A conclusions note to our August 2015 system operation consultation

June 2016

Summary

We tested our understanding of what system operation means through a consultation document published in August 2015 and in a number of bilateral meetings with stakeholders. This note builds on this feedback and sets out our revised understanding of what system operation is, highlighting the range of functions that take place over different timeframes and the different organisations that undertake them.

This note supports our working papers on the issues and opportunities with system operation (working paper 2[1]) and on the possible regulatory framework for the system operator (working paper 3[2]).

Introduction

1. Our August 2015 consultation document entitled "*System operation: a consultation on making better use of the railway network*" (our August 2015 consultation) sought stakeholders' views on what we mean by system operation.

2. We had an excellent response to the consultation: we received 29 responses from a wide range of organisations (including passenger and freight train operators, industry bodies, funders, and individuals)[3]; we had nearly 40 attendees at our workshop in October 2015; and since then we have met with nearly 20 parties on a bilateral basis.

3. While stakeholders broadly agreed with the way in which we had defined system operation, we have been able to use their feedback to improve and revise our

[1] Available here: http://orr.gov.uk/__data/assets/pdf_file/0019/21961/pr18-working-paper-2-potential-issues-and-opportunities-in-system-operation.pdf.

[2] Available here: http://orr.gov.uk/__data/assets/pdf_file/0020/21962/pr18-working-paper-3-initial-views-on-the-regulatory-framework-for-network-rail-system-operator.pdf.

[3] See individual responses to the August 2015 consultation here.

understanding of the range of system operation functions that take place over different timeframes and the different organisations that undertake them.

4. This conclusions note, therefore, sets out our revised understanding of what system operation is in rail and how it is currently undertaken by different parties. Input to this note has been used to support our working papers on the potential issues and opportunities with system operation (working paper 2) and on the possible regulatory framework for the system operator (working paper 3).

Stakeholder feedback to our August 2015 system operation consultation

5. In our August 2015 consultation we sought views about system operation in rail, including: what we see as the main system operation functions and who is responsible for them; what good system operation looks like; and the possible opportunities and issues with system operation.

6. In general, responses to the consultation confirmed that there was an appetite to further understand what is meant by system operation, and to further investigate the scale of the issues associated with it and the options to improve the way its functions are undertaken. They also broadly agreed with the way in which we had defined system operation, though they did make specific suggestions for improvements (see Box 1).

7. Stakeholders also commented on the potential opportunities and issues concerning the way system operation is currently undertaken, as well as the factors and incentives that influence it. They made suggestions on the principles for regulating system operation and the outcomes we should be seeking to achieve under any future regime. These have helped inform our initial ideas regarding the system operation issues and opportunities and the future regulatory framework for the system operator (working paper 2 and working paper 3).

Box 1: Stakeholder feedback on the way we defined system operation

Most stakeholders supported the way we defined system operation and its outcomes in our August 2015 consultation. For example, Arriva UK Trains said that system operation functions are logical and the Rail Delivery Group (RDG) said that these help define an effective conceptual framework for system operation outcomes. Transport for London (TfL) agreed that the outcomes of good system operation as set out in the consultation are appropriate.

Stakeholders also made several specific suggestions for improvements to our definition and we have sought to reflect them in our illustration of system operation concepts as set out in Figure 1. For example:

- Some stakeholders stressed the importance of more clarity on which organisations are involved in delivering the different system operation activities;
- Train operating companies (TOCs), in particular, argued that they play a more important role in system operation than we had implied. They highlighted, for example, that they: feed into the timetable planning process and challenge the proposals Network Rail makes; contribute to network enhancement programmes; and sometimes fund schemes themselves;
- Some TOCs and funders highlighted the role the franchising programme can play in the design of future enhancements;
- Some respondents stressed that capacity allocation consists of activities that take place over both the medium-term (e.g. capacity planning for five years hence such as Network Rail's East Coast 2020 capacity study) and the shorter-term (e.g. allocation of capacity to freight parties for the next day);
- Certain parties also stressed that measuring capacity is complex and that any measure would need to consider a number of factors such as markets that are being served, passengers carried, configuration of the network, the operational capability of each type of the rolling stock, etc; and
- Most stakeholders say that system operation is a cyclical process: system operation activities tend to feed into each other and across different timescales to deliver system operation outcomes. This also better illustrates the interaction of system operation with infrastructure management activities.

