



Periodic Review 2008

Structure of track access and station long term charges

June 2006

Contents

Executive Summary	1
Network Rail's role in proposing access charges for CP4.....	1
Reservation charge	2
Freight and non-franchised passenger operators	3
Next steps	3
1. Introduction	5
Context.....	5
Periodic Review 2008	6
Purpose of this document	7
Structure of this document	8
Responses to this document.....	8
2. Context and the current structure of charges	11
Introduction	11
Our role in establishing the structure of charges.....	11
Charging objectives	12
Current track access and station charges	14
Non-franchised operators.....	16
Importance of charges	18
The wider industry context	21
SOCC review and the structure of stations long term charges review	24
3. Possible new track access charges	27
Introduction	27
Scarcity/reservation charges.....	27
Environmental charges	34
4. Establishing charges for CP4	35
Introduction	35
Network Rail's role in proposing access charges for CP4.....	35
Guidance.....	37
The overall structure of charges.....	37
Variable usage charge	39
Traction electricity charge	46

Capacity charge	48
Fixed charge	49
Indexation	51
Station long term charges	51
Transparency and engagement with stakeholders.....	52
Network Rail Workplan.....	53
Form and content of Network Rail’s charges submission.....	53
Audit and approval process.....	53
Annex A: PR08 timetable.....	55
Annex B: Specific review objectives	57
Annex C: Current access charges.....	59

Executive Summary

1. The Periodic Review 2008 (PR08) will establish Network Rail's access charges and outputs for Control Period 4 (CP4), from April 2009 to March 2014. PR08 includes a review of the structure of track access charges payable by franchised passenger operators, as well as the structure of station long term charges. We will also set out our policy on the structure of charges for non-franchised passenger and freight operators.

Network Rail's role in proposing access charges for CP4

2. We intend for Network Rail to take greater responsibility in developing the charging methodology and in calculating the charges than has previously been the case.
3. The company will need to develop charge proposals that adhere to our charging objectives and take account of our guidance. The proposals that Network Rail make to us will be subject to our audit and approval.
4. Our charging objectives are to:
 - promote the objectives of our duties under section 4 of the Railways Act 1993 and be consistent with the wider objectives of funders;
 - incentivise Network Rail, train operators, train manufacturers, rolling stock companies and funders to ensure the efficient utilisation and development of the network and the optimisation of whole industry costs;
 - not discriminate between users of the network;
 - be practical, cost effective, comprehensible and objective in operation;
 - be consistent with relevant legislation, including the EU Directive 2001/14/EC;
 - reflect the efficient costs caused by use of the infrastructure (to Network Rail or otherwise); and
 - ensure that Network Rail recovers its allowed revenue requirement.

5. We expect the company to set out in detail in its submissions to us how it has calculated its charges and considered the issues in our guidance.
6. Key issues included in the guidance are for Network Rail to:
 - consider whether it retains the current approach to calculating the variable usage charge or develops an alternative approach;
 - consider the way in which variable costs change with location on the network to determine the appropriate disaggregation of the variable usage charge by route/geography;
 - take explicit account of rolling contact fatigue/rail wear in the calculation of the variable usage charge; and
 - take forward work from the 2005 structure of costs and charges review on developing an avoidable cost based approach to determining the fixed charge.
7. In developing its charges proposal, Network Rail should fully engage with stakeholders, to give them visibility of the company's work and to allow input to the proposals in a timely and effective manner.

Reservation charge

8. We are considering the introduction of some form of reservation charge.
9. The intention of a reservation charge would be to promote the efficient holding of slots/rights by operators and it could also provide a source of revenue for network enhancement.
10. There is a range of key issues that are relevant to the development of a possible reservation charge that is practical and avoids undue complexity. These include questions on whether the charge should be levied on paths or access rights; whether the charge should apply to both passenger and freight traffic; whether the charge should apply only where capacity is constrained; and whether any implementation of the charge should be cost neutral (i.e. netted off the variable charge) or be additional, with the revenue used for network enhancements.

11. In taking forward the development of a possible reservation charge we are giving consideration to the interaction with other industry processes, such as Route Utilisation Strategies (RUSs) and the Network Code. We will only introduce a reservation charge if charging provides a more objective means of promoting efficient holding of slots/rights than the planning based approaches.

Freight and non-franchised passenger operators

12. Since the review of freight charging policy in 2001, freight has not contributed to fixed or common costs. At this stage we see no reason why freight operators should contribute to common costs. We will consider freight specific fixed costs further in this review, including taking into account the Government's position that freight should pay the full costs of freight only lines.
13. We will consider the impact of possible changes to track access charges to different freight sectors and the ability of freight operators to bear any increases in charges. If an increase in freight charges is deemed appropriate, we may phase in such an increase in order to minimise disruption to the freight industry.
14. Non-franchised passenger operators do not currently pay the fixed charge. This policy is consistent with our statutory duties and legislation. We welcome suggestions from consultees on alternative approaches that they consider allow us to better meet our duties and also comply with relevant legislation.

Next steps

15. In February 2007 we will publish our *Advice to Ministers and Framework for Setting Access Charges* document. This will include our decisions on implementing a reservation charge and our conclusions on the framework for the CP4 structure of charges. This document will also include our decision on phasing in of any revised freight charges.

1. Introduction

Context

- 1.1 Under an industry structure where rail infrastructure and train operations are separate, where commercial disciplines apply, and where there is a range of train operators and public sector bodies making decisions about train services, access charges are fundamental. Charges serve three purposes, providing:
- a mechanism for Network Rail to recover the efficient costs it incurs in providing track and station infrastructure used by train operators;
 - a well-designed and cost-reflective structure of charges allows costs to be allocated to, and recovered from, those that cause them to be incurred; and
 - signals to train operators, their suppliers and funders for the efficient use and development of the infrastructure, subject to other policy objectives and constraints, and providing incentives to Network Rail to outperform the regulatory settlement (through the form of price cap regulation employed).
- 1.2 Charges for access to the railway infrastructure have been in place since privatisation. The current structure of track access charges and the basis for the station long term charges were established as part of the Periodic Review 2000¹ (PR2000) for passenger train operators. The structure of track access charges for freight train operators was established in the *Review of freight charging policy 2001*² (FCR2001). The Access Charges Review 2003 (ACR2003) increased the franchised passenger operators' fixed charge, to reflect the increase in Network Rail's revenue requirement and made minor

¹ *Periodic review of Railtrack's access charges, final conclusions*, Office of the Rail Regulator, London, October 2000. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/115-prfinal1.pdf>, <http://www.rail-reg.gov.uk/upload/pdf/115-prfinal2.pdf>, <http://www.rail-reg.gov.uk/upload/pdf/115-prfinal3.pdf> and <http://www.rail-reg.gov.uk/upload/pdf/116-prdcrevfin2.pdf>.

² *Review of freight charging policy, final conclusions*, Office of the Rail Regulator, London, October 2001. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/116-prdcrevfin2.pdf>.

changes to the calculation of some of the variable charges but ACR2003 did not review the structure of charges.

Periodic Review 2008

1.3 Over the last few months we have started work on the Periodic Review 2008 (PR08). Within the framework of the high level output specifications (HLOSs) and the statements of funds available (SoFAs) provided to us by the Secretary of State for Transport and Scottish Ministers, PR08 will determine Network Rail's outputs, revenue requirement and access charges for Control Period 4 (CP4: from April 2009 to 31 March 2014). Annex A contains the PR08 timetable including the key milestones of the structure of charges work. Our overarching objective for PR08 is to ensure an outcome, which secures value for money for users and taxpayers, by determining the level of Network Rail's access charges and outputs in a way that balances the interests of all parties. Annex B contains our specific objectives for PR08. With respect to Network Rail's access charges, our objectives for PR08 are to set charges which are:

- so far as practicable, cost reflective so as to provide appropriate price signals to users and funders; and
- no higher nor lower than they need to be to meet the Secretary of State's and Scottish Ministers' HLOSs and to provide passengers/freight customers with what they want at a value for money price.

1.4 Between November 2004 and October 2005, following ACR2003, we carried out the structure of track access costs and charges (SOCC) review, in relation to franchised passenger train operators. The SOCC review examined Network Rail's cost base and considered whether it was appropriate to make changes to the current structure of charges from 1 April 2006. In the conclusions of the review³ we confirmed that we would not make any changes to charges at that time, but we would undertake further work as part of PR08, which would include a review of freight access charges. This work will also include a review of charges for other non-franchised operators.

³ *Structure of costs and charges review, conclusions*, Office of Rail Regulation, London, October 2005. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/256.pdf>.

- 1.5 In addition, the PR08 work will also review the station long term charges. This will build on the work undertaken in the review of the structure of station long term charges, which started last year and considered approaches to improve the cost-reflectivity of the charge. We concluded that no changes would be made to the structure of station charges prior to CP4.
- 1.6 Another PR08 workstream is a wide-ranging review of the incentive framework to assess whether any changes are warranted. The focus is primarily on the incentive framework for Network Rail, although the alignment of incentives along the GB rail value chain, particularly with respect to train operators, is also being considered. A consultation document will be published in July 2006. We will consider any impact that this work has on the appropriate structure of track access and station long term charges.

Purpose of this document

- 1.7 The purpose of this document is to set out and consult on key issues relating to the review of the structure of track access charges and station long term charges within PR08. These issues apply to franchised, non-franchised passenger and freight operators. In addition to considering the existing charges, the document examines the possible introduction of some form of scarcity/reservation charge.
- 1.8 The document includes our proposals for making changes to the process of calculating charges, whereby Network Rail will undertake the work to calculate charges and then make a charges proposal to us. The charges proposal needs to be consistent with our charging objectives and will be subject to audit and approval by us. This document provides detail on our charging objectives and audit process, and also provides our guidance to Network Rail on the calculation of the charges. This guidance is designed to ensure that Network Rail considers relevant technical issues in preparing its charges proposal.
- 1.9 The preparation of this document has been informed by a series of useful meetings with Network Rail, train operators and funders in which we have discussed many of the issues considered in the document. We will also be holding a workshop in July 2006 so that stakeholders can discuss these issues before they finalise their consultation responses.

Structure of this document

1.10 The document is structured as follows.

- Chapter 2 provides more detail on the context for the work, including setting out our charging objectives, describing the interaction of charges with other industry processes such as the development of the route utilisation strategies (RUSs) and Network Code reform. The chapter also briefly summarises the work undertaken in the SOCC review and the structure of station long term charges review.
- Chapter 3 considers the possible introduction of some form of scarcity/reservation charge and key issues relating to environmental charges.
- Chapter 4 sets out our proposals relating to Network Rail's additional responsibilities in charge calculation along with our guidance and the arrangements for auditing Network Rail's charges proposal.
- Annex A provides the PR08 timetable including key structure of charges milestones.
- Annex B provides the objectives of PR08.
- Annex C summarises the current structure of charges.

Responses to this document

1.11 We welcome views on any issue raised in this document. In particular, we would like respondents to address:

- our proposed change in Network Rail's role in developing charges;
- our proposed charging objectives;
- our guidance to Network Rail;
- our proposed audit procedure;
- possible alternative approaches for the charging framework for non-franchised passenger operators;
- our proposed approach on access charges paid by freight operators;

- our proposed approach on scarcity/reservation charges; and
- issues highlighted relating to environmental charges.

