



OFFICE OF RAIL REGULATION

# Periodic Review 2013

## Volume Incentive Consultation

December 2012

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# Executive Summary

## Why the Volume Incentive is important

1. A key element in Network Rail's efficiency is its efficient management of existing network capacity. At the 2000 Periodic Review we introduced the Volume Incentive. It is a payment to Network Rail and its aim is to encourage Network Rail to be more responsive to unexpected demand for network capacity over and above an agreed level. Volume Incentive payments of around £75m have been credited to Network Rail for the first 3 years of this Control Period.

2. It is important that Network Rail is incentivised to make network capacity available in response to unexpected demand. In a more commercial setting, Network Rail would face such an incentive as a result of having a more normal commercial set of relationships with its customers – relationships in which the company profited by selling more of what its customers wanted i.e. the use of network capacity.

3. Over the long term we want to work towards establishing this more normal set of commercial relationships. This is one of the reasons why we will be working with the industry over the next few years to look at the structure of Network Rail's charges and why we think it is important that all train operators are more exposed to the costs incurred through their use of the network. But at the moment this is not the position. And, because of this, regulatory mechanisms like the Volume Incentive will continue to be important in driving the right behaviour in the next control period (i.e. between April 2014 and April 2019). Given the strong incentives that Network Rail faces in relation to service reliability and punctuality targets, there is a risk that, without the Volume Incentive, Network Rail would be inclined to limit access to the network to improve its chances of meeting those targets.

4. Beyond helping to balance the performance considerations, the Volume Incentive is important because an effective incentive should encourage Network Rail to think about the provision of network capacity to its customers in a more commercial way. This involves making trade-offs when deciding whether to meet unexpected demand. The more that Network Rail thinks about its product commercially, the greater will be its capability to make judgements which improve its overall efficiency in the management of capacity, i.e. judgements about what amount of capacity to provide and to whom to provide it. It should also encourage Network Rail to distinguish between the cost and value of capacity when managing its scarcity, and to refine measures of capacity utilisation to help with these decisions. Encouraging conversations between Network Rail and its customers about capacity, improving Network Rail's ability to make judgements around capacity and developing information on and measures of capacity are all essential to our longer term objectives for Network Rail around driving more efficient commercial behaviour.

## Focus of this review of the Volume Incentive

5. The Volume Incentive has been retained at every Periodic Review since 2000 but its design and incentive rates have evolved over time. In our May 2012 consultation, 'Setting the financial and incentive framework for Network Rail in CP5', we committed to continuing with the Volume Incentive. We confirmed

that the incentive would be calculated at the level of Network Rail operating route. And we said that we would consult on the detailed functioning of the Volume Incentive, including its metric and payment rates, and consider the potential for the mechanism to have a downside.

6. The Volume Incentive currently has a narrow purpose. This is to encourage Network Rail to accommodate unexpected demand for network capacity. It does not specifically incentivise Network Rail to manage capacity efficiently in general. At the outset of this review, we considered whether the aim of the Volume Incentive should be broadened to encourage more efficient capacity management. We recognise the (potential) benefits of widening its purpose. This could be achieved by replacing the current incentive payment mechanism with a charge payable by operators to Network Rail. We have decided to not pursue this as part of Periodic Review 2013 because we recognise that changes to Network Rail's structure of charges will affect its customers across the board and the flow of funds in the railway generally, including from governments. In our view, it is important that such changes are fully worked through and subject to a high level of stakeholder engagement before implementation. This is why we will be working with the industry, including through the Rail Delivery Group, to consider the structure of Network Rail's charges over the next few years. Our aim through this work is to design and implement a charge which both drives efficient behaviours and is consistent with the relevant legal framework.

7. So in this review we have focused on measures to improve the effectiveness of the Volume Incentive in relation to its current stated objective and, where possible, wider efficiency considerations. An effective incentive, according to its current purpose, would be one that results in decision makers in Network Rail being more willing to accommodate unexpected demand than if the incentive did not exist. An effective Volume Incentive would encourage individual decision makers to think more commercially about meeting unexpected demand for the additional use of network capacity from its customers.

8. There has been criticism that the current Volume Incentive is not effective in performing its role. One theme coming from our stakeholder engagement is that the Volume Incentive has not been effective because it is not visible or well understood by decision makers within Network Rail or simply that the payments under the incentive are not big enough. We are therefore seeking further views on whether, in the absence of a new structure of charges for CP5, it is possible to improve significantly the effectiveness of the Volume Incentive in driving more commercial behaviour on Network Rail's part in relation to the sale of its capacity.

## **Changes to the Volume Incentive proposed as part of this review**

9. To improve the effectiveness of the Volume Incentive, we have considered a package of possible changes to its design. As we undertook to do in the May 2012 consultation, we have explored approaches to disaggregating the incentive to an operating route level. We have considered the introduction of a downside – how this could be effective – and its possible design. We have considered also whether we should continue to apply the Volume Incentive to all routes regardless of whether they are congested and whether Network Rail should benefit from accommodating all growth regardless of how it has arisen. We have thought about whether payments should be credited at a route level and whether we should keep Volume Incentive payments separate from other variable income.

10. Our proposed package of changes to the design of the Volume Incentive, on which we are seeking views, are: a) calculating incentive payments using national incentive rates but relative to an operating route level projection of expected volume growth (as opposed to the current national projection); b) introducing a downside to the incentive to keep the incentive operational in all circumstances, even when volume growth is expected to be below the projected level (currently it is upside only), and c) encouraging Network Rail to put forward its proposals on how it will improve understanding of, and engagement with, the incentive at a route level where decisions on capacity are taken, for example by attributing Volume

Incentive payments to its individual operating routes and so linking it to the actions of decision makers. Our incentives aim to influence behaviour in the real world, and so we are very keen to hear from respondents about whether they agree that this proposed package of changes to design could help to drive improved behaviours and why.

11. To improve the effectiveness of the Volume Incentive, we have considered also re-calculating the incentive rates on which the payments are based. We have considered whether we should continue to use broadly the existing approach to calculating the incentive rates – and what other approaches might exist. We are keen to hear consultees' views on whether the existing approach, which shares a portion of the value of the additional volume with Network Rail, remains appropriate, what alternatives might exist, and how they could improve the effectiveness of the incentive.

12. We have recalculated the rates using broadly the existing approach but, with new information, we have arrived at passenger rates which are significantly higher than those used in the current Control Period. We have arrived also at higher rates for freight. Volume incentive payments that are presently estimated to have been accrued in the first three years of Control Period 4 (CP4)<sup>1</sup> would have been £50 million higher if the proposed rates for Control Period 5 (CP5)<sup>2</sup> were in place – so total payments would have been around £125m. We have also attempted to assess the impact on payment amounts in CP5. The likely payment is uncertain because it depends on actual outturn volumes which are difficult to predict. However, if the upside and downside of the incentive are symmetrical and the base values used for the incentive are the expected volumes, the incentive effect would be in place but the payment would be zero. A 'higher rate' alternative, which is arrived at by adjusting the input assumptions used in calculating the payment rates, is a potentially more radical option. This option, if it had been in place, would have increased payments in the first 3 years of CP4 from £75m to £250m.

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<sup>1</sup> CP4 runs from 1 April 2009 to 31 March 2014.

<sup>2</sup> CP5 runs from 1 April 2014 to 31 March 2019.

# 1. Introduction

## Purpose of this document

1.1 In our May 2012 consultation, 'Setting the financial and incentive framework for Network Rail in CP5' ('May 2012 consultation'), we made some decisions on the Volume Incentive. Firstly, we committed to continuing with the Volume Incentive, at least up until the point where a separate charge reflecting the value of capacity can be introduced. Secondly, we confirmed that the incentive would be calculated at the level of Network Rail operating route.

1.2 In the May 2012 consultation we confirmed also that we would consult further on the Volume Incentive as part of the 2013 Periodic Review (PR13). More specifically, we said that we would: a) consult on the detailed functioning of the Volume Incentive including its metric and payment rates; b) consider the potential for the mechanism to have a downside as well as an upside. This document fulfils that May 2012 consultation commitment to consult further.

1.3 The document begins by setting out the wider context for the Volume Incentive. This includes describing why we think that the Volume Incentive remains important now – and so why we think we should aim to improve its effectiveness in CP5. It also describes our longer term package of works to consider approaches to improve the structure of charges to provide incentives for more efficient capacity management beyond, and potentially in place of, the Volume Incentive.

## Structure of this document

1.4 This document is split in to four key parts:

- (a) The first part – chapter 2 – describes why we think that the Volume Incentive remains important now and our longer term work to consider approaches to improve the structure of charges and Network Rail's role as a system operator, including the possible introduction of a scarcity charge;
- (b) The second part – chapter 3 – focuses on the current Volume Incentive – what it is, what role it plays in efficient capacity management (and its potential to adapt and play a wider one), its effectiveness and the scope of this review of the Volume Incentive;
- (c) The third part – chapters 4 to 6 – describes our work to re-consider certain features of the Volume Incentive, with the aim of improving its effectiveness, and asks a number of consultation questions on the design changes which we propose to introduce as part of PR13.
- (d) The final part – chapter 7 – sets out an overview of our work on the calculation of the Volume Incentive payment rates and asks a number of consultation questions on the CP5 payment rates which we propose to adopt as part of PR13.

1.5 Annex A describes the system operator function. Annex B provides a summary of how the Volume Incentive has evolved over time. Annex C sets out a possible higher rate alternative for the Volume Incentive. Annex D draws together a list of all consultation questions included in this document.

## Consultation responses and next steps

1.6 We welcome your views on any aspect of this document, in addition to the specific consultation questions. If you wish to respond, please send your responses in electronic (or, if that is not possible, in hard copy) format by no later than close of business on **5 February 2013** to:

Alexandra Bobocica  
Office of Rail Regulation  
1 Kemble Street  
London  
WC2B 4AN  
Email: [alexandra.bobocica@orr.gsi.gov.uk](mailto:alexandra.bobocica@orr.gsi.gov.uk)

1.7 If you send a written response, you should indicate clearly if you wish all or part of your response to remain confidential to ORR. Otherwise, we would expect to make it available in full on our website, and potentially to quote from it. Where your response is made in confidence, please provide a statement summarising it, excluding the confidential information. This will then be treated as a non-confidential response. We may publish also the names of respondents in future documents or on our website, unless you indicate that you wish your name to be withheld.

