OFFICE *of the*
RAIL REGULATOR

THE PERIODIC REVIEW OF RAILTRACK'S ACCESS CHARGES: PROVISIONAL CONCLUSIONS ON REVENUE REQUIREMENTS

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Regulator's foreword

1. This document contains my provisional conclusions in relation to the amount of money which Railtrack is likely to need to operate and maintain its present network from April 2001, the beginning of the next price control period. These conclusions are provisional in the sense that they may, in some cases, be revised if new information is provided or circumstances change and I believe it is right to make amendments. My final conclusions are due to be published by the end of July 2000.

2. My objective in the periodic review is to provide Railtrack – and through them the railway industry and those who fund, use and depend on it – with a sound, challenging and above all fair financial settlement which will enable and incentivise the company to operate the network safely, efficiently and well and to enhance its capacity through strong and competent investment. That process must of course take account of Railtrack's achievement of the regulatory objectives which it was given at the beginning of the current price control period in 1995. But most importantly it must be forward-looking and take full account of and facilitate the significant investment which the company needs to make to meet the strong growth in demand for railway services.

3. In the past the company has faced criticisms of its record and the condition of its network. Those criticisms have come from several quarters. Many were deserved, and the company has acknowledged that it needs to improve in important areas. I acknowledge and recognise the company's stated determination in these respects. It knows what counts is of course delivery on its public interest obligations as well as its commercial commitments.

4. When I was appointed as Regulator, I said that I did not consider myself bound by the conclusions on the financial framework which my predecessor announced in December 1998. I said that I would reconsider all the work which had been done before I took office and make my own decisions. That is what I have done. In several areas I have departed from my predecessor's conclusions, and by doing so I have ensured consistency with other regulators and with the reasonable expectations of investors. I also consider that it is important to avoid retrospective clawback of profits arising from the current performance incentive regime because this would undermine incentives in the future.

5. My provisional conclusions for the future level of expenditure are based on challenging but achieveable assumptions about the scope for the company to improve its efficiency and bring down its costs. However, these conclusions have been hindered by difficulties arising from the company's lack of knowledge about the condition of its assets. I have therefore published a range of potential scenarios and further work is required to assess the level of maintenance and renewals which Railtrack will actually need to undertake over the next period.

6. A major shortcoming of the current regulatory framework is the fact that the outputs which Railtrack is expected to deliver are not clearly defined or monitored. The foundations for a robust incentive framework – based on carrots as well as sticks – are therefore missing. This document begins to address this issue by attempting to define the outputs. The way in which these outputs are incentivised will be developed further in Spring 2000.

7. Another difficulty for Railtrack and operators is that there is no clear understanding of the commercial and regulatory framework for dealing with enhancements. In conjunction with Railtrack and the SSRA I am therefore developing a code of practice which should result in clearer incentives for Railtrack to provide appropriate enhancements and sufficient predictability to give investors the confidence to continue to provide finance for new infrastructure projects.

8. The periodic review settlement will provide an opportunity for a safe, efficient and well managed Railtrack. By discharging its public interest obligations and responding to the contractual and regulatory incentives, the company will be able to enlarge and improve the network in a way which meets the legitimate expectations of both the public and the company's investors.

TOM WINSOR
Rail Regulator

15 December 1999

1. Introduction

Background and purpose

1.1 This is the fifth periodic review document published by the current Regulator. A full list of all the periodic review documents, related consultation papers and consultancy reports is contained in Appendix A.

1.2 The August 1999 periodic review document set out the timetable, process and issues for the remainder of the review. It confirmed the Regulator's intention to publish provisional conclusions on the overall level of Railtrack's revenue requirement from access charges for franchised passenger train services in December 1999. Since then, in October 1999, the Regulator published a further periodic review document on the incentive framework, and provisional conclusions on these issues are due to be published in Spring 2000. He has also published two technical consultation papers relating to the structure of charges. The Regulator's final conclusions on the periodic review as a whole are due to be published in July 2000.

1.3 The primary purpose of this document is to invite views from interested parties on the Regulator's provisional conclusions for Railtrack's overall revenue requirement from access charges for franchised passenger train services. Part I therefore describes the Regulator's provisional conclusions on these issues, together with the principal reasons for those conclusions. Part I also describes the further work which the Regulator plans to undertake to enable him to reach final conclusions in July 2000.

1.4 Part II of this document provides a progress report on work which the Regulator has undertaken on the incentive framework since the October 1999 periodic review document. This includes:

- a brief review of progress since the October 1999 periodic review document on the incentive framework including a summary of the responses to the associated technical consultation document on electric traction charges;

- provisional conclusions on changes to the property allowance scheme or PAS (in June 1999 the previous Regulator consulted the industry on the operation of the current PAS and on whether there should be any changes to the scheme);

- discussion of the key issues relating to the level and structure of Railtrack's charges for access to stations (which were not covered in detail in the October periodic review document);

- definition of the outputs which Railtrack is expected to deliver over the next price control period, the output measures which the Regulator presently proposes to monitor and requirements for the March 2000 Network Management Statement (NMS); and

- proposals for a regulatory framework for dealing with future enhancement projects which are not included in the baseline (this is an important part of the periodic review since it aims to provide greater clarity about the way in which the Regulator would expect to treat future enhancement expenditure).

1.5 The questions for consultation are summarised in Appendix B. Consultation responses should be sent to:

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Office of the Rail Regulator
1 Waterhouse Square
138-142 Holborn
London
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by 14 February 2000. Respondents should indicate clearly whether they wish their responses to remain confidential to the Office of the Rail Regulator (ORR). Otherwise they may be published, placed in the ORR library or quoted from by the Regulator. Where a response is made in confidence, it should be accompanied by a statement which can be published, placed in the ORR library or quoted from by the Regulator, summarising the submission excluding the confidential information.

Summary of Part I

Outputs

1.6 The appropriate level of Railtrack's access charges clearly depends on the outputs which it is expected to deliver in return for these charges. The outputs covered by the periodic review are referred to as the baseline outputs since they exclude any new enhancements which might be negotiated (or otherwise established) for implementation over the next price control period.

1.7 For the purposes of the provisional conclusions, these baseline outputs are defined in terms of the outputs which are implicit in the 1999 Network Management Statement (referred to in this document as the sustained network). They therefore exclude any incremental outputs which the Shadow Strategic Rail Authority (SSRA) may want to buy as part of the periodic review process. The SSRA's current view on these incremental outputs is set out in Part II of this document and these will need to be costed up in the 2000 NMS so that they can be taken into account in the Regulator's final conclusions.

Activities

1.8 Given these baseline outputs, Railtrack's expenditure requirements depend primarily on the level of maintenance and renewals activity which is required in order to sustain the current capability and condition of the network. However, due to the lack of information on the existing condition of Railtrack's assets, there is considerable uncertainty about the amount of work which Railtrack needs to do.

1.9 Because of these uncertainties, the Regulator has examined a range of scenarios. The base scenario assumes that the current level of maintenance and renewals activity (excluding backlog) would continue throughout the next period. However, it may be the case that this is insufficient to sustain the current capability and condition of the network. The Regulator's provisional assumption is that these activities might need to increase by around 10%. However, this does not take account of Railtrack's recent reassessment of the maintenance and renewal costs associated with the West Coast Main Line, which could imply a further 12% increase in activity.

1.10 In considering these alternative scenarios, Railtrack will need to establish that any increase in maintenance and renewals activity is necessary to sustain the network and that this additional activity can be delivered. In relation to the West Coast, Railtrack will also need to be able to establish that these additional costs should not be treated as part of the enhancement for which they have agreed a fixed-price contract with West Coast Trains Limited (Virgin).

1.11 The Regulator will also wish to consider whether renewals should continue to be paid for on a pay-as-you-go basis rather than being included in the Regulatory Asset Base (RAB). His present view is that the former approach will generally be preferable. However, this will depend to some extent on the degree to which he is satisfied that the underlying projections of renewals expenditure are soundly based.

Efficiency

1.12 For each maintenance and renewal scenario, Railtrack's expenditure requirements depend on the assumed scope for improved efficiency. In assessing this issue, the Regulator has examined evidence from a wide range of sources including Railtrack's efficiency savings to date, detailed analysis of the impact of specific improvements, benchmarking with other railways, comparisons with productivity trends in other railways, comparisons with what other regulators have assumed and comparisons with what other privatised companies have actually achieved.

1.13 Given the available evidence, the Regulator believes that Railtrack should be able to achieve savings of 3-5% per annum over the next price control period as a whole (although the profiling of these savings requires further consideration). For the purposes of his provisional conclusions, he has assumed savings of 5% per annum, which is at the top end of the proposed range. His present view is that these savings will be challenging but achieveable.

Single till income

1.14 Railtrack's expected income from other sources which are within the so-called single till is deducted from the overall expenditure projections referred to above. The main source of this income is from property and this is expected to total just under £1 billion over the next price control period. For the purposes of the Regulator's provisional conclusions, freight income and open access income are assumed to remain flat in real terms. However, the current freight access agreements are due to be renewed at the beginning of the next price control period and the Regulator will need to take account of the likely level of charges in his final conclusions.

Cost of capital

1.15 The Regulator proposes to set the allowed rate of return on a pre-tax basis. This ensures consistency with the treatment of major enhancements and will help to minimise the need for detailed regulatory involvement in Railtrack's tax and financing assumptions.

1.16 The Regulator's approach to assessing the cost of capital has been to adopt a methodology which is consistent with that used by other regulators and to focus on the extent to which Railtrack may face greater risks than other utilities. He has concluded that Railtrack does face some additional risks. In particular, he recognises that Railtrack's profits are a relatively small proportion of its revenues/costs and that a given change in revenues/costs will therefore have a relatively large impact on profits.

1.17 Given these additional risks, the Regulator's provisional conclusion is that Railtrack should be allowed a real pre-tax rate of return of 7-7.5%. This compares with 6.5% assumed by OFGEM on the same basis (it is also consistent with the range of 5-6% post-tax proposed by the previous Regulator). For the purposes of his provisional conclusions, the Regulator has assumed a value of 7% pre-tax.

1.18 If OFGEM or OFWAT are forced to refer these matters to the Competition Commission, the Regulator would expect to take account of this in reaching his final conclusions on the cost of capital.

Regulatory Asset Base

1.19 In assessing the appropriate value for the RAB, the Regulator believes that it is important to ensure that this is consistent with the reasonable expectations of investors at the time of privatisation. Otherwise, investors' perception of regulatory risk may be increased and this could impact on Railtrack's cost of finance. Given the likely scale of the enhancement programme, this is unlikely to be in the interests of passengers, operators or funders.

1.20 The initial RAB is based on the value of equity plus debt at around the time of privatisation. The Regulator presently intends to include an uplift of 10-15% on the first day's trading value of equity for consistency with relevant precedents and to provide reasonable compensation for the risks which investors took at privatisation. The provisional conclusions assume an uplift of 10% which results in an initial RAB of £2.93 billion in 1998/99 prices.

