supports effective monitoring and enforcement, including by reflecting the principles of clarity, confidence and responsibility (as set out in figure 1.2).

2.21 More generally, we will be considering opportunities for simplification and ways to limit complexity.

Other considerations

2.22 There are a number of other considerations to be taken into account when assessing what an outputs framework should look like.

Outcomes, outputs and inputs

2.23 The outputs framework has tended not to be focused on 'outcomes' and more at the level of outputs and, in some instances, inputs.

2.24 Ideally, the primary focus of all parties should be on the 'outcomes' that the industry is seeking to achieve, for example, that passengers are satisfied with the service they receive, and that rail contributes to the wider economy. However, outcomes in the rail industry are influenced by a number of parties. These include governments (and other bodies who specify franchises or concessions), ourselves (as we approve the allocation of capacity) and train and freight operators (who operate passenger and freight services and manage the interface with their customers).

2.25 We have identified outcomes that we consider should be achieved for the periodic review, as set out in Figure 2.1. We will seek to align any outputs to these outcomes.

2.26 As the periodic review looks at *Network Rail's* outputs and funding, it is appropriate to focus on the issues that are within Network Rail's control, recognising that Network Rail's primary relationship is with train operators, rather than directly with passengers and freight end users. Further, Network Rail should have management control in order to find the most efficient and innovative ways to deliver the outputs for the funding available. However, as we did in CP5, it may be appropriate to look at some inputs in areas where there is less confidence in Network Rail's focus or capabilities, and where it is particularly difficult to measure outputs reliably.

Outputs, indicators and enablers

2.27 The CP5 outputs framework consists of regulated outputs, indicators and enablers. This helps us to differentiate between the things that we are holding Network Rail to account for, the indicators that we monitor and the enablers that underpin delivery of outputs.

- 2.28 This framework has been helpful, but it needs to be adapted to reflect the move to route scorecards and the wider environment for CP6. This raises questions about the role of indicators and enablers and whether we should establish these during the periodic review.
- 2.29 We set indicators for CP5 with the main aim that they would give us early warning of risk to delivery of an output commitment and to provide diagnostic information should an output not be achieved. There are no regulatory targets for indicators. Some indicators were required to be reported by governments e.g. the Key Performance Indicator suite set by Transport Scotland. Identifying that we require information as an ‘indicator’ enables us to clarify what information we will need from Network Rail during the control period¹¹. However, we are also able to require any further information we need during the control period using different means, including under condition 10 of Network Rail’s network licence, so the specification of indicators is not essential for us to collect the information we need. More generally, in the course of our working relationship with Network Rail, we often have sight of management information that it is using.
- 2.30 Between 2014 and 2019 Network Rail is being assessed against:
- 14 categories of regulated outputs (e.g. Public Performance Measure (PPM), Cancellations & Significant Lateness (CaSL), Possession Disruption Index (PDI), as well as a number of asset management measures) some of which are disaggregated e.g. to train operator level; and
 - 28 categories of indicators and enablers, of which some are disaggregated further, such as by asset type or by sub-operator, and across Network Rail’s routes.
- 2.31 Network Rail has raised concerns about the number of measures for CP5, estimating that we are monitoring 3,700 measures. This figure reflects the number of data points that are reported to the ORR, with reporting taking place over five years, split by route, train operator and/or asset type, across a combination of the outputs and indicators. Much of this data should be used by Network Rail to manage its own business.
- 2.32 However, we see a case for rationalising the data that we specifically request, and – where possible – bringing it further into alignment with the data that Network Rail is using to manage its business. As the data being collected and prioritised may shift during a control period, this suggests a more fluid approach may be appropriate rather than setting a core set of indicators in the periodic review. This would enable

¹¹ We have also previously focused the indicators on economic (as opposed to safety) areas, as Network Rail already has separate obligations to report safety information to us.

a move away from indicators being seen as a ‘regulatory requirement’ and towards Network Rail managers focusing on information that they need to effectively manage the network, which may be subsequently shared with us to enable us to understand Network Rail’s progress towards meeting its outputs.

- 2.33 In terms of enablers, these tend to measure progress on programmes or capability, which should support Network Rail’s delivery in all output areas. In CP5, this has included enablers such as P3M3 (Cabinet Offices’ Portfolio, Programme, and Project Management Maturity Model) to improve Network Rail’s capabilities in this area.
- 2.34 There is a question as to whether the enablers identified by Network Rail (to develop its capabilities) would be sufficient for our monitoring of the business. In a similar way to indicators, we see a case for only identifying additional measures where we have identified a clear gap in the company’s own metrics.
- 2.35 We set out in table 2.1 below some benefits and disbenefits of not setting indicators or enablers at a periodic review, and instead relying on Network Rail’s own management information (which may evolve during a control period). On balance, we see merits in making this change, but are interested in stakeholders’ views.

Table 2.1 – benefits and disbenefits of not setting indicators and enablers

Benefits of not setting indicators & enablers	Disbenefits of not setting indicators & enablers
<p>This provides flexibility in the control period (rather than setting indicators at the periodic review) and reflects that we also currently use other management information to understand Network Rail’s progress.</p>	<p>There may be less certainty for Network Rail in terms of the information that we will require from it on a regular basis.</p>
<p>Our ability to require information from Network Rail is unaffected by not setting indicators and enablers (e.g. Network Rail often shares information with us in the process of our regular engagement and, as a back stop, we could ultimately use condition 10 of the Network Licence or Section 80 of the Railways Act 1993)</p>	<p>Network Rail may stop routinely supplying us with information, meaning we may need to formally request information (which may be a protracted and more costly process in terms of management time for both organisations).</p>

Benefits of not setting indicators & enablers	Disbenefits of not setting indicators & enablers
<p>We will be able to rely on the improving management information that Network Rail has through the control period.</p>	<p>There may be a loss of focus from Network Rail on certain activities, to the extent that ORR monitors activities that are not a particular focus for the company's senior management.</p>
<p>This information will not be seen within Network Rail as a 'regulatory requirement', which may tend to result in ORR being seen as Network Rail's primary 'customer'. The information would be seen more as Network Rail's internal management information necessary for delivering customer and funder requirements. This information may then also be shared with the regulator.</p>	<p>We would still be likely to require information in Network Rail's annual return, meaning there may still be a 'regulatory focus' for certain information.</p>

Trade-offs

2.36 During the periodic review, the level of outputs will need to be set. We are not considering what the appropriate level for outputs would be at this stage, but in doing this, there are a series of choices and trade-offs, including between the:

- capacity available for passenger and freight services;
- maintenance, renewal and enhancement work on the network;
- performance of the network; and
- cost of the network to passengers, freight customers and taxpayers.

2.37 In order to have an informed discussion about trade-offs, there needs to be a clear understanding of each factor (e.g. performance, capacity and cost), and the relationship between them. We are working with the industry to either improve on or develop new measures in these areas to help inform this discussion, and we address this further in section 4. Further work will be needed during PR18 to assess how to balance these competing requirements.

Avoiding ‘double jeopardy’

2.38 Outputs have traditionally not been set in areas where there is existing legislation in order to avoid a risk of Network Rail facing ‘double jeopardy’ in areas such as safety and environment. Network Rail is already required to comply with legislation in these areas, and there are penalties for not doing so.

2.39 It would only be appropriate to set outputs in these areas to address any rail specific issues not covered by legislation (e.g. for CP5, we set a safety output in relation to reducing risk at level crossings) or if a stakeholder or funder wanted something over and above Network Rail’s legally defined requirements.

How will outputs be determined for CP6?

2.40 At any control period, there are some choices to be made, which we have set out in Table 2.2 below.

Table 2.2 – Choices for outputs

Choices	
Outputs Framework	In what areas should outputs be set?
	How should outputs be measured?
	At what level of geographic disaggregation?
Setting the requirements on Network Rail	How should output targets be set? Should there be one target level or ranges?
	How might output levels vary over the control period?
Process	Who should set the measures?
	When in the periodic review process should they be set?

2.41 The answers to these questions will be determined during the PR18 process, taking account of the context for PR18 set out above. This working paper is the beginning of this process.

2.42 In PR13, governments’ set out their respective expectations for the subsequent control period (CP5), in key areas such as safety, reliability, capacity and environment, with journey times being highlighted for Scotland. Output levels were specified in key areas such as performance. We then set a series of annual targets

in some cases, set targets at a lower level of disaggregation where appropriate, and set further outputs where we felt it necessary.

2.43 For PR18, a particular issue relates to how governments set out their requirements and how this supports increased customer engagement and route-level regulation.

2.44 We do not expect to 'set' outputs in the same way as in previous periodic reviews. For PR18, we expect Network Rail's funders, customers and stakeholders to have a much more central role in identifying what they want from Network Rail, and for Network Rail to develop and agree appropriate, deliverable targets at a route and system level. Outputs will be set, agreed and/or informed by:

- funders, via the HLOS process;
- Network Rail's customers, i.e. train and freight operators;
- Network Rail's wider stakeholders;
- Network Rail itself to meet the requirements of the above; and
- us as regulator.