1.8 Please note that we would prefer that you email your response to us in Microsoft Word format. This is so that we are able to apply web standards when we publish your whole, or non-confidential, response on our website. If you do email us a PDF document, where possible please create it from the electronic Microsoft Word file (preferably using Adobe Acrobat), as opposed to an image scan; and ensure that the PDF's security method is set to no security in the document properties.

1.9 Once the consultation period has closed, we will consider the consultation responses, taking in to account respondents' views including any new information. We will publish our PR13 proposals for the Volume Incentive in our June 2013 Draft Determinations.

## 2. Wider context for the Volume Incentive

### Key messages from this chapter

- The rail network is an important national asset. It receives extensive public financial support because it provides important services for its users and for wider society. Efficient management of network capacity is essential if we are to drive improvements in value for money.
- In a more commercial setting, a business like Network Rail would face incentives to manage network capacity efficiently - including making efficient trade-offs between the costs (e.g. the risk to performance) of using network capacity more intensively and the benefits (e.g. profit) from selling this capacity.
- But the variable charges which operators pay to use the network currently are based only on short-run marginal (wear and tear and congestion) costs. And since Network Rail is held to account for the delivery of the levels of performance which it is funded to provide it may actually face a disincentive currently to grow the network in response to customer demand.
- Over the next few years we want to work with the industry to look at the structure of Network Rail's charges to identify the scope for charges to send better signals for efficient capacity management, and to achieve more efficient cost recovery. We will consider whether charges could better reflect the value of the relative scarcity of network capacity. And we will further consider the options around Network Rail's role as a system operator with the aim of improving its performance in this area.
- The Volume Incentive continues to be important while we develop this longer term package of work because it places a value on the additional use of network capacity and so, if effective, encourages Network Rail to consider the trade-off when deciding whether to meet unexpected demand from its customers. Assessment of the trade-off should also improve the quality of information which is available on network capacity and encourage Network Rail to engage with its customers. This should help to support Network Rail in its role as system operator.

### Importance of Volume Incentive

2.1 The rail network receives extensive public financial support (in CP4, c. £4bn per annum) because it provides important services for its users and benefits wider society. It is an important national asset. But efficient management of network capacity is essential if we are to drive improvements in value for money from the rail network. This is because network capacity is a scarce resource which will only be provided and used in a way that generates the most value if it is efficiently managed. And efficient management of how existing capacity is provided and used today provides crucial information about where and when new capacity should be provided in the future.

2.2 Variable charges are based on short-run marginal (wear and tear and congestion) costs. They do not reflect the full costs imposed on the network by additional traffic or price for the relative scarcity of capacity (so the variable charge for running trains on more highly utilised parts of the network is not much higher than on less highly utilised parts). So these charges alone do not provide a positive incentive for Network Rail to increase the utilisation of its network or to promote its greater use (or indeed give a signal to operators making requests for additional traffic).

2.3 Added to this, Network Rail is funded to deliver certain levels of performance. It is then held to account for delivery of these performance levels which are enshrined as regulatory obligations. This is because there is a risk that a company that, like Network Rail, is in a monopolistic position may, in the absence of regulatory obligations, have insufficiently strong incentives to deliver the performance which its customers and the taxpayer have funded it to deliver. But the consequential importance of meeting these obligations means that Network Rail may actually face a disincentive to increase volumes in response to customer demand because additional traffic could make it harder for Network Rail to meet these obligations. So at the 2000 Periodic Review we introduced the Volume Incentive.

2.4 In a more commercial setting, a business like Network Rail would face incentives to manage network capacity efficiently - including making efficient trade-offs between the costs (e.g. the risk to performance) of making more network capacity available and the benefits (e.g. profit from selling more capacity). This would be achieved not through a Volume Incentive but through it having a more normal commercial set of relationships with its customers underpinned by a more efficient structure of charges.

2.5 Over the long term we want to work towards establishing this more normal set of commercial relationships. This is one of the reasons why we propose to work with the industry in the next few years to look at the structure of Network Rail's charges. But while we develop our longer term package of work we consider that the Volume Incentive continues to be important in driving the right behaviours. Until we can develop a more efficient set of charges, the initial rationale for the Volume Incentive remains valid. Given the strong incentives that Network Rail faces in relation to service reliability and punctuality targets, there is a risk that, without an effective Volume Incentive, Network Rail would be inclined to limit access to the network to improve its chances of meeting those targets.

2.6 Beyond that, the Volume Incentive is important to our longer term programme of work. We want Network Rail to think about the provision of its product, the use of network capacity, to its customers in a more commercial way. The value which the Volume Incentive puts on the provision and use of network capacity means that if effective it should encourage Network Rail to consider a trade-off when deciding whether to meet unexpected demand. The trade-off is between risking performance and the money earned through Volume Incentive payments. The current Volume Incentive may not be fully effective in achieving this. Stakeholders have told us that one of the problems is that the Volume Incentive is understood, dealt with and accounted for at a central level within Network Rail. For the Volume Incentive to be fully effective the trade-off needs to be appreciated at the level of those individuals within Network Rail who actually make decisions about capacity at the operating level. That is why we think that while the incentive should be retained, we should also look to improve its effectiveness as part of this Periodic Review.

2.7 The more Network Rail thinks about its product in a commercial way, the greater will be its ability to make judgements which improve its efficiency in the management of capacity. These include judgements about what amount of capacity to provide and to whom to provide it. It will encourage Network Rail to think about the cost of providing capacity and the value of that capacity to its customers and to its customers' customers. It should improve the quality of Network Rail's conversations with its customers. And it should encourage Network Rail to assess both the cost and value of capacity in much the same way as a scarcity charge would.

2.8 If effective, the Volume Incentive has an important role to play also in Network Rail's performance as system operator. Annex A provides a high level description of the system operator function, drawing on the concept as applied in other regulated sectors. The importance of the Volume Incentive to the system operator role is that as well as driving sensible trade-offs, it places a premium on making capacity available and so, if effective, focuses the company on improving the information it has on capacity in order to make better informed decisions. It should also improve the processing of this information – including through Network Rail engaging with operators about how its capacity is allocated.

**Q.1. Do you recognise the importance of efficient management of network capacity in driving improvements in value for money from the rail network? Do you recognise the role played by the Volume Incentive, if effective, in driving behaviours which contribute to more efficient capacity management? Is there more that we could be doing, through the Volume Incentive or otherwise, to improve the development of information which would help to improve capacity management further and to inform the system operator role?**

## Longer-term work programme

2.9 We are currently in discussions with Rail Delivery Group (RDG) about establishing a programme of work to consider and develop options for improving the structure of charges. This work will be led by a sub-group of the RDG. A letter from RDG of 7<sup>th</sup> September 2012 said that it *confirms its commitment to a fundamental review of the charging structure to be completed in the first half of CP5 for possible implementation in CP6. In order to achieve proper focus, RDG considers that this work should commence after ORR's [2013 Periodic Review] determination.* Subsequent to this letter from RDG, we have agreed with them that the RDG Contractual Reform sub-group would be used to discuss changes to charges and that a steering group will be created to guide the work.

2.10 Our aim in undertaking this work is to identify scope for charges to send better signals for efficient provision and use of network capacity, and for more efficient cost recovery, ultimately to improve value for money. Subject to our discussion with the industry, we are keen that the work should look at the balance between recovery of costs from network grant, fixed charges and variable charges. We want to consider whether the right costs are being recovered through the various elements.

2.11 We are keen to look at the way in which fixed and common costs are recovered, to see whether they could be recovered more efficiently, and perhaps in a way that better reflects the value of the relative scarcity of network capacity. Any scarcity charge would be a variable charge and one option might be to introduce it as a mark-up on an existing variable charge. But assessment of this option would need to consider both legal and practical perspectives. Working with the industry, we will consider thoroughly the extent to which a scarcity charge might lead to greater efficiency and could aim to introduce a charge on a shadow basis (to establish a track record, test the robustness of the metrics etc.) in CP5.

2.12 If we do identify changes to the structure of charges that would be beneficial in terms of achieving these aims - we will also need to consider the impact of moving to such a structure and what an appropriate transition path might look like. We do recognise a desire among some in the industry to move to a simpler structure of charges. In undertaking this work, we will need to consider also both what can be achieved within the current legal framework and also the potential impact of the recast of the first railway package of EU directives and the forthcoming fourth railway package.

2.13 In developing changes to the structure of charges, we will need to bear in mind the extent to which, within the currently constrained environment, operators will be able to respond to better price signals for more efficient use of capacity. But establishing better price signals is important since it improves

transparency about true costs and the uses of revenues and subsidy. By establishing such a framework now, we will help to facilitate the industry evolving in a more commercial direction in years to come.

2.14 The possible programme for our longer-term work package, which we will discuss with the RDG contractual and regulatory reform sub-group, could include:

- (a) scoping and planning (which we are working on now)
- (b) establishing approach to industry engagement (which we are working on now)
- (c) exploring legal constraints and setting out a feasible set of options
- (d) agree objectives and industry work
- (e) exploring cost drivers and valuation methods
- (f) candidate charging structures
- (g) impact assessment
- (h) consultation
- (i) conclusions
- (j) possible implementation of a pilot or 'shadow' scarcity charge<sup>3</sup> (at least for passenger)

2.15 The work programme will need to occupy a considerable period of time but it will be important to aim to reach the implementation stage in time to ensure a significant period of shadow running before decisions have to be taken about the charging structure for CP6. We will need to take a staged approach within this timetable – identifying changes that will get us closer to where we want to be, but with decisions at each point reflecting constraints, costs and benefits in the real world. We will also need to take account of external changes, such as to franchises and in Network Rail.

2.16 This future work on the structure of charges is linked to other activities aimed at longer-term changes. These would align incentives better across the industry, helping it to deliver what its customers and society need and value. They will be an essential part of our activities during CP5, one of which will be aimed at developing a better environment for Network Rail's performance of its role as a system operator. In the longer term, we will consider how best to ensure the efficient and effective delivery of the network system operator role. This could be achieved, for example, by introducing changes to the network licence or by assigning that role to a separate body. Whatever the final outcome, we consider that the Volume Incentive remains key for now – by encouraging the development of the information and capability which Network Rail has in this area.

