



OFFICE OF RAIL REGULATION

# 2013 Periodic Review

## Setting the financial and incentive framework for Network Rail in CP5

May 2012

Office of Rail Regulation

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# Abbreviations and acronyms

Abbreviation / acronym	Meaning
ATOC	Association of Train Operating Companies
Capex	Capital expenditure
CLG	Company limited by guarantee
CMF	Carbon Management Framework
Command paper	Reforming our Railways: Putting the Customer First, Department for Transport, March 2012
CP3	Control Period 3 (which ran from 1 April 2004 to 31 March 2009)
CP4	Control Period 4 (1 April 2009 – 31 March 2014)
CP5	Control Period 5 (expected to run from 1 April 2014 to 31 March 2019)
CP6, CP7 & CP11	These are control periods 6, 7 and 11 (assuming five year control periods)
December 2011 document	Our 'Periodic review 2013: consultation on incentives' document, published in December 2011
DfT	Department for Transport
EC4T	Electric current for traction
ERTMS	European Rail Traffic Management System
ESTA	Electricity Supply Tariff Area
FIM	Financial indemnity mechanism
FOC	Freight operating company
HLOS	High-level output specification
IIP	Initial industry plan (N.B. Two documents were published – one for England & Wales and one for Scotland)
KPI	Key performance indicator

May 2011 document	Our '2013 Periodic review: first consultation' document, published in May 2011
NPA	'Not primarily abstractive' – the basis of the test we undertake in respect of applications for access rights that would compete with existing passenger services
Opex	Operating expenditure
ORC	On-rail competition
PAYG	Pay-as-you-go
PPM	Passenger Performance Measure
PR08	The 2008 periodic review (relating to CP4)
PR13	The 2013 periodic review (relating to CP5)
RAB	Regulatory asset base
RAGs	Regulatory accounting guidelines
REBS	Route-level efficiency benefit sharing mechanism
ROSCO	Rolling stock leasing company
RPI	Retail Prices Index
RVfM	The Rail Value for Money study
SBP	Network Rail's strategic business plan for CP5, due by 7 January 2013
SoFA	Statement of funds available
TESG	Traction Electricity Steering Group
The Act	The Railways Act 1993
TOC	Train operating company
WACC	Weighted average cost of capital



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# Executive summary

## Background

1. In March 2012, we formally began our 2013 periodic review of Network Rail's access charges (PR13). Through the review we will determine Network Rail's access charges, what it must deliver in return for those charges and for the money it receives from the Secretary of State (in respect of England & Wales) and Scottish Ministers (for Scotland). We will also set out the wider incentive framework for the next control period (CP5).
2. PR13 takes place at a pivotal time for the rail industry. The Rail Value for Money (RVfM) study led by Sir Roy McNulty<sup>1</sup>, which we commissioned jointly with the Department for Transport (DfT), has highlighted the value for money challenge facing the rail industry. This challenge is felt more keenly today given the economic climate and the financial pressures on government, passengers and businesses. The Secretary of State's recent command paper<sup>2</sup>, and consultation documents on localism and fares and ticketing, set out what she sees as the direction of travel for the industry in England & Wales. This includes a more sophisticated approach to ticketing, support for localism and greater transparency. The recent consultation document issued jointly by ORR and DfT proposed an increasing customer-facing role for ORR<sup>3</sup>. Transport Scotland, on behalf of the Scottish Ministers, is also considering what aspects of industry reform to support – such as changes to provide greater alignment between Network Rail and train operators – mainly as part of the refranchising of ScotRail.
3. We have welcomed and support the industry's response to the RVfM study, in the initial industry plans (IIPs)<sup>4</sup>. We recently provided our advice to the Secretary of State and Scottish Ministers on the range within which we expect to determine Network Rail's revenue requirement for CP5, and did so building on the IIPs. The IIPs reflected the low end of the savings set out as achievable in the RVfM study (a reduction in industry cost of £2.5bn per year by 2018/9). This is encouraging, but our ambition is to build on this and see the industry deliver efficiencies towards the higher end of the range in the RVfM study (a £3.5bn per year reduction in industry costs by 2018/9). To be clear, the delivery of the higher end of the RVfM efficiencies will depend not only on us and on Network Rail: the respective governments, train operators, ROSCOs and the supply chain must all play a part. Nonetheless, although PR13 will apply only to Network Rail, we are keen to use our review to facilitate greater efficiencies throughout the value chain.
4. In this document, we set out our conclusions and next steps on the issues on which we consulted in our May 2011 and December 2011 documents and our October 2011 consultation relating to on-rail

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<sup>1</sup> *Realising the Potential of GB Rail - Detailed Report*, Final Independent Report of the Rail Value for Money Study, May 2011, available at <http://www.rail-reg.gov.uk/server/show/ConWebDoc.10401>.

<sup>2</sup> *Reforming our Railways: Putting the Customer First*, Department for Transport, available at <http://assets.dft.gov.uk/publications/reforming-our-railways/reforming-our-railways.pdf>.

<sup>3</sup> A greater role for ORR regulating passenger franchisees in England & Wales, 22 December 2011, available at [http://www.rail-reg.gov.uk/upload/pdf/regulator\\_role\\_consultation\\_dec2011.pdf](http://www.rail-reg.gov.uk/upload/pdf/regulator_role_consultation_dec2011.pdf).

<sup>4</sup> Available from <http://www.networkrail.co.uk/iip.aspx>.



competition<sup>5</sup>. In doing so, we make clear how PR13 can help the industry to deliver on some of the challenges set out in the RVfM study.

## A long-term view

5. Many of the changes we will make in CP5, to the way in which we regulate and through that within the industry, are building blocks for further change in CP6 and potentially beyond.

6. Building on Network Rail's own devolution of decision-making from the centre to the route-level, we envisage – subject to further consultation – similarly moving in CP6 to price controls at the route-level. This, together with greater independence at the route-level, will enable us to make use of more comparative regulatory techniques. It should also, coupled with financial and reputational management incentives, drive cost efficiencies and innovation through competition between routes. By making information on costs, revenues and subsidy at a more local level openly available, we can drive greater scrutiny and accountability – and support the move to more local output specification and funding in due course.

7. With the move towards more alliances and the potential for concessions, the efficient and effective performance of system operation functions in rail is becoming more important. This is amplified by the capacity constraints that are biting on some parts of the network. We are keen to do what we can in CP5 to better incentivise Network Rail to manage capacity on the network efficiently and to make capacity available where it is efficient to do so – both through new capacity and better management of existing capacity. To this end, we are reviewing the current capacity charge and are developing scarcity-based charges, which we will introduce in CP5 if possible. In CP5 we expect Network Rail to improve its understanding of its system operation functions, and crucially what drives their effective and efficient performance. This will allow us further to improve system operation incentives in CP6.

## Alignment of incentives

8. The outcomes that customers, funders and the public want from the rail industry are delivered by the industry as a whole, working together. These are not the sole product of any one company or part of the value chain. As a regulator, it is therefore critical that we work to align incentives across the different parts of the railway and its supply chain in the best interests of customers, funders and the public.

9. Our work on charging is fundamental to the better alignment of incentives through the industry. Charges and services provided in return (most notably track access) are a key part of the interface between Network Rail and its train operator customers. We are taking a number of steps to improve the extent to which these charges reflect the cost involved in providing the service. We are also exposing Network Rail's customers more effectively to these costs. Together, this will improve incentives for more efficient provision and usage of those services.

In particular we are:

- (a) disaggregating the variable usage charge, which reflects the cost generated as a result of trains running on the track. We will disaggregate this geographically, which will facilitate separate price controls

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<sup>5</sup> Periodic review 2013: first consultation, May 2011; Periodic review 2013: consultation on incentives, December 2011; and Consultation on the potential for increased on-rail competition, October 2011, available from <http://www.rail-reg.gov.uk/pr13/consultations/index.php>.

at the route-level for CP6, and which will enable charges better to reflect location-specific cost drivers such as type of track;

(b) improving the signals that charges send for efficient use of network capacity. We will retain the capacity charge, which broadly allows Network Rail to recover some of the additional costs it incurs as a result of poor performance caused by more intensive use of the network. We will improve the effectiveness of this charge. We will develop charges that reflect the scarcity of capacity and, if possible, we will introduce these in CP5. In the meantime, we will look to improve the effectiveness of the volume incentive, which is intended to improve incentives on Network Rail for making additional capacity available;

(c) increasing the charge for non-metered traction electricity to encourage operators to switch to on-train metering. This will in turn incentivise train operators to use electricity more efficiently. In parallel, we will expose Network Rail to some of the costs associated with transmission losses on the network to encourage it to reduce those losses.

10. We recognise that minimising (planned and unplanned) disruption due to engineering possessions and poor performance is immensely important to passengers and freight customers. We therefore take very seriously concerns that the current compensation regimes do not encourage Network Rail and train operators to work together in the best interests of passengers and freight customers. These regimes are contained in Schedules 4 and 8 of track access contracts and set out how train operators are compensated for revenues lost and costs incurred owing to planned or unplanned disruption caused by Network Rail and other train operators.

11. The fact that the current compensation regimes work on an average basis means that there will be specific examples of where these do not always work to deliver the best outcome for rail customers. But overall we have decided to retain Schedules 4 and 8 because of the role they play in reducing train operators' exposure to risks they cannot control, and the resulting reduction in franchise costs / increase in franchise value. Schedules 4 and 8 do this in an efficient way because their formulaic nature means they avoid costly litigation. The regimes also provide a financial incentive for Network Rail to outperform its regulatory targets where this makes sense economically and to focus on minimising disruption where it has the greatest impact on train operators' revenue and costs.

12. We will look to ensure that the levels of compensation in Schedules 4 and 8 reflect more accurately the losses actually incurred by Network Rail and train operators as a result of planned or unplanned service disruption. We are also considering whether adjusting the payments so that Network Rail and train operators are not fully compensated for their revenue losses and costs could improve their incentives to work together to avoid planned and unplanned service disruption in the best interests of passengers and freight customers.

13. Beyond these compensation regimes, we have a wide range of tools available to us to encourage Network Rail and train operators to work together in the interests of their customers. These include: the regulatory targets that we set at a periodic review and hold Network Rail to account for delivering; the licence obligation to fulfil customers' and funders' reasonable requirements; the management incentive plan; and wider reputational incentives. We will look across the tools available to us to secure better outcomes for customers in respect of planned or unplanned service disruption.

14. In our last periodic review in 2008, we put in place an efficiency benefit sharing mechanism to allow train operators who help Network Rail to achieve cost efficiencies within control period 4 to share in the benefits, creating an incentive for them to work with Network Rail to do this. However, the effectiveness of this has been vastly reduced by provisions within passenger franchise agreements that have effectively

discouraged franchised passenger train operators from trying to benefit from this incentive. Now that these provisions are being removed from the new round of franchises, we are acting to improve the mechanism in CP5 by disaggregating it to the route-level. This would create a closer link between the contribution that a train operator makes to helping Network Rail achieve efficiencies, and the benefits that it shares as a result.

15. We are minded to proceed with our proposed 'route-level efficiency benefit sharing mechanism' (REBS), subject to a further consultation in May 2012 on how this would interact with alliances between Network Rail and train operators. At the same time, we will also be consulting further on a mechanism that would expose train operators to changes in Network Rail's costs at future periodic reviews.

## Disaggregation and transparency

16. As set out above, in CP6 we envisage, subject to consultation, moving to financially separate price controls on Network Rail at the route-level. In CP5 we will do what we can to move towards this.

17. We will:

- (a) require Network Rail to undertake business planning at the route-level (as set out in our recent *Requirements for Network Rail's January 2013 strategic business plan*<sup>6</sup>);
- (b) assess Network Rail's efficient expenditure at the route-level; and
- (c) work towards route-level charges, in particular in the disaggregation of the variable usage charge and the development of scarcity charges.

18. Through PR13, we will issue binding separate final determinations for Scotland and England & Wales. In line with this, we will consider whether there are different costs of capital for Scotland and England & Wales and whether any adjustments that we need to make to ensure Network Rail's activities are financeable should be different. We will also consider whether any provisions that we include that would allow us to look again at the price control in particular circumstances ('re-openers') should be different in Scotland and England & Wales.

19. Taking into account Network Rail's risk profile, it is possible to calculate the financing costs that the company would incur (its cost of capital) if it were to finance its business through debt and equity. Network Rail's actual cost of financing is lower than this because it is 100% debt-financed and its debt holders are indemnified against default by the UK Government. Having regard to the funding/expenditure of the Secretary of State and Scottish Ministers, balanced with our other statutory duties and our evaluation criteria, we have decided that Network Rail should only be allowed to recover its efficient costs of financing through charges. But to be transparent we will calculate and make clear Network Rail's cost of capital in our final determination. And we will make clear what its charges would have been on the basis of this.

20. This approach supports our work elsewhere in improving the transparency of costs and revenues across the industry, including looking at whole-industry costs and better understanding the drivers of train operators' costs by using benchmarking.

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<sup>6</sup> Available at <http://www.rail-reg.gov.uk/pr13/PDF/network-rail-2013-sbp-requirements.pdf>.

## Contestability and markets

21. Market mechanisms reveal information about costs and values and provide both a mechanism and incentives for efficient responses to that information. We are keen to see the effective use of markets to drive improvements in value for money across the value chain.

22. In this document we set out our conclusions following our October 2011 consultation in respect of on-rail competition. We conclude that, while the amount of on-rail competition is small, it has delivered benefits – in particular, in serving communities previously not served (or underserved) by rail, generating higher levels of passenger satisfaction and in stimulating more innovative capacity usage.

23. We must balance our statutory duty to promote competition where it is in the best interests of the users of the railway with our other duties, including to have regard to the funds available to the Secretary of State. Currently the fact that open access operators pay only the variable access charges (albeit in return for restricted access) means that – on a capacity constrained network – more open access services could reduce the extent to which Network Rail recovers its costs through access charges, increasing the amount of government support.

24. In our view, on-rail competition has the potential over time to help deliver greater value for money in the industry. To facilitate this, we will explore the creation of an access right that allows open access operators greater flexibility than that currently available under our current access policy (which, through the ‘not primarily abstractive test’, limits the scope for open access services that would abstract revenue from franchised operators). In return for this flexibility, we will explore to what extent open access operators running on this basis could pay a proportion of the fixed charge. In principle, this could allow more flexibility for open access whilst allowing it to play a greater part in cost recovery, mitigating the impact on government. In practice, given the approach that DfT is taking in the current round of franchises, scope for greater open access will continue to be limited. But we consider it is worth exploring this option, so that a framework is in place that could enable greater open access in due course, for example, where improvements in capacity usage (for example, through ERTMS) and capacity management (through Network Rail’s role as a system operator) arise.

25. Beyond on-rail competition, we will use PR13 to challenge Network Rail to establish efficient costs through market testing and, where appropriate, contracting out and partnership working with the supply chain. Although Network Rail already uses these techniques, we will challenge them to ensure they have made best use of them wherever they can drive better value for money. We will also facilitate the delivery of concessions.

## Next steps

26. This document marks an important step in establishing the financial and incentive framework for CP5. In July this year, we will consult on further detailed aspects of the financial framework, including indexation, corporation tax and the network grant. In July, the Secretary of State (in respect of England & Wales) and Scottish Ministers will set out the high level outputs they want the railway to deliver and the funds available for this. Following this, by 1 August, we will consult on the regulatory targets and key performance indicators (KPIs) we could put in place to monitor the delivery of these high level outputs and potentially other outcomes that customers and society value. In September/October, we will consult on further detailed issues in respect of charging and the volume incentive. In November, we will consult on detailed issues in relation to Schedules 4 and 8.

27. Following receipt of Network Rail's strategic business plan and long-term strategic direction statement in January 2013, we will conduct our assessment of the company's revenue requirement for efficient expenditure, consulting on our draft determination in June 2013.

28. Alongside our draft determination we will publish a draft strategic regulatory statement setting out how we see regulation evolving over the long-term and in particular linking our CP5 determination with CP6 and beyond. Having consulted on this, we will issue our final strategic regulatory statement alongside our final determination at the end of October 2013.

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# 1. Introduction

## Purpose of the document

1.1 This document marks another important step in the 2013 periodic review (PR13), which will set Network Rail's outputs, access charges and wider regulatory and incentive framework for control period 5 ('CP5') – which we expect to run from 1 April 2014 to 31 March 2019. It contains:

- (a) our decisions on key aspects of the wider regulatory framework, including further explanation for the approach on the financial framework that we took in our advice to ministers documents which we issued last month<sup>7</sup>;
- (b) our decisions on how aspects of Network Rail's price control will be disaggregated;
- (c) our approach and next steps in respect of those aspects of incentives on which we consulted in December 2011;
- (d) our decisions on on-rail competition following our consultation in autumn 2011; and
- (e) an update on the PR13 timeline and workplan.

1.2 Its primary purpose is to give clarity, as far as possible, to Network Rail, train operators, government and other stakeholders involved in the periodic review so that they can take into account the decisions and approach we are taking on certain issues and note where we will be undertaking further work. By publishing it now, the Secretary of State for Transport and the Scottish Ministers will be able to take account of it in their high-level output specifications (HLOS) and statement of funds available (SoFA) for control period 5 (CP5), which they are now producing. It should also assist Network Rail in planning for its strategic business plan (see paragraph 2.16).

1.3 The detailed regulatory framework for CP5 will continue to be developed following this document (paragraphs 2.7-2.24 discuss the subsequent stages for this). As part of this we will be carrying out further consultations on framework issues. These are discussed in paragraph 2.48. As part of this further work we will shortly be publishing two consultations, on freight charges and on aligning efficiency between Network Rail and train operators to improve efficiency<sup>8</sup>.

## Structure of this document

1.4 This document is structured as follows:

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<sup>7</sup> We published separate documents for England & Wales and for Scotland. See chapter 4 of each of *Advice to the Secretary of State for Transport on Network Rail's costs and outputs in CP5*, March 2012, and *Advice to Scottish Ministers on Network Rail's costs and outputs in CP5*, March 2012, both available at <http://www.rail-reg.gov.uk/pr13/publications/index.php>.

<sup>8</sup> See <http://www.rail-reg.gov.uk/pr13/publications/index.php>.

- (a) Chapter 2 sets out background to PR13 and puts this document into the wider context. It also includes an up-to-date high-level timetable;
- (b) Chapter 3 sets out our approach to the price control framework, including disaggregation, for CP5;
- (c) Chapter 4 sets out our high-level decision on the approach to Network Rail's cost of capital for CP5;
- (d) Chapter 5 sets out our approach to the structure of access charges in PR13;
- (e) Chapter 6 discusses the decisions we have taken to date on the Schedules 4 and 8 possessions and performance regimes and our next steps;
- (f) Chapter 7 discusses our decisions on our policy on on-rail competition following the consultation we carried out in October 2011;
- (g) Chapter 8 briefly discusses how we are taking forward our work to align incentives between Network Rail and train operators, through route-level efficiency benefit sharing and exposing franchised train operators to Network Rail's costs at a periodic review, which will shortly be consulting on, and our work to review the volume incentive; and
- (h) Chapter 9 discusses our decisions and next steps on innovation incentives.

1.5 Shortly after this document is published, we will place on our website a related document setting out a more detailed response to the consultation comments received from stakeholders that have informed our decisions in this document. This will be available from <http://www.rail-reg.gov.uk/pr13/publications/index.php>. We have included the names of respondents to the main ORR consultations referred to in this document in Annex A.

1.6 Annex B of this document provides a detailed comparison of the financial effects of the approaches to Network Rail's cost of capital discussed in chapter 4.

# 2. Background

## Purpose

2.1 The purpose of this chapter is to set out some background to this document, including:

- (a) our objective for PR13;
- (b) the periodic review process;
- (c) the wider context, including links to alliances and concessions; and
- (d) the latest high-level timetable for PR13 and other planned consultations relating to the financial and incentive framework.

## PR13 – overview

2.2 PR13 will determine the outputs that Network Rail will be required to deliver in CP5, the cost of delivering those outputs reflecting challenging but achievable levels of efficiency improvement, and the access charges the company can levy on train operators for using its network through which it will recover those costs. PR13 will also establish the wider ‘regulatory framework’ for CP5. This includes the financial framework within which Network Rail can operate and the incentives that will act on both it and train operators (and through them on suppliers and ROSCOs) to deliver and outperform our determination, including targets for performance and assumptions for efficiency.

2.3 Reflecting the separate responsibilities for setting the strategy and funding the railway across Great Britain, we will determine separate outputs, access charges and regulatory frameworks for Network Rail in England & Wales and in Scotland, whilst taking account of the fact that Network Rail is a single company.

## Our objective for PR13

2.4 In May 2011, we set out for consultation our proposed objective for PR13. The main comments raised by stakeholders and our response are set out in the separate document that we will issue following the publication of this document (see paragraph 1.5 above). Overall, these comments were supportive, and we have decided to retain our proposed objective, which is – **to protect the interests of customers and taxpayers by:**

*ensuring our determination enables Network Rail and its industry partners to deliver or exceed all the specified outcome and output requirements safely and sustainably at the most efficient levels possible comparable with the best railways in the world by the end of the control period.*

2.5 A key aim of any price control is to ensure that the regulated company (in this case, Network Rail) is as efficient as possible given the obligations on the company and the wider circumstances. In the context of the railway, this means maximising value for taxpayers, customers and society. To achieve this, industry



reform will be crucial. In our advice to ministers documents<sup>9</sup> we said that we saw PR13 as an important facilitator and driver of industry reform – in particular through:

- (a) a clear **focus on what matters to passengers, freight customers and taxpayers** – particularly improving value for money;
- (b) **a more disaggregated approach** – increasing transparency and access to information, facilitating greater localism, and supporting more disaggregation in the industry (for example through Network Rail devolution) will provide for a more comparative approach to regulation and a better understanding of costs, revenues and subsidy across the sector;
- (c) **alignment of incentives** – improving the interfaces between the different players in the industry, for example, by facilitating alliances, efficiency benefit sharing at the route-level and bespoke arrangements where these improve whole sector working, will drive greater value for money for customers and taxpayers; and
- (d) **greater contestability** – ensuring that there is more effective use of market mechanisms through the value chain, including in the provision of infrastructure services where appropriate, delivering further efficiencies.

2.6 We will have regard to our objective and the above goals throughout PR13.

## Periodic review process

2.7 PR13 follows the amended procedure for conducting an access charges review. This procedure was applied for the first time in PR08 after Schedule 4A to the Railways Act 1993 ('the Act') was amended by the Railways Act 2005. Schedule 4A requires the Scottish Ministers (for Scotland) and the Secretary of State for Transport (in respect of England & Wales) to provide us with information about what they want to be achieved by railway activities in Scotland and England & Wales during the control period and the public financial resources that are, or are likely to be, available for the achievement of those activities. They will each do this by each producing a 'high level output specification' (HLOS), setting out what they want to be achieved, and a 'statement of funding available' (SoFA), setting out how much public funding they intend to commit to the railways in the period.

2.8 We set out below an overview of progress to date and give a brief guide to the rest of the process, to put this document into context.

## Preliminary work

2.9 In May 2011, we issued our first consultation document on PR13 seeking views on a wide range of issues to inform our thinking ahead of the formal 'review' phase' (May 2011 consultation)<sup>10</sup>. We followed this up with a further consultation in December 2011<sup>11</sup> (December 2011 document), which asked stakeholders more detailed questions on financial framework and incentives issues ahead of this framework document. Whilst not a specific PR13 consultation, in October 2011, we consulted on our policy

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<sup>9</sup> Advice to Secretary of State for Transport on Network Rail's costs and outputs in CP5, March 2012, available at <http://www.rail-reg.gov.uk/pr13/PDF/pr13-advice-to-ministers-ew.pdf>. Advice to Scottish Ministers on Network Rail's costs and outputs in CP5, available at <http://www.rail-reg.gov.uk/pr13/pdf/pr13-advice-to-ministers-scotland.pdf>.

<sup>10</sup> Periodic review 2013: first consultation, May 2011, available at <http://www.rail-reg.gov.uk/pr13/consultations/orr013.php>.

<sup>11</sup> Periodic review 2013: consultation on incentives, December 2011, available at <http://www.rail-reg.gov.uk/pr13/consultations/orr020.php>.

on on-rail competition. There is an interaction between on-rail competition and PR13 through the charging framework that we set at a periodic review. In this framework document, we conclude on or set out our planned approach to the issues we consulted on in our previous consultations, including on-rail competition.

2.10 In September 2011, Network Rail with its industry partners published two 'Initial Industry Plans' – one for England & Wales and one for Scotland<sup>12</sup>. These set out the industry's strategies in England & Wales and Scotland for the long-term, with a focus on what could be delivered in CP5. Our analysis of the IIPs was a key component of our advice to ministers which we issued in March 2012 (see below).

### **Advice to ministers and the formal commencement of PR13**

2.11 In March 2012, we formally commenced the periodic review process and requested both the Scottish Ministers and the Secretary of State to submit their HLOSs and SoFAs to us by 31 July 2012. To assist the governments in producing their HLOSs and SoFAs, we provided each of them with advice on the likely range of expenditure that Network Rail will require to deliver its outputs in CP5 and thus the level of public funding that is likely to be required. We also provided advice on the possible structure of outputs in CP5. Our advice was based on our analysis of the industry's proposals for CP5 as set out in the IIPs, and informed by our own work on the scope for future efficiency improvement.

### **This document – the financial and incentive framework for CP5**

2.12 As set out in chapter 1, this framework document sets out our decisions and approach on key aspects of the overall regulatory framework for CP5. The overall regulatory framework, and the decisions we will finally take on efficiency and outputs, have a significant impact on Network Rail. When we make our decisions, which we will set out for consultation in our draft determinations in June 2013, we will establish a balanced package that is challenging but achievable for Network Rail. We will need to ensure that we appropriately balance the incentives we place on the company to deliver and outperform our determination along with the mechanisms we establish to manage certain types of risk.

2.13 The overall framework will also affect train operators (and other parts of the industry such as suppliers and ROSCOs), for example through the incentive mechanisms we establish. It thus provides a strong basis to drive improved value for money from the industry as a whole.

2.14 This document, however, sets out those aspects on which we have already made decisions and the approach we will be taking to establish the full detailed framework over the course of PR13. There will be further consultations and decisions to make on a range of issues after this document published. These are discussed at the end of this chapter.

### **Following the HLOS: consultation on Network Rail's outputs and the wider framework of enablers and KPIs**

2.15 Once the HLOSs and SoFAs have been submitted to us by 31 July 2012, we will need to consider how to translate the high-level outputs sought by the governments into the regulatory obligations that we will place on Network Rail and for which we will monitor and enforce delivery in CP5. To assist us in doing this we will be consulting in August 2012 on the outputs that Network Rail should be required to deliver, and also on KPIs that we could use to monitor delivery of outcomes more widely.

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<sup>12</sup> <http://www.networkrail.co.uk/iip.aspx>.

### **Network Rail's strategic business plan (January 2013)**

2.16 Following the issue of the HLOS, Network Rail will begin work on its strategic business plan (SBP) for CP5, which will be its proposal for delivering the high-level outputs that the governments wish to buy. This will include Network Rail's costing of these outputs. The production of the SBP, whilst being Network Rail's responsibility, will be carried out through a collaborative process with stakeholders<sup>13</sup>. A key part of the SBP for CP5 will be detailed plans for each of Network Rail's operating routes.

2.17 We have provided guidance to Network Rail on how it should produce its SBP<sup>14</sup>. In particular, we have asked Network Rail to:

- (a) clearly describe the outputs it will deliver in CP5, explaining how these meet customer reasonable requirements and link to the wider outcomes it expects them to achieve;
- (b) set out route-level plans, with a consolidated England & Wales plan (as well as a separate plan for Scotland) and with key data presented at a GB level;
- (c) focus on CP5 but in the context of a separate longer-term strategic direction statement for Network Rail; and
- (d) engage with its stakeholders (including train operators, passengers, freight customers, suppliers and other stakeholders) in the development of the SBP, and set out in the plan the input it received and how it has taken this into account.

2.18 Network Rail will publish its SBP by 7 January 2013. We will then begin our comprehensive review and challenge of the SBP. We plan to give stakeholders an opportunity to provide us with any comments they have on the SBP, which will help inform our analysis as we scrutinise the SBP in the run up to producing our draft determinations. This echoes the approach we took following the production of the IIPs. We will not consult formally on Network Rail's SBP on the basis that the SBP is Network Rail's document, which, in line with our guidance, will have been prepared on the basis of consultation with its stakeholders.

### **Draft determinations (June 2013)**

2.19 Our draft determinations, to be published in June 2013, will set out our proposed decisions on Network Rail's outputs in CP5 and the funding that we consider it will need to deliver these outputs. Our draft determinations will also set out our draft decisions on the wider regulatory framework, including the incentives that will act on Network Rail to encourage it to deliver and outperform our determination and the incentives that will act on other industry parties including train operators (and through both Network Rail and train operators, suppliers).

2.20 At the same time that we publish our draft determinations, we will issue a draft 'strategic regulatory statement'. This will set out how we see our draft determination linking to the long-term future of economic regulation in the rail industry.

### **Final determinations (October 2013)**

2.21 We will carry out a full consultation on our draft determinations over the summer of 2013, providing for Network Rail, train operators and other stakeholders to make representations to us on the decisions we

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<sup>13</sup> When we issued our advice to ministers, we issued guidance to Network Rail setting out our requirements for its SBP. This included how it should engage with stakeholders.

<sup>14</sup> Requirements for Network Rail's January 2013 strategic business plan, March 2012, available at <http://www.rail-reg.gov.uk/pr13/PDF/network-rail-2013-sbp-requirements.pdf>.

propose to make. We will also consult on our draft strategic regulatory statement. Following due consideration of stakeholder responses, we will make our final decisions in October, when we publish our final determinations and issue our strategic regulatory statement.

## Implementation

2.22 We will implement our final determinations in line with the process set out in Schedule 4A to the Railways Act 1993. This process begins with the issue of a 'review notice', which will specify our conclusions on the access charges review and the reasons why we've reached those conclusions, the relevant changes to be made to access contracts and when these changes are proposed to have effect. We must then provide a period of not less than six weeks for Network Rail and certain other parties named in Schedule 4A to make objections. If objections are made, then we may either issue a revised review notice or make a reference to the Competition Commission for it to consider whether the matters contained in the access charges review are or may be against the public interest and, if so, whether any changes could be made to prevent this.

2.23 If neither Network Rail nor other relevant parties, such as the Secretary of State, Scottish Ministers or Treasury, object to our review notice, then we will issue a 'notice of agreement'. This confirms that we have received no objections and provides 28 days within which beneficiaries to the access contracts affected by the periodic review may issue a notice to terminate their access agreement. After this 28 day period is complete, we will then issue a 'review implementation notice' to confirm the changes that will be made to relevant access agreements as a result of the periodic review and the date when these will take effect.

2.24 Following our final determinations, Network Rail will finalise its delivery plan for CP5, liaising with its stakeholders – which it will need to do before 1 April 2014. This plan sets out Network Rail's detailed plans for the delivery of the outputs required by our final determinations<sup>15</sup>. We expect to issue a notice later in PR13 setting out the specific timescales and any particular requirements for Network Rail to consider when producing this plan. Whilst we do not need to approve this plan<sup>16</sup>, we will check that it is consistent with our final determinations. In the interests of good planning, we would expect that Network Rail would begin developing its draft delivery plan following our draft determinations in June 2013.

## The framework – building block approach

2.25 Our approach to establishing the regulatory framework is based on the standard 'building block' methodology widely used by economic regulators. This provides the basis for us to determine how much funding Network Rail will require during the control period to deliver its obligations and also the sources of this funding.

2.26 The periodic reviews/access charges reviews undertaken for Network Rail (and Railtrack) in 2000, 2003 and 2008 have used this broad approach. The key features of the building block methodology are:

- (a) we assess what Network Rail needs to spend on operating and maintaining the railway for each year of the control period. Network Rail receives income for this on a 'pay-as-you-go' (PAYG) basis. This means that for each pound it needs to spend each year it receives a pound in income;

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<sup>15</sup> Under condition 1 of its network licence, Network Rail is required to prepare a delivery plan in line with any requirements we set it for this purpose.

<sup>16</sup> Whilst we do not need to approve the delivery plan, we can include in our guidance to Network Rail a procedure for us to object to the contents of the plan if we consider this appropriate.

(b) we assess what capital expenditure on renewals and enhancements Network Rail needs to undertake in the control period. This expenditure is added to the regulatory asset base (RAB) in the year in which it is incurred<sup>17</sup>. But the income Network Rail receives is not on a PAYG basis. Instead Network Rail receives through its charges a return on the RAB and an amortisation allowance (which covers the depreciation on the assets);

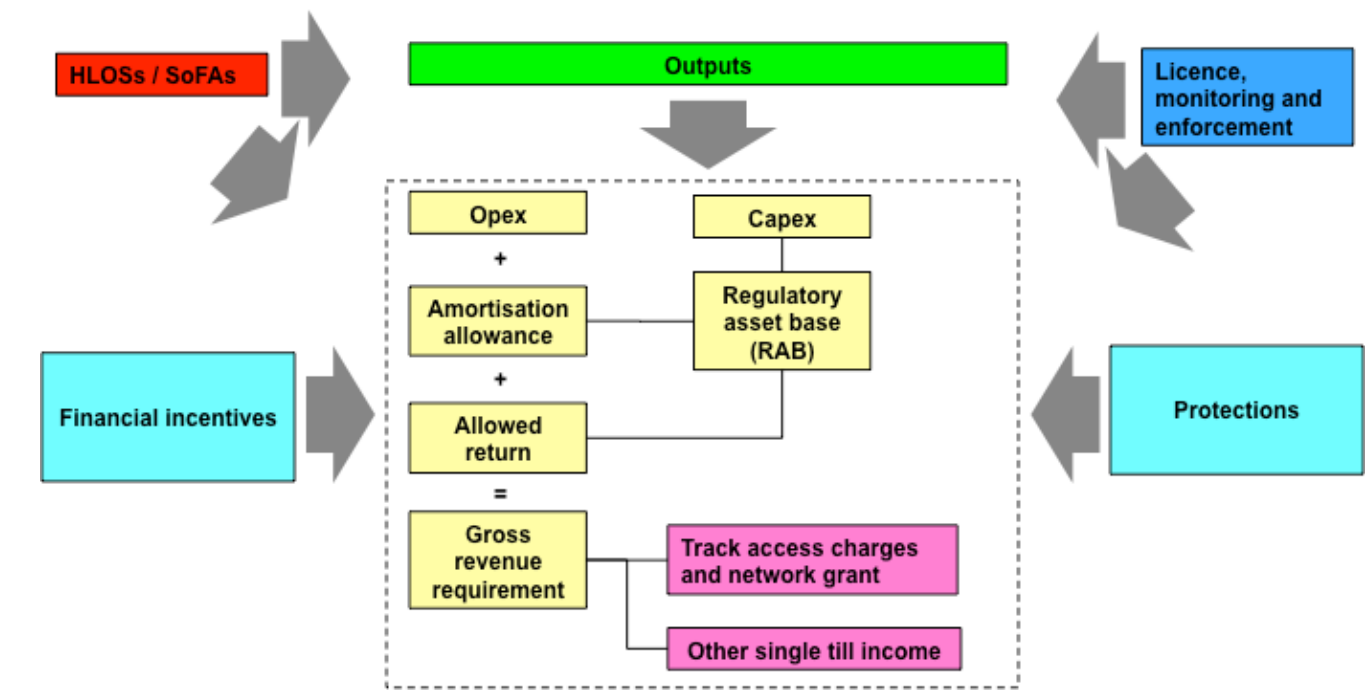
(c) the return on the RAB covers, amongst other things, the interest payments that the company needs to make for its debt<sup>18</sup>; and

(d) adding up all the income needed by Network Rail produces what we term ‘gross revenue requirement’. This is funded by track access charges, station long term charges, other single till income and network grant.