1.21 The Regulator presently proposes to roll forward the RAB by making the following adjustments:

- £0.48 billion of backlog spending is included in the RAB on the basis that this was the understanding when the current price controls were set at privatisation;

- the RAB includes £0.32 billion of the additional £1.9 billion which Railtrack will have spent during the current price control period over and above the assumptions underlying the current price controls (the remainder is not included since this was either offset by other changes which were made at the time of privatisation or because this represents inefficiency or risks which investors were expected to bear);

- £0.46 billion of enhancement expenditure in the current period is included in the RAB (although this has not yet been fully assessed) but, for the purposes of the provisional conclusions, further enhancement expenditure in the current period (£0.72 billion based on Railtrack's estimates) and network downgrades have not been reflected in the RAB;

- some specifically identified items of expenditure have been disallowed on the basis that these outputs should have been delivered in the current period. There is also strong evidence that Railtrack has underdelivered in a number of other areas. Due to the absence of any clear definition of what Railtrack was expected to deliver in the current period and the Regulator's proposed disallowance of most of Railtrack's additional renewals, the Regulator does not consider that it would be appropriate to make substantial further adjustments for this under-delivery. However, he is consulting on whether it would be appropriate to reduce the RAB by up to £120 million (around 1% of turnover in the period since privatisation) in line with the approach adopted by OFWAT and OFGEM; and

- given the potential adverse implications for future incentives and perceived regulatory risks, the Regulator does not consider that it would be appropriate to claw back the profits which Railtrack has earned from the performance regime (through a further reduction in the RAB) even though there is some evidence that most of the improvement in performance was achieved in the first year and may have been due to slack targets rather than efficiency.

1.22 A related issue is whether Railtrack's charges should be set to achieve a rate of return in line with the assumed cost of capital (so that efficiency savings are passed on immediately following the review), or whether there should be some form of glide path which would allow the company to earn a higher return for a period of years (to provide a stronger incentive to improve efficiency). The Regulator does not presently believe that it would be appropriate to provide for a glide path as part of the current review. He intends to consider how to strengthen the incentive for improved efficiency in his Spring 2000 provisional conclusions on the incentive framework.

1.23 By comparison, the previous Regulator proposed that there should be no uplift on the first day's trading value, that none of the (then £1.3 billion) additional renewals should be included in the RAB, and that some of the profits from the performance regime should be clawed back. However, the question of a glide path was left open and other issues relating to the way in which the RAB is rolled forward were not addressed in detail.

1.24 The Regulator believes that the proposed ranges are consistent with the relevant precedents and the expectations of investors at the time of privatisation. Where he has departed from the approach adopted by the previous Regulator, he believes that this will be in the longer-term interests of passengers, operators and funders since it is likely to reduce Railtrack's cost of finance, thereby facilitating further investment in the railway.

Baseline revenues

1.25 Given the preceding assumptions, the charges required to finance the delivery of the baseline outputs which are implicit in the 1999 NMS would fall by around 17% at the beginning of the next period; for the remainder of the period, there would be no real change in charges (i.e. X=0). The Regulator's provisional assumption of the possible need for additional maintenance and renewals activity reduces the initial cut in baseline revenues to 8%.

If Railtrack's reassessment of the costs associated with the West Coast Main Line is taken into account, charges would increase by around 2% in real terms. By comparison, Railtrack's own projections imply an initial increase of 31% (again with X=0).

1.26 As noted above, however, these charges do not include the cost of any enhancements which might be negotiated over the next period or the cost of any incremental outputs which the SSRA may wish to buy as part of the periodic review process. The enhancement plans in Railtrack's November 1999 submission, for example, would increase the RAB from £4.07 billion to £11.30 billion by March 2006 and £15.69 billion by March 2011. Given the three maintenance and renewal scenarios described above, this implies price increases of up to 18% and Railtrack's own projections imply initial increases of 47% (with X=0 in each case).

Financing implications

1.27 The financing implications of these potential outcomes have also been considered. It is clear that the range of scenarios examined by the Regulator would not make it unduly difficult for Railtrack to finance the delivery of the sustained network outputs alone. The scope for Railtrack to finance investment through additional debt will be considered further in conjunction with the Regulator's final conclusions. However, depending on the scale of the investment programme which Railtrack is expected to finance, it may wish to raise new equity as well. The proposed framework for enhancements (summarised below) is therefore an important element of the periodic review.

Summary of Part II

Progress on the incentive framework

1.28 Since the October 1999 periodic review document on the incentive framework, the Regulator has published two technical consultations relating to the structure of charges (on electric traction charges and usage charges). He does not, however, intend to consult further on the possibility of a capacity reservation fee until after the responses to the October 1999 document have been reviewed. The Regulator is also considering the appropriate timing of any changes to the structure of charges and the possibility that some aspects of these charges might be subject to further review during the next price control period (without reopening the overall level of charges).

Property allowance scheme

1.29 The Regulator's present view is that the property allowance scheme (PAS) should remain broadly unchanged. His current view is that the baseline income (which is deducted from Railtrack's expenditure projections as described above) should be towards the upper end of the range of income projected by his consultants. In addition, he presently considers that out-performance should continue to be shared 75:25 between Railtrack and franchised passenger operators/funders.

Stations

1.30 Since station access charges represent a relatively small proportion of Railtrack's overall charges and there are many individual station access agreements, the Regulator does not presently envisage changing the methodology for setting individual stations charges. Instead he plans to propose high-level adjustments to the level of these charges.

1.31 The Regulator does, however, believe that it is important for the station access charges to be structured to provide a stronger and clearer incentive for Railtrack to improve performance and to deliver the enhancements required by operators/funders.

Baseline outputs

1.32 For the next price control period, the Regulator will want to ensure that there is a very clear definition of the baseline outputs which are being paid for in the base level of access charges. This is necessary to ensure that Railtrack's performance can be effectively monitored, incentivised and where necessary enforced.

1.33 The Regulator is therefore proposing a number of output measures which he would expect to monitor over the next price control period. These will need to be reflected in the 2000 NMS. In the first instance, the Regulator expects Railtrack to take major steps towards establishing an asset register and populating this so that the current condition of the network is clearly understood.

Enhancement framework

1.34 As noted above, most enhancements are outside the scope of the periodic review. However, the Regulator believes that this review should provide a clear framework within which these enhancements can be negotiated (or otherwise established) and approved by the Regulator. In particular, he considers that the proposed framework should provide sufficient transparency and predictability to give investors the confidence to provide finance for new infrastructure projects at an appropriate cost. It should also help to ensure that Railtrack has sufficient incentive to provide worthwhile network enhancements and help to minimise the transaction costs associated with the applicable processes.

1.35 The proposed framework would incorporate a clearer definition of the boundary between the baseline outputs which are paid for by the base level of access charges and additional enhancements which would need to be paid for by operators/funders. It would also set out the issues which the Regulator expects to take into consideration when assessing the appropriate level of charges in new or revised access agreements (including the appropriate rates of return). Finally, it would establish a transparent process for establishing how enhancement expenditure should be reflected in the RAB at subsequent reviews.

Next steps

1.36 As indicated in the August 1999 periodic review document, the Regulator plans to publish provisional conclusions on the incentive framework in Spring 2000. His final conclusions on the periodic review as a whole are due to be published in July 2000. These final conclusions will take account of responses to this document as well as further discussions with Railtrack and other interested parties.

1.37 As well as the specific issues identified in this document, consultees are invited to comment on other aspects of the periodic review.

PART I:

PROVISIONAL CONCLUSIONS ON REVENUE REQUIREMENTS

2. Methodology for resetting Railtrack's price controls

Introduction

2.1 In setting the current price controls in 1995, the then Regulator combined the RPI-X formula used by other regulators with a profit sharing mechanism applied to Railtrack's property revenue. The RPI-X formula constrains increases in Railtrack's access charges for franchised passenger train services to the percentage increase in the Retail Prices Index (RPI) minus two (i.e. X=2).

2.2 Railtrack is the only price regulated privatised monopoly in the UK not to have undergone a periodic review of its charges since its privatisation. The key elements of the methodology used by other regulators in similar situations are therefore well established. In addition, there have been a number of references to the Monopolies and Mergers Commission (now the Competition Commission) which have helped to establish a common methodology. This is reflected in the approaches currently being adopted by both OFGEM and OFWAT in their respective reviews of electricity distribution charges and water and sewerage charges.

2.3 This chapter contains a brief description of Railtrack's performance in the current price control period followed by an explanation of the methodology which the Regulator proposes to use to reset the access charges levied by Railtrack for franchised passenger train services.

Performance in the current period

2.4 The April 1999 Booz-Allen & Hamilton (BAH) report identifies a number of areas where the consultants consider that Railtrack, in carrying out its stewardship obligations, has failed to deliver what might reasonably have been expected of an efficient operator. These messages have been reinforced by responses from train operators, funders and others and by analysis undertaken by the Regulator.

2.5 The BAH report also states that the current price controls were based on the following assumptions about Railtrack's expenditure requirements (in 1994/95 prices):

- expenditure on maintenance and operations of £1.47 billion in 1995/96, increasing at RPI-2% per annum. An allowance of £75 million per annum was included in operating expenses for renewal of structures (£50 million) and stations and depots (£25 million);

- expenditure of £570 million per annum on asset renewals comprising £455 million per annum on track, signalling and electrification, £91 million per annum on stations and depots and £24 million per annum on plant, equipment and other unspecified renewals; and

- expenditure of £500 million over the control period for backlog investment in stations and depots, in order for Railtrack to meet its obligations (at privatisation a provision of £450 million was included in the accounts).