**Q.2. Do you recognise the important potential role of charges in providing information on costs and the uses of revenues and subsidy and in sending better signals for efficient provision and use of network capacity? Do you have any comments on the proposed scope, and timing, of the longer-term work programme to develop charges as outlined above?**

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<sup>3</sup> A shadow charge is one that is not actually implemented but for which those amounts which would have been payable under the charge are calculated and recorded

# 3. Current Volume Incentive

## Key messages from this chapter

- The Volume Incentive is a payment from governments to Network Rail. Its aim is to encourage Network Rail to be more responsive to unexpected demand over and above an agreed growth baseline. The Volume Incentive has been retained at every Periodic Review since 2000 although its design and the incentive rates have evolved over time. Volume Incentive payments of around £75m have been credited to Network Rail for the first 3 years of this Control Period.
- The current Volume Incentive currently has a narrow purpose. But the behaviours which it encourages, and the development of information it could generate, mean that, if it is effective, it has an important role in improving information for, and capability in, wider aspects of efficient capacity management. But we have heard from the industry, including Network Rail, that it is not confident that the incentive is properly effective.
- One way of improving its effectiveness would be to redesign the Volume Incentive as a charge levied on operators. We are attracted to a charge based approach in the longer run. And our work to develop this is described previously in this document. But we have decided to not pursue this as part of PR13.
- An alternative is to retain the existing incentive mechanism but to improve its design with these wider efficiency objectives in mind. This consultation focuses on this approach by considering what changes to the design of the incentive or to its payment amounts may improve its effectiveness.

## Description of incentive

3.1 The Volume Incentive is a payment from governments to Network Rail. Its aim is to encourage Network Rail to be more responsive to unexpected demand over and above an agreed growth baseline. The design of the Volume Incentive and its incentive rates have evolved over time. Annex B provides further details on its evolution. Volume Incentive payments of around £75m have been credited to Network Rail for the first 3 years of this Control Period.

3.2 Since the 2003 Periodic Review, the Volume Incentive has incorporated volume indicators for both passenger and freight traffic. They determine that Network Rail receives a payment under the Volume Incentive if any of passenger train miles, passenger farebox revenue, freight train miles and freight gross tonne miles is higher than a pre-determined growth baseline level.

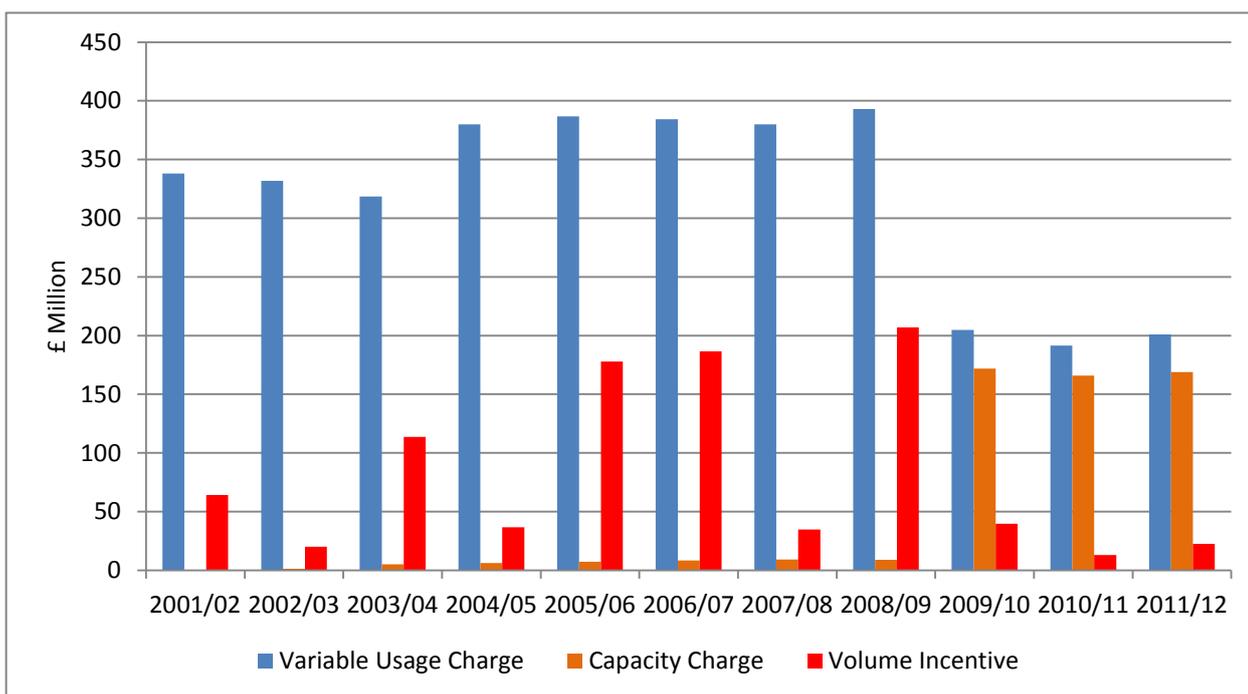
3.3 The levels of payments made under the Volume Incentive result from applying incentive rates to the volume indicators. There are separate incentives rates for passenger and incentives rates for freight. We first set these incentive rates at the 2000 Periodic Review and have updated them at every subsequent

Periodic Review. The rates are value based. This means that they are based on a proportion of both the estimated social value and, in the case of passenger, the economic (farebox) value of accommodating additional growth. At present, incentive rates for passenger and incentive rates for freight, are determined and applied nationally.

3.4 One feature of the design of the current Volume Incentive is that it is upside only. It does not penalise Network Rail for failure to grow up to the agreed baseline. Up until 2008, the Volume Incentive was paid to Network Rail through a period-end RAB adjustment. But our 2008 Periodic Review (PR08) determinations stated that the Volume Incentive would be paid as a lump sum cash payment at the beginning of the next control period – provided that it is affordable. This means, in practice, that Network Rail calculates a credit and records it in its opex memorandum account<sup>4</sup>.

3.5 In addition to receiving Volume Incentive income for growth above the baseline level, under the existing structure of charges, Network Rail receives variable income for the expected increase in Schedule 8 payments resulting from the effect of the additional traffic. Both the Volume Incentive and capacity charge pay-outs are positively correlated with increases in volume. But the capacity charge, which depends on an index of capacity utilisation, is negatively related to changes in capacity. And the Volume Incentive is value based while the capacity charge is based on the cost of expected additional Schedule 8 payments. An indicative comparison of amounts under the main types of variable income over the past 10 years is shown in Figure 1 below.

**Figure 1: Variable Usage Charge, Capacity Charge and Volume incentive income, £m (2011/12 prices, indicative values)**



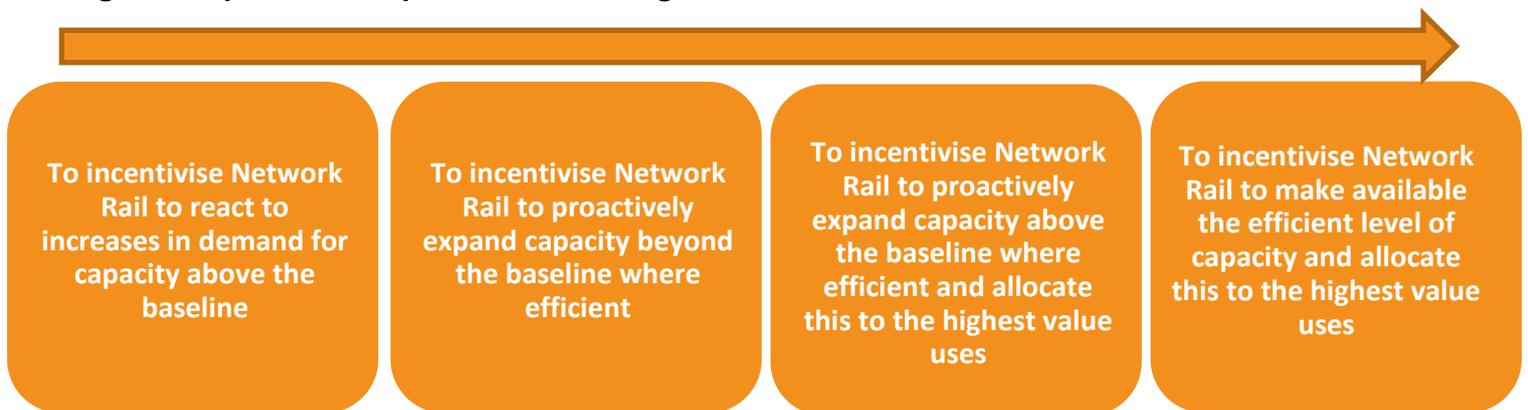
<sup>4</sup> Network Rail calculates and includes any payments due under the Volume Incentive in the opex memorandum account. The Opex Memorandum account is a mechanism used to log up the financial effects of issues in a control period, e.g. incentive schemes such as the volume incentive that do not pay out during the control period. This account is reported on in Network Rail's Regulatory Financial statements (Statement 10: Other information). It is not part of the RAB and no capitalised financing is added to the account. Any adjustments to revenue will be made at the next periodic review, so the balance at the end of CP4 (i.e. at 31 March 2014) will be used to adjust revenue in CP5 (2014-15 to 2018-19).

## Role of incentive

3.6 Efficient capacity management involves both making the most efficient amount of network capacity available for use and ensuring that the capacity is allocated to operators who value it most. The purpose of the current Volume Incentive is narrowly defined. It is not necessarily intended to provide either an incentive for *efficient growth* or an incentive for *efficient use* of the network. But as we have identified earlier in this document, the behaviours which it encourages, and the information which it could result in the development of, mean that, if it is effective, it does have an important wider role in efficient capacity management.

3.7 It would be possible to re-define the role of the Volume Incentive so that its importance to efficient capacity management more widely is more explicitly identified. These options for more explicitly widening its role lie along a spectrum, as shown in the diagram below, from the narrowest purpose on the left (which is close to its currently stated purpose) to the broadest on the right. One option would be to more clearly state that the role of the Volume Incentive is further to the right of the spectrum.

