OFFICE of
RAIL REGULATION

Disaggregating Network Rail's expenditure and revenue allowance and the future price control framework: a consultation

June 2005

Published by the Office of Rail Regulation

Contents

Executive summary

Context

1. The implementation of *The Future of Rail* White Paper ('the White Paper') and the Railways Act 2005 will require a number of significant changes to the structure and operation of the rail industry. A major area of change is the devolution of greater powers and responsibilities for specifying high-level railway outputs and funding rail services to the devolved administrations and local and regional bodies. The proposals in the White Paper in this respect include:

- increased powers for Scottish Ministers to specify and fund the railway in Scotland including the network infrastructure;
- devolution of funding and specification responsibility for local and regional rail services in Wales to the National Assembly for Wales;
- the leasing of the Merseyrail Electrics network by Network Rail to Merseytravel PTE to allow greater degree of local decision-making;
- an enhanced role in the future for Transport for London (TfL) and Passenger Transport Executives (PTEs); and
- scope for local authorities and community rail partnerships to develop "community railways".

2. This document sets out the principles that we intend to adopt when responding to these changes, focusing in particular on arrangements in relation to Scotland, where the proposals are the most advanced and have significant implications for the regulation of Network Rail.

Disaggregating Network Rail's revenues and expenditure

3. Under the arrangements proposed for Scotland in *The Future of Rail* White Paper, the Scottish Executive will take on responsibility for funding infrastructure in Scotland from 1 April 2006, with funding responsibility in England and Wales retained by the Department for Transport (DfT). This means that a proportion of Network Rail's income will, from that date, be

funded by the Scottish Executive, either directly through grant or indirectly through support to train operators.

4. This document sets out the methodology that we will adopt when disaggregating the existing network-wide expenditure and revenue allowances and also provides a calculation of these numbers for England and Wales, and Scotland.

5. In disaggregating expenditure and revenue allowances we have adopted the standard building block approach used in the access charges review 2003 (ACR2003) to determine Network Rail's revenue requirement. The proposed approach is intended to be applicable to other areas and in the short-term a similar exercise will need to be undertaken for Merseyside if the proposal proceeds.

Disaggregating the RAB

6. A provisional agreement was reached between the Secretary of State for Transport and Scottish Ministers on 18 January 2005 for a transfer of £302 million per annum for the funding of Network Rail in Scotland.

7. The provisional agreement was based upon analysis and modelling carried out by consultants working on behalf of the Scottish Executive. The provisional settlement was calculated using a regulatory asset base (RAB) split which assumed that 10% of the Network Rail RAB applied to Scotland.

8. DfT and the Scottish Executive agreed that all terms of the provisional settlement were to be fixed except for the RAB split, which would be subject to change following determination by us. We are now setting out details of our approach to disaggregating the RAB. Using this methodology, we have calculated that the appropriate proportion of the RAB to be allocated to Scotland is 11.2%.

The structure of Network Rail's price control

9. Network Rail's existing price control framework applies to Great Britain as a whole so that the revenue allowances and outputs determined at ACR2003 were set nationally. Likewise reporting and monitoring is currently focused at the national level (in line with the GB-wide outputs and revenue allowance) although information is collected and monitored at various levels of geographical disaggregation.

10. In the light of proposals set out above, we consider that modifications to Network Rail’s price control and monitoring framework will be necessary in the future to ensure appropriate transparency, monitoring, incentivisation and enforcement of outputs in each area.

11. We are consulting on the necessary changes and the extent to which outputs, financial protections and monitoring tools can and should be disaggregated to facilitate the new arrangements. An important issue to consider is the impact of different levels of risk-sharing arrangements between different funders.

12. For the remainder of control period 3 we do not foresee the need to formally disaggregate outputs between England and Wales, and Scotland. For control period 4 we consider that more formal separation of Network Rail’s price control framework between England and Wales, and Scotland will be necessary to support our regulation of the separate funding and specification of high-level outputs provided by the DfT and the Scottish Executive.

1. Introduction

Context

1.1 One of the key proposals in *The Future of Rail* White Paper[1] is the increased devolution of powers and responsibilities for specifying and funding railway services and high-level outputs, from DfT to the Scottish Executive, Welsh Assembly Government (WAG), the Mayor of London, the six PTEs in England and the various community rail partnerships (CRPs). The extent to which power and responsibilities are being devolved and the pace of devolution vary.

1.2 The proposals for Scotland have significant implications for the regulation of Network Rail and are also the furthest advanced. In summary, full financial responsibility for funding railway outputs will transfer from DfT to the Scottish Executive from April 2006. These changes require that we:

- disaggregate Network Rail's expenditure and allowed revenue (including the regulatory asset base (RAB)) from the current Great Britain (GB) level to England and Wales, and Scotland. A fundamental premise is that devolution should not result in an adjustment to Network Rail's overall revenue allowance or expenditure requirements. Therefore, the key issue in the short-term is to establish what proportion of the aggregate grant payment made to Network Rail should be provided by the Scottish Executive and what part should continue to be provided by DfT[2]; and

- establish new, or modified, price control frameworks to underpin the separate specification of high level railway outputs and responsibility for funding Network Rail by DfT and the Scottish Executive.

1.3 Similar work will need to be undertaken for Merseyside in relation to the proposals for Merseytravel PTE to enter into a long-lease with Network Rail to

---

1 *The Future of Rail*, Cm 6233, Department for Transport, July 2004.

2 Network Rail receives part of its income from Government grants in lieu of income that it would have received from access charges paid by franchised passenger train operators.

take over the responsibility for the Merseyrail Electrics network. This lease arrangement is currently proposed to start in February 2006.

1.4 At present there are no plans for the WAG, the Mayor of London, other PTEs and CRPs to specify and fund railway outputs in their areas of responsibility. Consequently there is no need to disaggregate Network Rail's expenditure and allowed revenues or review the price control frameworks for these areas at the current time. However, since all these bodies will obtain new powers and responsibilities in respect of train service specification, we expect that, as a minimum, a level of understanding of costs and a requirement for reporting for these areas will be necessary along with consideration for implementation of geographically based access charges.

1.5 For that reason, we consider that there is a need to develop a consistent approach to disaggregating the revenue requirement and the price control framework that could, in principle, be applied to any other area in the future.

Purpose of this document

1.6 The purpose of this document is to:

- summarise the changes to the structure and funding of the industry arising from the White Paper proposals and the Railways Act 2005;
- consult on the proposed approach to disaggregating Network Rail's expenditure and revenue requirement, including the RAB, in order to determine separate funding requirements in different geographical areas;
- provide a calculation of the shares of Network Rail's RAB that applies to England and Wales, and Scotland;
- provide disaggregated revenue allowances for England and Wales, and Scotland; and
- consult on options for modifying the price control framework employed by us to regulate Network Rail in light of the devolution proposals, both for the remainder of control period 3 (CP3) (2004/05 – 2008/09) and for control period 4 (CP4) (2009/10 – 2013/14).

Regulatory impact assessment

1.7 The DfT has undertaken a regulatory impact assessment of the proposals in the White Paper for the changes in the powers and responsibilities of devolved administrations and local and regional bodies[3].

Structure of this document

1.8 This document is structured as follows:

- chapter 2 contains an overview of the changes to the structure and funding of the industry resulting from the White Paper and the Railways Act 2005;
- chapter 3 discusses the disaggregation of Network Rail's expenditure and revenue allowance, including the RAB, and also provides revenue allowances for England and Wales, and Scotland;
- chapter 4 discusses the implications and options for the price control framework for the remainder of CP3 and for CP4;
- annex A describes the metrics for allocation of common costs;
- annex B provides detail underpinning the calculations of our proposed RAB split; and
- annex C contains indicative revenue allowances for England and Wales, and Scotland.

Responses to this document

1.9 We welcome views on any issue raised in this document. In particular, responses are sought in relation to:

- the proposed approach to disaggregating Network Rail's expenditure and revenue allowance and its suitability for application to England and Wales, and Scotland;
- the proposed rules for allocating Network Rail's common costs;

3 *Regulatory Impact Assessment*, Department for Transport, April 2005 available at: http://www.dft.gov.uk/stellent/groups/dft_railways/documents/page/dft_railways_033000.hcsp

- the proposed methodology for disaggregating Network Rail's RAB; and

- the proposals for modifying Network Rail's price control framework.

1.10 Responses to this document should be sent in electronic and hard-copy format by 13 September 2005 to:

Paul McMahon
Head of Regulatory Economics
Office of Rail Regulation
1 Waterhouse Square
138-142 Holborn
London EC1N 2TQ

E-mail: paul.mcmahon@orr.gsi.gov.uk

1.11 Responses will be made available in the ORR 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. Where a response is made in confidence, a statement summarising the submission should accompany it, but 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.

1.12 Any of the issues raised in this document can also be discussed with Paul McMahon (telephone: 020 7282 2095).

1.13 Copies of this document will be available from the ORR library and on our website (www.rail-reg.gov.uk).

Next steps

1.14 We will publish conclusions on the issues discussed in this document by the end of October 2005 which will:

- confirm our approach for disaggregating Network Rail's revenue allowance, including the final value for the shares of the RAB in England and Wales, and Scotland;

- confirm our final decision on Network Rail's price control framework for both the remainder of CP3 and for CP4 in light of the devolution of powers and responsibilities to Scotland; and

- outline developments and further regulatory implications that may have occurred since this document has been published in relation to the implementation of the White Paper and the Railways Act 2005 and the devolution of new powers and responsibilities. We expect this to include further progress on the work necessary to support the long-lease arrangement between Merseytravel PTE and Network Rail.

2. The Future of Rail White Paper

Introduction

2.1 This chapter provides an overview of the changes resulting from the White Paper (and the Railways Act 2005) and explains the progress to date on the respective proposals.

White Paper proposals

2.2 The White Paper outlined a range of significant changes to the structure, operation and funding of the rail industry. One such change was the devolution of greater powers and responsibilities for specifying and funding rail services, including in some cases overall railway outputs, to the devolved administrations and local and regional bodies. The proposals encompass:

- increased powers for Scottish Ministers to specify and fund railway outputs in Scotland;
- devolution of funding and specification of local and regional rail services in Wales to the National Assembly for Wales;
- the leasing of the Merseyrail Electrics network by Network Rail to Merseytravel PTE;
- enhanced future role for PTEs and TfL; and
- scope for local authorities and community rail partnerships to develop community railways.

2.3 Since the publication of the White Paper in July 2004 various working groups have been established to take forward the implementation of the proposals. The progress and timescales for all these working groups varies. The latest position in each of these developments is summarised below. The Railways Act 2005 gives effect to the proposals in the White Paper that required primary legislation.

Scotland

2.4 As a result of the Transport Act 2000, the Scottish Executive is currently responsible for specifying and funding the ScotRail franchise. The White Paper outlined the Government's intention to make the Scottish Executive directly responsible for managing and financing the contracting of train services within Scotland (and the ScotRail sleeper service between Scotland and London). Given the impact that the level and quality of train services specified will have on the infrastructure, the Railways Act 2005 makes the Scottish Executive responsible for specifying and funding overall railway outputs in Scotland (e.g. in terms of required capacity, performance and safety). The infrastructure will remain under the ownership and responsibility of Network Rail.