1.12 Responses to this document should be sent in electronic format (or if not possible, in hard-copy format) by 7 September 2006 to:

Iain Morgan
Senior Economist
Office of Rail Regulation
1 Kemble Street
London WC2B 4AN

Tel: 020 7282 2060

Email: iain.morgan@orr.gsi.gov.uk

- 1.13 Responses will be made available in our library, published on our website and may be quoted from. Respondents should indicate clearly if they wish all or part of their responses to remain confidential to the Office of Rail Regulation (ORR). Where a response is made in confidence, a statement summarising the submission should accompany it, excluding the confidential information, which can be treated as above. We may also publish the names of respondents in future documents or on our website unless a respondent indicates that they wish their name to be withheld.
- 1.14 Copies of this document can be found in the ORR library and on the ORR website (www.rail-reg.gov.uk).

2. Context and the current structure of charges

Introduction

2.1 This chapter provides the context to the structure of charges work being taken forward as part of PR08. The chapter:

- explains our role in relation to track access and station access charges;
- sets out our charging objectives;
- summarises the current structure of charges;
- explains our views on the continuing importance of charges;
- describes the wider industry context against which the structure of charges (and any changes made to it) need to be considered; and
- summarises the work carried out in the SOCC review and in the station long term charges review.

Our role in establishing the structure of charges

2.2 Decisions about the structure of track access charges and the station long term charges are a matter for us because (under sections 17 – 22A of the Railways Act 1993 (the Act)) we either approve, or direct entry into, track and station access contracts and ultimately are responsible for determining access charges (Schedule 4A of the Act). We need to ensure that the charges in Schedule 7 of the track access contracts and in the stations access conditions (shortly to be in the Stations Code), are consistent with our public interest duties under section 4 of the Act.

2.3 In establishing the appropriate structure of track access charges and the station long term charges, many of our section 4 duties are relevant, in particular:

- to promote the use of the railway network in Great Britain for the carriage of passengers and goods, and the development of that railway network, to the greatest extent that we consider economically practicable;

- to promote efficiency and economy on the part of persons providing railway services;
- to promote competition in the provision of railway services for the benefit of users of railway services;
- to enable persons providing railway services to plan the future of their businesses with a reasonable degree of assurance;
- to have regard to any general guidance given to us by the Secretary of State about railway services or other matters relating to railways;
- to have regard to any general guidance given to us by the Scottish Ministers about railway services wholly or partly in Scotland or about other matters in or as regards Scotland that relate to railways;
- to act in a manner which we consider will not render it unduly difficult for persons who are holders of network licences to finance any activities or proposed activities of theirs in relation to which ORR has functions under the Act (whether or not the activities in question are, or are to be, carried on by those persons in their capacity as holders of such licences);
- to have regard to the funds available to the Secretary of State for the purposes of his functions in relation to railways and railways services; and
- to contribute to the achievement of sustainable development.

Charging objectives

2.4 We have developed charging objectives to support us in developing an appropriate structure of charges and in identifying the basis of calculation for individual charges. The objectives have been developed in the light of our statutory duties and also through consultation with industry stakeholders at previous access charges reviews.

2.5 Our charging objectives are to:

- promote the objectives of our duties under section 4 of the Act and be consistent with the wider objectives of funders;

- incentivise Network Rail, train operators⁴, train manufacturers, rolling stock companies and funders to ensure the efficient utilisation and development of the network and the optimisation of whole industry costs;
- not discriminate between users of the network;
- be practical, cost effective, comprehensible and objective in operation;
- be consistent with relevant legislation, including the EU Directive 2001/14/EC⁵;
- reflect the efficient costs caused by use of the infrastructure (both to Network Rail or otherwise); and
- ensure that charges enable Network Rail to recover, but not to over recover, its allowed revenue requirement.

2.6 The current objectives were developed in PR2000 for passenger charges and received broad support when we consulted on their continuing use in last year's SOCC review. We believe that they continue to be appropriate for PR08. While these objectives were related to passenger track access charges, similar objectives were identified for freight charges as part of FCR2001 and for station charges in the review of the structure of station long term charges. In general these objectives are consistent and we therefore consider the list above to apply, although the specific application of our section 4 duties may vary between passenger and freight operators and between track and station charges.

2.7 Further to the objectives established in PR2000 and consulted on in the SOCC review, we have added the last two objectives. These objectives are inherent in the application of our section 4 duties but we have added them explicitly to the objectives to inform Network Rail in developing its charges proposal.

⁴ To the extent possible given the degree of commercial flexibility to vary service levels and the coverage of the financial neutrality provision in the franchise agreement.

⁵ Railways Infrastructure (Access and Management) regulations that transpose Directive 91/440/EEC as amended by Directives 2001/12/EC 2004/51/EC and Directive 2001/14/EC as amended by Directive 2004/49/EC.

- 2.8 We will assess the Network Rail charges proposal against these objectives. Any change to charges must meet legal requirements, so that objective must be met. Establishing an appropriate structure of charges will require balancing between the other potentially conflicting objectives. For instance, a perfectly cost reflective charge might entail great complexity (e.g. in terms of geographical disaggregation) and therefore not be practicable or cost effective. This suggests trade offs need to be made, for example the use of charges that are as cost reflective as possible but retain sufficient simplicity to enable price signals to work effectively in assisting decision makers and minimising whole industry transaction costs.
- 2.9 It is for us to determine the consistency of Network Rail's charges proposal with our statutory duties as a whole (the first objective). Network Rail will need to develop its charges proposal in a way that is consistent with the remaining objectives, providing evidence showing how its charges proposal is assessed against these objectives.

Current track access and station charges

Track access charges

- 2.10 The current track access charges are:
- variable usage charge: to reflect the wear and tear to track and non-track assets and the associated costs that vary directly with the volume and type of traffic;
 - traction electricity charge: to reflect Network Rail's costs of procuring electricity on behalf of train operators (and paid by operators running electrically powered vehicles);
 - electrification asset usage charge: to reflect wear and tear on the electrification assets which varies with volume of electrically powered traffic (it is currently calculated as a mark up on the traction electricity charge);
 - capacity charge: to reflect the increased performance regime costs (Schedule 8) as a result of additional traffic; and
 - fixed charge: to enable Network Rail to recover its residual revenue requirement after deducting variable charge income, other single till

income and grants paid by the Department for Transport (DfT) in England and Wales and Transport Scotland (TS) in Scotland.

- 2.11 Franchised passenger operators pay each category of charge. Non-franchised passenger and freight operators pay all categories of charge except fixed charges. We discuss specific issues related to non-franchised passenger train operators further in paragraphs 2.21 – 2.23.

Enhancements

- 2.12 The current charges broadly reflect short run incremental costs (SRIC); that is the costs of the additional (or avoided) operating, maintenance and renewals costs. As we stated in the SOCC review, in theory it would be more appropriate for charges to reflect the long run incremental costs (LRIC), that is to include an element of cost for enhancement of the network.
- 2.13 However, there are some practical problems with calculating and using a measure of pure LRIC in developing charges. Calculating LRIC in rail, which is characterised by lumpy capital investment, could result in volatility in the measure of LRIC that may lead to sub-optimal decisions being made based on LRIC estimates, or equally when converted to a charge, it may give confusing price signals.
- 2.14 Setting charges on the basis of LRIC would mean that, all other things being equal, there would be an inefficient level of utilisation of the existing network capacity. Most importantly, it is difficult to specifically include future enhancements in a measure of LRIC since in many cases the locations, costs and specific outputs of future enhancements are not known by Network Rail much beyond the current control period.
- 2.15 Therefore a separate project-based cost is worked out and there are various methods of funding such projects. These are considered in our investment framework⁶.
- 2.16 Two approaches directly affect track or station access charges. Where an enhancement is funded through a periodic review as a determined periodic review output, we would expect the enhancement costs to be recovered

⁶ *Policy framework for investments, conclusions*, Office of Rail Regulation, London, October 2005. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/255.pdf>.

through franchised passenger train operators' fixed charges. Where an enhancement is not funded through a periodic review and Network Rail is required to deliver the scheme, one approach that can be used is for Network Rail to recover its costs through a project specific supplemental access charge paid by an operator through its track access contract or through a change in the relevant station long term charge.

Station charges

- 2.17 The current station long term charge reflects the station landlord's costs (usually Network Rail) from its maintenance, renewal and repair activities at each station. The charge is recovered from all operators whose services stop at the station in proportion to the number of services for each operator.
- 2.18 These maintenance, renewal and repair activities are defined in the Stations Code⁷ and are broadly equivalent to the maintenance and renewal activities that Network Rail undertakes on the rest of its network.
- 2.19 The station long term charge can also be used to recover enhancement costs at stations where (typically) the station facility owner⁸ (SFO) enters into a supplemental agreement with Network Rail in respect of these enhancement charges.
- 2.20 In addition, operating expenditure at stations (referred to as qualifying expenditure (QX)) is recovered through charges levied on all beneficiaries at the station by the SFO but we do not approve the level of this expenditure.

Non-franchised operators

Overall charging framework

- 2.21 The variable track access and station long term charges apply to both franchised and non-franchised operators (including freight). The fixed charge is only paid by franchised passenger operators.

⁷ The Stations Code can be found on our website at http://www.rail-reg.gov.uk/upload/pdf/stat_code_operative-v-100605.pdf.

⁸ The Station Facility Owner (SFO) is the train operator who operates the station (usually the train operator with the most number of departures from that station).

- 2.22 We consider that the current charging framework is consistent with our statutory duties and with EU and domestic law, in particular Directive 2001/14 (the Directive) and the UK implementing regulations, the Railways Infrastructure (Access and Management) Regulations 2005⁹.
- 2.23 We are however open to consultees' suggestions of alternative charging frameworks for future application, where they consider that this alternative framework is better able to meet our objectives and is also consistent with relevant legislation. Such an alternative would need to apply consistently and take into account market structures.

Freight specific issues

- 2.24 FCR2001 established the structure of track access charges for freight operators. In the conclusions we recognised the merit in providing a long-term framework for the rail freight industry. We proposed that the charges should apply at least until 2007 and possibly until 2012 if there had been no material change in circumstances. We consider that the significant increase in industry costs prior to ACR2003 represents a material change in circumstances. We are therefore undertaking a review of freight charges as part of PR08 and intend to implement any changes to freight charges from April 2009.
- 2.25 A major conclusion of FCR2001¹⁰, was that freight operators should not continue to pay a contribution to common costs or to pay fixed charges. The Government supported this decision and it has since funded the equivalent amount through direct grant to Network Rail. This change contributed to, on average, a 50% reduction in the track access charges paid by freight operators and along with the introduction of deterministic, transparent variable usage charges, has supported the significant growth of rail freight carried and the increase in number of rail freight operators since 2001.

⁹ The reasons for this are set out in more detail in paragraphs 5.49 to 5.61 of *Office of Rail Regulation's Decisions on the applications for the track access rights necessary to operate additional passenger services on the East Coast Main Line*, ORR, London, April 2006. This can be accessed from our website at http://www.rail-reg.gov.uk/upload/pdf/ECML_reasons_doc.pdf.

¹⁰ Paragraph 2.40 – 2.43, *Review of freight charging policy, final conclusions*, Office of the Rail Regulator, London, October 2001.