**Figure 2: Spectrum of options for widening the role**



3.8 We have considered whether the purpose of the Volume Incentive should be widened to be more explicitly about encouraging more efficient provision and use of network capacity. We recognise the (potential) benefits of adapting the incentive to widen its purpose. One way of its achieving these wider objectives more effectively would be to redesign the Volume Incentive as a charge levied on operators. We are attracted to a charge based approach in the longer run and our work to develop this is described previously in this document.

3.9 We have decided to not pursue a charge based mechanism as part of PR13 because we recognise that changes to Network Rail's structure of charges will affect its customers across the board and the flow of funds in the railway generally, including from governments. In our view, it is important that such changes are fully worked through and subject to a high level of stakeholder engagement before implementation. And it makes sense to look at the package of charges as a whole rather than one aspect of charging alone.

3.10 Another way of moving the Volume Incentive towards achieving these wider efficiency objectives would be to retain the existing incentive mechanism but to improve its design with these wider efficiency objectives in mind. So as part of this review 2013 Periodic Review of the Volume Incentive we have chosen to optimise the design of the Volume Incentive mainly relative to its stated purpose but also with the aim of further improving its effectiveness in contributing to the wider aims of efficiency.

## Effectiveness of incentive

3.11 It is important that the incentives which we provide to Network Rail work in the real world. An effective incentive, according to its current purpose, would be one that means that decision makers in Network Rail would be more willing to accommodate unexpected demand than if the incentive had not existed. It would also be one that encourages individual decision makers to think more commercially about the provision and allocation of network capacity to its customers.

3.12 Over the past 3 years, Network Rail has credited Volume Incentive payments of around £75m to its opex memorandum account. These amounts relate to passenger growth. No amounts have been credited for freight growth, probably as a result of the recession, which has limited demand to below the baseline levels. To establish whether the Volume Incentive is effective we need to look beyond how much it has paid out historically. And we have heard criticism that the current Volume Incentive is not effective in performing its role. This is clear from the views of respondents to previous PR13 consultations. During PR13, we have looked at how the incentive works in practice and we believe there is room to improve its effectiveness.

3.13 We consulted on the role of the Volume Incentive in our 'Periodic Review 2013 First Consultation Document' in May 2011 ('May 2011 consultation') and our 'Consultation on Incentives' in December 2011 ('December 2011 consultation'). Respondents to those consultations generally agreed that the Volume Incentive should be retained. This is largely because they agree with the principle of encouraging Network Rail to accommodate additional demand. But some respondents questioned the effectiveness of the incentive in practice. One theme was that the Volume Incentive has not been effective because it is not visible or well understood by decision makers within Network Rail.

3.14 In its consultation responses, Network Rail also supported the retention of the Volume Incentive. It suggested a number of ways in which the incentive could be improved. These mostly relate to the Volume Incentive design features. Network Rail has proposed certain specific adjustments to the metrics and/or growth baseline. It also suggested simply making the payments bigger and paid within the control period. We will be looking to Network Rail to set out in its response to this consultation how the Volume Incentive is likely to affect its decision making process in future.

**Q.3. Do you have any specific experiences of the effectiveness of the current Volume Incentive which it would be helpful to share? Can you provide specific examples of where the incentive does appear to have worked and where it has not? Why exactly do you think that the incentive is not fully effective at present?**

## Focus of this review

3.15 Since we intend to retain the current incentive, we need to decide whether, and in what way, we can improve its effectiveness. So in the remainder of this document we have considered measures aimed at improving the effectiveness of the Volume Incentive by considering possible changes both to its design and to the incentive rates (i.e. the size of its payments). The remainder of this document is structured as follows:

(a) Chapter 4 considers approaches to the disaggregation of the incentive to the level of Network Rail operating route. Chapter 5 considers the possible introduction of a downside. Chapter 6 considers a range of other changes to the design including whether we should continue to apply the Volume Incentive to all routes regardless of whether they are congested, whether Network Rail should benefit from all growth regardless of how it has arisen, whether payments should be credited at a route level and whether we should keep Volume Incentive payments separate from other variable income.

(b) Chapter 7 considers the incentive rates and asks whether we should continue to use broadly the existing approach to calculating them. It recalculates the rates according to new information and considers a number of payment scenarios under these new rates including a 'higher rate' alternative as set out in Annex C.

**Q.4. Do you agree with the range of design features which we have chosen to consider with the aim of improving the effectiveness of the incentive? Are there other changes you think we should consider making? If so, how would these changes improve the effectiveness of the incentive? Do you think that possible changes to the design and levels of the Volume Incentive have the potential to improve its effectiveness?**

# 4. Disaggregation

## Key messages from this chapter

- At present, the Volume Incentive is calculated, and paid to Network Rail, centrally and after the event. Route managers, who are responsible for accommodating volume increases, may not be aware of it, have visibility of it, or feel that the payments are related to their decisions.
- The Volume Incentive can be calculated at the route level. This could improve its effectiveness by more closely relating the payment made under the incentive to the decisions made at a route level. Relevant data should be available to do so - on the basis of the volume of each route individually.
- Other options for calculating the incentive at a route level – such as estimating different incentive rates for different routes - are more complex and information required to do so may not be so readily available. It could also be possible to disaggregate the incentive in a different manner, for example by Train Operating Company, where much of the demand originates.

## Background

4.1 In our May 2012 consultation, we confirmed that the Volume Incentive would be calculated at the level of the Network Rail operating route. We did not provide any detail on how we might carry out this disaggregation but said that we would consult further on the detailed functioning of the incentive in this review.

4.2 In our December 2011 consultation, we asked for views on the disaggregation of the Volume Incentive by Network Rail route. Respondents were broadly supportive of this suggestion, with a number of responses suggesting it would enhance the strength, transparency and effectiveness of the incentive by making it less remote from the people who make decisions about capacity.

4.3 But some respondents, whilst supporting the principle of disaggregation, highlighted some potential issues with the proposal in practice. For example PTEG suggested disaggregation needs to be implemented below route level for it to be of value and Rail Freight Group's view was that implementing the incentive by route may be difficult as most freight services span more than one route. Network Rail also suggested disaggregation may not be straightforward in practice and that it should play a key role in determining how the incentive targets should be disaggregated and how the resulting payments or receipts should be managed across routes.

## Consideration of disaggregation

4.4 Network Rail is devolving responsibilities to routes and introducing accounting separation by route. A Volume Incentive at a route level should be more effective in encouraging Network Rail to meet demand

above target – and potentially in improving efficiency more generally – than one acting nationally. Specifically, a route based Volume Incentive should create a greater willingness by route based decision makers to accommodate additional demand for capacity on their routes, by creating a clearer link between their activities and payments.

4.5 We have considered three options for calculating the incentive at a route level:

- (a) Option 1: Calculating the total incentive payment at a national level with a simple apportionment of the total to each route according to a measure of the route's relative size;
- (b) Option 2: Applying a national incentive rate to the increase in volume achieved on each route; and
- (c) Option 3: Calculating incentive rates to reflect the value of an increase in volume for each route and applying the individual route incentive rate to the volume increase achieved on the route.

4.6 The first of these is a minimal approach. It would increase the visibility of the incentive but provide only a tenuous link between the activities to meet unexpected demand on a particular route and the incentive payment credited to that route. We therefore regard it as a fall-back position, to be adopted only if there are significant difficulties or disadvantages in implementing the other options.

### **Data availability**

4.7 It is likely that data will become increasingly available at the route level as Network Rail devolves responsibilities. At present, however, there are limited robust route-level data that can be used in relation to the calculation of the Volume Incentive. The number of train miles is recorded for each Train Operating Company on each route. Where other data exist, they are often estimates made by allocating Train Operating Company data pro-rata to the Train Operating Company's train miles on the route.

4.8 The calculation of the Volume Incentive payment amounts, using the current methodology, requires two sorts of data:

- (a) measures of volume to be recorded each year and compared with a baseline (assumed growth) level: - these are presently passenger and freight train miles, freight tonne miles and the passenger farebox;
- (b) measures of value used only at the start of the review period to calculate incentive rates: - these include the farebox and measures of the value of diverting traffic from the road with a consequent reduction in external costs such as congestion and accidents.

4.9 The first type of data is required at the route level for both options 2 and 3. We understand that two of the measures, passenger and freight train miles, are readily available and that the other two, passenger farebox and freight tonne miles, can be obtained relatively easily by allocating Train Operating Company data pro rata to train miles. That would provide the measures of outturn and we would expect to set the base values for the measures (i.e. the levels from which volume deviations will be rewarded) on the basis of Network Rail's route level strategic business plans.

4.10 The second type of data includes Department for Transport estimates of costs of road traffic, which have a geographical dimension but not one that is readily adapted to produce results at the route level. The largest element of the cost stems from assessments of congestion costs, which are made for each of different types of roads (motorways, A roads and other) in different places (London, other conurbations, other urban and rural) at different times. These can be used to estimate figures for different regions on the basis of information about the proportion of road traffic in each region that falls in each of the categories for which congestion estimates are made (e.g. urban A roads at weekends). Use of such a method in this context involves the implicit assumption that the rate of diversion onto trains is the same for each type of road, which seems unlikely to be true but which may be an acceptable approximation.

4.11 Mapping has been done for parts of the UK (London, Scotland, West Midlands etc.) but not routes. The latter would be particularly difficult because most routes include London, where congestion costs are much higher than they are in other parts of the UK. The value calculated for each route would be likely to depend in large part on a debatable assumption about the extent to which traffic on it would otherwise have been using roads in London. It is likely that calculating the values required to then calculate incentive rates at a route level would require assumptions which would then result in a low degree of accuracy around the relative values for different routes. Even if it were possible to calculate route level incentive rates with any degree of accuracy, this would increase the complexity of the incentive, which could outweigh the benefits of having more precise values for the additional capacity according to the route to which it relates.

**Q.5. Do you have views on what would be involved in calculating the actual incentive rates at a route level to a sufficient degree of robustness? Are alternative approaches to calculating route level incentives available? Are route level incentive rates likely to increase the complexity of the incentive beyond their benefits?**

### Expected payment levels

4.12 A disaggregated structure, as in options 2 and 3, would tend to increase the level of payments made under the present incentive structure where there is no downside (i.e. no loss of earnings if volume is below the base level target – see Chapter 5). For example, in a situation in which the overall UK volume is as expected but there are variations between regions so that some routes are up and some are down, the routes with higher volume would generate payments that would not be offset on the routes with lower volumes, as would be the case with a national target (as in Option 1). This would not be the case if a downside is introduced, provided that the upside and downside payment rates are the same and the probability of volume being above or below the expected level (assuming the expected level is taken as the baseline) is equal.