2.45 Our role will be to assess the level of challenge and deliverability of those targets in light of funder requirements, the funding available and reflecting our statutory duties. We would also expect to identify any appropriate areas for benchmarking which have not emerged through this stakeholder led process.

What could outputs look like?

2.46 This section seeks views on how the output targets be structured in CP6.

Single point targets or ranges

2.47 Outputs for CP5 are currently set as single point targets e.g. a requirement to hit a specific percentage or a specific milestone, and this is balanced by our flexible approach to investigating failure to meet a target. This has the benefit of clarity for all parties of what the target is, and should enable targets to be set at a challenging but realistic level. The disbenefits are that it is perceived that there is little flexibility in such an approach because there is a pass or fail target, even though we currently exercise flexibility in how we investigate and assess whether Network Rail has done everything reasonably practicable to deliver an output.

2.48 An alternative approach would be to set a range or sliding scale of targets. A benefit of this would be greater flexibility for Network Rail. However, the disbenefits would be that it may reduce clarity and incentive effect – the bottom of any sliding scale could fast become the effective target unless there is an effective incentive in place

to prevent this. It may also be difficult to enforce against a sliding scale, as it may be more difficult to demonstrate that Network Rail has done everything reasonably practicable to deliver the level it has delivered.

Individual targets or a 'basket'

- 2.49 For CP5 we set a number of outputs. In holding Network Rail to account, these are all considered individually, and failure to meet any target would be investigated to determine whether Network Rail had done everything reasonably practicable to meet the requirements.
- 2.50 An alternative would be to set a 'basket' of measures across the range of Network Rail's business, and assess Network Rail's progress against the basket as a whole. The benefits of this would be that a range of outputs could be set with stretching but achievable targets, but the delivery against these would be assessed in the round. However, this may result in a lack of clarity for all industry parties about what 'success' looks like, and also weaken the incentive to push delivery across the board. It would also mean any investigation would need to be much broader and therefore more costly and time consuming for both ORR and Network Rail.

Change control

- 2.51 In CP5 the only change control anticipated in relation to outputs is in relation to changes in DfT franchise specifications which could impact on Network Rail's performance targets, and in relation to enhancements milestones. Where Network Rail has not delivered an output, the enforcement process offers an opportunity to consider whether it has done everything reasonably practicable to deliver that output.
- 2.52 However, there is a question as to whether there should be greater scope of change control in CP6. A greater role for customers in establishing requirements via outputs suggests the need to consider how 'fixed' outputs can be if they are genuinely to reflect the requirements of customers during a control period. Outputs are 'reasonable requirements' under Network Rail's network licence. If customer requirements change during a control period, and if Network Rail and its customers can agree a change (as currently happens in relation to Performance Strategies), then it would be appropriate for us to focus on ensuring that the customers' reasonable requirements are being delivered.
- 2.53 A benefit of change control is that it enables greater flexibility to external circumstances (or changing customer requirements) without raising the potential need to reopen the settlement reached at the periodic review. It also enables greater flexibility to address situations in which Network Rail is unable to meet its targets set at the periodic review, ensuring that managers are still incentivised to deliver improvements even where it appears it is not possible to meet the targets set. However, there would need to be a persuasive reason why Network Rail cannot meet

its target, and it would need to demonstrate that it is still doing everything reasonably practicable to do so.

2.54 Disbenefits of increased scope of change control are that it may result in the requirements on Network Rail being seen by its managers as more 'loose', thereby reducing the incentive to deliver to them. It may also damage the reputation of the industry, and us as regulator, if the industry is seen to be revising its targets. It would also be likely to impact on our monitoring of Network Rail if the targets change frequently.

3. Route and system operator outputs

3.1 We have proposed to regulate at route-level and, alongside this, to tailor our regulation of Network Rail's system operator role. This section of the working paper seeks to set out how outputs could be set in a way that supports our proposed approach.

Route-level regulation

3.2 The move towards route-level regulation raises a number of issues relating to the outputs framework and how outputs are set, including:

- which outputs should be in place at a route-level;
- the role of governments' in facilitating route-level regulation;
- how outputs support on-going monitoring & enforcement; and
- the role of customer and end-user engagement.

These are discussed in turn below.

National versus route-level outputs

3.3 It will be important for Network Rail routes to be measured against outputs that are within their ability to significantly influence or control. There are few route based measures in the CP5 outputs framework; many measures are either national or aligned to the train and freight operators. In PR18 we expect that there will be a shift towards many outputs being set at a route level. We will need to also consider how outputs should be applied to Network Rail's newly created 'virtual route' for rail freight and national passenger operators.

3.4 There are some choices to be made in relation to route based measures:

- **whether each route should have the same set of outputs.** The differences between routes and their customer and end-user needs might suggest that different output measures could be used for different routes. This might encourage routes to be more focused on their customer and funder requirements. However, it might also limit opportunities for meaningful comparisons between routes.
- **whether each route should have outputs set at the same level.** Even if the set of output measures were common across routes, the target level of performance could be set at the same level for each route, or vary depending upon local customer, end-user and funder requirements, the assets in the route, their condition etc. This issue may vary according to the output in question.

- **availability of meaningful data at a route level.** This can make it hard to set and monitor route level targets. This is particularly the case for current performance data which (in relation to PPM and CaSL) is aligned to the train operator businesses, which clearly do not align directly to routes. We expect the availability of route level data to improve over time with a move to greater devolution, albeit that it would not be expected to replace train operator level data; and
- **the ability of different routes to deliver.** Not all routes will have the same ability to deliver any given performance level, due to a range of factors including the use of the network, asset condition and the capability of the route management.

3.5 The arguments for differences in the required level of outputs are somewhat different to those relating to whether each route should have a different set of outputs. In this context, it is notable that Network Rail has introduced route scorecards for each of its eight routes, which include a mix of national and local-level metrics. This form of customer engagement could inform the setting of outputs for CP6, and similarly, Network Rail's business planning process.

3.6 Potential tension between route-level variation and comparison between routes might suggest:

- a presumption in favour of maintaining comparable measurement of key outputs across routes (e.g. having at least one single method for measuring passenger performance, even if this is supported by other measures to reflect different customer needs);
- flexibility for routes to influence the levels at which targets should be set for these key outputs (e.g. resulting from different franchise targets);
- the ability to agree additional (locally-important) output measures; and
- a series of national performance measures, where delivery at a national level is particularly important (e.g. in respect of safety, or for freight services).

3.7 In section 4 of this document we set out our thoughts on the different areas where outputs, indicators or enablers could be set. We indicate where we think route based measures could be set.

Role of governments in facilitating route-level regulation

3.8 In order to realise the benefits of route-level regulation, governments would need to set requirements in the HLOSs in a way that facilitates inter-route comparison and

allows individual routes to deliver different outputs levels. Reflecting the above discussion, there are different aspects to this:

- **setting requirements in a manner which allows variation at route level.** This is a particular issue for England & Wales HLOS, as the Scotland HLOS relates to a single route. In PR13 the England & Wales HLOS made national and local commitments but did not recognise Network Rail routes. Setting requirements in a way that would allow variation at route level would imply either: setting minimum output levels for each route; national average performance levels; or broad indications of what should be delivered (rather than specifying particular output levels at each route).
- **setting any requirements in ways that support comparison.** This would imply that the set of output measures – but not their levels – should have a degree of consistency between routes. This is a particular issue for both HLOSs, to the extent that Scottish Ministers and the Secretary of State see value in comparisons between Scotland and routes in England & Wales.

3.9 Separately, governments may wish to set additional requirements for national-level outputs and/or in respect of system operation.

Ongoing monitoring and enforcement

3.10 One aspect of route-level regulation is that the act of transparently comparing performance between routes will itself provide a stimulus to improve performance via reputation. In addition, it means that a wider set of stakeholders – customers, local funders, other interested parties – will have the information to enable them to hold route teams to account for their performance. This could play a useful role in encouraging closer relationships between routes and their customers and other stakeholders, and in terms of reputational incentives, on the route management teams.

3.11 A further effect is that differences in relative performance are more likely to be scrutinised, and this could provide an additional stimulus for the sharing of best practice, facilitated by Network Rail central teams including the system operator.

3.12 The outputs framework also plays a formal role in the regulation of Network Rail. Under Network Rail's network licence, in considering whether Network Rail is fulfilling its general duty, we assess whether Network Rail is doing everything reasonably practicable to meet the reasonable requirements¹² of its customers and funders. We consider the reasonable requirements of Network Rail's customers and funders to

¹² This is set out in our Economic Enforcement Policy and Penalties Statement published in December 2015 <http://orr.gov.uk/what-and-how-we-regulate/regulation-of-network-rail/enforcement>

include regulated outputs, and therefore this is the test we apply when holding Network Rail to account for delivery of its outputs.

3.13 In order to support route based regulation, we will therefore need to consider how routes should be ultimately held to account within Network Rail's network licence for delivery of outputs in the control period. Should we take formal enforcement action, we would expect to identify clearly where issues relate to a particular route (or routes). In addition, should we issue a financial penalty, we would expect to identify how this related to the activities of the routes and for these penalties to be recognised in the regulatory accounts of the relevant routes. This would facilitate a link between route performance, enforcement and the financial rewards of the relevant route management teams.