- 2.26 We stated in our Corporate Strategy¹¹ that we needed to understand the costs that different operations, including freight, cause Network Rail to incur. However, at this stage we see no reason to depart from the current position where freight operators do not contribute to common costs. We will consider freight specific fixed costs further in this review, in the context of the Government's *The Future of Rail* White Paper, which stated that "where lines carry only freight, and no passenger services, the freight operators will pay its full costs"¹².
- 2.27 We are carrying out specific work to understand the impact of possible changes to track access charges to different sectors of the freight industry. We stated in the final conclusions of FCR2001 that we may decide to phase in any future increase in freight charges in order to minimise disruption to the freight industry. We continue to expect this to be the case (if applicable) and our final decision on this will depend on the future level of freight charges and the ability of freight operators to bear any increases in charges. In order to support freight operators long term planning, we are intending to publish our decision on this in February 2007, in our *Advice to Ministers and Framework for Setting Access Charges* document that will contain, amongst others, our determination on the framework for the CP4 structure of charges.
- 2.28 There are a number of freight specific charging issues discussed in the guidance to Network Rail set out in Chapter 4.

Importance of charges

- 2.29 Decision makers in the rail industry, including franchised passenger operators, non-franchised passenger operators, freight operators, suppliers (train manufacturers and rolling stock companies) and funders (DfT and TS) as well as local and regional funders, such as the Welsh Assembly Government (WAG), the Mayor of London and the Passenger Transport Executives (PTEs), face a number of key decisions, particularly:
- what services to operate, including the decision of whether to run more or fewer services;

¹¹ *Corporate Strategy 2006-09 and Business Plan 2006-07*, Office of Rail Regulation, London, April 2006.

¹² *The Future of Rail, White Paper CM6233*, Department for Transport, London, July 2004.

- where these services should operate and at what time of day and/or year;
 - what the appropriate characteristics of those services should be, e.g. what rolling stock to use or what specification to design and build vehicles to, or what number of vehicles in a train consist; and
 - when it is appropriate to increase the capability of the network.
- 2.30 In theory it is possible for these type of decisions to be addressed without using charges, i.e. solely through planning. Alternatively, it is theoretically possible to rely solely on charges. In either case optimal decisions require accurate understanding of cost causation.
- 2.31 Neither of these extreme positions reflects current industry arrangements or indeed is ever likely to be the case. Planning procedures are used alongside charging. This is also reflected in our statutory duties, which require us to balance the pursuit of economic efficiency (which is best achieved with charges) with other objectives that are not purely economic in their nature (where planning approaches are more appropriate).
- 2.32 We consider it appropriate to achieve an intelligent mix of planning and the use of charges. Existing planning processes in the industry such as RUSs and the Network Code (discussed later in this chapter) have a significant bearing on decisions regarding the level, type and pattern of traffic. However, they do not in our view represent the only, or by themselves the optimal, way to address questions about the use and development of the network. It is not possible for these processes to be designed with perfect foresight of all future situations and behaviour from all industry parties.
- 2.33 The structure of charges complements planning processes through:
- providing price signals where the train operator (or funders and suppliers) face choices (recognising that these choices may be moderated through the planning process) and where these choices impose different levels of cost on Network Rail (this is particularly important where there are different decision makers with differing interests); and
 - enabling Network Rail to recover its costs as accurately as possible from those making the decisions that caused the costs to be incurred.

- 2.34 We know that the existing structure of charges has produced positive incentive effects. The structure and level of charges has a significant bearing on non-franchised passenger and freight operators. It also has effects on franchised passenger operators (even though their commercial flexibility is increasingly constrained by the terms of their franchise agreements). For example, the charges have incentivised:
- vehicle manufacture and design to minimise the variable usage charge payable and therefore the cost impact on Network Rail (even though that choice of rolling stock type may be limited);
 - choices of vehicle types made by prospective franchise bidders to include in their bids; and
 - new builds of wagon suspension types attempting to comply with the requirements of track friendly suspension and therefore obtain the discount to the variable usage charge that is available.
- 2.35 In reviewing the structure of charges, we are aware that some stakeholders consider the current structure too complex, irrespective of any further development. We do not consider that the existing level of charges is necessarily too complex. In particular, we consider that cost reflectivity is a fundamental requirement of a good structure of charges and that in order to ensure this, an appropriately detailed structure is required. It is also important to note that the current structure of charges was implemented to address, amongst other things, the lack of transparency in the structure in place from 1996 to 2001 through the negotiation of charges rather than the provision of published price lists. There were significant concerns about transaction costs and 'market power' associated with this approach to establishing charges. Moving to the current approach has provided a level playing field and far more certainty to operators, their suppliers and funders.
- 2.36 We will, however, consider simplification to the structure of charges proposed by consultees, where these are appropriate and still consistent with our charging objectives. Indeed one of our charging objectives (discussed earlier in this chapter) is that charges should be as practical as possible.
- 2.37 Further to the role of the DfT, TS and the WAG in specifying franchises, the Mayor of London and six PTEs in England will have the ability to specify increments or decrements to rail services, although the specific abilities will

vary between these bodies. The aim is for these bodies to fund the additional access charges from their own budgets or retain the benefits from the reductions in charges. These changes in rail service levels will lead to changes in Network Rail's cost. Cost reflective variable charges will inform the level of rail services which these funders choose to specify and support, including making efficient choices between rail and other transport modes.

- 2.38 In order for Network Rail's revenue to fully reflect the costs incurred, and allow, in the case of decrements to services, for these bodies to receive the full financial benefit of the reduction in services, it may also be necessary to adjust fixed charges.
- 2.39 Therefore where these bodies propose either increments or decrements, either during the franchise specification process or subsequently during the life of a franchise we may need to consider changes to Network Rail's fixed charges. As part of this process Network Rail would make a submission to us detailing the additional or avoided fixed costs and charges accompanied by a statement from the reporters auditing it. We would then review the proposal and approve any changes to the schedule of fixed charges payable to the company from the start of the subsequent financial year. We will discuss further the specific technical and legal detail of this procedure with Network Rail, DfT and the other stakeholders so that we can confirm the new arrangements in our 'Advice to Ministers and Framework for Setting Access Charges' document in February 2007.

The wider industry context

- 2.40 While charges play an important role in informing decisions on the level, type and pattern of rail services, there is also a range of industry processes that influence this sort of decision. These have undergone a number of changes following *The Future of Rail* White Paper, in particular:
- the development of RUSs, led by Network Rail but in consultation with the industry, designed to support efficient allocation of use and development of the rail network; and
 - reform of the Network Code to provide greater transparency in the joint industry planning processes to improve relationships between the different industry parties and to facilitate a better whole industry outcome.

Development of RUSs

- 2.41 The production by Network Rail of RUSs, including the network-wide freight utilisation strategy, is a critical element in medium- and long-term planning and development of the railway.
- 2.42 The objective of each RUS is to set out the effective and economically efficient use of the capacity on the route(s) concerned, consistent with available or potentially available funding and taking into account future passenger and freight demand. RUSs are prepared by Network Rail but have a high degree of stakeholder involvement and should represent a wide consensus view of future demand, with costed options for the development of train services and of the network to meet that demand.
- 2.43 The timescale for establishing the RUSs envisages Nineteen RUSs being completed by late 2009. This includes an overarching network-wide RUS expected to be completed by mid-2007, and a Freight RUS in April/May 2007. The latter is particularly important as it will set out a view of future freight demand, as an agreed document between the freight industry and Network Rail, and covering the network at route level.
- 2.44 Although the RUS process will play a major role in planning the level and pattern of services, charges continue to be important in enabling Network Rail to recover its costs and, because of the continuing scope for individual decision makers to make decisions, to provide appropriate incentives.
- 2.45 To illustrate, the RUS process has as one of its inputs the capacity utilisation of routes. This is also an input into the calculation of Network Rail's congestion costs through the Schedule 8 performance regime in track access contracts recovered through the capacity charge. While the RUS may play a role in influencing decision makers to incorporate capacity utilisation into their plan of the level and pattern of services to operate, Network Rail's costs continue to be incurred and these are recovered through the capacity charge. The degree to which the capacity charge needs to be used, over and above the recovery of Network Rail's costs, to influence train operators and funders on the pattern of service will depend on the detail of the RUS outputs. Similar considerations influence our consideration of a scarcity/reservation charge (see Chapter 3).

Network Code reform

- 2.46 The Network Code sets out the procedures and rules for the relationship between Network Rail and those operating train services on its network. It is contractually binding and accompanies the provisions in each operator's individual track access contract. A similar set of procedures and rules (the Stations Code) provides a similar role in relation to access to stations.
- 2.47 The following parts of the Network Code relate to issues and decisions where elements of the current structure of charges or the possible additions to the structure discussed in this document also relate:
- Part E: Environmental Protection (environmental charge);
 - Part F: Vehicle Change (variable usage charge and traction electricity charge);
 - Part G: Network Change (charges for enhancements to the network and any scarcity/reservation charge); and
 - Part J: Changes to access rights (any scarcity/reservation charge).
- 2.48 To illustrate this interaction, we examine the relationship between Part F of the Network Code and relevant access charges. Part F (vehicle change) provides a procedure by which changes may be made to railway vehicles. Vehicle change includes any alteration to the physical characteristics of the vehicles, any increase in the length of any trains and any introduction of different vehicles on to the relevant routes. These examples are only vehicle changes where they are likely to affect materially the maintenance or operation of the network or the operation of trains on the network.
- 2.49 Condition F3 includes scope for compensation to be paid, the amount of which is equal to the amount of the costs, direct losses and expenses (including loss of revenue), which can reasonably be expected to be incurred by Network Rail or the operator in question as a consequence of the implementation of a proposed change.
- 2.50 For example, there will be a vehicle change where a new vehicle is introduced. As a result of the change, Network Rail will recover variable usage and traction electricity charges from the operation of the new vehicle. These charges are currently differentiated by characteristics that influence the cost

the vehicles impose on Network Rail's network. Any compensation payable to Network Rail under Part F of the Network Code would be calculated net of the income from these charges.

- 2.51 This means that the identification of any additional maintenance and renewals costs and traction electricity costs to Network Rail, associated with the new vehicle can be recovered through the deterministically calculated variable usage and traction electricity charges rather than through complex negotiation through Part F where high transaction costs would likely be incurred.
- 2.52 This does however mean that when making changes to either the Network Code or access charges it is important to consider the impact of the interaction between the two areas. We will ensure that the changes being made to these parts of the Network Code are fully considered when assessing the appropriateness of changes to the above charges. This impacts on the consideration of a scarcity/reservation charge and of issues relating to environmental charges. This is also a requirement for Network Rail in developing its charges proposals. We consider the current variable usage and traction electricity charges to be consistent with Part F of the Network Code however the impact of changes to Part F on the current charges will need to be considered.
- 2.53 There is also a similar interrelationship between elements of the stations code and the station charges, particularly relating to charges for investment and Part 5 of the Stations Code (Station Change).