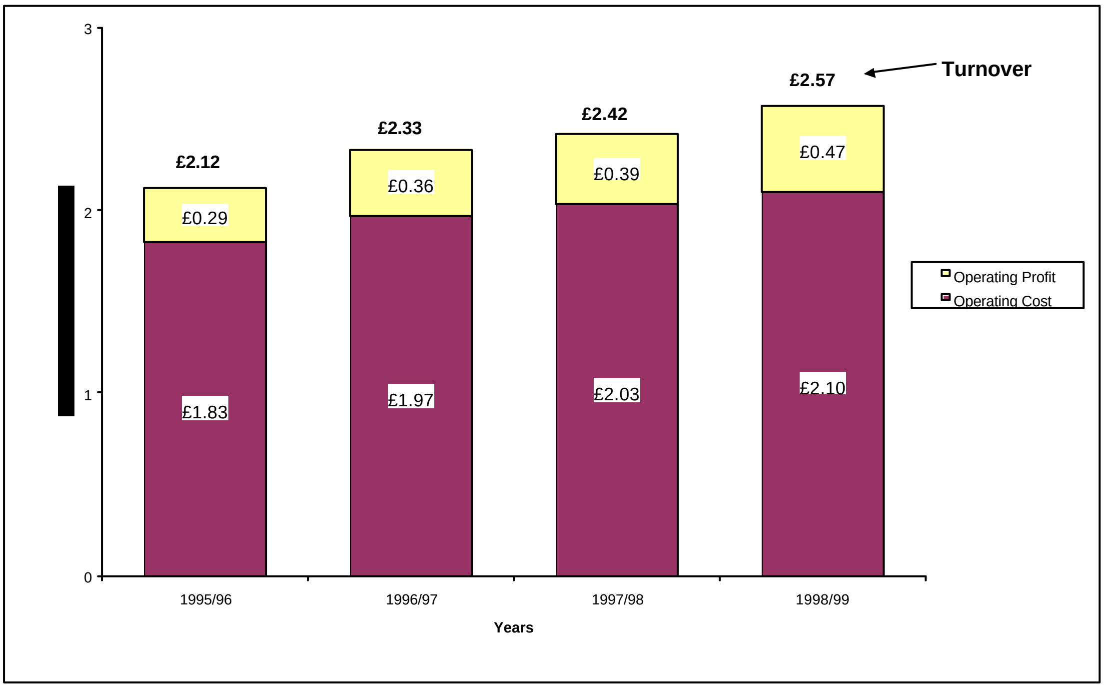
2.6 The previous Regulator's December 1998 periodic review document confirmed that, at the time of privatisation, Railtrack's renewals expenditure was expected to be around £1 billion higher than was allowed for in the price controls. Railtrack's November 1999 expenditure submission claims that it will have spent around £1.9 billion more on renewals than was assumed at privatisation. Railtrack claims that there are two main reasons for this:

- at privatisation, it had not appreciated the poor condition of its assets and the required level of maintenance and renewal expenditure; and

- it has experienced much faster growth in demand than was anticipated at privatisation and this has resulted in significant additional maintenance and renewals costs (which it argues are not reflected in the structure of charges).

2.7 Figure 2.1 below shows that Railtrack's reported profits have increased significantly in real terms under the current price controls: from 1995/96 to 1998/99, total turnover increased by around 7% per annum, operating costs (including depreciation and Asset Management Plan (AMP) charges) grew by 3.5% per annum and operating profit increased by 18% per annum. Railtrack Group's recent interim results show that its operating profit increased by a further 2.8% in real terms in the first half of the year compared to the equivalent period in the previous year.

Figure 2.1: Railtrack PLC turnover, operating costs and operating profit



2.8 The reported profits shown in Figure 2.1 are expressed after depreciation and AMP charges. However, the current price controls were set on a pay-as-you-go basis (i.e. renewals were allowed for directly in revenues rather than being capitalised and depreciated). If this approach is adopted for the next price control period, it may be more appropriate for Railtrack to present its regulatory accounts on a consistent basis.

Methodology for resetting Railtrack's price controls

2.9 The proposed methodology for resetting Railtrack's price controls is based on the standard utility model and uses the single till approach adopted in 1995. There are four key steps in this process which are discussed in more detail below:

- Step 1: identify the baseline outputs which Railtrack is expected to deliver in the next control period (i.e. what it has to do?);

- Step 2: identify the level of revenue from access charges for franchised passenger train services over the next price control period which Railtrack requires in order to finance the delivery of these baseline outputs (i.e. how much money does Railtrack need to do these things?);

- Step 3: determine how this revenue should be profiled over the price control period (i.e. when should Railtrack receive the money?); and

- Step 4: check that the resulting financial indicators (gearing etc) are consistent with the Regulator's duties, including the duty not to make it unduly difficult for Railtrack to finance its relevant functions (i.e. check the implications for Railtrack's profitability and its balance sheet).

Step 1: identify baseline outputs

2.10 Railtrack PLC's overall revenue requirement from access charges for franchised passenger train services represents the cost of delivering its baseline output requirements. The definition of baseline outputs is defined in more detail in Chapter 12. It includes:

- the sustained network, based on existing outputs; and

- incremental outputs which are included in the baseline to accommodate the needs of passengers, operators and funders.

2.11 However, it excludes any new enhancement projects which might be negotiated with operators/funders and approved by the Regulator over the next price control period. It also excludes the existing major projects which have been partially ring-fenced to insulate them from the full impact of the periodic review (West Coast Passenger Upgrade 2 and Thameslink 2000).

2.12 On 14 December 1999, the Shadow Strategic Rail Authority (SSRA) provided the Regulator and Railtrack with a detailed description of the incremental outputs which it expects Railtrack to deliver over the next price control period. Railtrack has also held further meetings with operators and other funders on their reasonable requirements for the next control period. Chapter 12 outlines the way in which the Regulator expects Railtrack to cost these requirements in the March 2000 Network Management Statement (NMS). Given this assessment of the costs, the SSRA will need to confirm or modify its requirements for the next period. These cost estimates will then be subject to a detailed review by the Regulator and the (modified) output requirements will provide the basis for the so-called regulatory contract for the next price control period.

2.13 However, the provisional conclusions in this document are based on the baseline outputs which are implicit in the March 1999 NMS. To the extent that the outputs which Railtrack is expected to deliver over the next price control period diverge from these earlier assumptions, this may cause the Regulator to modify his assessment of Railtrack's overall revenue requirements in his final conclusions (e.g. it could be more).

Step 2: identify revenue requirements for the next price control period

2.14 The methodology for determining Railtrack's overall revenue requirement for each year is shown in Figure 2.2. This starts with the definition of baseline outputs referred to above. Given these outputs, the required revenues are derived from the following building blocks:

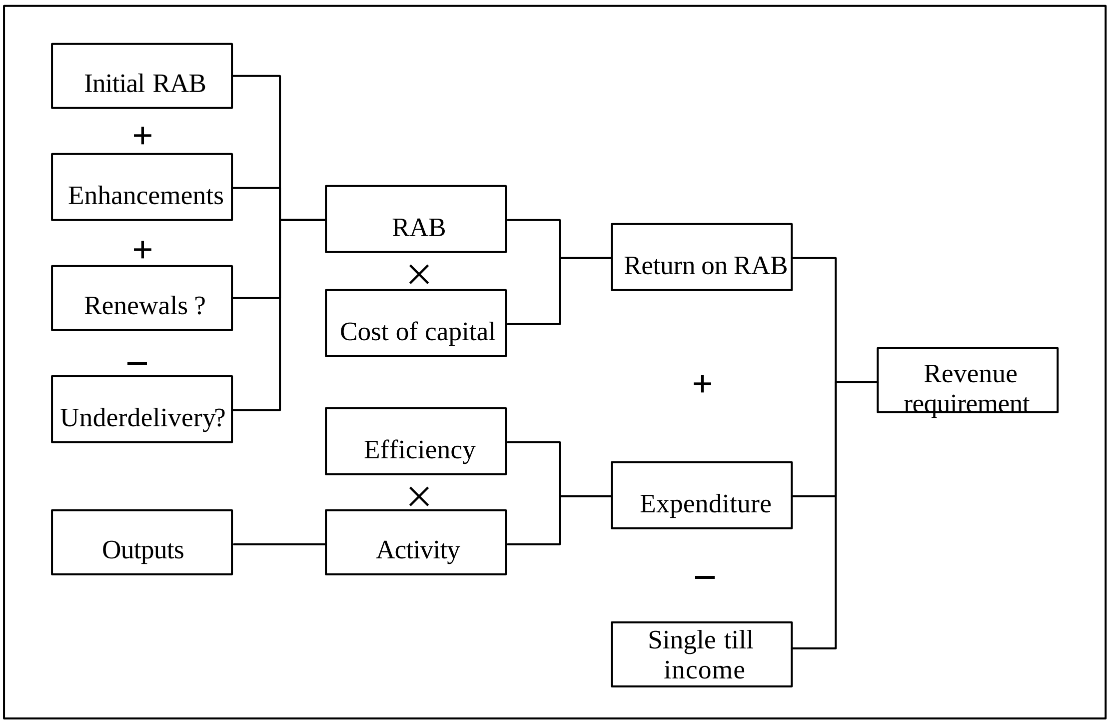
- the allowed maintenance and operating expenditure in each year, taking account of the baseline outputs which Railtrack is expected to deliver and the potential for improvements in efficiency;

- *plus* an allowance for renewal of the existing network. This could be based on either of the following options: (a) allow for projected renewals expenditure on a pay-as-you-go basis (consistent with the approach used to set the current price controls); or (b) include (some of) this expenditure in the Regulatory Asset Base (RAB) and provide for depreciation on the RAB (the choice between these two options is discussed in more detail below);

- *plus* a reasonable rate of return on the RAB for each year. The rate of return is based on Railtrack's cost of capital. The RAB is calculated from the value of Railtrack's business at privatisation plus efficient expenditure on legitimate enhancements to the network (but not including expenditure on the excluded enhancements referred to above). Railtrack argues that the RAB should also include additional renewals expenditure during the current period, and the Regulator indicated in his August 1999 periodic review document that the RAB could be reduced to compensate for under-delivery of the outputs which it might reasonably have been expected to deliver in the current period; and

- *minus* the other sources of revenue which form part of the single till (property, freight, open access and depot leases).

Figure 2.2: Revenue requirement



2.15 The proposed methodology results in all efficiency gains made by the company in the current period being passed on to operators and funders immediately after the new price controls come into force through an immediate adjustment in prices (referred to as a P_0 adjustment).

2.16 An alternative approach would be to pass any efficiency savings on to customers over a period of years to provide stronger incentives for the company to improve efficiency, particularly towards the end of the price control period (this approach is sometimes referred to as a glide path). The Regulator's current view is that announcing such an approach at this stage in the review would not have any impact on behaviour during the current price control period and that this would merely result in a windfall gain to investors. He also notes that Railtrack is arguing for significant increases in expenditure over the next period.

2.17 While the Regulator does not therefore intend to adopt this glide path approach for the current review, he does intend to consider whether it would be beneficial for him to signal the approach which he presently expects to take at the next review. This issue will therefore be addressed as part of the incentive framework in Spring 2000.

2.18 A further important issue concerns the treatment of renewals expenditure. There are a number of potential differences between the pay-as-you-go approach and the depreciation approach:

- under the pay-as-you-go approach, the RAB would remain constant unless the network is enhanced (or reduced). By contrast, since the RAB is significantly less than the replacement cost of the network, renewals expenditure is likely to exceed depreciation on the RAB (unless special depreciation provisions are introduced). Under the depreciation approach, the RAB would therefore tend to increase over time even in the absence of any enhancements to the network. This would result in higher charges in the long term and lower charges in the short term (which could make it more difficult for Railtrack to finance significant enhancement expenditure in the short term);

- under the pay-as-you-go approach, the full cost of renewals expenditure in each year is charged against profit for that year. This provides a strong incentive for Railtrack to improve the efficiency of its renewals programme and to understand the condition of its assets and the relationship between renewals, maintenance condition and performance. At the same time, this approach exposes Railtrack to the full impact of unanticipated changes in renewals requirements (e.g. because of lack of information about the current state of the assets). By contrast, if actual expenditure on renewals is included in the RAB at the next periodic review, the immediate impact on profits is reduced and the cost of any inefficiency is potentially shared with operators/funders through an increase in the RAB. The incentive to improve efficiency (and the risk faced by Railtrack) is therefore reduced. This means that the pay-as-you-go approach requires greater confidence at the current review that the underlying expenditure projections are soundly based, while the depreciation approach requires greater analysis at the next review of the extent to which the costs have been efficiently incurred and correctly capitalised; and

- under the pay-as-you-go approach, maintenance and renewals expenditure would be treated in the same way. This would therefore avoid any perverse incentive for Railtrack to reallocate expenditure between these categories. On the other hand this approach increases the need for a clear distinction between renewals and enhancements (which would be included in the RAB).