2.5 These proposals are intended to take effect from April 2006 and are subject to agreement on the transfer of appropriate resources from the UK Government to Scottish Ministers. Extensive work has been done by relevant stakeholders to establish the level of this resource transfer, resulting in a provisional settlement on 18 January 2005[4], subject to our determination of the value of the RAB in Scotland. Further details of this settlement are contained in chapter 3 of this document.

2.6 The White Paper also confirmed that ORR would continue to have the same range of responsibilities in Scotland as it does in England and Wales. Much of this document focuses on the necessary changes to the current regulatory framework in response to the devolution of responsibility for rail strategy and funding in Scotland to the Scottish Executive.

Wales

2.7 In the White Paper the Government outlined its intention to devolve additional responsibility for rail to the WAG. In future, the WAG will specify the services and fares for Arriva Trains Wales services operating within and across the Welsh border and will be responsible for funding those services. To deliver these arrangements the Assembly will become a co-signatory to the Arriva Trains Wales franchise with DfT. Overall railway outputs in Wales will

---

[4] Details of this can be found in a DfT press release at http://www.dft.gov.uk/pns/displaypn.cgi?pn_id=2005_0003.

continue to be specified by DfT, with infrastructure ownership remaining with Network Rail.

2.8 Work is on-going to establish the appropriate level of funding transfer required to support these enhanced responsibilities. It is not envisaged that the new arrangements in Wales will have a significant impact on the regulatory framework, but will require a better understanding of the costs of providing more services (or cost savings of fewer services) and more disaggregated reporting. We will continue to discuss these issues with stakeholders as the proposals develop.

Merseyside

2.9 It is proposed that the Merseyrail network should be leased from Network Rail to Merseytravel PTE for 125 years. Merseytravel PTE will then enter into a concession agreement with a new infrastructure management company (InfraCo) who will be responsible for providing infrastructure outputs in that region. It is envisaged that this part of the network will be operated on a ‘vertically integrated’ basis with InfraCo and the train operating company (TOC) both owned by the same holding company. There would be accounting separation to meet the requirements of European Directive EC/2001/14.

2.10 Merseyrail Electrics (a joint-venture between Serco and Ned Railways) is currently operating train services in the region on a 25-year concession agreement. Work is currently underway to establish InfraCo with a view to fully implementing the proposal by February 2006.

2.11 These arrangements will be subject to regulation by ORR and are discussed further in the relevant sections of this document. We are currently considering the appropriate form of network licence for InfraCo.

2.12 The arrangements also have implications for Network Rail. As it will no longer be operating, maintaining, renewing or enhancing this part of the network, its revenues need to be reduced accordingly. This will be partially addressed by the transfer of the Merseyrail Track Access Agreement (and associated charges) to InfraCo. However, as current charges are not cost reflective and are suppressed by grants, we will need to consider the scale of any grant adjustment that will be required to ensure that the company makes no net gain and no net loss from the arrangements.

Transport for London and PTEs

2.13 It is proposed that TfL and PTEs will be given powers so that they may enter into agreements with train operating companies, and TfL may takeover management of the Silverlink Metro franchise. The Secretary of State will have a duty to consult TfL and PTEs when preparing to let a franchise, which involves services to, from or within the particular area covered by them. PTEs will be able to enter into an agreement to buy additional services if Network Rail can agree the necessary availability of capacity and if the PTE meets the full incremental costs of those services. They could also reduce services and retain the savings.

Community railways

2.14 Under the proposals in the White Paper DfT will continue to develop the SRA's draft *Community Rail strategy*. This strategy aims to put rural community routes on an improved financial footing. Many of these routes are highly subsidised and this strategy will allow the Government and others to explore the scope for increasing demand and reducing costs, and to conduct robust analysis to ensure that any savings outweigh the long-term costs.

2.15 We will continue to discuss the arrangements for TfL, PTEs and community railways with stakeholders as the proposals develop.

3. Disaggregating Network Rail's expenditure and revenue

Introduction

3.1 Under the arrangements proposed for Scotland in the White Paper, the Scottish Executive will take on responsibility for funding infrastructure in Scotland from 1 April 2006, with funding responsibility in England and Wales retained by DfT. This means that a proportion of Network Rail's income will, from that date, be funded directly by the Scottish Executive[5].

3.2 Under the current regulatory determination established at the 2003 access charges review (ACR2003), Network Rail's income comes from three main sources:

- fixed and variable track access charges paid by franchised passenger operators;
- SRA grants; and
- other single till income (e.g. income from stations and depots, freight and open access operators).

3.3 It is not proposed to make any adjustment to the charges paid by operators in response to the devolution of responsibility in the short-term. Nor, in principle, should the proposals affect the income that Network Rail receives from the other sources set out in the final bullet of paragraph 3.2.

3.4 A fundamental premise is that devolution should not result in an adjustment to Network Rail's overall revenue allowance or expenditure requirements in CP3. Therefore, the key issue in the short-term is to establish what proportion of the aggregate grant payment should be provided by the Scottish Executive and what part should continue to be provided by DfT.

---

5 The Scottish Executive already provides indirect funding to Network Rail through the ScotRail franchise.

3.5 The aggregate revenue received by Network Rail through the new grant arrangements for the remainder of CP3 will be equal to the revenue it is due to receive under the existing SRA deed of grant.

3.6 To calculate the split, it is necessary to disaggregate the existing network-wide expenditure and allowed revenues to generate an England and Wales revenue requirement and a Scotland revenue requirement. Netting off from these revenue requirements the existing charges that operators pay to Network Rail for use of the infrastructure in the respective areas and other single till income will allow us to calculate the appropriate grant payments for the remainder of CP3.

3.7 This chapter outlines the principles that we will adopt when disaggregating the existing network-wide expenditure and allowed revenues and also provides a calculation of the revenue allowances for England and Wales, and Scotland. The approach adopted is the standard building block approach employed by us in ACR2003 to determine Network Rail’s expenditure requirements and revenue allowance. The proposed approach to disaggregating the revenue allowance is intended to be applicable to other areas and, in the short-term, a similar exercise will need to be undertaken for Merseyside.

Disaggregating Network Rail’s revenue allowance between England and Wales, and Scotland

Context

3.8 A provisional agreement was reached between the Secretary of State for Transport and Scottish Ministers on 18 January 2005 for a transfer of £302 million per annum for the funding of Network Rail in Scotland. The funding is based on a calculation of the shortfall between an assumed revenue requirement for Network Rail in Scotland (to cover operating, maintenance and renewals expenditure) and income Network Rail receives in track access charges from ScotRail and other single till income[6].

3.9 The provisional agreement was based upon analysis and modelling carried out by consultants working on behalf of the Scottish Executive. ORR, DfT and Network Rail contributed to this work, providing advice and assistance to the

---

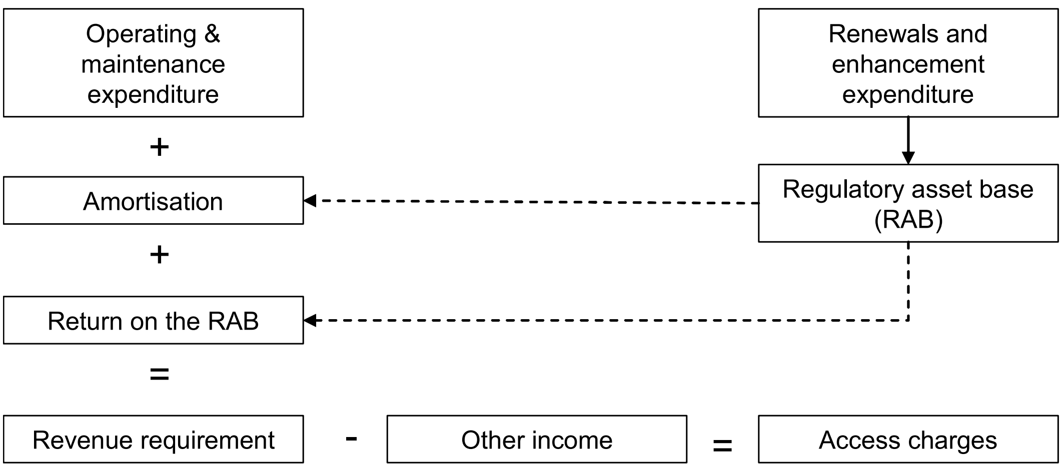
6 In addition to the £302 million, in order to fund rail enhancements in Scotland the Scottish Executive will receive additional funding from DfT, which is detailed in the announcement of 18 January 2005.

consultants and commenting on the overall approach. The settlement was calculated using a RAB split which assumed that 10% of the Network Rail RAB applied to Scotland. DfT and the Scottish Executive agreed that all terms of the provisional settlement were to be fixed except for the RAB split, which would be subject to change following determination by us.

Methodology

3.10 In order to derive an appropriate figure for both DfT's and the Scottish Executive's funding liabilities for the remainder of CP3, it will be necessary for us to disaggregate the revenue requirement that we determined for Network Rail in our ACR2003 final conclusions. ACR2003 was based upon a single network-wide determination, established using the standard regulatory building block approach, as displayed in figure 1 below. Under this approach, Network Rail's revenue allowance for CP3 was determined by calculating its operating and maintenance expenditure requirements plus amortisation (depreciation) and return on the RAB (which is comprised of past investment plus renewals and enhancements).

Figure 1: The standard building block approach for calculating access charges



3.11 In determining the two separate revenue requirements for England and Wales, and Scotland, we will use the building block approach. It is therefore necessary to identify Network Rail's direct expenditure in each area and to establish appropriate cost allocation rules to apply to national expenditure and common costs, in order to generate values for the building blocks in figure 1.

Disaggregation across the network

3.12 Disaggregating the revenue requirement for Scotland and England and Wales is easier at present than it would be for Wales separately, London and PTE areas. The majority of Network Rail's costs incurred in Scotland can be directly identified in each area. Expenditure forecasts are also provided for Scotland in Network Rail's business plan.

3.13 Given current data availability, determining the revenue requirement for Wales, London and PTE areas will be more complex as it will entail developing rules regarding levels of expenditure in each area. However, the basic principles of the building block methodology and the allocation mechanisms for common/central costs are intended to be applicable to any area. If future proposals for devolving responsibility for specifying and funding railway outputs are developed, then further work on allocating specific operating, maintenance and renewals costs would need to be undertaken at that time.

3.14 The Merseyrail Electrics network is identified separately as one of Network Rail's 26 routes in its business plan. The funding levels specified for this route should allow Network Rail to identify (and ourselves to validate) the direct expenditure requirements for the Merseyrail network. Network Rail's revenue requirement will need to be reduced accordingly to reflect the fact that the company will no longer incur this expenditure.