SOCC review and the structure of stations long term charges review

SOCC review

- 2.54 The SOCC review was carried out between November 2004 and October 2005 and its aim was to identify any changes that should be made to the structure of charges from April 2006. We carried out the review because there had been significant changes in the structure and functioning of the rail industry. In particular;
- *The Future of Rail* White Paper and the Railways Act 2005 set out changes including devolving increased powers and responsibilities (including financial) to TS, WAG, the Mayor of London and the PTEs. This

necessitates, amongst other things, more detailed analysis of costs and derivation of charges at a local/regional and route level;

- there was evidence that costs and charges may have diverged following ACR2003 as a consequence of increases in cost levels experienced before ACR2003; and
- there has been further industry research since 2000 (which was given further impetus following the Hatfield derailment in October 2000), in particular relating to the wheel-rail interface, and this knowledge is not incorporated in the calculations of the existing structure of charges.

2.55 The review examined both the improvements in Network Rail's understanding of its costs and issues relating to translating those costs into charges. In particular the review included:

- reviewing the variability of Network Rail's cost base and the appropriate basis for the calculation of the variable usage charge;
- developing an avoidable cost approach to allocate the fixed charge between franchised passenger operators; and
- initiating Network Rail's development of an infrastructure cost model (ICM) which is intended to have functionality to model Network Rail's operating, maintenance and renewals costs over a long time horizon.

2.56 Relevant aspects of the variability and avoidable cost work are discussed in further detail in the guidance in Chapter 4. Network Rail is taking forward development of the ICM. It will underpin Network Rail's strategic business plan submissions during PR08. Version 1 of the ICM is now complete and is being used and this will provide a clear indication of the progress made by Network Rail on its understanding of its costs since last year's SOCC review. Version 2 of the ICM, which will include functionality to support the calculation of access charges, is planned to be complete at the end of 2006.

Structure of station long term charges review

2.57 We initiated a review of the structure of station long term charges in April 2005 with the following objectives:

- to establish a more sophisticated charging structure, based on efficient maintenance, repair and renewal costs; and
- to calculate the adjustment to each long term charge necessary to reflect the revised division of maintenance, repair and renewal responsibilities when the Stations Code is adopted.

2.58 As part of this review, Corderoy undertook a study for us to establish the efficient level of maintenance, renewal and repair costs at all stations. The Corderoy¹³ analysis was built up from a large sample of stations, which were costed on a bottom-up basis. Efficient costs for all other stations were then calculated using unit rates from this bottom-up exercise and appropriate factors reflecting cost drivers at each station, such as regional factors.

2.59 If the efficient costs estimated by Corderoy were to be used directly as an input to the calculation of long term charges, then changes would be necessary to the level of station charges as well as the structure. However, changes to the level of station charges were outside the scope of the review. Following consultation with relevant stakeholders, we therefore concluded that it is not appropriate to proceed with the re-allocation of charges at this time. Both the level and structure of charges will therefore be determined as part of PR08. The work carried out by Corderoy will be an input into that determination. Prior to April 2009, it is possible for Network Rail and a train operator to enter into commercial negotiations leading to a change in the station long term charge where a change has been made to their respective maintenance, renewal and repair responsibilities.

¹³ This report has been shared with Network Rail and the Association of Train Operating Companies (ATOC) and we intend to publish it on our website shortly.

3. Possible new track access charges

Introduction

- 3.1 This chapter discusses possible new track access charges. It discusses a scarcity/reservation charge and consults on key issues. We also provide an update on the development of a possible environmental charge.
- 3.2 Both of these possible new charges offer ways of reflecting real economic costs imposed by choices on the level and type of train services operated (although these costs do not fall directly on Network Rail). Both types of charge are allowed under EU Directive 2001/14/EC and were given initial consideration in last year's SOCC review.
- 3.3 We will only proceed with implementation of new charges where we can identify that material benefits are likely to be achieved over existing industry processes and these benefits outweigh any additional costs including transaction costs from the increase in complexity in the structure of charges.

Scarcity/reservation charges

- 3.4 Scarcity charges are levied when a path is reserved and reflect the opportunity costs of alternative uses of that path (unless explicitly stated the term 'path' could be replaced by slot or access right in the description of the scarcity charge dependent on the final policy approach)¹⁴. Scarcity charges range from a simple flat rate reservation charge paid when a path is reserved through to a fully-fledged scarcity charge where operators are charged the full economic value for reserving a path. Scarcity charges are different from the existing capacity charge, which seeks to reflect the expected additional Schedule 8 costs to Network Rail associated with running additional services.
- 3.5 The implementation of scarcity charges would recognise that, in capacity constrained conditions, reserving a path for use imposes costs equivalent to

¹⁴ Access rights can either be firm rights or contingent rights to bid under a regulated access contract for access to Network Rail's network. A bid under a firm right, will, typically, identify the number of slots or paths required in a specified period and will identify specific service characteristics, such as timings. A bid under a contingent right has a lesser priority as it will be only be satisfied once Network Rail has satisfied bids made under firm rights.

the value foregone for not using that path for an alternative service. Without a scarcity charge there is no direct financial incentive on operators to minimise the number of paths that they hold as charges are paid only when paths are used. Potentially this could lead to the allocation of paths being inefficient or investment to increase network capability being incurred earlier than it otherwise would be. The objectives of a scarcity charge can be summarised as:

- to achieve (or contribute to) an efficient allocation of capacity on the network;
- to incentivise efficient holding and use of paths/access rights compared to paths/access rights used (this generally relates to freight operators who need some additional paths to offer sufficient flexibility to their customers); and
- as a source of funds, to enable Network Rail to carry out enhancements on capacity constrained parts of the network.

3.6 Two existing industry processes potentially provide means to achieve the above objectives: RUSs, which promote the efficient use and development of the network, in part, by assessing alternative uses of capacity constrained parts of the network; and Part J of the Network Code, which includes a number of industry processes designed to ensure the release of unused or significantly underused capacity to encourage efficient holding of paths. These include arrangements for rights review meetings and a ‘use it or lose it’ (UIOLI) requirement where operators would be judged to have failed to use a train slot if they have not made a train movement in a period of 90 days. Further incentives are provided by ORR approval of rights and the timetabling process provided in Part D of the Network Code.

3.7 Scarcity charges are allowed under EU Directive 2001/14/EC and the Railways Infrastructure (Access and Management) regulations. We undertook preliminary consultation on the possibility for scarcity charges during last year’s SOCC review. There was little support by respondents at that time due to perceptions of the complexity that such a charge would introduce. In the review conclusions, we stated that we would develop a better understanding of scarcity charges and their potential implementation.

- 3.8 To this end, we commissioned the Institute for Transport Studies (ITS) at the University of Leeds to undertake a scoping study for scarcity charges¹⁵. The study identified two European countries that have a form of scarcity charges: France, which levies a charge for reserving a path; and Switzerland, which has a legal basis for a penalty to be applied to unused paths. The study concludes that the absence of a scarcity charge may fail to give train operators the appropriate incentives to economise adequately in their use of scarce capacity. However the study identified a number of difficulties in implementing a scarcity charge including: defining when capacity is constrained, defining a path and how to allocate slots on an efficient basis. For example, the report acknowledges auctioning may be difficult as would externally calculating the efficient level of charges.
- 3.9 We continue to believe that understanding the costs associated with operation on scarce capacity is important. However, in considering how and if this should be translated into charges, we need to consider our charging objectives (Chapter 2) and in particular whether other industry processes can contribute to the three objectives identified in paragraph 3.5, namely efficient allocation of capacity, efficient holding of paths, and a source of funds for enhancement.
- 3.10 We consider that at this stage it is reasonable to expect the RUS process to provide an alternative solution to at least the first objective (efficient allocation of capacity). The RUS process is (as noted in the previous chapter), under development and in the first full year of CP4 is expected to have complete network coverage. At this stage it might be appropriate to assess whether the RUS process is sufficient to achieve an efficient allocation of capacity and whether other measures may be required to attain this objective. Further incentives are provided by the decision criteria in Part D of the Network Code.
- 3.11 It is not clear that the above planning process could achieve the second objective (efficient holding of paths). During the development of the freight model contract, it was recognised that as freight operators only pay the variable charge for the use of train slots there is no financial incentive for an operator to obtain only the train slots that it needs. We recognise the

¹⁵ *Institute of Transport Studies, University of Leeds: scoping study for scarcity charges*, December 2005. This can be accessed from our website at <http://www.rail-reg.gov.uk/server/show/nav.180>

presence of the processes in Parts D and J of the Network Code that incentivise the efficient holding of paths (and the efficient allocation and use of capacity). We also recognise that freight operators need some headroom in the number of paths that they hold to allow them to respond to variations in demand and customer requirements, with the appropriate level of flexibility differing between different parts of the freight business. However, any external planning, whether through the RUS process or UIOLI threshold under Part J, may be insufficient to determine the efficient level of paths needed by operators, as for example this would require an understanding of the commercial case for meeting the variability of demand on each service. The freight operator itself is the only party who can know the commercial case needed on a particular service. However, as such paths have no charge, there is no incentive on them to limit the number of paths to the efficient level.

- 3.12 We recognise that freight operators and Network Rail are working to review the level of additional paths held and where these paths are deemed unnecessary these are being removed from the operators' track access contracts. We believe that this process could be aided, and the second objective be achieved more effectively, with a relatively simple flat rate fee levied on paths or access rights.
- 3.13 The Railways Infrastructure (Access and Management) Regulations allow for two types of scarcity charge:
- a scarcity charge: as part of the congested infrastructure process set out in regulations 23, 24 and 25 the infrastructure manager, Network Rail, may levy a charge to reflect the scarcity of capacity of identifiable segments of infrastructure during periods of congestion; and
 - a reservation charge: a charge levied to capacity that is requested but not used. The regulations do not specify whether the use of capacity refers to rights or timetabled paths.
- 3.14 Given the complexity of the congested infrastructure process we are more attracted to a reservation charge rather than a scarcity charge.
- 3.15 There are a number of issues that arise when considering the development of a reservation charge, some of which are discussed below, together with our emerging views. We are keen to receive responses to these in order for us to consider the detailed development of a possible reservation charge.

Should the charge be levied on paths or access rights?

- 3.16 We consider that there is a strong case for levying charges on access rights. As access rights are fully documented and, apart from the rights conferred by spot bidding¹⁶, comparatively stable, charges should be relatively easy to introduce. There may be some issues with operators paying for rights that they cannot use due to possessions although this would also apply to levying charges on paths. Raising charges on paths in the working timetable is also possible. However, levying charges on rights or paths could increase spot bidding as operators release rights or paths that they do not use fully. While theoretically the charge could be applied to paths sought through spot bidding this would be difficult to manage and imply significant transaction costs.

What level should the charge be set?

- 3.17 We are attracted to setting the charge at a relatively low level. Relatively low charges have demonstrated good incentive properties in other sectors¹⁷. While it might not be possible to translate fully the experience of other sectors and countries to the UK rail industry we are initially in favour of a low charge partly as traffic lost from setting a charge too high may be difficult to attract back to rail. We will need to consider the level of any reservation charge in conjunction with our work to understand the impact of changes in variable charges on freight operators (see paragraph 2.27).

Should the charge apply to passenger and freight traffic?

- 3.18 The ITS report recommended applying charges to non-franchised passenger and freight operators. Franchised passenger operators could be regarded as already having paid for the use of capacity through their fixed charge and so should not pay a charge for existing franchised services. To ensure that charges do not discriminate between operators it would be appropriate to levy the charge on additional rights sought by franchised operators to reflect the additional calls on capacity conferred by these rights. We are interested in views on whether charges should apply to franchised passenger operators as well as non-franchised passenger and freight operators.