2.19 The Regulator's present view is that, if possible, it would be more desirable to set price controls using the pay-as-you-go approach. However, the appropriateness of this approach will depend to some extent on the degree to which he is satisfied that the underlying projections of renewals expenditure are soundly based. While his provisional conclusions are therefore based on the pay-as-you-go approach, he may wish to reconsider this position before reaching his final conclusions. It may be appropriate, for example, to include some renewals in the RAB if the level of renewals in the next period is expected to be much higher than normal.

Step 3: profile revenues over the price control period

2.20 The first stage in determining the profile of revenues over the next period is to deduct from the overall revenue requirement the expected revenue from the station long term charge and any variable track access charges (including the current usage charge, the charge for traction electricity and any new variable charges which might be introduced during the next price control period). This gives the residual revenue requirement from fixed track access charges for franchised passenger train services in each year. The net present value of this residual revenue requirement is then calculated (using the same discount rate as the allowed rate of return from Step 1).

2.21 The next stage is to set the level of X relating to the residual fixed charge to achieve an appropriate profile of revenues. Given this level of X, it is possible to calculate the initial level of aggregate fixed track access charges in 2001/02 which equates the net present value of the resulting revenues over the next price control period with the net present value of the residual revenue requirement from Step 3. The percentage change in these charges is sometimes referred to as the P_0 adjustment.

2.22 The Regulator intends to publish provisional conclusions on the appropriate structure of charges in Spring 2000. For the purpose of developing provisional conclusions on Railtrack's revenue requirements in this document, he has assumed that all track access charges are fixed. For consistency, he has therefore ignored the potential impact of growth on maintenance and renewal costs in the next period. This is equivalent to assuming that the eventual structure of charges will be purely cost reflective since this would imply that growth has no impact on net revenues (i.e. the impact on costs is assumed to be the same as the impact on revenues).

Step 4: check sustainability of financial indicators

2.23 The final step is to check the outcome from the preceding steps to ensure that the resulting financial indicators and perceived business risks would not make it unduly difficult for Railtrack to finance its activities in respect of which the Regulator has functions.

2.24 As well as the cost of delivering the baseline outputs, these financial indicators will depend on Railtrack's expenditure and revenues from the excluded enhancement projects referred to above. In order to assess this issue, it will therefore be necessary for the Regulator to take account of the potential levels of enhancement expenditure and revenue.

2.25 As indicated in the August 1999 periodic review document, however, it is important to focus on Railtrack PLC and not to take account of changes in Railtrack's balance sheet which are due to other activities of the Railtrack Group. In particular, it would not be appropriate for the Regulator to take account of the impact of other investments when setting access charges for Railtrack's regulated business since these ventures should only be entered into as commercial propositions in their own right. This applies, for example, to Railtrack's involvement in the Channel Tunnel Rail Link (CTRL).

2.26 In principle, if the Regulator were to conclude that the implied financial indicators would make it unduly difficult for Railtrack to finance its relevant functions, he might wish to consider whether alternative financing options are available. Alternatively, this issue could be dealt with by revisiting the preceding steps in the process. In particular, it may be possible to change the profile of revenues in step 3 without changing the overall level of revenues from step 2. The overall level of revenues from step 2 could also be increased by including an element of depreciation of the RAB in the current period (which would result in a corresponding reduction in revenues in future periods). Finally, it may be possible to revisit the baseline outputs in step 1 or to defer enhancements into a future period.

Conclusions and next steps

2.27 The proposed methodology for resetting Railtrack's price controls is consistent with the approach used by other regulators and the Monopolies and Mergers Commission (MMC), now the Competition Commission (CC). It is also consistent with the approach proposed by the previous Regulator.

2.28 Given the methodology set out above, the remainder of this part of the document is organised as follows:

- Chapter 3 discusses the potential for improved efficiency and the implications for Railtrack's future expenditure requirements;
- Chapter 4 contains the Regulator's provisional conclusions on Railtrack's cost of capital and the role of other financial indicators;
- Chapter 5 presents the Regulator's provisional conclusions on the initial value of the RAB (i.e. at privatisation);
- Chapter 6 describes the way in which the Regulator proposes to roll forward the initial RAB to take account of genuine enhancements to the network and under-delivery in the current period;
- Chapter 7 discusses the other sources of income which need to be deducted from Railtrack's overall revenue requirement; and
- Chapter 8 presents the Regulator's provisional assessment of the required changes to Railtrack's access charges for franchised passenger train services.

2.29 Consultees are invited to comment on the Regulator's proposed application of the standard utility model, including the use of the single till, the treatment of past efficiency gains and whether it remains appropriate to treat renewals expenditure on a pay-as-you-go basis. Consultees are also invited to comment on the appropriate methodology at the next review and whether it would be appropriate for the Regulator to signal his proposed approach in conjunction with his final conclusions.

3. Efficiency and expenditure

Introduction

3.1 This chapter discusses the potential for improved efficiency in the next period and the implications for Railtrack's future expenditure requirements. As noted in the preceding chapter, the Regulator's provisional conclusions on these issues are based on the sustained network outputs which are implicit in the March 1999 NMS rather than the baseline outputs which Railtrack is expected to deliver over the next price control period.

3.2 In May 1999 Railtrack submitted to the Regulator its expenditure plans for the period 2001/02 to 2011/12 (consistent with the sustained network outputs underlying the 1999 NMS). These plans included its projections for base costs, the costs of growth and improved efficiency. The level of renewals was determined by Railtrack's asset management strategy, which was broadly based on condition rather than age, as well as a focus on targeted renewal of asset components rather than wholesale asset renewal. For track and structures, the level of renewals used the AMP methodology, a statistical technique which informs renewal plans in other utility industries. For other assets, projections were based on the opinions of asset experts given the condition of the assets and the level of expenditure required on those assets in the current control period.

3.3 Given this approach, Railtrack claimed that it needed to increase its total expenditure on maintenance and renewal of the network from £11.85 billion over the current control period (normalised to a five year control period) to £12.33 billion over the next control period, an increase of 4%.

3.4 The previous Regulator appointed Booz-Allen & Hamilton (BAH) to review Railtrack's expenditure plans using a bottom-up approach which builds up Railtrack's overall expenditure requirements from detailed assumptions about rates of activity and unit costs for each type of asset. Their draft report was provided to the Regulator and Railtrack in October 1999. Their final report is being published in conjunction with this document and is available from the ORR library and on the ORR website (www.rail-reg.gov.uk). BAH conclude that there is scope for greater improvements in efficiency than Railtrack had assumed, but that on the basis of available information, Railtrack's planned level of maintenance and renewals activity in track and signalling may not be sufficient to maintain the current capability and condition of the network. Given Railtrack's insistence that these activity levels were sufficient, BAH recommended that the delivery of the capability and condition of the assets be carefully monitored over the next period to ensure that the current levels are maintained. Their resulting projection of Railtrack's total expenditure on maintenance and renewals over the next period is £10.73 billion.

3.5 In November 1999, Railtrack made a further expenditure submission to the Regulator. This indicated that it needed to spend £14.45 billion to maintain and renew the network, an increase of £2.12 billion or 17% compared to its May 1999 submission. Most of this increase is attributable to Railtrack's revised estimates of the cost of maintaining and renewing the West Coast Main Line (£1.37 billion). In addition, although Railtrack insisted that its assumed level of track and signalling renewals was sufficient to maintain the current condition of the assets, it has now increased its assumed maintenance and renewals activity in these areas (£0.98 billion). These increases are partially offset by slightly greater assumed efficiency savings (although, as explained below, the Regulator considers that these are still relatively modest).

Table 3.1: Expenditure projections

1998/99 £ billion	Current period		Next period	
	Total	Average	Total	Average
Railtrack May submission	11.85	2.87	12.33	2.46
BAH report	-	-	10.73	2.15
Railtrack November submission	12.60	2.52	14.45	2.89

3.6 The main reason for Railtrack's projected growth in expenditure between the two control periods derives from an assumed increase in maintenance and renewals activity to ensure that the current capability and condition of the network is maintained. Further increases in activity are assumed to be necessary in order to deliver the other improvements which are implicit in the baseline contained in the 1999 NMS. However, the Regulator is not yet satisfied that the assumed increases are based on robust information about asset condition. He considers that any increase in expenditure to fund additional maintenance and renewals activity should be subject to particular scrutiny. In particular, he believes that it is necessary for him to be satisfied that:

- the projected increase in maintenance and renewals activity is necessary to maintain the specified capability and condition of the assets (see Chapter 12);

- this level of activity can be delivered over the next period;

- the increased maintenance and renewals activity in the next period is not due to under-delivery in the current period, which should therefore be paid for by the company; and

- the relevant operators and funders are willing to pay for any discretionary increase in maintenance and renewals activity which cannot be paid for by the company.

3.7 In addition, the bottom-up approach adopted by Railtrack and BAH does not take account of the potential for savings from unspecified improvements in efficiency which might be expected to be achieved in response to effective incentive regulation. By contrast, other regulators have tended to adopt a more top-down approach, focussing on the likely change in the overall level of costs based on high level assumptions about the potential for improved efficiency and other potential changes. In October 1999, the Regulator therefore commissioned Europe Economics to provide a complementary top-down analysis of Railtrack's expenditure requirements over the next price control period. Their analysis is based on an assessment of trends in productivity and costs in the economy as a whole and in similar industries (particularly other privatised price regulated utilities in the United Kingdom). Their report is being published in conjunction with this document and is available from the ORR library and on the ORR website (www.rail-reg.gov.uk).

3.8 In the absence of reliable detailed information on the work which needs to be done in the forthcoming period, the Regulator considers that evidence on the expenditure level which has in the past been used to renew, maintain and operate the network provides the best guide to the future. This must then be adjusted for required changes in output and activity levels and for efficiency gains which might reasonably be expected to be achieved over the period. The remainder of this chapter therefore addresses the following issues in turn:

- the level of expenditure in the base year adjusted for backlog spending and exceptional items;

- further possible adjustments to the base year to allow for the potential increases in maintenance and renewals activity in order to sustain the current capability and condition of the network; and

- the scope for cost reductions through improved efficiency over the next two price control periods.