The role of customer and end-user engagement

3.14 Network Rail's creation of annual route-level scorecards provides an opportunity for its customers to play a larger role in how outputs are set, in particular by enabling greater involvement of train operators and route stakeholders in determining the priorities for each route.

3.15 In parallel, there may also be greater scope to involve end-users (passengers and freight customers). We have looked at best practice established in other regulated industries (such as water (see Box 1 overleaf), energy and aviation), with a view to identifying whether the principles underlying this approach could be successfully adapted to rail. Key differences are that in water there is no HLOS or public subsidy, but there are likely to be some elements which could be translated to rail.

3.16 One notable feature is that there is diversity in the approaches taken. Some regulators gather input from consumers directly, using this (in turn) to inform their views on what the regulated company should deliver¹³. Others adopt a provider-led approach to engaging with consumers, allowing the regulated company to gather directly the consumer input and (in turn) using this to develop their proposals. Some regulators tend to use a combination of both approaches.

3.17 Information about what consumers want can be identified through 'stated preference' exercises – where consumers are offered a series of realistic choices, to infer how important a range of factors are likely to be – or through direct discussion with consumers (passengers and freight shippers, in rail). These techniques can be used to inform the trade-offs made as part of the business planning process.

¹³ For example, Ofgem has a panel (the consumer first panel) consisting of 80 typical domestic customers that meets regularly to discuss certain policy issues, including those relating to issues being considered in the network price controls.

- 3.18 An alternative approach is to appoint a ‘customer challenge group’, where a small group of individuals (and/or representative bodies) review material and provide views and challenge on behalf of consumers generally. A further approach involves detailed research on consumer behaviour and choices, which is an area where the railways have a relatively strong evidence base (as reflected in the research built into the Passenger Demand Forecasting Handbook).
- 3.19 For the new virtual freight and national operators route, this process could operate in fundamentally the same way.

Box 3.1

Customer priorities in business planning: the water sector

The water sector in England & Wales has been including customer priorities in relation to business planning and the setting of bill charges since 1994. A similar system is in place in Scotland. The key features of this approach are:

<p>Willingness to pay research</p> <ul style="list-style-type: none"> - Based on ‘stated preference’ methodology - Consumers presented with trade-offs to identify true preferences 	<p>Customer challenge groups</p> <ul style="list-style-type: none"> - Independent group of stakeholders to challenge the planning process and push for improvements 	<p>Research</p> <ul style="list-style-type: none"> - Draft plans are tested with customers for acceptability - Strong support from customers needed 	<p>Measures of customer outcomes</p> <ul style="list-style-type: none"> - To safeguard implementation of the customer priorities, measures of outcomes for customers included with incentive and penalty mechanisms
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- 3.20 There is an opportunity here to ensure that Network Rail’s route plans are genuinely customer focused, consistent with the recommendations of the Shaw report, and contain more evidence about what passengers and freight customers want. This is particularly relevant for setting outputs.
- 3.21 However, we need to be realistic about what can be achieved as part of this review – some of the approaches used in water and energy took several years to implement in their current forms. It is also relevant to consider the ability of customers to adapt and have the resources available to participate in a more intensive way in the current review, and also to consider that any outputs need to be set within the framework of what is affordable for governments.

- 3.22 This may suggest that we need to identify areas where passenger and freight end-user involvement would be particularly valuable (as opposed, for example, to areas where there is existing detailed research), but also provide a framework that supports those routes which are able to go further in terms of engagement with customers, passengers and freight end users. While passengers and freight end-users are the customers of train operators, there may be specific instances where operators are not a suitable proxy for the interests of their customers, and so it may be appropriate for Network Rail to look at other ways to reflect passenger and end-user requirements. This could be via route level stakeholder challenge forums.
- 3.23 As set out earlier in the document, we also need to consider how ‘fixed’ outputs can be if they are genuinely to reflect the requirements of customers during a control period.

Central Network Rail activity

- 3.24 Network Rail's remaining structure consists of the central system operation activities, corporate functions and route services. It will be important to all parties in the industry to retain a sense of how the network as a whole is delivering.

System operator

- 3.25 Alongside our Initial Consultation Document for PR18, we have published working papers on system operation. These documents build on our previous consultation in August 2015. We have set out our revised concept of system operation and some initial views on the potential issues and opportunities with system operation and how it could be regulated in CP6. We do not duplicate the detail here.
- 3.26 We expect to set some outputs for the system operator, particularly in areas where there needs to be a network wide focus such as how well Network Rail makes use of the physical infrastructure when timetabling services. There is also a question of whether national targets would still be needed where there is greater focus on routes, and if they are still needed, who would own them. For example, while there may be punctuality outputs at route level, it may be appropriate to have a national punctuality measure also. This could potentially sit with the system operator (to incentivise national coordination and improvement programmes).
- 3.27 Again, in section 4 of this document we set out our thoughts on the different areas where outputs, indicators and enablers could be set. We indicate where we think system operation measures ought to be set.

Central core

- 3.28 Network Rail's group head office and route services directorate should be acting to provide strategic steer and services to the routes. We do not currently see a strong

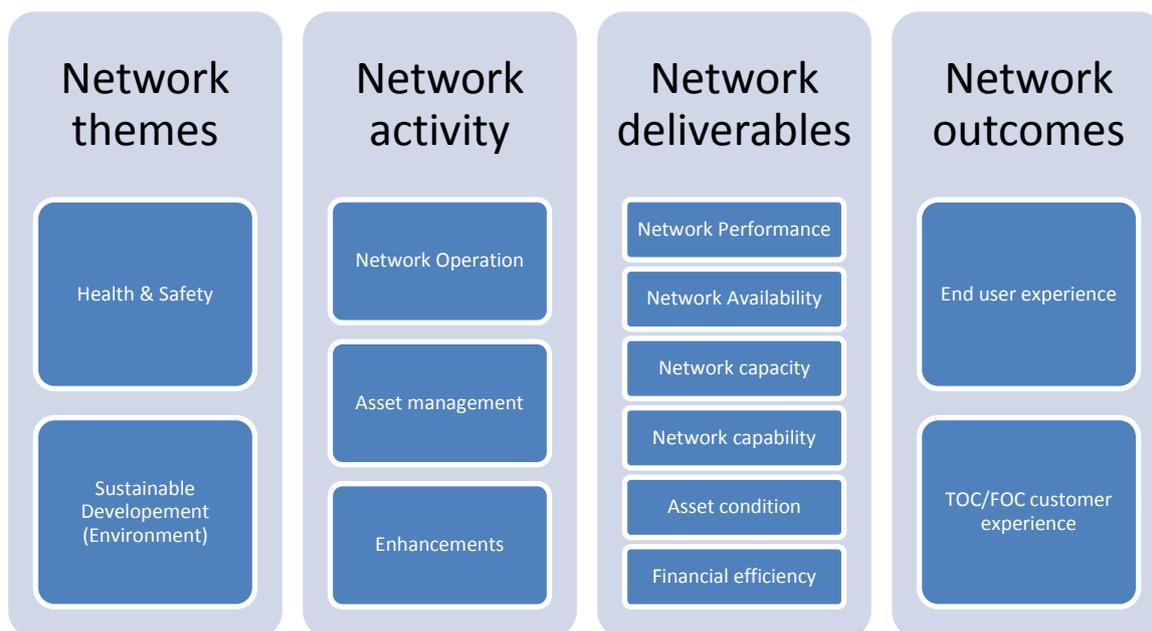
case for setting specific regulated outputs for these parts of Network Rail, and instead would prefer to gain assurance over the company's overall performance by focusing on the delivery of the routes and of the system operator.

3.29 There may, however, be areas where it would be appropriate for outputs to be set for the 'central core', such as milestones for centrally controlled programmes to enhance Network Rail's capabilities in all output areas.

4. Potential outputs

- 4.1 In this section, we set out some areas where it may be appropriate for Network Rail's stakeholders, funders or ourselves to set outputs (or, if we were to continue with them, indicators or enablers) for CP6. Rather than focusing on the structural points covered in earlier sections, here we address the specific measures which could be used in CP6.
- 4.2 As noted in our overview section, we are seeking to progress both the framework for the outputs for CP6, and some ideas on the individual areas where outputs could be set. It is important, given the timescales, that we progress both areas in parallel.
- 4.3 We set out some areas for consideration by funders, customers and other stakeholders. These areas may overlap with those covered by scorecards. If there are areas where none of these parties wish to set outputs for Network Rail, but which we think are important to enable us to fulfil our statutory duties, we may seek to set additional outputs. Regardless of what outputs are set, it is clear that all outputs must fit within affordability constraints. If customers or stakeholders wish to specify additional outputs e.g. through Network Rail's scorecards, which represent a non-marginal change to requirements, then these would need to be funded separately.
- 4.4 For some areas currently under consideration in this section, it may be the case that no outputs should be set at all – at this stage we are simply seeking to identify whether these are areas in which Network Rail's funders, customers and stakeholders may want targets to be set or information to be provided and, if so, at what level of disaggregation. It is important to ensure that the number and nature of outputs is appropriate and supports delivery by Network Rail.
- 4.5 In order to approach this, we have structured our approach with the following categories, which are illustrated in figure 4.1 below:
- “network themes” – these reflect the ‘context’ that determines how network activity must be undertaken;
 - “network activity” – these activities include maintaining and improving the capability of the network and the services that the network can support;
 - “network deliverables” – these are features of the day to day operation of the network that are largely (but not completely) influenced or controlled by Network Rail and are likely to be important to its direct customers; and
 - “network outcomes” – these are intended to cover outcomes that are broadly within Network Rail's control or influence, i.e. the experiences of its customers and stakeholders, and their customers in turn.