¹⁶ A description of the spot bidding process is included in Part D of the Network Code.

¹⁷ For example a low reservation fee for unused slots at Dusseldorf Airport reduced unused slots by almost half. In Switzerland, where there is a legal basis for a penalty to be applied in relation to unused paths, a reduction in the holding of such paths has been experienced.

Should the charge be on a per right/path or per right/path km basis?

- 3.19 Longer paths could use more capacity and so a per-km charge could be justified. However a per-km charge is likely to be more complex with the distance of each right or path needing to be assessed. This could be a particular issue for Y paths¹⁸. The length of the rights exercised from the Y path will vary according to the origin or destination chosen on a particular day, increasing the complexity of a per-km charge. We are interested in consultees' views on this.

Should the charge be rebateable if the right/path is used?

- 3.20 In the Railways Infrastructure (Access and Management) Regulations, a reservation charge can apply only to unused paths or rights. Under Part D of the Network Code train operators should inform Network Rail of the rights that they do not intend to exercise in the timetabling process. While this would predominantly apply to freight operations, it could theoretically be consistent with the wider scope discussed in paragraph 3.18 above. Standard industry processes, such as ACTRAFF¹⁹ can be used to identify the use of a timetabled path. We are interested in views on whether rights should be defined as used when they are exercised in the timetabling process or whether the path itself needs to be used. It would also be possible to consider rebating the charge for a specified quantum of paths whether used or unused, so as to recognise that this quantum is required, e.g. for freight operators to provide sufficient flexibility of operations to their end customers.

Should the charge apply only where capacity is constrained?

- 3.21 While we are attracted to levying the charge only when capacity is constrained we acknowledge that this could increase the complexity of administering the charge by requiring: first, a definition of the capacity constraint; and, second, the identification of the paths or rights that impact on this capacity constraint. Capacity could be defined as constrained where, say, the Capacity Utilisation Index (CUI) exceeds a certain level. This should be relatively simple to define, transparent and flexible albeit with some stability

¹⁸ Y paths are rights for a service to depart from more than one origin to the same destination or to more than one destination from the same origin.

¹⁹ ACTRAFF is a model provided by AEA Technology (AEAT) and contains a database of all train movements mapped onto specific sections of track.

across time. We recognise that there are some problems in defining capacity in this way, for example CUI does not take account of capacity constraints from the timing of trains or conflicts at stations or junctions. Identifying paths or rights that impact on this capacity constraint may be complex. At a simple level, charges could be applied to rights or paths that cross pre-defined monitoring points. For example, Cordon caps already present in freight operators' contracts could be used to determine the appropriate pre-defined monitoring points. However this would not charge movements that cross constrained parts of the network that can often have a significant impact on capacity. We will be considering these issues further during the consultation period and welcome views on this matter.

Should a reservation charge be additional to existing access charges or should variable charges be redistributed to include the reservation charge?

3.22 We are conscious of the impact that additional charges could have on the viability of freight and non-franchised passenger operators. There could therefore be two approaches to setting reservation charges. A reservation charge could be netted off Network Rail's other variable charges. This would require a forecast of income from reservation charges to be made at the start of the year/control period, increasing the risks to Network Rail. If such an arrangement were introduced it would be sensible to include some form of wash-up mechanism to ensure that Network Rail receives its required income. We also recognise the difficulty in forecasting income from reservation charges. Alternatively the reservation charge could be additional to existing charges. If the charge is set at a relatively low level then this would minimise the additional costs to the freight industry. Any additional revenue raised by Network Rail in this way could be ring fenced to pay for enhancement schemes to relieve the associated capacity constraints. We would welcome views on these two alternatives.

Next steps

3.23 We will consider these questions against our charging objectives and will discuss our findings with stakeholders. To this end we will discuss the practical issues associated with a reservation charge in more detail at an industry workshop in July 2006. Taking into account the responses to this document and the discussion at the industry workshop, should we decide to implement a reservation charge we will undertake a further round of

consultation on the formal proposals for such a charge before the end this year.

Environmental charges

- 3.24 Our scoping study on environmental costs and charges²⁰, undertaken as part of the SOCC review, highlighted that there are material environmental impacts associated with operating rail services (such as noise, greenhouse gas emissions and local air pollution). These environmental impacts impose a social cost and could be reflected in charges. We recognised in the conclusions of the SOCC review that implementing environmental charges is complicated and requires further work and discussion with key stakeholders before any decisions on their implementation can be made.
- 3.25 Many stakeholders have argued that environmental charges should not be applied to rail before an equivalent charging framework is applied to road. In addition to this, most stakeholders saw a planning/administrative approach to dealing with environmental impacts as more appropriate than charges. For example, a standards based approach, applied through Part E of the Network Code, was seen to be more appropriate.
- 3.26 We are not consulting on environmental charges in this consultation. We intend to consult on environmental incentives later in 2006 as part of a wider consultation on sustainable development (including key performance indicators (KPIs)). The ability to levy environmental charges, although included in Directive 2001/14/EC, is not currently transposed into UK legislation. In taking forward the work on environmental incentives we will discuss this further with the DfT. The consultation on sustainable development will include a consideration of environmental charges as well as changes to the Network Code and other industry processes.

²⁰ *Environmental costs of rail transport, final report*, AEA Technology, London, August 2005. This can be accessed from our website at http://www.rail-reg.gov.uk/upload/pdf/aea_enviro_rep.pdf.

4. Establishing charges for CP4

Introduction

4.1 This chapter sets out:

- details of our intention to give Network Rail additional responsibilities in developing its charges proposal, to be submitted to us for approval and the arrangements that we propose to put in place to ensure that Network Rail's charges proposal is accurate and consistent with our charging objectives;
- our guidance to Network Rail in developing its charges proposal; and
- the auditing and approval process, to ensure that final charges are both consistent with our charging objectives in terms of methodology, and that charges levels themselves are accurate and consistent with the PR08 final determination.

Network Rail's role in proposing access charges for CP4

4.2 We propose that as part of its work in developing its strategic business plan for CP4, Network Rail takes responsibility for proposing charges to us that are consistent with our charging objectives and subject to our audit.

4.3 Figure 4.1 illustrates the new division of activities and process following the proposed change in responsibility for developing the charges proposal. In particular, it highlights the features we propose to put in place to ensure Network Rail's charges proposal is accurate, and meets our charging objectives (as set out in Chapter 2), that is:

- the publication of our guidance to Network Rail;
- arrangements for audit and approval of Network Rail's charges proposal; and
- the requirement for access charges to be approved by us before implementation.

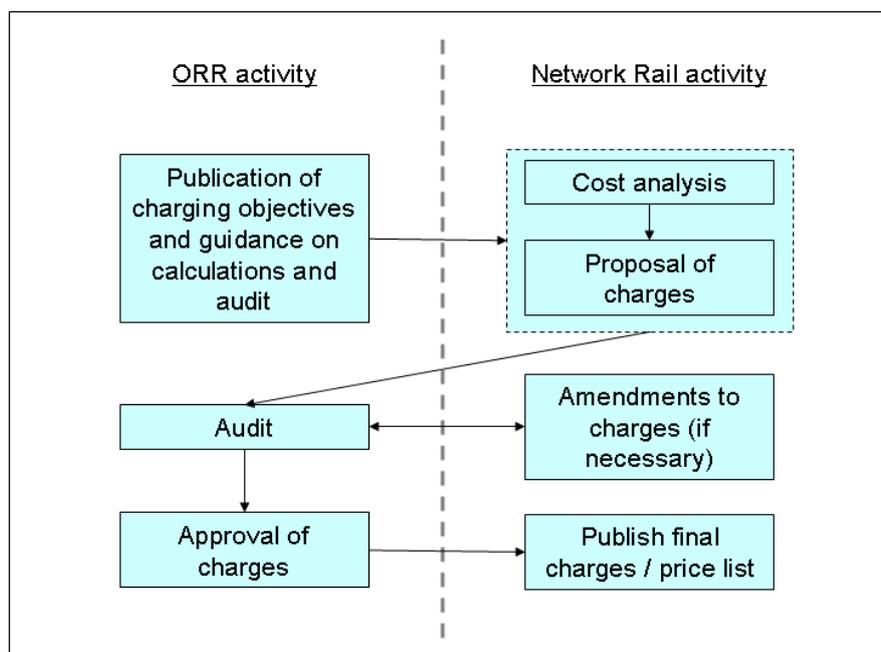


Figure 4.1: Charge setting activities

4.4 The transfer of responsibilities to Network Rail for developing its charges proposal will only apply to charges within the current structure of track access and station long term charges. We will retain responsibility for possible new charges such as those for a reservation or environmental charge for implementation in CP4. We would work closely with the company in doing this, since Network Rail would levy any new charges and therefore these would need to be processed through its billing system.

4.5 We consider that if Network Rail calculates charges it will have the following benefits, in particular:

- providing a more efficient and effective process of setting charges, through a more appropriate split of responsibilities, where we set the charging objectives and audit the company's technical work and proposals rather than undertaking much of the technical development work ourselves;
- providing additional impetus to Network Rail in its process of improving the understanding of its costs;
- promoting a more commercially mature relationship between Network Rail and its customers; and

- being potentially more consistent with the EU Directive 2001/14/EC and the envisaged role for infrastructure managers in charging matters.

4.6 We place considerable value on ensuring transparency in the calculation of access charges. We will ensure that stakeholder scrutiny is not any less than it has been in previous reviews.

Guidance

4.7 Chapter 2 contains our charging objectives that Network Rail's proposals should adhere to. The following sections of this chapter provide our guidance to Network Rail for the preparation of its charges proposal. The guidance sets out a range of technical issues that Network Rail should take into account when preparing this proposal. We will expect the company to set out in detail in its proposal how it has calculated charges and given consideration to the issues discussed in this chapter, or, if appropriate, adopted alternative approaches.

4.8 The guidance for the charge proposals is structured as follows:

- the overall structure of charges;
- calculation of the variable usage charge;
- calculation of the traction electricity charge;
- calculation of the capacity charge;
- calculation of the fixed charge;
- calculation of the station long term charge;
- transparency and engagement with stakeholders; and
- the form and content of Network Rail's charges proposal submission.

The overall structure of charges

4.9 The proposed structure of charges for franchised passenger operators should, as now, and as a minimum, encompass the variable usage charge (including an element to recover the wear and tear costs incurred on electrification

assets), the traction electricity charge, the capacity charge and the fixed charge.

- 4.10 As set out in Chapter 2, non-franchised passenger and freight operators are subject to the same structure as franchised passenger operators, except that there is currently no fixed charge for these operators in relation to the current network capacity and capability. One change discussed in *The Future of Rail* White Paper is for freight operators to pay the full costs associated with freight only lines. We are discussing this issue with the DfT, TS and other stakeholders as part of the work on freight charges. In undertaking its cost analysis and preparing its charges proposal, Network Rail will need to clearly identify the fixed and variable costs associated with freight lines, which can be broadly separated into two types: those that are links between the main network and facilities (e.g. power stations) and not used by passenger vehicles, and those that are part of the main network but used in practice solely by freight, such as freight passing loops. This second category can be (and on occasion is) used by other traffic and the existence of the freight line provides operational performance benefits to passenger services. We only consider that lines exclusively used by freight trains and linking the main network to freight facilities fall in the category of those for which we consider freight should pay fixed charges.
- 4.11 As part of the review we will consider whether any increase in freight charges would need to be phased or capped in some way. We will also consider whether different freight sectors have different abilities to pay. However, Network Rail should carry out its calculations for freight assuming no capping or phasing, i.e. in the same way as it calculates its charges proposal for passenger operators. We will consider, in parallel, the necessary extent of any capping, phasing or other issues in translating the costs to charges consistent with our section 4 duties. We will provide further guidance to Network Rail, which we intend to publish in February 2007 in our *Advice to Ministers and Framework for Setting Access Charges* document that will, amongst others, set out our decisions on the overall structure of charges for CP4. In the event of any capping or phasing we will ensure that Network Rail recovers its full revenue requirement.