3.15 As with Scotland, it is not proposed to re-open the price control to adjust track access charges to reduce Network Rail's revenue by the appropriate amount. It is proposed that any reduction (net of the loss of access charges from Merseyrail Electrics and other single till income) would be made in the form of a reduced deed of grant from SRA/DfT to Network Rail.

Allocation of costs and revenues

3.16 The first stage in developing separate English and Welsh, and Scottish revenue requirements is to establish the proportions of GB-wide expenditure on operations, maintenance and renewals in each area as well as the income that Network Rail is expected to earn through the single till.

3.17 As revenue and expenditure in Scotland are generally identified specifically as Scottish expenditure in the company's business plan, it is straightforward to net this off against the existing GB total in order to derive separate expenditure projections for England and Wales, and Scotland. However, for the purposes of deriving the two revenue requirements it is also necessary to establish rules for the allocation of an appropriate share of Network Rail's central costs that are not allocated to Scotland.

3.18 A considerable amount of work on allocation of centrally incurred (or common) costs was undertaken by the Scottish Executive's consultants during the latter part of 2004. We have subsequently reviewed the cost allocation rules proposed and consider that these are appropriate for the purposes of deriving expenditure forecasts for England and Wales, and Scotland.

3.19 We will undertake an exercise to verify the operating, maintenance and renewals expenditure forecasts for each area for the remainder of CP3, to ensure that the disaggregation is as robust as possible. We will confirm these in the conclusions to this consultation that will be published in October 2005.

Operating costs

3.20 Approximately 55% of Network Rail's total expenditure on operations across the network is directly attributed to specific areas of the network, including Scotland. The remaining categories of operating expenditure will need to be allocated according to reasonable cost-reflective metrics. Annex A contains the metrics that we propose to adopt, which are the ones initially proposed by the Scottish Executive's consultants.

Maintenance and renewals

3.21 Most of Network Rail's forecast national expenditure on maintenance (around 95%) and renewals (around 80%) are attributed specifically to the geographical area in which they will be incurred. The Scottish building blocks for maintenance and renewals can therefore be derived directly from the proportion of the Network Rail budgets that are allocated to Scotland. Cost allocation rules are required for the small proportion of maintenance and renewals expenditure that are not directly attributed and the proposed rules are contained in annex A.

Enhancements

3.22 The majority of rail enhancements can be attributed to geographical areas although there may be certain enhancements that provide wider benefit, in which case the appropriate proportions of the total cost need to be allocated to each area.

3.23 The financial agreement reached by DfT and the Scottish Executive excluded enhancement expenditure for CP3. However, as part of the agreement, from 1 April 2006 a sum of £17m per annum will be transferred from DfT to the Scottish Executive to fund enhancements in Scotland. This will increase in proportion with future increases in expenditure on enhancements in England and Wales determined at Government spending reviews[7].

Single till income

3.24 Network Rail's total single till income comprises track access charges (from franchised passenger, open access and freight operators), stations income, depots income, and other income (i.e. from other facilities owned by Network Rail such as private sidings and income ring-fenced for the purposes of specific investments and enhancements).

3.25 In order to determine an appropriate split of grant funding between DfT and the Scottish Executive, we would normally net off from the gross revenue requirement in England and Wales, and Scotland, total single till income attributable to each area. This would include any access charge income from Virgin Cross Country and GNER related to their use of the infrastructure in England and Scotland. However, we recognise that the financial agreement between DfT and the Scottish Executive assumed that Network Rail's revenue requirement in Scotland would not be part-sourced by track access income from these two operators. This means that the amount of funding which the Scottish Executive will provide to Network Rail by direct grant will be higher as a result. Correspondingly, the direct grant provided by DfT to Network Rail will be lower.

3.26 The disaggregation of much of the remaining single till income underpinning the financial agreement between DfT and the Scottish Executive is based on directly attributed income, i.e. for property, stations and ring-fenced income. Freight and depots income is based on the proportion of freight miles in England and Wales, and Scotland.

7 The proportion will be based on the Barnett formula, which is the general basis for determining the share of public expenditure transferred to the devolved administrations from central government.

3.27 In the future we expect all single till income to be directly attributed to England and Wales, and Scotland and reported in the regulatory accounts for as far as possible. Where income cannot be directly attributed then we will ensure that appropriate cost allocation rules are developed. This work will form part of the further development of the regulatory accounting guidelines during 2005/06.

Application of cost allocation rules across the network

3.28 We would expect to apply the cost allocation rules consistently across the network. However, it is recognised that some of the cost allocation metrics identified above may not be appropriate to all areas due to the size of the area in question and the cost drivers that apply to various categories of expenditure. In addition to this, further rules may need to be developed for geographical areas where Network Rail does not record expenditure directly.

3.29 In the case of Merseyside, the share of the network that Network Rail will lease to Merseyside PTE represents only around 1% of the total network (in terms of expenditure). As a result, it is possible that the total expenditure on some central cost categories (e.g. human resources or information systems) will not be materially affected by such a minimal reduction in Network Rail’s responsibility. It may therefore be inappropriate for us to reduce Network Rail’s revenue requirement by the full amount that the cost allocation rules above suggest that the company will save. We will continue to work with Network Rail and Merseytravel PTE to establish the costs of the Merseyrail network and the associated savings to Network Rail to establish the appropriate reduction to Network Rail’s revenue.

Disaggregating the RAB between England and Wales, and Scotland

3.30 The allocation methodologies for costs and income outlined above will provide the building block values for the English and Welsh and Scottish revenue requirements. The remaining key decision in generating separate revenue allowances is to establish values for the proportion of the opening RAB in each area.

Rate of return and amortisation

3.31 The value of the GB RAB has a significant impact on the overall level of Network Rail’s revenue requirement since it affects the allowed return and amortisation building blocks.

3.32 The allowed return enables Network Rail to pay interest to its lenders and to establish a buffer to deal with shocks to its costs and revenues. The allowed return for the final three years of CP3 is 6.5% (in pre-tax real terms). The annual value for amortisation of Network Rail's RAB is determined according to the regulatory accounting rules that we established at ACR2003[8].

3.33 The amortisation and return on the RAB together account for more than half of Network Rail's revenue allowance for CP3. Table 1 shows a high level breakdown of the GB-wide CP3 determination, which gives a clear indication of the relative scale of the various building blocks. Amortisation and the allowed return amount to 56% of the CP3 GB-wide revenue requirement.

Table 1: Network Rail's gross national revenue requirement for CP3

Category	Total value for CP3 (£m, 02/03 prices)	Proportion of CP3 total
Operations	5,253	21%
Maintenance	5,207	21%
Amortisation	6,912	27%
Allowed return	7,118	29%
Schedule 4 and 8 costs	439	2%
Gross revenue requirement	24,929	100%

Source: ACR2003 final conclusions, Annex E.

3.34 No changes to the rate of return or amortisation rules will be made as part of the current disaggregation of the GB revenue allowance.

Risks associated with the RAB disaggregation

3.35 In the long-term the size of the RAB in each of England and Wales, and Scotland is a function of the capital expenditure invested into the network in each area and the rate at which that investment is amortised. If the initial RAB split results in, for instance, a Scottish RAB which generates an amortisation

8 For expenditure incurred after April 2004, the amortisation allowance is calculated by amortising Network Rail's investment on a straight-line basis over 30 years. For investment undertaken before April 2004, the amortisation allowance is calculated by decreasing the value of the RAB by 7% per annum on a reducing balance basis. Added together, the overall allowance for amortisation provides Network Rail with funding for approximately half of its expenditure on renewal and enhancement over the course of CP3. Network Rail will finance the remainder of its investment programme through borrowing.

value which is higher than the level of renewals necessary to maintain the assets in steady state (i.e. capital expenditure in Scotland is lower than the level of amortisation in Scotland), the RAB in Scotland will reduce over time.

3.36 Under these circumstances, the Scottish funding requirement will be lower than the initial transfer assumed and the Scottish Executive would benefit. If, however, the initial RAB split results in a Scottish RAB which generates an amortisation value lower than the long-term funding requirement (i.e. capital expenditure in Scotland exceeds the level of amortisation in Scotland), the Scottish RAB will increase over time, thus increasing the funding requirement of the Scottish Executive to a level above that which the initial transfer of funds was intended to support[9]. These arguments also apply to England and Wales or any other geographical area.

3.37 It is impossible to know with certainty what the long-term funding requirement is for the rail network. As a result, there is a risk to both the Scottish Executive and the DfT that the long-term requirement will differ from that implied by the funding transfer. ORR has highlighted this risk to the Scottish Executive and DfT and both parties have expressed their willingness to bear it.

3.38 ORR would consider it inappropriate if any risk associated with a once and for all funding transfer between two administrations was transferred to Network Rail. Formal deeds of grants will be required between Network Rail and each administration to ensure that the guarantee on revenue for the company is maintained. Provided this is maintained, ORR does not consider that the specific value of the RAB split should represent any material risk to Network Rail as a result of the funding streams that it will receive.

Our proposed approach for disaggregating the RAB

3.39 The RAB is to an extent a regulatory financial concept rather than a value driven purely by physical assets. As such there is no unambiguous approach to separating the RAB.

[9] Assuming assets are maintained in steady-state. In reality, the long-term level of the RAB in Scotland will be driven by the investment decisions of the Scottish Executive, which it is responsible for providing additional funding for, as well as funding required to maintain the assets in steady-state in the long-term.

3.40 For the purposes of agreeing a provisional settlement, DfT and the Scottish Executive adopted a RAB split of 10%, subject to change following our determination of the value of the split of the RAB between England and Wales, and Scotland.

3.41 One approach to disaggregating the RAB would be to base it on the share of the total value of the assets in each area. Determining the value of the assets in each area could be based on a detailed asset valuation exercise[10] or be undertaken using appropriate proxies for value. A full asset valuation exercise would require a detailed understanding of Network Rail's assets in each area, as well as appropriate monetary values for each asset. We do not consider that undertaking such an exercise is realistic in the timeframe of this study and because Network Rail does not yet have a full and robust asset register. However, we consider that an asset-based approach is nevertheless possible.

3.42 We have developed a composite approach that considers the effects of both the underlying value of the assets (irrespective of usage) and the level of use that these assets incur. This approach should therefore provide an approximation for long-run expenditure requirements[11]. This approach has three main steps:

- determine a proxy for the relative proportions of asset values within England and Wales, and Scotland;
- determine the level of asset use in England and Wales, and Scotland; and
- combine asset value and use in each area to give the proposed RAB split.

Step 1: Asset values in England and Wales, and Scotland

3.43 To establish proxies for the values of the asset bases applicable to England and Wales, and Scotland it is first necessary to establish the volume of Network Rail's assets within each area, for each of the main asset categories. In order to derive a proxy for asset value, these assets are then weighted according to their relative value. Since actual asset values are not available,

---

10 For instance, based on Modern Equivalent Asset values.

11 The precise figures used in the methodology are still being refined, however it is not envisaged that the final numbers will vary significantly from those presented in this paper.

this has been done by considering the proportion of the overall expenditure assessment undertaken for ACR2003 that applied to each asset category, i.e. the ACR2003 expenditure breakdown is used as a proxy for relative asset value. Using this methodology it is calculated that 88.1% of the total GB assets weighted by value are in England and Wales and 11.9% are in Scotland.