The final section summarises the Regulator's provisional conclusions and the next steps.

The base level of expenditure

3.9 The Regulator's approach is to focus on total renewals, maintenance and operating expenditure in each asset category. This approach takes account of the trade-off between capital and labour costs (particularly in relation to signalling) and between maintenance and renewals. Although Railtrack does not currently allocate maintenance expenditure between asset types in this way (because of the way in which its maintenance contracts are structured), the Regulator asked the company to prepare its November 1999 expenditure submission on this basis. In future, it may be appropriate for Railtrack to prepare its regulatory accounts on this basis.

3.10 For each category of assets, the Regulator considers that the appropriate starting point is the level of expenditure in 1998/99 (i.e. the latest period for which audited historical data is currently available). The total expenditure in this year was £2.73 billion. In developing his final conclusions, the Regulator will need to consider whether and how to take account of any significant changes in the level or pattern of expenditure in 1999/00.

3.11 The base level of expenditure by asset category and the Regulator's proposed adjustments to these figures are shown in Table 3.2 below. The first column shows the actual expenditure by category in the base year. The second column reallocates certain expenditure between categories:

- Signalling: £115 million of signalling opex plus £46 million of associated overheads are reallocated from corporate opex to signalling to take account of the possible opex/capex trade-offs in signalling; and

- Information Technology: £65 million of operating expenditure relating to IT is reallocated from other operating expenditure to include it with capitalised expenditure on IT.

Table 3.2: Base expenditures

1998/99 £ million	Actual	Reallocation	Adjustment	Growth	Adjusted
Track	742		-134	23	631
Structures	165		-31	2	136
Signalling	383	+161		7	551
Stations and depots	272		-177	0	95
Telecoms	44			0	44
IT	61	+65		0	126
Electrification	115			2	117
Plant & machinery	18			0	18
Other asset	62			0	62
Other opex	867	-161 –65	-85 –15	0	541
Total	**2,729**	**0**	**-442**	**34**	**2,322**

3.12 The third column of Table 3.2 makes a number of other adjustments to allow for backlog spending and exceptional items in the base year:

- Track: it is apparent that asset condition had been allowed to deteriorate over a period of years (as reflected, for example, in an increased incidence of broken rails and reduced ride quality). In response to this, Railtrack increased its renewals of track (particularly rail) in 1998/99 but this level of activity is not expected to continue for the remainder of the current period. The scale of the adjustment is based on the difference between actual expenditure and Railtrack's most recent projections for the next period (it therefore includes provision for the increase in renewals between Railtrack's submissions in May and November 1999);

- Structures: Railtrack's own projections of expenditure show that in 1997/98 and 1998/99 there was significant additional expenditure which is not expected to continue for the remainder of the period; and

- Stations and depots: 1998/99 expenditure includes backlog and other remedial activity which should be removed since it was intended that this work should be completed in the first price control period; and

- Other operating expenditure: other operating income of £85 million is deducted (to give net operating costs) and £15m of Y2K compliance costs are removed (since these are one-off costs).

3.13 The fourth column of Table 3.2 makes some further adjustments to allow for the impact of growth during the remainder of the current period (since the provisional conclusions do not take account of the impact of post-2001 growth on revenues, consistency requires that the impact on costs is also ignored). The final column shows the net effect of these adjustments.

Further adjustments to the base year

Adjustments for changes in activity

3.14 Table 3.3 makes a number of further adjustments to allow for possible increases in maintenance and renewals activity over the next period. Scenario 1 corresponds to the final column of the previous table: this is the base scenario. Scenarios 2 and 3 adjust for changes in activity compared to the base period.

Table 3.3: Alternative base expenditure scenarios

1998/99 £ million	Scenario 1: Base	Scenario 2: Additional activity		Scenario 3: Additional WCRM	
		Adjustment	Adjusted	Adjustment	Adjusted
Track	631	0	631	74	705
Structures	136	27	163	16	179
Signalling	551	228	779	138	917
Stations and depots	95	0	95	0	95
Telecoms	44	0	44	-7	37
IT	126	0	126	0	126
Electrification	117	14	131	57	188
Plant & machinery	18	8	26	0	26
Other asset	62	-52	10	0	10
Other opex	541	0	541	0	541
Total	**2,322**	**224**	**2,546**	**279**	**2,825**

3.15 The key adjustments underlying scenario 2 are explained below:

- Track: since the adjustment described above takes account of the increase in renewals between Railtrack's submissions in May and November 1999, there would be no need for any further adjustment;

- Structures: Railtrack has argued for an additional £47 million per annum to take account of the Bridgeguard 3 programme (to renew bridges over roads). However, given Railtrack's historic underspend of its previous AMP estimates and the advice of his consultants, the Regulator presently considers that this potential adjustment should be reduced to £29 million per annum;

- Signalling: the adjustment for signalling activity reflects Railtrack's November 1999 submission. This is based on its recent signalling AMP adjusted to treat expenditure on Train Protection and Warning Systems (TPWS) as an enhancement. However, these estimates were only provided to the Regulator in November 1999 and they therefore remain subject to further investigation;

- Stations and depots: Railtrack has argued that it needs to spend substantially more than is implied by the level of expenditure in the base year (adjusted to exclude backlog spending as described above). However, the Regulator considers that most of this expenditure should not be included in renewals since it represents an enhancement of the network (£135 million). BAH have advised that the remainder is either continued backlog spend (£39 million), which should not be allowed since this should have been completed in the current period, or use of heritage materials where this is not necessary (£23 million);

- Telecoms: although Railtrack has argued that it needs to increase its expenditure on telecoms, the Regulator presently considers that it would be inappropriate to allow for expenditure on the Network Management Centre (since if this is allowed for, it should probably be treated as an enhancement) and the Hybrid Bearer network (since this could be self financing through non-regulated income);

- Information & Technology: Railtrack has argued that it needs to spend a total of £596 million over the next price control period (an average of £119 million per annum). The Regulator does not dispute this. However, he regards the development of robust information systems as a pre-requisite for the efficient management of the business and for the provision of accurate and timely information to the industry (including the Regulator himself). In his view, an efficient operator would therefore have incurred a substantial proportion of this expenditure in the current period (in spite of the need to ensure compliance with year 2000). He presently considers that it would, therefore, be inappropriate to allow for this again in the next period. Since the base 1998/99 cost includes £126 million of IT expenditure, applying the assumed efficiency improvement (see below) to the base implies a disallowance of £107 million over the next period as a whole; and

- Electrification, plant and machinery and other asset expenditure: the adjustments shown in the table are based on Railtrack's own projections (the reduction in other asset expenditure arises from a reallocation of expenditure into specific categories).

3.16 In aggregate, these adjustments imply that Railtrack may need to increase its maintenance and renewals activity by around 10% in order to sustain the current capability and condition of the network. At current efficiency levels and volumes, this implies that Railtrack may need to spend an additional £224 million per annum. As noted above, however, Railtrack would need to establish that this increase in activity is necessary, that it can be delivered and that it does not arise from under-delivery in the current period. The proposed treatment of under-delivery is discussed further in Chapter 6.

West Coast Route Modernisation

3.17 The West Coast Route Modernisation (WCRM) includes the Passenger Upgrade 2 (PUG 2) enhancements which are committed to Virgin's subsidiary West Coast Trains Limited (referred to here simply as Virgin) under a partially ring-fenced access agreement or to retain the availability of capacity to other operators as committed to the Regulator. It also incorporates the core investment programme (CIP) required to maintain and renew the route. The CIP is intended to represent the maintenance and renewal activity that would be required in the absence of the enhancement (although the enhancement may have resulted in some advancement of renewal from the next period and some deferral from the current period). This cost is not therefore covered by the additional payments from Virgin.

3.18 Scenario 3 in Table 3.3 illustrates the impact of the additional renewals expenditure which Railtrack claimed in its November 1999 submission should be added to its original estimates following its recent reassessment of the cost of the CIP. As a result of this review (which assumes the moving block signalling solution) Railtrack has estimated that the total cost of the programme is likely to be around £5 billion of which just over £1 billion is required to meet the enhancements required by PUG 2. Railtrack claims that the total cost of the CIP over the next control period has increased by £1.37 billion compared to its May 1999 estimate. Since the November 1999 submission, Railtrack has decided in favour of a more conventional signalling solution which also involves additional infrastructure works. The Regulator understands that, as a result, Railtrack's estimate of the costs of both the core investment programme and the upgrade have increased further.

3.19 Railtrack contends that there are two main reasons for the increase in costs:

- realisation that its inheritance was in a worse state of repair than it had been assumed when the commitments were given (compounded by recent growth and the pressure for performance); and
- the uncertainty associated with the signalling solution which was envisaged as part of the CIP.

3.20 In addition to the factors referred to in relation to increased maintenance and renewals in general, the Regulator has indicated to Railtrack that he will need to assess whether any of this increase in costs should be treated as part of the PUG 2 enhancement (for which Railtrack has agreed a fixed price with Virgin) rather than the CIP (and therefore covered by the periodic review).

3.21 However, this new information was only received by the Regulator at the end of October 1999 and Railtrack has stressed that its estimates are still subject to its own review depending on the chosen signalling solution. Given this, the Regulator has already told Railtrack that it would not be appropriate for him to reach any firm conclusions on the appropriate level of costs or their treatment in his provisional conclusions. Scenario 3 is therefore included for illustrative purposes only.

The scope for cost reductions due to improved efficiency

3.22 Given the alternative base levels of expenditure described in the preceding section, the future level of expenditure will depend on the potential for Railtrack to improve its current efficiency. This section therefore considers the following evidence on the scope for efficiency gains:

- efficiency savings to date;

- detailed assessments of potential savings;
- benchmarking against other railways;
- productivity trends in other railways;
- comparisons with what other regulators have assumed; and
- comparisons with what other privatised industries have achieved.

Efficiency savings to date

3.23 Railtrack has presented evidence that it has achieved actual efficiencies of 2.2% per annum on controllable costs of between 1994/95 and 1999/00. It also claims that on a like-for-like basis (adjusting for the costs of the performance regime for suppliers, growth on the network and one-off costs) the actual efficiency saving is around 3.9% per annum. It acknowledges that a portion of these savings were, however, achieved through an X factor in the initial contracts with suppliers.

3.24 Railtrack has also argued that very significant savings were achieved at privatisation. The main savings derived from the fact that Railtrack's organisational design was zero-based. It estimates that this resulted in 1994/95 costs being 6% lower in real terms than BR's costs in 1993/94. However, these head-office and zonal management costs represent only a relatively small proportion of Railtrack's overall cost base.

Bottom up assessment of potential savings

3.25 Railtrack's May 1999 submission assumed £560 million of efficiency savings over the next period as a whole. BAH identified potential savings equivalent to 4% per annum on controllable costs. Railtrack has accepted some of BAH's findings and has subsequently increased its assumed efficiencies to £711 million, equivalent to 2% of controllable costs. This is made up of 1.2% per annum of efficiencies identified by BAH to catch up with the efficiency frontier and 0.8% assumed annual improvement in the efficiency frontier.