Our revised understanding of system operation

8. Building on stakeholders' views, we have updated our understanding of system operation from our August 2015 consultation. We set out in more detail below what system operation is, highlighting the range of functions that take place over different

timeframes and the different organisations that undertake them. We also identify the lead organisation in red text and brackets.

9. System operation is about how Network Rail operates its rail network and how decisions by Network Rail and others are made about the use of this network and its expansion over time. When describing system operation in rail, we can do this with reference to the long-term, the medium-terms and the short-term.

10. **Long-term system operation** relates to developing proposals for changes to the network and deciding which projects to take forward. Its activities include:

- Strategic planning of the rail network, through the LTPP. This is an iterative process led by Network Rail in collaboration with funders and operators, and further consultation with stakeholders to develop proposals for changes to the network to meet future demand as well as wider strategic goals (Network Rail);
- Determining and specifying how the network needs to change through the High-Level Output Statements (HLOSs) and the Statement of Funds Available (SOFA), led by funders (Department for Transport (DfT) and Transport Scotland); and
- Developing the Strategic Business Plans in response to Governments' HLOSs. This includes setting out the strategy and projects to be delivered to meet the needs of customers and other stakeholders (Network Rail).

11. **Medium-term system operation** relates to determining the capacity of the physical network and understanding its potential use, as well as allocating that capacity. Its activities include:

- Managing the Timetable Planning Rules (the TPRs) (Network Rail in collaboration with stakeholders);
- Producing capacity studies from time to time and on an *ad hoc* basis to understand better how capacity is used, for example the capacity analysis for the East Coast Main Line applications or for Midland Main Line congestion declaration (Network Rail);
- Developing access policy including for emergency access contracts[4] or management of congested infrastructure (Network Rail);
- Specifying services to be run as part of franchises and concession agreements (DfT/Transport Scotland and other relevant transport authorities);
- Setting performance targets for Network Rail (e.g. regulatory outputs) and train operators (ORR and DfT/ Transport Scotland);
- Access planning and sale of access rights (Network Rail);

[4] It may be necessary for licence holders to grant other parties access to their network to alleviate the effects of an emergency on the Network Rail network.

- Allocating long-term track access rights by approving track access contract agreements between Network Rail and operators (ORR);
- Scheduling access to undertake engineering work (Network Rail);
- Producing the working timetable on annual or bi-annual basis (Network Rail); and
- Managing trade-offs between capacity and performance in the medium-term, for example decisions about allowing additional traffic over and above allocated rights (Network Rail).

12. **Short-term system operation** is mainly about short-term capacity allocation, and includes activities such as:

- Accommodating requests for capacity outside of the process for producing the working timetabling, for example in the freight spot market (Network Rail); and
- Operating the system on a day-to-day basis such as operating signalling systems and managing trade-offs between capacity and performance in the near-term (for example, making decisions about which services to prioritise during disruption) (Network Rail).

13. Despite different timescales all these functions influence system operation outcomes. As such, all outcomes of system operation that we see in the industry are as a result of how well these functions are undertaken.

14. Figure 1 provides an updated flowchart of the railway system operation functions, activities, inputs, and outputs based on stakeholder feedback to our system operation concepts. It shows the main links between short- and long-term system operation, how system operation interacts with infrastructure management, and how outputs from some functions become inputs to other functions.

15. Reading Figure 1 from left to right, it is intended to illustrate at a high-level the process by which the network is developed and is used. Specifically, it shows how long-term system operation involves decisions about the necessary changes to the physical network over the longer-term (noting that it is the responsibility of the infrastructure manager(s) to deliver these changes to the network). Following this, the figure shows how medium-term system operation determines and allocates capacity from the physical network and, from this, how short-term system operation allocates capacity in the near-term and manages the system on a daily basis.