Step 2: Usage in England and Wales, and Scotland

3.44 The levels of asset usage are determined by the total gross tonne kilometres travelled in each area. Based on Network Rail's data for 2003/04, 91.6% of total gross tonne kms is in England and Wales and 8.4% is in Scotland.

Step 3: Combining assets and usage

3.45 As discussed above, we consider that the long run cost of renewing the railway infrastructure is driven by two factors. First, the cost associated with maintaining capability of the network, which would need to be incurred even if no trains ran, in order to hold the assets in steady state. Secondly, there is the additional cost incurred as a result of wear and tear (asset consumption) caused by trains running over the infrastructure.

3.46 The current estimate of the level of renewals expenditure that varies with use is 21%. This is based on estimates of variability for each asset category that were determined as part of the determination of the current variable usage charge at the 2000 periodic review. ORR's current structure of costs and charges review is reviewing the proportion of costs that vary with use, but a revised value is not yet available. Therefore, for the purposes of providing indicative figures for this consultation document, the existing value will be used. The final RAB split will be based upon the revised level of variability if robust conclusions are available from the structure of costs and charges review by the time the RAB determination needs to be finalised.

3.47 Following this three stage approach allows the RAB shares for England and Wales, and Scotland to be calculated as follows:

$$\text{RAB share} = (A \times (1 - V)) + (U \times V)$$

where

A equals the volume of assets (England and Wales = 88.09%, Scotland = 11.91%)
U equals the level of usage (England and Wales = 91.61%, Scotland = 8.39%)
V equals the assumed level of variability in costs (21%)

3.48 Using this methodology it is calculated that the share of the GB RAB in England and Wales is 88.8% and in Scotland is 11.2%. We propose that these values should be used to refine the financial agreement between DfT and the Scottish Executive.

3.49 Relative expenditure levels can provide a useful validation of the above methodology[12]. Thus, Network Rail's 2005 business plan shows that the company currently forecasts that 88.9% and 11.1% of its total renewals expenditure in the ten years from 2005/06 will be in, respectively, England and Wales, and Scotland. These values are virtually the same as our determination of the share of the RAB. In addition to this, we have also tested the sensitivity of the result to changes in key parameters in the methodology, particularly the valuation of track km, the relative level of usage and the variability parameter. The overall result remains comparatively stable when plausible changes in the value of these parameters are made, with the share of the RAB in Scotland remaining broadly in the range of 10.5% to 11.8%.

3.50 Annex B provides more detail on the calculation of the disaggregation of the RAB.

Wider applicability of the RAB disaggregation methodology

3.51 The RAB disaggregation methodology approach is comparatively straightforward to apply in any geographical area, since it is largely based on the location (and volume) of assets. As such it could, if necessary, be applied in Wales, London, Merseyside or other PTE areas.

3.52 While Network Rail has been able to provide aggregate information on asset volumes for England and Wales, and Scotland, in applying the methodology to other areas, which are not currently used by Network Rail as the basis for recording information, the volume of the assets in each area would need to be determined.

Revenue allowances for England and Wales, and Scotland

3.53 Indicative disaggregated revenue allowances for England and Wales, and Scotland based on the approach outlined in this chapter are contained in

[12] However, there are significant concerns with the use of expenditure levels as a metric in their own right for disaggregating the RAB (see annex B).

annex C. These allowances are indicative and subject to change following ongoing refinement and this consultation.

4. Network Rail’s price control framework

Context

4.1 Network Rail’s price control framework is the means by which we determine, implement, monitor and enforce Network Rail’s revenue allowance and associated outputs. The main elements of the framework include:

- specification of Network Rail’s regulated outputs at a periodic review;
- determination of the efficient cost of operating, maintaining, renewing and enhancing the network in delivering the required outputs;
- the incentive regime, including treatment of out-performance and underperformance;
- specification of how unexpected events (i.e. allocation of risks between Network Rail, customers and funders) will be dealt with; and
- reporting and monitoring requirements.

4.2 Network Rail’s existing price control framework is GB-wide. The revenue allowance was determined nationally at ACR2003 and is not ring-fenced to any geographical area. Similarly, the outputs determined at ACR2003 for CP3 were generally set at the GB level (although network capability is to be maintained at a route level). Network Rail’s reporting and our monitoring of Network Rail are focused at the national level (in line with the GB-wide outputs and revenue allowance) although information is collected and monitored at various levels of geographical disaggregation. While outputs are set and monitored largely at the GB level they are enforceable at a local level as ‘reasonable requirements’ of Network Rail’s customers and funders as set out in Condition 7 of Network Rail’s network licence.

Financial protections

4.3 The regulatory framework for Network Rail provides it with various financial protections in order for it to be able to deal with unanticipated shocks to its costs or revenues, which could lead to changes in access charges or outputs, either as part of an interim review or at a future periodic review. These protections are:

- provision for an interim review after April 2006 if cumulative expenditure is 15% higher or lower than the expenditure assumed at ACR2003, where outputs and/or revenues could be adjusted accordingly;
- the annual surplus allowed by ORR in track access charges (through the difference between the rate of return and Network Rail's cost of finance). This surplus allows Network Rail to establish a financial buffer to deal with cost shocks and smooth out volatility in cashflow over the control period[13];
- the ability to borrow more money from lenders (up to the regulatory limit of the debt to RAB ratio established in Condition 29 of Network Rail's network licence);

4.4 In addition, further protections are provided by the financial indemnity provided by the Government to support Network Rail's long-term debt issuance programme and the £4 billion standby credit facility 'A' provided by the SRA.

4.5 In line with the other elements of the existing price control framework all the protections currently apply across the entire network.

Changes to the price control framework

4.6 In the light of the White Paper, the Railways Act 2005 and the announcement by the Secretary of State and the Scottish First Minister on 18 January 2005 (concerning the provisional agreement on the funding transfer from April 2006), modifications to Network Rail's price control framework need to be considered.

4.7 We consider that it is necessary to make modifications to the price control framework to ensure appropriate transparency, monitoring, incentivisation and enforcement of outputs in each area. In addition to this, it will be necessary to ensure that the funding provided to the railways in either England and Wales or Scotland is used and retained for the benefit of funders, customers and

[13] The buffer could take the form of lower net debt or additions to cash reserves.

passengers within the respective areas, subject to the extent to which the modified price control framework includes the sharing of financial risk by DfT and the Scottish Executive.

Price control options

4.8 The options for modifying Network Rail’s price control framework in this context can be considered as a range of approaches, broadly covering:

- retention of the current network-wide price control;
- implementation of some form of separate price control; and
- demerger of Network Rail to separate companies (with separate price controls).

4.9 At one end of the spectrum, a demerger of Network Rail is not currently under consideration. However we consider that retention of the current GB-wide price control, even with enhanced monitoring, is inappropriate in the medium-term, in the context of DfT and Scottish Executive preparing separate High Level Output Specifications and providing separate direct funding to Network Rail. Therefore, we consider that some degree of separation of the price control will be required, in order to provide funders with:

- sufficient transparency of expenditure and outputs;
- the most appropriate means of ensuring (through the incentive and enforcement regimes) that outputs are achieved in each area; and
- appropriate protections against increases in costs that are consistent with the level of risk-sharing (or bearing) between funders established in the price control framework.

4.10 Making the necessary modifications to the price control framework needs to be considered over two separate timeframes:

- the remainder of CP3, from 1 April 2006 to 31 March 2009; and
- CP4, from 1 April 2009 to 31 March 2014.

Modifications to the price control framework for CP3

Output enforcement in CP3

4.11 We do not consider that it is practicable or necessary at this point to undertake an interim review for the purpose of formally disaggregating the current GB-wide outputs from April 2006 for England and Wales, and Scotland separately. We consider that determining accurate output levels for the separate geographical areas will be a protracted exercise that we will be starting to undertake during 2005/06, as part of the 2008 periodic review (PR2008) process and the development of the High Level Output Specifications. This process will provide the opportunity to determine robust outputs for each geographical area in relation to the funding available.

4.12 However, given the need for transparency and accountability, we propose to determine indicative outputs for England and Wales, and Scotland for the baseline outputs, set out in chapter 9 of the ACR2003 final conclusions, for the remaining three years of CP3. We will publish these indicative outputs and they will form part of our monitoring of Network Rail, which will be enhanced from April 2006 in conjunction with the devolution arrangements.

4.13 We consider that existing regulatory mechanisms provide sufficient strength to underpin the devolution arrangements for the remainder of CP3. Network Rail, under Condition 7 of its network licence, must satisfy the reasonable requirements of funders in respect of the quality and capability of the network, otherwise it is possible that we would take enforcement action.

Financial protections in CP3

4.14 We consider that all operational risk should continue to be dealt with at a GB-wide level for the remainder of CP3. This means that the trigger for an interim review of Network Rail’s outputs and/or revenue will remain at the GB-wide level; that Network Rail will deal with any revenue shortfalls or cost shocks in either area, through the ability to draw on its financial buffer (e.g. to undertake additional borrowings up to the ceiling of its debt to RAB limit); and that there will be no restrictions placed on Network Rail’s flexibility to transfer operating surpluses between England and Wales, and Scotland to offset operating deficits in the other area.

4.15 We consider that it is not as important to establish separate financial protections for Network Rail in relation to England and Wales, and Scotland for the remainder of CP3 if the existing GB-wide outputs are not being formally disaggregated between England and Wales, and Scotland. However, it will be important to monitor Network Rail's expenditure in England and Wales, and Scotland separately (alongside the GB level) during CP3, which will provide additional information to determine Network Rail's compliance with Condition 7 of its network licence.

Financial indemnity

4.16 We understand that under the agreement reached by the Secretary of State and Scottish Ministers, the UK Government will continue to indemnify all of Network Rail's debt, i.e. including that used to finance expenditure in Scotland. This is consistent with the continuation of the existing GB-wide financial protections in CP3.

4.17 We are currently considering how the value of the indemnity should be measured and recorded in Network Rail's regulatory accounts. We will set out our view on this subject in due course. We will also set out our views on whether some provision should be made in the regulatory accounts for the value of the indemnity in Scotland. The provision of this indemnity also raises issues over the longer term and this is discussed further in paragraph 4.38.

Monitoring in CP3

4.18 In order to provide transparency of Network Rail's activities, outputs and expenditure in England and Wales, and Scotland, we will review and make appropriate modifications to the monitoring framework during 2005/06. The key elements of the monitoring framework are:

- Network Rail's regulatory accounts;
- Network Rail's annual return;
- ORR's Network Rail Monitor; and
- the Network Rail business plan.