4.13 If it did prove possible to calculate differential incentive payment rates (Option 3) it is possible, depending on the exact approach to their calculation which is adopted, that they would differ considerably. For example, if the rates were weighted heavily according to the estimated congestion cost per mile, that rate in London is more than ten times that for Scotland or Wales. Within England, even outside London, calculated regional values differ by a factor of 3:1. While it may be reasonable to use the average UK values as a broad indicator of social value, use of geographically disaggregated values may be more problematic. Other factors may be relevant, as a comparison between these rates and regional rates of franchise support would suggest. We think that extensive analysis and consultation on the appropriate methodology would be necessary before altering regional incentive rates in this way.

## Proposal

4.14 Option 2 calculates incentive payments that are meaningful at the route level and depend on the performance of that individual route. Data on measures of volume to be recorded each year and compared with a baseline at an operating route level can be obtained to implement it. Payment rates would not be increased if a symmetrical downside is introduced (as explored in the following chapter) relative to an expected growth baseline. We recommend Option 2 in preference to Option 1 (which would provide only a tenuous link between behaviours of decision makers and payments credited to that route). Option 3 presents difficulties in obtaining data. But, more importantly, if we were to continue with broadly the existing methodology, the likelihood is that any calculated regional rates would be contentious and may not be considered to be sufficiently accurate in reflecting differences in value between routes. We are keen to hear your views on whether it might be possible, to introduce an alternative methodology for calculating rates which can differentiate value between routes.

**Q.6. Do you agree that disaggregating the incentive to an operating route level by measuring actual volume relative to route based baselines is the most sensible and practical refinement to the existing Volume Incentive and that it could improve its effectiveness? What alternative approaches might exist which facilitate the calculation of route level incentive rates – and would these be sufficiently representative to drive differing behaviour according to value?**

#### **Other bases for disaggregation**

4.15 Instead of disaggregating to the level of operating route, it would be possible to break the incentive down to a Train Operating Company level. There is marginally better data availability at this level as discussed above. And this would align the Volume Incentive with the source of TOC volume requests. We propose not to follow this path (which would go against our May 2012 consultation commitment and our approach in relation to other financial incentives) as it:

(a) focuses the incentives on franchised passenger operators potentially shifting it away from open access and freight operators which often also cross route boundaries but not in the same way as Train Operating Companies; and

(b) does not match the planning and operations organisational structure of Network Rail, which is where behaviours are being targeted, and so is less likely than a route based configuration to improve the effectiveness of the incentive.

**Q.7. Do you think that alternative ways of disaggregating the incentive for example by Train Operating Company are attractive? What do you think what be the impact of this on the incentive properties of the Volume Incentive? How would freight and open access operators be affected by TOC (or indeed) route level disaggregation given that they often span multiple routes but not in the same way as TOCs?**

# 5. Downside

## Key messages from this chapter

- The current Volume Incentive mechanism is one-sided. It rewards additional volume above expected levels of demand growth but does not penalise volumes below expected levels. In our view, there are a number of key principles as to why a downside could improve effectiveness of the incentive including keeping the incentive operational in all circumstances.
- A downside would also address the disadvantages of disaggregation. With a disaggregated incentive but no downside there would be likely to be an increase in payments even if the overall growth targets were not exceeded. For example, in a situation in which the overall UK volume is as expected but there are variations between regions so that some routes are up and some are down, the routes with higher volume would generate payments that would not be offset on the routes with lower volume, as would be the case with a national baseline. With a downside this would be mitigated as those routes which are below baseline would net from those which are above baseline.
- The design of the downside itself is important to the extent to which its introduction can realise improvements in the effectiveness of the incentive. Key to these design considerations are where the baseline is set and how the payment is calculated, including whether it is symmetric.

## Background

5.1 The Volume Incentive currently rewards Network Rail for growth above a set baseline. But it does not penalise volumes below expected levels. In PR08 this baseline was based on the growth targets included in the Strategic Business Plan. As noted earlier on in this document, in our May 2012 consultation, we committed to considering whether to introduce a downside in CP5.

5.2 In our December 2011 consultation document we asked for views on whether the Volume Incentive should include a downside. Those who responded were largely in favour of this proposal. Transport Scotland and Network Rail suggested it would strengthen the incentive, with Network Rail suggesting the introduction of a downside would also make the design of the incentive consistent with the proposed Route Efficiency Benefit Sharing mechanism (although Network Rail had initially opposed the introduction of a downside). Greater Anglia was also in favour of the introduction of a downside.

5.3 DB Schenker thought it was an interesting proposition that should be explored more although it would need to be designed in such a way as to exclude any reductions in demand due to factors beyond Network Rail's control. Although not specifically mentioning a downside, Colas highlighted a potential problem with an upside-only incentive in that once it is known that the Volume Incentive target will not be reached for the rest of the control period there is no on-going incentive at the margin for Network Rail to want growth.

## Consideration of a downside

5.4 We have so far adopted a principles based approach to evaluating the introduction of a downside. This has involved consideration of whether a downside would improve the effectiveness of the Volume Incentive – by encouraging Network Rail to meet demand above baseline growth assumptions – and by improving efficiency more generally. In our view, the key principles as to why a downside could improve effectiveness are:

- (a) there would no uncertainty as to whether payment would be made for responding to a request for increased use of network capacity, depending on whether overall volume was above or below the baseline (and this could even enable us to incentivise the same outcomes in a more affordable way);
- (b) it could mitigate Network Rail's incentive to reduce (i.e. not just fail to accommodate additional) volume – e.g. because of performance considerations;
- (c) it could keep the incentive mechanism working in recessions or other circumstances when 'starting point' volume is below the baseline; and
- (d) it would strengthen the incentive for Network Rail to proactively expand capacity if, say, Network Rail is risk averse and prefers a certain return from maintaining (or reducing) capacity rather than an uncertain return from expanding it.

5.5 Furthermore, depending on where the baseline was set, a downside could reduce the expected payout under the Volume Incentive. If the baseline is the expected volume, the incentive rates are symmetrical (up and down) and the expectation of volume movements above and below baseline is equal, then the expected payout would be zero – since movements above and below the baseline can be assumed to be of equal probability (at least at the outset). If there is no downside, as is currently the case, the expected payment is always positive, which could require an adjustment to the fixed access charge. It is worth noting that the baseline does not have to be set at expected volumes and a downside could be operationalised by setting the baseline below expected volumes.

5.6 A downside would also address a similar problem we noted in chapter 4 as a disadvantage of disaggregation. With a disaggregated incentive but no downside there would be likely to be an increase in payments even if the overall growth targets were not exceeded. If some routes were above target and some below, as is likely, the above target routes would generate a payment – but those below target would not be netted off those above. With a downside, however, those above would be offset by the negative contribution of those below baseline routes.

5.7 On the other hand, depending on its design, a downside could expose Network Rail to risk of non delivery that is outside its control – for example in a macro economic downturn or if a change in rolling stock investments plans reduces demand for capacity. Also, whilst, under the present system, payments from Network Rail in the event of non-delivery would be made through adjustments to the opex memorandum account in the first year of the next Control Period, if a downside was accompanied by a different payment system (the possibilities for which are discussed later in this document), it would require the development of a suitable new contractual mechanism to facilitate it.

5.8 A downside does introduce an additional approach to enforcement but there are already many situations where we have a choice of enforcement approaches. These provide examples of how we could take into account the impact of any downside to the incentive mechanism when considering taking licence enforcement action.

## Proposal

5.9 In our view, a downside is attractive in principle; i.e. it ought to improve the effectiveness of the incentive. But the extent to which this improvement in effectiveness can be realised in practice depends on factors including other design features such as whether the incentive is disaggregated and the corresponding payment is credited at a route level.

5.10 The design of the downside itself is important to whether it can realise improvements in effectiveness. Key to these design features is where the baseline is set. It should be noted that in previous control periods the baseline was set – at different times - at both 0% and 50% of assumed growth. This meant that there is an implicit downside, particularly if the fixed charge is adjusted by removing the payment at the assumed growth level, since Network Rail is not then paid for assumed growth above that baseline unless that growth is actually delivered. Another important design point is how the payment is calculated, including whether it is symmetric. An asymmetric payment – with the value of the upside being greater (perhaps double) the value of the downside could further strengthen the incentive to outperform the target. It could also be justified if Network Rail was thought to be “loss averse”, i.e. more incentivised by the prospect of a loss than that of a gain of a similar size. But it would mean that the expected payment would be greater than zero – and the netting off effect would be lessened.

**Q.8. Do you agree that, in principle, a downside could improve Network Rail’s responsiveness to unexpected demand for the use of network capacity and improve its overall incentives, and ability, to improve efficiency in capacity management? Do you have views on the possible design of the downside mechanism?**

# 6. Other design features

## Key messages from this chapter

- The Volume Incentive is a mechanism that operates in the absence of a scarcity charge but its relationship to other capacity charges and indicators is complex. Restricting it to congested routes only would increase complexity further and could have unintended incentive effects.
- Arguments for excluding volume growth in some freight sectors from the Volume Incentive calculation are valid. There could be practical difficulties in achieving this because of data availability, particularly at a disaggregated operating route level, although we are not certain of this.
- Network Rail should continue to be rewarded for efficient growth whatever its source because methods for isolating the drivers of growth are likely to be arbitrary and it is important that Network Rail has an incentive to accommodate all growth regardless of whether it is responsible for the origins of that growth.
- The payment from the incentive should continue to flow from governments to Network Rail centrally and after the event to a predictable schedule. While it is for Network Rail to determine how the payment is allocated we consider that allocating the payment to routes could improve the overall effectiveness of the incentive. We are keen to understand from Network Rail more generally what other steps it intends to take to link the Volume Incentives to the actions of its decision makers.

## Introduction

6.1 This chapter considers whether:

- (a) the incentive should apply only to congested routes;
- (b) certain types of freight traffic should be excluded;
- (c) attempts should be made to exclude volume growth not caused by Network Rail; and
- (d) Network Rail should allocate the Volume Incentive payment to its routes and consider what other steps it might take to improve its effectiveness such as better linking the incentive to the actions of its decision makers.