2.27 Track and station access charges are payable by train operating companies to Network Rail for the use of its infrastructure. Some of Network Rail’s costs vary depending on the amount of traffic on the network and the access charges to pay for these costs are called variable access charges. Network Rail receives ‘other single till income’ which is mainly income from property. Some of Network Rail’s costs are ‘fixed’ – they do not vary with use and in principle these should be paid for by the operators in the form of fixed access charges, although government currently pays network grant directly to Network Rail in lieu of a significant proportion of access charges.

2.28 Figure 2.1 illustrates the overall regulatory framework and the building block model, with Figure 2.2 showing the values of each building block according to the PR08 determination, whereas the link between the building blocks and the sources of income is illustrated in Table 2.1.

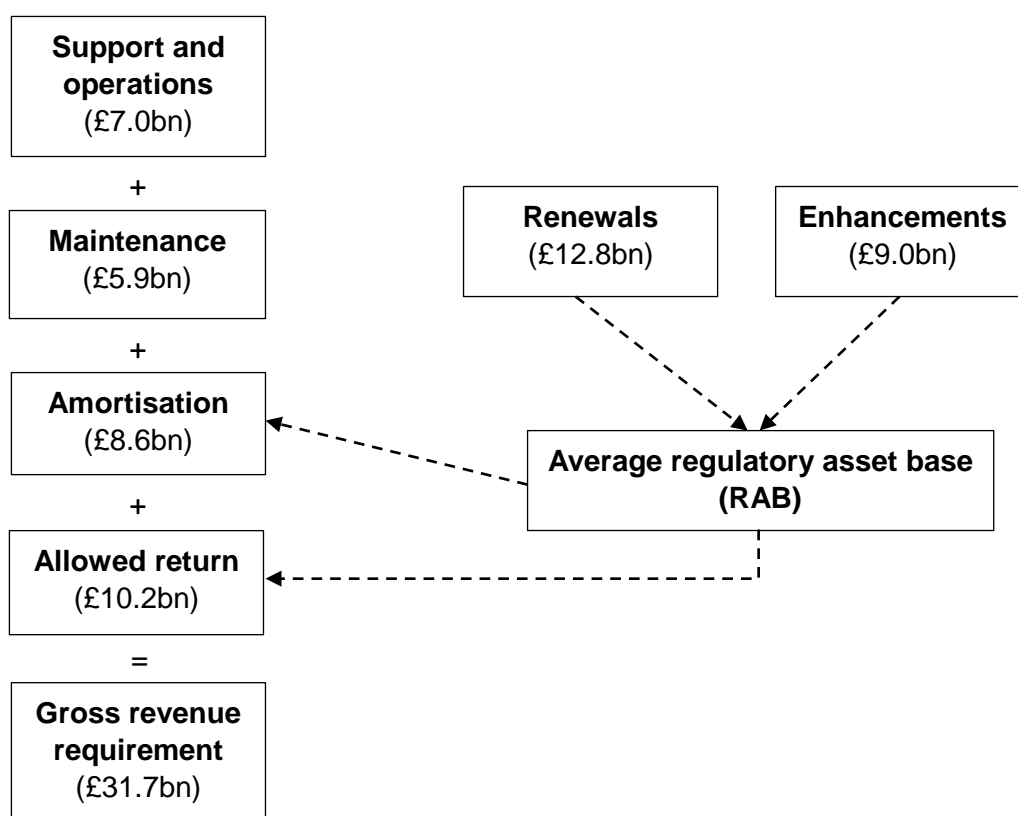
**Figure 2.1: Overview of the regulatory framework**



<sup>17</sup> The exception to this in CP4 is capex funded through the ring-fenced investment fund, which is not added to the RAB but paid for on a PAYG basis.

<sup>18</sup> In CP4, the return on the RAB also included a payment to government for the financial guarantee it receives of its debts, a ‘risk buffer’ to deal with cost and revenue shocks during the control period, and a ‘ring-fenced investment fund’ which in normal circumstances is reinvested in enhancement schemes (the approach to the return on the RAB, including the ring-fenced fund, will be reviewed in PR13 – and is discussed further in chapter 4 of this document).

**Figure 2.2: Building blocks of Network Rail’s revenue requirement – with PR08 determination values for CP4 (2011-12 prices)**



**Table 2.1: Sources of Network Rail’s income for CP4 (as per PR08 determination)**

£billions (2011-12 prices)	Total
Franchised passenger train operators – total variable charges	2.7
Franchised passenger train operators – fixed charges	5.2
Income from freight operators	0.4
Income from open access operators	0.1
Station long term charge income	0.8
Schedule 4 and 8 income	0.8
Other income (inc property rental, property sales and depots income)	2.1
Network grant	19.6
<b>Total income</b>	<b>31.7</b>

## Wider context

### Government rail policy

2.29 We are carrying out PR13 within a wider context of industry reform, following the recommendations of the Rail Value for Money (RVfM) study<sup>19</sup> which we co-sponsored with DfT. This set out how the railway could, by 2018-19, make substantial savings across Great Britain of between £2.5bn and £3.5bn (based on a top-down 'should cost' analysis and in 2008-09 prices) compared to 2008-09. The industry, led by the Rail Delivery Group (RDG), is taking forward a programme of changes to help deliver these savings. The Secretary of State published a command paper<sup>20</sup> in March 2012 partly in response to the RVfM study, setting out the changes that the government (in respect of England & Wales) wished to see.

2.30 Whilst Transport Scotland was not a co-sponsor to the RVfM study, it recognises that there will be implications for the rail industry across the whole of Great Britain from the work of RDG and potential benefits arising from this. Transport Scotland is considering, mainly as part of the development of the successor to the current ScotRail franchise, what elements of industry reform it wishes to promote – such as arrangements to provide greater alignment between Network Rail and train operators. In this regard, it has welcomed the recent alliance agreement between Network Rail and ScotRail (alliances are discussed below).

2.31 The RVfM study attributed the £2.5bn to £3.5bn (2008-09 prices) efficiency gap across the industry. For Network Rail, the efficiency gap was estimated at between £1.8bn and £2.3bn, with the remaining gap of £0.7bn to £1.2bn attributed to train operators and rolling stock companies. The RVfM study assumed that Network Rail would reduce the efficiency gap by £1.2bn in CP4, which means that the remaining gap of between £0.6bn and £1.1bn would be closed in CP5.

2.32 In the IIPs, the industry set out the savings that it plans to achieve over the next control period. The IIPs identified annual cost savings for Network Rail by the end of CP5 of approximately £0.7bn (in 2008-09 prices), which is slightly higher than the low 'should cost' estimate in the RVfM study. In our advice to ministers, we estimated that Network Rail should be able to achieve savings in line with the RVfM study 'should cost' analysis and by the end of CP5, have saved between £0.6bn and £1.2bn (in 2008-09 prices) in annual operating, maintenance and renewals expenditure.

2.33 We are committed through PR13 to playing our part in encouraging Network Rail to achieve the savings identified in the RVfM study. We will do this through:

- (a) scrutinising Network Rail's expenditure to ensure this is set at an efficient level;
- (b) ensuring that the access charges that Network Rail levies send price signals encouraging appropriate decisions to be taken in respect of use of the network and investment decisions;
- (c) establishing effective incentives on Network Rail and train operators (which in turn will act on the supply chain and rolling stock leasing companies) to encourage an industry focus on cost reduction – for example, by supporting greater cooperation in identifying potential ways to work more efficiently;

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<sup>19</sup> *Realising the Potential of GB Rail - Detailed Report*, Final Independent Report of the Rail Value for Money Study, May 2011, available at <http://www.rail-reg.gov.uk/server/show/ConWebDoc.10401>.

<sup>20</sup> *Reforming our Railways: Putting the Customer First*, Department for Transport, available at <http://assets.dft.gov.uk/publications/reforming-our-railways/reforming-our-railways.pdf>.

2.34 However, as the RVfM study identified, a significant proportion of savings remain for the rest of the industry to achieve. Whilst our regulatory focus is on Network Rail, we will do what we can to influence the wider industry to deliver these; using, as part of PR13 and beyond, the regulatory tools available to us including the promotion of market mechanisms and transparency (such as through our work on whole industry costs and benchmarking of train operators as well as the different parts of Network Rail). Nonetheless, it will be crucial for the industry as a whole to play its part in supporting the achievement of these savings, including through government-led changes that facilitate the industry being able to operate more efficiently, such as reforms to make franchises less prescriptive which DfT is taking forward.

2.35 In this context, it is important not to see CP5 in isolation. Whilst we expect PR13 to help to deliver significant savings by the end of CP5, it is also a major stepping stone to longer-term reforms and securing long-term sustainability. For example, we see it as putting in place the building blocks for further disaggregation in future which will enable greater comparative regulation and benchmarking, which will help keep the industry focused on improving both efficiency and the service its provides to customers.

2.36 We are supportive of the programme of industry reform, and see PR13 as one way in which reform can be implemented. We discuss below two specific areas where there could be an interaction with PR13.

### Alliances

2.37 The RVfM study recommended closer alignment of infrastructure management and train operators to improve industry interfaces, reduce costs and improve outcomes. One of the ways it proposed this should occur was through the establishment of 'alliance' arrangements<sup>21</sup> – mainly between devolved Network Rail routes and train operators (though alliances could include other industry parties such as suppliers).

2.38 In January 2012, Network Rail announced plans to form alliances with several train operators<sup>22</sup>. It is also discussing with DfT the potential for further alliancing as part of refranchising. Amongst other things, alliances could look at how engineering work could be better planned, how services could be made more punctual or how customer service at stations could be improved. Network Rail has indicated that the structure and scope of alliances could vary depending on the particular circumstances of the route.

2.39 In March we issued a statement setting out our policy position on alliances<sup>23</sup>. This made clear our support for alliances subject to them being transparent, non-discriminatory and consistent with existing legal obligations. We recognise that alliances are one of the ways in which the industry could deliver better outcomes for customers and taxpayers more efficiently. As such they should be consistent with our PR13 objective, supporting the alignment of incentives as well as facilitating devolved solutions to problems and challenges.

2.40 There will be interactions between potential alliances and the arrangements we implement through PR13. It will be important to ensure that these interactions are, as far as possible, coherent and complementary, so as not to undermine one another. For example, how route-level efficiency benefit sharing and alliance arrangements interact (see paragraph 2.48 below and chapter 8 for further details on this). Alliances may also facilitate bespoke arrangements for key elements of track access contracts such as the Schedule 4 and Schedule 8 possessions and performance regimes.

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<sup>21</sup> The term 'alliance' covers a range of different possible relationships, from project-based partnerships through to potentially long-term and comprehensive commercial arrangements covering a wide range of activities.

<sup>22</sup> See <http://www.networkrail.co.uk/alliance-framework.aspx>.

<sup>23</sup> Alliancing: ORR policy statement, March 2012, available at <http://www.rail-reg.gov.uk/upload/pdf/alliancing-policy-statement-march-2012.pdf>.



## Concessions

2.41 The RVfM study also proposed that at least one infrastructure management concession be set up on the national network to enable benchmarking using a comparable domestic organisation. The benefits of this are greater competitive pressure for affordability and efficiency. In principle, we see benefits in concessions providing valuable comparative data on performance and efficiency. Concessions could act as a spur to encourage Network Rail to improve its own performance, provide a source of innovation and also allow us to use more comparative techniques in the way that we regulate. A concession is unlikely to be introduced immediately and so we would not expect this to have a direct bearing on PR13 and our determination, though we may decide to include a specific re-opener in our PR13 determination (implemented through track access agreements) to provide for a concession to be accommodated in CP5.

## System operator role

2.42 The effective performance of 'system operation' functions is critically important in ensuring the realisation of benefits from coordination between different parties involved in providing and using network access. This role would normally include for example the optimisation of network usage, minimisation of problems due to congestion or disruption, and long-term capacity planning. It could be performed either by Network Rail or, in due course, a distinct central industry organisation. The efficient and effective performance of the system operator role is critical for the preservation of network benefits, a long-term whole-network approach to investment planning, and the provision of fair, reasonable and non-discriminatory access to the network.

2.43 As Network Rail moves to a more devolved structure – horizontally with route devolution and potentially vertically with concessions – the system operation functions will become increasingly important. We recognise that an effective and efficient system operator must reflect the nature of the market it serves, and that the nature of the rail infrastructure market is evolving. In CP5 we will ensure that the right building blocks are in place to facilitate and encourage the development of system operation in rail. We will require Network Rail to identify the system operation functions it performs, and to improve the information it collects on the effective and efficient performance of those functions.

## Overall timeline

2.44 Our high-level timetable is set out below.

Formal review phase	
15 March 2012	We published our 'advice to ministers' (for both England & Wales and Scotland) and issued our review initiation notice formally starting PR13
1 May 2012	We publish our Financial and incentive framework for CP5 (this document), setting out the approach we will be taking on the financial and incentive framework following consultations on these areas in December 2011 and May 2011, along with our conclusions on our consultation on on-rail competition last October
3 May 2012	We consult on exposing train operators to changes in Network Rail's costs at periodic reviews and how our route-based efficiency benefit sharing mechanism should interact with alliancing arrangements

8 May 2012	We consult on caps and mark-ups on certain freight track access charges
28 June 2012	Consultation closes on exposing train operators to changes in Network Rail's costs at periodic reviews and on how our route-based efficiency benefit sharing mechanism should interact with alliancing arrangements
31 July 2012	Our consultation on caps and mark-ups on certain freight track access charges closes
By 31 July 2012	The Secretary of State for Transport and Scottish Ministers publish their HLOSs/SoFAs
By 1 August 2012	We consult on detailed financial issues concerning Network Rail's financial framework for CP5
By 1 August 2012	We consult on the outputs Network Rail should be required to deliver, and the wider framework of enablers and monitoring KPIs
28 September 2012	Our consultations on Network Rail's outputs and detailed financial issues close
September/October 2012	We consult on detailed issues relating to track access charges and the volume incentive
November 2012	We consult on more detailed issues relating to Schedules 4 and 8 restrictions of use and performance regimes
November 2012	We publish our decisions following our consultation on detailed financial issues concerning Network Rail's financial framework
November 2012	We publish our decisions on caps for freight charges for CP5
7 January 2013	Network Rail publishes its strategic business plan
8 January 2013	We seek comments on Network Rail's strategic business plan
February 2013	Workshop on Network Rail's strategic business plan
19 February 2013	Stakeholder comments on Network Rail's strategic business plan received by this date
12 June 2013	We publish our draft determination and draft strategic regulatory statement
4 September 2013	Consultation on our draft determination closes
31 October 2013	We publish our final determination and strategic regulatory statement

Implementation phase (assuming no objections by Network Rail to our review notice)	
November/December 2013	Final access charges (price lists/charge schedules) are audited and approved by us. Review notices are served which start the formal implementation of PR13. (Subsequent dates depend on exactly when the review notices are issued.)
January/February 2014	Final point (specific date to be defined) at which objections could be made to our review notice (not less than six weeks from the date of publication of the review notice). If objections are received, then we would either issue a revised notice or make a reference to the Competition Commission.
January/February 2014	If no objections to our review notice are received then we issue a notice of agreement (specific date to be defined)
February/March 2014	Where we issued a notice of agreement in Jan/Feb 2014, we will then issue our review implementation notice
By 31 March 2014	Network Rail publishes its delivery plan
1 April 2014	Implementation of PR13 determination and start of CP5

2.45 We have made some changes to our timetable since it was last circulated. Firstly, we are now consulting for a longer period on our proposal on freight track access charges to give stakeholders a fuller opportunity to consider and respond to this, given its significance. We intend to conclude on this issue in November 2012.

2.46 Secondly, we had planned to give stakeholders the opportunity to comments on Network Rail's SBP to help inform our analysis as we develop our draft determinations. However, given the thorough stakeholder engagement that we have asked Network Rail to carry out when developing the SBP, we have shortened the period for comments to be sent to us to six weeks. This seems more appropriate given the prior engagement by Network Rail and it will give us more time to take those comments into account before we make our decisions for our draft determinations. It is also consistent with the approach we took to the initial industry plans that were published in September 2011. To provide an alternative method of engaging with us on the SBP, we also plan to hold a stakeholder workshop following SBP publication.

2.47 We will then hold a full 12 week consultation on our draft determinations, which will begin on 12 June 2013, rather than on 6 June 2013 as previously stated.

## Subsequent consultations on the framework

2.48 As part of the process set out above, we plan to issue further documents this year to inform our thinking on the framework. These documents include consultations on the following:

- (a) **aligning incentives to improve efficiency** (through exposing franchised train operators to Network Rail's costs at periodic reviews and how our proposed route-level efficiency benefit sharing (REBS) mechanism should interact with alliances). This builds on the consultations we carried out previously on

the structure for how REBS should work and considers how efficiencies would be shared where there is one or more alliance in place alongside a range of train operators with the REBS mechanism. This will be published on 3 May 2012;

(b) **caps and mark-ups on certain freight track access charges.** This will set out our proposals for capping certain access charges paid by freight and for mark-ups on specific commodities where the market can bear these. This will be published on 8 May 2012, and we will hold a workshop on this consultation on 18 May 2012<sup>24</sup>;

(c) by 1 August 2012 we will consult on:

(i) **the outputs that Network Rail should be required to deliver in CP5 and the wider framework of enablers and KPIs** (see paragraph 2.15 above);

(ii) **detailed financial framework issues.** This will cover a range of issues including the treatment of inflation, Network Rail's risk buffer, its level of indebtedness, our approach on network grant and corporation tax. See chapters 3 and 4 for further details;

(d) **access charges and volume incentive.** In September/October 2012, we will consult on detailed issues relating to variable charges, including the variable track usage charge, capacity charge and scarcity charge. Given its link to scarcity and capacity charges, we will include changes to Network Rail's volume incentive as part of this consultation; and

(e) **detailed technical issues relating to the Schedules 4 and 8 possessions and performance regimes.** This consultation is planned for November 2012 and will build on the consultations and dialogue with stakeholders carried out to date (see paragraph 6.76 for further details).

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<sup>24</sup> For further information on this please see <http://www.rail-reg.gov.uk/pr13/getInvolved/tac-workshop.php>.

# 3. Price control framework

## Key messages from this chapter

- Price control disaggregation is a key enabler of change in the rail industry, e.g. through devolution, alliances and potentially concessions. It will also help to improve visibility, so people can understand and challenge costs, revenues and subsidy at an operating route-level. This in turn could support more local involvement in specifying and funding what is needed.
- As we develop our PR13 determination we will always look for more opportunities to further disaggregate the price control between England & Wales and Scotland.
- It is currently our view that financially separate price controls at the route-level would be beneficial in the long run and we will do what we can in PR13 to move towards this.
- We expect CP5 to cover a period of five years - from 1 April 2014 to 31 March 2019.
- We will retain the early start mechanism for CP5, providing a mechanism to help avoid delays in investment.
- We will adopt a single till approach to the calculation of Network Rail's revenue requirement in CP5.
- We will use re-openers in CP5 as part of the package of measures to allocate risk to whoever is best placed to manage. This will help to deliver better value for money.
- We will retain the same opex and capex incentive strengths in PR13 that were used in PR08.

## Introduction

3.1 This chapter sets out our decisions and approach on issues relating to the price control framework. This includes:

- (a) the approach to price control separation/disaggregation we are taking in CP5;
- (b) the duration of the price control;
- (c) the early start mechanism;
- (d) whether we should use a single till or dual till approach;
- (e) the high-level approach to re-openers; and
- (f) our approach to opex and capex financial incentives, e.g. the strength of the incentives.

3.2 However, we will not conclude on our approach to amortisation and our treatment of inflation and indexing allowed revenues and input price inflation. We also intend to consult on our approach to network grant, i.e. the funding that the governments' provide directly to Network Rail which could otherwise be recovered through access charges, in our July 2012 consultation on financial issues. In the same document we will also address the accountability, incentive and transparency issues raised by network grant.

## Price control disaggregation

### Introduction

3.3 We determine access charges for Network Rail as part of the price control for the whole of Network Rail. This process is explained in chapter 2. As part of the process of determining Network Rail's price control, we need to consider to what extent we should disaggregate the price control.

3.4 First, we consider price control disaggregation issues in the following dimensions:

- (a) the degree of geographical disaggregation, e.g. do we disaggregate to an operating route<sup>25</sup> level or below that level? and
- (b) how financially separate the disaggregation is, e.g. are we just setting out our assumptions in a transparent way or does the disaggregation have financial consequences for the regional areas. In other words should Network Rail still be treated financially as one company, i.e. should it be able to 'trade' out/underperformance between operating routes (the risk sharing approach)<sup>26</sup> or should out/underperformance be 'ring-fenced' (the risk bearing approach)<sup>27</sup>?

3.5 Secondly, the key issues that we will consider when deciding how far we should disaggregate a price control are:

- (a) how the price control is funded, e.g. as Network Rail's activities in Scotland are separately funded the price control needs to be disaggregated as a minimum between England & Wales and Scotland;
- (b) how we determine efficient costs and revenues, e.g. can we use comparative regulation where we benchmark Network Rail's performance across its routes;
- (c) how do we best understand Network Rail's income and costs, e.g. given that Network Rail has devolved responsibility for some of its activities to an operating route-level, then we will be better able to understand Network Rail's costs if its plans are based on operating routes and ideally built from the bottom up instead of an allocation from the centre;
- (d) how transparent the reporting of costs, revenues and subsidy should be;
- (e) how can we improve incentives, e.g. through route-level efficiency benefit sharing (REBS); and
- (f) how can we facilitate better decision making, e.g. more local decision making may bring benefits to the railway as a whole; and
- (g) how and to what extent can disaggregation be a key enabler for facilitating change in the rail industry, e.g. through alliances and potentially concessions.

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<sup>25</sup> Network Rail's operating routes are: Kent & HS1, Sussex, Wessex, Western, Anglia, East Midlands, Wales, London North Western, London North Eastern and Scotland.

<sup>26</sup> A risk sharing approach would allow Network Rail to use any operating surplus generated by outperformance on some routes, its risk buffer and its balance sheet buffer to support any deficits that arise in other routes (subject to corporate level financial controls, e.g. the level of indebtedness limit or interest cover ratios). Under this option, surplus from routes with outperformance could be transferred to support routes that underperform (once sharing with train operators is taken account of). This approach would weaken incentives on Network Rail's route management compared to a risk bearing approach.

<sup>27</sup> A risk bearing approach would mean any out/underperformance on a route compared to the baseline trajectory would be retained wholly within the route for the benefit/cost of the route and shared with the train operators using that route. This option would strengthen incentives and prevent Network Rail from cross-subsidising across its routes. This is the approach used for the disaggregation between England & Wales and Scotland.

## Disaggregation at PR08

3.6 In PR08 we established separate price controls for CP4 for Network Rail's activities in both England & Wales and Scotland. This was in response to the devolution of responsibility for rail strategy and funding to the Scottish government which followed from the Railways Act 2005.

3.7 Although in PR08 we established separate price controls for Network Rail's activities in England & Wales and Scotland, we recognised that Network Rail is a Great Britain-wide company and finances itself on that basis. We did not require Network Rail to establish separate finance companies for England & Wales and Scotland. Also, in PR08 there was no further separation (e.g. to operating routes) below the England & Wales and Scotland level apart from the partial disaggregation of some outputs such as the public performance measure (PPM).

3.8 The separate price controls for England & Wales and Scotland already include:

- (a) separate determination of the outputs and revenue requirement for each area (in the context of the separate HLOSs and SoFAs). This includes separate regulatory asset bases (RABs) and notionally separate debt and corporation tax calculations for the purposes of determining the revenue requirements. It therefore requires the level of efficient expenditure for running the railway in Scotland to be established;
- (b) separate determination of access charges (though retaining a GB-wide variable usage charge price list);
- (c) separate provisions for dealing with risk and uncertainty (although the provisions are largely the same);
- (d) ensuring that outperformance or underperformance is ultimately retained or borne entirely separately by customers and funders in each area (although not necessarily within the control period); and
- (e) some separate monitoring and enforcement, e.g. separate financial assessments.

3.9 We now want to go further than disaggregating Network Rail's price control between England & Wales and Scotland as, in our view, greater disaggregation of price controls is in line with our desire to increase transparency of costs and revenues, support better whole-industry incentives and will in particular facilitate more local decision making (localism). Greater disaggregation, especially when combined with the increasing autonomy of routes under Network Rail's 'devolution' strategy, could also, in CP6, allow us to move towards a more comparative approach to regulation.

3.10 Further disaggregation is also a key enabler for facilitating change in the rail industry, e.g. through devolution, alliances and potentially concessions. These initiatives were raised in the RVfM study<sup>28</sup> and the Secretary of State's command paper<sup>29</sup> which discussed the structure of the industry. Also, Scottish Ministers are clear that a much more integrated approach is the best way to ensure that Scotland's railways provide high quality, reliable and efficient services, which are fully attuned to the needs of passengers and freight users in Scotland. Scottish Ministers have looked to the industry in Scotland to provide leadership on this and they are supportive of the existing Alliance Framework Agreement between Network Rail and First ScotRail and other measures that promote integration and help make the delivery of rail services more efficient for the benefit of rail users.

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<sup>28</sup> This is available at: <http://www.rail-reg.gov.uk/upload/pdf/rail-vfm-detailed-report-may11.pdf>.

<sup>29</sup> This is available at: <http://assets.dft.gov.uk/publications/reforming-our-railways/reforming-our-railways.pdf>.

3.11 These initiatives tend to be local and in order for them to be successful they need to be based on robust disaggregated information. For example, if an organisation was planning on bidding to take on a concession of the operation of an operating route, they would need to know how that operating route has been performing in terms of costs and revenues.

### **Our May 2011 consultation**

3.12 In our May 2011 consultation, we consulted on price control separation and discussed whether we could increase the level of separation between England & Wales and Scotland, e.g. should we have separate efficiency assumptions and how far should we take price control separation at the operating route-level. In particular, we asked the following questions<sup>30</sup>:

- (a) do you think that our approach to the disaggregation of Network Rail financial (and other) data to operating routes is appropriate? Is the information we are requiring Network Rail to produce set at the right level? Do you have views on the information train operators should produce?;
- (b) which aspects of the price control should be separated for England & Wales and Scotland, e.g. should the efficiency assumption be separate?; and
- (c) do you think there should be further separation of the price control for Network Rail's operating routes and, if so, which aspects of the price control should be separated?

3.13 Generally, respondents substantially supported greater disaggregation and improved transparency of data<sup>31</sup>. In particular:

- (a) some stakeholders suggested that all aspects of the price controls for England & Wales and Scotland should be separated. However, there were some concerns linked to this support, e.g. how efficiencies within England & Wales and Scotland will be dealt with and that further disaggregation may incur higher costs in Scotland;
- (b) there was also a good level of support (though not from the freight sector or CrossCountry) for further disaggregation of the price control (e.g. to an operating route-level) and a risk sharing approach was preferred; and
- (c) there was also a recognition of potential problems especially for operators who run across route boundaries, e.g. there were concerns it might be too complex and could undermine joined-up thinking on investment decisions and operational planning across the network.

### **Our approach for England & Wales and Scotland**

3.14 Having considered the responses to our consultation, we see benefits in further disaggregating the price control between England & Wales and Scotland where this is feasible. Therefore, we will look to do the following in CP5:

- (a) route-level business planning. In our requirements for Network Rail's January 2013 SBP<sup>32</sup> we required Network Rail to produce separate plans for each operating route including Scotland and a consolidated plan for England & Wales. Those plans should be developed on a bottom up basis by

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<sup>30</sup> We also held a workshop in January 2012 to discuss the key issues.

<sup>31</sup> We will shortly publish on our website a document setting out a more detailed discussion of the responses to our May 2011 consultation. See paragraph 1.5.

<sup>32</sup> This is available at: <http://www.rail-reg.gov.uk/pr13/PDF/network-rail-2013-sbp-requirements.pdf>.



Network Rail's route management teams and make clear what each route will deliver and how route based activities support the HLOSs and other cross-network outputs;

(b) separate efficiency assumptions. We are working on producing separate efficiency assumptions for England & Wales and Scotland as long as they are robust and the assumptions in our advice to ministers had, in some areas, different efficiency assumptions for England & Wales and Scotland;

(c) cost of capital. In the analysis for our determination we will assess whether there should be different cost of capital assumptions for England & Wales and Scotland, although we recognise that Network Rail is one company and is financed as one company;

(d) financeability/financial sustainability. In the analysis for our determination, we will assess whether there should be different adjustments for England & Wales and Scotland;

(e) charges. As chapter 5 sets out, we are doing further work to develop geographically disaggregated scarcity charges<sup>33</sup> and variable usage charges. If it is feasible, we will introduce these charges in CP5. If not, we may introduce them at a notional level to gain information about the potential effect of the charges; and

(f) as we are aiming to have incentives that are appropriate for England & Wales and Scotland, where possible the incentives will be separate (but may be the same where appropriate).

3.15 Also, in the remainder of PR13 we will look for further opportunities to disaggregate Network Rail's price control between England & Wales and Scotland in CP5 and we will discuss our thinking with Network Rail, DfT and Transport Scotland and other stakeholders as the work develops.

#### **Our approach to disaggregation at operating route-level**

3.16 For CP5 we will do as much as we can to disaggregate Network Rail's price control and prepare the way, without fettering our discretion and subject to further consultation, for financially separate price controls in the future. This is because of the benefits that further disaggregation would bring in terms of:

(a) the greater scope for comparative regulation;

(b) better understanding of Network Rail's income and costs;

(c) increased transparency of costs and revenues, which is essential for REBS;

(d) better whole-industry incentives;

(e) better local decision making (localism); and

(f) that it could be a key enabler for facilitating change in the rail industry.

3.17 We currently, subject to further consultation, envisage doing financially separate price controls for CP6. Therefore, in order to facilitate this, in CP5 we will:

(a) improve transparency by providing information on revenues and costs at the operating route-level;

(b) make our assessments that underpin our calculation of Network Rail's revenue requirement, e.g. expenditure assessments at the operating route-level where possible; and

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<sup>33</sup> The scarcity charge is a charge for the allocation of scarce capacity.

(c) when we are confident that our operating route assessments are robust, we can consider making operating route determinations of revenues, charges and outputs, e.g. operating route variable charges.

3.18 Given that Network Rail has devolved responsibility for its operations to an operating route-level we will focus our disaggregation in England & Wales on the operating route-level, instead of other levels of geographical separation.

3.19 As a first step, we have already required Network Rail to disaggregate its regulatory accounts between its operating routes. This disaggregated information will be audited and included in Network Rail's regulatory accounts for the year 2011-12 onwards, which will be published by the end of July 2012. Also we have worked with the industry to produce yearly whole industry financial information, which was published for the first time in January 2012<sup>34</sup> and we will be working with the industry to refine this reporting over time.

3.20 Our proposals for a more disaggregated approach to the England & Wales price control at an operating level in CP5 are:

(a) income and expenditure. We will make our assessment by operating route and publish our assumptions. This will be for support, industry costs and rates, operations, maintenance, renewals, Schedule 4 and 8 costs, enhancements and other single till income. In doing this we will consider the quality of Network Rail's strategic business plan (SBP) operating route analysis. We are working on ensuring that Network Rail's plans by operating route are as robust as possible through the progressive assurance process;

(b) amortisation. We will make our assessment by operating route and publish our assumptions;

(c) efficiency. We are working on producing separate efficiency assumptions for England & Wales and Scotland as long as they are robust;

(d) revenue requirement. We will not separate the revenue requirement by operating route but we will calculate it on a "indicative" basis (using our assumptions on income and expenditure, Schedule 4 and 8 costs, amortisation, efficiency, cost of capital, interest costs, debt and regulatory asset base (RAB)), which will have the benefit of improving transparency and providing an indication of the future revenue requirements in the operating routes;

(e) financial. Indicative RAB and debt (and hence interest costs) will be calculated by operating route to aid transparency and provide a basis for any further development. However, we will not make separate cost of capital assumptions and financeability adjustments as that would be premature because the revenue requirements will not be separate;

(f) provisions for dealing with risk and uncertainty. As we are not intending to separate the revenue requirement in CP5 and we will take a risk sharing approach to efficiency sharing, at the moment we do not think separate risk and uncertainty provisions, such as re-openers, are needed;

(g) access charges. Most charges are already disaggregated. Fixed charges will be disaggregated at an operating route-level. As chapter 5 sets out, we are doing further work to develop geographically disaggregated scarcity charges and variable usage charges. If it is feasible, we will introduce these charges in CP5. If not, we may introduce them at a notional level to gain information about the potential effect of the charges;

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<sup>34</sup> This is available at: [http://www.rail-reg.gov.uk/upload/pdf/gb\\_rail\\_industry\\_financial\\_information.pdf](http://www.rail-reg.gov.uk/upload/pdf/gb_rail_industry_financial_information.pdf).

(h) incentives. REBS and the volume incentive will be disaggregated by operating route and we will take a risk sharing approach to efficiency sharing as the revenue requirement will not be separated (see chapter 8);

(i) outcomes and outputs. Some outputs, such as PPM, are already partly disaggregated. We will consult on the outputs that can be disaggregated and the appropriate level of disaggregation, e.g. by operating route in our August 2012 consultation on outputs, enablers and monitoring KPIs. That consultation will cover regulatory outputs, the delivery of which we will hold Network Rail to account for, but also enablers<sup>35</sup> and monitoring key performance indicators (KPIs), e.g. the number of temporary speed restrictions; and

(j) monitoring and enforcement. Network Rail is devolving a significant amount of responsibility for the management of its network to its operating routes to improve its responsiveness to customers at a local level. We need to decide how our monitoring process will evolve, e.g. whether publications such as our Network Rail monitor and annual assessment should report on an operating route basis from the start of CP5. We will report further on this in our draft determinations in June 2013.

3.21 Some of the issues raised by respondents relate to CP5, e.g. if we introduce variable usage charges at an operating route-level that will increase complexity and some relate to future control periods after CP5, e.g. price control separation could undermine joined up thinking on investment decisions and operational planning across the network.

3.22 Our view is that the benefits that further price control separation would bring, e.g. in terms of improved transparency, would outweigh the potential problems associated with more complex charges in CP5. Also, as Network Rail would still be a single legal entity with ultimate responsibility for investment decisions and operational planning in CP5, we do not think that there would be system operation issues in CP5. However, we will take the system operation issues into account when thinking about further disaggregation in the future.

## Duration of the price control

### Introduction

3.23 The duration (length) of the control period is a fundamental part of the regulatory framework as this is the period of time for which we determine Network Rail's revenue requirement and charges and other price control arrangements, e.g. outputs and incentives. Therefore, it is of critical importance, both to Network Rail itself, its customers and its funders.

3.24 When considering the length of the control period, we must balance the need to provide appropriate incentives on the company to operate and invest efficiently as the owner and operator of long life assets (and to strive to outperform our determination) with the increased uncertainty (and therefore higher risk) involved in forecasting output requirements and costs further into the future. The length of the control period in rail has always been established as five years, generally in line with the duration that has been adopted in other regulated sectors in the UK<sup>36</sup>.

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<sup>35</sup> An enabler is an action that facilitates future cost reductions or improvements in outputs, e.g. the asset management excellence trajectory.

<sup>36</sup> Whilst planned to be five years, the second control period was in practice reduced to three years (2001-02 to 2003-04) due to the 'interim' access charges review 2003 that took place after Network Rail took over Railtrack (in administration).

3.25 To assist the Secretary of State and Scottish Ministers to set out their desired high level outputs and the associated public funding that is to be made available in the HLOS and SoFA, in our advice to ministers' documents we set out our expectation that CP5 would be five years in length.