Regulatory accounts

4.19 Under Condition 22 of the network licence, Network Rail is required to provide annual information on the financial performance and financial position of the company. This information is provided in the regulatory accounts, which are prepared in a format specified by ORR's Regulatory Accounting Guidelines (RAGs). The regulatory accounts currently include national information on Network Rail's income, expenditure and RAB additions.

4.20 During 2005/06 we will consider the regulatory accounting implications of devolution. In the future it will be necessary to identify and report information on Network Rail's financial performance in England and Wales, and Scotland separately in order to provide transparency in respect of Network Rail's expenditure in each geographical area. In addition we will need to be able to monitor Network Rail's performance to provide information for future periodic reviews.

4.21 The format of the disaggregated accounts will be affected by the price control structure that we implement. The possible structures are discussed in more detail in the following section. Following conclusions on the price control framework, the RAGs will be revised and we intend that fully audited regulatory accounts for Network Rail in England and Wales, and Scotland separately, as well as at a company level, are produced for 2006/07.

Annual return

4.22 Under the terms of its network licence, Network Rail is required to submit an annual return to ORR. The annual return reports on a range of measures about the performance and condition of the network over the previous year and compares this to the ACR2003 baseline outputs/targets. It also reports on Network Rail's activities and expenditure. From 2005/06, the annual return will include information on unit costs and we propose to augment this from 2006/07 with separate unit costs of operating, maintenance and renewals activity in England and Wales, and Scotland.

4.23 During 2005/06 we will review the content of the annual return and undertake any revisions of its structure in order to provide sufficient disaggregated information for England and Wales, and Scotland in a consistent format in time for the preparation of the 2006/07 annual return.

Network Rail Monitor

4.24 The first quarterly Network Rail Monitor was published in March 2005 and contained details of Network Rail's performance for quarter 3 of 2004/05. At present, the Network Rail Monitor provides details of Network Rail's performance against GB-wide targets. As well as continuing to publish a Monitor at the overall Network Rail level, we consider that it is necessary to also expand reporting to include performance in England and Wales, and Scotland separately. As discussed above, we propose to do this against indicative outputs for the remainder of CP3. The revised Monitor will be developed during 2005/06 and will be published from the first quarter of 2006/07.

Business plan

4.25 Network Rail's business plan sets out its proposed activities, outputs and expenditure at a GB-wide level as well as for its 26 strategic routes for the next ten years. The plan also explains the organisational changes and initiatives that Network Rail is making in order to deliver its proposals.

4.26 Network Rail's 2006 business plan (to be published in March 2006 providing forecasts for at least the years 2006/07–2015/16) is an important input to the PR2008 process and the preparation of the High Level Output Specifications. As such, it is important that appropriate information is provided for England and Wales, and Scotland separately in the business plan. Network Rail must provide in its 2006 business plan information on its proposed activities, outputs and expenditure for England and Wales, and Scotland separately, as well as GB-wide and for its 26 strategic routes. This will include providing separate forecasts for the parts of the West and East Coast Main Line strategic routes that are in England and Scotland. Each year we provide Network Rail with a business plan notice on the required form and content of the plan and we will develop our requirements for disaggregated reporting further ahead of finalisation of the business plan notice later this year.

Modifications to the price control framework for CP4

4.27 We propose to introduce more formal price control separation from the start of CP4.

4.28 As part of PR2008, which we will be starting during 2005/06[14], we propose that, in line with the separate High Level Output Specifications provided by DfT and Scottish Executive, there will be separate determinations for England and Wales, and Scotland of Network Rail's:

- baseline outputs (i.e. train delay minutes and asset condition and serviceability measures);
- building blocks for the revenue allowance in each area:
  - operating, maintenance, renewal and enhancement expenditure (including assessment of future efficiencies);
  - RAB: following the separation of the RAB from April 2006 future additions to the RAB would be tracked and logged up according to the area in which expenditure was allowed;
  - other single till income; and
- access charges.

4.29 In addition to this we would continue, and develop further as appropriate, the separate monitoring that will start in April 2006.

Risk-sharing or risk-bearing

4.30 In contrast to the arrangements that we propose for the remainder of CP3, whereby the funding and output implications of operational risk will be shared between DfT and the Scottish Executive, determining the extent of sharing or bearing of risk is central to the CP4 price control arrangements. It relates to the extent to which DfT and the Scottish Executive would either share or separately bear the risk of increases in access charges (and therefore possibly funding) or reductions in outputs associated with unanticipated cost shocks or revenue shortfalls, either as part of an interim review or at a future periodic review.

4.31 In principle, an appropriate regulatory framework can be established for any reasonable agreement on the sharing or bearing of risk. We have had initial

[14] We will publish a document in the summer of 2005 that will outline our approach to, and timetable for, PR2008 in more detail.

discussions with DfT and the Scottish Executive regarding the extent to which the two funders may want to separate or share risk (to some degree) under separate price controls. Although some discussions have taken place with the Scottish Executive on the bearing all the risks (and rewards) relating to funding railway outputs in Scotland from CP4 onwards, the extent to which it, or DfT, may want to share some risk exposure has not yet been fully explored.

4.32 We consider that it is appropriate to consult on a range of possible options and, following responses by DfT, the Scottish Executive, Network Rail and other interested parties, we will establish the most appropriate price control framework for Network Rail. In doing this we must have regard to our statutory duties under section 4 of the Railways Act 1993 (as amended) and will need to satisfy ourself that the resulting framework adopted achieves an acceptable balance in respect of these duties where they conflict.

4.33 Choosing between risk-sharing or risk-bearing relates to decisions regarding the extent of separation between England and Wales, and Scotland in regard to:

- the financial protections (as explained above in paragraphs 4.3-4.5);
    - establishment of re-opener provisions for Network Rail's expenditure in each area separately or retention of a single provision at the GB level[15];
    - establishment of separate financial buffers for each area under Network Rail's overall debt to RAB ratio or retention of a single GB-wide buffer; and/or
- utilisation by Network Rail of expenditure surpluses across England and Wales, and Scotland.

Risk-bearing

4.34 Under a risk-bearing approach, the funding requirements imposed on DfT and the Scottish Executive would be based entirely on Network Rail's financial performance within England and Wales, and Scotland separately,

15 The current re-opener provision of plus or minus 15% of cumulative expenditure will be reviewed as part of PR2008.

notwithstanding the existence of the financial indemnity provided by the Secretary of State for all of Network Rail's debt.

4.35 Any underspend in either area would be effectively retained by Network Rail in that area and be used solely for the benefit of customers and funders of the railway in that area. This may include additions to Network Rail's cash reserves for that area/reduction in net debt, access charge rebates and/or additional investment in the network in the area. There may also be additional ongoing savings if the underspend was due to a permanent increase in efficiency, whereby the current period underspend would inform the determination of the forward looking expenditure requirement for the subsequent control period.

4.36 Similarly, any overspend by Network Rail in either area due to a cost shock or revenue shortfall would have to be funded by drawing on the financial buffer established for each area separately (e.g. the borrowing capacity under it's debt to RAB ratio, where the borrowing capacity would be identified for each area separately). This could lead to an increase in the future funding requirement in the area, through a higher revenue allowance, brought about by a higher rate of return or expenditure requirement (e.g. if any overspend was the result of a structural increase in cost).

4.37 Under risk-bearing, underspend or overspend in either area by Network Rail would be capped by implementing separate interim review re-opener provisions in track access contracts to apply to expenditure within each area[16].

4.38 The financial indemnity provided by the Secretary of State to support Network Rail's debt issuance programme means that full risk bearing is not possible unless there is a separation of the indemnification of Network Rail's debt between DfT and the Scottish Executive. However, the likelihood of this indemnity being called on is very small and in any event, Network Rail would be certain to breach its 15% re-opener or debt to RAB limits with the subsequent opportunity for regulatory intervention before the indemnity was called on.

---

16 The interim review re-opener provision is currently set at plus or minus 15% of cumulative operating, maintenance, renewals and enhancement expenditure as set out in the ACR2003 final conclusions (after April 2006).

Risk-sharing

4.39 An alternative to the separate bearing of risk is to continue with a risk-sharing approach, i.e. similar to the CP3 arrangements. Under this model the risks and associated funding requirements imposed on DfT and the Scottish Executive would be based on Network Rail's GB-wide financial performance and not related to performance in each area separately.

4.40 Any underspend in an area would be retained centrally by Network Rail. Under the principles of a fixed-price, fixed-outputs price control, surpluses could be used by the company as it saw fit[17]. Surpluses in one area could be used to cover cost overruns, access charge rebates or additional discretionary spending in the other area. As with the risk-bearing model, a long-term benefit from underspend would be expected in the originating area if it were caused by a permanent improvement in efficiency and hence fed through into lower expenditure and a lower funding requirement. There may also be an additional reduction in future funding requirements as underspend may lead to a reduction in Network Rail's net debt.

4.41 Under a risk-sharing approach any overspend in an area due to a cost shock or revenue shortfall would be funded through the central Network Rail financial buffer (e.g. the ability to borrow up to the limit of the aggregate debt to RAB ratio or to draw on operating surpluses from the other area). This would therefore only lead to an increase in the funding requirement in any area to the extent that it resulted in a legitimate increase in future operating, maintenance and renewal expenditure or had a material impact on Network Rail's GB-wide financial position, resulting in an increase in the company wide allowed return.

4.42 Under risk-sharing, underspend or overspend in either area would not be capped by separate interim review re-opener provisions. Rather, a GB-wide re-opener provision would be retained.

Constrained risk-sharing

4.43 Between the risk-bearing and risk-sharing options identified above, there are a number of alternatives that blend elements of each model. For instance,

[17] Network Rail, in conjunction with DfT, the Scottish Executive and ORR, is developing criteria for the use of surpluses.

constrained risk-sharing could be achieved by establishing separate re-opener provisions for Network Rail’s cumulative expenditure in England and Wales, and Scotland. Up to these levels Network Rail could draw on a single GB-wide financial buffer to absorb any downside risk. This would be akin to a capped insurance fund.

4.44 This option could work with operating, maintenance and renewals expenditure surpluses in either England and Wales, or Scotland being ring-fenced to each area, or allowing Network Rail to transfer them between areas as an additional means of smoothing out cashflow volatility.

Ring-fencing and timing

4.45 When considering the appropriate degree of ring-fencing of surpluses that Network Rail might achieve within an area it is important to draw a clear distinction between the short- and the long-term. Ring-fencing could be implemented over a variety of timeframes, with longer timeframes being consistent with a constrained risk-sharing approach. The main options are:

- complete ring-fencing: Network Rail would not be permitted to use surpluses generated in one area to fund deficits in the other, which corresponds to full risk-bearing;
- annual: Network Rail is permitted to transfer surpluses within a financial year but deficits need to have been “repaid” by the end of the year;
- control period: Network Rail is permitted to transfer surpluses between each area but any transfers needs to have been “repaid” by offsetting transfers by the end of the control period;
- longer than a control period: any outstanding deficit between areas at the end of a control period is re-balanced during the subsequent control period, which could be up to the full (five-year) duration of the control period; and
- no restrictions on the use of surpluses in one area to fund deficits in the other, which corresponds to pure risk-sharing.