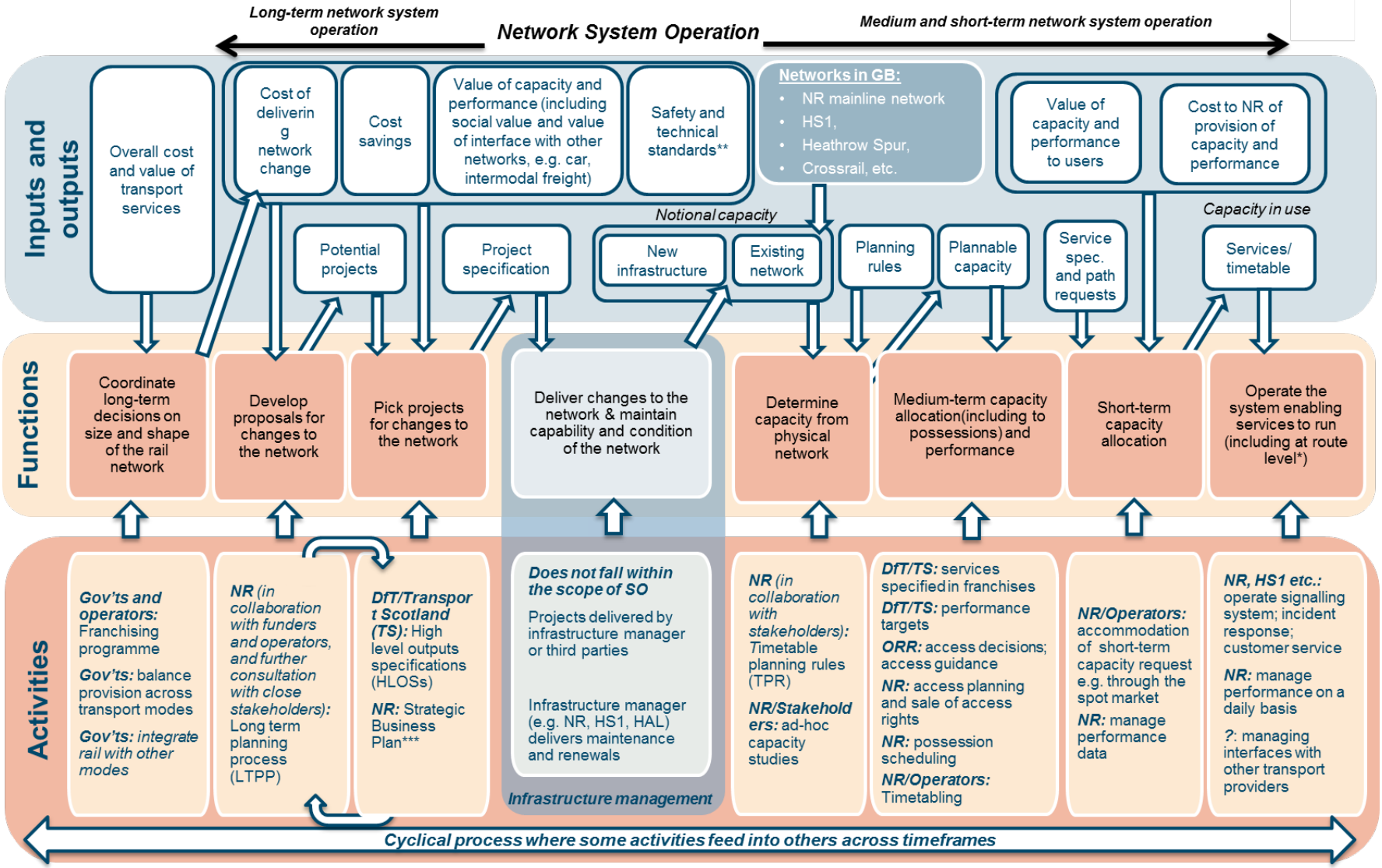
16. Figure 1 also shows the range of organisations that contribute to system operation[5], including Network Rail which, as the owner and operator of Britain's main rail network, delivers a large number of system operation functions and activities to train

[5] These include Network Rail, funders of infrastructure, franchising authorities, ORR, train operators, other infrastructure managers, and wider stakeholders.

operators (passenger and freight) and other infrastructure managers (e.g. High Speed 1 (HS1)). This is undertaken both centrally (by Network Rail's system operator business unit) and by the routes.

17. System operation across Network Rail and its routes is not illustrated in Figure 1. This is discussed in working paper 3.That paper presents how the company undertakes system operation, including how it allocates its system operation responsibilities between its central system operator business unit and its routes.

Figure 1: Updated flowchart of railway system operation functions, activities, inputs



* This includes activities such as investigating incidents, operating the timetable and/or signalling which are currently delivered at the route level, but which fall under system operation functions.

** We note the role RSSB play in coordinating the determination of technical standards for the rail network, including safety standards. For the purposes of this illustration and in the interest of simplicity, we treat this as an input to the way system operation is undertaken.

*** In some cases operators may have an explicit role in helping pick projects for the changes to the network

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