Variable usage charge

- 4.12 Network Rail's variable usage charge proposals should be based on calculations of the SRIC incurred by the company from the operation of an additional vehicle on the existing network, or, conversely, the costs that would be avoided as a result of such a reduction in traffic.
- 4.13 The calculations should consider efficient operating, maintenance and renewals (OM&R) costs and should, as necessary, include costs brought forward from future years (e.g. accelerated renewals expenditure).
- 4.14 The current approach to calculate the variable usage charge was established at PR2000 for franchised and non-franchised passenger operators, and at FCR2001 for freight operators. The broad approach to calculating the charge is the same for both passenger and freight traffic. It comprises a hybrid 'top-down' and 'bottom-up' approach.
- 4.15 This hybrid approach involves two main steps:
- firstly, the elements of Network Rail's forward-looking efficient OM&R costs, by individual asset category, that are deemed to be variable with use are determined e.g. 25% of sleeper renewals are estimated as varying with usage in the current model; and
 - secondly, the aggregate variable cost is allocated to each vehicle type based on the vehicle's share of total 'equivalent' gross tonne miles (EGTMs).
- 4.16 For passenger vehicles, the EGTM is a function of four cost drivers: gross tonne miles, axle weight, unsprung mass and vehicle speed. Freight vehicles have an additional cost driver based on the suspension type of the vehicle, separated into seven bands. The various documentation related to the calculation of the existing variable usage charges is available on our website²¹.

²¹ A description of the calculation is set out for:

- Passenger operators: Chapter 9, *Periodic review of Railtracks access charges, final conclusions, volume 1*, Office of the Rail Regulator, London, October 2000 (which can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/115-prfinal2.pdf>); and

- 4.17 We stated throughout the SOCC review that our preferred method for calculating the variable usage charge is through forward-looking bottom-up engineering analysis that would robustly predict the wear and tear on Network Rail's asset base, and associated efficient costs incurred, from changes to the level of train services. This is recognised across the industry as being the ideal approach, if sufficient supporting information is available.
- 4.18 In the SOCC review, our consultants Booz Allen & Hamilton/TTCI (UK) (BAH/TTCI) considered that Network Rail's understanding of cost causation was not yet sufficiently advanced to justify a fully bottom-up based approach. We recognise that Network Rail, through its continued improvements in its understanding of its asset base and development of its decision support tools, infrastructure cost model and associated asset information systems, may now consider that it is able to calculate charges based wholly, or to a greater extent, on a bottom-up approach.
- 4.19 Whilst we would ideally prefer to see charges calculated in this way, there may not be enough time in PR08 for Network Rail to undertake the detailed work necessary. If this were the case we are prepared to accept continued use of the hybrid approach for PR08. We would expect the company to address issues identified in the SOCC review in developing more robust assessments of cost variability in relation to each asset. The BAH/TTCI work²² highlighted potentially higher levels of variability compared to that underlying the calculation of the current charges. We would not expect the level of variability identified by Network Rail to be materially lower than the current level without robust evidence. The level of cost variability derived in PR2000 and broadly substantiated by BAH/TTCI in the SOCC review is that around 20% of total maintenance and renewals expenditure is variable. Experience in other European countries using econometric approaches to deriving marginal maintenance and renewals costs as the basis for track access charges is that

-
- Freight operators: Chapter 2 and Appendix C. *Review of freight charging policy, final conclusions*, Office of the Rail Regulator, London, October 2001 (which can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/136-fchargfincon.pdf>).

Further details are available in two reports prepared by our consultants BAH, which can be accessed from our website http://www.rail-reg.gov.uk/upload/pdf/bah-cost_caus_cont.PDF and <http://www.rail-reg.gov.uk/upload/pdf/bah-usage.pdf>.

²² *Review of the variable usage and electrification asset usage charges, final report*, BAH/TTCI, June 2005.

cost variability lies in the broad range of 10 - 30%. In the current approach, no operating expenditure is deemed to be variable. We would expect Network Rail to examine this further, since certain operating expenditure is variable in charges set in other European countries (e.g. related to train control and planning).

- 4.20 The cost base used as the basis for deriving the variable costs should be the efficient steady-state cost base that excludes backlog expenditure. For implementation at the start of CP4, and in the light of our preliminary assessment of future efficiency improvements²³ our view is that the efficient steady-state cost base should at least be at the end of CP5 (2018), but will be informed by the assessment of efficiency during PR08.
- 4.21 In undertaking its work during PR08 Network Rail will need to provide evidence to support the choice of methodology to derive the variable usage charges and this should include the modelling approach and analysis employed to determine cost variability.

Rail surface damage

- 4.22 The impact of rolling contact fatigue and rail wear is not explicitly reflected in individual charges in the current variable charge model, though to the extent that the cost related to these factors is variable it is spread across all vehicles. As part of the SOCC review, BAH/TTCI developed new terms for the variable usage charge model, based on the vehicle bogie primary yaw stiffness, to allocate the cost to each individual vehicle. This work is discussed in detail in the consultant's final report.
- 4.23 The overall effect of including 'rail surface damage' in the model would be a comparatively small level of re-balancing of charges between passenger vehicles. The findings from BAH/TTCI are that the change to the charge for the majority of the 134 passenger vehicles in the current price list would lie between a decrease of 15% and an increase of 5%. In addition to this, there would be a shift away from the passenger to the freight vehicle fleet. However, BAH/TTCI consider that there remain some uncertainties with the rail surface damage model and that, in particular, more work needs to be

²³ *LEK/Oxera: Assessing Network Rail's scope for efficiency gains over CP4 and beyond, a preliminary study*, 12 December 2006. This can be found on our website at <http://www.rail-reg.gov.uk/upload/pdf/lek-oxera-cp4efficiencygains.pdf>.

undertaken before it can applied to freight vehicles. We have engaged BAH/TTCI to examine the development of the model in respect of freight vehicles in more detail. This work is due to be completed shortly and we will publish it on our website.

- 4.24 We broadly accept the principles underpinning the BAH/TTCI work in respect of rail surface damage and this received general support at the July 2005 industry seminar. We expect Network Rail to take account of the SOCC review findings, and the further work on freight vehicles, in developing its charge proposals.

Geographical disaggregation

- 4.25 The current variable usage charge is based on national average usage costs, and leads to the charge for a certain class of vehicle being the same regardless of whether, for example, it runs on the West Coast Main Line, a branch line in Scotland or a freight only line. In order for the variable usage charge to properly reflect the wear and tear caused by different vehicle types on different parts of the network it is necessary to consider introducing geographical disaggregation of the variable usage charge. Where geographical cost differences are material, incorrect price signals will be provided to train operators and funders in making decisions on operating train services if a nationally averaged variable usage charge is retained.
- 4.26 Network Rail should consider greater geographical disaggregation in the calculation of variable usage charges. When considering greater disaggregation the company will need to balance the need for charges to be cost reflective but also being as simple as possible for operators and funders. Network Rail should inform its choice of geographic disaggregation by considering the degree of variable usage cost differences over the network.
- 4.27 Geographical disaggregation has two broad dimensions: routes related to different customers and funders and routes of different capacity and capability. We would expect Network Rail to examine the variable usage cost variation across both of these dimensions. As a minimum we would expect the company to give consideration for separate variable usage charges for routes in England & Wales and Scotland. This will ensure that these two main funders of rail services can have confidence that the variable usage charges of the services they are supporting are related to the costs in the areas in

which they are operating. This could mean that cross border services would be faced with two different charges. In addition to this, Network Rail should also consider whether cost differentials are material for the routes with services that can be specified by the WAG, the Mayor of London and the six PTEs in England.

- 4.28 Network Rail should also consider the variation in variable usage costs between parts of the network with different capacities and capabilities, i.e. primary, London and South-East commuter, secondary, rural and freight-only routes. Unless cost differentials were significant we would not expect charges to vary by strategic route section (for which Network Rail has defined around 300 across the network) but that they could by general category of route.
- 4.29 We expect that in undertaking this work, Network Rail will be informed by its work on the ICM, which is organised around the +/- 300 strategic route sections. We will review the cost differences generated by the ICM together with Network Rail. We intend to make a decision on the appropriate level of geographical disaggregation in our determination on the framework for the CP4 structure of charges in the *Advice to Ministers and Framework for Setting Access Charges* document that we will publish in February 2007, which will provide clarity for Network Rail, operators and funders ahead of the detailed calculations.

Differentiation by vehicle type

- 4.30 The variable usage charge is currently differentiated by vehicle type based on the characteristics of each vehicle. Charges are established for some 130 passenger vehicles and hundreds of freight vehicle/commodity combinations. There are significant differences in charge and hence assumption of underlying cost causation across the vehicle fleet.
- 4.31 In theory similar vehicles could be banded together. However, during the SOCC review, no superior alternative banding of vehicles was identified. Moreover we are aware that the existing approach provides vehicle manufacturers with strong financial incentives that influence design. We consider that there is no strong case to move away from charges for individual vehicles. Network Rail would need to make a robust case if it wants to make alternative proposals. We would also expect Network Rail, in consultation with stakeholders, to address any incorrect vehicle characteristics or changes in

vehicle characteristics that determine vehicle usage charges. A number of such corrections to existing characteristics or the need for characteristics for new vehicles were identified in the responses to our April 2005 SOCC review document²⁴.

Freight suspension types

4.32 Currently freight vehicle suspension types are classified into the following bandings for charging purposes, as shown in Table 4.1. The suspension types understood to be most 'track friendly' receive a significant discount on the overall variable usage charge.

Table 4.1 Freight vehicle suspension type banding

Wagon type	
1	Four wheel wagon with pedestal type suspension
2	Four wheel wagon having leaf springs, friction damped
3	Bogie wagon with three piece bogie
4	Bogie wagon with enhanced three piece bogie, e.g. 'swing motion' and Parabolic four wheel wagon
5	Basic bogie wagon with primary springs, e.g. Y25
6	Bogie wagon with enhanced primary springs – Low Track Force bogies, TF25, 'axle motion' (like HV primary sprung bogies)
7	Bogie wagon with enhanced primary springs and steering

4.33 The existing banding of freight suspensions has been successful in influencing the design and selection of vehicles by operators and we would expect it to be retained. However, more work is needed to define the required performance parameters appropriate to each band in a precise and unambiguous manner. We expect Network Rail to assess the appropriate banding arrangements for CP4. When identifying the appropriate banding for

²⁴ *Structure of costs and charges review, emerging views on key issues*, Office of Rail Regulation, April 2005. This document can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/229.pdf>. The non-confidential responses (or elements of responses) can be found on our website at <http://www.rail-reg.gov.uk/server/show/ConWebDoc.7146>.

new suspension types, Network Rail should investigate the desirability of using in-service performance of vehicles rather than their ex-factory or design outputs.