Figure 4.1 – potential output areas



- 4.6 We have been working with Network Rail and the industry on certain areas in order to identify potential alternative or new measures to those currently used by the industry. In particular, we are looking at network performance (where the industry, through NTF, is considering replacements for the current measures), network availability (where the industry would like to improve on or remove the current measure) and network capacity (where there currently are no outputs, although there are other mechanisms in place).
- 4.7 We have set out in the next section some views on potential areas for outputs, including a summary of any current measures for CP5 in the Annex to this paper. We are interested in industry views on the areas we are focusing on, what areas they consider need focus, and views on what appropriate route and system operation level measures could be set.

Network Themes

4.8 These reflect the 'context' that determines how network activity must be undertaken.

Health & Safety

Background

4.9 Network Rail already reports a number of safety measures to us under its safety requirements. We have previously taken the view that we did not wish to create a risk of 'double jeopardy', whereby Network Rail would be accountable both under health and safety legislation and separately under the economic regulatory framework.

4.10 In this context, in CP5 we set one output for health and safety, and that was in the form of delivery of a plan to reduce risks of accidents at level crossings. We did not set any indicators in this area as Network Rail was already required to report certain key indicators to us. In addition we also set an enabler related to safety management maturity (Railway Management Maturity Model – RM3) which as with other enablers should support Network Rail's delivery in all areas.

Should outputs (or indicators or enablers) be set for this activity?

4.11 As set out above, we have traditionally not set outputs in areas where there is existing legislation and we see no reason to move away from this approach.

4.12 We note that Network Rail has included five safety measures in its route scorecards, but no health measures. The safety measures are 'lost time injury frequency rate', 'close calls raised', 'close calls close out measure', 'passenger component of train accident risk', and 'top 10 milestones to reduce level crossing risk'. Network Rail's corporate scorecard contains the same set of measures, except that the 'passenger component of train accident risk' is replaced with 'key milestones to reduce train accident risk'. This consistency between route scorecards and Network Rail's central management of safety is appropriate, but does not imply that these measures also need to be reflected in the regulated outputs for CP6.

4.13 In terms of the regulated outputs framework in this area, we would only be likely to set an output where there are specific funded health and safety requirements from governments to improve health and safety in specific areas (as we have done in CP5 for level crossings).

Sustainable Development (environment)

Background

4.14 In their last HLOSs, both governments set targets for sustainable development. We did not set outputs in this area in PR13 for the same reason outlined in our health

and safety section – we did not wish to create a risk of ‘double jeopardy’, whereby Network Rail would be accountable both under environmental legislation and separately under the economic regulatory framework.

4.15 We did however set a number of indicators to enable us to monitor the impact that Network Rail was having in this area and improve transparency. These included carbon dioxide emissions and carbon embedded in new infrastructure. Network Rail also developed some new sustainable development Key Performance Indicators (KPIs) which we set as indicators in the outputs framework. These covered areas such as: natural resource performance – measuring waste, timber, environmental incidents and sites of special scientific interest; diversity and inclusion – measuring the composition of the workforce, by age, sex, ethnicity etc; and social impact performance – measuring volunteer leave, charitable investment, apprentices and complaint handling. These existing indicator measures have developed to a greater level of maturity since PR13.

Should outputs (or indicators or enablers) be set for this activity?

4.16 The industry has continued to make efforts in this area, and governments may or may not wish to set HLOS targets again in this area.

4.17 We have been engaged in the Rail Safety & Standards Board-led workstream to identify the appropriate approach for CP6, and we expect this to be articulated in the industry’s Initial Industry Advice later in 2016.

4.18 We consider that Network Rail, in common with most organisations will include measures in its corporate responsibility documentation. We do not consider it likely that we would want to set any outputs in this area.

4.19 Reflecting this, this could be an area where we reduce our use of outputs/ indicators/ enablers, and instead rely on the processes that Network Rail has put in place. Should Network Rail change its approach significantly, we could consider using our powers to collect similar information in future.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.20 Devolution to routes will impact how Network Rail manages this area, and we expect this to be a major consideration in its Sustainable Development strategy for CP6.

Network Activities

4.21 These are the ‘key network activities’ in terms of maintaining and improving the capability of the network and the services that the network can support. We have included enhancements here because it is an activity which changes the network.

Asset management capability

Background

4.22 Asset Management covers a wide variety of activities and it is a key enabler for Network Rail to deliver its objectives. Asset management covers Network Rail’s capabilities in relation to its assets, as opposed to asset condition (covered under ‘Network Deliverables’) which reflects the resultant state of the assets, influenced by Network Rail’s asset management capabilities as well as other factors such as the finance made available for delivery asset management plans.

4.23 In PR08 we did not consider it necessary to set regulated output requirements for asset management (or condition – except for station condition) and instead decided to manage against the dashboard of indicators that Network Rail set in its CP4 business plan.

4.24 In PR13 however we decided to strengthen the requirements on Network Rail regarding the management of its assets, due to concerns about the pace of improvements it was making in asset management. We set outputs in relation to its asset management capability (measured via the Asset Management Excellence Model – AMEM); asset data quality requirements at a corporate level and agreed key milestones in the transformational ORBIS (Offering Rail Better Information Services) programme, the main aim of which was to support development in these areas. In addition, we expanded the range of indicators to reflect the greater role of routes in managing asset reliability, condition and in the delivery of maintenance and renewals.

Should outputs (or indicators or enablers) be set for this activity?

4.25 We need to be assured that the long-term interests of Network Rail’s funders, customers and those of passengers and freight end-users are being safeguarded. Asset management capability is central to Network Rail delivery over the medium to longer-term. We think that this is an area where it is less likely that other parties (such as Network Rail’s funders or customers) might require outputs to be set.

4.26 While Network Rail appears to have strong plans for progress in this area during CP5, our formal assessment of Network Rail’s improvements in its asset management capabilities is not due until 2017. We said in PR13 that we would expect Network Rail to set out its next steps in relation to asset management

capability for CP6 in its PR18 submission. Depending upon the progress made during CP5 and the emergence of any new issues that are identified by Network Rail or through our monitoring activities, we might decide to continue to set output requirements in this area for CP6 if a specific improvement is required or where we are not sufficiently confident in Network Rail's current capability or in its commitment to improving its capability.

At what level of disaggregation should outputs (or indicators/enablers) be set?

- 4.27 Where routes are accountable for the delivery of asset management activities, we would expect to set any outputs at a route level. We would only set an output at a system level where the routes do not hold the accountability for an activity.
- 4.28 For example, the routes are accountable for managing the volume of renewals and as such in CP5 we set indicators at a route level. However, development of asset management capability was a central activity and as such we set output targets for this at a national level. With increased devolution in CP6, we could potentially set outputs (if required) for asset management capability at a route level. For asset management (as opposed to asset condition), this will depend on the extent to which policy continues to be made in the centre or whether it has been devolved to the routes.
- 4.29 Our next steps in this area will be to continue to review Network Rail's progress, and to engage with Network Rail to identify any specific areas for improvement in asset management capability that we may consider appropriate to establish clear output requirements, if any.

Network operation

Background

- 4.30 This relates to all the activity that Network Rail undertakes to operate the network, including activities such as timetabling. We cover much of this activity in our separate system operation working paper.

Should outputs (or indicators or enablers) be set for this activity?

- 4.31 We are interested in Network Rail's abilities and programmes in relation to its timetabling capabilities, and its understanding and allocation of capacity. These are important capabilities that affect the outcomes delivered to funders, customers, passengers and freight end-users in the medium to longer term; while the ability of Network Rail to deliver high-quality timetables affects network performance in the near-term.
- 4.32 There are some areas where we are interested to explore the extent to which the outputs of the system operator functions can be reliably measured:

- timetable quality (e.g. the number of errors in the timetable, average journey times, etc.);
- service provided to services travelling across route boundaries; and
- capacity / usable 'paths' identified through improvements in how the system is operated.

4.33 It may also be useful to set some outputs focused on areas where important improvements are needed. For example, the system operation working papers highlight the potential issues relating to the quality of data available about the network (which supports effective timetabling and capacity & performance analysis).

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.34 If we were to set any outputs in this area, they would be more likely to be system operation level outputs, unless the routes were accountable for the specific activity in question. There may be a need to target outputs at particular locations where the system operator is expected to play a particularly important role, such as in supporting the services moving across route boundaries (notably for freight, but this is also a significant issue for most passenger operators).

Enhancements

4.35 For CP5 we set outputs of enhancement scheme delivery milestones and development milestones for early stage projects. We also set indicators of enhancement fund KPIs (e.g. average scheme benefit cost ratios), improved governance processes for HLOS funds and project activities and milestones.