## Application only to Congested Routes

6.2 A number of respondents to our May 2011 consultation suggested that the Volume Incentive should be applied only to congested routes. Directly Operated Railways and East Coast Mainline said that Network Rail should be incentivised to work more closely with operators to identify truly capacity constrained routes

and to build industry business cases to prioritise. Firstgroup suggested that one problem with the current incentive is that it is too untargeted in that it can be achieved by increased volumes on less congested parts of the network.

6.3 We have considered whether the Volume Incentive should be applied only where routes have been declared congested. This could provide an incentive that is concentrated where responsiveness would otherwise be lowest, which one might expect to be the case in relation to more congested routes.

6.4 Some of the other proposed changes to design, particularly if we were able to identify differentiated payment rates for different routes according to congestion levels, would go some way towards providing stronger incentives on congested routes. But we are proposing to not introduce this change only on congested routes because:

- (a) it could, by combining the different concepts of volume and capacity utilisation, complicate and confuse the incentive which may mean that the incentive is even less well understood than it is currently, and one of the criticisms of the current incentive is that it is not well understood even in its current form;
- (b) it might incentivise non-CAPEX solutions on the most congested routes (rather than solutions that reduced congestion which, under this proposal, could have the effect of stopping volume incentive payments on the route) and risk disincentives to maintain low volume routes;
- (c) distinguishing between more and less congested routes is likely to be challenging, for example, congestion is unlikely to apply to a whole route, so we would need to find a way to disaggregate the network so that the incentive is applied only to genuinely congested parts;
- (d) Network Rail is presently responsible for declaring routes to be congested - this measure would give it an incentive to declare routes congested and there would be a need to refer to some impartial justification; and
- (e) the existing measure of capacity utilisation is questioned and under review.

**Q.9. Do you agree that we should continue to apply the Volume Incentive to all routes regardless of whether it is a 'congested' route?**

## Treatment of certain freight volumes

6.5 In (CP4) it was decided that the Volume Incentive would not apply to ESI coal or spent nuclear fuel freight on the grounds that these markets are effectively captive to rail. The Volume Incentive is value based which reflects the value of diverting traffic from roads which would not be the case where freight is captive to rail. The other benefits associated with putting a 'price' on additional traffic are, at least in part already in place in these sectors since Network Rail would already benefit financially from receiving a freight only line charge. We propose to continue with excluding ESI coal and spent nuclear fuel freight from the Volume Incentive.

6.6 It may be difficult to obtain the data to exclude these commodities from the measures of volume used to calculate payments if the incentive is disaggregated to route level. Even if data are not available, it would still be possible to pro rate route level data using national data but this would make the route level volume measures for other commodities less accurate.

**Q.10. Do you agree that we should continue to exclude ESI coal and spent nuclear fuel freight from the Volume Incentive? Should this still be done if the incentive is calculated at the route level?**

## Distinguishing between Growth Drivers

6.7 A number of respondents to our December 2011 consultation and our May 2011 consultation highlighted concerns that the Volume Incentive rewards Network Rail for all growth, not just that which is attributable to its actions. Centro said it would be concerned if Network Rail was able to benefit through the Volume Incentive when the increase in network usage is facilitated by third party infrastructure investment. PTEG said that Network Rail may already benefit from publicly funded infrastructure and service enhancement schemes in a number of ways in addition to the Volume Incentive (for example performance benefits from decongestion, receipt of the capacity charge from notional performance regime costs and benefits from upgraded infrastructure) so it is unreasonable for the Volume Incentive to also reward Network Rail where it has not financially contributed to the scheme.

6.8 We have considered whether, in order to reduce Network Rail's exposure to gains (or losses) through the Volume Incentive which reflect volume changes which originate from events or activities beyond its control, it would be possible to identify the root cause of a volume change and only reward it if it could be attributed to Network Rail. There would seem to be two types of possible approach:

- (a) Option A, where Network Rail logs up schemes and there is an estimate of their impact;
- (b) Option B, where estimates are made of that part of the deviation from expectation that is due to windfall factors (e.g. GDP changes) and these are subtracted from the outcome.

6.9 Option A involves subjective estimation and runs the risk of appearing to be arbitrary regulation. The system would be resource-intensive and tend to incentivise bureaucratic behaviour in making cases, rather than just volume-increasing measures. Option B would also be resource-intensive and require extensive use of models with assumptions of the GDP growth that underlies the plan being clearly set out in advance. ONS revision of GDP figures, which continue for some time after the event, would cause problems.

6.10 The options are not attractive and, in any case, the approach might weaken the incentive. It is important to encourage Network Rail to accommodate growth no matter how it has arisen. The incentive is not intended to apply only to pro-active increases in capacity, nor is it intended to exclude responses to demand for extra volume due to factors beyond its control e.g. when GDP grows rapidly.

**Q.11. Do you agree that we should continue to allow Network Rail to benefit from all growth regardless of how it has arisen?**

## Payment mechanism

### Present system

6.11 Under the present system, Volume Incentive payments are not paid at the time but accrued in an open style memorandum account. Monies can then be released from this account over an appropriate period, which will generally be across the subsequent control period. A decision on the phasing of CP4 Volume Incentive payments will be made by us as part of the determination of this (CP5) periodic review.

6.12 This memorandum account system replaced an earlier method in which Volume Incentive payments were accrued and added to the RAB at the start of the next control period. This earlier method involved a similar impact on the timing of payments, albeit potentially spreading them over a longer period, but confused the measurement of the asset base by including extraneous items within it.

### Possible alternatives

6.13 In a situation where the Volume Incentive is not a payment that is funded by charges to Train Operating Companies a method that delays payments until a subsequent period is probably necessary to avoid making uncertain and unexpected calls on government budgets. If the payment is made in the following period the accrued Volume Incentive payment can be:

- (a) credited to the RAB;
- (b) added to the revenue requirement (as is now done through the opex memorandum account); or
- (c) paid directly by governments.

6.14 The last of these options still makes uncertain, unexpected and inflexible calls on government budgets and the first complicates the measurement of the RAB. We therefore propose to continue to accrue the Volume Incentive through the memorandum account system, which facilitates on-going credits while retaining flexibility to aid affordability.

### Disaggregation of the payment

6.15 Network Rail is a single company and individual routes merely divisions within it so Volume Incentive payments cannot actually be made at the route level. However, they can be notionally credited at that level so this would be one step which Network Rail could take to improve its visibility at route level. Indeed, the most important aspect of the payment mechanism as regards incentive properties is probably that the payment is accrued annually in Network Rail's separate (route) accounts as well as in its overall accounts. We encourage Network Rail to put forward this and any other proposals on how it will improve understanding of, and engagement with, the incentive at route level where decision on capacity are taken.

**Q.12. Do you agree that we should continue with the present payment mechanism but promote its annual accounting at route level? You are invited to put forward alternative or additional proposals to improve the understanding of, and engagement with, the incentive, both in relation to how it is paid and accounted for and any other governance features.**

# 7. Incentive rates

## Key messages from this chapter

- We propose to continue to use broadly the existing approach to calculating incentive rates for both passenger and freight volumes. But we are open to your views on what other approaches might be appropriate and effective.
- We have recalculated the passenger incentive rates. This has resulted in higher rates than in CP4. We consider that these higher rates could improve the overall effectiveness of the incentive by making it more valuable.
- Similarly, our re-calculation of freight rates has increased the rates relative to CP4. These higher rates could improve the overall effectiveness of the incentive by making it more valuable. But we are aware that there is a potential distortionary effect relative to passenger rates, since in the past they have been of a more similar magnitude.
- We expect to set the baseline levels, from which volume deviations will be rewarded, on the basis of Network Rail's route level strategic business plans. We would expect to set out proposals on these values, probably in the form of growth rates, in the June 2013 Draft Determinations.
- We have attempted to assess the impact on overall payment levels in CP5 as a result of the new rates. The likely payment is uncertain because it depends on performance. However, if the incentive has a downside, the payment rates are symmetrical and the base values used for the incentive are the expected volumes, the expected cost would be zero.
- A 'higher rate' alternative, which is arrived at by adjusting the input assumptions used in calculating the payment rates, is a potentially more radical option. This option, explored in Annex C, if it had been in place, would have increased payments in the first 3 years of CP4 by £175m.

## Calculation approach

7.1 We intend to continue to use the broad approach to calculating the incentive rates which has been used in the past. This is based on setting the incentive as a share of the value of increases in volume. The alternative would be to estimate the costs associated with accommodating additional volume, which would more easily translate in to a charge, which could create better incentives for efficiency if it were charged to users who could compare it with the benefit and would incentivise schemes whose cost was below their total benefit but exceeded the share of benefit allocated to the incentive.

7.2 However, there are two reasons for rejecting the approach:

- (a) there is little information available on such costs, some of which, such as performance risk, may be intangible and hard to quantify; and

(b) basing the incentive on value rather than cost avoids the possibility that volume increases might be incentivised when their cost exceeds their benefit.

7.3 Volume Incentive rates were introduced in 2000. As set out in Chapter 1, passenger rates were based on 25% of the estimated social value of additional passenger miles plus 25% of additional farebox revenue. Freight incentive rates were first set in our October 2001 freight charging review final conclusions and were calculated so as to be equivalent to the passenger rates. They thus attempted to capture a share of both the value to the user and the additional social value.

**Q.13. Do you agree that we continue to use broadly the existing approach to calculating incentive rates? What other approaches might be available and how would they improve the effectiveness of the Volume Incentive relative to the existing approach?**

## Passenger rates

### Method

7.4 Value to the passenger is represented by the increase in fares revenues which result from the increased volume. The net value to Train Operating Companies is the increase in fares paid less the increase in costs to Train Operating Companies of providing the additional volume to passengers. There are no precise figures for the increase in costs but previous estimates have been based on conservative assumptions about the proportion of additional farebox that is available to be shared.

7.5 In 2000 the rates negotiated between Railtrack and train operators in supplemental agreements to share the net benefit of new services were used as the basis both for the share of the net farebox to be allocated to the incentive and for the ratio of net to gross farebox. The former was 25%, a share that has been used in all subsequent reviews, including PR08. The latter was not explicitly stated but we estimate that it was in the region of 10%.