## Options

3.26 The options that we have when considering the length of the control period are:

- (a) retain the current five year length for the current period;
- (b) have a longer control period, e.g. eight or ten years; or
- (c) have a shorter control period.

3.27 We decided that CP4 would be for five years mainly because it is an appropriate period of time that is short enough to reflect the difficulties in forecasting costs and revenues over long time horizons, which should give Network Rail an appropriate amount of time to plan and deliver its outputs. It should also provide effective incentives and not expose Network Rail to financial risk for a prolonged period and provide sufficient certainty for suppliers, customers and funders.

3.28 Most other UK regulators also use five years as the time period for the length of the control period for similar reasons as we have. Although Ofgem has decided to generally move to a longer control period of eight years to better align its regulatory reviews with the longer-term gas and electricity industry investment requirements (albeit with a mid-period review of outputs at four years).

3.29 Having a longer control period would better align with long-term industry planning and capital investment, and provide greater certainty to Network Rail's suppliers, potentially reducing the number of peaks and troughs in work, that could otherwise lead to inefficient procurement and longer-term detriment to the efficiency of the supply chain (e.g. because staff are laid off and de-skill during troughs only to be rehired and retrained in peaks).

3.30 However, there are mechanisms already in existence that Network Rail can and should use to manage the peaks and troughs in its workload. These include the early start mechanism discussed below, the CP5 development fund<sup>37</sup> and the investment framework<sup>38</sup>. Also, while Network Rail is improving its knowledge of costs and cost drivers, we would still have concerns as to whether this knowledge is sufficiently robust to warrant a longer control period.

3.31 A longer control period would also expose the company to greater financial risk and make it more difficult for the governments to set the HLOSs as governments typically use three or four year spending review periods. Network Rail has also not reached the stage where it is pushing the efficiency frontier and has generally focused more on hitting targets than striving for outperformance, so there is less justification for extending the length of the control period compared to, say, the eight years that Ofgem has generally moved to for the gas and electricity industries.

3.32 Also, given all of the changes currently being debated and implemented in the industry, e.g. devolution, alliances and potentially concessions, it would not be appropriate to have a longer control

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<sup>37</sup> In PR08 we allowed Network Rail a CP5 development fund, so that it was funded to begin developing enhancement schemes ahead of when a decision was taken on funding. This should make it easier for Network Rail to start projects at the appropriate time rather than waiting for the start of a control period.

<sup>38</sup> The investment framework allows investments to be funded within control periods. This is a separate process to the price control process.

period as that would make it more likely that the price control would have to be re-opened. Ofwat has also recently consulted on the length of the control period that it uses for the water and sewerage industry and does not think that extending the control period beyond five years is appropriate at the moment. This is because of the changes that are taking place in the water and sewerage industry<sup>39</sup>.

3.33 A shorter control period might be appropriate, if there was considerable uncertainty around the key components of Network Rail's revenue requirement. Also shortening the length of the control period would allow us to place greater emphasis on Network Rail achieving specific short-term outputs, would align better with Network Rail's planning of renewals workbanks and would make it easier for the governments to establish their HLOSs through closer alignment of the regulatory reviews to government spending reviews. However, the greater frequency of periodic reviews could increase regulatory risk and the level of uncertainty the industry faces and become obstructive to the longer-term planning and incentives that the industry requires.

3.34 Another reason for having a shorter control period would be that it may make it easier to implement change in the industry following the review of industry structure currently taking place.

3.35 Respondents to our May 2011 consultation were generally in favour of retaining a five year control period with a few saying that it should be extended<sup>40</sup>. The respondents that favoured extending the length of the control period were generally concerned about the effect of a five year control period on suppliers and in particular the problems caused to the supply chain from Network Rail reducing spend (and hence work volumes) in the early part of a control period and then increasing spend in the later part of the control period, as has been seen in CP3 and CP4.

3.36 We recognise the concerns raised by some respondents and the suggestions that we adopt a longer control period. However, we consider that the fluctuations in work volumes relate more to Network Rail's asset policies and planning as Network Rail frequently underspends its renewals and enhancements budgets and defers work to the end of the control period. Instead of focusing on the length of the price control, the focus should be on improving the industry's planning capabilities (e.g. ensuring that Network Rail has clear and robust asset policies and plans, which give rise to a higher level of predictability in the workbanks), and that the length of the control period does not need to be extended to deal with these issues especially given all of the changes currently being debated and implemented in the industry, e.g. alliances and potentially concessions. This issue highlights the importance of Network Rail's SBP and delivery plans being published on time and being as robust as possible. We are working on this with Network Rail through our progressive assurance process.

## Decision

3.37 We consider that five years is a period of time that provides an appropriate balance between planning uncertainty, incentives and risk, and subject to discussions with DfT and Transport Scotland as part of the HLOS/SoFA process we expect to retain the current length of the control period. On this basis, CP5 would run from 1 April 2014 to 31 March 2019<sup>41</sup>. Our supporting analysis though in some areas, will continue to

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<sup>39</sup> This report is available at: <http://www.ofwat.gov.uk/content?id=6851cb40-1059-11e1-9289-9d687762e10c>.

<sup>40</sup> We will publish a more detailed discussion of the responses to our May 2011 consultation later in May 2012.

<sup>41</sup> Under the statutory process the Secretary of State and Scottish Ministers have the right to make representations to us when they issue their HLOS/SoFAs, about when the next access charges review should be undertaken and the circumstances in which it would be appropriate to undertake a review before that date.

cover a longer period of time as Network Rail's assets have long lives, e.g. Network Rail's SBP will be for a period of at least thirty years<sup>42</sup>.

3.38 Our investment framework also already provides a mechanism for investments to be initiated between control periods. Also, the 'early start' mechanism as discussed below can be used by Network Rail to give some early certainty and manage the peaks and troughs in its workload. We would also expect Network Rail to engage with its suppliers as it produces its CP5 delivery plan. We will consider making a measure of supplier satisfaction a formal regulatory KPI in CP5 as part of our August 2012 consultation on Network Rail's outputs, enablers and monitoring KPIs.

## Early start

### Introduction

3.39 In PR08 we introduced a policy called 'early start', which allows Network Rail in certain circumstances to request early notification in the periodic review process about whether or not we would allow activity and expenditure to be funded through its access charges. We thought that this policy was needed as some of the investment projects that Network Rail was likely to propose in its SBP would have long lead times and the periodic review process may disrupt planning to the extent that there would be uncertainty about the level of funding in the run up to the final determination.

3.40 Therefore, the early start mechanism provides more clarity of the required outputs of the determination and the allowed revenue at an earlier stage of the price control process. This should mean that Network Rail does not delay investment. This is important as delays can reduce the efficiency of investment and increase costs in the supply industry.

3.41 The early start mechanism that we used in PR08 for five projects required Network Rail to propose in its SBP the expenditure and outputs in the first year of CP4 that it considered should qualify for the early start mechanism. In order to qualify for consideration for early start funding the investment would have to have a defined (observable/measurable) output, have clear and agreed dates for delivery, have firm cost proposals, and have funder support (if relevant).

### Options

3.42 The options that we have in this area are:

- (a) retain the current early start mechanism;
- (b) adopt a different mechanism; or
- (c) do not have a mechanism like this.

3.43 Not many respondents commented on the early start mechanism. However, those that did respond agreed that we should continue to use the mechanism.

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<sup>42</sup> Our SBP guidance to Network Rail said that: The SBP should be set in the context of a longer-term strategy for the company. The longer-term strategy should be presented in the form of a separate strategic direction statement. This statement should provide longer-term projections for at least 25 years beyond the end of CP5 and demonstrate that sustainable policies are being adopted. This will require Network Rail to understand potential changes in desired outcomes from rail over this time frame, as well as a changed context for delivery against those outcome expectations (for instance, Network Rail's strategy needs to be robust to potential changes in climate over the long-term). Network Rail's plan must make clear how your proposals for CP5 are consistent with your longer-term strategy.

3.44 The mechanism is an important part of our toolkit as it helps to ensure that beneficial investment is not delayed by the periodic review process. Some stakeholders have also expressed concerns that a short control period leads to a frequent hiatus in investment around the periodic review – if this is an issue, the early start mechanism should address it.

### **Decision**

3.45 We will retain the current early start mechanism as it is an appropriate policy to address some of the issues of a fixed control period, e.g. to help manage the peaks and troughs of Network Rail's workload and avoid delays in investment.

## **Single till / dual till**

### **Introduction**

3.46 Under the single till approach that we used in PR08, income that Network Rail is forecast to earn on activities such as commercial property is netted off against network costs in our price control settlement. This allows us to arrive at an estimate of the income that Network Rail requires from access charges (and network grant in lieu of access charges) if it is to earn a normal level of return. If Network Rail outperforms our PR08 forecast, that outperformance will be counted in the calculation of Network Rail's financial value added (FVA)<sup>43</sup>.

3.47 In our May 2011 consultation, we consulted on whether we should retain the single till approach or use a dual till approach, where the price control for each market the business operates in is set as if for a separate company.

### **Options**

3.48 The key issue is whether or not the current single till approach overall provides the most appropriate incentives on the company. This is because the management skills and motivation to operate efficiently, for example, the asset management part of Network Rail's business and the property or stations part of Network Rail's business are different.

3.49 Therefore, we need to decide whether we:

- (a) retain the current single till approach; or
- (b) adopt a dual till approach, where fully financially separate price controls are established for different types of Network Rail's activities in separate 'tills'.

3.50 Having a dual till may provide better incentives in other regulated industries where it is sometimes used. However, given that Network Rail's corporate financial incentives are not strong, it is unlikely that changing the status of, for example, the property income or stations income part of Network Rail's price control from being an assumption in other single till income to being a separate price control, will improve Network Rail's performance.

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<sup>43</sup> FVA is a measure of Network Rail's performance in relation to our PR08 determination. It measures renewals and enhancement expenditure on an equal basis to support, operations, maintenance and other single till income (e.g. one pound of maintenance efficiency is equal to one pound of renewals efficiency), which means that in the FVA measure the incentives on support, operations and maintenance expenditure savings are equal to the incentives on renewals and enhancement expenditure savings.

3.51 The key issue for us to consider is that the industry should focus on maximising the benefit that flows to the railway as a result of Network Rail's commercial activities and that we should avoid overly complicating the price control.

3.52 Network Rail already has a separate business unit that manages its property business (income of £140m in 2010-11). The income and costs of this business unit can be identified and some of this information is published in Network Rail's regulatory accounts. One of the advantages of a dual till approach is that the income and costs of the part of the price control that is included in a separate till from the main business are very transparent.

3.53 Network Rail also has substantial amounts of income that are included in either other single till income, operating or maintenance costs that are not property or station related, e.g. income from the sale of scrap<sup>44</sup>. Therefore, having separate tills for some of the different elements of Network Rail's income would add complexity to the price control.

3.54 Most of the responses from stakeholders supported retaining the single till approach.

### Decision

3.55 We will retain the single till approach. This is because in our view there is no strong case for establishing separate 'tills' given:

- (a) it is unlikely to incentivise Network Rail to improve its performance, given its weak corporate financial incentives;
- (b) we should not overly complicate the price control; and
- (c) we should avoid potentially distracting the industry when it needs to focus on maximising the benefit that flows to the railway as a result of Network Rail's commercial activities.

### Next steps

3.56 One of the advantages of a dual till approach is that the income and costs of the part of the price control that is included in a separate till from the main business are very transparent. We will consider in the development of our regulatory accounting guidelines whether Network Rail's property and station activities are as transparent as they could be.

## Re-openers

### Introduction

3.57 The revenue that we allow Network Rail in CP5 should be sufficient for it to deliver the required outputs on the basis that it operates economically and efficiently, taking into account normal fluctuations in costs and revenues. However, providing Network Rail with a surplus within allowed revenues that is sufficient to compensate it for all possible risk is unlikely to represent value for money as Network Rail are unlikely to be best placed to manage all risks.

3.58 Re-openers are mechanisms that can be used to re-open the price control in certain situations. For example, where material events have happened that are beyond reasonable management control or

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<sup>44</sup> In 2010-11, other single till income that was not property related was c£500m and total other operating income included in operating costs and maintenance was c£160m.



could not have reasonably have been foreseen. Hence, they are a form of protection from risk for Network Rail as the financial consequences of the risk are transferred to Network Rail's funders and customers. Using a re-opener is likely to be better value for money than providing Network Rail with additional revenue for those risks that Network Rail is unlikely to be best placed to manage.

3.59 Re-openers are just one of the tools that we use to allocate the financial consequences of risk to whoever is best placed to manage it and in doing so provide the basis for the cost of managing that risk to be at the efficient level. In choosing whether to use a re-opener we must balance this benefit with the uncertainty that re-openers can create for Network Rail's customers and funders.

3.60 For PR08, we used the following re-openers:

- (a) if there is a material change in the circumstances of Network Rail or in relevant financial markets;
- (b) if Network Rail's adjusted interest cover ratio (AICR) is forecast to be equal to, or below, the value of 1.4 on average over a forward looking period of three years;
- (c) if Network Rail is forecasting that within the next 18 months it cannot finance itself efficiently; and
- (d) for Scotland, if Network Rail's expenditure<sup>45</sup> in Scotland is forecast to be more than 15% higher than our determination for Scotland over a forward looking period of three years.

3.61 In PR08, we also used a number of tools to allocate risk. For example:

- (a) the volume incentive, which adjusts Network Rail's revenue for changes in traffic;
- (b) the capacity charge, which compensates Network Rail for changes in Schedule 8 payments due to increased reactive delay; and
- (c) the RAB roll forward process, which means that Network Rail is largely protected from unanticipated shifts in demand as efficient investment would be logged up to the RAB.

## Options

3.62 The options we have considered are:

- (a) use re-openers as part of the arrangements we put in place to efficiently manage risk; or
- (b) provide Network Rail with sufficient revenue so that it is compensated for all risks.

3.63 Providing Network Rail with a surplus within allowed revenues that is sufficient to compensate it for all possible risk is unlikely to represent value for money as Network Rail are unlikely to be best placed to manage all risks.

3.64 In our May 2011 consultation we asked whether we should continue to use re-openers to manage risk and uncertainty. Most respondents that commented on re-openers agreed that we should continue to use them and the approach is used by other regulators.

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<sup>45</sup> Expenditure includes operating, maintenance, renewals and enhancement expenditure, and interest costs and corporation tax payable.

## Decision

3.65 We will use re-openers as part of the package of measures to efficiently manage risk. We will use them where they represent value for money. That is, where Network Rail is unlikely to be best placed to manage the relevant risks. In choosing to use a re-opener, we will balance this benefit with the uncertainty that re-openers can create for Network Rail's customers and funders.

3.66 An enduring settlement across the control period is very important both for the incentives the company faces and to provide certainty to the industry and its investors, so it is likely that re-openers will only be sparingly used as they are generally intended to cover exceptional events that have a material effect. However, we will use re-openers where they are needed to improve the efficiency of risk allocation in line with our principle of allocating the financial consequences of risk to whoever is best placed to manage it.

## Next steps

3.67 Our consultation in July 2012 on financial issues will include considering what re-openers we should use in CP5, e.g. the 'material change in circumstances' re-opener.

## Opex/capex incentives

### Introduction

3.68 In our May 2011 consultation and in the December 2011 consultation, we discussed whether at a high level our current approach to opex and capex incentives was appropriate and in particular asked:

- (a) whether there is any bias towards capex;
- (b) how the effect of recurring savings should be treated;
- (c) whether incentives should be equal across different types of expenditure as incentives in relation to different types of expenditure (and potentially income) are not currently subject to equal incentives<sup>46</sup>;
- (d) how the incentive properties of our different treatments of different classes of expenditure affect operating decisions on the ground;
- (e) are the incentives on Network Rail affected by the different ways we may assess support, operations and maintenance costs, compared to renewals and enhancements expenditure; and
- (f) whether Network Rail's work on whole-life costs would change its decision-making.

3.69 Not many respondents to our May 2011 consultation and the December 2011 consultation commented on opex and capex incentives. However, most of the respondents that commented on these issues, did not think that there were problems with our current approach to opex and capex incentives. Although some respondents did say they thought that there is a bias towards capex investment in Network Rail.

3.70 We discuss below the issues with the strength of opex and capex incentives. However, there are also detailed issues to be considered about how our incentive mechanisms are constructed. These issues

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<sup>46</sup> For example, if at any time Network Rail underspends on maintenance by a pound it keeps a pound and if it overspends by a pound it pays out one pound more than it received (i.e. a 100% incentive strength). In other words, if we assumed in a determination that Network Rail would spend £100 on maintenance and it spends £99 then it keeps £1. Any savings could be used to pay down Network Rail's debt, invest in the rail network or be returned to customers and funders as a rebate. However, the incentive strengths for capex are largely 25%, which in PR08 is equivalent to five years' financing costs at Network Rail's PR08 cost of capital (4.75%, real vanilla).

include how we treat an overspend and the enhancement overspend deadband<sup>47</sup>. We also need to consider our approach to incentives in other areas of the price control such as corporation tax.

## Options

3.71 The options we have are:

- (a) leave the approach to opex and capex incentives largely as it was in PR08; or
- (b) further review the approach to opex and capex incentives.

3.72 Incentives affect all aspects of the price control settlement and how we regulate Network Rail, e.g. our approach to risk and uncertainty. Therefore, when considering our approach to opex and capex incentives we need to be consistent with our overall approach to incentives. We also need to consider the effect of opex and capex incentives on the rest of the price control settlement.

3.73 This means that the most important considerations for us when deciding on our approach to opex and capex incentives are:

- (a) trying to ensure Network Rail is appropriately incentivised to be more efficient but also that it is appropriately protected from risk, i.e. the financial consequences of risk are allocated to the people best able to manage it;
- (b) how the income or cost is treated in efficiency reporting;
- (c) the transparency of our approach; and
- (d) where possible, to be consistent in our regulatory approach over time.

3.74 These different considerations can mean that we take different approaches to incentives depending on the circumstances. This is illustrated by the following examples:

- (a) in some areas of our regulation of Network Rail such as capex and corporation tax we take a sophisticated approach to incentives. By sophisticated we mean that the calculation of an under/overspend is not as simple as a process that basically compares a PR08 assumption with the actual spend, and the difference between the two numbers is the under/overspend. This approach not only reflects our approach to incentives but also our approach to risk and uncertainty, where we were concerned that it would not be an efficient allocation of risk to, for example, expose Network Rail to 100% of an overspend in capex; and
- (b) in other areas of the price control, as well as in calculating how efficient Network Rail is and reporting on its performance, we have tended to take a simpler approach to incentives, e.g. in the EBSM mechanism a saving in capex is included at 100% of the value of the saving. This is because having a sophisticated approach to the calculation of efficiency may not be transparent.

3.75 Also, where possible, we try to be consistent in our regulatory approach over time. Given that Network Rail is not likely to issue unsupported debt in CP5, we could consider changing our approach to capex incentives. However, we would not want to make unnecessary changes to our approach as in practice it is possible that Network Rail may be more responsive to the way we report its performance and efficiency than the relative strength of the incentives.

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<sup>47</sup> Part of our PR08 RAB roll forward policy for enhancements was that Network Rail would bear 100% of the first £50m of an enhancement overspend.

3.76 These examples illustrate that, when considering incentive issues, there can sometimes be a trade-off between the sophistication of the incentive and the transparency of the incentive. A sophisticated incentive, if it is not transparent and well-understood, may be less effective in influencing behaviour.

3.77 We have not seen any evidence that the opex and capex incentive strengths need adjusting and most of the respondents to our May 2011 and December 2011 consultations, that commented on these issues, did not think that there were problems with our current approach to opex and capex incentives.

3.78 It is possible that Network Rail's financing structure makes it more responsive to the way we report its performance and efficiency than the relative strength of the incentives. Given that it is unlikely to issue unsupported debt in CP4 or CP5, this position is likely to continue in CP6. Given this, and the lack of evidence that opex and capex incentive strengths need adjusting, further reviewing the approach to opex and capex incentives in CP5 is unlikely to be worthwhile.

### **Decision**

3.79 It is possible that Network Rail's financing structure makes it more responsive to the way we report its performance and efficiency than the relative strength of its incentives. Therefore, retaining an approach consistent with PR08 by keeping the same incentive strengths for opex and capex, would avoid unnecessary changes to our regulatory approach. Also, if we leave the approach to the strengths of opex and capex incentives largely as they were in PR08, that should help make the opex and capex incentives easier to understand.

3.80 This means we will keep the current opex and capex incentive strengths for CP5 but will review the more detailed elements of our approach, e.g. the deadband for enhancements overspend in our July 2012 consultation.

### **Next steps**

3.81 We will review the more detailed elements of our approach, e.g. the deadband for enhancements overspend and our approach to the incentives on corporation tax, in the July 2012 financial issues consultation and we will discuss whether there is a capex bias issue in Network Rail in our Autumn 2012 expenditure workshop.

## **Network grant**

3.82 A proportion of Network Rail's revenue requirement has in the past been paid directly by DfT and Transport Scotland to Network Rail in the form of network grant, in lieu of fixed track access charges on a pound-for-pound basis. In PR08, both DfT and Transport Scotland asked us to allow fixed track access charges to be substituted by network grant, which we allowed up to the level dictated by two financial tests – which resulted in around two-thirds of Network Rail's income in CP4 being forecast to come from network grant<sup>48</sup>.

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<sup>48</sup> The investment test states that network grants that are accounted for as capital expenditure in the governments' accounts cannot exceed Network Rail's capital investment (i.e. renewals and enhancements). Any network grants paid in excess of capital investment are accounted for as resource expenditure. This test applies in respect of the governments' in England & Wales and Scotland separately. The market body test requires that Network Rail's annual income from sales (equal to access charges plus other single till income) covers at least half of the company's production costs (equal to operating and maintenance expenditure and statutory depreciation). This test applies to Network Rail as a whole and separate calculations do not need to be made for England & Wales and Scotland.

3.83 DfT and Transport Scotland requested, and ORR approved, the payment of network grant as a substitute for access charges in order to meet the governments' accounting rules. These rules mean that payments of track access charges are booked as resource expenditure in national accounts but payments to Network Rail can be booked as capital expenditure. In making our decisions on network grant, we take into account our section 4 duties, including having regard to the governments' financial position, and considering Network Rail's key accountabilities to its train operator customers and ORR.

3.84 Our preferred method of funding Network Rail is for all of its income to come from train operating companies and other customers. This is line with our preference for cost-reflective charges, which will in turn send signals for efficient usage of the network. However, we must have regard to the governments' financial position. We note that the RVfM study recommended abolishing network grant to ensure that Network Rail receives all its funding through train operators – in order to improve Network Rail's customer focus, and help drive better value for money.

3.85 We intend to consult on our approach to network grant in our July 2012 consultation on financial issues, where we will address the accountability, incentive and transparency issues raised by network grant.

## Other issues

3.86 We said in our advice to ministers, that as we have concluded that we will adopt the adjusted weighted average cost of capital (WACC) approach to establishing Network Rail's allowed return, we therefore need to consider further what our approach to amortisation should be if we are to maintain Network Rail's long-term financial sustainability whilst adopting the adjusted WACC approach<sup>49</sup>. We will consult further on our approach to amortisation in our July 2012 consultation on financial issues. In particular, we will consider whether enhancements should be amortised immediately after they come into use.

We also intend to consult further on our treatment of inflation and indexing allowed revenues and input price inflation in our July 2012 consultation on financial issues as we are considering how our treatment of inflation could affect Network Rail's incentives.

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<sup>49</sup> The adjusted WACC approach is described in chapter 4.

# 4. Cost of capital

## Key messages from this chapter

- We will adopt the 'adjusted weighted average cost of capital (WACC) approach' to Network Rail's cost of capital in CP5. While we will make clear Network Rail's full cost of capital, based on the risk profile of the company, we will only allow the recovery through charges of Network Rail's efficient financing costs (including a risk buffer if necessary), which are based on UK Government supported debt.
- Financial sustainability is very important and the adjusted WACC approach is consistent with maintaining financial sustainability based on the assumptions made in this document. In particular the increase in amortisation reduces a lot of the financial sustainability concerns that we had in our December 2011 consultation.
- The financial sustainability position can change over the course of PR13. For example, the level of enhancements included in our PR13 determination are likely to be higher than we assumed in our advice to ministers. Therefore, we may need to revisit our assessment of financial sustainability and some of the financial assumptions. We will consider these issues at the appropriate time, i.e. in our draft determinations in June 2013.
- We are committed to better transparency of costs and revenues in the rail industry. In line with this we will also consider how, to aid transparency in the adjusted WACC approach, we could show the full cost of capital and the equity surplus adjustment separately in the calculation, presentation and reporting of the revenue requirement and charges (and if relevant in the calculation of the network grant).

## Cost of capital

### Introduction

4.1 This chapter concludes on the approach to Network Rail's cost of capital, that we raised in the December 2011 consultation<sup>50</sup> and in our advice to ministers documents.

4.2 In our December 2011 consultation, we compared our PR08 approach to Network Rail's cost of capital and financing arrangements with alternative approaches. The alternative approaches were largely based on funding Network Rail's efficient financing costs in CP5. The approaches we considered included:

(a) Network Rail's IIP approach. Network Rail's assumptions included our PR08 assumptions on cost of capital and the mechanics of the unsupported debt approach. However, Network Rail did not include the issuance of unsupported debt;

(b) unsupported debt - gradualist approach. This approach assumes that Network Rail issues unsupported debt using the gradualist approach that we used in PR08 and retains the use of the ring-fenced fund;

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<sup>50</sup> It is common practice for regulators to consider the appropriate cost of cost of capital and financial sustainability issues for regulated companies as part of a price control review.

(c) the rebate approach. This approach assumes that Network Rail issues unsupported debt using the gradualist approach that we used in PR08 but any surplus achieved by Network Rail is paid back to government through a rebate, instead of being used to fund pay-as-you-go capital expenditure;

(d) the cost of debt approach. This approach assumes that the introduction of unsupported debt does not happen in CP5 and Network Rail's allowed return<sup>51</sup> would be equal to the level of Network Rail's efficient financing costs; and

(e) the balance sheet buffer approach. This approach assumes that the introduction of unsupported debt does not happen in CP5 and Network Rail's allowed return would be equal to the amount needed to ensure that a target level of gearing was achieved. This is similar to the cost of debt approach but as it is a more radical approach, where the allowed return is lower than Network Rail's efficient financing costs, it would have worse long-term sustainability implications but would be more affordable for DfT and Transport Scotland in the short-term.

4.3 The key issue that we discussed in our December 2011 consultation was that given that Network Rail is financed entirely by debt and that debt is indemnified by the UK Government through the financial indemnity mechanism (FIM)<sup>52</sup>, e.g. the UK Government takes the risk of default, then Network Rail's efficient financing costs are significantly lower than its cost of capital.

4.4 The difference between Network Rail's cost of capital and its efficient financing costs is called the equity surplus. So, if we provide Network Rail with its full cost of capital in the calculation of its revenue requirement, we then need to decide what to do with that equity surplus.

4.5 Since our December 2011 consultation, we have discussed these issues with stakeholders and in particular with Network Rail, DfT and Transport Scotland. Our discussions have included, for example, an industry workshop in January.

4.6 As a result of these discussions we have refined and merged our alternative approaches into an alternative approach called the adjusted WACC approach, which we explained in our advice to ministers documents.

4.7 The adjusted WACC approach:

(a) first, identifies the full cost of capital of Network Rail (reflecting all its risks) and hence its full funding requirement. Therefore, the full cost of capital would still be visible and will still be the basis of the cost of capital that will be used in the investment framework for calculating the financing costs of non-HLOS investment schemes as it is important that investment decisions are made using Network Rail's full cost of capital;

(b) secondly, identifies Network Rail's efficient financing costs (including a risk buffer if necessary)<sup>53</sup>;

(c) thirdly, recognises that Network Rail's efficient financing costs are lower than Network Rail's cost of capital, due to the existence and use by Network Rail of the FIM. The difference between Network Rail's cost of capital and its efficient financing costs is called the equity surplus;

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<sup>51</sup> Network Rail's revenue requirement includes its allowed return, which is calculated by multiplying Network Rail's asset base represented by the value of its RAB by its cost of capital.

<sup>52</sup> The FIM is a full faith and credit guarantee of Network Rail's debt.

<sup>53</sup> We will consult on the risk buffer in the July 2012 consultation on financial issues.

(d) then, the equity surplus is recycled before the revenue requirement is determined, i.e. the equity surplus is netted off Network Rail's bottom-line revenue requirement. We do this by including in the calculation of Network Rail's revenue requirement Network Rail's full cost of capital in the calculation of the allowed return, then we deduct the equity surplus; and

(e) we then recognise that this approach, everything else being equal, significantly reduces Network Rail's revenue requirement. This reduction in revenue could cause financial sustainability issues because it reduces the amount of revenue available for pay-as-you-go funding of capital expenditure, which is instead added to the RAB. So we address this issue by increasing the amortisation charge and in our advice to ministers, we made amortisation in CP5 equal to our forecast of renewals expenditure in CP5.

4.8 We set out below:

(a) the background to the issues;

(b) an assessment of the options; and

(c) an assessment of the financial consequences of the adjusted WACC approach and the PR08 approach.

## Background

### *Corporate financial incentives*

4.9 Network Rail's ultimate parent company is a not for dividend company limited by guarantee (CLG)<sup>54</sup> and has members instead of shareholders. As a CLG, Network Rail's ultimate parent company is a private organisation operating a commercial business owned by its members. Although members are appointed largely to perform the role of shareholders in general meetings (e.g. approve/reject major transactions and vote on remuneration arrangements), there are crucial differences. In particular, members have virtually no capital at risk<sup>55</sup>, as shareholders who provide equity for a business would have. The 'owners' of Network Rail do not therefore take the risks or realise the rewards of Network Rail's activities, and therefore the company does not pay them the dividends that shareholders would expect as a return on their risk capital.

4.10 Network Rail is solely financed by debt, therefore all of the profits left after interest has been paid on the debt are retained within Network Rail rather than being distributed to members or, if it had shareholders, as dividends<sup>56</sup>. As members do not have any equity capital at risk they are not directly incentivised to seek to drive the company to improve its financial performance.

4.11 In addition, Network Rail currently benefits from the FIM provided by the UK Government for the company's debt (which currently stands at around £26 billion). So, although Network Rail raises debt like a 'normal' company, from private sector investors who choose to put money into Network Rail rather than into other companies or investments, the debt is government guaranteed<sup>57</sup>. This guarantee enhances Network

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<sup>54</sup> A company limited by guarantee is one not limited by shares (i.e. with no share capital), whose members undertake to contribute to the assets of the company in the event of its being wound up. This is in distinction to a company limited by shares whose liabilities on winding it up are limited to the amount unpaid on the company's shares.

<sup>55</sup> Network Rail's members have £1 of capital at risk.

<sup>56</sup> Network Rail has used its profits to pay a rebate to DfT and Transport Scotland, invest in the network and pay down debt.

<sup>57</sup> The amount of debt that can be raised under the FIM is currently capped at 108% of RAB, which is well above Network Rail's current level of gearing (62.8% at 31 March 2012). Network Rail's estimated value of the RAB at 31 March 2012 was approximately £42bn, so the FIM cap was around £46 billion at 31 March 2012.



Rail's credit, allowing Network Rail to raise debt at gilt rates (i.e. UK government interest rates) plus a relatively small margin. Network Rail pays a fee to DfT for the credit enhancement it gains from the FIM.

4.12 Both Network Rail's CLG status and its use of the FIM have a significant impact on the way in which Network Rail responds to the incentives we put in place. Specifically, they materially weaken the transmission mechanism for Network Rail's corporate financial incentives. In particular:

- (a) in the event of a financial failure at Network Rail, creditors are guaranteed to receive both their interest and principal back. This means that the incentive for debt holders and other investors to perform their traditional monitoring role of identifying issues that could affect the downside risk (which would reduce the probability of them being repaid their interest and principal) is materially weakened; and
- (b) the fact that the FIM is effectively uncapped at present means that Network Rail does not face a hard budget constraint as any overspend can be financed by further borrowing under the FIM<sup>58</sup>.

#### *PR08*

4.13 In PR08, the options that were available for strengthening the incentives on Network Rail to improve efficiency were comparatively limited. Since then the industry has been working on a number of options for improving incentives in the industry, e.g. alliancing<sup>59</sup> and potentially concessions<sup>60</sup>. In PR08 these options were not available, so we thought that the introduction of unsupported debt could be used to help reduce the overall cost of Network Rail activities.

4.14 Our PR08 determination assumed that Network Rail would start to raise unsupported debt during CP4 to improve its corporate financial incentives and that the use of the FIM would be restricted. We assumed in PR08 that approximately £4bn (40%) of the £10bn additional debt that we forecast Network Rail would raise in CP4, would be unsupported. The unsupported debt was to be introduced in a phased basis over CP4 - this was called the gradualist approach. The introduction of unsupported debt and the restriction of the FIM would introduce a harder budget constraint on Network Rail as limiting the amount of debt that could be raised under the FIM would mean that any overspend would have to be funded on a normal commercial basis<sup>61</sup>.

4.15 Unsupported debt would also increase external scrutiny of Network Rail's performance, as unsupported debt holders and other investors (for instance, investors in secondary markets) would want to assure themselves that Network Rail could deliver its plans and not put at risk its interest and principal

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<sup>58</sup> Although as part of PR08, we restricted Network Rail's level of indebtedness through its network licence until it issued unsupported debt. We will consult on our approach to the restriction of Network Rail's level of indebtedness in the July 2012 consultation on financial issues.

<sup>59</sup> An alliance is a formal agreement between Network Rail and a train operator(s) to work more closely together. Our statement on alliances is available at: <http://www.rail-reg.gov.uk/upload/pdf/alliancing-policy-statement-march-2012.pdf>.

<sup>60</sup> A concession is a transfer of responsibility to an independent entity for the management of operations, maintenance, renewals and asset management for a geographical area similar to one of Network Rail's operating routes.

<sup>61</sup> The December 2011 consultation contained a summary of our PR08 assumptions. In particular, the FIM would be restricted and the allowed return would be higher than Network Rail's forecast financing costs (since it is based on a 'conventional' weighted average cost of capital (WACC) calculation, with standard gearing assumptions and hence a cost of debt and cost of equity component). The first part of the 'surplus' return would be treated as an in-year risk buffer (of c£250 million per annum in 2011-12 prices) to allow Network Rail to manage cost and revenue shocks and fluctuations. The remainder of the surplus (a quasi-dividend) is treated as a 'ring-fenced fund' that would fund part of the capital expenditure needed to deliver the HLOSs.

repayments, i.e. debt holders and other investors would perform their traditional monitoring role of identifying issues that could affect the downside<sup>62</sup>.

4.16 However, due to conditions in the financial markets at the start of CP4 and rating agency concerns at the start of CP4 about the deliverability of the PR08 determination, Network Rail has not yet tried to raise unsupported debt.

### *Transparency*

4.17 We are committed to greater transparency of costs and revenues in the rail industry, as this provides customers and funders with greater clarity as to how much they are paying and what they are receiving, which in turn informs their choices and the wider debate about value for money. The way Network Rail is financed is unconventional and can obscure the true cost of Network Rail's activities, as Network Rail's financing costs do not reflect the true cost of Network Rail's activities including all the risks that it faces, e.g. that it overspends on a project. Network Rail like other companies is exposed to both debt and equity risks, i.e. the provider of debt finance is exposed to debt risks, and the provider of equity finance is exposed to equity risks, even if some of the risks are indemnified by the UK Government. Therefore, to be transparent it is important to show the true cost of Network Rail's activities in its revenue requirement which would include the full cost of the debt and equity risks in relation to Network Rail's activities. This means that Network Rail's allowed return should reflect its cost of capital that reflects all of the risks it is exposed to<sup>63</sup>.