3.26 Railtrack argues that its assumed cost saving of 2% per annum understates the actual improvement in efficiency due to the inclusion of additional outputs in the next period (e.g. improved performance), the exclusion of one-off restructuring costs to secure efficiencies (e.g. information systems and redundancy costs), and the impact of real wage inflation. It claims that the underlying improvement in efficiency is around 4.4% per annum. However, BAH have confirmed the Regulator's view that these adjustments are overstated and he therefore concludes that there is no reason why Railtrack should not be able to achieve net savings at least equal to this underlying figure.

3.27 Railtrack also claims that the demands for investment and other improvements in performance will divert attention from cost reduction. Similarly, it argues that strongly unionised contractors, public sector culture and safety requirements will prevent it from implementing the necessary changes in the short term. It does, however, acknowledge that these issues will not prevent it from achieving these savings in the longer term.

Benchmarking and productivity trends in other railways

3.28 The Regulator has received a series of submissions from freight train operators which compare Railtrack's freight-related costs per gross tonne km with those of Class 1 railroads in the United States. This analysis attempts to adjust for differences in speed, structures and axle loading (all of which tend to increase UK rail costs compared to those in the US), but deliberately ignores other factors which would tend to increase US costs. They claim that this shows that Railtrack's freight-related costs are over double those of notionally efficient operator (reflecting in particular a much greater proportion of expenditure on renewal as opposed to maintenance). To the extent that these comparisons are reasonable, this may also be taken as evidence of Railtrack's overall level of efficiency.

3.29 In addition to the base level of efficiency, one operator has argued that US railroads have achieved considerable efficiency savings over time, particularly since deregulation in 1980. It has presented evidence which suggests that unit track maintenance and repair expenses in the US have declined by around 7% per annum since 1989.

3.30 BAH also refer to international comparisons. Their report compares Railtrack's total costs with those from an independent study of ten European railways in 1998. This shows that Railtrack's maintenance costs were significantly below the average, but that renewal costs and total expenditure per km were significantly higher. They make no attempt to adjust the Railtrack expenditure figures onto a more comparable basis but note that any adjustments would tend to increase its costs relative to those of the other railways covered by the study. They also note that many of the comparators have yet to be restructured and that they are unlikely to be classed as efficient.

However, they have not attached significant weight to these comparisons in reaching their conclusions.

3.31 The Regulator acknowledges that this evidence is not conclusive on its own. However, he does consider that it warrants further investigation before he reaches final conclusions in July 2000. When taken in conjunction with other evidence discussed below, it may support the general conclusion that there is substantial scope for improved efficiency. Copies of the submissions made by freight operators have been sent to Railtrack and the Regulator would expect to take account of its response to these submissions in reaching his final conclusions.

Comparisons with other regulators

3.32 The December 1999 Europe Economics report shows that other regulators have tended to assume annual efficiency savings of around 2-4% on operating costs excluding depreciation. However, there are two key points to note about these figures:

- first, Europe Economics stress that regulators have hitherto generally underestimated the scope for efficiency gains (see next section for further detail); and

- second, where there is more than one company within the sector, the assumed efficiency savings for the less efficient companies have been much higher than the norm.

3.33 The recent reviews of water and sewerage charges and electricity distribution charges highlight the second point. For example, OFWAT assumes average efficiency gains of 2.4% per annum for water and 3.1% per annum for sewerage, while the assumed savings for the least efficient companies were 4.9% and 4.3% respectively. Similarly for electricity distribution, the average assumed efficiency improvement is 2.3% per annum, but the implied efficiency saving for the least efficient company is around double this figure. This is in spite of the fact that these companies have been in the private sector for up to ten years and they have are likely to have already achieved most of the easy hits.

3.34 In conclusion, the Regulator considers that it is plausible to assume that Railtrack should be able to improve its efficiency by an amount which is comparable with what other regulators have assumed for relatively inefficient companies.

Comparisons with other privatised industries

3.35 The December 1999 Europe Economics report summarises the evidence from comparator industries and the implications for Railtrack. They regard the achievements of the other UK privatised network monopolies as likely to provide the best guide to the potential for Railtrack to improve its efficiency. They also note that there is no evidence to suggest that at privatisation Railtrack was any more efficient than the other former nationalised industries. These industries are still producing very substantial efficiency gains, many years after privatisation, well in excess of what is achieved in the economy as a whole.

3.36 Europe Economics' assessment of the reduction in real unit operating costs (excluding depreciation) in other utilities is summarised in Table 3.4 below. Part of the unit cost reduction in gas transportation is attributable to very strong unit growth. For the remaining utilities, however, the table shows that real unit costs have been reduced by broadly 3-7% per annum.

Table 3.4: Real unit operating cost reductions in other utilities

% change	1992	1993	1994	1995	1996	1997	1998	CAGR
Water			-1.0	-3.1	-4.4	-4.5	-4.1	-3.7
Sewerage			0.9	-2.7	-8.2	-3.9	-5.0	-4.1
Electricity transmission	15.6	-6.1	-15.0	-14.4	-7.0	-6.4	-11.1	-6.5
Electricity distribution	-3.3	-1.5	1.8	-5.8	-12.5	-14.4	-8.9	-6.8
Gas transportation	27.4	-17.7	-12.2	-21.2	-8.8	-12.8	-19.9	-9.1

3.37 The privatisation literature is now somewhat dated, and so does not take account of the considerable achievements made by most other utilities in recent years. Nevertheless, Europe Economics have confirmed that this evidence also points to overall efficiency gains for privatised utilities broadly in the range 2-6% per annum (compared to around 1% for the economy as a whole).

3.38 Europe Economics argue that it is reasonable to assume that Railtrack should be able to achieve efficiency gains of a similar order of magnitude to those achieved by its closest comparators at a comparable stage in their regulatory cycle. They conclude that Railtrack should be able to reduce its controllable costs by of the order of 3-5% per annum in real terms. They also confirm that there is no evidence to justify an adjustment to this range due to movements in Railtrack's input prices relative to the economy as a whole.

3.39 The Regulator considers that the following factors, in particular, indicate that it is realistic to assume that Railtrack should be able to achieve efficiencies at the top end of the range achieved by its closest comparators:

- Railtrack has yet to benefit from the scope economies that are likely to arise from a better understanding of its assets or from the replacement of the supply contracts which were put in place at privatisation;
- other utilities have achieved substantial savings following their first periodic review and Railtrack should also be able to learn from the significant savings which have been achieved more recently;
- unlike most other utilities, Railtrack has not been exposed to direct product market competition, which is recognised as a key driver of efficiency improvements;
- there is still significant scope for improvements in delay minutes and other aspects of performance (e.g. through improved working practices) and other utilities have achieved significant performance improvements at the same time as achieving the cost reductions referred to above; and
- the substantial continuing maintenance, renewal and enhancement programme is likely to result in significant additional economies of scope as well as improved efficiency associated with the introduction of new technology.

Conclusions on efficiency

3.40 Given the available evidence, the Regulator believes that Railtrack should be able to achieve savings in controllable costs (i.e. excluding cumulo rates, BT police and ORR licence fees) of 3-5% per annum over the next price control period as a whole. For the purposes of his provisional conclusions, he has assumed savings of 5% per annum, which is at the top end of the proposed range. His present view is that these savings should be challenging but achieveable.

3.41 The assumed savings of 5% per annum compare with:

- 2% per annum acknowledged by Railtrack in its November submission which is consistent with the 2% per annum savings which it has achieved to date (although it acknowledges that it can achieve 4.4% before the cost of improved performance and restructuring and ignoring the effect of real wage inflation);

- 4% per annum identified by the Regulator's consultants based on a bottom-up analysis of the potential cost savings from specified improvements in efficiency (although this approach will tend to understate the potential savings since it does not take account of unspecified improvements in efficiency which cannot be anticipated now but which might be expected to be achieved in response to effective incentive regulation);

- 3-5% per annum proposed by the Regulator's consultants based on their assessment of what has been achieved by comparable utilities at a comparable stage in their regulatory cycle (although larger savings have been achieved in the last few years and immediately following previous price control reviews);

- other regulators' assumed efficiency savings for relatively inefficient companies of 4-5%; and

- significantly higher potential cost savings which are implied by simple comparisons with railways in some other countries (although the Regulator recognises that these comparisons need to be interpreted with considerable care due to differences in circumstances).

3.42 The Regulator intends to consider further the appropriate profiling of cost savings to the end of the next price control period. He also recognises that this rate of improvement may not be sustainable in the long term. For illustrative purposes, he has therefore assumed savings of 3% per annum during the third price control period.

Conclusions and next steps

3.43 Figure 3.1 summarises the Regulator's present projections of Railtrack's expenditure requirements during the current price control period and over the next two periods.:

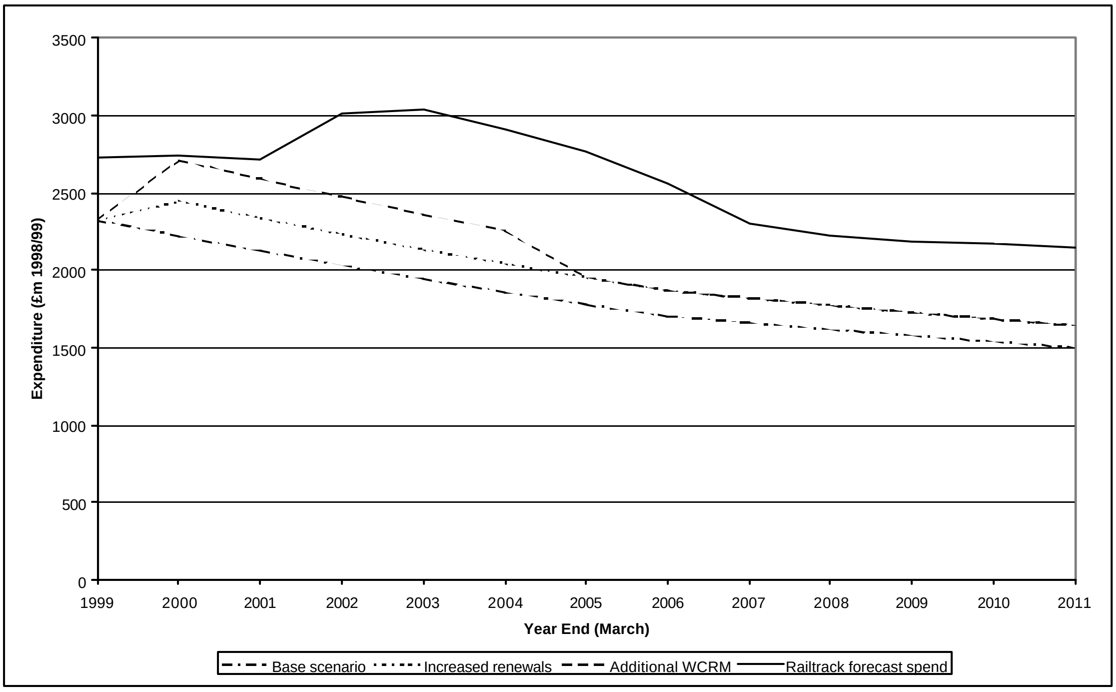
- Scenario 1: this scenario represents the potential cost savings due to improved efficiency. This assumes that the current level of activity (excluding backlog spending and exceptional items) is maintained and that Railtrack achieves efficiency savings of 5% per annum from 1998/99 to the end of the next period and 3% per annum during the subsequent period;

- Scenario 2: assumes a 10% increase in maintenance and renewals activity which may be necessary to maintain the current condition and capability of the network;

- Scenario 3: illustrates the impact of a further 12% increase in maintenance and renewal activity based on Railtrack's recent reassessment of the costs associated with the West Coast Main Line; and

- Scenario 4: shows Railtrack's own expenditure projections for comparative purposes.