4.36 There have been a number of reviews relating to enhancements. The funding and treatment of enhancements, and how they relate to the periodic review process is subject to on-going industry discussion. We will consider what, if any, role outputs have as more detail emerges about the likely framework for enhancements. If outputs were to continue, these would likely to be focused on milestones, although it would be appropriate to review which milestones these should be within a project lifecycle.

Network Deliverables

4.37 These are features of the day to day operation of the network that are largely (but not completely) influenced or controlled by Network Rail and are likely to be important to its customers.

Network performance (passenger)

Background

4.38 There is a broad consensus in the industry that it is appropriate to review PPM and CaSL, with a view to moving toward measures that better reflect the experience of passengers. Some issues with these current measures include that they are:

- Train measures not passenger measures (i.e. each train has equal weighting, regardless of the number of passengers);
- Pass/fail measures per train at five and ten minute thresholds and measured at final destination only;
- Shared responsibility measures – Network Rail and train operators share responsibility for delivering PPM and CaSL which can result in confused accountability.

4.39 NTF¹⁴, which originally developed PPM as a response to poor industry performance in 2001-02, has led on reviewing the current measures and development of a number of potential alternatives. It has developed and trialled a number of potential replacement measures for PPM and CaSL from October 2015. NTF has developed a basket of new measures which enable a focus on the passenger time lost, right time arrivals, cancellations and severe disruption which could be used as outputs in CP6. It has also considered ways that the industry can begin to introduce measures for 'metro' style services (i.e. where a train service is characterised by frequency and journey time, rather than by punctuality). It is likely that data on the existing PPM and CaSL measures would continue to be collected in CP6 for comparison purposes and to help understand trends.

4.40 There is a broad consensus in the NTF-led work that the passenger sector should be more focused on the passenger in terms of punctuality and availability and that effective industry measures should reflect this. Our view is that this strongly suggests that regulated output measures should bring more focus on what best represents the passenger experience.

<http://www.raildeliverygroup.com/what-we-do/todays-railway/national-task-force.html>

- 4.41 NTF has considered a number of options to reflect this, in terms of reflecting the number of passengers travelling, measuring performance in terms of delays relative to the published timetable (i.e. in delay minutes, or equivalent), and measuring performance at all stations (rather than just at the end station). This combination of changes could better reflect the impact of delays on passengers. It would also address some of the potential perverse incentives that PPM and CaSL might drive on the network, such as to timetable in ways that place disproportionate weight on on-time delivery at terminus stations and not enough on intermediate stations. It might also be expected to provide a sharper focus on ensuring that more passengers arrive on-time (rather than more trains, even when these might have few passengers).
- 4.42 Ideally an updated measure would be based on actual passenger numbers on each service. However, lack of available data on real-time passenger loading is an obstacle here. Passenger loading data is not collected consistently and regularly within the industry. We understand that while c2c has 100% coverage in terms of rolling stock with the equipment to measure the number of passengers, only about 20% to 30% of other operators' fleets are equipped with this technology. We also understand that the technology does not currently enable the data to be translated into real time loading information. DfT collects certain loading data for its own specific planning purposes, but this may not form an appropriate base for a performance measure.
- 4.43 However, this should not prevent the industry moving to more passenger-centred measures based on the best available information, and doing so should create pressure for improvements to the availability and quality of passenger loading data over time. Instead it means we need to use the best available information, which might involve using a measure that is a reasonable proxy for passenger numbers (such as revenue data) or using historical usage data to provide a reasonable approximation of likely future passenger numbers. Indeed, it is important to recognise that, even where approximations are needed, a measure that reasonably reflects likely passenger numbers would be a significant step forward compared to the current approach (which implicitly assumes the same number of passengers travel on each train).
- 4.44 NTF identified early that targets that the industry uses are unlikely to be directly relevant to individual passengers' understanding and experience of their individual journeys and indeed, developing industry targets to be relevant to the experience from the perspective of individual passengers may result in measures which do not drive the right industry behaviours when operating sections of the network. To address this NTF has agreed a separate workstream about improving information available to passengers about the punctuality of their own journeys.

- 4.45 With a greater focus on Network Rail routes, we consider that it is crucial to have a measure which assesses how well each route is delivering, and that it is important to keep the passenger at the centre of this. Reflecting this, we see merit in a route-based passenger-weighted delay minutes measure. This is still being developed but would potentially enable routes to understand the impact of delays originating from their route on passengers across the country. This would need to be assessed against Network Rail's current approach (in its scorecards) of breaking a train operator-focused measure (currently PPM) down to sub-operator level and allocating those sub-operator groups to particular routes. This approach could presumably be replicated with the new industry measures developed by NTF.
- 4.46 In order to assess whether route level passenger measures were appropriate, we conducted some analysis to show that between 79% and 95% of passenger journeys take place within a route, depending on the route¹⁵. Further, measuring punctuality at a route level looks likely to drive the right sorts of behaviours, as a punctual service for passengers travelling within a route will tend to support punctuality for those travelling across route boundaries. As such we think it is reasonable to assess punctuality at a route level, despite the concerns about lack of complete alignment between Network Rail routes and train operator businesses and/or passenger journeys.

Should outputs (or indicators or enablers) be set for this activity?

- 4.47 Punctuality remains the main driver of passenger satisfaction¹⁶. Network performance is therefore one of the most important areas for end users, customers and funders. In PR13, both governments set targets for performance in their HLOSs, and consequently we set regulated outputs in this area. Even in the absence of such a specification, we are likely to continue to set a regulated output in this area due to its importance in improving overall passenger satisfaction (a key outcome for the industry).
- 4.48 Ideally, there would be close alignment in the way in which franchise authorities measure performance, the obligations included in franchises and how we measure Network Rail's delivery. Reflecting this, we will be working with stakeholders with a view to reaching agreement about the replacements for PPM and CaSL.

¹⁵ We looked at how many journeys started and ended within the same route – if they did, we assumed that the entire journey took place within the same route. We note there may be a small number of exceptions to this but we do not believe they would be sufficiently material to suggest that this approach is not appropriate. Data source: Origin Destination Matrix from LENNON sales database for 2014-15, owned by ATOC.

¹⁶ See the most recent National Rail Passenger Survey (Autumn 2015) <http://www.transportfocus.org.uk/research-publications/publications/national-rail-passenger-survey-nrps-at-a-glance-great-britain-wide-autumn-2015/>

4.49 We have contributed to the discussions at NTF and its 'task and finish' working group regarding potential new measures for performance, alongside Network Rail, DfT, Transport Focus and train operators. We have also discussed this work with Transport Scotland. We consider that new measures that could be used as a regulated output for both passenger (and freight markets) should:

- incentivise Network Rail to get as many passengers (and as much freight) to their destination as close to the expected time as possible, within the funding available;
- incentivise Network Rail to take action to reduce the system wide level of delay; and
- incentivise Network Rail to minimise any delay that does occur, taking into account the impact on the passenger (or freight end-user).

4.50 This points us towards the view that performance should be measured in a way that best represents the passenger experience, which may be weighted for passenger numbers, reflecting all delays and performance at all stations (including intermediate ones). The work done by the NTF is helpful, and takes us in the right direction.

4.51 We are also mindful of the need to understand the incentives that performance measurement sets in respect of the timetabling of services, as on-time performance can be improved by increasing journey times and the use of extensive performance buffers, which are unlikely to deliver the best outcome for the passenger. We will continue to explore how we can set a balanced set of incentives for the system operator functions.

4.52 We also recognise that there are a number of existing measures required through franchises and concessions. We have worked with DfT to seek to align franchise targets with Network Rail targets by including PPM franchise targets. If the industry moves to a new performance measure, DfT (and other franchising /concession granting organisations) will need to consider how this will align with its franchises and concessions, although it is recognised that this is likely to take time. Network Rail's locally driven customer measures sections in its route scorecards also offer an opportunity for operators to seek to align Network Rail to their targets where possible.

4.53 In Scotland the regulated target aligns with both the HLOS target and franchise target set by Transport Scotland. Other government organisations are likely to get more directly involved with franchises (such as Welsh Government and Transport for the North), and so it is important to understand the approach of these organisations.

At what level of disaggregation should outputs (or indicators/enablers) be set?

- 4.54 Performance targets are currently set at national (England and Wales, and Scotland) and train operator level for CP5. However, we now need to reflect the greater devolution to Network Rail routes and the associated raised importance of system operation activities.
- 4.55 Network performance is important both at a system and route level. The routes must continue to be incentivised to improve performance, consistent with their funding. Network Rail's corporate scorecard currently includes the main performance measures of PPM and CaSL, but also Right Time Arrivals and other measures. Routes have worked with customers to select from a number of measures. Network Rail has addressed the fact that PPM cannot be directly broken down to route geography by breaking the passenger operator level PPM to sub-operator level where appropriate.
- 4.56 It may be appropriate to set targets at both system (national) and route level, and to continue to set targets at a train operator level (which, depending on the operator, could become route-level outputs or system-level outputs). There is a question of whether these would need to be (or can be) the same measure (disaggregated to different levels) or whether they would need to be different measures at route and system level, recognising that not all measures can be broken down effectively to route level, and it may not be that all route-level measures can be practically aggregated to national level. If only route level measures were set, there could be implications for the operation of Schedule 8¹⁷, which reflects operator level targets. In the context of route devolution and the routes having responsibility for performance, it would not be appropriate to set only national targets. We will continue to work with NTF, and in particular Network Rail, DfT and Transport Scotland to understand how governments' decisions about punctuality and reliability might be articulated in the governments' high level output statements.