4.46 Under a risk-sharing approach it may be necessary to cap the extent of any transfers that would be allowed between areas, since there would be risks to the ability of a given funder to fund outputs at a subsequent periodic review if

Network Rail was allowed to build up a deficit in one area (e.g. overspend in Scotland funded through underspend in England and Wales). In this example, outputs in Scotland may have to be significantly reduced or funding significantly increased, whereas under a risk-bearing approach an interim review may have been triggered in Scotland, allowing earlier intervention by us and the opportunity for the Scottish Executive to have an earlier review of its high level output specification and funding.

Regulatory accounting in CP4

4.47 As discussed above in paragraphs 4.19-4.21, we will be developing the regulatory accounts to support devolution. Regulatory accounting guidelines will be developed that are consistent with the approach to risk-bearing or risk-sharing that is adopted following this consultation. This would entail the developments above and could also involve separate accounting of Network Rail's cash reserves and borrowing headroom (under the ceiling of the debt to RAB limit), separate costs of capital and a charge for the financial indemnity. In addition, any ring-fencing of operating surpluses (or deficits) would be tracked through the regulatory accounts. If ring-fencing is set on more than an annual basis, the regulatory accounts will identify the cumulative surpluses and deficits of each area as appropriate.

The RAB and financing

4.48 Under price control separation there would be separate identification and treatment of Network Rail's RAB in Scotland and England and Wales. Additions to the RAB would be tracked and logged up according to the area in which expenditure was incurred.

4.49 We would expect that financing would continue to be carried out centrally by Network Rail. Therefore, debt would continue to be held centrally unless Network Rail considered that an alternative financing structure was more efficient. The financeability of Network Rail would be assessed as a whole.

4.50 At future periodic reviews we will review Network Rail's rate of return. In principle, different rates of return will be established to reflect any difference in risk faced by Network Rail in England and Wales, and Scotland.

Choosing between risk-sharing or risk-bearing

4.51 As part of the decision between the options for risk-bearing or risk-sharing it is also important to consider the implications for Network Rail in terms of its business flexibility and risk profile and the resulting industry-wide costs associated with bearing risk.

4.52 In assessing the impact of the various price control options on Network Rail's ability to manage risk it is important to consider the different types of cost or revenue risk that the company faces. Essentially, there are two distinct forms of cost or revenue risk:

- a general cost shock or revenue shortfall that results in a broadly proportional increase in network-wide cost or shortfall in revenues; and
- a localised event that causes costs to rise or revenue to fall within a particular area or network-wide cost shocks or revenue shortfalls that are unevenly distributed.

4.53 In the event of a network-wide increase in costs or decrease in revenues, there is very little difference between the risk-bearing and risk-sharing approach. Under both approaches, the company would be able to absorb a network-wide increase that raises costs across the network up to the total value of the protections (provided the increase applies uniformly across the network). However, in the event of a localised cost shock (or fall in revenues) in one area, or an uneven network-wide cost shock (or fall in revenues), the ability to absorb the shock would be different under each option. Under a pure risk-bearing approach, Network Rail will only be able to absorb the impact up to the value of the protections established for each area, whereas under a risk-sharing approach the impact will be able to be absorbed up to the total value of the network wide protections.

4.54 In effect, adopting a risk-sharing approach allows Network Rail to spread the risk of regional cost shocks across a larger business. On the other hand, if the GB-wide business is ring-fenced into smaller areas then the risks in each area increase because risks cannot be shared. It may be necessary to apply a higher rate of return to the regional revenue requirements in order to remunerate Network Rail for bearing additional risk. In theory this would increase the industry cost of bearing risk. However, the overall effect of such a move cannot be considered in isolation from the possible accountability and incentive impacts of bearing risk at an area level.

4.55 While the ability to spread risk across the business may have benefits, it is not necessarily consistent with the principles of devolution and the expectations of separate funders to ensure accountability for the significant sums of public money they are investing in the railways.

Incentives

4.56 Any change to the structure of the price control could have important implications for the existing incentive framework. Presently, Network Rail is incentivised in a number of ways. These include:

- Corporate incentives to beat the regulatory determination;
- contractual incentives (e.g. Schedule 4 possessions and Schedule 8 performance regimes);
- corporate financial incentives that reward the company for performance against pre-determined levels (e.g. asset stewardship and volume incentives);
- management incentives through the management incentive plan (MIP); and
- reputational incentives.

4.57 The introduction of separate price controls creates the opportunity to strengthen the effect of the incentive framework at a regional level. The most significant incentives in a traditional regulatory price control are the rewards and penalties associated with exceeding or not-achieving the regulator’s determination.

4.58 Under a risk-bearing approach we consider that Network Rail’s incentive to beat the regulatory determination in each area will be enhanced because it will not be possible to cross-subsidise poor performance from a surplus in another area. Thus, the incentives for achieving efficiency on a regional basis may be distorted if the cost of overspending is not borne locally.

4.59 Under a risk-sharing approach Network Rail may not be expected to feel the same pressures to outperform the specific price control set within each area, due to the option of cross-subsidisation. However, the fact that any savings made in one area could be used on other parts of the network should result in a continuous incentive to generate efficiency savings in each area as a result of the positive implications for the company as a whole. In particular, as Network Rail is to remain as a single business, there should be no weakening of the internal Network Rail incentives for a an area to exceed its allowed expenditure levels.

4.60 The contractual incentives and the corporate financial incentives would need to be fully reviewed as part of PR2008 to ensure that they remain fit for purpose for the network as a whole, regardless of any impacts associated with the separation of the price control.

4.61 We consider that the MIP may need to be reviewed in the light of the Scottish Executive's new powers and responsibilities in order to ensure that the management incentives are consistent in England and Wales, and Scotland.

4.62 Reputational incentives lend themselves very practically to being strengthened at a regional level. In this regard, the enhancements to the Network Rail Monitor to include information for England and Wales, and Scotland separately should increase the incentives on Network Rail to achieve the targets of the regulatory determination in each area.

Price control separation for Merseyside and other areas

Merseyside

4.63 The changes in respect of the proposed lease arrangement between Merseytravel PTE and Network Rail for the assets of the Merseyrail Electrics network and the formation of a new and separate InfraCo that will manage the network in that area, necessitate some form of separate price control framework for InfraCo. We are currently giving consideration to the options for this in relation to Merseytravel PTE's proposals and the appropriate form of licence for InfraCo.

4.64 We are currently engaged in discussions with representatives of Merseytravel PTE and Merseyrail Electrics regarding the form and content of the network licence for the new InfraCo. Once established, this licence will determine the extent to which the new company is regulated and monitored within the regulatory framework. In developing the licence, we will have regard to our section 4 duties and would expect to impose upon the infrastructure operator the minimum regulatory burden whilst ensuring both the rights and interests of third parties, passengers and freight customers and realising any benefits that can be accrued through increased benchmarking opportunities.

Other areas

4.65 Separate price control frameworks do not need to be considered at the present time since there are no proposals for the WAG, the Mayor of London, PTEs or CRPs to take responsibility for funding high-level outputs. If such proposals emerged they would need to be considered individually and would depend on the extent of risk-bearing or risk-sharing agreed between the new funder and the existing funder (e.g. DfT). If infrastructure management were separated from Network Rail (e.g. as proposed for Merseyside) then a regulatory framework would need to be developed.

4.66 The WAG, Mayor of London and PTEs will have powers to buy additional rail services. In order to provide a robust basis for the decisions they make and the economic effects of these decisions, it is necessary to understand the incremental costs of varying service levels. This will necessitate route specific charges. We have discussed this in the second structure of costs and charges review consultation document[18]. We consider that the development of the infrastructure cost model (outlined in chapter 5 of that document) is the basis for developing a better understanding of costs and developing charges at a route or geographical level. We will also give further consideration for enhanced reporting for these geographical areas alongside the development of route or geographical charges.

18 *Structure of costs and charges review: emerging views on key issues*, Office of Rail Regulation, April 2005 available at http://www.rail-reg.gov.uk/upload/pdf/229.pdf.

Annex A: Proposed common cost allocation metrics

Network Rail expenditure category	Proposed allocation metric
OPEX	
Railway estates – general	Passenger usage numbers
Safety and compliance – general	Track km
BT Police/other joint industry	Total train miles
Information systems	Head count
Human resources	Head count
National logistics	Maintenance and renewals
Chief engineer	Total train miles
Finance	Maintenance and renewals
PLC adjustment – pension	Head count
PLC adjustment – insurance	Total train miles
PLC adjustment – rail safety charge and other	Total train miles
Other HQ business units	Maintenance, renewals and opex
MAINTENANCE	
Other nationally managed expenditure	Maintenance expenditure
West Coast Route Modernisation	West Coast km
RENEWALS	
West Coast	West Coast km
Telecoms	Breakdown of fixed telecommunications network
Plant and machinery	Track km
IT	Head count
Other renewals	Total train miles

Annex B: Calculation of the value of the RAB in Scotland

Options for disaggregating the RAB

1. In its initial modelling work, the Scottish Executive proposed an allocation based solely on the proportion of track km within the Scottish territory, resulting in an allocation of 13.28% of the total RAB to Scotland. Discussions between ORR, DfT, Network Rail and the Scottish Executive agreed that this methodology was likely to overstate the value of the Scottish RAB due to the high relative proportion of lightly used rural lines on that part of the network. In the course of discussions a number of other indicators were considered (such as vehicle miles, expenditure levels, equated track miles and track access charges) which all fell within a range of 6.5% to 13.3%.

2. For the purposes of agreeing a provisional settlement DfT and the Scottish Executive agreed to adopt a provisional split of 10%. The Secretary of State and the Scottish First Minister, in their announcement of 18 January 2005, requested ORR to provide a determination of the value of the RAB in Scotland, and included a re-opener in the financial agreement to adopt our final determination.

3. In the absence of a detailed asset valuation exercise, we have considered possible approaches that could be adopted as a methodology for disaggregating the RAB. These options are displayed diagrammatically in figure 2 below. There are broadly two high-level approaches that could be considered, with a variety of specific approaches underlying these:

   - an inferred RAB, where the regional access charge income Network Rail would have received if there were no grants and the existing regional costs, are used to infer an opening value of the RAB in Scotland; or

   - an assessed RAB, where the RAB would be disaggregated using an appropriate metric as a proxy measure for the value of Scottish assets. There are numerous approaches that could be adopted as a proxy.