Figure 3.1: Expenditure projections



3.44 The Regulator does not presently have sufficient evidence to satisfy him that the increase in activity underlying the second scenario is justified. In addition, he has not yet had the opportunity to assess Railtrack's recent submission on the costs associated with the West Coast Main Line. It is therefore up to Railtrack to establish that the additional expenditure underlying these scenarios should be taken into consideration at the periodic review.

3.45 The Regulator intends to subject these cost projections to further scrutiny before reaching final conclusions on Railtrack's revenue requirements. He expects Railtrack to provide convincing evidence that the projected increase in activity should be reflected in allowed revenues and that this cannot be offset by further efficiency improvements. The implications of any changes in outputs which Railtrack will be required to deliver and the interaction with enhancement expenditure will also need to be taken into account.

3.46 Consultees are invited to comment on the range of expenditure projections identified by the Regulator. The Regulator would particularly welcome comments on the assumed rate of efficiency improvement (equivalent to 3-5% per annum from 1998/99 to 2005/06) and on the appropriate profile for these assumed savings. He would also welcome comments on whether there is a need to increase the level of activity to maintain and renew the network (apart from any enhancements which might be considered appropriate).

4. Cost of capital and financial indicators

Introduction

4.1 The calculation of the Weighted Average Cost of Capital (WACC) is used to determine the allowed rate of return on the Regualtory Asset Base. It depends on estimates of the cost of debt finance, the cost of equity finance and an assumed level of gearing (the proportion of debt and equity):

- cost of debt: the cost of debt is made up of two components – the risk free rate and a company specific debt premium. OFWAT and OFGEM have also made a separate allowance for the cost of embedded fixed rate debt (i.e. long-term debt which the companies entered into when interest rates were significantly higher than current market rates); and

- cost of equity: the previous Regulator, as with other regulators, calculated the cost of equity using the Capital Asset Pricing Model (CAPM). Under this approach, the cost of equity is calculated from the risk free rate plus the equity risk premium (which reflects the risk associated with equity in general) multiplied by a company specific beta (which reflects the risks associated with Railtrack shares that cannot be diversified by holding a large portfolio of shares).

4.2 Consistency with the approach and assumptions adopted by other regulators and over time should help to minimise unnecessary uncertainty among investors about the returns which an efficient Railtrack can be expected to earn. The joint statement published on 8 October 1999 by the five regulators for water, telecommunications, rail, gas and electricity set out the arrangements for joint working including the working group on price control and the cost of capital. Given the current absence of a right of appeal for Railtrack to the Competition Commission, the Regulator believes that it is particularly important for him to have regard to relevant precedents (although he has given his support to Railtrack being given a right of appeal to the Competition Commission).

4.3 The Regulator considers that the most recent cases are likely to represent the most relevant precedents and he has therefore taken account of the approaches adopted by OFWAT and OFGEM in their respective reviews of the regional electricity companies and the water and sewerage companies. He is aware that these other companies have argued that the approach adopted by their regulator is inconsistent with what the MMC has previously done (particularly with respect to the risk free rate). However, if any of them reject their regulator's proposed price controls and the matter is referred to the Competition Commission, the Regulator would be able to take this into consideration in reaching his final conclusions.

4.4 The way in which the Regulator has taken account of these precedents differentiates between generic assumptions which apply to any company (the risk free rate and the equity premium) and company specific assumptions (the debt premium, the equity beta and the level of gearing). Given the need for consistency, the Regulator considers that there is a strong case for adopting the same generic assumptions as those used by other regulators. With regard to the company-specific assumptions, he believes that the key question is whether the underlying risks faced by Railtrack are substantially different to those faced by other regulated companies. Whilst the Regulator has also reviewed the available evidence on each of the key assumptions, this implies that, if the underlying risks are the same, the appropriate allowed rate of return for Railtrack's core business would be the same as that allowed by other regulators.

4.5 The remainder of this chapter presents the Regulator's provisional conclusions on the following issues:

- the generic cost of capital assumptions;
- the extent to which Railtrack is different to other utilities;
- the implications for the company-specific cost of capital assumptions;
- the treatment of taxation;
- the appropriate cost of capital for use in the periodic review; and
- the role and values for other financial indicators.

Generic cost of capital assumptions

Risk free rate

4.6 The previous Regulator proposed a range of 2.25-3.0% for the risk free rate based on the current rates on index-linked bonds. By contrast, Railtrack argues that the use of current rates is inconsistent with the 'powerful and consistent

MMC precedent' and that it would be more appropriate to use a long term average rate of 3.5-3.8%.

4.7 Railtrack has recently provided a submission which claims that the previous Regulator, in focussing on current returns on index-linked bonds, put forward an unduly low range for the cost of capital. It argues that this view is supported by the following factors:

- its concerns which have emerged since December 1998 about the distortions in the market for index-linked bonds; and

- an alleged methodological error by the previous Regulator (and other regulators) in failing to include an allowance for inflation risk in his calculation of the risk free rate.

4.8 However, the range proposed by the previous Regulator encompasses the ranges used by OFWAT (2.5-3.0%) and OFGEM (2.25-2.75%). OFWAT notes that a recent London Business School (LBS) paper states that the standard cost of capital analysis always uses current market opportunity rates. OFWAT also argues that the combination of a forward looking cost of capital and an allowance for embedded fixed rate debt provides a more focussed assessment of required returns than can be given by historical averages. Similarly, OFGEM refers to recent evidence from the May 1999 Bank of England inflation report and analysis published by the Debt Management Office in July 1999 which suggests that the strong institutional demand and stable Government finances should continue into the medium term, indicating that the present rates are not unduly influenced by short term factors.

4.9 The Regulator also considers that if Railtrack considers that there are significant distortions in the market for index-linked bonds or significant inflation risks associated with other forms of financing, Railtrack should take account of these issues in deciding how best to finance its investment.

4.10 The Regulator is aware that the respective electricity and water and sewerage companies have generally adopted a similar position to Railtrack. However, unless any of these companies reject their regulator's proposals and are referred to the Competition Commission, he is minded to confirm the range proposed by the previous Regulator (2.25-3.0%). He notes that this range is substantially higher than the current real yield on long-term index-linked gilts.

Equity risk premium

4.11 The previous Regulator set out the evidence on the equity risk premium in the December 1998 periodic review document. This included reference to City analysts, other regulators and his own corporate finance advisers. Consistent with the intention to target a forward-looking cost of capital, he concluded that it would be appropriate to assume a value within the range 3.0-4.0%.

4.12 By contrast, Railtrack concludes that the appropriate value for the equity risk premium should be 3.5-5.0% based on previous MMC findings. Railtrack argues that, since the recent premium is at an historical low, a reasonable central estimate should lie within the upper part of this range.

4.13 Having reviewed the available evidence and given the need for consistency with other regulators, the Regulator is minded to confirm the range proposed by the previous Regulator. In order to identify a narrower central range for the cost of capital he proposes to focus on a central range of 3.25-3.75% for the equity risk premium (in line with the values assumed by OFGEM).

Is Railtrack different?

4.14 There are a number of elements to this question:

- assuming that the structure of Railtrack's charges becomes broadly cost-reflective (as is broadly the case with the form of control in other regulated utilities), would the underlying risks and the cost of capital associated with the core business be any different to those faced by these other utilities?

- if the structure of charges was modified to provide Railtrack with a positive incentive to promote growth, what impact would this have on the cost of capital?

- to what extent are the risks associated with enhancements different to those associated with maintenance and renewal and what are the implications for the cost of capital?

This chapter focuses exclusively on the first question. The potential impact of a volume incentive will be addressed if the Regulator decides to adopt this approach next Spring. The rates of return applicable to enhancements are discussed further in Chapter 13.

4.15 Railtrack argues that there are many aspects of its operations which differentiate it from other regulated utilities. These are addressed in turn below.

4.16 First, Railtrack argues that, unlike other utilities, the scale of the task which it faces is large and has increased since privatisation. Although this may be true, these factors do not affect the forward-looking risks which now face the company (except, potentially, through indirect effects on other differentiating factors which are discussed below). The Regulator does not therefore believe that there should be any allowance for this factor in the cost of capital which is estimated for the periodic review.

4.17 Second, Railtrack asserts that the scale of enhancement investment over the next period is enormous (at least 100% of the RAB compared to 25% to 60% for other utilities). It is also claimed that the risk of capital expenditure overruns is higher in the rail industry than in other utilities and that the scale of certain projects is such that significant overruns could undermine Railtrack's ability to finance its relevant functions. However, it is the Regulator's present view that, even if these risks impact on the sustainable financial indicators (which are discussed in more detail below) or the cost of capital for enhancements (which is discussed in Part II), they should not influence the cost of capital for Railtrack's core business since this does not include major enhancement expenditure.

4.18 Third, Railtrack claims that it faces greater variations in its return on capital due to the following differences:

- it faces stronger financial incentives and penalties relating to the performance of its network; and
- it is dependent on a smaller number of relatively large customers who could become bankrupt.

However, the Regulator considers that to the extent that these risks are higher than in other industries, they are largely company specific and would not therefore contribute to a CAPM based estimate of the cost of capital (since only market related risks are reflected in the company's beta). In addition, he considers that the risk associated with train operators' bankruptcy is relatively small since the Franchising Director would be able to step in to maintain the services.

4.19 Fourth, Railtrack argues that a given change in revenues or costs will have a relatively large effect on profitability since profits represent a smaller proportion of costs and revenues than in other utilities (i.e. its operational leverage is higher than other utilities'). This difference arises because the RAB is low relative to the company's expenditure requirements. For example, Railtrack estimates that operating expenditure over the next period is between 200% and 280% of the RAB, compared to ratios of 40% to 60% for other utilities. In the longer term, this difference will tend to decline since Railtrack's RAB is also expected to grow much faster than other utilities. At present, however, the Regulator considers that Railtrack's operational leverage is significantly higher than other utilities and that this should be reflected in the assumed cost of capital.