4.18 However, given that Network Rail is financed entirely by debt and that debt is indemnified by the UK Government, e.g. the UK Government take the risk of default, then Network Rail's actual cost of finance is significantly lower than its cost of capital.

4.19 Therefore, given Network Rail's current financial structure and governance, if we do provide Network Rail with a cost of capital that reflects all of the risks it is exposed to we need to decide how the surplus cash (i.e. the equity surplus) is treated or recycled. The surplus cash from the cost of capital can be treated or recycled in the following ways:

- (a) Network Rail could pay DfT and Transport Scotland a distribution of surplus cash (i.e. a 'rebate') in the same way that a company with equity would make a distribution to its shareholders;
- (b) Network Rail could pay its customers (e.g. the TOCs) a rebate that gets recycled back to DfT and Transport Scotland. This is similar to making a distribution directly; or
- (c) the surplus cash can be re-invested in the network by Network Rail (e.g. through the use of the ring-fenced fund) or used to pay down debt (e.g. in PR08 we assumed the risk buffer would be used for this purpose). This was the approach we took in PR08 as explained above.

4.20 In practice options (a) and (b) above are similar. After our discussions with stakeholders we have refined and merged our alternative approaches (a) and (b) into an alternative approach called the adjusted WACC approach as explained above.

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<sup>62</sup> Network Rail would need to access the credit markets on a regular basis, and for significant amounts of debt. In order to do this efficiently, our expectation is that it will need to maintain a solid investment grade credit rating. A downgrade or a move to a negative outlook could seriously hamper the company's ability to raise debt efficiently.

<sup>63</sup> Network Rail's revenue requirement includes its allowed return, which is calculated by multiplying Network Rail's asset base represented by the value of its RAB by its cost of capital.

### *Development of the alternative approaches*

4.21 One of the differences between the adjusted WACC approach and the alternative approaches we considered in our December 2011 consultation, is that in the adjusted WACC approach the surplus cash is netted off the bottom-line revenue requirement and so reduces the funding needs of the company – and hence both governments' benefit in CP5. This is instead of Network Rail receiving the surplus cash and rebating it back to the governments'. This effect is illustrated below in the financial assessment section.

4.22 One of the reasons for making this change to our alternative approach is that there are administrative and accounting issues with a rebate approach for the DfT and Transport Scotland. There could also be budgetary uncertainty issues as DfT and Transport Scotland may not know how much the rebate would be in each year. So, given that the main difference between the adjusted WACC approach and a rebate approach in terms of the treatment of the equity surplus is cosmetic, and that by using the adjusted WACC approach the Secretary of State and Scottish Ministers will effectively be able to do more with their money in CP5, we in the end only considered the adjusted WACC approach as an alternative to the PR08 approach.

### *Other issues*

4.23 Our approach to Network Rail's cost of capital cannot be considered in isolation from the rest of the financial framework<sup>64</sup> and in particular how we want to regulate Network Rail overall. We discussed this issue in our December 2011 consultation. Generally we regulate Network Rail as if it were a conventionally financed company because we think that this will generate improved incentives. However, where necessary we take account of its specific characteristics. For example, in our monitoring of Network Rail's performance we generally take a more hands on approach than other regulators, e.g. we publish a quarterly review of its performance.

4.24 In considering the financial framework for our periodic review of Network Rail's access charges we need to consider the way in which risk is allocated in the industry. Our key principle is that risk should be allocated to whoever is best placed to manage it. In this regard we provide incentives for Network Rail to manage risk in the most effective way. Overall, this should ensure that the cost of managing risk, as reflected in the cost of capital, is as low as possible. This overriding principle is important, regardless of Network Rail's financial structure.

4.25 The choice of approach between the adjusted WACC approach and the PR08 framework approach has no effect on our decision on the split cost of capital issue, which we raised in our December 2011 consultation and which we are still considering. We will review whether the split cost of capital approach<sup>65</sup> is suitable for Network Rail in CP5 in our July 2012 consultation on financial issues and we have commissioned a consultancy study on this issue.

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<sup>64</sup> For example, as Network Rail has not issued unsupported debt Network Rail's current network licence restricts Network Rail's level of indebtedness.

<sup>65</sup> Professor Dieter Helm advocates an approach that would see regulators no longer set a single WACC for a regulated utility but instead establish two separate WACCs. One would apply to the riskier elements of the business, for example construction of new assets, reflecting substantial equity finance. The other would apply to the lower risk elements of the business, such as operating existing assets. Professor Helm suggests that a RAB-based approach could provide the basis for cost recovery in the lower risk portion of the business, and that the higher risk part of the business could sell assets on completion into the RAB at the efficient cost of construction. In rail, Professor Helm has suggested that this approach could allow the RAB to be held in a form of public trust, reflecting its national importance, while allowing the transfer of equity-type risk (e.g. as associated with construction) to the private sector.

## Options

4.26 Since PR08 there have been a number of changes that have prompted us to reconsider our approach to Network Rail's cost of capital and in particular the approach we might take to Network Rail's financial structure. These changes include:

(a) uncertainty in financial markets, which could make it harder for Network Rail to issue unsupported debt;

(b) a worse economic climate, which means that there is pressure on the governments' funding. In particular, this is an issue given that we have a statutory duty which requires us to have regard to the funds available to the Secretary of State and another duty which, in summary, requires that we have regard to the expenditure that is to be incurred by Scottish Ministers. One of the consequences of the PR08 approach to Network Rail's financial structure (which assumed Network Rail would issue unsupported debt in CP4) is that the revenue requirement is higher in the short-term when compared to our alternative approaches. However, using our alternative approaches would have little effect on overall cost, but would shift the burden of cost recovery into the future by raising the RAB and debt to a level higher than it would otherwise be<sup>66</sup>; and

(c) current and prospective industry reforms. As mentioned above, there are a number of initiatives being discussed at the moment, e.g. Network Rail devolution, alliancing, concessions and REBS. Network Rail has played an active role in developing these initiatives and the deep alliance between Network Rail and South West Trains in the Wessex route is commencing. The main issue that these initiatives raise for our approach to Network Rail's cost of capital is whether it is best for these changes to take place first before considering introducing risk capital (either debt or equity) into Network Rail. This is because, notwithstanding the fact that some of these changes may themselves alter the structure of financing for Network Rail's revenue requirement, it could be beneficial for more to be known about them in advance of the introduction of unsupported debt. Also, as part of the discussions on reducing the costs of the rail industry, a government debt/RAB buy back to reduce the level of on-going funding of legacy issues has been discussed and we are considering raising this issue in our July 2012 consultation on financial issues.

4.27 Also the introduction of risk capital and unsupported debt into Network Rail would be a major step. Given the existence of the FIM and the implications for the governments' funding we think that the introduction of risk capital and unsupported debt would need the support of ORR, Network Rail, DfT and Transport Scotland.

4.28 We understand that DfT does not want to rule out introducing equity into Network Rail in the long-term (with unsupported debt not being an end in its own right but something that would happen once a decision had been made to issue equity) but DfT does not support the introduction of unsupported debt into Network Rail in CP5. To retain this option, it is necessary to retain a financial framework that would accommodate it.

4.29 DfT set out its position on the reform of Network Rail in its command paper. This included proposals to establish the case to let infrastructure concessions (which could include equity), supported work on alliancing and explored options around contestability.

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<sup>66</sup> This is primarily because the ring-fenced fund is used to pay for capital expenditure on a pay-as-you-go basis instead of it being added to the RAB and being paid for over time. The ring-fenced fund in CP4 is around £3 billion in total in 2011-12 prices.

4.30 Transport Scotland also does not see risk capital and unsupported debt being introduced into Network Rail in CP5. However, like DfT, Transport Scotland wishes to retain the option (and hence the financial framework) for potentially issuing risk capital in the future.

4.31 Given that at the current time it is very unlikely Network Rail will be issuing unsupported debt in CP5, the real choice between the funding scenarios is not between a PR08 approach that includes Network Rail issuing unsupported debt in CP5 (i.e. the unsupported debt - gradualist approach) and the adjusted WACC approach. This is because if we did retain the PR08 approach we will not be assuming Network Rail issues unsupported debt. Instead, we would just retain the PR08 framework, e.g. the ring-fenced fund mechanism for recycling the equity surplus.

4.32 As we discuss above, the options we have considered have narrowed since our December 2011 consultation and are now:

- (a) retain the framework of the PR08 approach but assume that Network Rail does not issue unsupported debt in CP5; or
- (b) adopt the adjusted WACC approach.

#### *Respondents' views*

4.33 We have discussed with Network Rail, DfT, Transport Scotland and the industry the role that risk capital (both debt and equity) could play in improving Network Rail's incentives and performance and how Network Rail could be structured and financed.

4.34 Network Rail has a number of concerns with the adjusted WACC approach. These are:

- (a) it thinks that financial sustainability may be worse than under the PR08 framework approach;
- (b) it thinks that the approach should be transparent and its income should reflect the true cost of capital for its business and if it successfully manages risk then a rebate could be paid; and
- (c) it thinks that the adjusted WACC approach would not be as flexible as the PR08 framework approach in handling a concession that starts during a control period.

4.35 We think the adjusted WACC approach adequately deals with Network Rail's concerns. In particular:

- (a) financial sustainability is forecast to be worse in CP5 compared to the PR08 framework approach but not unduly (see below for more detail on this point);
- (b) we agree that the approach that we use needs to show the full cost of capital and be transparent. The adjusted WACC approach does this (as does the PR08 framework approach). In some ways, the adjusted WACC approach is more transparent than the PR08 framework approach, e.g. it provides better clarity over what expenditure is cash funded and what expenditure is RAB funded<sup>67</sup>; and
- (c) we think that the adjusted WACC approach could handle a concession that starts during CP5 (just as well as the PR08 framework approach would). For example, we think there are ways to deal with the effect of a concession starting during a control period such as including a switch in access contracts to turn off the equity surplus adjustment. This would reduce Network Rail's concerns.

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<sup>67</sup> This is because in the PR08 framework approach, the capital expenditure that is funded by the ring-fenced fund does not relate to specific work programmes.

4.36 As well as setting out its position on issuing unsupported debt as discussed above, DfT has confirmed that it prefers the adjusted WACC approach to the PR08 framework approach, given its constrained finances and the complexity and lack of transparency created by the PR08 framework approach. Transport Scotland has also indicated that it in principle supports the use of the adjusted WACC approach in CP5.

4.37 Not many respondents to our December 2011 consultation commented on the cost of capital issues, but most of those that did<sup>68</sup>:

- (a) favoured an approach to Network Rail's cost of capital that reflects Network Rail's financing costs;
- (b) thought that surplus cash could either be rebated to funders, used to fund capital expenditure on a pay-as-you-go basis or be re-invested in the network;
- (c) wanted to keep flexibility to change Network Rail's financing arrangements; and
- (d) thought that financial sustainability was important.

*Our criteria for deciding on our approach to Network Rail's cost of capital*

4.38 We have assessed the adjusted WACC approach and the PR08 framework approach with respect to our duties and the criteria we set out in the December 2011 consultation, which were generally supported by respondents. In addition, Network Rail suggested that we should also include consistency as one of the criteria. We agree with Network Rail's suggestion, so we have added consistency to our criteria. These criteria are:

- (a) the effect on incentives (in their own right and through the effectiveness of the transmission mechanism) now and in the longer-term;
- (b) the effect on transparency;
- (c) the effect on the flexibility to change Network Rail's financing structure;
- (d) the effect on long-term financial sustainability;
- (e) the effect on affordability; and
- (f) consistency.

4.39 In order to inform our assessment, we have also carried out an indicative analysis of the financial effects of the adjusted WACC approach and the PR08 framework approach from CP5 to CP11. This analysis does not fetter our discretion in future access charges reviews.

4.40 We have decided on our approach to Network Rail's cost of capital by having regard to all our statutory duties including:

- (a) acting in a manner that will not render it unduly difficult for Network Rail to finance its activities;
- (b) having regard to the funds available to the Secretary of State;
- (c) promoting efficiency and economy on the part of persons providing railway services;

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<sup>68</sup> We will publish a more detailed discussion of the responses to our May 2011 consultation later in May 2012.

(d) having regard to the interests, in securing value for money, of the users or potential users of railway services, of persons providing railway services, of persons who make available the resources and funds and of the general public;

(e) enabling persons providing railway services to plan the future of their business with a reasonable degree of assurance; and

(f) our duty which, in summary, requires that we have regard to the expenditure that is to be incurred by Scottish Ministers.

#### *Impact on incentives*

4.41 As we discuss above, both the CLG status of Network Rail's ultimate parent company and Network Rail's use of the FIM have a significant impact on the way in which Network Rail responds to the incentives we put in place. Specifically, they materially weaken the transmission mechanism for Network Rail's corporate financial incentives. Therefore, when we decide on our approach to Network Rail's cost of capital, we will also consider whether the approach we take will improve Network Rail's incentives now and in the longer-term.

4.42 However, as we discuss above, the real choice is between retaining the framework of the PR08 approach compared to the adjusted WACC approach as it is unlikely that Network Rail will issue unsupported debt in CP5. Therefore, there are no real incentive/behaviour issues to consider as neither approach is likely to affect Network Rail's behaviour or efficiency.

#### *Transparency*

4.43 As we discuss above, it is important that our approach to Network Rail's cost of capital is transparent and identifies the true cost of Network Rail's activities including the appropriate compensation for the risks we have assumed it takes.

4.44 Both the PR08 framework approach and the adjusted WACC approach recognise that it is useful to identify the full cost of capital (reflecting all its risks) in a transparent manner<sup>69</sup>. We consider that this is vital to make clear the costs associated with the risks that Network Rail is managing. We also think it is important to maintain clear visibility of the WACC and the approach we take to its calculation, in order that investors and funders can be properly informed. This will help to facilitate the introduction of risk capital in the longer-term if that is thought to be appropriate.

4.45 We will also consider how, to aid transparency in the adjusted WACC approach, we could show the full cost of capital and the equity surplus adjustment separately in the calculation, presentation and reporting of charges (and if relevant in the calculation of the network grant). For example, we could do this in a similar way to how we could show the revenue requirement, i.e. where the full cost of capital and the equity surplus adjustment is netted off of Network Rail's bottom-line revenue requirement.

#### *Flexibility to change Network Rail's financing structure*

4.46 By flexibility to change Network Rail's financing structure, we mean that given we support preserving the option of introducing risk capital and unsupported debt into Network Rail, we do not want to do anything in CP5 that makes it harder in the future for Network Rail to issue risk capital and unsupported debt.

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<sup>69</sup> For example, in the adjusted WACC approach we would identify in the calculation of the revenue requirement the full cost of capital. We would also publish how we have determined Network Rail's full cost of capital.

4.47 To a certain extent this is a relatively academic debate for CP5. Investors would be more concerned at the time that Network Rail was issuing risk capital and unsupported debt with other factors that would affect the view of the financial markets in respect of Network Rail's ability to issue risk capital and unsupported debt, e.g. treatment of the network grant, amount of issuance and structure of Network Rail<sup>70</sup>. However, having a consistent approach over time is beneficial<sup>71</sup>.

4.48 Therefore, it is very important to communicate the adjusted WACC approach effectively to financial markets and credit rating agencies, so they have a good understanding of the approach and how changes to Network Rail's financial structure could be accommodated within it. We will therefore discuss the adjusted WACC approach with them shortly.

4.49 Given the current views of DfT and Transport Scotland, in practice the most likely change in Network Rail's financing arrangements in CP5 would be a local initiative. Both the PR08 framework approach and the adjusted WACC approach could be structured to deal with changes such as this, e.g. in the adjusted WACC approach one possibility would be to include a switch in access contracts to turn off the equity surplus adjustment.

4.50 We asked the Royal Bank of Canada to look at the effect of a move to an adjusted WACC approach on investor perceptions, if and when risk capital and unsupported debt was issued, and therefore on the scope for changes to Network Rail's financing structure in the future<sup>72</sup>. It considered that if there is a negative impact on issuing risk capital and unsupported debt in the future as a result of a change to our approach, it is unlikely to be material, especially if ORR is able to communicate effectively the rationale for the adjusted WACC approach to financial markets. It thought that investors will mainly be interested in the business and regulatory risks facing Network Rail, at that time and in the future, including a concern that Network Rail is vulnerable to political pressures, given the dependence on subsidy, and that the adjusted WACC approach is an example of this<sup>73</sup>.

#### *Financial sustainability*

4.51 Considering the long-term financial sustainability of Network Rail when deciding on our approach to Network Rail's cost of capital, is a key issue. Financial sustainability can mean a number of things, some of which are interconnected (e.g. the level of the revenue requirement is partly dependent on the level of debt). In particular, it includes the following key issues:

- (a) is the level of debt appropriate for a company such as Network Rail; and
- (b) can the debt be re-financed when appropriate and serviced efficiently.

4.52 When considering whether the level of debt in Network Rail is appropriate, it is useful to compare Network Rail's debt to its asset base, and to debt levels in other comparable industries. The financial indicator that we use to compare debt to an asset base is the net debt/RAB ratio. In our financial assessment discussed below, Network Rail's debt/RAB ratio is 63.0% at the end of CP5 under the adjusted

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<sup>70</sup> Investors are not likely to be very interested in Network Rail's future financing arrangements until they become more defined.

<sup>71</sup> It is worth noting though that the ring-fenced fund is complicated and hence difficult to understand. So, making changes to these features of our approach may not have adverse consequences.

<sup>72</sup> This report is available at: <http://www.rail-reg.gov.uk/upload/pdf/nr-risk-capital-rise.pdf>.

<sup>73</sup> The network grant in 2011-12 is c£4bn. Switching from network grant to charges could help the issuance of risk capital and unsupported debt in the future. We will raise the issues about the network grant in the July 2012 consultation on financial issues.



WACC approach.<sup>74</sup> This is 1.0 percentage point higher than in the PR08 framework approach but is a reasonable level of gearing and is lower than the licence limit on financial indebtedness (75% at the end of CP4).

4.53 Network Rail is responsible for virtually the entire rail infrastructure in Great Britain. Therefore, if we are comparing Network Rail's debt to other industries it is more useful to compare Network Rail to a whole industry, e.g. the water and sewerage industry<sup>75</sup>. For example, debt in the water and sewerage industry at the end of 2009-10 was £33bn and average gearing was c70%<sup>76</sup>. Also, average gearing in the price controlled part of the gas industry was c65% at the end of 2009-10<sup>77</sup>.

4.54 When considering financial sustainability issues, the absolute level of Network Rail's debt is also an issue as ultimately it is that debt that needs to be serviced. The level of debt is also an issue because ORR, funders, consumers and other stakeholders may not be comfortable with certain levels of debt for other reasons. For example, because funders will ultimately have to finance that debt in the future or they may have concerns about the inter-generational effects of high levels of debt and the associated interest payments.

4.55 Following discussions with the key funders (i.e. DfT and Transport Scotland), we are satisfied that they are aware of the financial sustainability issues and the levels of debt that we are forecasting for CP5, e.g. we provided this information in our advice to ministers. They agree with the adjusted WACC approach and they have not, at this stage of the price control process, raised any concerns about the financial sustainability of Network Rail or any problems that they would have in funding the levels of debt that we are forecasting. We also forecast the levels of debt associated with various rebate approaches in our December 2011 consultation and most respondents did not raise any concerns about the levels of debt although one respondent noted that given the long lives of railway assets RAB funded debt will continue rising for a number of years.

4.56 Given the existence of our regulatory framework and the FIM, there should be no issues concerning whether Network Rail's debt can be re-financed when appropriate and serviced efficiently.

4.57 The adjusted WACC approach increases Network Rail's debt and RAB as the pay-as-you-go funding of capital expenditure through the ring-fenced fund is not provided, i.e. the equity surplus adjustment reduces Network Rail's allowed return. This is why, in our advice to ministers, we increased the level of amortisation in the adjusted WACC approach to reduce the impact of the equity surplus adjustment. In total the adjusted WACC approach does affect financial sustainability, but not unduly, e.g. the debt/RAB ratio is 1.0 percentage point higher at the end of CP5 than in the PR08 framework approach. This is discussed further below.

### *Affordability*

4.58 Given that we have a statutory duty which requires us to have regard to the funds available to the Secretary of State and another duty which, in summary, requires that we have regard to the expenditure that is to be incurred by Scottish Ministers, one of the criteria that we use to assess our approach to

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<sup>74</sup> Network Rail is forecasting to exit CP4 with a debt/RAB ratio for Great Britain of 65.5% compared to a PR08 assumption of 62.7%.

<sup>75</sup> The water and sewerage industry covers the whole value chain and the RABs support the financing not only of the asset-heavy wholesale part of the business but also of the asset-light retail part.

<sup>76</sup> This data is available at: [http://www.ofwat.gov.uk/regulating/reporting/rpt\\_fpe\\_2009-10.pdf](http://www.ofwat.gov.uk/regulating/reporting/rpt_fpe_2009-10.pdf).

<sup>77</sup> This data is sourced from their regulatory accounts.

Network Rail's cost of capital is whether the net revenue requirement is affordable over time by funders. In considering affordability we have also considered other funders of the railway, including passengers and freight customers. However, given our explicit duties, explained above, regarding funding/expenditure of the Secretary of State and Scottish Ministers respectively, we have largely concentrated on the position of DfT and Transport Scotland.

4.59 The affordability of the revenue requirement depends upon the financial position of the funders and, other things being equal, a lower revenue requirement will be more affordable. The key funders are DfT and Transport Scotland and they will provide us with their formal views in July 2012 on affordability for CP5 in their statements of funds available (SoFAs). We cannot require the SoFAs to look further ahead than the length of the control period but we will ask DfT and Transport Scotland for a view on long-term affordability as they will be considering affordability over a longer period of time than five years when developing the SoFAs.

4.60 In terms of affordability, the adjusted WACC approach is better than the PR08 framework approach as the revenue requirement is lower in CP5 and later control periods and CP5 is the control period that both governments' have indicated that they would prefer, everything else being equal, a lower revenue requirement. That is, even if this means that the revenue requirement is higher from CP6 onwards if a different approach is taken to Network Rail's financing arrangements and cost of capital. This is because the higher debt incurred under the adjusted WACC approach will have to be funded in the future.

#### *Consistency*

4.61 It is useful for regulators, where possible, to maintain consistent policies as this should reduce regulatory risk. This is particularly the case for policies that need to be communicated with financial markets and credit rating agencies. However, all regulators from time to time will change policies when it is appropriate to do so.

4.62 The adjusted WACC approach would be a change in policy from PR08. However, the approach taken to Network Rail's cost of capital in PR08 was also different to the approach taken in our 2003 access charges review<sup>78</sup>. These changes have largely been made due to Network Rail's unusual corporate structure, ownership and financing. Also, the use of the PR08 framework approach in CP5 would be different to our PR08 determination. This is because, given that we agree that it is not likely that Network Rail will issue unsupported debt in CP5. We will assume in our PR13 determination that Network Rail will not issue unsupported debt in CP5, whereas in our PR08 determination we assumed that Network Rail would issue unsupported debt in CP4.

4.63 The key issue is whether a change in policy in this area would affect the flexibility to change Network Rail's financing structure. As we discuss above, we do not think that the flexibility to change Network Rail's financing structure would be adversely affected by using the adjusted WACC approach in CP5.

#### **Financial assessment**

4.64 In considering the effect of our policies on Network Rail, DfT and Transport Scotland's finances in CP5 we need to consider the effect in CP5 and also over the longer-term, i.e. does the approach we use affect the sustainability of Network Rail's finances over the long-term. Inevitably, looking beyond the next control

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<sup>78</sup> This was the price control for control period 3.

period is inherently uncertain. However, our financial modelling that we discuss below provides an indication of the effect of the policy options from CP5 to CP11<sup>79</sup>.

4.65 Given that both governments' are not in favour of Network Rail issuing unsupported debt in PR08, we have just shown below the financial effects of the adjusted WACC approach and the PR08 framework approach (i.e. unsupported debt - gradualist approach but without unsupported debt being issued). To be clear, in all of the modelling below we assume that unsupported debt will not be issued in CP5 to CP11.

4.66 Financially, there are two key differences between the adjusted WACC approach and the PR08 framework approach. This is because in the adjusted WACC approach there is a reduction in the allowed return and an increase in amortisation.

4.67 The differences between the adjusted WACC approach and the PR08 framework approach (i.e. unsupported debt – gradualist approach but without unsupported debt being issued) for Great Britain for CP5 based on the advice to ministers illustrative spot (real, 2011-12 prices) are in simple terms, if an adjusted WACC approach is used<sup>80</sup>:

(a) in isolation from other changes, the effect of a reduction in the allowed return is £3.5bn over CP5 (i.e. this is due to the equity surplus adjustment) leading to a £3.5bn lower revenue requirement over CP5, £3.5bn higher debt at the end of CP5 and a £3.5bn higher RAB at the end of CP5 (the ring-fenced fund effect); and

(b) in isolation from other changes, the effect of an increase in amortisation is £2bn over CP5, leading to a £2bn higher revenue requirement over CP5, £2bn lower debt at the end of CP5 and a £2bn lower RAB at the end of CP5.

4.68 On a net basis (i.e. combining all the effects), the adjusted WACC approach has a lower revenue requirement over CP5 of £1.6bn, £1.6bn higher debt at the end of CP5 and a £1.6bn higher RAB at the end of CP5 (the ring-fenced fund effect).

4.69 This means that the adjusted WACC approach makes PR13:

(a) £1.6bn more affordable for the governments' in total (allowed return of £3.5bn – amortisation of £2.0bn). It also does affect financial sustainability but not unduly, e.g. the debt/RAB ratio is 1.0 percentage point higher at the end of CP5;

(b) £1.4bn more affordable for DfT (allowed return of £3.2bn – amortisation of £1.7bn). It also does affect financial sustainability, but not unduly, e.g. the debt/RAB ratio is 1.1 percentage points higher at the end of CP5; and

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<sup>79</sup> The assumptions that we use in our financial modelling are: For CP6 and CP7, in both the adjusted WACC approach and the PR08 framework approach, we do not assume any further efficiency savings above the efficiencies forecast for CP5 and we assume £2,000m of enhancements per year for Great Britain (£1,800m for England & Wales and £200m for Scotland) based on Network Rail's preferred plan in the IIPs. The pre-efficient levels of renewals are consistent with the assumptions that we used in the longer-term analysis in our advice to ministers for CP6 to CP7. In our advice to ministers, renewals expenditure in CP7 was a roll forward of the level of renewals expenditure in the last year of CP6. For the period to CP11 we have extended this assumption, so that renewals expenditure in the period from CP6 to CP11 is at the same level as in the last year of CP6. Most of the other assumptions are consistent with the illustrative spot assumptions for CP5 in the advice to ministers. Except that in the PR08 framework approach, we now assume that the risk buffer is equal to the risk buffer in the adjusted WACC approach as this aids comparability, given we assume that Network Rail is not likely to issue unsupported debt in CP5 - CP11.

<sup>80</sup> A more detailed analysis of the differences is shown in Annex B.

(c) £0.1bn more affordable for Transport Scotland (allowed return of £0.3bn – amortisation of £0.2bn). It also does affect financial sustainability but not unduly, e.g. the debt/RAB ratio is 0.6 percentage points higher at the end of CP5.

4.70 Table 4.1 below shows a comparison between the two approaches for Great Britain over CP5. The assumptions we have used are based on the advice to ministers illustrative spot assumptions (real, 2011-12 prices). A more detailed breakdown of the information contained in table 4.1, including for England & Wales and Scotland, is included in Annex B.

**Table 4.1: Comparison of funding approaches for CP5 (Great Britain)<sup>81</sup>**

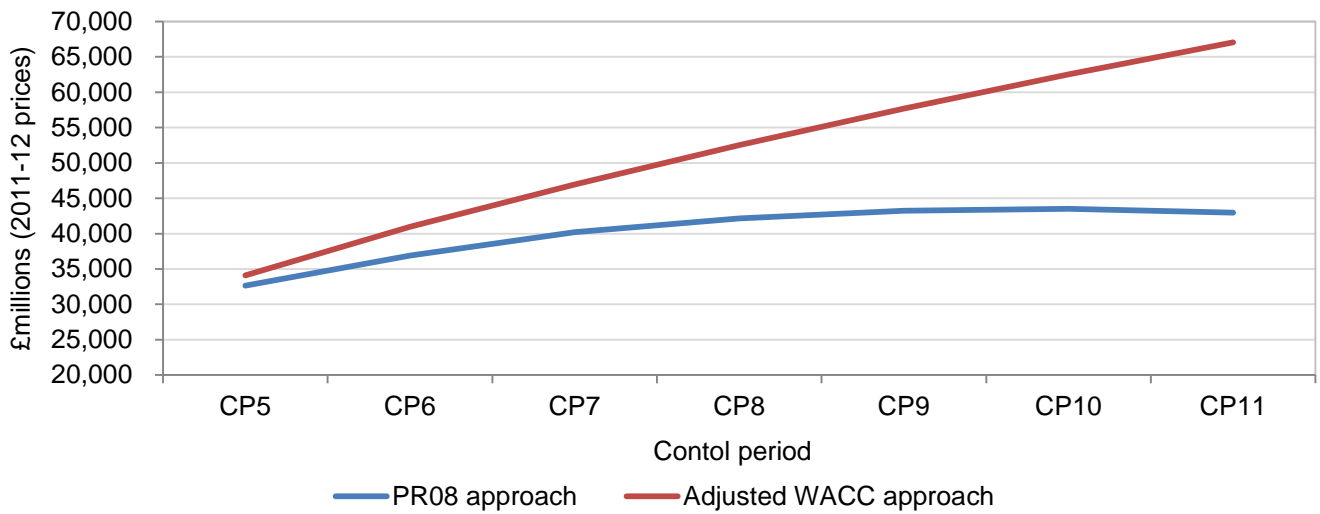
<b>£millions (2011-12 prices) Rounded to nearest £100m</b>	<b>Adjusted WACC approach</b>	<b>PR08 framework approach</b>	<b>Difference</b>
Net revenue requirement	26,200	27,700	(1,600)
Closing net debt	34,100	32,600	1,600
Closing RAB	54,200	52,500	1,600
Debt/RAB ratio	63.0%	62.0%	1.0%
Average AICR	1.08 x	1.59 x	-0.51 x

4.71 The following charts illustrate the trend for the net revenue requirement, net debt, RAB and the net debt/RAB ratio from CP5 to CP11.

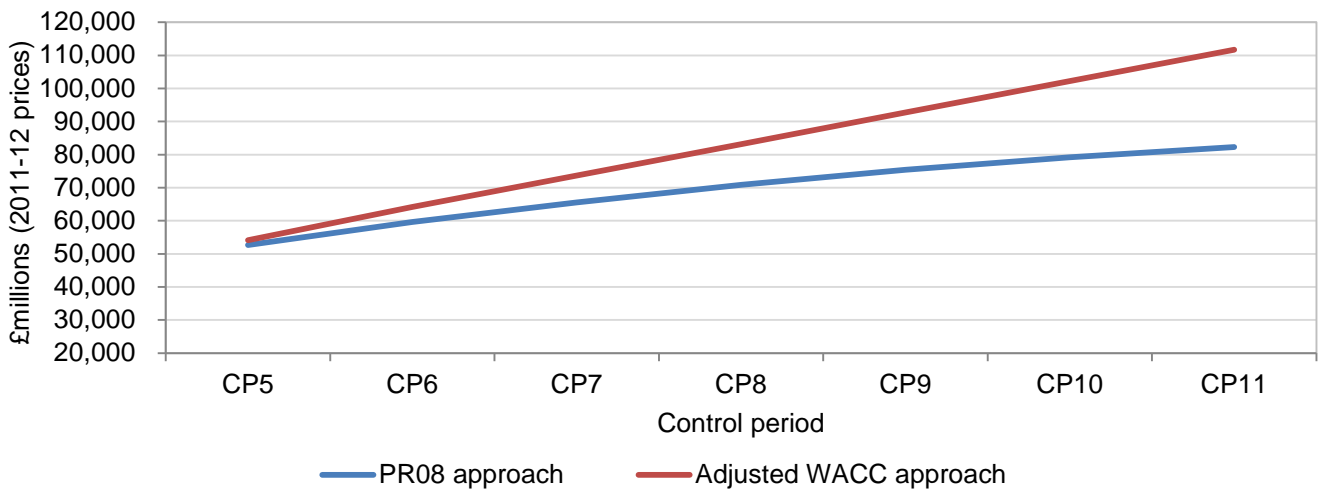
**Chart 4.1: Net revenue requirement (Great Britain)**

<sup>81</sup> Note: The rows, columns and calculations in the table may not sum due to rounding and the debt/RAB ratio is in nominal prices.

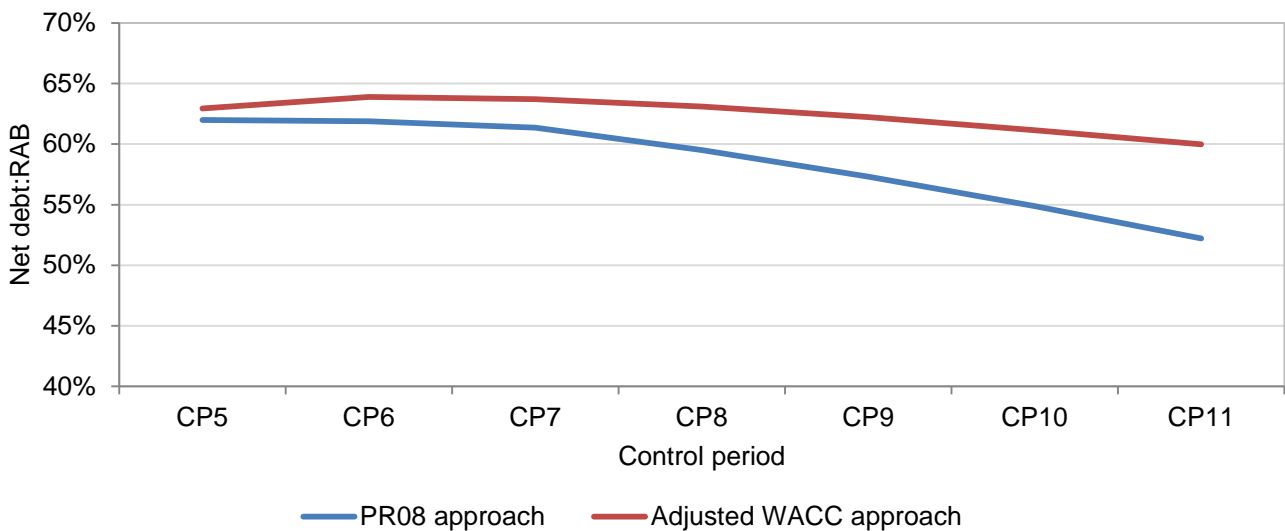
**Chart 4.2: Net debt (Great Britain)**



**Chart 4.3: RAB (Great Britain)**



**Chart 4.4: Net debt/RAB ratio (Great Britain)**



4.72 Our indicative modelling of the adjusted WACC approach and the PR08 framework approach from CP6 to CP11 shows the following key points:

- (a) the net revenue requirement under the adjusted WACC approach remains lower than under the PR08 framework approach, largely because of the continuing need for a higher allowed return as a result of using a ring-fenced fund to recycle the equity surplus;
- (b) net debt under the adjusted WACC approach remains higher than under the PR08 framework approach, largely because of the lower revenue requirement in the adjusted WACC approach;
- (c) the RAB under the adjusted WACC approach remains higher than under the PR08 framework approach, largely because there is no ring-fenced fund in the adjusted WACC approach less the increased amortisation; and
- (d) the net debt/RAB ratio under the adjusted WACC approach is higher than under the PR08 framework approach because of the above movements in debt and RAB.