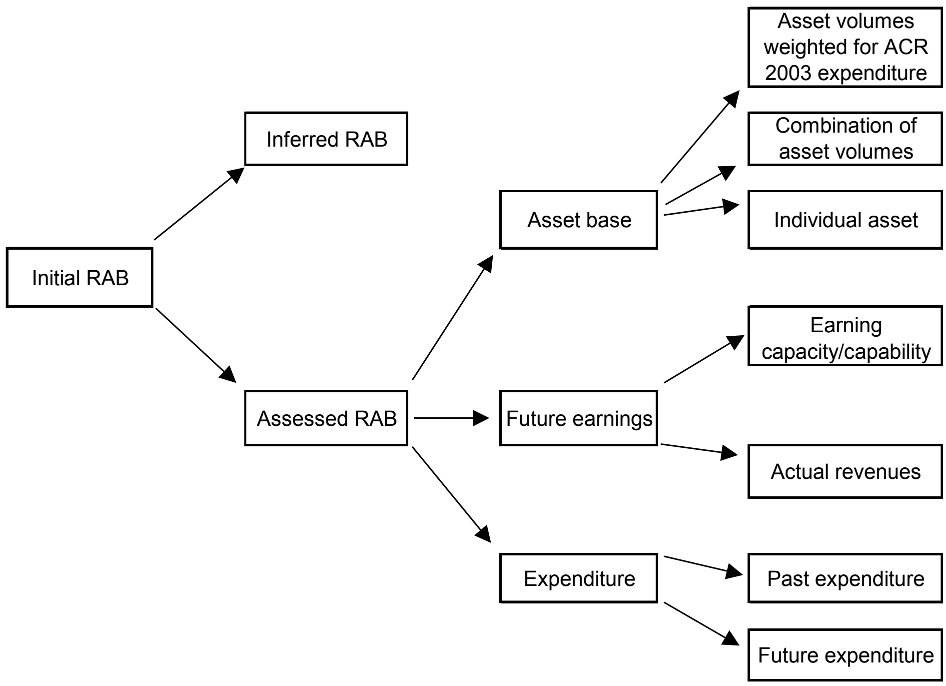


Figure 2: Options for disaggregating the RAB

4. Table 2 contains a brief description of each of these options and summarises the advantages and disadvantages of each approach.

Table 2: Summary of RAB disaggregation options

Methodology	Brief description	Advantages	Disadvantages	Appropriate to other regions?
Inferred RAB	Current charges and expenditure levels in Scotland used to ‘infer’ level of RAB in Scotland	Similar to approach used by Ofgem in disaggregating Transco’s RAB and would maintain current charges	Current charges are not cost reflective and the existence of grants removes any benefit to customers through the maintaining of existing charges	Difficult to allocate charges and expenditure to regions that are not NR business units
Asset-based – using asset values report	Proxy for value of assets using asset volumes in Scotland, weighted according to national asset valuations	A full MEA approach would be the preferred approach and this is closest available option. All necessary data should be available in an audited format	Does not take account of use and revenue generating capacity of the assets	Should be possible to compile details of asset volumes for other regions, though will require additional work on regions that are not NR business units
Asset-based – using asset volumes	Proxy for asset values simply looking at a combination of volumes of assets in different categories	Would take account of a variety of asset categories and would be relatively simple to apply	Would require subjective judgements on weightings of assets, would be open to dispute due to different regions having different mixes of assets (i.e. Merseyside – tunnels) and does not take account of use and revenue generating capacity of the assets	Should be possible to compile similar details of asset volumes for other regions, though unlikely to be available in the short-term for regions that are not NR business units
Asset-based – single asset category	Identify a single asset to act as a proxy for the value of different portions of the network and allocate on the basis of volumes of that asset	Extremely simple approach and offers plenty of scope to choose different allocations	Does not take account of use and revenue generating capacity of the assets, is likely to result in a wide range of possible values and may be distorted by the asset mix across regions (i.e. high level of tunnels in Merseyside, large volume of lightly used track in Scotland).	Should be relatively easy to apply across the network

Methodology	**Brief description**	**Advantages**	**Disadvantages**	**Appropriate to other regions?**
Revenue based – use of network	Split the RAB according to the volume of vehicle/train miles, or tonnage carried on the relevant portion of the network	Takes account of the revenue generating capacity of the network and acts as a rough proxy to value of assets as it considers the volume of traffic that the network can carry	Does not necessarily reflect the maximum capacity of the network or consider the age/quality or complexity of the network. Overstates the significance of variability compared with fixed cost of maintaining asset capability	Could be applied to all regions, although some may require some initial judgements on allocations.
Revenue based – current revenues from charges	Allocate on the basis of current income from charges in the various regions	Indicates directly the revenue that the owner is receiving through holding the assets and is based upon our determinations	Current charges are not cost reflective and charges are currently under revision (while NR's overall revenue will be unchanged, alterations to the fixed/variable split may alter overall charging in various regions)	Appropriate for regions that are identified in the fixed charge model, but otherwise would need to be allocated on another basis first.
Expenditure levels - past	Use past levels of expenditure to indicate the value that is contained within the RAB for different regions	Allocation based upon investment sunk into the asset base and may be reasonably consistent with the level of expenditure that the RAB will be required to support going forward	Capital expenditure is lumpy and disaggregated spend will not be available for long enough time period to judge where on peak/trough current expenditure lies. Does not consider whether spend was incurred with uniform level of efficiency and does not take account of use and revenue generating capacity of the assets	No robust data likely to be available for regions that are not NR business units
Expenditure levels - planned	Base the allocation of the RAB on an assessment of forward expenditure requirements	Results in an allocation in line with the level of expenditure that the disaggregated RAB will need to support	Does not take account of use and revenue generating capacity of the assets and may be distorted by varying regional efficiency levels. NR business plans may not be suitably robust	Robustness is questionable for regions that require allocation of NR business unit spend as well as central costs.

Our proposed approach

5. A key concern throughout this process has been to develop an approach that could, as far as possible, be applied robustly for other regions of the network.

6. Of the possible options, an asset-based approach would be the easiest to apply in other regions (such as Merseyside, Wales or London), since it is based on the location of physical assets rather than on potentially arbitrary allocations of costs or earnings.

7. The rate of degradation and replacement of railway assets is exacerbated by usage. Thus, whilst on one hand the Scottish Executive will inherit the responsibility for renewing the existing asset base in Scotland, the rate of that renewal is partially dependent on usage. Since the existing RAB will, broadly, reflect the differential levels of asset consumption in England and Wales compared to Scotland, it is proposed that the asset-based approach also takes account of usage levels.

Calculation of the separate England and Wales, and Scotland RABs

8. This section provides detail of the calculations and data sources used for the calculation of the RABs using our proposed approach. It covers the calculation of the share of the assets in each asset category in England and Wales, and Scotland. The asset categories used are:

- track (including track km and points);
- structures;
- signalling;
- telecoms;
- electrification;
- plant & machinery; and
- operational property (stations and depots).

Track assets in Scotland

9. To calculate the proportion of network-wide track assets that lie within Scotland, we have adopted a weighted assessment of the volume of plain line

and switch and crossing assets. The weighting is based upon the 10 year projected expenditure figures contained within the 2005 Network Rail business plan. This projects that expenditure on plain line renewals will be £476m p.a. on average across the period and spend on S&C will average £191m p.a. This translates into a weighting of 71% on plain line and 29% on S&C. This split is used to weight the asset volume proportions that have been calculated as outlined below.

Plain line track assets in Scotland

10. An approach for calculating the weighted length of plain line track assets in Scotland has been developed which takes account of different track types and the relative cost for renewing these.

11. Network Rail categorises track into five classes:

- rural;
- secondary;
- London and South East commuter;
- primary; and
- freight.

12. The lengths of each class of track in England and Wales, and Scotland, based on Network Rail's most recent data, are shown in table 3. The lengths of each class of the West Coast and East Coast Main Lines are allocated to England and Scotland.

Table 3: Length of track by class in GB

Track type	Freight only	London & South East commuter	Primary	Rural	Secondary	Total
England (km)	1952.3	4157.4	9160.5	2579.7	7388.7	25238.5
Scotland (km)	258.1	--	799.4	793.0	2363.5	4214.0
Wales (km)	311.9	--	352.2	461.9	903.8	2029.8
Total (km)	2522.3	4157.4	10312.1	3834.5	10656.1	31482.3
Share in England and Wales (%)	89.8	100.0	92.2	79.3	77.8	86.6
Share in Scotland	10.2	--	7.8	20.7	22.2	13.4

13. It is necessary to derive relative weights for the renewals cost for each class of track. In order to do this we have undertaken regression analysis of the proportions of each track class in each of Network Rail's strategic routes (reported in table 4) against the average track renewals cost in each strategic route. The average track renewals cost is calculated from Network Rail's 2004 business plan and is given by the total renewals expenditure on track divided by the total length of rail renewed in each strategic route. It is recognised that the total track expenditure encompasses expenditure on rail, sleepers and ballast and is not accurate as a measure of rail renewals costs. However, since the proportions of rail, sleeper and ballast renewal is broadly in proportion across the strategic routes, we consider that this value is appropriate for the purpose used here.

Table 4: Proportions of track by class and average renewal cost

	Strategic Route	Proportion of track class (%)					Average renewal cost (£k/km)
		Freight only	L & SE Commuter	Primary	Rural	Secondary	
1	Kent	2	61	29	4	4	802
2	Brighton Main Line & Sussex	1	67	23	8	0	837
3	South West Main Line	2	47	29	1	22	885
4	Wessex Routes	6	20	0	10	65	684
5	West Anglia	6	40	0	3	52	1206
6	North London Line & Thameside	11	89	0	0	0	813
7	Great Eastern	2	21	46	28	3	638
8	East Coast Main Line	0	5	94	0	1	953
9	Northeast Routes	23	0	0	17	61	488
10	North Transpennine, North & West Yorks	10	0	1	33	57	564
11	South Transpennine, South Yorks & Lincs	20	0	17	17	46	787
12	Reading to Penzance	4	0	55	15	26	1238
13	Great Western Main Line	8	3	71	3	14	1359
14	South & Central Wales & Borders	11	0	0	32	57	1000
15	South Wales Valleys	30	0	0	5	65	538
16	Chilterns	13	87	0	0	0	303
17	West Midlands	10	0	40	6	44	931
18	West Coast Main Line	6	2	88	3	1	2166
19	Midland Main Line and East Midlands	19	0	48	4	29	1195
20	North West Urban	7	0	15	21	57	1071
21	Merseyrail	5	0	0	0	95	647
22	North Wales and Borders	5	0	0	17	78	583
23	North West Rural	2	0	0	33	65	667
24	East of Scotland	11	0	22	1	66	1000
25	Highlands	1	0	0	60	39	629
26	Strathclyde and SW Scotland	8	0	9	7	77	830

14. The regression analyses reveal that only the proportion of primary track is a statistically significant variable, i.e. in terms of its impact on the renewals unit cost. Therefore, in the final regression model only the average renewals unit cost was regressed against the proportion of primary track class in each strategic route. The results of this regression analysis can be used to determine a set of weights that we propose to use to apply to each track class. For rural, London and South East commuter, secondary and freight the weighting is one, and for primary track the weight is 2.3.

15. Table 5 reports the results of the weighting. It shows that the weighted share of track assets in Scotland declines from 13.4% to 11.7%.