Network performance (freight)

- 4.57 As noted above, as the issues are quite different we have discussed performance for passengers and freight separately. We are conscious however of ensuring that any changes in the passenger measure do not adversely affect freight and vice versa.

Background

- 4.58 During CP4, regulatory action in relation to Network Rail's delivery of freight performance (measured by freight delays per 100km) resulted in the establishment of

¹⁷ Schedule 8 of the Track Access Contract (TAC), which sets out the arrangements for the compensation train operators receive for the financial impact of **unplanned** rail service disruption attributable to Network Rail or other train operators.

the Freight Recovery Board in January 2012. The Freight Recovery Board developed the FDM to replace the CP4 measure of freight delays per 100km.

4.59 FDM measures the performance of freight trains arriving at their final destination within 15 minutes of the anticipated arrival time. Trains that are delayed by factors caused by the freight operators themselves are excluded from the calculation. A target of 92.5% FDM was set for CP5 as part of a balanced package of measures.

Should outputs (or indicators or enablers) be set for this activity?

4.60 Performance is as important for freight as for passengers. As set out in the passenger section above, we consider that we should achieve the following (for both passenger and freight measures):

- Incentivise Network Rail to get as much freight (and as many passengers) to destination as close to the expected time as possible, within the funding available;
- Incentivise Network Rail to take action to reduce the system wide level of delay; and
- Incentivise Network Rail to minimise any delay that does occur, taking into account the impact on the freight end user (or passenger).

4.61 Feedback to date from freight operators (at NTF in September 2015 and also at our pre-consultation workshop on Schedules 4¹⁸ and 8 in November 2015) has been that there is broad satisfaction with the new FDM measure. As such, we do not currently expect to replace this measure for CP6.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.62 The FDM output target is at a national level, but as an indicator is also currently available at strategic freight corridor level. However, FDM data may be difficult to break down to a route level in a meaningful way. In order to ensure that routes continue to focus as much on freight operators as on passenger, it may be appropriate to supplement FDM with a route level freight delay minutes measure. As noted in the 'End User Experience' section of this paper, we do not envisage that setting regulatory targets in relation to freight end users is appropriate given the more commercial nature of the relationship, but we would be interested in the views of freight operators and freight end users. In particular, we would be interested to know if there is any appetite for punctuality measures which reflect the type of freight end user, and how this might be achieved.

¹⁸ Schedule 4 of the Track Access Contract, which sets out the arrangements for the compensation train operators receive for the financial impact of **planned** rail service disruption.

4.63 We will review responses to our proposals here and decide whether any further development work is needed.

Network Availability

Background

- 4.64 The Possession Disruption Indices (for passenger and freight respectively: PDI-P and PDI-F) have been in place since CP4. They were introduced in response to concerns that the extent of planned disruptions caused by engineering works had increased with a greater reliance on long possessions and a tendency for those possessions to have an increasingly disruptive effect on rail users. The measures were aimed at encouraging Network Rail to find less disruptive ways of carrying out work, in the context of an aspiration towards a '7 day railway'.
- 4.65 There are a few issues with the current PDI measures: they are composite indices and as such little understood in the industry, and the link between management action and positive changes in PDI measures is not clear. Network Rail has stated that the measure does not drive its behaviour.
- 4.66 There have also been some problems with the Network Availability Reporting System (NARS) relating to franchise and service group changes. Network Rail did not report the PDI-P from the start of 2015 until early 2016. This was due to technical issues with the system that produces the figures. The project to fix NARS is now complete and reporting of PDI-P has now recommenced. During the project an error was detected in the calculation of PDI-P. This calculation error has existed since the PDI-P measure was created and has been reported consistently on this basis for Control Period 4 (2009-2014) and Control Period 5 (2014-2019) to date. However the error is not considered to be material as it impacts the target and actual reported number in equal measure. On this basis, Network Rail's delivery in this area continues to be reported against the existing target.
- 4.67 These issues have been addressed for CP5 but we are advised by Network Rail that significant further work to the system would be needed in CP6 if these measures are likely to continue. Network Rail would need to correct the calculation error for both target setting and future reporting. The freight measure will also require amendment if there is any change to route boundaries (e.g. if the Northern route is created, or if Network Rail addresses some reporting issues following the creation of the Wales route some years ago).
- 4.68 For CP5, the industry examined alternative measures to PDI but no appropriate alternative was found.

Should outputs (or indicators or enablers) be set for this activity?

4.69 Network availability is an important area. While Network Rail must carry out routine maintenance work, and carry out necessary renewal and enhancement of the network, it also must be aware of the impact that its engineering works have on passengers and freight end users. PDI-P and PDI-F are intended to provide this focus. As set out above, it is questionable how effective this is. We are discussing with Network Rail alternative measures to PDI-P and PDI-F.

4.70 In particular, we consider that a measure in this area should:

- Incentivise Network Rail to find a balance between the time that the network is available for customers (passenger and freight) while delivering the required maintenance, renewals and enhancements e.g. by finding the most efficient way of taking possessions, and the most effective timing for those possessions;
- Reflecting Network Rail's role as system operator, incentivise Network Rail to understand and manage the impact of possessions on key passenger and freight flows (e.g. not closing both East and West Coast mainlines simultaneously);
- Support the incentive on Network Rail to plan within an appropriate timeframe to enable customers (passenger and freight operators) and end users (passenger and freight) to also plan ahead (aligning as necessary with other incentives such as Schedule 4)

4.71 Network Rail considers that its routes are now becoming much more commercially focused, and have suggested that Schedule 4 has a strong incentive effect on the routes. Network Rail recently held some workshops to again try to identify alternative measures or approaches to managing availability. It has identified some options for alternative/new measures, some of which are measures already included in Network Rail's possession indicator report. It has also suggested using Schedule 4 data to provide a measure here although it has yet to set out what this would look like.

4.72 Network Rail currently reports a suite of further measures in its periodic 'possession indicator report'. These are not indicators within the outputs framework, but are additional measures that Network Rail uses to help it understand planning issues around possessions. These include timetable based measures, number of rail replacement hours, delay minutes due to overruns etc. This information would continue to be available to us and other stakeholders, which may reduce the need for an output in respect of network availability.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.73 If a measure were to be set in this area, it would be set at a route level in order to keep routes focused on the passenger and freight impact of making the network unavailable.

Network Capacity

Background

4.74 Understanding the existing capacity of the network is a long-standing issue in the GB rail industry. The GB network is complex and operates with mixed traffic flows of passenger and freight, long distance high speed and local stopping services, and with trade-offs between the intensity of capacity use and performance levels. This means that there is no simple relationship between the capacity of the network and how many trains can operate in any given period or location.

4.75 Capacity allocation is a complex process. Governments significantly influence how network capacity is used through the franchising process, and we have a role in making decisions on allocation of capacity. Capacity is ultimately allocated through track access agreements between Network Rail and train operators (including freight and open access) which have varying levels of flexibility. Network Rail then produces the timetable.

4.76 In our August 2015 consultation on system operation¹⁹, we set out some key challenges around capacity, which are now discussed in more detail in our June 2016 working paper on system operation.

Should outputs (or indicators or enablers) be set for this activity?

4.77 Total existing capacity of the network is difficult to quantify but its measurement could help inform trade-offs between capacity, cost and performance (punctuality, reliability, availability, journey time) and our understanding of how well existing capacity is utilised, both at national and route level. Indeed, one of the issues discussed in our system operation working paper is the potential for the incentives on Network Rail to be skewed towards those things that we can currently measure (e.g. performance and cost), leading to relatively weaker incentives in respect of capacity use (e.g. identifying opportunities for new services, improving the train planning rules to free up capacity).

4.78 Capacity is one of Network Rail's principal 'products', and affects the amount of capacity available for both train services and engineering work in a range of different ways. As such we are interested in developing one or more measures in this area to

¹⁹ <http://orr.gov.uk/consultations/closed-consultations/pr18-consultations/system-operation-consultation>

enable the available capacity on the network to be tracked, so that we can assess how well the available capacity on the network is being used. A reasonably reliable measure of capacity could improve our regulation of Network Rail, even if that measure was not 'perfect'. Any measure of capacity could inform a number of areas of the regulatory framework: outputs; financial incentives; and potentially access charges.

- 4.79 Developing practical measures or metrics for capacity could strengthen incentives on Network Rail, encouraging it to better understand the capacity available on the network and, where possible, to improve the allocation and use of that capacity. It could also inform the wider industry, ourselves and governments about how capacity is being used, supporting improvements by others.
- 4.80 We have recently commissioned consultants to build upon previous industry work in this area but to also take a fresh look at ways to measure capacity. This is intended to inform discussions with Network Rail, funders and the wider industry and improve our collective understanding. Any measures developed need to be understandable and practical, and avoid being too complicated or abstract in nature. . This work is focused on use of existing capacity.