4.73 Currently, Network Rail's corporation tax payments (in 2011-12 prices) are approximately £5m per annum. Network Rail's corporation tax payments are relatively low because it has historic losses which it is able to offset against the majority of its taxable profit.

4.74 In PR08 we identified that Network Rail had been overfunded for corporation tax in CP3 (this is called the corporation tax double count).<sup>82</sup> Therefore, to recover this overfunding we will not fund Network Rail's forecast corporation tax payments until the overfunding is recovered. So, even though Network Rail is forecasting corporation tax payments in CP5 we are assuming that those corporation tax payments will not be funded.

4.75 Our current projections suggest that at a Great Britain level, using the PR08 framework approach, we will start to fund Network Rail's efficient corporation tax payments in CP7. However in the adjusted WACC approach in the period from CP5 to CP11, due to the lower revenue requirements, we would not be funding Network Rail efficient corporation tax payments. This is because it would not use up its historic corporation tax losses in the period from CP5 to CP11 depending on the funding approach selected for future control periods, inflation, the level of enhancements and the UK Government's corporation tax policy<sup>83</sup>. The point at which Network Rail does start paying corporation tax is different for England & Wales and Scotland<sup>84</sup>.

4.76 As a result of these issues, Network Rail's revenue requirement for Great Britain in CP5, CP6 and CP7 is artificially low when compared to future control periods. Our current projections suggest that after Network Rail works its way through its corporation tax losses and the corporation tax double count the revenue requirement for Great Britain in CP7 will increase by c£150-200m per annum.

## Decision

4.77 As a general principle we support preserving the option of introducing risk capital and unsupported debt into Network Rail because of the incentives this would bring to bear on management and because,

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<sup>82</sup> In PR08 we said that the way we would take account of the corporation tax double count is to hold the amount of the adjustment on account and reduce it every year by the amount of corporation tax that we estimate we would have funded, until the balance on the account reaches zero. We will then start to fund Network Rail's efficient corporation tax payments.

<sup>83</sup> By CP11, Network Rail in the PR08 framework approach would be paying £1.5bn more corporation tax in that control period than under the adjusted WACC approach.

<sup>84</sup> We calculate Network Rail's corporation tax position for both England & Wales and Scotland on a notional basis for regulatory purposes only as for legal and corporation tax purposes Network Rail is one legal entity.

more generally, it should establish Network Rail as a more 'conventional' company. The introduction of risk capital and unsupported debt directly into Network Rail is not being considered as the moment but the adoption of the adjusted WACC approach does not preclude the introduction of unsupported debt in later control periods as we discuss above. Unsupported debt could also be introduced in CP5 as we could put in place a mechanism that could allow adjustments to be made to the price control, access contracts and the licence that would allow unsupported debt to be introduced, e.g. one possibility would be to include a switch in access contracts to turn off the equity surplus adjustment.

4.78 After considering our duties, decision criteria and given the financial effects of the approaches (in particular the increase in amortisation, which reduces a lot of the financial sustainability concerns that we had in our December 2011 consultation) we think the adjusted WACC approach is an approach that addresses Network Rail's cost of capital issues in PR13 in a balanced way. Therefore, we will use the adjusted WACC approach in CP5.

4.79 As we discuss above, financial sustainability is very important and the adjusted WACC approach is consistent with maintaining financial sustainability based on the assumptions included in this document. However, if those assumptions change that could mean that we would have to refine our approach, e.g. if the SoFA has a higher level of enhancements than we are currently assuming. We will consider these issues at the appropriate time, e.g. in our draft determinations in June 2013.

# 5. Access charges

## Key messages from this chapter

- One of our key aims for PR13 is to facilitate and encourage the alignment of incentives across the industry, in the best interests of passengers, freight customers and taxpayers. Access charges are an important part of this.
- It is important that these charges are cost reflective, allow the recovery of directly incurred efficient costs and send the right signals for efficient use of resources.
- The variable usage charge reflects the wear and tear cost of running an additional vehicle on the track. It is currently highly disaggregated by type of vehicle, but the same charge applies network-wide.
- We are now asking Network Rail to disaggregate the charge geographically, to improve cost-reflectivity. This is consistent with our direction of travel towards price controls that are disaggregated at route-level.
- The efficient use of capacity is particularly important. Parts of the rail network are capacity constrained and the actual cost of capacity usage in those areas exceeds the charges that operators currently pay. We are considering how best to reflect these costs in charges so that they send better signals about the costs of capacity usage, leading to more efficient usage of that capacity over time.
- We will provide stronger incentives for on-train metering of electricity consumption, which is key to incentivising efficient use of electricity. This means raising the charges that train operators pay for electricity consumed by trains without meters. We will also introduce proportionate financial incentives for Network Rail to manage the electricity lost in its transmission across the network.

## Introduction

5.1 One of our key aims for PR13 is to facilitate and encourage the alignment of incentives across the industry, in the best interests of passengers, freight customers and taxpayers. As part of the periodic review we determine access charges, which operators are required to pay to Network Rail to access the infrastructure. Access charges are an important part of the interface between Network Rail, passenger and freight train operators.

5.2 In order to align incentives, these charges should be cost reflective, allow the recovery of efficiently incurred costs and send the right signals for efficient use of resources. In line with EU directives, charges must also not be unduly discriminatory. In looking at the different types of charges Network Rail levies, our aim is to improve the extent to which they meet these requirements.

5.3 Consistent with EU legislation, variable track access charges are calculated to reflect marginal cost, including wear and tear costs. Network Rail's fixed costs (that are incurred irrespective of the amount of traffic using the network) are recovered through other single till income, the network grant and through fixed track access charges. The latter are levied on franchise passenger operators only.



5.4 In CP4, Network Rail will receive less than a third of its income from track access charges. Around sixty percent of its income comes direct from government in the form of the network grant. The issue of how much of Network Rail's revenue requirement is recovered directly from government through network grant is something we are still considering.

5.5 Network Rail has responsibility for calculating existing charges in line with our charging objectives and guidance. We retain responsibility for developing new charge proposals, and we will also audit and approve final charges. The charges are then published prior to the start of the control period. The schedule of charges applies for the entire control period, except in the cases where bilateral bespoke arrangements are subsequently made<sup>85</sup>, and is referred to in track access contracts.

5.6 The key decisions we set out in this chapter relate to:

- (a) geographic disaggregation of the variable usage charge
- (b) using charges to incentivise efficient use of capacity;
- (c) charges for electric current for traction (EC4T), including incentives for on-train metering.

5.7 The issue of charges is also touched on at other points in this document. In particular:

- (a) in chapter 7, on-rail competition, we set out our intention to develop criteria for awarding access rights to open access passenger operators, which may involve contribution to the fixed charge;
- (b) in chapter 8, aligning incentives between Network Rail and train operators, the mechanisms we set out have aims that overlap with those of charges, and therefore a high degree of integration of the two policy areas is needed.

5.8 The rest of this chapter is structured as follows:

- (a) the purpose of charges and charging objectives;
- (b) allocation of responsibility for calculating charges;
- (c) the variable usage charge;
- (d) using charges to incentivise efficient capacity allocation;
- (e) changes to charge for EC4T; and
- (f) reforms to freight specific charges

## Charging purpose and objectives

5.9 Charges have the potential to serve four purposes. They provide:

- (a) a mechanism for Network Rail to recover the efficient costs it incurs in providing track and station infrastructure used by train operators;
- (b) a means to allocate costs to, and be recovered from, those that cause those costs to be incurred;

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<sup>85</sup> For example, to reflect vehicles being modified to cause less damage to the track.

(c) signals to train operators, their suppliers and funders for the efficient use and development of vehicles and the infrastructure (subject to other policy objectives and constraints); and

(d) incentives to Network Rail to outperform the regulatory determination (through a form of price cap regulation that is applied).

5.10 Our PR13 objectives and our charging objectives are central to both our and Network Rail's work to develop charges. They, together with guidance that we issue, are the framework within which Network Rail develops its charging proposals.

5.11 Our PR13 objective is to protect the interests of customers and taxpayers by ensuring our determination enables Network Rail and its industry partners to deliver or exceed all the specified outcome and output requirements safely and sustainably at the most efficient levels possible comparable with the best railways in the world by the end of the control period.

5.12 In our advice to ministers documents we said that we saw PR13 as an important facilitator and driver of industry reform. In particular in relation to charges, we consider this to be through:

(a) alignment of incentives - improving the interfaces between the different players in the industry, for example, by facilitating alliances, efficiency benefit sharing at the route-level and bespoke arrangements where these improve whole sector working, will drive greater value for money for customers and taxpayers; and

(b) a more disaggregated approach - increasing transparency and access to information, facilitating greater localism, and supporting more disaggregation in the industry (for example through Network Rail devolution) will provide for a more comparative approach to regulation and a better understanding of costs, revenues and subsidy across the sector;

5.13 Our charging objectives are as follows:

(a) promote the objectives of our duties under section 4 of the Railways Act 1993 and be consistent with the wider objectives of funders;

(b) incentivise Network Rail, train operators, train manufacturers, rolling stock companies (ROSCOs) and funders to ensure the efficient utilisation and development of the network and the optimisation of whole industry costs;

(c) not discriminate unduly between users of the network;

(d) be practical, cost effective, comprehensible and objective in operation;

(e) be consistent with relevant legislation, including the EU Directive 2001/14/EC;

(f) reflect the efficient costs caused by use of the infrastructure (both to Network Rail or otherwise); and

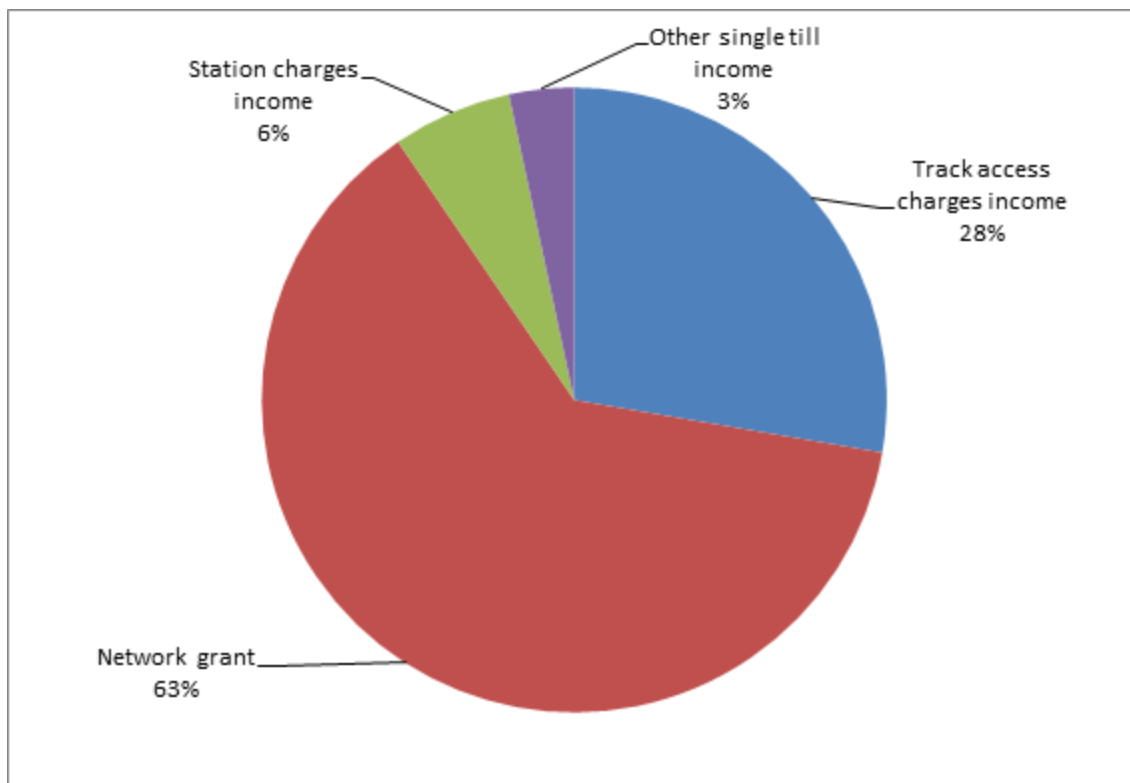
(g) ensure that charges enable Network Rail to recover but not to over recover, its allowed revenue requirement.

## Types of charges

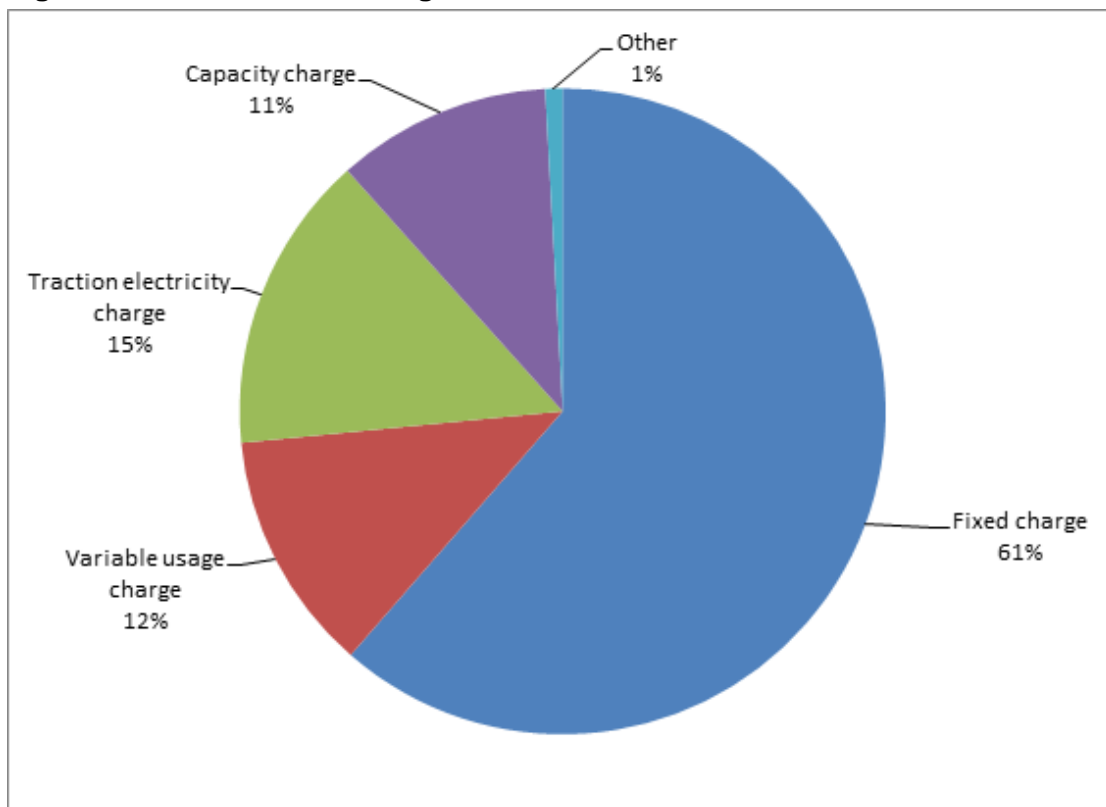
5.14 In CP4, only around a third of Network Rail's income comes from track access charges and station charges (Figure 5.1). The fixed track access charge, paid by franchise operators, accounts for around 60% of charging revenue (Figure 5.2).

5.15 The network grant and fixed charges make up more than 80% of Network Rail's revenue, are fully determined by the periodic review (except for adjustment for inflation), and are backed by government guarantee. The variable charges are important in policy terms, therefore, primarily as a tool for incentivising efficient behaviour of the operators and Network Rail, rather than in terms of the revenue they generate.

**Figure 5.1: Total Network Rail income 2010-11**



**Figure 5.2: Track access charges income 2010-11**



**Table 5.1: Revenue from each charge and the network grant<sup>86</sup>**

Charge	Purpose of charge	Actual Income (£ millions)
Variable usage charge Of which:	Recovers maintenance and renewal costs that vary with traffic	182
- passenger		137
- freight		41
- open access		4
Traction electricity charge (passenger and freight)	Recovers the costs of providing electricity for traction purposes	226
Capacity charge (passenger and freight)	Recovers the increased costs incurred by Network Rail as a result of increased traffic on the network	162
Fixed track access charge (passenger and freight)	Determined on a basis of Network Rail's total revenue requirement	912
Other (electrification asset usage charge; coal spillage charge)	Recovers associated costs	13
Station long term charge	Recovers station maintenance, repair and renewal	135
Network Grant	Paid direct by Government in lieu of fixed charges	3,779
<b>Total</b>		<b>5,409</b>

## Allocation of responsibility for calculating charges

5.16 As we explained in our May 2011 consultation, we have asked Network Rail to review, develop and calculate charges for all those charges currently in existence. We will audit its work, and challenge any aspects of the methodology that we consider to be inconsistent with our PR13 objective and charging objectives. When Network Rail conclude on particular charges, we review its work and either

- (a) approve its proposals,
- (b) approve its proposals subject to minor amendments, or subject to small changes identified through its formal consultation, or
- (c) consult on more significant changes and conclude on the charges following consultation.

<sup>86</sup> We presented a similar table in our December 2011 incentives consultation. The figures in the earlier table omitted some freight and open access passenger revenue, which we have now corrected.

5.17 The charges we have asked Network Rail to calculate, namely existing track access charges, are listed in the table below. The table also highlights ORR's principal involvement with respect to the policy development of each charge – other than the final approval, as explained above - and our timing for that involvement.

**Table 5.2: Charges that we require Network Rail to calculate**

Charge	Key ORR policy decisions	Timing for policy decision
Variable usage charge	Whether to have geographically disaggregated charge	This document
Traction electricity charge	Reform to framework	This document
Capacity charge	Relating to interaction with other mechanisms including scarcity charge	This document
Electrification asset usage charge	None	N/A
Coal spillage charge	None	N/A
Coal spillage reduction fund charge	None	N/A
Station long term charge	None (though interaction with station responsibilities for new franchises)	N/A
Freight only line charge (and mark-ups on freight charges more generally)	On ability of different freight markets to bear mark up	See ORR freight charges consultation
Fixed charge	ORR policies will affect net revenue requirement, and hence total fixed charge.	No critical timing issues prior to draft determination

5.18 Network Rail has been progressing its work streams on existing charges. For example, it has conducted studies to estimate transmission losses to be levied as a mark-up on metered electricity charges, and it has consulted and concluded on its initial work estimating variable costs for an average vehicle and the costs of freight only lines.<sup>87</sup> It is preparing to consult on high level issues with respect to a number of charges over summer 2012.

5.19 In addition, we are pleased that there is active engagement from various other industry stakeholders in this work. Stakeholders have an opportunity to be involved through the PR13 charging meetings. These are held monthly and are chaired by ATOC or a freight operator and are organised by Network Rail. These

<sup>87</sup> Network Rail has undertaken this work at this stage of PR13 to allow us to set a cap on freight charges well in advance of our PR13 determination. See Network Rail's freight caps conclusions letter of 21 March 2012, published on its PR13 webpage: <http://www.networkrail.co.uk/PeriodicReview2013.aspx>

have been supplemented by the occasional workshop, such as Network Rail's workshop on freight caps in January 2012 and our forthcoming workshop relating to the variable usage charge and mark-ups on freight charges in May 2012.

## Variable usage charge

### The current charge

5.20 The variable usage charge is designed to recover Network Rail's operating, maintenance and renewals costs that vary with traffic; in economic terms this reflects the short run incremental cost.

5.21 The charge is paid by all operators. It varies by type of vehicle, according to the estimated infrastructure wear and tear costs associated with the vehicle, but a uniform rate is applied GB wide. Network Rail's associated revenue in 2010-11 from franchise passenger operators, open access passenger operators and freight operators was £137 million, £3.6 million and £41.4 million respectively. The charge is levied per vehicle mile for passenger vehicles or thousand gross tonne miles (kgtm) for freight. For 2010-11, the charge was on average around £0.50 per train mile for passenger services, and around £1.60 per kgtm for freight services<sup>88</sup>.

5.22 The variable usage charge is currently highly disaggregated by vehicle class and, in the case of freight, commodity type. This differentiation reflects the significant variation in infrastructure wear and tear costs associated with different vehicle classes. The disaggregation provides economic signals to freight operators, train operators and their funders, and rolling stock manufacturers, so that decisions regarding vehicle specification and deployment can be made broadly on the basis of minimising whole-industry costs. Since PR08, the industry has worked together to develop cost-reflective charges for modified vehicles, so that operators can benefit from adapting their vehicles to be more track-friendly, thereby reducing whole-industry costs.

5.23 The variable usage charge is based on GB-wide average usage costs, and this leads to the charge for a certain class of vehicle being the same regardless of whether, for example, it runs on the West Coast Main Line, a branch line in Scotland or a freight only line. In this respect it differs from the other main track access charges which have some degree of geographical disaggregation.

### Analytical work conducted in PR13 to date

5.24 The variable usage charge has historically been estimated as a two stage process, and these two stages are also being used in PR13:

- (a) first, variable costs are estimated for the track damage caused by an "average" vehicle; and
- (b) second, the relationship between each specific vehicle's characteristics and the "average" vehicle is measured.

5.25 By combining the two stages, individual charges are calculated.

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<sup>88</sup> Source: ORR analysis.

5.26 Network Rail has already conducted extensive work on the first of these two stages. In November 2011, it wrote a letter to the industry consulting on its estimate of the variable cost, expressed as a rate per gross tonne km. We instructed the independent reporter, Arup, to review its work<sup>89</sup>.

5.27 Following receipt of consultation responses, Network Rail concluded on this work in March 2012<sup>90</sup>. At this stage in the PR13, its best estimate of variable costs, using the same price base and efficiency base, is 5 to 7 per cent higher than that for CP4, in part reflecting the inclusion of new assets now understood to have variable cost elements, such as certain types of bridges. Network Rail is continuing to refine its cost estimate.

5.28 We are participating in a series of meetings with an industry working group that is considering the suitability of alternative models to measuring relative damage caused by each vehicle type, in order to calculate individual vehicles' charges.

### **Policy proposal**

5.29 In our May 2011 consultation, we considered whether the variable usage charge should be geographically disaggregated, that is to say that the charge should vary in accordance with location. We explain our decision here.

5.30 The aim of geographic disaggregation of the variable usage charge would be to reduce infrastructure costs, for the same level of service, through:

- (a) greater cost reflectivity, and hence a better alignment of incentives between operators and Network Rail to reduce infrastructure wear and tear costs; and
- (b) greater cost transparency, and hence cost comparison and scrutiny.

5.31 Depending on how the disaggregation is implemented, it also supports the devolution of Network Rail, which has a number of potential benefits including greater transparency and increased local accountability, as well as supporting regulation on the basis of a more comparative approach, including in due course separate binding price controls at the route-level.

5.32 Implementation of this policy requires certain issues to be addressed and adverse effects mitigated. Examples of issues to consider include that:

- (a) geographic disaggregation on its own will introduce greater complexity to billing, and could make it less straightforward for freight operators to quote prices to customers, for example;
- (b) disaggregation would only improve incentives if the different charges reflect genuine cost differences, rather than idiosyncracies of the underlying model; and
- (c) the format and presentation of the charges will determine its level of transparency – if Network Rail's customers are not able to interpret the charging information, it may not send effective price signals.

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<sup>89</sup> The reporters are independent experts appointed by Network Rail with our approval. The role of the reporter is to provide ORR with professional advice on the quality of Network Rail's provisions.

<sup>90</sup> <http://www.networkrail.co.uk/WorkArea/DownloadAsset.aspx?id=30064781028>



## Options

5.33 We are considering a number of options with respect to this policy:

- (a) geographic disaggregation through price list;
  - (i) by a disaggregation mostly related to cost, e.g. track criticality band<sup>91</sup> or route category; and
  - (ii) by Network Rail operating route;
- (b) allow for geographic disaggregation through facilitating bespoke charges; and
- (c) continue to levy a charge GB-wide.

5.34 In addition we are considering:

- (a) whether to apply geographic disaggregation for freight services as well as passenger services;
- (b) whether the differences should be implemented by service group or code (as with the current capacity charge) or by geographic area; and
- (c) the timing and phasing of any roll-out of this policy, including changes to billing.

5.35 Under the first option, the charges would be set to reflect how wear and tear costs vary by geography. There is a strong case for investigating this option because it is well understood, both anecdotally and empirically, that different vehicles are suited to different track characteristics and these effects can be substantial<sup>92</sup>. We also know that traffic densities affect asset policies and hence costs, and Network Rail's initial analysis found the unit variable cost to be more than three times higher on the rural route class as compared to the primary route class.

5.36 An alternative form of implementation is by Network Rail operating route. This approach would support devolution, and greater accountability and cost scrutiny at the local level and in due course separate price controls at the route-level.

5.37 Variable costs are only a small proportion of Network Rail's costs (we calculate that they are of the order of 10% of maintenance and renewal costs), and so arguably this form of cost scrutiny could be seen as a marginal issue. But the methodology used for calculating variable costs takes account of a much higher proportion of Network Rail's costs, and so scrutiny of the calculation of the variable charge translates into scrutiny of a higher proportion of infrastructure costs.

5.38 Current variable cost differences by route are functions of the track and traffic characteristics. As the variable usage charge is calculated with respect to costs estimated over a long time horizon, we would not expect the phasing of the renewals cycle to affect these estimates significantly. But cost fluctuation due to renewals cycles is an issue that Network Rail has highlighted to us, and we need to consider it further. Currently, asset policies apply GB-wide, and the unit costs used in the analysis, do not vary by operating

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<sup>91</sup> For asset policy purposes, Network Rail has allocated its track into five criticality bands, each of which has an associated asset policy reflecting infrastructure differences and ease of engineering access.

<sup>92</sup> For example - using the vocabulary of the vehicle characteristics used to calculate the variable usage charge - a vehicle with a high level of unsprung mass may be appropriate for low speeds on a branch line but, running at a higher line speed, would do significant damage to a primary route; whereas other vehicles may be appropriate for relatively straight high speed primary routes, but the suspension yaw stiffness is such that they would cause disproportionate damage on more curved routes. These issues have been highlighted in recent industry work on the damage associated with horizontal forces (suspension bands) and modifying vehicles.

route, hence disaggregation of the variable usage charge would not directly facilitate greater scrutiny of these factors. Network Rail's initial analysis found that the difference in unit variable costs between the least and most expensive operating route to be around 60 per cent; we find this degree of variation surprising and are investigating it further.

5.39 Bespoke charges may only be relevant in certain contexts, such as in an alliance or when changes to services are under consideration.

5.40 Freight operators may have greater difficulty managing and responding to geographically disaggregated charges than passenger operators because their journey patterns vary considerably day to day, as do the routes they are allocated by Network Rail for particular journeys. The value of sending better signals for efficient network uses through more granular pricing may therefore be diminished by the limits on the operators' ability to respond to those signals. For this reason, exempting freight operators from the disaggregation, or introducing the disaggregation in simplified form, may be appropriate. Conversely, freight operators have greater flexibility to respond to the price signals associated with the charges, not least because they are not restricted by franchise specifications.

5.41 The capacity charge is currently differentiated for passenger services by service group or service code. The same approach (retaining the differential for different types of vehicle) could be adopted for the variable usage charge. This has the advantage relative to other forms of geographical disaggregation that it significantly reduces billing complexity. It would still incentivise changes to deployment of rolling stock, and reflect the local costs of doing so. It would not incentivise changes to route within a particular service code or group, though passenger operators have little flexibility on this in any case. Given the level of aggregation, some changes to services may require bespoke adjustments to the charge.

## **Decision**

5.42 There is significant variation in variable costs across the rail network, and reflecting these differences in charges sends signals to operators regarding efficient use of the network. At the same time, the devolution of Network Rail's charges by operating route is an obvious complement to the devolution of its costs, and supports greater scrutiny of those costs.

5.43 Hence, we are asking Network Rail to prepare a schedule of variable usage charges that are geographically disaggregated. We will work with Network Rail and the industry to decide the most appropriate form of that disaggregation but we anticipate that it should take account of both:

- (a) variation in costs as a function of the mix of rolling stock and track; and
- (b) Network Rail operating route.

5.44 To inform our decision regarding the form of disaggregation, as part of our PR13 impact assessment we will assess the impact of alternative forms of charging.

5.45 We recognise that the form of implementation of this change may determine its effectiveness. Key to this implementation is how the charge is billed, and how readily Network Rail's customers can interpret, challenge and act on the information it provides. We recognise that this will take some time to address, and that implementation for the start of CP5, other than on a service code basis, appears impractical.

5.46 We may therefore determine charges as part of PR13, but require implementation within one or two years of the start of CP5, say. Or we may delay implementation to CP6, subject to our determination for that control period.

5.47 In addition, we need to consider how such a charge interacts with a charge (or charges) to incentivise efficient use of capacity. In particular, we note that this charge implemented without a complementary charge relating to capacity utilisation could incentivise freight operators to divert to busier routes, which could have detrimental effects on passenger services.

### **Next steps**

5.48 As with other charges, we see the calculation of costs being carried out at a greater level of disaggregation than that for which charges are ultimately levied (this is because the costs are often non-linear, so calculating them at a highly disaggregate level leads to more cost reflective charges).

5.49 As part of our impact assessment, we will consider the potential impacts of these price signals, with reference to changes in behaviour associated with other price signals (such as investment in track-friendly vehicles).

5.50 We will determine the appropriate form of implementation, and the timing of this, together with that of a charge to incentivise use of capacity.

## **Charges to incentivise efficient use of capacity**

### **Introduction and background**

5.51 In our December 2011 consultation we highlighted the fact that traffic on the GB rail network has increased by over 10% since 2003-04, and that passenger demand has increased by approximately 30% over the same timeframe. Capacity is constrained on many parts of the network. This manifests itself most obviously as passenger overcrowding, and its consequences for passenger satisfaction. We also know that capacity constraints result in rail journeys being forgone, so that would-be customers are inconvenienced and the industry loses revenue. Efficient use of this scarce capacity, therefore, helps the industry deliver better services to customers and increases its value to money.

5.52 There a number of different processes and incentives that influence how capacity is allocated and influence changes to the way it is used. These include ORR's access policy, franchising authorities' service requirements, Part J (changes to access rights) of the Network Code, and the route utilisation strategies (RUS). The structure of track access charges also affects incentives to use capacity, as does the performance regime (schedule 8 of the track access contract), under which operators are compensated for unplanned service disruption.

### **Measuring the efficiency of capacity utilisation**

5.53 We know, not least from consultation responses and workshops, that some in the industry consider that the way capacity is allocated and used to be largely efficient already. This is perhaps not surprising, given the extensive work that is undertaken to enable this to be so. However, there are a number of constraints inherent in current processes, including lack of flexibility to respond to changing circumstances (most notably through the franchise, but through other factors such as length of access rights), that suggest that incentives could be improved.

5.54 The rail value for money study (RVfM) conducted analysis which led it to conclude that capacity utilisation could improve and that this would lead to significant benefits. It made an international comparison of GB network utilisation with other European networks, taking some network characteristics into account. It argued that certain specific features of current service patterns were the main driver of inefficiencies, including poorly loaded trains occupying capacity on congested parts of the network. Our

experience of timetabling, for example in relation to capacity allocation on the East Coast Mainline, also leaves us with the impression that significant improvements may be possible.

5.55 Whilst the RVfM work is useful in highlighting potential capacity utilisation inefficiency, top-down analysis provides only limited insight into the causes of inefficiencies. In our December 2011 consultation we stated our intention to conduct further research into the nature and extent of the inefficiencies suggested by the RVfM study. To this end, we have commissioned SKM Colin Buchanan to consider different aspects of capacity utilisation by carrying out four case studies. Each case study is intended to focus on a different mix of traffic. The objective of the work is to explore to what extent, on different parts of the network, there appear to be opportunities to increase the effectiveness of the use of capacity. At the same time, Network Rail is collaborating with freight operating companies to analyse levels of freight path utilisation. Both these pieces of work help us gain a better understanding of the potential to improve capacity utilisation without undermining performance.

5.56 Production of the timetable is one of Network Rail's key responsibilities. We do not currently have the tools to monitor objectively Network Rail's performance with respect to delivering a high quality timetable. Hence we are asking Network Rail's assistance in developing a series of metrics that we would use as indicators of its performance in this regard. The metrics would include measuring the degree to which the timetable delivers highly utilised capacity. There are clearly overlaps between this work and a metric of capacity utilisation that is used as the basis of the capacity charge and any new charge such as a scarcity charge.

### Capacity charge

5.57 The capacity charge is a variable charge that reflects costs directly incurred by Network Rail in the form of performance payments. It recovers Network Rail's schedule 8 (performance regime) costs of additional traffic on the network. These costs arise because as the network becomes more crowded it becomes more difficult for Network Rail to recover from incidents of lateness<sup>93</sup>.

5.58 The rationale for the capacity charge is that, by charging for the costs directly incurred, including those reflected in the capacity charge, Network Rail is not disincentivised from accommodating additional traffic. In addition, operators pay the costs they impose – in this case, reactive delay on their own services (compensated by Network Rail through schedule 8) and on services of other operators.

5.59 The capacity charge is a significant source of income for Network Rail: revenue from the capacity charge, amounting to £162 million, represented 11% of Network Rail's total track access charges income in 2010-11. Of this, more than 97% was paid by passenger operators. Unlike the variable usage charge, the capacity charge does not vary by traffic or vehicle type, but instead varies by geographical area and by day of the week (there is a 25% discount at weekends), and is levied per train mile. For 2010-11, the charge was on average around £0.54 per train mile for passenger services, and around £0.14 per kgm for freight services<sup>94</sup>.

5.60 Its current level of aggregation is as follows:

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<sup>93</sup> The schedule 8 payments relate to delays attributed to Network Rail. If the network has more traffic, an incident that is identified as being Network Rail's fault may result in more delays – because of reactive delays – and therefore Network Rail's schedule 8 payments will be higher.

<sup>94</sup> Source: ORR analysis of capacity charge revenues. The published capacity charge for freight is £0.1575 per train mile for weekdays, and £0.1181 per train mile for weekends, in 2009-10 prices.

- (a) a single rate applies for each group of services (often differentiating between “peak” and “off-peak” services) for weekdays;
- (b) a single rate applies for all freight services for weekdays; and
- (c) weekend rates are 25% less than those for weekdays.

5.61 In PR08 we recorded stakeholders’ concerns with “an unintended partial double recovery of the same costs through the capacity charge and the freight performance regime”.<sup>95</sup> Stakeholders have repeated their concerns in response to our December consultation. This is an issue that we and Network Rail are considering further. We note here, however, that Network Rail does not benefit financially from any anomaly that exists, and that we take its forecast revenue from the capacity charge into account in determining the fixed charges and network grant. The impact of correcting any double recovery would be an increase in charges for fixed costs, currently borne primarily by passenger operators (and passed on the relevant franchising authority).

5.62 As the charge is an average over a range of services, it will sometimes be higher than the associated direct costs it reflects. Hence potentially some services that are willing to pay their costs directly incurred may be priced off the network. In addition, as the capacity charge is fixed for the control period, it does not reflect changes to performance associated with service reconfiguration. Bespoke arrangements for this charge may be appropriate in such instances. The level of aggregation of the charge is hence a key issue to review with respect to this charge.

5.63 In the responses to both our May and December 2011 consultations, certain stakeholders argued that the charge was not cost-reflective. We recognise that there is a challenge to recalibrate the charge and improve the transparency by which the charge is calculated in PR13, so that stakeholders are more comfortable with its validity.