- 4.34 Network Rail should set out clearly, particularly if proposing a material change to the banding, the reasons for the change. The incentives created by the current differential charging has influenced long term investment decisions on the part of the train operators and their suppliers, therefore any changes will need to reflect this, for example only affecting new vehicle development or perhaps with phased effect on existing vehicles. We would discuss this in more detail with Network Rail if it were necessary
- 4.35 As a minimum requirement we would expect to see a charging differential (reflecting the differential impact on Network Rail's costs) between the seven different categories of suspension type, if all are still in operation at the time of proposing the charges.

Coal spillage

- 4.36 The current uniform 20% uplift on charges for vehicles carrying coal was introduced as a result of evidence showing a cost impact of spilt coal on Network Rail's additional maintenance and renewals costs. In FCR2001, there was not clear evidence as to the absolute impact of this spillage on Railtrack's costs. If Network Rail wants to continue with a coal spillage factor in CP4, we would expect it to use its improved cost knowledge to provide a robust assessment of coal spillage on its maintenance and renewals costs. The level of any uplift should reflect this evidence. In addition, Network Rail would need to understand the distinction between the level of spillage from hooded and un-hooded vehicle types.

Electrification asset usage charge

- 4.37 As part of the SOCC review, BAH/TTCI examined the merits of establishing a variable asset usage charge instead of continuing to include electrification asset costs as a mark-up to the traction electricity charge. In its final report BAH/TTCI sets out how such a charge could be established. We consider it appropriate for Network Rail, building on the SOCC review, to recover electrification asset usage costs through a variable charge, which could be part of the calculation of individual vehicle variable usage charges.

Traction electricity charge

4.38 The traction electricity charge enables Network Rail to recover the costs incurred in procuring electricity for train operators for traction purposes. The three main elements that make up the current charge are:

- modelled consumption rates per kilowatt hour (kwh) (differentiated by vehicle and route);
- electrified vehicle miles operated; and
- price of electricity (which varies by region and timeband).

4.39 We concluded in the SOCC review that no changes should be made to the price or method of indexing the price until the start of CP4. We recognised that while the prices and actual costs have differed over time (prices being both higher and lower than costs incurred during the period since the PR2000), any alteration would need to be considered at the same time as the overall level of Network Rail's required revenue.

4.40 PR08 is therefore the appropriate time to review the effectiveness of the charge in reflecting cost both in the initial price level and the way the charge is indexed over time. When considering changes we would expect Network Rail to consider the impact on the cost reflectiveness of the charge and also its own incentives to procure electricity efficiently. For example, if the current indexation was replaced by an adjustment to reflect the actual cost of particular contracts for electricity supply entered into by Network Rail, we expect Network Rail to consider what checks might be appropriate to ensure that the new contract has been agreed at an efficient level.

Geographical disaggregation

4.41 Currently the price of electricity is split into nine regions and nine timebands. The modelled consumption rates are disaggregated by routes as well as vehicle. These routes have different characteristics which impact on the level of electricity consumed.

4.42 We would expect Network Rail to retain at least the level of disaggregation currently available for these charges. In considering any additional disaggregation, it would need to consider the expected cost and resulting

consumption differences but also consider the needs of regional funders, e.g. TS and the WAG.

Time profile

- 4.43 Under current arrangements, the price component of the traction electricity charge is published in a price list at the start of a control period and then indexed by the index of industry electricity costs²⁵. We recognised in the SOCC review that this index had not perfectly reflected the changes in cost incurred by Network Rail through its purchase of electricity. Network Rail should consider other alternative ways of profiling costs over time, including re-calculating the price component on an annual basis. However, it should also maintain the incentive, present in the current arrangements, to encourage Network Rail to procure electricity as efficiently as possible.

Freight

- 4.44 Traction electricity charges paid by freight operators are based on the same principles as above. Network Rail should set out in its charges proposal the modelled consumption rates it proposes to use in relation to freight vehicles following consultation on this with freight stakeholders.

Energy efficiency

- 4.45 We consider that the traction electricity charge should, where possible, provide price signals to train operators, their suppliers and funders encouraging them to make choices consistent with being efficient in the use of energy. As part of the SOCC review we commissioned two studies that related to this: an assessment of the appropriate discount to be applied for the use of regenerative braking²⁶; and an assessment of the technical and economic feasibility of on-train metering²⁷.

²⁵ Department of Trade and Industry (DTI): Quarterly energy prices table, Table 3.1.2, Prices of fuels purchased by manufacturing industry in Great Britain (1), electricity, moderately large user. This can be accessed from the DTI's website at <http://www.dti.gov.uk/files/file18045.xls>.

²⁶ *Review of the discount for using Regenerative Braking*, AEA Technology, June 2005. The report can be accessed from our website at http://www.rail-reg.gov.uk/upload/pdf/aea_regbrake_rep.pdf.

²⁷ *The Feasibility of On-Train Metering*, AEA Technology, May 2005. The report can be accessed from our website at http://www.rail-reg.gov.uk/upload/pdf/aea_ontrain_rep.pdf.

- 4.46 The regenerative braking report examined the energy savings made by the use of regenerative braking on different parts of the rail network. We would expect Network Rail to build on the findings of this report when considering the appropriate discounts to be applied to the traction electricity charge of train operators who use regenerative braking. Currently a single, network wide, discount is applied (16.5%). AEAT's work suggested that in reality there is a wide difference in the energy savings on different parts of the network. Network Rail should therefore consider a more geographically disaggregated approach to determining discounts but balance the greater cost reflectivity against the need to retain sufficient simplicity for the price signals derived from the discount to remain clear. We would expect the principles of any discount to apply to franchised passenger operators or to non-franchised passenger or freight operators unless Network Rail can demonstrate a material cost difference.
- 4.47 In relation to the on-train metering report, we remain keen that the industry considers further the introduction of on-train metering. This has potential benefits in providing useful information about energy use (although we recognise that an end of year adjustment or wash-up may still be needed to allocate the network losses). If the traction electricity charge was based on metered usage of electricity, it would be able to influence decisions affecting energy efficiency beyond the current regenerative braking use, for example driving policies. We expect Network Rail to consider this issue with stakeholders in preparing its charges proposal.
- 4.48 We will also be considering the issue of energy efficiency, which links closely to on-train metering, in our sustainable development consultation document later in 2006.

Capacity charge

- 4.49 The capacity charge is designed to recover Network Rail's costs through Schedule 8 of the track access contracts (the performance regime) resulting from additional train services operating on its network. It was initially intended to provide incentives to train operators to take account of the higher whole industry costs associated with operating at busy times and on congested parts of the network, although this was somewhat reduced as Railtrack was unable to bill the charge per route section and timeband; a situation which remains under Network Rail. The current geographic disaggregation is therefore by

service group (i.e. a single rate calculated as the average capacity charge for all the services in a train operator's service group).

Geographical disaggregation

- 4.50 We concluded in the SOCC review that even with the reduced incentive effect, it was appropriate for the charge to remain variable with usage as the costs incurred by Network Rail increase, as more services are operated.
- 4.51 With the development of the RUSs and the possible introduction of a reservation charge, we do not believe that increasing the complexity of the capacity charge to the level of complexity originally intended is necessary. However, in putting forward its proposals, Network Rail should decide whether to include a greater level of geographic disaggregation in its charges proposal. Its decision should be informed by the degree of cost differences between different parts of the network. This is because where these are significant, a greater disaggregation would more accurately reflect Network Rail's costs.

Temporal disaggregation

- 4.52 We would not expect Network Rail to return to the previous thirteen timebands in the original capacity charge price list. It will need to make the same considerations as with the geographic disaggregation as to whether it considers that a greater than current level of disaggregation is needed to accurately reflect costs incurred.

Time profile

- 4.53 The capacity charge is a function of Schedule 8 costs and capacity utilisation. Network Rail should consider whether it is appropriate for its charges proposal to be calculated for each year of CP4, and so reflect changes in capacity utilisation, or be constant across CP4.

Fixed charge

- 4.54 The fixed charge, to recover network fixed and common costs, is currently allocated to individual franchised passenger operators through a model that broadly allocates the charge on the basis of vehicle miles operated by each operator. There is some geographical disaggregation in the current model, depending on the availability of cost data.

- 4.55 As part of last year's SOCC review, we examined whether the current methodology for allocating the fixed charge between train operators could be made more cost reflective.
- 4.56 AEAT²⁸ developed an approach to allocate the fixed charge based on an operator's avoidable costs (i.e. the infrastructure related costs that could be avoided were its services not present on the network). This is a more cost reflective approach to determining the fixed charge for each individual operator on the basis of the specific costs they impose on the network (and a mark-up for common costs). It therefore provides more accurate information to funders compared to the existing approach. As we stated in our SOCC review conclusions, we consider this approach to be more appropriate than the current one.
- 4.57 We would therefore expect Network Rail to build on the AEAT work to develop an avoidable cost based approach to allocating fixed and common costs across operators. In particular, we would expect Network Rail to develop and set out to us in its charges proposals the assumptions it uses regarding the proportion of costs that are avoidable by each operator. AEAT's study identified a significant share of common costs (of around 45%) that are not avoidable, and which need to be allocated across all operators. Network Rail will need to set out its approach for allocating common costs on a transparent and non-discriminatory basis.
- 4.58 The avoidable cost for freight operators and non-franchised passenger operators should be calculated according to the same methodology as Network Rail proposes to underpin the franchised passenger fixed charges although in relation to freight, it will be important that Network Rail discuss the specific weaknesses acknowledged in the AEAT report.

Time profile

- 4.59 The fixed charge allocation between franchised passenger operators changes each year to reflect Network Rail's different revenue requirement. However, it does not generally alter to reflect changes in vehicle mileage unless this is a significant change through franchise re-mapping. Using the avoidable cost basis to allocate the fixed charge implies a more accurate cost based

²⁸ *Recovery of fixed costs, a report*, AEA Technology, London, October 2005.

allocation of charges. Network Rail should consider what is the appropriate materiality of changes in services that would merit a partial or total re-allocation of fixed charges. It also needs to consider how to incorporate changes in response to PTE increments and decrements of service into its methodology (paragraph 2.37 – 2.39).

Indexation

4.60 All the charges are currently indexed either using the retail price index (RPI) or the index of industry electricity costs (moderately large users) for traction electricity charges. In addition to the consideration of the index of industry electricity costs as discussed above, Network Rail should consider the appropriateness of the RPI adjustment of the indexation of other charges.

Station long term charges

4.61 The structure of the charge should facilitate new investments through a transparent charging structure, which sends the right price signals to investors and operators of railway services. Our recently published policy framework for investments should also facilitate investment at stations through providing clarity on Network Rail's obligations and the terms and conditions under which customers should invest.

4.62 Network Rail should calculate long term charges for all its stations, including new stations opened since the last review of station charges effective from 2001.

4.63 The industry is currently discussing the appropriate future of QX. Network Rail will need to take account of the findings of the industry group established but if QX is retained it should also estimate the impact of these charges on QX levels, particularly at major stations where it should have full information on likely QX charges.