7.6 Use of these two figures would imply an incentive rate of 2.5% of additional farebox to represent the private value of increased passenger volume. A conservative estimate on the farebox element also guards against the possibility of duplication of incentives between this mechanism and any arrangements made under alliances between Network Rail and train operators.

7.7 As described in the Disaggregation chapter, the incentive component representing the social value of increased passenger volume has been based on Department for Transport's estimates of the cost of car traffic, in terms of congestion, accidents, pollution etc., and of the extent to which additional train passenger miles reduce car travel miles. This results in an incentive rate per additional train passenger.

7.8 In previous determinations the two passenger Volume Incentive rates – the percentage of farebox and the rate per passenger train mile – have been adjusted so that each would be likely to yield the same payment within the previously calculated overall incentive. If the adjustment is not made, the incentive per train mile would be stronger than that for the farebox. We have not made the adjustment in the rates that are shown below but would welcome your views on whether it should be made.

7.9 The calculated rates set out in table 7.1 are higher those used in CP5. In fact the contribution from the social value is now estimated to be slightly lower and the overall increase explained by a higher value being assumed for the net benefit to the passenger. We expect the higher rates, combined with an improved visibility of the incentive to decision makers, to help to address consultation respondents' concerns about the effectiveness of the incentive.

**Table 7.1: Proposed CP5 passenger incentive rates compared with CP4 rates**

<b>Passenger incentive rates</b>	<b>Percentage of additional farebox</b>	<b>Pence per additional train mile</b>	<b>Pence per train mile (2011-12 prices)</b>
Proposed for CP5	2.5%	137p	137p
Current CP4 rates	1.5%	69p	82p

7.10 Annex C explores a proposed higher rate alternative and is a potentially more radical option. This involves adjusting the input assumptions used in calculating the payment rates, in a way that makes the incentive worth 50% of the estimated gain from additional volume, rather than 25% of it, and so doubles passenger and freight incentive rates. This adjustment alone, explored in Annex C as part of a wider alternative option, if it had been in place, would have increased payments in the first 3 years of CP4 by £175m. But the actual payment will depend on other features of the design of the mechanism including whether it has a downside. And we will, in any case, need to be mindful of our Section 4 duties in the Railways Act 1993 in determining whether such a large payment would be consistent with these duties.

**Q.14. Do you expect that the passenger incentive rates that we have proposed would drive significantly better capacity management on Network Rail's part? If not, please explain what level of rates would be needed to be effective in changing Network Rail's behaviour and why? We are interested in your view on an alternative higher rate proposal set out in Annex C.**

## Freight rates

### Method

7.11 While the approach to setting Volume Incentive rates for freight traffic is in principle similar to that for passenger rates there are two significant differences in practice:

- (a) the value to the final user (net farebox equivalent) is not taken into account in the current methodology as when it was first developed freight access charges were set mainly on the basis of marginal cost, and profitability was not high; and
- (b) ESI coal and spent nuclear fuel are excluded from the calculations, partly because they are subject to other charges beyond the variable usage charge that provide some incentive to Network Rail to accommodate them on the network (in CP4 this is the freight only line charge) and partly because there is little scope for diversion from road traffic – and modal shift is what drives the value of additional volume which the freight Volume Incentive payment is trying to capture.

7.12 The social value is estimated on the basis of Department for Transport estimates of the cost of lorry miles, in terms of congestion, accidents, pollution etc., combined with an assumption on the number of lorries likely to be removed from the road by each additional train mile. The latter assumption includes an adjustment for the likelihood of empty return journeys. The resulting calculated value is then split equally between the two metrics.

### Rates

7.13 The calculated rates for freight, shown in table 7.2, are also higher than those currently in place. This is partly because a higher road lorry cost has been used and partly because of higher assumptions of lorry diversion.

7.14 The calculated freight incentive per train mile is higher than that for passenger train miles. The possibility that such a difference might have a distorting incentive effect was a concern taken into account

in setting previous incentive rates – and freight rates were adjusted downwards. We do not propose to apply in CP5 any such downwards adjustment.

**Table 7.2: Proposed CP5 freight incentive rates compared with CP4 rates**

Freight incentive rates	Pence per additional train mile	Pence per additional 000 tonne miles	Pence per train mile (2011-12 prices)	Pence per 000 tonne miles (2011-12 prices)
Proposed for CP5	276p	235p	276p	235p
Current CP4 rates	111p	100p	132p	119p

**Q.15. Do you expect that the freight incentive rates that we have proposed would drive significantly better capacity management on Network Rail’s part? If not, please explain what level of rates would be needed to be effective in changing Network Rail’s behaviour and why? Do you consider that freight rates should be adjusted on the grounds that a difference between passenger and freight rates has the potential for a distortionary incentive effect?**

## Baselines

7.15 In PR08, the growth baseline for each of the four metrics (passenger and freight train miles, freight tonne miles and the passenger farebox) was set out in the determination, on a yearly basis. The values for the baselines were determined using growth forecasts underpinning Network Rail’s Strategic Business Plan and the HLOS<sup>5</sup>. The broad approach used was to distribute the assumed growth for the entire CP4 period equally over the five years in order to determine a constant yearly growth baseline above which the Volume Incentive would be triggered.

7.16 We expect to set the growth baselines for CP5 in a similar way. We would expect to set out proposals for these baselines in the June 2013 Draft Determinations.

7.17 As set out in chapter 3 on Disaggregation, achieved measures for freight and passenger train miles, will be recorded at the route level. These can then be used in a pro-rata allocation of freight tonne mile and passenger farebox figures collected at the operator level to obtain annual values for the other two metrics at a route level.

## Rolling incentive

7.18 The PR08 determination included a mechanism to ensure that Network Rail’s incentives were not distorted by the periodic review but to ensure that the company would benefit from growth for a period of five years regardless of when that growth occurs. The payment was therefore multiplied by five times regardless of when in the Control Period the growth was actually achieved.

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<sup>5</sup> The High Level Output Specification documents are produced by the Secretary of State for Transport (for England and Wales) and Scottish Ministers (for Scotland) and set out the strategic outputs that Governments want the railway to deliver for the public funds they are prepared to make available.

7.19 This means that gains made towards the end of CP4 are retained in the early years of CP5. We think that setting a new baseline for CP5 on the basis of what has been achieved in CP4 will ensure that the mechanism rolls effectively between control periods but will consider whether any further adjustments are required.

## Payment scenarios

### CP4 calculations

7.20 Table 7.3 below shows Volume Incentive payments that are presently estimated to have accrued in the first three years of CP4 and contrasts them with what would have been paid if the proposed rates for CP5 were in place. Of the four metrics only that for passenger train miles is above the baseline and, under the higher rates proposed for CP5, the Volume Incentive payment on it would have been £50 million higher.

**Table 7.3: Comparison of payments when applied to CP4 rates**

£ million	Passenger farebox	Passenger train miles	Freight train miles*	Freight tonne miles*	Total
<b>CP4 rates</b>					
<b>2009</b>	0.0	40.0	0.0	0.0	40.0
<b>2010</b>	0.0	12.9	0.0	0.0	12.9
<b>2011</b>	0.0	21.9	0.0	0.0	21.9
<b>Total</b>	<b>0.0</b>	<b>74.7</b>	<b>0.0</b>	<b>0.0</b>	<b>74.7</b>
<b>CP5 rates</b>					
<b>2009</b>	0.0	66.8	0.0	0.0	66.8
<b>2010</b>	0.0	21.5	0.0	0.0	21.5
<b>2011</b>	0.0	36.5	0.0	0.0	36.5
<b>Total</b>	<b>0.0</b>	<b>124.7</b>	<b>0.0</b>	<b>0.0</b>	<b>124.7</b>

7.21 Table 7.4 extends the calculation by hypothesising that a downside mechanism with symmetric payment rates was also in place in CP4. The passenger train miles payments are as in the table above but they would have been offset by negative amounts on the other three indicators. The total would still have been positive when calculated at the CP4 rates but only £6 million rather than £75 million. Using the CP5 rates the total would have been negative by a small amount.

**Table 7.4: Comparison of payments when applied to CP4 rates including a downside**

£ million	Passenger farebox	Passenger train miles	Freight train miles*	Freight tonne miles*	Total
<b>CP4 rates</b>					
<b>2009</b>	(9.3)	40.0	(21.2)	(28.8)	(19.3)
<b>2010</b>	(11.4)	12.9	(7.5)	9.3	3.3
<b>2011</b>	(14.1)	21.9	4.2	10.4	22.4
<b>Total</b>	<b>(34.8)</b>	<b>74.7</b>	<b>(24.5)</b>	<b>(9.1)</b>	<b>6.4</b>
<b>CP5 rates</b>					
<b>2009</b>	(15.5)	66.8	(44.4)	(57.1)	(50.2)
<b>2010</b>	(19.0)	21.5	(15.6)	18.4	5.2
<b>2011</b>	(23.5)	36.5	8.9	20.6	42.4
<b>Total</b>	<b>(58.0)</b>	<b>124.7</b>	<b>(51.2)</b>	<b>(18.1)</b>	<b>(2.6)</b>

### CP5 calculations

7.22 We have also attempted to assess the impact on payment amounts in CP5. The likely payment is uncertain because it depends on performance. However, if the incentive has a symmetrical downside and the base values used for the incentive are the expected volumes, the expected cost would be zero.

7.23 The expected payment amount i.e. zero is only one possible outcome and the actual payment amount could vary considerably from this expectation. Forecasts are usually subject to error. For example, train passenger km increased by 16% between 2007/8 and 2010/11 at a time when GDP was flat. Some of this increase probably results from an increase in road fuel cost but a large part is unexplained. Errors in GDP and fuel price forecasts could also have an impact in addition to unexplained factors.

7.24 The table below shows the impact of an 1% uplift from baseline volumes sustained over five years and, in the final column, of 1% p.a. extra cumulative growth. This change gives a figure of over £100 million. The outturn payment amount could be several times that size.

**Table 7.5: Payments under a 1% volume increase at proposed CP5 rates**

	2011-12 value	Rate	Payment pa for 1% change	Retained for five years	1% additional growth pa
<b>Passenger farebox</b>	£7,112,000,000	2.50%	£1,778,000	£8,890,000	£26,670,000
<b>Passenger train miles</b>	307,763,899	£1.37	£4,216,365	£21,081,827	£63,245,481
<b>Non -coal freight train miles</b>	17,823,980	£2.76	£491,942	£2,459,709	£7,379,128
<b>Non -coal freight '000 tonne miles</b>	20,903,026	£2.35	£491,221	£2,456,106	£7,368,317
<b>Total</b>			<b>£6,977,528</b>	<b>£34,887,642</b>	<b>£104,662,925</b>

For comparison, Table 7.6 below shows the payment amount using CP4 incentive rates expressed in 2011-12 prices.