5.64 Having considered the views expressed in responses to both our May and December 2011 consultations, we continue to support the rationale for the capacity charge and will support Network Rail in its work to revisit and recalibrate the charge for PR13. Network Rail’s review will include measuring capacity utilisation across the network, and reviewing the relationship between capacity utilisation and reactionary delay. It will update the estimates of the costs of delay following schedule 8 recalibration. We understand that Network Rail will consult on these matters in summer 2012.

5.65 Network Rail is preparing to review and recalculate the capacity charge while at the same time we are developing our policy on how charges should be used to incentivise capacity utilisation. We are advising Network Rail to manage this uncertainty as follows:

- (a) it should recalculate the relevant costs directly incurred at a fairly disaggregate level. This will give it the flexibility to aggregate the charge in a way that complements any other changes to charges, such as the introduction of a scarcity charge; and
- (b) it should review billing arrangements, but not introduce any major changes to billing until there is greater certainty regarding how any major charging reforms would be implemented.

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<sup>95</sup> Paragraph 19.97 of our PR08 final determination, [www.rail-reg.gov.uk/upload/pdf/383.pdf](http://www.rail-reg.gov.uk/upload/pdf/383.pdf)

## Policy proposal

5.66 Currently, the structure of track access charges is such that it does not directly incentivise efficient use of capacity (though this does not necessarily prevent efficient allocation and use being achieved by other means). In particular, the charges do not reflect the value of the network, either in terms of its scarcity or through sending signals regarding the cost of increasing the capacity. In addition, the structure of charges is such that Network Rail is not incentivised through charges to act to increase its customers' revenue, or benefits to passengers and freight customers.

5.67 We have considered policy options that:

- (a) incentivise train operators to use capacity efficiently; and, as a complementary objective,
- (b) aligning Network Rail's incentives with those of train operators, passengers and freight customers, so that Network Rail acts, through the timetable, to increase revenue and improve services to customers.

5.68 We have considered these in order to support efficient capacity utilisation, thereby delivering benefits to rail customers and increasing rail revenue, and to incentivise Network Rail to be responsive to the needs of passenger and freight operators and their customers.

5.69 We have noted above that there are reasons inherent in the industry's administrative arrangements that mean that capacity may not be used to its full potential. This is not the only rationale for introducing a charge to incentivise capacity utilisation:

- (a) a market mechanism, such as charge, has the potential to be an effective alternative or complement to administrative mechanisms because it transfers decision making to commercial companies which can respond dynamically to developments in their markets, and have the information and commercial imperative to do so;
- (b) potential changes to the industry structure – in particular more flexible franchises, that enable operators to respond to price signals, and more decision making on rail services at a local level – strengthen the case for charges that reflect capacity constraints.

5.70 Indeed, we see a charging structure that sends the right signals to train operators regarding use of the network as an important part of the framework to support industry reform. We also note that in its command paper on industry reform, the Department for Transport states its support for the principle of an incentive to ensure that best use is made of existing capacity<sup>96</sup>.

## Options for delivering efficient use of capacity

5.71 We have considered the following policy options:

- (a) the volume incentive, which we discuss in chapter 8;
- (b) the capacity charge, which is set out above;
- (c) a reservation charge;
- (d) a new charge to reflect the value of the capacity; we refer to this as capacity utilisation charge (CU charge);

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<sup>96</sup> Reforming our Railways: Putting the Customer First, Department for Transport, March 2012

5.72 As we explained in our December 2011 consultation at greater length, we have considered introducing a reservation charge. A reservation charge is a charge that is due when a path is reserved but not used. It reflects the fact that if a path is booked – whether used or not – this restricts the availability of that path to other potential users. It is therefore mainly of relevance to freight services. As mentioned above, both we and Network Rail are currently undertaking research to examine the proportion of freight paths that are used, because a low level of utilisation may be an indicator of inefficient capacity allocation. Subject to the findings of our research, we are not minded to implement a reservation charge as part of PR13. Our principal reasons for this are that we consider such a charge to be less beneficial than the alternatives. In particular, we note concerns that a reservation charge would encourage more widespread use of train operator variations (previously called “spot bids”) to obtain short-term rights, which may undermine performance; and that there would be very considerable administrative costs associated with determining which paths were booked but not used. Our view now does not preclude introduction of the charge at a later date beyond PR13 when the relative costs and benefits may have changed.

5.73 A CU charge, to reflect the value of the capacity being used, could be implemented:

- (a) as a charge to reflect the scarcity of capacity on segments of the infrastructure during periods of congestion<sup>97</sup>; or
- (b) as a mark-up on charges, again to reflect the value of the capacity. EU legislation imposes a number of constraints on this form of charge, which is seen as an exception to the main charging principles, relating to matters including efficiency, transparency and non-discrimination<sup>98</sup>.

5.74 In principle, the CU charge would be set to equal the price at which the market cleared, i.e. where demand for capacity matched the capacity available. This is effectively the same as charging the opportunity cost of the capacity. However, in practice there are uncertainties in forecasting, and it is important that the charge is not set too high, because leaving scarce capacity unused is particularly inefficient. Hence charges would be set conservatively, and administrative mechanisms of allocation would inevitably continue to have a role. In practice, therefore, it may be appropriate for the charge to be set to zero for large parts of the national network for much of the day or week.

5.75 We do not agree with stakeholders who have argued the charge should be levied only on the parts of the network with on-rail competition. A CU charge (as distinct from the capacity charge) has less relevance on parts of the network with a single operator, because the trade-off is with its own services<sup>99</sup>. But there are few parts of the network reserved for a single operator. Wherever there may be competition for capacity, for example between long distance and local operators or passenger and freight, a charge can provide incentives for the appropriate trade-off to occur.

5.76 It is also important to acknowledge that there are a number of practical constraints that prevent passenger and freight operators from responding fully to the price signals set by the charge. In particular,

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<sup>97</sup> Under regulation 23 of the Access and Management Regulations 2005, Network Rail is obliged to declare parts of the network as “congested” once certain conditions are met. The scarcity charge would apply to the parts declared as congested (though there is scope for some averaging of charges over time and services). We noted in our January 2012 consultation ‘Reform of access contractual arrangements - seeking your views’ that some stakeholders have questioned whether Network Rail is doing enough to declare parts of the network as congested, given an ongoing trend for certain access proposals to be unfulfilled because there is insufficient capacity to accommodate them. We specifically sought views on this in that consultation. Please see <http://www.rail-reg.gov.uk/upload/pdf/reform-of-access.pdf> for further information.

<sup>98</sup> See schedule 3 of the Access and Management Regulations 2005.

<sup>99</sup> Even in these circumstances, there may be a case for such a charge, for example for incentivising Network Rail to accommodate more traffic.

there are many service requirements imposed by franchise agreements. It is unclear to what extent these constraints will reduce the impact of the charge, in the context of new franchises, or transfer the price signals to funders.

5.77 We see this charge as being important for sending signals to passenger and freight operators regarding efficient use of capacity. The capacity charge sends such signals, but for some sections of the rail network these incentives are incomplete. We agree with some stakeholders' suggestions that a CU charge could be combined with a capacity charge, for charging purposes, in order to reduce complexity.

5.78 We anticipate that the financial adjustment mechanism in the franchise (schedule 9) would apply to a CU charge. We see this as being relatively simple to administer (the mechanism is more difficult to implement when there are more subtle adjustments to the track access contracts), and would not blunt operators' incentives on a day to day basis. This is because the mechanism operates as a one-off adjustment at the start of the control period; an operator's business case for any subsequent service changes, i.e. the incremental changes in costs and revenues, would take the charge into account in full.

5.79 Stakeholders have raised concerns that such a charge would not take account of the wider social benefits of services, for example relating to reductions in road congestion, additional contributions to economic growth or reductions in air pollution due to road traffic. This distortion would only occur if there are significant differences in scale of such benefits of one service relative to another, at the level of the unit of the charge (which might be per train mile, say, or simply per train). We are not aware of evidence that this is the case (except for certain freight services, though these benefits are to some extent accounted for already through government grant).

## **Decision**

5.80 We see a charging structure that sends the right signals to train operators regarding use of the network as an important part of the framework to support industry reform. We therefore intend to build on the structure of charges so that it reflects the full marginal cost of using the network, including constraints on capacity.

5.81 We will do this by introducing a new charge, which may be combined with the existing capacity charge, to reflect the value or scarcity of capacity. We refer to this as a capacity utilisation charge, or CU charge.

5.82 We recognise that there are significant challenges in implementing this charge, and that the necessary changes to billing are such that it may not be possible to introduce this charge for the start of CP5.<sup>100</sup> We will, however, be able to determine a clear specification of the charge as part of PR13. To inform this, we will undertake an impact assessment of the charge.

## **Options for billing a charge to incentivise capacity utilisation**

5.83 Stakeholders have repeatedly raised concerns that a charge, differentiated across the network and by time of day, would result in highly complex bills. These may be too disaggregate to interpret, and so would reduce the effectiveness of the signals the charges send. In addition, freight operators are concerned that the charges would be difficult to calculate, and so expose them to risks and delays in quoting prices to customers.

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<sup>100</sup> This view is informed by the recent experience of changes to billing associated with on-train metering.



5.84 As passenger services run to a consistent timetable, there are opportunities to reduce the complexity of billing for these services by removing duplication of information. Some steps have already been taken in this direction, for example in the way that the capacity charge is aggregated to service code or service group. Transparency could still in principle be achieved, for example through clear presentation of how the charges are aggregated. Such aggregation can blunt incentives, however, if services that are subsequently changed have costs that diverge from the average

5.85 Although the removal of duplication could potentially simplify passenger operators' bills, this has little relevance to freight services, where timetables and routes can vary day by day. Under current billing arrangements, it would be difficult for freight operators to respond to a CU charge or estimate the charges that would be levied for particular services. An option, therefore, is to exempt freight operators from the charge, or levy a uniform rate – as is the case with the current capacity charge. This would reduce the effectiveness of the charge, however. Alternatively, bespoke software could certainly address this to a large degree, and the cost of this is relevant to an impact assessment.

### **Next steps**

5.86 We will continue to work with the industry to better understand how capacity utilisation can be measured and how efficiently it is used. We expect to publish the SKM Colin Buchanan work in June 2012, and will decide at that point what further work, if any, is needed to better understand the scale of inefficiencies.

5.87 Network Rail will consult on its high level approach to calculating certain charges including the capacity charge in summer 2012.

5.88 In September/October 2012, we will consult further on charges. At this point, we will consult on illustrative examples of how the charge might work.

5.89 We recognise that there are significant challenges in implementing this charge, and that the necessary changes to billing are such that it may not be possible to introduce this charge for the start of CP5. We will, however, be able to determine a clear specification of the charge as part of PR13. To inform this, we will undertake an impact assessment of the charge.

## **Charges to incentivise the efficient use of traction electricity**

### **Introduction**

5.90 Rail services powered by electricity have a number of advantages compared to those that run on diesel. These include greater energy efficiency and increased capacity on electrified lines<sup>101</sup>. This adds to rail's comparative environmental advantage over certain other modes, such as air and road.

5.91 However, the existing arrangements for charging for electric current for traction (EC4T) do not provide good incentives for the effective management of the costs associated with electric traction. Thus, the benefits of electrification are not currently being maximised, with scope for cost and energy savings to be made. Sub-optimal usage of traction electricity will also have environmental costs, for example resulting from the generation and transmission of electricity over and above the optimal amount.

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<sup>101</sup> Around 40% of the rail network (measured in track kilometres) is electrified.

5.92 The key principles for efficient management of traction electricity costs are to measure the energy used and for each party to be accountable for the associated costs through accurate billing. On-train metering is essential to achieve this; however, there may be circumstances, particularly in the short-term, where metering may not deliver value for money. Therefore, we plan to develop the contractual environment and incentives framework to facilitate metering where it is efficient to do so.

5.93 We have historically treated the total cost to Network Rail of EC4T as an uncontrollable cost that has been passed on in full to the train operators. The costs of EC4T to train operators vary according to:

- (a) the amount of energy consumed by electric trains;
- (b) the amount of energy lost as heat in transmission through the infrastructure (i.e. third rail or overhead line equipment);
- (c) the utilisation of regenerative braking (to return the energy from braking into the electrification system); and
- (d) the price of electricity.

5.94 Historically, all electric train operators have been billed for EC4T on an estimated basis using per mile modelled rates. Because of the estimated nature of the modelled rates as well as unknown transmission losses, at each year end there is a discrepancy between the amount of energy supplied by Network Rail and the amount that has been paid to Network Rail in traction charges. To remedy this discrepancy, reconciliations (or 'wash-up's) are carried out to allocate the cost difference amongst train operators, ensuring that Network Rail is fully remunerated for all the costs it has incurred in supplying EC4T within each electricity supply tariff area (ESTA). The electrified rail network is split into twenty of these ESTAs, of varying geographical size, aligned to the electrification system rather than operating routes.

5.95 The estimated nature of this regime means that there is only an indirect connection between the volume of electricity a train operator actually consumes and what it is charged. The current incentive effects are:

- (a) operators have strong incentives to reduce electricity consumption for those vehicles that are metered;
- (b) in several of the ESTAs, more than 90% of electricity is consumed by a single operator. Such operators have strong incentives to reduce their electricity consumption, even if it is un-metered, because they will benefit through reductions in the year-end reconciliation ('wash-up');
- (c) unmetered operators in ESTAs where they consume a relatively small proportion of the electricity have little or no incentive to reduce their electricity consumption; and
- (d) Network Rail has no financial incentive to reduce transmission losses.

5.96 To help address these weak incentives, in PR08 we introduced the option for train operators to switch to billing on the basis of on-train metering in CP4, providing for much more accurate billing and thus encouraging the deployment of techniques such as more efficient driving to reduce consumption. Metered train operators pay for their actual metered consumption, as well as a fixed mark-up on this consumption to reflect (on an estimated basis) their share of the transmission losses associated with their consumption. However, only Virgin Trains and London Midland had metered billing for their whole train fleet by March 2012.

5.97 In this control period, the industry has established the contractual basis by which EC4T is charged using on-train metering within the framework established by our final determination. This is a notable step forward, and instrumental to this success has been continued engagement of all industry parties through the Traction Electricity Steering Group (previously called the metering steering group). There has been very good industry engagement in this work, as evidenced by the large number of responses to our May 2011 consultation, to which the TESG also provided a cross-industry response.

5.98 In CP5, our aim is to establish a contractual framework whereby passenger and freight operators are incentivised to manage their consumption of EC4T efficiently and Network Rail is incentivised to manage its transmission losses efficiently on a day to day basis. This will make a small contribution to increasing the value for money of the industry, and should also bring environmental benefits. As such, we consulted in May 2011 and, briefly, in December 2011 on proposals to improve the framework for traction electricity charges in CP5.

5.99 Our aim is consistent with the industry's own plan for improving its environmental record through the Carbon Management Framework (CMF). The CMF, which was set out in the initial industry plans for both Scotland and England & Wales, included the following proposals:

- (a) an increase in the metering of traction energy by CP5 should be incentivised, through the EC4T charging framework, to ensure that operators pay for what they use and reap the benefits of savings in consumption; and
- (b) Network Rail should be incentivised through appropriate financial mechanisms, to reduce electrification system losses efficiently, according to its relative ability to manage the risk.

5.100 The industry expects that implementation of on-train metering will save between £12m and £25m per annum against a total CP5 cost to install meters of £15m, as stated in the IIPs<sup>102</sup>. Therefore, all of the below options would be expected to result in reduced industry costs.

5.101 Network Rail also uses EC4T for a number of 'non-traction' uses, including some signalling and station power supplies. Non-traction consumption has also historically been estimated, therefore to ensure accurate allocation of costs, Network Rail has been installing meters on its uses of EC4T and we expect Network Rail to have 85% of its consumption metered by the end of 2012.

## Options

5.102 In our May 2011 consultation, we set out proposals to improve incentives for both switching to on-train metering and for managing transmission losses more effectively. We set out the main points from the consultation below, but for a more detailed description of the comments from the consultation and our response to them see paragraph 1.5 above.

### *Incentives to encourage on-train metering*

5.103 We have considered four alternative options that would encourage on-train metering:

- (a) applying an uplift to modelled rates;
- (b) billing through the on-train metering system;

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<sup>102</sup> Page 111, Initial Industry Plan (England & Wales), September 2011, available at <http://www.networkrail.co.uk/WorkArea/DownloadAsset.aspx?id=30064778713>, and page 107, Initial Industry Plan (Scotland), September 2011, available at <http://www.networkrail.co.uk/WorkArea/DownloadAsset.aspx?id=30064778714>.

- (c) make on-train metering compulsory; or
- (d) ear-mark a fund for further on-train metering and billing.

They are described below.

### **Option A – applying an uplift to modelled rates**

5.104 In our May 2011 consultation<sup>103</sup>, we proposed to strengthen incentives for operators to meter though applying an uplift to modelled rates (levied on unmetered operators). This uplift would reflect internal and external cost differences such as the lower expected efficiency associated with vehicles that are unmetered. The associated funds could be used to fund metering, or returned to metered operators, for example.

5.105 The main concern raised by stakeholders in respect of this, was that this incentive would be nullified for franchised train operators through the financial adjustment mechanisms in franchise agreements (typically in Schedule 9 of the franchise agreement). This would reduce the effectiveness of the incentive and would result in a significant administrative burden for operators and the associated franchising authority. We recognise this concern, and are discussing this issue with DfT. We understand that DfT is planning to exclude changes to EC4T charges from the contractual financial adjustment following a Charging Review for the upcoming Great Western, Essex Thameside and Thameslink franchises and new franchises thereafter. This exclusion will mean that schedule 9 effectively ceases to be an issue for EC4T charges for the new DfT franchises. We will also discuss this issue with Transport Scotland in the context of its refranchising programme.

### **Option B – billing through the on-train metering system**

5.106 Network Rail have suggested an option for making the on-train metering billing system compulsory for all electrified train operators. In this instance, all train operators would be treated as 'opted-in' to charging for EC4T using on-train meters. Where no metered data is provided, the operator would be subject to increased charges associated with missing data, as stated in the metering rules (currently there is a mark-up of up to 10% on this charge). This option is thus quite similar to the option we proposed of an uplift. The main difference, other than simplicity of billing, is that all modelling errors, positive or negative, are borne by Network Rail.

5.107 We think that this is an interesting proposal, and potentially a sensible approach that is very similar to option A.

### **Option C – make on-train metering compulsory**

5.108 Another option is that of compulsory metering. We do not consider that compulsory on-train metering should be employed in CP5 as there may be options that are more cost beneficial to individual train operators, and therefore this approach would not be maximising value for money. For example, there are instances where a train operator's routes are aligned to electricity charging areas (i.e. where one train operator accounts for the vast majority of consumption within an ESTA), where reasonably accurate billing can be achieved without on-train meters. Compulsory on-train metering could be achieved through prescriptive franchise contracts, but these have the shortcoming that they do not give train operators flexibility about how they manage their costs.

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<sup>103</sup> Paragraph F.32, Periodic review 2013: first consultation – annexes, May 2011, available at <http://www.rail-reg.gov.uk/pr13/PDF/PR13-first-consultation-annexes.pdf>.

## Option D – ear-mark a fund for further on-train metering and billing

5.109 For CP4, we determined that Network Rail could commit an element of its safety and environment fund to promote on-train metering. This has been used to contribute to operators' costs of metering. We have no plans to extend this funding beyond 1 April 2014. We see a mark-up on charges for unmetered services as an alternative to create right incentives.

### *Incentives to manage transmission losses efficiently*

5.110 Transmission losses are caused by:

- (a) the quantity of current drawn from the system by trains; and
- (b) the level of electrical resistance and leakage in the Network Rail infrastructure, between input to the system and train.

5.111 In our May 2011 consultation, we made the following proposals for encouraging Network Rail to manage losses more efficiently:

- (a) charge metered vehicles on the basis of metered consumption plus a mark-up to reflect system losses attributed to that vehicle;
- (b) allocate volume risk (the volume wash-up) in each ESTA between unmetered services and Network Rail, so that the allocation reflects their respective ability to manage the risk (taking account of Network Rail's and operators' relative ability to manage transmission losses); and
- (c) allow Network Rail to recover costs – calculated using ex-ante assumptions – for an efficient level of system losses.

5.112 In response to our proposals, there was substantial support from stakeholders for Network Rail to introduce a financial incentive to manage transmission losses efficiently (though there were some concerns that if this incentive was not set carefully, it could lead to inefficient investment in this area).

5.113 We did not specify in our proposals if the mark-up to reflect system losses attributed to a vehicle should be an estimate of the actual or an efficient level of losses.

5.114 To ensure the charge reflects costs, a mark-up on metered operators to reflect system losses should be applied to train operators consumption, and Network Rail should also take some risk to reflect its ability to manage the level of transmission losses.

5.115 Consistent with our wider approach to funding Network Rail's costs, we plan to set the mark-up, to reflect transmission losses in the infrastructure, at a challenging but achievable level for Network Rail to realise, taking into consideration factors including:

- (a) the current infrastructure;
- (b) improvements Network Rail can make that have a business case;
- (c) forecast changes in traffic and timetabling; and
- (d) forecast renewal and enhancement of Network Rail's infrastructure in CP5.

5.116 Some operators responded to our May 2011 consultation, stating that the mark-up should be based on a level of losses achieved by other rail networks in Europe. However, there are significant differences

between these networks, and recent cross industry work<sup>104</sup> has strongly suggested there is no whole-industry business case for most initiatives to reduce losses to the level achieved by some European comparators.

5.117 Our next proposal in the May 2011 consultation discussed the allocation of the volume wash-up.

5.118 One option is for Network Rail to bear the cost associated with all transmission losses. We do not think that this is appropriate because it would mean that the charge associated with EC4T for each train would not reflect the costs directly incurred: transmission losses are, to a large extent, a consequence of the services being run.

5.119 In addition, in ESTAs where there is unmetered consumption, the year-end wash-up will reflect both discrepancies in transmission losses (determined versus actual levels) and direct consumption (modelled versus actual levels). Therefore, to be cost reflective and incentivise metered use, operators with modelled consumption should be included in the wash-up.

5.120 Another option is for the wash-up to be allocated to Network Rail only once all operators in an ESTA are fully metered. Whilst this would work in fully metered ESTAs, we do not think this is appropriate as it may take a long time for all ESTAs to be 100 percent metered, and while they are not Network Rail would have no direct financial incentive to manage transmission losses efficiently.

5.121 An alternative we proposed in May 2011 was that the year-end discrepancy between electricity volumes billed and electricity volumes consumed (the volume wash-up) in each ESTA be allocated between unmetered consumption (whether by operators, Network Rail or third parties) and Network Rail (to reflect its management of transmission losses). The allocation methodology would reflect their respective ability to manage the risk (taking account of Network Rail's, operators' and third parties' relative ability to manage transmission losses and consumption). This option would result in Network Rail having an increased incentive to manage losses effectively, the more each supply area is metered.

5.122 This approach has shortcomings however. In particular, unmetered services would bear some of the cost of losses that exceed the determined levels, and Network Rail will bear some of the cost of consumption that exceeds modelled rates. We are now working with Network Rail and the industry to gain a better understanding of consumption and losses, so that problems associated with measurement error are minimised.

## Decision

5.123 We are setting the following charges framework to incentivise efficient traction energy use by the industry:

- (a) metered train services should be billed on the basis of consumption, with a mark-up based on a challenging but achievable level of losses (given that losses vary widely across the network, we expect this to vary by geography and / or service, balancing the benefits of greater cost-reflectivity against simplicity and transparency);

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<sup>104</sup> DC Energy Efficiency Group, a group led by Network Rail to agree cross industry business cases to reduce transmission losses on the DC network.

(b) the year-end volume wash-up will be allocated between unmetered services and Network Rail, to reflect their respective ability to manage the risk (primarily consumption and losses respectively). This will place an incentive on Network Rail to manage losses more effectively;

(c) application of an uplift to modelled rates. This uplift would reflect internal and external cost differences such as the lower expected efficiency associated with vehicles that are unmetered;<sup>105</sup> the associated revenue will not be included in the wash-up;

5.124 We consider that this framework will drive more efficient management of traction electricity costs by both Network Rail and operators, which will in turn deliver environmental benefits, without being unduly prescriptive on the industry.

5.125 We are interested in Network Rail's proposal for compulsory metered billing (whereby services that were not metered would be billed on the basis that their data was missing). Our understanding is that this proposal could be consistent with the framework we set out above. We are open to supporting its implementation, if practical and subject to consultation, in CP5.

5.126 In our May 2011 consultation we noted that certain operators had argued that a more effective approach may be to meter a sample of vehicles, and extrapolate the metered consumption to determine charges across the fleet for each billing period. We recognise that there is ongoing research commissioned by ATOC and reporting to the cross-industry Traction Electricity Steering Group (TESG) to determine the accuracy of this approach, comparing the variables of a normal train service against extrapolated results. The framework we have set out above can accommodate this approach, by including these operators in the wash-up. The research to date indicates that the extrapolated consumption rates will have less uncertainty than modelled rates; this could be reflected in the allocation of the volume wash-up to these operators.

### Next steps

5.127 It is important that the above framework incentivises appropriate behaviours and does not lead to inefficiency. There are a number of steps that are key to achieving this, including the determination of a challenging but achievable level of losses and the details of the mechanism to allocate the wash-up between non-metered operators and Network Rail.

5.128 The incentive to encourage on-train metering (the application of an uplift on modelled rates) would be nullified for franchised train operators through the financial adjustment mechanisms in franchise agreements typically in Schedule 9 of the franchise agreement and would also result in a significant administrative burden for operators and DfT. We recognise this concern, and are discussing this issue with DfT.

5.129 We will work with other franchising authorities including Transport Scotland with the aim of applying this approach across other rail franchises

5.130 Whilst we have set the high-level framework of charges, Network Rail will be leading on a number of workstreams up to publication of its Strategic Business Plan in January 2013, including:

(a) recalibration of modelled rates;

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<sup>105</sup> This will be a relatively small charge; we anticipate that a flat rate uplift, of a size similar to the uplift applied to metered consumption where data are missing, would be appropriate.

- (b) recalibration of the regenerative braking discount;
- (c) prices charged for electricity (per kWh); and
- (d) certain contractual changes.

5.131 We expect the arrangements for Network Rail's non-traction use of EC4T to be reflected in contractual arrangements between Network Rail and the operators.

5.132 We will be reviewing and, where necessary, auditing Network Rail's work to ensure the resultant charges are cost reflective and deliver the incentive framework set out in this section.

### **Other related work on the environment**

5.133 Aside from our incentives to encourage greater energy efficiency in respect of traction electricity, we are not making any other decisions relating to the environment in this document<sup>106</sup>.

5.134 We will consult on further environmental KPIs in our August consultation on Network Rail's outputs, enablers and KPIs. This will link to the industry's own proposals for improving its environmental record through its Carbon Management Framework. More generally, it is important to note that the work we do to improve value for money for taxpayers and customers by driving greater efficiency in the industry helps to support the environment overall, by making rail more competitive and encouraging modal shift to rail from other, less environmentally friendly, forms of transport.

### **Changes to freight-specific charges**

5.135 We are shortly to issue a consultation on proposed changes to freight specific charges. In particular, we are considering replacing the freight-only line charge with a charge for freight avoidable costs. Freight avoidable costs include the costs of freight-only lines, and freight-specific costs on infrastructure shared with passenger services. This will be a three month consultation, and we will hold a workshop on the consultation on 18 May 2012. We will conclude on our proposals in autumn 2012.

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<sup>106</sup> Our May and December 2011 documents both asked questions relating to the environment and summaries of the comments received and our response to them are set out in the separate document we will place on our website in early May 2012 (see paragraph 1.5). These questions covered both high-level and more detailed issues including those that have implications beyond PR13 (linking to wider industry reform), and the responses received have been useful in informing our thinking on these.



# 6. Possessions and performance regimes

## Key messages from this chapter

Planned and unplanned service disruption matters immensely to passengers and freight customers and is therefore something we take very seriously. We have a range of tools available to ensure the right incentives exist for train operators and Network Rail to work together in the best interests of their customers. We will review these carefully during PR13.

The primary purpose of Schedules 4 and 8 is as compensation regimes which transfer risk to those most able to control it, but they also help align incentives.

We will continue with the Schedule 4 and 8 compensation regimes due to:

- the role they play in reducing train operators' exposure to risk they cannot control, and the resulting reduction in franchise costs/ increase in franchise value. Schedules 4 and 8 do this in an efficient way because their formulaic nature means they avoid costly litigation; and
- the fact they provide a financial incentive for Network Rail to outperform its regulatory targets where it makes sense economically and focus on minimising disruption where it has the greatest impact on train operators' revenue and costs.

We will review Schedules 4 and 8 to ensure train operators receive an appropriate level of compensation for (planned or unplanned) service disruption attributable to Network Rail and other train operators. This includes updating payment rates and looking at whether compensation (and bonus) payments should be reduced to below 100% of the impact of service disruption on revenue and costs. We will also refine other aspects of the compensation regimes to make sure they function effectively and work overall in the best interests of passengers and freight customers.

## Introduction

6.1 Service disruption to passengers and freight customers can be planned or unplanned. Planned disruption arises from when Network Rail declares a Restriction of Use on part of the railway network. This is most common in relation to engineering possessions. A certain amount of planned disruption is necessary to ensure the railway infrastructure is maintained and renewed to an adequate standard. Planned possessions are also required when enhancement work is being carried out, which in the long-term results in improvements for passengers and freight customers, for example through shorter journey times and increased service frequency. Despite this, it is important that service disruption to passengers and freight customers due to planned possessions is kept at the minimum level necessary to maintain and improve the network at an efficient level of expenditure.

6.2 Unplanned disruption occurs for a variety of reasons. This includes poor performance, for example, due to infrastructure failure, rolling stock breakdowns or staffing issues; and external events such as severe weather and cable theft.

6.3 This chapter sets out the incentives in place to minimise planned and unplanned service disruption. It also sets out our decisions and our proposed next steps, following dialogue we have had with stakeholders

as part of our May 2011 consultation and our Incentives consultation. This includes in respect of the Schedules 4 and 8 possessions and performance regimes in train operators' track access contracts.

## **Incentives on Network Rail and train operators to minimise service disruption**

6.4 There are a number of arrangements in place that incentivise Network Rail to minimise service disruption to passengers and freight customers, either by performing well or through effective planning and management of possessions. These include:

- (a) output targets that we set at a periodic review, for example, targets on the number of delay minutes, for which we then hold Network Rail to account through monitoring and enforcement;
- (b) Condition 1 of Network Rail's licence, which states that Network Rail must 'satisfy the reasonable requirements of persons providing services relating to railways and funders, including potential providers or potential funders, in respect of:
  - (i) the quality and capability of the network; and
  - (ii) the facilitation of railway service performance in respect of services for the carriage of passengers and goods by railway operating on the network',
- (c) financially:
  - (i) at company level, such as those incentives arising from the Schedules 4 and 8 possession and performance regimes as well as fines resulting from enforcement action; and
  - (ii) at a personal level, such as Network Rail's Management Incentive Plan, which financially incentivises Network Rail's executive directors and other senior staff to meet its output targets by providing bonus payments if objectives are met;
- (d) reputationally (at company and personal level); failure to meet targets or poor customer survey results will damage the reputation of the company and the people that work for it.

6.5 While it is our role to regulate Network Rail, we are mindful that what matters to passengers and freight customers is the standard of service they receive overall, which requires the whole system to work well, including the interface between Network Rail and train operators. Before deciding how best to incentivise Network Rail, we therefore need to understand the incentives on train operators to minimise planned and unplanned service disruption.

6.6 The performance of franchised train operators is regulated by franchising authorities. Since performance has an impact on fare revenue, franchised train operators have a financial incentive to minimise delays they cause to their own services.

6.7 However, for certain passengers, demand patterns for train services are fixed and not very responsive to levels of service disruption. In many cases this is due to passengers having few or no alternatives. There are therefore additional conditions within franchise agreements to ensure train operators perform well. These will vary between franchise agreements, but some examples are:

- (a) targets for maximum minutes of delay attributed to the franchised train operator; and
- (b) targets for maximum proportion of services cancelled.

6.8 Franchised train operators who fail to meet the targets in their franchise agreements may be required to agree to remedial plans to ensure performance recovers. Ultimately, if performance fails to improve to a satisfactory level, the franchising authority may terminate the franchise.

6.9 Under the majority of franchise agreements, franchised train operators are required to compensate passengers for poor performance, under schemes such as delay repay<sup>107</sup>. This provides an additional incentive on train operators to perform well or assist Network Rail with service recovery when delays are caused by infrastructure failure.

6.10 Freight and open access passenger operators have a strong revenue incentive to perform well and minimise the impact of possessions on their services. This is due to the fact freight operators largely operate in competitive markets and open access passenger operators are fully exposed financially to changes in their fare revenue and tend to compete with other passenger operators, albeit sometimes in situations where rival services involve interchanges.

6.11 Table 6.1 summarises the arrangements in place to encourage Network Rail and train operators to minimise service disruption to passengers and freight customers.

**Table 6.1: Arrangements in place which incentivise Network Rail and train operators to minimise planned and unplanned service disruption**

Network Rail	
Performance	Possessions
<ul style="list-style-type: none"> <li>Public Performance Measure (PPM) output targets stated in our determination (following on from the HLOS)</li> <li>Cancellations and significant lateness output targets stated our determination (England &amp; Wales only)</li> <li>Network Rail delay minutes to passenger and freight service output targets stated in our determination</li> <li>Requirements in Network Rail’s licence</li> <li>Annual customer satisfaction survey of passenger and freight train operators</li> <li>Joint Performance Improvement Plans (JPIPs)<sup>108</sup></li> <li>Management Incentive Plan</li> <li>Reputation</li> <li>Schedule 8 performance regime</li> </ul>	<ul style="list-style-type: none"> <li>Passenger possession disruption index (PDI-P) target stated in our determination</li> <li>Freight possession disruption index (PDI-F) target stated in our determination</li> <li>Reputation</li> <li>Schedule 4 possessions regime</li> </ul>

<sup>107</sup> Under the delay repay scheme, all passengers, including holders of season tickets valid between 1 month and 1 year, are entitled to claim compensation for each delay of more than 30 minutes whatever the cause. 50 per cent compensation of the single fare is available for delays of 30 to 59 minutes and 100 per cent of the single fare for delays of more than 60 minutes. For delays of more than 2 hours, 100 per cent of the return fare is available. The entitlement for holders of season tickets is calculated using the proportional daily cost of the season ticket.

<sup>108</sup> Annual agreements between passenger train operators and Network Rail, detailing how each party will contribute to continuously improving performance, and are an obligation under the Network Code

Franchised train operators	
Performance	Possessions
<ul style="list-style-type: none"> <li>• Loss of fare revenue</li> <li>• Franchise terms and conditions, and ultimate threat of withdrawal of franchise</li> <li>• Reputation and passenger satisfaction and their (real or perceived) impact on ability to be awarded future franchises</li> <li>• JPIPs</li> <li>• Schedule 8 (in terms of factoring impact of performance on other operators)</li> <li>• Cost of delay repay</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of fare revenue (during possession and in the longer-term)</li> <li>• Reputation and passenger satisfaction and their (real or perceived) impact on ability to be awarded future franchises</li> <li>• Costs not covered by Schedule 4, e.g. staffing to supervise transfers</li> </ul>
Open access freight and passenger operators	
Performance	Possessions
<ul style="list-style-type: none"> <li>• Revenue</li> <li>• Reputation and customer satisfaction and their impact on long-term revenue</li> <li>• Schedule 8 (in terms of factoring impact of performance on other operators)</li> </ul>	<ul style="list-style-type: none"> <li>• Revenue</li> <li>• Reputation and customer satisfaction and their impact on long-term revenue</li> </ul> <p>Costs (Schedule 4 does not provide full compensation for possessions)</p>

## Schedules 4 and 8 as formulaic compensation regimes

6.12 The Schedule 4 possessions regime and Schedule 8 performance regime are standard schedules in our model track access contracts. While Schedules 4 and 8 have an impact on incentives for encouraging good operational performance, this is not their only purpose.