At what level of disaggregation should outputs (or indicators/enablers) be set?

- 4.81 Ideally we would like to be able to understand capacity at both a route and system level. Routes are best placed to understand their local capacity constraints and issues and how these may best be overcome. The system operator could then take responsibility for focusing on the network-wide issues, including: the capacity made available to operators crossing route boundaries, such as long distance or freight operators; how effectively the national timetable makes use of capacity; and whether changes to nationally-set rules or procedures might unlock capacity for new services or to improve performance.
- 4.82 This work has just commenced and will complete in the summer. We will review the output of the work and share it with NTF and decide whether further development work in this area is appropriate.

Network Capability

Background

- 4.83 In the past, there have been instances of discrepancies being identified between the published and actual network capability, where physical changes to the network had been made but the formal network change process had not been conducted. We found Network Rail in breach of its licence for this in 2006 and required it to address the discrepancies. In PR08 we established a clear baseline for the network with

reference to resources such as the sectional appendices and Network Rail's technical databases. This baseline was included as a 'regulated output'.

4.84 We took the same approach in PR13, again setting an output in the form of the base requirement at the start of the control period in terms of track mileage and layout, line speed, gauge, route availability, electrification type. This is a snapshot of the configuration of the network at the beginning of the control period. Network Rail may then only change the network (whether through enhancement or the removal of capability) via the formal network change processes.

4.85 This primarily acts to preserve the network from actions which might reduce the capability of the network for which operators have access rights, without the consent of those operators.

Should outputs (or indicators or enablers) be set for this activity?

4.86 The Network Capability output is somewhat different in nature to other outputs, as it is a description of the network's capabilities, rather than being a metric to be monitored over time. However, it provides a baseline against which to assess whether Network Rail has complied with its obligations, including those in its network licence.

The industry's Network Capability Steering Group continues to provide a forum for engagement between Network Rail and a range of industry stakeholders. A number of stakeholders have raised concerns informally about Network Rail's compliance with its network capability obligations but we have not received any formal complaints.

4.87 This means that we continue to see network capability as an area that requires on-going oversight. In the context of pressures on Network Rail's budgets and the potential pressure on renewals, we consider it is important to continue to set an output in this area to protect against the potential unauthorised loss of network capability.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.88 As routes are responsible for managing their sections of network, any measures in this area should be focused on the route. We do not see any reason to change this approach for CP6 except to make this a requirement for the routes rather than the system operator.

Asset condition

Background

4.89 There is only one asset for which there is a regulated output in CP5. This is station condition as measured by the Station Stewardship Measure (SSM), reported by six

different 'categories' of station. This was set as an output due to the fact that passenger satisfaction can be impacted by their experience at a station. This station condition measure is not included in Network Rail's scorecards.

- 4.90 We also monitor light maintenance depot condition using the Light Maintenance Depot Stewardship Measure (LMDSM), but this is an indicator, not an output. Both measures are calculated in a broadly similar way, with the asset remaining life of a range of elements at the station/depot being compared to asset life expectancy.
- 4.91 The industry structure for both stations and depots is subject to review currently, with the potential for changes in the ownership and responsibilities. DfT, working with Network Rail, is considering alternative management options for stations, which could change the way that some or all stations are managed and operated in England and Wales. A decision on whether to proceed is expected to be taken by the end of 2016.
- 4.92 Full Repairing and Insuring (FRI) leases also continue with some operators. RSSB has been leading a review of the six station categories – although these have been reviewed previously, we understand that the recommendations of this review were not implemented and station categories remain as set during privatisation.
- 4.93 In PR13 we set a number of indicators to track the overall condition of other key operational assets (such as track, signalling, etc.) to ensure that they are being appropriately managed.
- 4.94 We have used indicators in the past for monitoring Network Rail's delivery of its asset management plans and to provide an early warning of areas of the business which are not delivering as expected. We set these indicators due to concerns about Network Rail's delivery in this area and because failure to deliver sufficient maintenance and renewals will adversely affect future performance and increase long term costs. In addition to the indicators that we set in PR13, we also regularly discuss progress with reference to the management information that Network Rail is using on a day to day basis. Network Rail has subsequently created the Composite Reliability Index and Composite Sustainability Index, which are indices that look at the weighted reliability and sustainability of key assets. They provide information about the short term and long term condition of the asset base and are included in Network Rail's scorecards.

Should outputs (or indicators or enablers) be set for this activity?

- 4.95 Network Rail is continuing to progress development of SSM+, an updated and improved version of SSM, which is still focused on the condition of the assets for which Network Rail is responsible. In terms of continuing to set an asset specific output for stations, we are working with Network Rail to understand what work it is

doing on SSM+. We will review whether there is any need to continue with a station asset condition measure as an output in CP6 for this key passenger facing but generally lower priority asset, or indeed any other asset condition measure as an output.

4.96 We are also interested in the resilience of the network to severe and extreme weather, although addressing this may best take the form of reviewing Network Rail's delivery of weather resilience plans, rather than a specific measured output.

4.97 As we have proposed not setting indicators, in this area we would rely on the information that Network Rail collects for its own purposes, backed up by our general information gathering powers.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.98 As set out in relation to other activities, if we choose to set targets in these areas, we will do so at a level that reflects the responsibility within Network Rail. We understand that routes are now responsible for most assets, which means that route level targets would be needed if set.

4.99 For CP6, we need to decide whether to continue setting an output for station condition, and whether it is appropriate to set condition based outputs for any other assets.

4.100 If we were to continue to set a station condition output then we would need to consider the impact of disaggregating station targets to route level as target levels are set by station category. In PR08 and PR13, we set targets for England and Wales by station category, and then set an aggregated target for Scotland. If we are setting station targets at route level for all routes, we will need to consider with Network Rail the best way to approach this.

Financial performance

Background

4.101 In this section we are consulting on whether the status of financial monitoring measures could be changed to 'outputs'.

4.102 We make financial efficiency assumptions as part of our determination of Network Rail's expenditure requirements in the periodic review process and we use two main measures to help assess how well Network Rail is performing financially against those assumptions. These are:

- the Financial Performance Measure (FPM), which is a comparison of actual expenditure to the assumptions in our determination after various adjustments

to make the calculation comparable, e.g. adjusting for the level of activity undertaken and outputs delivered. This measure was introduced for CP5²⁰; and

- an efficiency measure for a subset of the expenditure included in FPM, covering support, operations, maintenance and renewals expenditure²¹.

4.103 We require Network Rail to report in detail on these measures in its regulatory accounts and we assess them in our Network Rail Monitor and Annual Efficiency and Finance Assessment (AEFA)²². Both of these documents are published on ORR's website²³. This reporting provides a reputational incentive on Network Rail and is a key input into its process for incentivising its management.

4.104 For CP5, the FPM is the basis of the route level efficiency benefit sharing (REBS)²⁴ mechanism and a modified version of the FPM is currently used by Network Rail (replacing our baseline expenditure with its own updated budget values) as part of its corporate scorecard for bonus purposes with a weighting of 20% for non-enhancements FPM and 5% for enhancements FPM.

4.105 However, in CP5 these financial monitoring measures do not have the status of an output. So, if we took licence enforcement action in respect of financial efficiency, we must rely on condition 1 of the network licence at a general, rather than a specific level. This means that the first step would be to establish that the measures are a 'reasonable requirement', before going on to consider whether Network Rail has failed to do everything reasonably practicable to manage the network in accordance with best practice and in a timely, efficient and economical manner – this is therefore a two-stage process for taking enforcement action. In contrast, if the financial monitoring measures were outputs then they are already established as 'reasonable requirements'.

4.106 If Network Rail fails to meet the reasonable requirements, ORR has to consider whether Network Rail has achieved those outputs to the greatest extent reasonably practicable. Licence enforcement action in respect of outputs is therefore more targeted than relying on a general licence condition.

²⁰ The FPM measure includes some elements of Network Rail's income and expenditure (including enhancements) as set out in our regulatory accounting guidelines available at: <http://orr.gov.uk/what-and-how-we-regulate/regulation-of-network-rail/network-licence/regulatory-accounts>.

²¹ We have used a measure of Network Rail's efficiency for reporting in control period 3, control period 4 and control period 5.

²² Network Rail's financial performance and efficiency is also externally verified.

²³ Our Network Rail Monitor is available at: <http://orr.gov.uk/what-and-how-we-regulate/regulation-of-network-rail/monitoring-performance/network-rail-monitor> and our annual efficiency and finance assessment is available at: <http://orr.gov.uk/what-and-how-we-regulate/regulation-of-network-rail/monitoring-performance/efficiency-and-finance-assessment>.

²⁴ This mechanism encourages Network Rail and train operators to work together and share in Network Rail's efficiency gains and losses on an annual basis.

4.107 Financial performance outputs were set by DfT for Highways England in the Roads Investment Strategy process for capital projects in the first road period.

Should outputs (or indicators or enablers) be set for this activity?

4.108 We are considering whether we should change the status of our financial monitoring measures for CP6, so that they are either outputs or indicators. This may make it clearer that our assumptions on financial efficiency are important and provide more focus to Network Rail's efficiency initiatives as it could be argued that there is a clearer obligation on Network Rail to deliver efficiently.