Table 5: Weighting of track lengths

	Freight only	L & SE Commuter	Primary	Rural	Secondary	Total
Unweighted						
England and Wales (km)	2264	4157	9513	3042	8293	27268
Scotland (km)	258	–	799	793	2364	4214
Share in Scotland (%)	10.2	–	7.8	20.7	22.2	13.4
Weights	1	1	2.3	1	1	
Weighted						
England and Wales (km)	2264	4157	21879	3042	8293	39635
Scotland (km)	258	0	1839	793	2364	5253
Share in Scotland (%)	10.2	0	7.8	20.7	22.2	11.7

Points in Scotland

16. The relative volume of points in Scotland has been calculated using data from the 2003 regional benchmarking study conducted by LEK[19]. This provided geographically disaggregated figures for the number of points across the network. Figures for the Scotland zone and the West and East Coast Main Lines have been used to calculate an overall figure for the number of points in Scotland. West and East Coast Main Line points have been allocated to Scotland on the basis of the proportion of track kms on that route that lie

19 LEK Regional Benchmarking Report, July 2003, Figure D.8 available at http://www.rail-reg.gov.uk/upload/pdf/lek_regbnchmk.pdf.

within Scotland (9.20% and 9.34% respectively, based upon figures provided by Network Rail).

17. Table 6 below contains the calculation of the proportion of network wide points within Scotland in full.

Table 6: Calculation of the proportion of GB-wide points within Scotland

Region	Number of points
Scotland zone	2153
WCML	1107
ECML	1525
Scotland WCML	102
Scotland ECML	142
Scottish total	2,397
Network total	23,455
Scottish proportion	**10.22%**

Structures assets within Scotland

18. The proportion of GB structures assets that falls within Scotland has been calculated through a two-stage process. First, the proportion of assets within each structures asset category has been calculated using figures provided by Network Rail. These proportions have then been weighted by the proportion of spend on each category assumed in Network Rail’s 2005 Business Plan to establish an overall proportion of GB-wide structures assets that lie within Scotland. Table 7 below displays this methodology in full.

Table 7: Calculation of the proportion of GB-wide structures assets within Scotland

Category	Scotland total	GB total	Scottish %	Average spend from NR BP	Proportion of spend by category	Weighted Scottish proportion of assets
Underbridges	4,623	27,336	16.91%	96.90	37.27%	6.30%
Overbridges	2,041	12,486	16.35%	13.60	5.23%	0.86%
Footbridges	258	3,219	8.85%	7.00	2.69%	0.24%
Earthworks	933	5,829	16.01%	78.50	30.19%	4.83%
Tunnels	18	226	8.14%	18.80	7.23%	0.59%
Culverts	5,021	22,540	22.28%	6.40	2.46%	0.55%
Coastal defences	67	230	29.05%	7.80	3.00%	0.87%
Retaining walls	703	4,382	16.04%	3.40	1.31%	0.21%
Major structures	6	26	23.08%	27.60	10.62%	2.45%
Total	**13,697**	**76,274**		**260.00**		**16.90%**

Signalling assets within Scotland

19. The relative volume of signalling assets in Scotland has been calculated using data from the 2003 regional benchmarking study conducted by LEK (as referenced above). The proportion has been calculated following the same methodology as that followed for the calculation of points in Scotland. Table 8 below displays the calculation.

Table 8: Calculation of the proportion of GB-wide points within Scotland

Region	Number of signals
Scotland zone	4,186
WCML	1,637
ECML	3,079
Scottish WCML	157
Scottish ECML	288
Scotland total	4,624
Network total	39,500
Scottish proportion	**11.71%**

Telecoms assets within Scotland

20. Network Rail has provided details of the proportion of its telecoms assets that fall within Scotland. It has based its calculation on the number of verified assets within its Fault Management System (FMS). It is therefore assumed that 9.31% of GB-wide telecoms assets are contained within the Scottish territory.

Electrification assets within Scotland

21. We have based its assessment of the proportion of GB-wide electrification assets on the proportion of electrified track kms within Scotland. Network Rail has provided a breakdown of electrified track. The data provides details of the volume of various types of electrified track disaggregated by route. The underlying figures are contained in table 9 below.

Table 9: Electrified track km across the network

Route	Country	Volume of track (km)			
		Non-electrified track	Overhead line	Other electrified track	Total track
West Coast Mainline	England	157.6	1,958.8	60.4	2,176.8
	Scotland	0.03	220.6	0.0	220.7
East Coast Mainline	England	51.6	1,788.9	9.0	1,849.5
	Scotland	0.03	190.5	0.0	190.6
East of Scotland	Scotland	1,111.0	109.8	0.0	1,220.7
Highlands	Scotland	1,145.3	0.04	0.0	1,145.3
Strathclyde and SW Scotland	Scotland	698.9	737.8	0.0	1,436.7
Scotland total	**Scotland**	**2,955.3**	**1,258.7**	**0.0**	**4,214.0**
Total	**England, Scotland and Wales**	**19,163.7**	**7,759.1**	**4,559.5**	**31,482.3**

22. Table 9 shows that total volume of electrified track across the network is 12,318.6 km. Scotland’s total of 1,258.7 km therefore represents 10.22% of the network total.

Plant and machinery assets within Scotland

23. Plant and machinery volumes have been determined by the relative share of expenditure on these assets in England and Wales, and Scotland, which is reported as 8.2%.

Operational property assets within Scotland

24. To calculate the proportion of network-wide operational property assets that lie within Scotland, we have adopted a weighted assessment of the volume of stations assets (by value) and depots. The weighting is based upon the ten year projected expenditure figures contained within the 2005 Network Rail business plan. This projects that expenditure on station renewals will be £143m p.a. on average across the period and spend on depots will average £23m p.a. This translates into a weighting of 86% on stations and 14% on depots. This split is used to weight the asset volume proportions that have been calculated as outlined below.

Stations in Scotland

25. The proportion of GB-wide station assets that are contained within the Scottish portion of the network has been calculated using the station long-term charge model, developed during the Periodic Review 2000. This model, based on 1995 figures, assigns a gross book value to every station on the network, by TOC. The total value of Scottish stations has therefore been calculated as the aggregate value of all ScotRail operated stations, plus stations operated by GNER within Scotland (Dunbar) and the major stations within Scotland (Edinburgh Waverley and Glasgow Central).

26. Table 10 contains the underlying figures and shows the Scottish proportion.

Table 10: Proportion of GB-wide stations in Scotland by value

Category	Value (£)
Total ScotRail operated stations	164,113,284
Total GNER operated stations in Scotland	653,463
Total major stations in Scotland	41,349,000
Total value of stations in Scotland	206,115,748
Total value of stations across the network	1,984,947,251
Scottish proportion	**10.38%**

Summary of assets in Scotland

27. Table 11 below contains details of the figures that underlie this calculation.

Table 11: Calculation of assets by value in Scotland

Asset category	Proportion of assets in Scotland (by volume)	ACR 2003 expenditure allowance (pre-efficiency) (£m)	Asset category weighting	Weighted Scottish assets
Track		£4,129m		
Track km	11.70%	£2,945m	26.23%	3.07%
Points	10.22%	£1,184m	10.54%	1.08%
Structures	16.90%	£1,975m	17.59%	2.97%
Signalling	11.71%	£2,056m	18.31%	2.14%
Telecoms	9.31%	£982m	8.75%	0.81%
Electrification	10.22%	£470m	4.19%	0.43%
Plant & machinery	8.20%	£493m	4.39%	0.36%
Operational property		£1,124m		
Stations	10.38%	£964m	8.59%	0.89%
Depots	10.99%	£160m	1.42%	0.16%
Total		£11,229m	100.00%	11.91%

Annex C: England and Wales, and Scotland revenue allowances

Table 9: Total Network Rail revenue allowance

£ million (2004/05 prices)	2006/07	2007/08	2008/09	Total
RAB				
1 April RAB	21,771	22,645	23,535	
Renewals	2,280	2,294	2,077	
Enhancements	-	-	-	
Amortisation	1,407	1,404	1,399	
31 March RAB	22,645	23,535	24,213	
Average RAB	22,208	23,090	23,874	
Revenue requirement				
Maintenance	1,097	1,009	928	3,033
Controllable OPEX	862	819	778	2,460
Non-controllable OPEX	231	232	232	696
Schedule 4 and 8 costs	97	98	98	293
Return on RAB	1,398	1,454	1,503	4,355
Amortisation	1,407	1,404	1,399	4,209
Gross revenue requirement	5,092	5,015	4,939	15,045
Other single till income	(749)	(741)	(748)	(2,238)
Net revenue requirement	4,343	4,274	4,191	12,807

Table 10: England and Wales revenue allowance

£ million (2004/05 prices)	2006/07	2007/08	2008/09	Total
RAB				
1 April RAB	19,339	20,142	20,968	
Renewals	2,053	2,075	1,879	
Enhancements	-	-	-	
Amortisation	1,251	1,249	1,246	
31 March RAB	20,142	20,968	21,601	
Average RAB	19,741	20,555	21,284	
Revenue requirement				
Maintenance	996	915	842	2,752
Controllable OPEX	778	739	703	2,221
Non-controllable OPEX	209	210	210	628
Schedule 4 and 8 costs	88	89	89	267
Return on RAB	1,243	1,294	1,340	3,877
Amortisation	1,251	1,249	1,246	3,746
Gross revenue requirement	4,564	4,496	4,430	13,490
Other single till income	(695)	(686)	(693)	(2,074)
Net revenue requirement	3,869	3,810	3,737	11,417

Table 11: Scotland revenue allowance[20]

£ million (2004/05 prices)	2006/07	2007/08	2008/09	Total
RAB				
1 April RAB	2,432	2,503	2,567	
Renewals	227	219	198	
Enhancements	-	-	-	
Amortisation	156	155	153	
31 March RAB	2,503	2,567	2,612	
Average RAB	2,467	2,535	2,590	
Revenue requirement				
Maintenance	101	94	86	281
Controllable OPEX	84	79	75	238
Non-controllable OPEX	23	22	23	68
Schedule 4 and 8 costs	8	9	9	26
Return on RAB	155	160	163	478
Amortisation	156	155	153	464
Gross revenue requirement	527	519	509	1555
Other single till income	(54)	(55)	(55)	(164)
Net revenue requirement	473	464	454	1391
Fixed charges	125	124	135	384
Variable charges	19	19	19	58
Schedule 4 and 8 income	8	9	9	26
	153	152	163	467
Shortfall[21]	320	312	291	924

20 The provisional agreement reached between the Secretary of State for Transport and Scottish Ministers on 18 January 2005 was based on a transfer of £302 million per annum for the funding of Network Rail in Scotland. This table sets out ORR's equivalent calculation assuming that 11.2% of the RAB is allocated to Scotland.

21 The shortfall numbers do not include an adjustment for the financial settlement agreed as part of ORR's approval of Network Rail's proposed financing arrangements. Details of this can be found in *Access Charges Review 2003: Regulator's Approval of Network Rail's Proposed Financing Arrangements,* Office of the Rail Regulator, London, March 2004.