6.13 The primary role of the Schedule 4 and 8 passenger regimes is:

(a) to compensate train operators for the financial impact of service disruption attributable to Network Rail or other train operators. Under Schedule 8, payments are to compensate for the effect of lateness on a train operator's longer-term fare revenue. Under Schedule 4, payments are to compensate for a combination of the effect of possessions on longer-term fare revenue and additional costs incurred to put on replacement buses. Schedules 4 and 8 transfer risk between Network Rail and train operators so that the party most able to control a particular risk is the one exposed to it. This ensures that train operators are less exposed to risk they cannot control and, in the case of franchised passenger train operators, as a result helps reduce franchise costs/ increase franchise value, which feeds through to the taxpayer.

6.14 Schedules 4 and 8 also:

(b) help align financial incentives between Network Rail and train operators, so the impact of service disruption on revenue and/ or costs is incurred by the organisation to whom the disruption is attributable to, rather than the train operator who faces the disruption. This helps ensure they act in their combined interest rather than purely in their own interests, and therefore more efficiently as a whole.

(c) provide signals to Network Rail on the impact of service disruption on train operators' costs and revenues to help drive its decision making, for example in relation to investment prioritisation and possessions management.

6.15 The roles of the Schedules 4 and 8 regimes for freight operators are similar except compensation to freight operators is focused more on compensating for the impact on costs than revenue. In addition to this, freight operators are not franchised.

6.16 Schedules 4 and 8 are liquidated sums regimes which mean that compensation payments are determined by formula rather than negotiation. This is a common feature of contracts and is a way of minimising legal and administrative costs. The formulae used in the regimes are designed to ensure the amount of compensation (or bonus) paid reflects the expected revenue and cost impact of the disruption caused. Therefore no parties should profit as a result of Schedules 4 and 8 operating properly.

6.17 Schedule 8 is a benchmarked regime where payments are made when Network Rail or train operators' performance diverges from a benchmark number of minutes lateness<sup>109</sup>. If Network Rail or a train operator performs worse than benchmark, it pays compensation to the train operator(s) affected. If it performs better than benchmark it receives a bonus from the train operator(s) affected to reflect the effect of the increased revenue that would accrue to the affected train operator from the better performance.

6.18 Schedule 4 involves compensation payments from Network Rail to train operators only. Franchised operators pay a predetermined access charge supplement (ACS) in return for this compensation<sup>110</sup>. This is to cover a proportion of the estimated cost to Network Rail of the Schedule 4 regime if Network Rail arranges an appropriate amount of possessions for it to be able to maintain and renew the network to an adequate standard and in a way that is sustainable, and plans them effectively. This can be seen as being analogous to the performance benchmarks in Schedule 8. Over time compensation available under Schedule 4 has increased.

6.19 Freight operators do not pay an ACS, and as a result only receive Schedule 4 compensation for significant disruption. Open access passenger operators only receive compensation for very long possessions or sustained disruption unless they opt to pay an ACS.

6.20 As with any formulaic compensation regime, it is not possible to ensure the amount paid under Schedules 4 and 8 in every single instance precisely compensates for the impact of service disruption. However, it is important that on average it does and that there are no systematic biases, for example, always over-compensating a particular train operator for delays to peak services.

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<sup>109</sup> The share of responsibility for lateness is attributed between Network Rail and train operators using the TRUST delay attribution system. This identifies the causes of delays to services. The primary purpose of the TRUST system is to help ensure the industry is able to address the underlying problems that cause delays so performance can improve over time. Schedule 8 makes use of data available from the TRUST system. Schedule 8 is not the reason for having a delay attribution system, nor does it create the costs associated with having a delay attribution system.

<sup>110</sup> A small number of train operators also pay an access charge supplement under the Schedule 8 regime to cover compensation under passenger charter arrangements.

6.21 Track access contracts do not and cannot govern what passengers receive in compensation for poor performance or disruption. There are therefore separate arrangements in place which entitle passengers to compensation for delays and refunds in certain circumstances, for example as set out in the National Rail Conditions of Carriage and in delay repay schemes (as outlined in paragraph 6.9 above). Such arrangements are currently overseen by the franchising authorities.

6.22 We will explore consumer awareness of current refund rights and compensation arrangements and the extent to which consumers exercise their rights, including where vouchers rather than cash are used in compensation. We will publish a report of our findings together with recommendations later in the year.

## Whether to continue with Schedules 4 and 8 as formulaic compensation regimes

### Introduction

6.23 Schedules 4 and 8 have been in existence since privatisation and form a key part of the regulatory framework under which Network Rail and train operators operate. They have been progressively improved at each periodic review to ensure they work effectively, remain up to date and continue to achieve their objectives.

6.24 Nevertheless, in the context of industry reform which is resulting in closer collaboration between Network Rail and train operators, the requirement for contractual mechanisms such as Schedules 4 and 8 needs reviewing. In addition to this, while the majority of stakeholders have expressed support for the continuation of Schedules 4 and 8, concerns have also been raised by some stakeholders that in certain circumstances they create perverse incentives. We have therefore considered whether or not Schedules 4 and 8 should be continued with as formulaic compensation regimes.

### Options

6.25 We considered the following options:

- (a) remove the formulaic aspects of Schedules 4 and 8 altogether;
- (b) augment Schedules 4 and 8 with a mechanism whereby train operators can withhold track access charges; and
- (c) retain Schedules 4 and 8 as formulaic compensation regimes but update metrics and make other changes to the regimes where this will make them more effective.

#### *Option A – Remove the formulaic aspects of Schedules 4 and 8 altogether*

6.26 We could remove the formulaic aspects of Schedules 4 and 8 and instead allow train operators to claim compensation off Network Rail, or withhold track access charges when service disruption exceeds a certain level.

6.27 However, while we acknowledge that Schedules 4 and 8 are complex regimes, we are not of the view that this would be good value for money. Without formulaic performance and possessions regimes, such as Schedules 4 and 8, it would be likely that:

- (a) there would be an increase in legal claims for compensation for poor performance and possessions. Without pre-determined formulae it would be more costly and bureaucratic to determine what the appropriate level of compensation would be;

(b) franchised train operators would price into their franchise bids the risk of their revenue forecasts being inaccurate due to uncertainty of the level of service disruption caused by Network Rail and other train operators. The result would be a higher cost of running the railway, which would be passed on to passengers and taxpayers<sup>111</sup>;

(c) in instances where Network Rail performs above benchmark or has a lower than expected number of possessions, TOCs would gain additional revenue even if they had not contributed to the improvement in services;

(d) Network Rail would have the incentive to meet its regulated outputs in relation to performance and possessions, but it would have less of an incentive to outperform them; and

(e) Network Rail would not have as strong a signal on where a higher amount of passenger revenue is at stake and therefore where to focus its effort. Schedule 8 encourages Network Rail to make investments where the benefits to industry revenue are highest relative to the costs of the investment.

#### *Option B – Augment Schedules 4 and 8 with a mechanism where train operators can withhold access charges*

6.28 This option would involve train operators being able to withhold track access charges in some situations, in addition to the formulaic compensation payments already arising from the Schedules 4 and 8 regimes.

6.29 However, Schedules 4 and 8 already have mechanisms in place where train operators are able to receive additional compensation when service disruption is sustained. In Schedule 8, this is through the sustained poor performance (SPP) threshold. With Schedule 4 additional compensation is available where possessions are long or disruption is sustained.

#### *Option C – Continue with Schedules 4 and 8 as formulaic compensation regimes*

6.30 Continuing with Schedules 4 and 8 would ensure:

(a) Train operators are protected against revenue and cost risk arising from service disruption attributable to Network Rail and other train operators, i.e. less exposed to risk they cannot control. Minimising exposure of franchised train operators to these risks helps keep down franchise costs/ increase franchise value;

(b) Train operators are fully exposed to the impact of their performance on other operators; and

(c) Network Rail is provided with a financial incentive to outperform its regulatory targets where it makes sense economically and is incentivised to focus on minimising planned and unplanned disruption where the most passenger revenue is at stake.

## **Decision**

6.31 Given the above, we intend to continue with the Schedule 4 and 8 compensation regimes. However, we will carry out a detailed review of Schedules 4 and 8 to ensure they remain up to date, function effectively and avoid perverse incentives that disadvantage passengers or freight customers.

6.32 Under Schedule 8, if compensation rates are set too low, it means train operators are not adequately protected from the risk that Network Rail or other train operators cause delays to their services. If

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<sup>111</sup> While it would also be the case that franchised train operators would no longer make payments (or receive bonuses) if they perform worse (better) than benchmark, this element of risk is under their control and therefore easier to predict.

compensation rates are set too high, train operators would be better off when Network Rail and other train operators delay their services. A similar issue has been raised in relation to Schedule 4, particularly in relation to replacement bus compensation.

6.33 We therefore plan to recalibrate payment rates so they provide an up-to-date reflection of the impact of service disruption on train operators' revenue and costs, to ensure as far as possible that these regimes do not over or under compensate train operators. In many cases the revenue impact of service disruption will have materially increased since we last updated payment rates in 2005 due to rising passenger numbers.

6.34 We also plan to update performance benchmarks in the Schedule 8 regime so they are set at a level that reflects output targets and relative changes in levels of traffic on different parts of the network.

6.35 To help with this, we have set up an industry group to assemble together experts from ORR, Network Rail, ATOC, franchised train operating companies to discuss and provide recommendations on issues relating to the review of Schedules 4 and 8 passenger regimes. In particular, the focus will be on technical issues relating to the recalibration of the formulae within Schedules 4 and 8.

6.36 The Schedule 4 and 8 regimes for freight and open access operators are less complex but we will also work closely with these operators when we review the regimes.

## **Whether to reduce payment rates so they are below 100% of the revenue and cost impact of service disruption**

### **Introduction**

6.37 For Schedules 4 and 8 to work effectively, the amounts of compensation paid need to be a realistic reflection of the actual impact of service disruption on longer-term revenue and costs.

6.38 However, even when payment rates are based on up to date evidence, there is a question as to whether train operators should be fully compensated for the impact of service disruption on their revenue and costs. We asked for stakeholders' views on this in our May 2011 consultation and our Incentives consultation.

6.39 There are two main reasons why it may be desirable to set compensation payment rates so that they provide less than 100% compensation for the impact of service disruption on revenue and costs:

(a) it may incentivise train operators to work more closely with Network Rail to minimise planned and unplanned service disruption, for example, through better possession planning, and speeding up service recovery after infrastructure failures. Better cross-industry co-ordination should lead to improvements in the service delivered to passengers and freight customers; and

(b) As discussed above, while payment rates should be as close as possible to the impact service disruption has on revenue and costs, they will not be correct in every single instance. If we reach the view that, in terms of incentives created and the impact of these on passenger and freight customers, the disbenefit of over-compensation is greater than the disbenefit of under-compensation, it may be desirable for payment rates to be set below 100%.

### **Options**

6.40 Options are as follows:



- (a) keep compensation (and bonus) payment rates so they are set at a level that reflects 100% of the impact of service disruption on train operators' revenue and costs;
- (b) set compensation (and bonus) rates so they are below 100% of the estimated impact of service disruption to train operators' revenue and costs

6.41 Network Rail and the majority of train operators' consultation responses were against the idea of setting compensation (and bonus) rates to less than 100%. The potential impact on risk premiums in franchise bids and a dampening of Network Rail incentives were highlighted. However, franchise authorities such as Department for Transport and Transport Scotland were of the view that in principle this approach could potentially incentivise train operators to work more closely with Network Rail to minimise the service disruption to passengers, but more evidence is needed. For further information, see our more detailed document setting out our response to the consultation responses we received (see paragraph 1.5).

### **Decision**

6.42 In light of industry reform and the drive for Network Rail and train operators to work together to reduce costs and act together in the best interests of passengers and freight customers, our view is that it would be appropriate to consider this further. We will therefore commission some research to investigate:

- (a) whether and to what extent there are reasonable actions train operators can take to reduce the impact of delays caused by Network Rail without incurring disproportionate costs;
- (b) whether and to what extent train operators could and would work with Network Rail to plan possessions better if not provided with 100% compensation;
- (c) the value train operators would place on the additional risk, i.e. what risk premium they would be likely to include within franchise bids if compensation (and bonus) rates were set below 100%;
- (d) the extent to which reducing compensation (and bonus) rates to below 100% would weaken Network Rail incentives;
- (e) the extent that freight operators have the ability to bear the risk associated with below 100% compensation rates; and
- (f) whether it would be appropriate for any reduction in compensation (and bonus) payment rates to below 100% to differ between Schedules 4 and 8 and the reasons for this.

## **Whether further incentives should be placed on Network Rail so it minimises service disruption to passengers and freight customers**

### **Introduction**

6.43 Paragraphs 6.4 – 6.11 and table 6.1, above, outline the incentives on Network Rail to minimise disruption for passengers and freight customers. In our Incentives consultation we asked whether we should place further incentives on Network Rail to ensure it fully takes into consideration the impact of planned and unplanned service disruption on passengers and freight customers.

6.44 Consultation responses from stakeholders were mixed, but overall tended to favour the idea of placing further incentives on Network Rail to minimise service disruption. As above, for further information, please refer to our more detailed document setting out our response to the consultation responses we received (see paragraph 1.5).

## Options

6.45 We considered the following options:

- (a) Keep incentive arrangements broadly the same;
- (b) Augment Schedules 4 and 8 with a societal rate to reflect the full economic and social cost of lateness and cancellations not reflected in train operators' costs and revenue; or
- (c) Do not introduce a societal rate but fully review the full range of tools we have available to use to increase incentives on Network Rail to minimise service disruption.

### *Option A – Keep incentive arrangements broadly the same*

6.46 This option would not involve us making any changes to the incentives framework in relation to performance and possessions.

### *Option B – Augment Schedules 4 and 8 with a societal rate*

6.47 As discussed above, while the primary role of Schedules 4 and 8 is as compensation regimes, they also have incentive characteristics in terms of incentivising Network Rail to factor in the impact of service disruption on train operators' revenue and costs into its decision making, and for train operators to do the same in respect of other train operators.

6.48 However, they do not specifically incentivise Network Rail and train operators to factor in the full economic and social costs arising from service disruption. These include:

- (a) The cost to passengers in terms of the value of their time, either through longer journey times or switching to slower transport modes;
- (b) The cost of traffic congestion arising from passengers and freight customers who switch to alternative transport modes; and
- (c) The environmental cost of additional traffic that arises from customers who switch modes.

6.49 During CP2 the Schedule 8 passenger regime contained a societal rate payable to DfT to reflect the financial impact of poor performance beyond that reflected in loss of fare revenue and costs incurred by train operators.

6.50 Potentially a societal payment rate could be included within Schedules 4 and 8 during CP5 to reflect some or all of the economic and social costs of service disruption identified above.

6.51 In theory:

- (a) Schedule 4 societal rate payments that flow from Network Rail should go to whichever parts of society incur cost as a result of possessions (a combination of passengers, freight customers and road users).
- (b) Schedule 8 societal rate payments should flow from Network Rail and train operators to whichever parts of society incur cost as a result of below benchmark performance. The opposite should apply when performance is above benchmark to reflect the fact that society would benefit from the improved performance and to ensure the regime remains financially neutral overall if Network Rail and train operators are on average performing at their benchmarks.

6.52 In practice, societal rate payments would flow between Network Rail, train operators and franchise authorities and it would be up to franchise authorities whether and how to distribute compensation to and

collect bonus payments from parties affected by service disruption. For example, a requirement could be included by the DfT or Transport Scotland in franchise agreements that require the societal element of any compensation received by a train operator to be paid to passengers affected by poor performance or disruption.

6.53 The introduction of a societal payment rate would mean Network Rail is exposed to a larger proportion of the financial impact of service disruption on the economy and society as a whole.

6.54 However, it would also have the following drawbacks:

(a) It would result in financial instability for franchising authorities. Under Schedule 8, if Network Rail's performance were above benchmark, franchising authorities would need to pay bonuses to Network Rail for this. Likewise if performances were lower than expected level, franchising authorities would not be able to recover all the costs of funding the Schedule 4 regime. While this may be justifiable in a strict economic sense (society is gaining from the reduction in service disruption), for franchising authorities it would result in financial uncertainty. The same issue would also apply if a societal rate is introduced in relation to train operators' performance.

(b) In practice it would be difficult to ensure that societal rate compensation for the impact of service disruption on passengers' time is distributed by franchising authorities to passengers and it would not necessarily be desirable to increase fares in order to pay bonuses to Network Rail (or a train operator) when it performs above benchmark, which would mean the cost of this would fall on taxpayers.

*Option C – Do not introduce a societal rate but fully review the full range of tools we have available to use to increase incentives on Network Rail to minimise service disruption.*

6.55 With this option, rather than make major changes to the incentive properties of Schedules 4 and 8, for example, by introducing a societal rate, we would look at the full range of the tools available to us in PR13 to incentivise Network Rail to minimise service disruption to passengers and freight customers during CP5. These include the regulatory targets that we set as part of our periodic review, which will reflect the outputs specified by the governments in their High Level Output Specifications (HLOSs).

## **Decision**

6.56 Due to its complexity; the uncertainty it would create for franchise authorities; and the practical difficulties of ensuring that compensation and bonus payments would flow to and from the members of society impacted by planned and unplanned service disruption, we do not intend to proceed with option B and introduce a societal payment rate into Schedules 4 and 8.

6.57 There have already been a few instances in CP4 where Network Rail has not met its performance targets. Some examples are as follows:

(a) Long distance sector PPM and delay minute targets in 2011-12; and

(b) Freight performance targets in 2011-12.

6.58 This suggests that current incentive arrangements are not necessarily working as well as they should be doing. It would therefore not be appropriate to choose option A and conclude that we will keep incentive frameworks broadly the same without reviewing incentive arrangements further.

6.59 We therefore plan to choose option C and not introduce a societal rate but look into the full range of tools available to ensure Network Rail is incentivised to work in the best interests of passengers and freight customers.

## Next steps

6.60 We will consider the incentive properties of Schedules 4 and 8 in the context of the wider incentives on Network Rail and the requirements of the Secretary of State for Transport (England & Wales) and Scottish Ministers. For example, we will set output targets after being provided with HLOSs. These will be encapsulated in our draft determination.

## Other issues

6.61 In our December 2011 incentives consultation we highlighted a range of issues relating to Schedules 4 and 8 that we intend to review further. These, along with some other key issues raised by stakeholders, are listed below. There are also some other more specific legal and technical issues that have been raised by stakeholders in our May 2011 and incentives consultations which we will also review.

### Schedules 4 and 8

**6.62 How we respond to requests for bespoke Schedule 4 and 8 arrangements, particularly in the presence of joint ventures or alliances.** Network Rail and train operators are free to agree bespoke performance and possessions regimes in their track access contracts subject to our approval. In a more joined up industry, in particular as a result of alliancing, we anticipate an increase in requests for approval of bespoke regimes. Overall, consultation responses were in favour of the idea of bespoke Schedule 4 and 8 regimes operating in certain circumstances. However, concerns were expressed, particularly by freight operators, that bespoke regimes could result in discrimination against minority operators. We intend to update our criteria and procedures for the approval of track access contracts to ensure we allow sufficient flexibility for bespoke regimes where it is in the interests of passengers and tax-payers but at the same time ensure the performance and possessions regimes remain non-discriminatory.

**6.63 The contractual provisions for dealing with severe disruption due to external factors, for example, severe weather.** While severe disruption due to external factors is a relatively infrequent occurrence, we are keen to avoid instances where Schedules 4 and 8 create perverse incentives which result in Network Rail and train operators not acting in a way that is in the best interests of passengers and freight customers. We will therefore work with industry to investigate whether there are arrangements that can be put in place to make the regimes work better during severe disruption due to external factors, such as severe weather, without reducing the effectiveness of the regimes in normal conditions or creating unnecessary complexity.

**6.64 How well Schedule 4 and 8 incentives are transmitted across Network Rail.** Some concerns have been raised that Network Rail is not always very responsive to Schedule 4 and 8 incentives. While the exact way Network Rail responds to our financial incentives is a matter for the company we will look at how well incentives are transmitted across Network Rail and consider this carefully when setting the overall incentives for Network Rail to perform well and minimise disruption due to possessions.

### Schedule 4

**6.65 Access charge supplements (ACS).** Under the Schedule 4 passenger regime, Network Rail is funded for the expected level of Schedule 4 payments via ACS paid by franchised train operators. The total amount of ACS is based on the expected level of Schedule 4 payments arising from the need to maintain and renew the network to an adequate standard and in a way that is sustainable, on the basis that Network Rail plans and manages its possessions effectively. In CP4, the access charge supplement was divided between franchised train operators pro-rata to historic Schedule 4 payments in a selected base year

(2006/07)<sup>112</sup>. During PR13 we will review Network Rail's calculations of the level of funding required to cover the expected cost of Schedule 4 payments. We will also review whether the ACS is the most effective way of funding Schedule 4 and explore alternative options such as funding Schedule 4 compensation through the fixed charge. If we continue to fund Schedule 4 through the ACS we will review whether we can improve the way it is divided between train operators.

**6.66 Notification discount factors and thresholds.** The revenue compensation component of Schedule 4 payment rates is based on estimates of the impact of service disruption on longer-term revenue if it were to occur at short notice. However, planned possessions involve advance notice being provided and the revenue impact of disruption is lower the more notice is provided. A notification discount factor is applied to the payment rates to reflect this, and varies depending on the amount of notice. Notification discount thresholds represent points in time where the notification factor changes. We are aware of concerns that the notification discount incentivises Network Rail to give notice of possessions before it is clear whether it will actually take the possession, leading to more disruption than might need to be the case. We will review notification discount factors and thresholds to make sure they are appropriate.

**6.67 Thresholds for additional compensation when disruption is above a certain level or sustained over a period of time.** Under the Schedule 4 passenger regime, compensation is formulaic with additional compensation available depending on the level of disruption. In addition to this, compensation is available for sustained planned disruption over a period of time. Under the Schedule 4 freight regime there are three tiers of compensation for planned disruption. For both the passenger and freight regimes, we will review the thresholds for which additional compensation is available.

**6.68 Compensation for replacement bus services.** We are aware of concerns that some train operators have been receiving Schedule 4 compensation payments reflecting the cost of replacement bus services, which also benefit from the Bus Service Operators Grant (BSOG). It has been suggested that this may lead in some circumstances to incentivise the running of replacement buses over running alternative rail timetables even where this is not in the best interests of passengers ('bustitution'). There is therefore a risk of double counting with compensation being paid by Network Rail for replacement bus costs and subsidy being paid by the government as part of BSOG. The issue of eligibility for BSOG is currently being reviewed by the DfT and we therefore do not intend to consider it further as part of PR13. We will, however, review the level of compensation train operators receive to cover the cost of replacement buses when we review Schedule 4 payment rates.

## Schedule 8

**6.69 The Sustained Poor Performance (SPP) threshold and the level at which it should be set.**

Where performance is below a certain threshold, the Sustained Poor Performance (SPP) threshold, passenger train operators can claim additional compensation. The intention is that the threshold should represent a level of poor performance where compensation under the standard Schedule 8 arrangements is materially less than what is needed to reflect the actual impact on the train operator. We will revisit these thresholds to make sure they are appropriate.

**6.70 Whether it is appropriate or practical to introduce a time delay on Schedule 8 payments, and if so, what the delay should be.** In our May 2011 consultation we put forward the idea of introducing a time delay on Schedule 8 payments to reflect the fact that the impact of poor performance on revenue is not immediate. A time delay would reduce the risk of train operators near the end of the franchise period, who

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<sup>112</sup> Open access passenger operators can elect to pay an ACS in order to be entitled to full compensation under Schedule 4. It is calculated by the network wide aggregate ACS (for franchised operators) on a mileage basis.

therefore do not suffer such a high degree of revenue loss as a result of poor performance, being over-compensated. It would also ensure that in cases where Network Rail performs above benchmark, train operators would not have to make bonus payments until they are benefiting from increased fare revenue.

**6.71 Treatment of cancellations by train operators of their own trains.** At the moment when a train operator cancels one of its own trains, it has an impact on its Schedule 8 payments even when it does not cause delay to the services of other train operators. We will work with industry to see if this is an area where there could be a material benefit in improving the regime and weigh this against any costs that might be incurred by changing the way delay is attributed in these circumstances.

**6.72 Whether paragraph 17 of Schedule 8 should be amended to reduce the number of circumstances where train operators may request changes to payment rates.** Paragraph 17 of Schedule 8 allows train operators to request changes to payment rates in-between periodic reviews. Currently it does not place restrictions on the circumstances in which train operators may request such changes, other than that they have to provide evidence to support their requests. We are keen to incentivise train operators to spend an appropriate amount of effort reviewing the proposed payment rates during the recalibration period rather than request changes during CP5. This would improve the clarity and predictability of the regime which should in turn enhance its effectiveness. We are working with industry to examine the scope for restricting circumstances when requests to change payment rates can be made in-between periodic reviews, without removing the ability of train operators to request changes when there are legitimate reasons to.

**6.73 Develop a set of principles for attributing delays between Network Rail and train operators that operate partially off the Network Rail infrastructure.** In certain circumstances train services operate partially on and partially off the Network Rail infrastructure, using infrastructure that is owned and operated by other parties. The number of instances will increase during CP5 with the introduction of Crossrail. The exact nature of this issue and potential solutions will differ in each situation. However, we will review whether it would be desirable to agree a set of industry principles regarding how delays are attributed in these circumstances. This is to help avoid situations where Schedule 8 does not work effectively, for example, instances where Network Rail delays a train that goes off-network but if it is still delayed when it arrives back onto Network Rail's infrastructure, the delay is attributed to the train operator. Similar issues have also been raised in relation to 'traded' train services where a train changes operator part way through its journey, and we will review this too.

## Next steps

6.74 Detailed work on the recalibration of the Schedule 4 and 8 passenger regimes will take place between now and the beginning of CP5. We have recently set up an industry group to provide technical advice and support in relation to this. This group will also provide views on some of the more technical issues listed above. It will not act as a substitute to written consultation where this is required.

6.75 The Schedule 4 and 8 regimes for freight and open access operators are less complex but we will also work closely with these operators when we review the regimes.

6.76 In November 2012 we plan to have a further consultation on Schedules 4 and 8. This will cover specific issues, for example, the size of notification discounts and the level of the sustained poor performance threshold. We may also from time to time write to stakeholders consulting on specific issues for which a decision is required by a certain stage of the recalibration.



# 7. On-rail competition

## Key messages from this chapter

- We have a statutory duty to promote competition in the provision of railway services for the benefit of users. We must balance this duty against our other duties, including duties to have regard to the funds available to the Secretary of State and to enable organisations providing railway services to plan the future of their businesses with a reasonable degree of assurance.
- Whilst the extent of on-rail competition is currently very small, there is evidence that it brings real benefits to passengers.
- DfT's command paper reaffirmed its concern about the potential for current model of open access competition, whereby open access operators pay track access charges on a marginal cost basis, to impose a cost on taxpayers..
- We are considering modifications to our access and charging policy with a view to changes that would see the amount of on-rail competition increase, whilst remaining on a small scale relative to franchised services.
- We will ensure that key benefits obtained under the current policy, including 'not primarily abstractive' direct services to new destinations, are retained.

## Introduction

7.1 This chapter sets out our approach to on-rail competition following consideration of the responses to our consultation on the potential for increased on-rail competition in October 2011.

## Background

7.2 We are keen to see the effective use of markets to drive improvements in value for money across the value chain. As explained elsewhere in this document, we will use PR13 to challenge Network Rail to establish efficient costs through market testing and, where appropriate, contracting out and partnership working with the supply chain. We will also facilitate the delivery of concessions. Competition between train operators can play an important role in driving value for money and quality improvements in railway services. Needing to win or retain passengers in the face of rivalry keeps train operators under pressure to minimise costs and use resources where they are valued most. It also encourages them to find new and better ways of doing things, and better understand and respond to passengers' needs and wants, potentially stimulating product or service innovation. On the other hand, competition also has certain potential downsides. Particularly in this industry, it can have an impact on the amount of taxpayer funding that is needed to fund the railway.

7.3 We have a statutory duty to promote competition in the provision of railway services for the benefit of users of railway services. We must balance this duty against our other duties, including duties to have regard to the funds available to the Secretary of State and to enable persons providing railway services to plan the future of their businesses with a reasonable degree of assurance. We must also ensure compatibility with the relevant European law.



7.4 In line with these duties, our consultation on the potential for increased on-rail competition<sup>113</sup> (‘the ORC consultation’) considered the part that head-to-head competition between passenger rail operators (hereafter referred to as ‘on-rail competition’) could play in helping the industry meet the value for money challenge.

7.5 We considered the potential for increased on-rail competition relative to the status quo, whereby most passenger services do not face on-rail competition:

- (a) The primary mode of competition between TOCs takes the form of competition for franchises. Franchises are specified so as to account for most of the capacity on the network. There are relatively few franchise overlaps<sup>114</sup>; and
- (b) Open access operators account for less than 1% of all passenger km. Open access operators only pay variable track access charges. But under our access policy they are subject to the ‘not primarily abstractive’ (‘NPA’) test. Under this policy we will not approve track access rights where the services proposed are projected to take away (‘abstract’) revenues from franchised TOCs beyond a certain level.

### **Our consultation questions**

7.6 In summary the ORC consultation asked for any views that stakeholders had on a range of evidence and analysis that we presented in three key areas in particular, as summarised here under the subheadings below.

7.7 A key supporting document to the ORC consultation was a new study that we commissioned from consultancy MVA and Institute for Transport Studies at Leeds University (ITS) (‘the MVA report’).

#### *On-rail competition and passenger benefits*

7.8 The ORC consultation, drawing on a range of sources including the MVA report, presented various evidence concerning the potential for on-rail competition to drive passenger benefits. Key elements of this included:

- (a) past evidence from GB passenger rail showing that, other things being equal, on-rail competition tended to lead to lower fares increases, higher growth in passenger numbers (including direct services to new destinations), and various ‘soft benefits’;
- (b) evidence showing that open access entrants, who always face strong competition from franchised operators, have higher passenger satisfaction scores than comparable franchised operators, who in the main do not face on-rail competition; and
- (c) evidence from GB’s rail freight sector, and from various other sectors including passenger air travel, on the extent to which competition can drive cost savings and benefits to customers.

7.9 In its recent command paper, DfT said that, “Government values the benefits of competition that open access can bring, such as greater choice and lower fares for some passengers. However, these benefits must be set against the need to reduce the overall cost of the railway to taxpayers...”.

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<sup>113</sup> Consultation on the potential for increased on-rail competition, October 2011, see <http://www.rail-reg.gov.uk/pr13/consultations/orr017.php>.

<sup>114</sup> See, for example, paragraph 2.10 of the ORC consultation.

### *On-rail competition and costs*

7.10 The ORC consultation presented various types of evidence about the potential for on-rail competition to drive industry cost savings.

7.11 The document presented evidence from other sectors of cost savings brought about as a result of the introduction of competition. Evidence from the passenger air travel industry was particularly supportive of the potential for competition to drive benefits. Evidence from the UK bus market appeared to show that competition can drive cost savings, but was inconclusive on whether competition for, or within, markets was more effective in doing this<sup>115</sup>.

7.12 The ORC consultation also discussed evidence on the extent to which the post-privatisation period of franchise competitions has placed downward pressure on unit costs, as considered in the RVfM study.

### *Specific options for introducing more on-rail competition.*

7.13 The ORC consultation included, based on the detailed work set out in the MVA report, a description and quantitative appraisal of certain models of increased on-rail competition (see 'Options' below). To become fully operational, all of these models would require changes to ORR policy and/or to DfT's franchise policy specifically to create more space on the network for open access operations.

## **Key responses**

### *Views on on-rail competition and passenger benefits*

7.14 Respondents broadly agreed that on-rail competition has value as a driver of benefits to passengers.

7.15 Some respondents argued that the evidence we had presented overstated the benefits of competition. In particular some stakeholders such as East Coast argued that the new direct services provided by open access could equally have been provided, at a lower cost to government, by a franchised operator. East Coast also argued that, whilst open access had brought about benefits relative to a counterfactual in which capacity ultimately allocated to open access had remained unused, other benefits, including investment, would have been attainable if this capacity had been allocated to a franchised operator.

7.16 Some other respondents argued that the evidence that we presented in the ORC consultation might understate the benefits of on-rail competition. For example, Arriva's response stressed the particular benefits that have accrued to those local areas that have benefited from an increased number of direct services as a result of open access competition. Arriva also argued, based on the results of analysis that it had carried out, that open access competition had tended to generate more traffic than had been forecast by ORR *ex ante* when making access decisions. Arriva identified open access as a potential catalyst for identifying capacity.

### *Views on on-rail competition and costs*

7.17 A number of respondents questioned whether increased on-rail competition could play a significant role in driving cost savings. Open access's relatively high (albeit whilst operating at a much lower density than franchised operators) current unit costs and low profits were cited by more than one respondent, including Stagecoach. The specific assumptions made by MVA in its report (notably its assumption that, for a given density of operation, open access operators would be able to achieve 10-30% lower unit costs,

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<sup>115</sup> The final report of the Competition Commission's *Local bus services market investigation*, December 2011, found that material disbenefits accrue to passengers and taxpayers in instances where competition is weak.

across all cost categories, than franchised operators) were queried by respondents such as East Coast, who commented that a high proportion of TOCs' costs are not directly controllable. A number of respondents, including ATOC, queried whether some of the cost advantages currently enjoyed by open access (for example around labour rates) could be sustained if the scale of open access operations were to increase significantly. ATOC was one of a number of stakeholders (others included Stagecoach) to cite evidence from the RVfM study suggesting that the costs of GB franchised operators are not higher than those of European counterparts.

7.18 More positive views about the potential for on-rail competition to drive cost savings included comments from Renaissance about the greater ability of open access to have control over inputs such as rolling stock, and the flexibility in working practices of current open access operators. Renaissance specified a number of ways in which open access operators had pursued cost efficiencies given their, *"greater need to pursue productivity to deliver business cases..."*. Arriva cited various drivers of the efficiency of open access operators, with a particular focus on labour costs. It told us that these drivers had been weakened under the historic franchised operator model, given factors including: *"[g]overnment's concern and legal duty to provide continuity of service; franchising policies of very short mobilisation periods and short franchises; the way deliverability is marked in franchise award; and TUPE Regulations."* Arriva argued that open access operators, *"...can pay what is necessary to recruit and retain staff in the markets they serve and their employees recognise that customer satisfaction and business success are necessary for their continued employment, as is the case in most normal industries. [Grand Central] for example chose to make its own cost-effective pension arrangements and not join the Railway Pension Scheme, but has had no difficulty in recruiting and retaining good employees."*

#### *Views on specific options for increased on-rail competition*

7.19 We received a wide range of comments on the ORC consultation's description and appraisal of models for increased on-rail competition. For example, the Newark Business Club told us that it was not possible to comment definitively without more detail, such as notional timetables. Several other stakeholders, including Arriva and East Coast, made a number of detailed comments on MVA's East and West Coast case studies.