**Table 7.6: Payment under a 1% volume increase at CP4 rates**

	2011-12 value	Rate	Payment pa for 1% change	Retained for five years	1% additional growth pa
<b>Passenger farebox</b>	£7,112,000,000	1.50%	£1,066,800	£5,334,000	£16,002,000
<b>Passenger train miles</b>	307,763,899	£0.82	£2,523,664	£12,618,320	£37,854,960
<b>Non -coal freight train miles</b>	17,823,980	£1.32	£235,277	£1,176,383	£3,529,148
<b>Non -coal freight '000 tonne miles</b>	20,903,026	£1.19	£248,746	£1,243,730	£3,731,190
<b>Total</b>			<b>£4,074,487</b>	<b>£20,372,433</b>	<b>£61,117,298</b>

# Annex A: System operator functions

1. One way to illustrate the concept of a system operator is to look at its functions over different periods of time. Table A1 shows some examples of the types of capacity management functions a system operator needs to undertake in the short, medium and long term:

**Table A1: System operator function over time**

	Function
<b>Short term</b>	<ul style="list-style-type: none"><li>• Responding to day-to-day network flow issues and emergencies (for example failed trains)</li><li>• Managing short term network constraint problems and operating whatever system (contractual or otherwise) resolves them</li></ul>
<b>Medium term</b>	<ul style="list-style-type: none"><li>• Making decisions or administering systems or markets to achieve efficient capacity allocation (for example timetabling)</li></ul>
<b>Long term</b>	<ul style="list-style-type: none"><li>• Efficient capacity and investment planning and implementation</li></ul>

2. In some industries, the short and medium term functions of a system operator are less important than its long term functions. For example, in the water industry the slow speed of water flow through the network, the ability to store water and the relatively limited problems with capacity shortage and allocation mean that, even when more competition and trading are introduced, potentially the greatest value of a system operator lies in its longer term network planning and investment activities.
3. However, in industries such as rail or electricity all of the functions are critical. This is particularly true where parts of the network have many connections to other parts (so short term problems can have significant knock-on impacts) and where the infrastructure is congested.
4. Through undertaking its functions, a system operator can help to bring about more efficient and responsive development and operation of network infrastructure. In the rail industry for example a system operator can facilitate more coordinated decision making, maximising network benefits by implementing high quality timetabling which takes into account connections and maximises journey opportunities. It can also improve the provision, and quality, of information, for example by making agents more aware of network demands and constraints, spare capacity and the condition of assets.

# Annex B: History of the Volume Incentive

**Table B1: The Volume Incentive over time**

	PR 2000	FP2001	ACR 2003	PR 2008
<b>Rationale for incentive</b>	Incentive for RT to promote network use & development	Incentive for RT to be more responsive to freight customers	Incentive for NR to make best use of constrained capacity	Incentive for NR to meet unanticipated increases in demand
<b>Payment mechanism</b>	RAB adjustment		Lump sum payment	
	Benefits retained for 5 years regardless of when growth is achieved NR rewarded start of next CP			
<b>Volume metrics</b>	Passenger train miles & farebox revenue	Freight train miles & freight gross tonne miles	Passenger train miles, farebox revenue, freight train miles & freight gross tonne miles	
<b>Baseline growth</b>	Zero growth (based on year starting 1 April 2000) Upside only	GDP growth (compound rates 2.2, 4.9, 7.6, 10.2, 12.9%) Upside only	50% of forecast volume metric growth (0.11, 1.74, 1.48 and 1.49% p.a.) Upside only	As in HLOS and freight RUS (0.8, 4.7, 2.3 and 1.6% p.a.) Upside only
<b>Incentive rates</b>	60p per train mile (65p in 2001/02 prices) 3.5% of farebox revenue	60p per train mile 75p per KGTM	£5.63 per passenger train mile 2.6% of farebox revenue 64p per freight train mile 80p per KGTM	70p per passenger train mile 1.4% of farebox revenue 102p per freight train mile 92p per KGTM (Payment rates not made for ESI coal or spent nuclear fuel)

# Annex C: Higher rate alternative

1. This consultation asks whether changes to the Volume Incentive design, such as calculating the incentive at the route level and introducing a downside risk, and raising the rates at which it is paid will make the Volume Incentive more effective. However, there is a concern that the incentive is on such a small scale – paying out less than 0.5% of Network Rail’s income in the first three years of CP4 – that only a radical reform can achieve the aim. Some might argue that one should either make the incentive more meaningful or scrap it altogether. So in this Annex we explore a potentially more radical proposal for increasing the payment amounts.
2. We therefore consider here an alternative that:
  - a. makes the incentive worth 50% of the estimated gain from additional volume, rather than 25% of it, and so doubles both the passenger and freight incentive rates shown in Chapter 7;
  - b. pays the incentive on all volume growth above the baseline achieved in the final year of CP4 (and so is not paid relative to a baseline of assumed growth as is currently true); and
  - c. deducts the expected payment for volume growth assumed in Network Rail’s Strategic Business Plan and the High Level Output Statement from the fixed payments made in grants to Network Rail in CP5.
3. Adjustment (a) alone, if it had been in place, would have increased payments in the first 3 years of CP4 by £175m. Such an increase would maintain Network Rail’s expected income at the level needed while providing a much stronger incentive to provide the volumes needed to achieve or exceed that income level. It would provide payments for volume on congested parts of the network of a size likely to be comparable with payments under a scarcity charge.
4. On the other hand, it runs a number of risks, including that:
  - a. the size of the payment might be such as to incentivise inefficient volume increases, whose value is less than the cost of obtaining them - this is more likely if, as proposed, the incentive rates were averaged over the UK as a whole and not geared to the value in each area - but it might also occur if the Volume Incentive is combined with payments under Alliance Agreements for the same expansions (although this risk exists already to a lesser extent in relation to the current incentive);
  - b. the variability produced in Network Rail’s income, in part from factors that are not under its control, might be such as to warrant a financial buffer and the substitution of a Volume Incentive, which is paid in CP6, for part of fixed payments to Network Rail in CP5 might raise questions for the finances of Network Rail in CP5 and for those of its funders in CP6 (although this will, of course depend on the materiality of the proposed payments relative to Network Rail’s other income).
5. For those reasons we have not adopted these measures in our main proposal but we would be interested to hear stakeholders’ views on them.

# Annex D: Summary of consultation questions

Q.1. Do you recognise the importance of efficient management of network capacity in driving improvements in value for money from the rail network? Do you recognise the role played by the Volume Incentive, if effective, in driving behaviours which contribute to more efficient capacity management? Is there more that we could be doing, through the Volume Incentive or otherwise, to improve the development of information which would help to improve efficient capacity management and to inform the system operator?

Q.2. Do you recognise the important potential role of charges in providing information on costs and the uses of revenues and subsidy and in sending better signals for efficient provision and use of network capacity? Do you have any comments on the proposed scope, and timing, of the longer-term work programme to develop charges as outlined above?

Q.3. Do you have any specific experiences of the effectiveness of the current Volume Incentive which it would be helpful to share? Can you provide specific examples of where the incentive does appear to have worked and where it has not? Why exactly do you think that the incentive is not fully effective at present?

Q.4. Do you agree with the range of design features which we have chosen to consider with the aim of improving the effectiveness of the incentive? Are there other changes you think we should consider making? If so, how would these changes improve the effectiveness of the incentive? Do you think that possible changes to the design and levels of the Volume Incentive have the potential to improve its effectiveness?

Q.5. Do you have views on what would be involved in calculating the actual incentive rates at a route level to a sufficient degree of robustness? Are alternative approaches to calculating route level incentives available? Are route level incentive rates likely to increase the complexity of the incentive beyond their benefits?

Q.6. Do you agree that disaggregating the incentive to an operating route level by measuring actual volume relative to route based baselines is the most sensible and practical refinement to the existing Volume Incentive and that it could improve its effectiveness? What alternative approaches might exist which facilitate the calculation of route level incentive rates – and would these be sufficiently representative to drive differing behaviour according to value?

Q.7. Do you think that alternative ways of disaggregating the incentive for example by Train Operating Company are attractive? What do you think what be the impact of this on the incentive properties of the Volume Incentive? How would freight and open access operators be affected by TOC (or indeed) route level disaggregation given that they often span multiple routes but not in the same way as TOCs?

Q.8. Do you agree that, in principle, a downside could improve Network Rail's responsiveness to unexpected demand for the use of network capacity and improve its overall incentives, and ability, to improve efficiency in capacity management? Do you have views on the possible design of the downside mechanism?

Q.9. Do you agree that we should continue to apply the Volume Incentive to all routes regardless of whether it is a 'congested' route?

Q.10. Do you agree that we should continue to exclude ESI coal and spent nuclear fuel freight from the Volume Incentive? Should this still be done if the incentive is calculated at the route level?

Q.11. Do you agree that we should continue to allow Network Rail to benefit from all growth regardless of how it has arisen?

Q.12. Do you agree that we should continue with the present payment mechanism but promote its annual accounting at route level? You are invited to put forward alternative or additional proposals to improve the understanding of, and engagement with, the incentive, both in relation to how it is paid and accounted for and any other governance features.

Q.13. Do you agree that we continue to use broadly the existing approach to calculating incentive rates? What other approaches might be available and how would they improve the effectiveness of the Volume Incentive relative to the existing approach?

Q.14. Do you expect that the passenger incentive rates that we have proposed would drive significantly better capacity management on Network Rail's part? If not, please explain what level of rates would be needed to be effective in changing Network Rail's behaviour and why? We are interested in your view on an alternative higher rate proposal set out in Annex C.

Q.15. Do you expect that the freight incentive rates that we have proposed would drive significantly better capacity management on Network Rail's part? If not, please explain what level of rates would be needed to be effective in changing Network Rail's behaviour and why? Do you consider that freight rates should be adjusted on the grounds that a difference between passenger and freight rates has the potential for a distortionary incentive effect?

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