4.109 It also may (especially if set at a route level) enable a more informed debate with stakeholders about Network Rail's performance and its activities. For example, it may provide greater clarity over a discussion about asset policies that are designed to maintain assets safely and sustainably for minimum whole-life cost.

4.110 However, it may cause Network Rail to focus too much on delivering its efficiency initiatives at the expense of its other obligations and may give the perception that ORR sets Network Rail's budgets even though that is not the case.

4.111 Including a financial monitoring measure as an output may also complicate our enforcement process as an issue with an efficiency or financial performance measure may be caused, for example, by an issue with a train performance output, so we would need to be careful not to double-count the consequences of a performance issue.

At what level of disaggregation should outputs (or indicators) be set?

4.112 If we were to set financial outputs then we would expect this to be at the level financial settlements are set in the periodic review. For example, this could mean making an assumption at route level, and one or more for central Network Rail activity. In CP5 Network Rail already reports on financial performance and efficiency on a route basis and we also report on it at a level.

4.113 In our December 2016 financial issues paper we will consult on how we intend to monitor and incentivise Network Rail's financial performance in CP6 and in particular which measures we could use and how they will be defined. We may consider other measures as well as those identified in paragraph 4.101.

Network Outcomes

4.114 These are intended to cover outcomes that are sufficiently within Network Rail's control or influence, i.e. the experiences of its customers and stakeholders, and their customers in turn.

End user experience

Background

4.115 Currently, in CP5, we monitor passenger satisfaction as an indicator in this area, as well as a journey time indicator. There are no freight end user indicators. There are no regulated outputs in this area in CP5.

4.116 We have sought to include consumer views in our work, e.g. on punctuality and reliability, we conducted joint research with Transport Focus to seek passenger views on punctuality measures. We have also conducted a freight customer survey approximately once every two years, and this was last carried out in 2014. Finally, we have also set out in section 3 of this working paper the ways in which consumer views can be taken into account in setting the outputs framework.

Should outputs (or indicators or enablers) be set for this activity?

4.117 We note the Shaw Report's recommendations that end users – i.e. passengers and freight customers – should be more involved in identifying actions at route level. We will be interested to see how Network Rail takes this forward and whether and how this could relate to the outputs framework.

4.118 It is important that Network Rail keeps a strong focus on the impact of its actions on end users of the railway; passenger and freight end users. However, the outputs framework should focus on issues that are within Network Rail's control. In contrast, passenger or freight end user satisfaction will be impacted heavily by the actions of the passenger train or freight operating company.

4.119 We want to focus measures in areas such as punctuality and reliability on the impact on the end user as far as possible, and to the extent that the available data allows it. We have therefore sought to reflect this in our involvement with other workstreams, e.g. to ensure that new punctuality and reliability measures reflect the impact on the passenger.

4.120 The case for outputs that reflect end-user experience might be different for routes when compared to the national system operator. For example, the system operator is responsible for timetabling, which plays an important role in determining outcomes in terms of (average) on-time performance and (average) journey times. There may be scope for reflecting the system operator's contribution to average performance or

journey times. We will consider this alongside our work to identify an appropriate regulatory framework for the national system operator.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.121 If we were to set any direct outputs for Network Rail in this area, we would need to identify measures which are sufficiently within the control of Network Rail routes, or Network Rail at a system operator level to enable us to hold Network Rail to account.

4.122 In this area we propose continuing to set passenger satisfaction as an important indicator of the extent to which Network Rail's actions are affecting passenger experiences.

4.123 We don't envisage that setting regulatory targets in relation to freight customers is appropriate given the more commercial nature of the relationship, but we would be interested in the views of freight operators and freight end customers.

TOC/FOC Customer Experience

Background

4.124 Network Rail must improve its delivery to its primary customers. Overall customer satisfaction in autumn 2015 was at 41%.

Should outputs (or indicators or enablers) be set for this activity?

4.125 In this area we want to ensure that Network Rail continues to focus on the requirements of its customers (and their customers in turn).

4.126 Network Rail has made progress in developing its customer service maturity model (CSMM) during CP5. This model will provide Network Rail with a fuller understanding of its customer relationship than its annual customer satisfaction survey currently provides. The maturity model now needs to be embedded, and trajectories set for each route. Each route is currently accountable for a certain number of customers. However, as few operators fit entirely within one route, there needs to be a continued liaison between routes to ensure that the needs of each customer are not lost and that operators that span multiple routes will be treated consistently. Network Rail has now established a virtual freight and national operator route, and will need to consider the impact that this will have.

4.127 We recognise that the requirements of customers will vary from customer to customer and route to route. We therefore would not expect the measures or levels in routes' customer service maturity model plans to be the same. But we believe that it is necessary for there to be some elements within the model that would facilitate benchmarking and stimulate competition.

4.128 We could set an output in this area with reference to Network Rail's CSMM, assuming that this is sufficiently mature to enable a target to be set. We would need to consider whether this would be likely to add any further incentive to Network Rail to deliver in this area. We also note that Network Rail has suggested that it may no longer assess its customers' satisfaction in an annual survey. We would be interested to understand Network Rail's customers' views on this proposal.

At what level of disaggregation should we set outputs (or indicators/enablers)

4.129 Customer satisfaction is important at both route and system operator level as both entities will be responsible for delivering key customer requirements. The remaining Network Rail business units are less likely to have a *direct* impact on the customer experience. In principle, the routes should seek to promote the experience of their customers when engaging with the Network Rail centre.

At what level of disaggregation should outputs (or indicators/enablers) be set?

4.130 While noting that the routes and the system operator will be taking different actions and have a slightly different customer set, setting customer satisfaction measures at both route and system operator level would enable a degree of comparison between these elements of the business.

4.131 Again, if we were to set any targets or conduct monitoring in this area, we would do this relative to where the primary customer relationship was managed. In doing so we would want to understand Network Rail's proposals that relationships between the routes and freight operators (for example) were not overlooked or deprioritised.

4.132 We would like to understand Network Rail's customers' views on the proposal to no longer assess customer satisfaction, and whether other mechanisms exist that are strong enough to ensure continued focus for Network Rail on delivery to its customers.

Appendix A

Regulated outputs framework in CP5

Area	Outputs	Indicators	Enablers (these support all output areas)
Train service reliability	<p>PPM: for England & Wales (annual with a CP5 exit of 92.5%), Scotland (annual 92% and CP5 exit of 92.5%) and franchised TOCs in England & Wales (rolling annual output JPIP, no TOC to exit CP5 below 90%, except East Coast and Virgin who must not exit CP5 with PPM below 88% or CaSL above 4.2% and 2.9% respectively. Additional 88% minimum for First Great Western high speed services at the end of CP5)</p> <p>CaSL for England & Wales (annual and CP5 exit of 2.2%) and rolling annual output JPIP</p> <p>Freight Delivery Metric (National annual 92.5%)</p>	<p>PPM: sector and sub-operator</p> <p>Right-time performance: England & Wales, Scotland, sector, JPIP and sub-operator</p> <p>Average lateness: England & Wales, Scotland, sector and JPIP</p> <p>CaSL: sector and sub-operator</p> <p>Delay minutes, split by category (including Network Rail on TOC, TOC on self and TOC on TOC): for National, England & Wales, Scotland, sector, Network Rail route and JPIP</p> <p>FDM by strategic freight corridor</p> <p>Freight delay minutes (national)</p> <p>Scotland KPI package</p>	<p>Safety management maturity (Railway Management Maturity Model – RM3)</p> <p>System operator capability</p> <p>Programme management capability (P3M3)</p> <p>Customer service maturity</p>
Enhancements	<p>Enhancement scheme delivery milestones (set in an enhancements delivery plan)</p> <p>Development milestones for early stage projects</p>	<p>Enhancement fund KPIs (e.g. average scheme benefit cost ratios)</p> <p>Improved governance processes for HLOS funds</p> <p>Project activities and milestones</p>	
Health and safety	<p>A plan of projects in CP5, to achieve the maximum possible reduction in risk of accidents at level crossings using the £99m ring-fenced fund</p>		
Network Availability	<p>PDI-P (National CP5 exit of 0.58)</p> <p>PDI-F (National CP5 exit of 0.73)</p>		
Network Capability	<p>Base requirement at start of CP5 in terms of track mileage & layout, line speed, gauge, route availability, electrification type</p>		
Stations	<p>SSM by station category for England & Wales, and Scotland (annual)</p>		

Area	Outputs	Indicators	Enablers (these support all output areas)
Depots		Light Maintenance Depot Stewardship Measure: England & Wales, Scotland and National	
Asset management	Asset management excellence (AMEM) capability for each core group at National level Asset data quality for each asset type at National level Milestones for ORBIS	Asset condition for robustness and sustainability at National and route level AMEM lite capability at route level Renewal and maintenance volumes by asset type and spend at National and route level	
Environment		Scope 1 and 2 traction and non-traction carbon dioxide emissions: England & Wales and Scotland Carbon embedded in new infrastructure Sustainable development KPIs	
Other		Passenger Satisfaction Journey time Cross border service availability	



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