7.20 An important theme discussed in the ORC consultation was the potential for financial bids for capacity made by open access operators to form a key element of ORR's access decisions. Many stakeholders expressed concerns about this, including Network Rail, Arriva, Renaissance, CILT, and Jonathan Tyler (of Passenger Transport Network). A number of practical issues, together with concerns about a lack of certainty, were also cited, for example East Midlands Trains said that, *"[w]e must be mindful of the operational practicality if any decisions are made to relax the rules for Open Access Operators to enter into the market where infrastructure capacity is very limited. It is critical that sufficient capacity is made available and that any additional services onto the network can be delivered from an operational point of view."*

#### *Other issues and themes*

7.21 A number of respondents, including Network Rail, ATOC, and Stagecoach, argued that competition between infrastructure managers (albeit with a single system operator), rather than increased on-rail competition, had more potential to improve outcomes, given the existence of an outright monopoly supplier in the form of Network Rail and the various inefficiencies that were identified in the RVfM study.

7.22 Several stakeholders, including Stagecoach, East Midlands Train, Simon Lowe, and the Newark Business Club, commented that many franchised passenger operators, even those that are not subject to on-rail competition, face competition from other modes.

7.23 Stakeholders made various other arguments about issues including:

- (a) the potential advantages for capacity utilisation of central planning (this issues was raised by stakeholders including East Coast and Jonathan Tyler), implying a smaller role for open access; and
- (b) the interaction between on-rail competition and the capacity available for rail freight (this issue was raised by stakeholders including DB Schenker and the Rail Freight group).

## Options

7.24 The ORC consultation and accompanying consultancy reports included a description and appraisal of a series of modelled hypothetical options for increased on-rail competition. In summary these hypothetical options were, for GB's East and West Coast Mainline networks:

- A series of scenarios for increased open access competition, all of which involved a complete relaxation of the NPA test and a progressively increasing proportion of services to be offered by open access operators rather than franchisees; and
- An option whereby an existing franchise was re-designed as two competing franchises.

7.25 The quantitative results set out in the MVA report predicted that:

Increased on-rail competition would deliver benefits to passengers; but

- The impact on taxpayers was ambiguous, with a negative impact only likely to be mitigated on a very material scale if:
- Competition was able to drive significant cost savings;
- Competing operators were able to operate a sufficient number of services to benefit from economies of density; and
- Where increased on-rail competition was delivered by open access, the excess profits of open access operators could be extracted by the efficient extraction of financial bids for capacity.

7.26 To bring the hypothetical models outlined in the two preceding paragraphs to fruition in a manner consistent with all of our statutory duties would require an element of joint working with, and co-operation from DfT, Transport Scotland<sup>116</sup>, and indeed the rest of the industry. DfT's response to our consultation, and its engagement with us over the last year, make it clear that such joint working is not feasible at the current time. DfT's stance is consistent with the fairly widespread scepticism from the industry (see above) about, firstly, the potential for competition to deliver cost savings, and, secondly, the scope for financial bids to be used as a factor in our capacity allocation decisions.

7.27 Because of this we have concluded that models for competition of the type listed above are not viable in the short to medium term. In other words, returning to the key competitive features of GB's passenger rail industry listed earlier in this chapter, for the foreseeable future:

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<sup>116</sup> Transport Scotland's response expressed a view that the NPA test, "...remains largely fit for purpose...", in the context of a response that argued, based on Transport Scotland's view of a need for the industry to "focus on ... issues of major importance".

- (a) competition for franchises will be the primary mode of competition between TOCs; and
- (b) franchises will be specified so as to account for most of the capacity on the network and provide relatively few franchise overlaps.

7.28 The principal options remaining open to us are therefore, in broad terms, to:

- (a) continue with the status quo; or
- (b) consider modifications to our approach to granting track access and/or charging for this access with a view to increasing (or indeed reducing) the potential for open access competition and if possible reducing its cost to government.

7.29 The key advantage of the first option is that it would offer a degree of certainty and retain the benefits that have arisen through the application of our current policy.

7.30 The key advantages of change are that it would offer the opportunity for an improvement on the status quo. The benefits to passengers that can be driven by open access competition (see above) are particularly important. Individual access decisions that we take will always include an economic impact assessment and will take all of our statutory duties into account, significantly mitigating the risk of unwelcome unintended consequences arising as a result of a change of approach. As recognised by a number of stakeholder responses, the relevant duties include having regard to the funds available to the Secretary of State and to enabling persons providing railway services to plan the future of their businesses with a reasonable degree of assurance.

## Decision and next steps

7.31 We intend to pursue the second of the two options listed in the previous section. That is, we will consider modifications to our approach to granting track access and/or charging for this access with a view to increasing the potential for open access competition.

7.32 In particular, we are considering the scope for us to award access to open access operators on the basis of a cost benefit test that would be wider than the current NPA test. This could be used to allow the open access operator greater flexibility in stopping patterns than they currently have by virtue of the need to comply with the NPA test. Given the difference in the nature of this access right compared to the current rights subject to the NPA test, we are considering whether and what level of fixed charge they might attract. We are exploring the creation of such an access right as an addition to the current rights (in other words the standard access rights and those subject to the NPA test). We do not have in mind that those currently operating on the basis of access rights granted under the NPA test, and not currently subject to a fixed charge, would be migrated on to any new type of right, though they would have the ability to apply for such if they wished.

7.33 Key to this decision are our duty to promote competition, ensure compatibility with European law in this area, and the broad agreement within the industry about the potential benefits to passengers that on-rail competition can bring. Our next steps will be to engage with the industry over a way forward.

7.34 We value the benefits that have been generated through the application of our current access policy, based on the NPA test, including the provision of 'not primarily abstractive' direct services to destinations such as Hull and Sunderland. These benefits should be retained in the future. But it is important for us to consider the extent that it is possible for open access operators to make payments to compensate, ultimately, taxpayers for abstraction beyond the level currently permitted by the NPA test.



# 8. Aligning incentives between Network Rail and train operators

## Key messages from this chapter

- This chapter updates on the alignment of incentives.
- We have not yet completed our work on these issues as part of PR13.
- We will be consulting further in separate documents on the development of incentive alignment.

## Introduction

8.1 This chapter updates on where we stand in the development of three specific mechanisms relating to the alignment of incentives between Network Rail and train operators:

- (a) the volume incentive;
- (b) route-based efficiency benefit sharing (REBS); and
- (c) exposure to Network Rail costs at a periodic review.

8.2 We are focusing on these three as specific mechanisms, recognising that other parts of the regulatory framework (e.g. the Schedules 4 and 8 possessions and performance regimes and access charges) are also relevant in the alignment of incentives.

## Volume incentive

### The current incentive

8.3 The purpose of the volume incentive is to align incentives between Network Rail and passenger and freight operators. It is a payment to Network Rail that incentivises it to help its customers increase their revenue.<sup>117</sup> Network Rail can do this, for example, by undertaking innovative timetabling that results in extra traffic being accommodated on the network without undermining network performance.

8.4 The rationale for the volume incentive is that the structure of charges means that Network Rail faces weak financial incentives to meet additional demand. This is because variable charges (notably the variable usage charge and the capacity charge) are designed to reflect the efficient costs to Network Rail imposed by the operation of an additional train. To the extent that the actual cost incurred by Network Rail is above the efficient cost – either through inefficiencies or simply through discrepancies between the charge and the cost due to averaging – Network Rail may actually be financially disincentivised to accommodate additional demand.

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<sup>117</sup> Incentives relating to Network Rail's management of service disruption, which can have a substantial impact on its customers' revenues, are dealt with in chapter 6 on the Schedule 4 (possessions) and Schedule 8 (performance) regimes.

8.5 The volume incentive provides Network Rail with additional revenues dependent on its ability to accommodate increases in passenger and freight volume metrics, subject to delivering HLOS capacity outputs. The payments come from funders rather than via train operators, so the mechanism does not affect train operators' incentives.

### **Options**

8.6 Incentivising Network Rail to help its customers grow their revenue could be achieved by various means. In chapter 5, on access charges, we set out our decision to introduce a charge to incentivise better use of capacity. This may reduce or remove the need for the volume incentive.

8.7 We also note that it is unlikely that such a charge could be introduced at the start of CP5. In these circumstances, the case for a separate incentive, such as provided by the volume incentive, would remain.

8.8 We consulted on the volume incentive in both our May 2011 and December 2011 consultations. Stakeholders were mostly supportive of the principle of the volume incentive, although many questioned how effective it had been in practice. In particular, there was concern that Network Rail managers were unaware of the volume incentive and therefore, by definition, the incentive was not effective.

8.9 We also consulted on the potential future shape of the volume incentive, particularly whether it should be disaggregated to sit better with Network Rail's devolved structure and whether it should include a downside as well as an upside.

### **Decision**

8.10 We confirm our intention to continue with the volume incentive for the next control period, at least until the point where a separate charge reflecting the value of capacity is introduced.

8.11 We confirm that the incentive would be calculated at the level of the Network Rail operating route. Given changes to Network Rail to devolve responsibilities to routes, and accounting separation by route, a volume incentive acting at route-level rather than nationally should be more effective. By being calculated at route-level, the volume incentive can be more readily linked to actions of relevant Network Rail teams and managers, and it is therefore a more targeted incentive.

### **Next steps**

8.12 As part of our forthcoming consultation on charges in September/October 2012 we will consult on the detailed functioning of the volume incentive, including its metrics and payment rates.

8.13 In our May consultation, we also discussed the potential for the mechanism to have a downside as well as upside, and we will consider this further as part of our review.

8.14 As part of our work developing a charge to incentivise efficient use of capacity, we will review how the volume incentive should be adapted to complement the charge. This review could result in us deciding to discontinue the volume incentive upon introduction of the charge.

## **Route-based efficiency benefit sharing and exposure to Network Rail costs at a periodic review**

8.15 Under the current industry structure passenger train operators are largely insulated (through provisions in their franchises) to changes in Network Rail's costs – whether at a periodic review or within a control period. This reduces their incentives to take an active interest in working with Network Rail to help



identify and implement initiatives to drive down Network Rail's costs. Freight operators do not enjoy such protections and are directly exposed to changes in Network Rail's costs (as they apply to freight operators access charges) arising from periodic reviews. As such the interest of freight operators in reducing infrastructure costs has been greater than franchised operators. We have long thought that there should be greater opportunities for train operators to work with Network Rail to help the company make further efficiency improvements and that relaxing the provisions in franchises to better align the financial incentives should help facilitate this. In PR08 we implemented the efficiency benefit sharing mechanism (EBSM), at a national level, which provides financial rewards train operators for working with Network Rail to help the company outperform the efficiency assumptions we made in PR08 for CP4.

8.16 We consulted in May 2011 and December 2011 on options for strengthening the alignment of the incentives on Network Rail and train operators, to work together to improve efficiency. In these consultations, we considered two types of approach for improving the alignment of incentives. These were:

(a) developing a route-level efficiency benefit sharing mechanism (REBS), in light of experience gained from the mechanism that we implemented in PR08; and

(b) exposing train operators to changes in Network Rail's costs at future periodic reviews.

8.17 We set out a specific option for REBS for consultation in December 2011. Whilst we are minded to implement the broad approach we set out then we cannot yet conclude on REBS since we need to first conclude how it interacts with alliances. As such, we will be undertaking further consultation on the interaction of REBS and alliancing, and on exposing train operators to changes in Network Rail's costs at future periodic reviews.

8.18 This consultation will begin shortly after the publication of this document, in early May 2012<sup>118</sup>.

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<sup>118</sup> This consultation document will be available on our website – see <http://www.rail-reg.gov.uk/pr13/consultations/index.php>.

# 9. Innovation incentives

## Key messages from this chapter

- Following generally positive responses from stakeholders in support of a fund to incentivise cross-industry innovation, we are considering further the merits of this and building an evidence base on which to make a decision. We expect to decide whether to introduce an innovation fund later this year;
- We have decided it would not be appropriate to introduce a prize to encourage innovation, on the basis that this would be unlikely to add much value given that such prizes already exist;
- We will consider whether to introduce key performance indicators (KPIs) for innovation as part of our consultation in August 2012 on Network Rail's outputs in CP5 and the wider framework of enablers and KPIs.

## Introduction

9.1 This chapter sets out our emerging position on incentives to encourage greater innovation in the rail industry.

### Background

9.2 Innovation is an important enabler for improving value for money on the railway. Amongst other things, it can help to reduce whole-industry costs by boosting productivity and provide for improved service quality and thus attract more customers – thereby increasing industry revenues.

9.3 Our December 2011 consultation noted the evidence suggesting that since privatisation the rail industry has not been as effective as it could have been at exploiting innovation to deliver benefits for passengers, freight customers and funders. It noted the suggestion in the RVfM study that up to £190m of savings each year could potentially be delivered through safety, standards and innovation by 2019<sup>119</sup>.

9.4 There are many potential causes for the level of investment in innovation (at both a firm-level and a cross-industry level) being lower than what might otherwise be expected. One issue that we are aware of is that in regulated industries the payback period of investments is often long-term, and may span several regulatory control periods. Where this is the case, a firm will factor the risk of adverse regulatory decisions into its project business cases. This is a particular problem for innovative projects – which, by their very nature, are already relatively high risk (compared to established practice). In the rail industry, the franchising model arguably further limits passenger train operators<sup>120</sup> appetites for accepting risk associated with cross-industry innovation.

9.5 Another feature of regulated industries is that, as discussed in chapter 3 (see duration of control period), the regulatory cycle can encourage peaks and troughs in investment which the supply chain may

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<sup>119</sup> RVfM summary document, page 33, <http://www.rail-reg.gov.uk/server/show/ConWebDoc.10401>.

<sup>120</sup> Short-term, at least, compared to the lifecycle of much rail investment.

struggle to respond to in an efficient manner. This potentially reduces the supply chain's ability to absorb innovation risk and therefore its inclination to invest in innovative projects.

9.6 We are currently working to understand the nature of these barriers, and what role regulation could potentially have in addressing them. In considering this, we need to bear in mind that economic regulation is only one potential way of addressing the problems the industry faces in this area.

9.7 Innovation can be delivered at a firm level (for instance, Network Rail developing new approaches to maintaining accurate asset information), but the nature of the railway and its industry structure means that many projects that are likely to involve innovation in CP5 can only be delivered at a cross-industry level. An example of this is the smart ticketing initiative that DfT committed itself to in its recent command paper<sup>121</sup>, and it is important that the incentives facing potential investors are aligned to allow these developments to take place.

9.8 At one level, regulation already plays an important role in incentivising innovation. Through setting challenging efficiency targets at periodic reviews, we provide Network Rail with an incentive to invest in innovative solutions where these are likely to generate the highest potential returns. We describe this as being a 'non-specific' incentive, because it does not make any judgement on whether innovation is a 'good' thing. We believe that this approach has encouraged innovation within Network Rail during CP4, for example, in the area of signalling which has led to reductions in costs.

9.9 PR13 is an opportunity for us to consider what more regulation can do to support innovation on a whole-industry basis by considering what can be done to address the market failures and other barriers preventing the industry from realising the potential benefits from innovation.

9.10 In our May 2011 consultation we raised the question of broadening our regulatory focus with respect to innovation to consider the industry as a whole, rather than just Network Rail. This was consistent with the central thrust of the RVfM study that whole-industry problems demand whole-industry responses. Our December 2011 document suggested ways in which the ORR could influence both existing rail industry firms and potential entrants to rail markets, with the objective of improving the industry's track record for delivering innovative projects in CP5 and beyond.

9.11 The nature of the innovation 'problem' in the rail industry is clearly complex. This is the case at a firm level, which is ultimately where decisions to invest in innovative projects are made, but is especially true at a cross-industry level, where the interaction of firms with very different incentives is especially challenging. In developing an incentives framework for innovation, we therefore need to understand the complexity that currently exists and develop a response that addresses the problem without adding to this complexity.

## Options

9.12 To help us consider what actions we might appropriately take to facilitate greater innovation in the rail industry, in our December 2011 document we sought views on the following questions:

- (a) do you agree with our overall approach to incentivising innovation? If not, what do you propose we do instead?
- (b) what merit do you think there would be in an innovation fund? How should such a fund work? How would we guard against 'crowding out' and ensure the fund did not displace existing expenditure?

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<sup>121</sup> <http://www.dft.gov.uk/publications/reforming-our-railways/>.

(c) what merit do you think there would be in an innovation prize? How should such a prize work? Who should be eligible to enter? What sort of prize would best stimulate genuine innovation?

(d) in relation to the use of output KPIs, what KPIs do you think we should target and why? Should we monitor them only or should they have some incentive attached to them and, if so, what?

(e) do you think that KPIs should be introduced for companies other than Network Rail to monitor innovation across the wider industry?

## Views of stakeholders

9.13 We are grateful for the detailed responses we received to our May and December 2011 consultations in this area. These responses have helped us to improve the depth of our understanding of the nature of the innovation 'problem', and we intend to continue to work closely with the industry to develop the evidence base that will underpin our policy in this area.

9.14 The main themes emerging from responses to these documents were that:

(a) stakeholders broadly agreed that innovation was an area that the ORR could and should be considering as part of PR13;

(b) there is broad support amongst stakeholders that our existing approach of incentivising Network Rail to innovate through the setting of a challenging efficiency target will help the firm to continue the progress it has made in this area in CP4;

(c) however, several stakeholders felt that we should extend beyond our focus on Network Rail, and that we should consider specific incentives for cross-industry innovation in the form of an industry fund;

(d) there was little appetite for the development of an ORR-sponsored innovation prize, as it was felt that this would dilute the impact of similar established prizes for innovation; and

(e) there was a mixed response to the questions about KPIs, both those relating solely to Network Rail and to those that might be considered whole industry KPIs.

## Decision

9.15 We are continuing to consider the issues raised by the responses to our May and December 2011 documents. The cross-industry innovation issue in particular raises some fundamental questions about whether our approach to regulating Network Rail is suitable for addressing cross-industry issues, particularly in an era of industry reform. For this reason, the decisions that we are able to make at this time are limited to Network Rail-specific innovation and whether to introduce an innovation prize.

9.16 With regard to Network Rail's incentives to innovate at both a firm level and a cross-industry level, we will continue to incentivise Network Rail to innovate through an efficiency target approach.

9.17 With regard to the proposal in our December 2011 document to introduce an innovation prize to help stimulate innovation, we agree with the majority of stakeholders that any such prize would be likely to achieve little in addition to existing prizes (for instance those run through the Rail Industry Awards and the ICME). We have therefore decided that we should not introduce such a prize.

## Emerging conclusions and remaining issues

9.18 The key message from responses to our May and December 2011 documents was that many stakeholders believe that the weakness of the GB rail industry with respect to innovation is a result of

significant market failure. Before we can conclude on policy in this area we need to make an assessment of both the nature and the extent of this perceived market failure.

9.19 Whilst it is clear that cross-industry innovation is the source of most concern to stakeholders, investment decisions in the rail industry are ultimately taken at a firm-level irrespective of how the investment is implemented. Our assessment of market failure will therefore consider both firm-level and cross-industry-related sources of market failure and possible ways of addressing these market failures.

9.20 It is important to note that the existence of market failure does not necessarily imply that a regulatory response is appropriate. Our ability to set incentives for key players in the industry and for the industry supply chain (other than Network Rail) is limited and, the transfer of some regulatory powers over passenger TOCs notwithstanding, is likely to remain so for the foreseeable future. However, even where this is the case, we are still likely to have an important role to play in influencing and co-ordinating the actions of other industry bodies in a similar manner to the work we have carried out on on-train metering in CP4.

9.21 These factors notwithstanding, it is possible that an innovation fund may be able to address some of the barriers to cross-industry innovation that an efficiency targeting approach cannot achieve. One way in which a fund could help is by supporting cross-industry demonstration projects, by diversifying the project risk across the industry.

9.22 We are conscious that the Secretary of State and/or Scottish Ministers may themselves decide to include specific funding for innovation as part of their respective HLOSs. Separately to this however, we ourselves are considering the merits of a fund to incentivise cross-industry innovation. We do, however, have significant concerns about how such a fund would work in practice:

- (a) firstly, we need to be convinced that an innovation fund will address specific market failures and that the industry will take the necessary steps to address the other barriers to innovation;
- (b) secondly, we need to reach agreement with the industry and with funders on how funding could best be channelled, and which industry body would be best placed to administer any such fund; and
- (c) finally, what the governance arrangements would be for any such fund. This last point is important, as we would need to ensure that any fund established through PR13 effectively addresses the innovation 'problem', and that it contributes to meeting our PR13 objective.

9.23 If, in the light of this evidence, we do decide that an innovation fund is likely to be the appropriate policy response, the governance processes underpinning such a fund would be of critical importance. These would need to be developed to ensure that:

- (i) funding is focused on the areas with the greatest potential returns, and that business cases focus on *outcomes* that ORR has identified rather *specific projects* identified by industry;
- (ii) the outturn value of innovation investments is maximised and a mechanism developed to both disseminate the benefits across the network and to capture the commercial potential of the investment for the good of the UK economy; and
- (iii) the potential rewards are reflective of the risks that each party incurs (on the assumption that we would require match-funding), and that (if public funds are used) there is a return to government in some form;

(iv) the effectiveness of the fund can clearly be measured, so it would be clear whether it represented value for money; and

(v) the lessons learned from particular projects could be fed back to ensure the industry continues to improve the effectiveness with which it innovates.

9.24 It is our intention that this work will be completed by late summer 2012, by which time we will have also been able to consider any requirements relating to innovation that may have been included in either or both of the HLOSs. We therefore expect to conclude on this issue in later in 2012.

9.25 With regard to the establishment of innovation KPIs, we have yet to conclude on this. A central part of our approach to regulating Network Rail has been to focus on setting outputs consistent with the delivery of outcomes desired by Network Rail's customers. This has been a useful mechanism for driving performance within Network Rail, even where the KPI has not been formally specified as an output (an example of this is the asset condition KPIs that Network Rail reports against). However, whilst this approach is appropriate for our regulation of Network Rail's monopoly, we are aware that it may be less appropriate for addressing whole-industry problems.

9.26 We will consider whether to develop innovation KPIs as part of our consultation on Network Rail's outputs and the wider framework of enablers and KPIs in CP5, which we intend to begin by 1 August 2012.

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# Annex A: List of respondents to our consultations

## List of Respondents: Periodic Review 2013: first consultation

Abellio Group  
Alliance Rail  
Arriva plc  
Association of Train Operating Companies (ATOC)  
Cardiff Business Partnership  
Carillion  
City of Edinburgh Council  
Civil Engineering Contractors Association  
Colas Rail Freight  
CrossCountry Trains (Arriva CrossCountry)  
DB Schenker  
Department for Transport (DfT)  
Direct Rail Services  
Directly Operated Railways Limited and East Coast Main Line Limited  
Dr Jim Cuthbert, Public Interest Research Network, University of Strathclyde  
East Midlands Trains  
East Sussex County Council  
FirstGroup  
Freight Transport Association  
Freightliner Group  
George Muir  
Grand Central Railway  
Jon Smith (Unite union representative)  
Keolis/SNCF  
London TravelWatch  
Metering Steering Group  
Network Rail  
Northern Rail

Passenger Focus  
Porterbrook  
Passenger Transport Executive Group (PTEG)  
Rail Freight Group (RFG)  
Rail Industry Association  
Rail Safety & Standards Board  
South East Wales Transport Alliance (SEWTA)  
Stagecoach South Western Trains (South West Trains)  
Transport for Greater Manchester  
Transport for London (TfL)  
Transport Scotland  
Vehicle / Train Energy System Interface Committee (V/TE SIC)  
Virgin Rail Group / West Coast Trains  
Warwick Business School



## List of Respondents: The potential for increased on-rail competition – a consultation document

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DB Schenker  
Department for Transport  
East Coast Main Line Company  
East Midlands Trains  
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Freightliner Group Ltd  
Kirk, Paul  
Lowe, Simon  
Merseytravel  
Middleton, Jim  
Network Rail  
Newark Business Club  
Northern Rail  
Passenger Focus  
Passenger Transport Executive Group  
Passenger Transport Networks  
Rail Freight Group  
Renaissance Trains Ltd  
Stagecoach Group plc  
Transport for London  
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Transport Scotland

## List of Respondents: Periodic Review 2013: consultation on incentives

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Cross Country  
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Department for Transport  
Direct Rail Services Limited  
East Coast  
Eversholt Rail Group (UK) Ltd  
First Group  
Freightliner  
Freight Transport Association  
GB Railfreight  
GJD Management Services  
Go-Ahead  
Greater Anglia  
London TravelWatch  
Lord Bradshaw  
Merseytravel  
Metering Steering Group (MSG)  
Network Rail  
Northern Rail  
Passenger Focus  
Passenger Transport Executive Group (PTEG)  
Rail Freight Group  
Rail Industry Association (RIA)  
Rail Safety & Standards Board (RSSB)  
Stagecoach Rail  
Transport for London (TfL)  
Transport Scotland  
Welsh Government  
West Coast Trains



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# Annex B: Comparison of cost of capital approaches

A detailed analysis of the differences between the PR08 framework approach and the adjusted WACC approach (for Great Britain in CP5) based on the advice to ministers illustrative spot (real, 2011-12 prices) shows:

- (a) allowed return. The adjusted WACC approach is £3.5bn lower over CP5;
- (b) interest costs (including the FIM fee). The adjusted WACC approach is £0.1bn higher over CP5 (due to higher levels of debt offset by lower interest costs);
- (c) amortisation. The adjusted WACC approach is £2.0bn higher over CP5;
- (d) revenue requirement. The adjusted WACC approach is £1.6bn lower over CP5 (allowed return of £3.5bn – amortisation of £2.0bn);
- (e) net debt at the end of CP5. The adjusted WACC approach is £1.6bn higher (lower allowed return of £3.5bn + higher interest costs of £0.1bn – higher amortisation of £2.0bn);
- (f) RAB at the end of CP5. The adjusted WACC approach is £1.6bn higher (ring-fenced fund of £3.6bn – amortisation of £2.0bn);
- (g) debt/RAB ratio at the end of CP5. The adjusted WACC approach is 1.0 percentage point higher (i.e. worse); and
- (h) average adjusted interest cover ratio<sup>122</sup>. The adjusted WACC approach is 0.51 lower on average over CP5 (i.e. worse). This is an artificial difference as by definition under the adjusted WACC approach the AICR is close to one (depending on the value of the risk buffer) and amortisation does not directly affect the AICR.

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<sup>122</sup> The Adjusted Interest Cover Ratio (AICR) is a ratio of cash flow that is available to service financing costs to financing costs and is used by the credit rating agencies as one of their main financial indicators.

The following tables present a detailed comparison of the financial effects of the approaches to Network Rail's cost of capital discussed in chapter 4 for Great Britain, England and Wales, and Scotland separately. In the Great Britain and England & Wales tables we have rounded the numbers to the nearest £100m and in the Scotland tables we have rounded the numbers to the nearest £10m.

Note: The rows, columns and calculations in the following tables may not sum due to rounding.

**Table B.1: Adjusted WACC approach - key financials (Great Britain)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Steady state amortisation	8,600	9,100	9,100	9,100
Additional amortisation	-	2,000	500	100
Total amortisation	8,600	11,000	9,600	9,200
Full cost of capital	10,200	11,200	12,100	13,400
Less: equity surplus	-	(3,500)	(3,100)	(3,000)
Net allowed return	10,200	7,700	9,000	10,400
Net revenue requirement	28,300	26,200	25,800	27,100
<b>Key financial numbers</b>				
Interest (including FIM fee)	6,000	7,100	8,300	9,800
Ring-fenced fund	2,900	-	-	-
Closing net debt	30,000	34,100	41,100	47,300
Closing RAB	47,900	54,200	64,200	73,900
Debt/RAB ratio	62.7%	63.0%	63.9%	63.7%
Average AICR	1.69 x	1.08 x	1.07 x	1.06 x

**Table B.2: PR08 framework approach (exc. unsupported debt) - key financials (Great Britain)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Steady state amortisation	8,600	9,100	9,100	9,100
Additional amortisation	-	-	-	-
Total amortisation	8,600	9,100	9,100	9,100
Full cost of capital	10,200	11,200	12,100	13,400
Less: equity surplus	-	-	-	-
Net allowed return	10,200	11,200	12,100	13,400
Net revenue requirement	28,300	27,700	28,500	30,000
<b>Key financial numbers</b>				
Interest (including FIM fee)	6,000	7,000	7,800	8,600
Ring-fenced fund	2,900	3,600	3,700	4,200
Closing net debt	30,000	32,600	36,700	39,700
Closing RAB	47,900	52,500	59,400	65,100
Debt/RAB ratio	62.7%	62.0%	61.9%	61.4%
Average AICR	1.69 x	1.59 x	1.53 x	1.49 x

**Table B.3: Comparison of funding approaches (Great Britain)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Total amortisation	-	2,000	500	100
Net allowed return	-	(3,500)	(3,100)	(3,000)
Net revenue requirement	-	(1,600)	(2,600)	(3,000)
<b>Key financial numbers</b>				
Interest (including FIM fee)	-	100	600	1,200
Ring-fenced fund	-	(3,600)	(3,700)	(4,200)
Closing net debt	-	1,600	4,400	7,600
Closing RAB	-	1,600	4,800	8,900
Debt/RAB ratio	-	1.0%	2.0%	2.4%
Average AICR	-	-0.51 x	-0.45 x	-0.43 x

**Table B.4: Adjusted WACC approach - key financials (England and Wales)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Steady state amortisation	7,600	8,000	8,000	8,000
Additional amortisation	-	1,700	400	-
Total amortisation	7,600	9,700	8,400	8,000
Full cost of capital	9,100	10,100	10,900	12,100
Less: equity surplus	-	(3,200)	(2,800)	(2,700)
Net allowed return	9,100	6,900	8,100	9,400
Net revenue requirement	25,300	23,400	23,100	24,100
<b>Key financial numbers</b>				
Interest (including FIM fee)	5,400	6,400	7,500	8,800
Ring-fenced fund	2,600	-	-	-
Closing net debt	27,400	30,900	37,000	42,600
Closing RAB	43,400	49,000	58,000	66,700
Debt/RAB ratio	63.1%	63.0%	63.9%	63.8%
Average AICR	1.68 x	1.08 x	1.07 x	1.06 x

**Table B.5: PR08 framework approach (exc. unsupported debt) - key financials (England and Wales)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Steady state amortisation	7,600	8,000	8,000	8,000
Additional amortisation	-	-	-	-
Total amortisation	7,600	8,000	8,000	8,000
Full cost of capital	9,100	10,100	10,900	12,100
Less: equity surplus	-	-	-	-
Net allowed return	9,100	10,100	10,900	12,100
Net revenue requirement	25,300	24,800	25,500	26,800
<b>Key financial numbers</b>				
Interest (including FIM fee)	5,400	6,300	7,000	7,700
Ring-fenced fund	2,600	3,200	3,400	3,800
Closing net debt	27,400	29,400	33,000	35,600
Closing RAB	43,400	47,500	53,500	58,400
Debt/RAB ratio	63.1%	62.0%	61.6%	60.9%
Average AICR	1.68 x	1.60 x	1.54 x	1.50 x

**Table B.6: Comparison of funding approaches (England and Wales)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Total amortisation	-	1,700	400	-
Net allowed return	-	(3,200)	(2,800)	(2,700)
Net revenue requirement	-	(1,400)	(2,400)	(2,700)
<b>Key financial numbers</b>				
Interest (including FIM fee)	-	100	500	1,100
Ring-fenced fund	-	(3,200)	(3,400)	(3,800)
Closing net debt	-	1,400	4,100	7,000
Closing RAB	-	1,500	4,400	8,300
Debt/RAB ratio	-	1.1%	2.3%	3.0%
Average AICR	-	-0.51 x	-0.47 x	-0.44 x

**Table B.7: Adjusted WACC approach - key financials (Scotland)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Steady state amortisation	1,030	1,090	1,090	1,090
Additional amortisation	-	220	130	150
Total amortisation	1,030	1,310	1,220	1,230
Full cost of capital	1,010	1,090	1,170	1,350
Less: equity surplus	-	(350)	(300)	(310)
Net allowed return	1,010	740	870	1,040
Net revenue requirement	2,930	2,770	2,790	2,930
<b>Key financial numbers</b>				
Interest (including FIM fee)	570	670	800	970
Ring-fenced fund	310	-	-	-
Closing net debt	2,610	3,260	4,030	4,700
Closing RAB	4,510	5,180	6,200	7,200
Debt/RAB ratio	62.7%	63.0%	65.0%	65.2%
Average AICR	1.69 x	1.03 x	1.02 x	1.04 x



**Table B.8: PR08 framework approach (exc. unsupported debt) - key financials (Scotland)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Steady state amortisation	1,030	1,090	1,090	1,090
Additional amortisation	-	-	-	-
Total amortisation	1,030	1,090	1,090	1,090
Full cost of capital	1,010	1,090	1,170	1,350
Less: equity surplus	-	-	-	-
Net allowed return	1,010	1,090	1,170	1,350
Net revenue requirement	2,930	2,900	3,020	3,200
<b>Key financial numbers</b>				
Interest (including FIM fee)	570	670	760	880
Ring-fenced fund	310	350	340	400
Closing net debt	2,610	3,150	3,720	4,140
Closing RAB	4,510	5,050	5,860	6,610
Debt/RAB ratio	62.7%	62.4%	63.5%	62.6%
Average AICR	1.69 x	1.54 x	1.46 x	1.52 x

**Table B.9: Comparison of funding approaches (Scotland)**

£millions (2011-12 prices)	CP4	CP5	CP6	CP7
<b>Revenue requirement</b>				
Total amortisation	-	220	130	150
Net allowed return	-	(350)	(300)	(310)
Net revenue requirement	-	(130)	(230)	(270)
<b>Key financial numbers</b>				
Interest (including FIM fee)	-	-	40	90
Ring-fenced fund	-	(350)	(340)	(400)
Closing net debt	-	120	310	550
Closing RAB	-	130	340	590
Debt/RAB ratio	-	0.6%	1.5%	2.6%
Average AICR	-	-0.51 x	-0.44 x	-0.48 x

## Notes on tables B.1 – B.9

1	The adjusted WACC approach is the approach we set out in our advice to ministers, published in March 2012 and explained in Chapter 4.
2	The PR08 framework approach (i.e. the unsupported debt – gradualist approach but without unsupported debt being issued) is consistent with our PR08 approach to funding Network Rail, i.e. it includes the full cost of capital, risk buffer and ring-fenced fund. Except, we have excluded the issuance of unsupported debt as that is not likely to happen in CP5.
3	The tables do not show all the elements that make up the net revenue requirement just the ones that are affected by the approach to the cost of capital.
4	CP4 numbers are taken from our PR08 determination, uplifted into 2011-12 prices.
5	<p>For CP6 and CP7 in both the adjusted WACC approach and the PR08 framework approach, we do not assume any further efficiency savings above the efficiencies forecast for CP5 and we assume £2,000m of enhancements per year for Great Britain (£1,800m for England &amp; Wales and £200m for Scotland) based on Network Rail's preferred plan in the IIPs.</p> <p>The pre-efficient levels of renewals are consistent with the assumptions that we used in the longer-term analysis in our advice to ministers for CP6 to CP7. In our advice to ministers, renewals expenditure in CP7 was a roll forward of the level of renewals expenditure in the last year of CP6. For the period to CP11 we have extended this assumption, so that renewals expenditure in the period from CP7 to CP11 is at the same level as in the last year of CP6.</p> <p>Most of the other assumptions are consistent with the illustrative spot assumptions for CP5 in the advice to ministers. Except that in the PR08 framework approach, we now assume that the risk buffer is equal to the risk buffer in the adjusted WACC approach as this aids comparability, given we assume that Network Rail is not likely to issue unsupported debt in CP5 - CP11.</p>
6	In tables B.3, B.6 and B.9, the difference between the approaches is shown as the difference between the adjusted WACC approach and the PR08 framework approach.
7	The debt/RAB ratio is in nominal prices.

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