4.64 The charges proposal by Network Rail should also take into account the following factors/issues:

- The calculation of the overall level of charges should remove the current cross-subsidy between track and station charges flagged up in the

consultation document on the structure of station charges²⁹. As we have said previously, the misalignment of charges between track and stations which occurred as a result of the provision of additional funding for property in ACR2003 will be addressed in PR08, in parallel with changes to track access charges.

- Charges should take into account the work carried out by Corderoy in late 2005, which has been shared in full with Network Rail and provides detailed information on the efficient cost of maintaining, repairing and renewing stations. To our knowledge, this analysis is the most detailed exercise undertaken since privatisation on the efficient costs and should inform the charges.
- Charges should take into account updated assessments of Property Rent at stations, which is currently deducted from the long term charge. If it proposes any change to the current calculation, Network Rail should explain how they intend to deal with Property Rent in estimating long term charges.
- The allocation of the current charges are partly based on the Gross Book Value (GBV) of each station, that is the assumed capital value of the station assets. We do not expect Network Rail to continue to include this element.

Transparency and engagement with stakeholders

4.65 It is important to involve stakeholders in the development of charges. In the development of its charges proposal for CP4, Network Rail will need to ensure appropriate stakeholder engagement. This should allow stakeholders to:

- contribute sufficiently early in the process and have involvement over the course of PR08;
- understand the basis for the final proposals in sufficient time to make representations to us; and

²⁹ *The structure of station long term charges*, Office of Rail Regulation, April 2005. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/231.pdf>.

- be able to review relevant analysis/research carried out where this leads directly to the development of the charges proposal (or if considered commercially sensitive a summary of the research should be provided).

Network Rail Workplan

4.66 We expect Network Rail to share with us its workplan for developing its charges proposal. We will also provide updates on the charges work in PR08 documents.

Form and content of Network Rail's charges submission

4.67 Network Rail's submission of its charges proposal should set out clearly the methodology and assumptions used in the calculation of the charges along with the detailed calculations and modelling where applicable. We have highlighted specific areas in this chapter in the discussion on the individual charges that the company will need to address in its proposals to us.

Audit and approval process

Introduction

4.68 This section sets out the process we intend to follow when auditing Network Rail's charges proposal.

4.69 The process is split into three stages:

- review of methodology and further cost analysis (December 2006 – February 2007);
- review of Network Rail's indicative charges (October 2007 – February 2008); and
- final audit (October 2008 – December 2008).

Review of methodology and further cost analysis

4.70 By December 2006, Network Rail should provide us with an outline of the methodology that it intends to use in developing its charges proposals and where necessary further cost analysis, e.g. cost differences between routes. This is further to that included in its initial SBP submission. This date coincides with Network Rail's stated completion date for version 2 of the ICM, which the company has said will include charge calculation functionality. We

will review Network Rail's proposed methodology, focusing on the robustness of the assumptions used in formulating the methodology and its consistency with our objectives and guidance. This review will include an assessment of:

- the breadth of analysis – whether Network Rail has considered all available options consistent with our objectives and guidance; and
- the quality of underlying evidence supporting the cost drivers and allocation metrics proposed by Network Rail at this time.

4.71 We will discuss the findings of this review with Network Rail and other stakeholders prior to publication of our conclusions on the structure of charges in February 2007.

4.72 A key element of any further cost analysis will be for Network Rail to set out cost differences between different routes.

Review of Network Rail's indicative charges

4.73 This second stage of the audit will examine the indicative charges provided in Network Rail's SBP due to be submitted to us in October 2007. We will publish our assessment of this in February 2008 as part of our wider assessment of Network Rail's SBP.

Final audit

4.74 The audit process, which we will start at the same time as we publish the PR08 final determination, will review any changes to the calculations leading to each individual charge made since the second stage of the audit. Network Rail will submit revised calculations to us following our final determination.

4.75 Our intention is that Network Rail's reporters and/or its auditors will have a central role in this audit process. We will be discussing this further with the relevant parties.

4.76 The audit process is scheduled to be concluded by December 2008. At this point, if we are satisfied with the charges proposed, we will serve the review notice to initiate implementation of PR08 in April 2009.

Annex A: PR08 timetable

1. Table A1 shows how the main milestones in the structure of costs and charges work fit into PR08 timetable.

Table A1 Structure of costs and charges milestones in PR08 timetable

Date	Milestone
May - June 2006	Structure of costs and charges consultation document published Version 1 of the ICM (infrastructure cost model) complete
July 2006	Industry workshop on structure of charges
Autumn 2006	Possible further consultation on reservation charge
December 2006	Version 2 of the ICM complete, including functionality to calculate charges
December 2006	Network Rail submits its proposal on the structure of charges and methodology
January – March 2007	Audit of the ICM
February 2007	ORR publish conclusion on the structure of charges
February 2007	ORR publishes 'Advice to Ministers and Framework for Setting Access Charges' document. Including issuing the Access Charges Review Notice ³⁰
June - July 2007	Secretary of State and Scottish Ministers issue high level output specifications (HLOSs) and statements of funds

³⁰ Schedule 4A is expected to be commenced by the Department for Transport (DfT) during 2006. Under these provisions, the HLOS must be provided to ORR at a date specified by ORR in the Access Charges Review Notice, with this date being not less than three months after publication of the Notice.

Date	Milestone
	available (SoFAs)
October 2007	Network Rail strategic business plan (SBP) submission, includes indicative charges proposals
February 2008	We publish our assessment of Network Rail's SBP
April 2008	Revisions to the SBP by Network Rail, if necessary
June 2008	Draft determination (total level of access charges)
October 2008	Final determination (total level of access charges)
October 2008 – December 2008	Audit of charge proposals and final charges
December 2008	Review notice is served initiating the implementation phase of PR08

Annex B: Specific review objectives

1. Our specific objectives for the Periodic Review 2008 are:
 - to set Network Rail's access charges which are:
 - o so far as practicable, cost reflective so as to give good signals to users and funders; and
 - o no higher nor lower than they need to be to meet the high level output specifications (HLOS) and to provide passengers/freight customers with what they want at a value for money price;
 - to set Network Rail's outputs:
 - o with improved definition (e.g. capability, availability, reliability), to focus Network Rail planning/management and to facilitate measurement of outcomes;
 - o targeted to what users and funders want from the railway;
 - o forward-looking, with a trajectory set in the short, medium and long term, to an appropriate level of disaggregation which challenge Network Rail to better understand the drivers of good performance in all time frames; and
 - o wherever practicable, moving away from specifying inputs (e.g. activity levels);
 - to improve incentives, to:
 - o deliver continuous improvement in operations and maintenance and renewal/enhancement procurement efficiency;
 - o optimise cost/quality trade-offs based on evidence of what railway users value;
 - o balance outputs in different time frames (e.g. performance in the short and longer term);

- challenge Network Rail to improve its knowledge/understanding of assets, especially its ability to predict impacts of changing patterns of usage and ways of working to optimise extent/cost of accommodating forecast/emerging demand;
- develop Network Rail's planning framework and asset knowledge; and
- promote continuous improvement in health and safety.

Annex C: Current access charges

1. The current track access charges are described in our *Criteria and procedures* documents³¹. However, this annex provides a summary table identifying the costs they are intended to recover, the unit of charge and where appropriate references on our website to price lists. The table also includes reference to the station long term charge.

Table B1: Current structure of regulated access charges to Network Rail

Access charge	Costs to be recovered	Unit of charge	Price list references on ORR website
Variable usage charge	Additional maintenance and renewals costs from the operation of trains (excluding those associated with electrification assets). This charge is differentiated by vehicle type (and commodity type for freight).	Pence per vehicle mile (per thousand gross tonne mile for freight)	<p>Passenger: http://www.rail-reg.gov.uk/upload/pdf/arev-price_list1_19dec.pdf.</p> <p>Freight: http://www.rail-reg.gov.uk/upload/xls/freightusage.xls.</p>
Traction electricity charge	Additional costs resulting from the procurement of electricity on behalf of train operators. This charge is differentiated by vehicle type and route (where route characteristics influence the electricity	Pence per kilowatt hour (kwh)	<p>Price list – Appendix Q: http://www.rail-reg.gov.uk/upload/pdf/116-prdcrevfin2.pdf.</p> <p>Passenger vehicle consumption rates: http://www.rail-reg.gov.uk/server/show/nav.166 .</p> <p>Freight consumption rates are not published.</p>

³¹ *Passenger; Criteria and procedures for the approval of passenger track access contracts, fourth edition*, Office of Rail Regulation, London, May 2006. This can be accessed from our website at: http://www.rail-reg.gov.uk/upload/pdf/288-pass_candp4ed.pdf.

Freight; Criteria and procedures for the approval of freight track access contracts, third edition, Office of Rail Regulation, London, May 2006. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/289-frghtcp3ed.pdf>.

Access charge	Costs to be recovered	Unit of charge	Price list references on ORR website
	<p>consumption) with the price being differentiated by region and time.</p> <p>The final passenger operators' charge follows modification through a wash-up process between actual and modelled electricity consumption.</p> <p>A discount of 16.5% can be applied where vehicles are nominated for use of regenerative braking facilities and use these facilities.</p>		
Electrification asset usage charge	Additional maintenance and renewal costs on electrification assets from the operation of trains.	Pence per kwh	Price list – Appendix Q: http://www.rail-reg.gov.uk/upload/pdf/116-prdcrevfin2.pdf .
Capacity charge	<p>Additional Schedule 8 costs resulting from additional train services operating on the network. This charge is currently differentiated by service group.</p> <p>Freight capacity charge 10% discount on passenger charge due to greater flex.</p>	Pence per actual train mile operated	<p>List of capacity charge rates: http://www.rail-reg.gov.uk/upload/pdf/arev-price_list4_19dec.pdf.</p> <p>CC terms (see below): http://www.rail-reg.gov.uk/upload/pdf/arev-price_list6_19dec.pdf.</p>
Charges relating to enhancement to the capability, capacity or functionality of the network	Additional costs resulting from increasing the capability of the network.	Charge specific to particular enhancement project	

Access charge	Costs to be recovered	Unit of charge	Price list references on ORR website
Station long term charge	Costs of maintenance, renewals and repair at stations.	Specific charge per station ³²	Appendix T: http://www.rail-reg.gov.uk/upload/pdf/116-prdcrevfin2.pdf . ³³
Fixed charge (franchised passenger operators only)	Residual costs determined at periodic review.	Allocated between operators by vehicle mileage (different cost types allocated at different levels of regional disaggregation)	Schedule of fixed charges: http://www.rail-reg.gov.uk/upload/pdf/arev-price_list3_19dec.pdf . ³⁴

³² The share to each individual train operator is dependent on the number of scheduled departures from the station by that train operator as a proportion of the total number of departures.

³³ Modifications to station long term charges since October 2000 are set out in the relevant modification to the station access conditions.

³⁴ The fixed charges payable have been modified to reflect the notice served on 10 March 2004. These charges are set out in Annex E of access charges review 2003; regulator's approval of Network Rail's proposed financing arrangements, Office of the Rail Regulator, London, March 2004. This can be accessed from our website at <http://www.rail-reg.gov.uk/upload/pdf/188.pdf>. Some charges have also been modified as a result of franchise re-mapping and these revisions are set out in the relevant track access contracts.