4.20 Finally, Railtrack indicates that financing is a major challenge. For example, it is argued that the company will not be able to tap the debt market opportunistically and that it will need to retain the option of raising further equity. Given the importance of investment, the Regulator agrees that it is important for him to be confident that the assumed cost of capital is sufficient to enable Railtrack to meet this challenge. This factor would therefore tend to support assumptions which are closer to the top end of the likely range of values than in other utility sectors.

Company specific cost of capital assumptions

Gearing

4.21 The appropriate level of gearing is discussed further in the section on relevant financial indicators. For the purposes of calculating the weighted average cost of capital, however, the Regulator proposes to assume gearing of 50% (defined as debt divided by debt plus equity). This is at the top end of the range assumed by the previous Regulator and in line with recent assumptions adopted by other regulators. In the long term, when investment in the network has stabilised, the Regulator believes that this level of gearing is likely to be seen as conservative.

Debt premium and allowance for embedded debt

4.22 The debt risk premium reflects the additional return required by the providers of debt finance to hold corporate rather than Government debt and can be estimated as a premium over the real risk free rate. It will depend on a range of company specific factors which are assessed by the rating agencies. Railtrack's current bonds are rated AA- and they have recently traded at between 140 and 170 basis points over the comparable gilt, depending on maturity. For comparison, BBB rated debt issued by electricity or water and sewerage companies recently traded between 100 and 270 basis points above the comparable gilt.

4.23 Railtrack has argued for a debt premium of 1.0-1.2% on the assumption that Railtrack's credit rating remains at or above a strong single A rating and that longer term historic rates are used for the risk free rate. The previous Regulator assumed a debt premium of 1.0-1.5%.

4.24 Given the assumption that Railtrack's gearing will increase to 50%, the Regulator is minded to adopt a range of 1.2-1.5%. This implies an overall real pre-tax cost of debt finance of 3.5-4.5%.

4.25 At future reviews, the Regulator would need to consider whether to make any allowance for any embedded long-term fixed rate debt which might be out of line with prevailing rates. In considering this issue, he would expect to have regard to the need for consistency with the mechanism for calculating the assumed risk free rate, the approach adopted by other regulators and comparisons with the financing options adopted by other similar companies (e.g. in relation to the choice between fixed, variable and index-linked debt).

Equity beta

4.26 A company's beta provides an indication of its riskiness relative to the market as a whole. It aims to predict the extent to which a company's share price would tend to change in response to changes in the level of the overall market and seeks to measure the company's non-diversifiable risk relative to equities generally. The equity beta depends on the overall level of gearing of the company since additional gearing increases the variability of equity returns.

4.27 The previous Regulator assumed an equity beta of 0.75 to 0.85 based on Railtrack's low historic level of gearing. Given this same level of gearing, Railtrack argues that the appropriate range for its beta is 0.8 to 1.0. This is towards the top end of the range proposed by Railtrack's consultants since Railtrack discounts the recent share price movements as being unrepresentative due to the volatility associated with the periodic review.

4.28 If the equity beta that was used by the previous Regulator is adjusted so as to take account of an assumed gearing level of 50%, the result is an adjusted equity beta in the range of 1.20 to 1.35.

4.29 By comparison, OFGEM has assumed an equity beta of one (until recently OFWAT also assumed an equity beta of one). Since this equity beta is also based on an assumed gearing of around 50%, it is directly comparable with the ranges noted in the previous paragraph. The preceding section concluded that Railtrack does face greater risks than other regulated utilities (particularly because of higher operational gearing) and that it is important for the Regulator to be confident that his assumed cost of capital is sufficient to enable Railtrack to attract new debt or equity finance. This implies that Railtrack's equity beta would be higher than one (assuming 50% gearing).

4.30 This conclusion is supported by the MMC's assumed beta for BAA plc (which in some respects may be more similar to Railtrack – e.g. due to the scale of the construction programme). In 1996, the MMC assumed an equity beta for BAA of 0.7 to 0.9 based on 30% gearing. Assuming 50% gearing, the implied equity beta would increase to 1.0 to 1.25.

4.31 The Regulator believes that considerable caution is required in interpreting statistical evidence on equity betas. In particular, he notes that different results can be obtained by examining different time periods and that structural change may mean that estimates based on historical data are of limited relevance to the future. For example, Railtrack argues that the recent fall in its estimated beta is attributable to the uncertainty associated with the periodic review.

4.32 It is therefore necessary to look at the differentials between the estimated betas for different utilities over a period of time. Table 4.1 shows the London Business School beta estimates as published in the December 1998 periodic review document as well as the most recent estimates. In each case, the table shows the equity beta based on actual gearing, the asset beta (which assumes zero gearing) and the implied equity beta based on 50% gearing. It shows that Railtrack's beta has been around 0.1-0.2 higher than the average for other regulated utilities excluding BAA, when these are adjusted for gearing. These data reflect the current structure of charges, in particular the very high fixed charge. However, if variable usage charges are increased to become more cost-reflective this would tend to increase the difference between Railtrack's observed beta and that for other utilities.

Table 4.1: A comparison of equity and asset betas

	Current gearing D/(D+E)		Equity beta current gearing		Asset beta no gearing		Equity beta 50% gearing	
	Dec 98	**Dec 99**	**Dec 98**	**Dec 99**	**Dec 98**	**Dec 99**	**Dec 98**	**Dec 99**
Water group	0.30	0.36	0.84	0.55	0.65	0.39	1.10	0.67
PES group	0.39	0.24	0.92	0.65	0.63	0.53	1.08	0.91
National Grid	0.21	0.36	0.66	0.57	0.47	0.41	0.81	0.70
BAA	0.25	0.27	1.06	0.97	0.84	0.77	1.43	1.31
BG	0.27	0.28	0.69	0.57	0.54	0.45	0.92	0.77
Average	0.28	0.30	0.83	0.66	0.65	0.51	1.10	0.87
Average exc BAA	0.29	0.31	0.78	0.58	0.60	0.45	1.02	0.75
Railtrack	0.10	0.18	0.73	0.61	0.68	0.53	1.15	0.90

4.33 In conclusion, for the reasons explained above, the Regulator currently proposes to assume an equity beta of 1.1 to 1.3 based on 50% gearing and assuming that the structure of charges is broadly cost reflective. Due to the identified differences in risk, this is 0.1-0.3 higher than the comparable betas which OFGEM has assumed for electricity companies. It is also consistent with the range assumed by the MMC for BAA.

Adjusting for taxation

4.34 The August 1999 periodic review document raised the question of the appropriate treatment of taxation. There are three alternative options:

- calculate a post-tax WACC but exclude the tax shield on debt and apply this to post-tax cash-flows assuming 50% gearing – this is the approach adopted by OFWAT and the previous Regulator;

- calculate a post-tax WACC and include the tax shield on debt and apply this to post-tax ungeared cash-flows – this is the approach adopted by Railtrack; and

- calculate a pre-tax WACC and apply this to pre-tax cash-flows – this is the approach adopted by OFGEM, OFREG (Office for Electricity and Gas Regulation in Northern Ireland) and, in most cases, the MMC.

4.35 As long as these different approaches are applied consistently, they should in principle give the same result (at least in the longer term). However, the rate of return which is applied to enhancements which are negotiated between reviews is inevitably calculated on a pre-tax basis (since it is not appropriate to calculate the tax effects of each individual project). The Regulator considers that it would be most appropriate to adopt the same approach at the periodic review. Adopting a different approach could create distortions, particularly where the residual value of these enhancements enters the RAB at a subsequent review. Using a pre-tax WACC also minimises the need for detailed regulatory involvement in Railtrack's tax and financing assumptions.

4.36 In its report on Cellnet and Vodafone, the MMC adjusted the cost of equity finance upwards by a tax wedge to take account of corporation tax payments. In calculating this tax wedge, the MMC assumed that companies would pay the mainstream corporation tax rate, giving a multiplier of 1/(1-0.3) or 1.429. OFGEM has adopted the same multiplier in its review of distribution price controls and the Regulator proposes to adopt this approach for the purposes of his provisional conclusions.

4.37 It is for consideration, whether the Regulator should take account of the fact that Railtrack's effective tax rate has historically been lower than 30%. However, the effective tax rate would need to be calculated on a forward-looking basis using a definition of profit which is consistent with the price control methodology.

Conclusions on the cost of capital

4.38 Table 4.2 below sets out the calculation of the pre-tax WACC based on the assumptions explained above. This results in a range of 5.9-7.9%. In the light of the uncertainty relating to the level of the risk free rate and the need for the Regulator to be confident that the rate of return is sufficient to enable Railtrack to raise new finance without undue difficulty, the Regulator proposes to assume a value towards the top end of his assumed range. The Regulator's provisional conclusion is that the appropriate value for the pre-tax real cost of capital is in the range 7.0-7.5% pre-tax. This is 0.5-1% higher than the value proposed by OFGEM on the same basis. For the purposes of his provisional conclusions on Railtrack's revenue requirements he assumes a value of 7%.

Table 4.2: Railtrack's WACC

	Low	High
Cost of debt		
Risk free rate	2.25%	3.0%
Debt premium	1.2%	1.5%
Pre-tax cost of debt	3.5%	4.5%
Cost of equity		
Risk free rate	2.25%	3.0%
Equity risk premium	3.25%	3.75%
Equity beta	1.1	1.3
Post-tax cost of equity	5.8%	7.9%
Tax adjustment	1.43%	1.43%
Pre-tax cost of equity	8.3%	11.3%
Gearing	50%	50%
WACC pre-tax	5.9%	7.9%

Financial indicators

The role of financial indicators

4.39 Financial indicators and their trends are an important tool used by investors to assess the riskiness of a company's cash-flows. They therefore have a potentially important impact on both the cost of new finance and the company's capacity to raise new finance. It is, however, necessary to recognise that other factors, such as the perception of regulatory and commercial risks, also have a major impact on these issues.

4.40 The Regulator considers that the way in which Railtrack finances its investment requirements is a matter for the company. However, Chapter 2 described the role of financial indicators as a check that the conventional approach of setting the price controls does not make it unduly difficult for Railtrack to finance its licensed activities (including potential enhancement projects which are excluded from the baseline). Although there are a number of alternative ways in which Railtrack's investment requirements could be financed, he recognises that it is particularly important for him to have regard to the financial indicators which the debt and equity markets regard as significant. These will have a particular impact on the amount of investment which Railtrack is able to finance from debt without having to raise new equity or cut dividends.

4.41 The Regulator has therefore undertaken detailed investigations into the financial indicators considered most important by relevant City institutions. This programme has included consultation with a range of equity and credit analysts, credit rating agencies and major lending banks. He has also consulted his corporate finance advisors, Singer & Friedlander, and discussed these issues with Railtrack and other industry parties. Finally, the Regulator has noted the financial indicators used by OFGEM and OFWAT in the water and electricity distribution price control reviews.

4.42 The remainder of this section considers the following issues:

- What are the relevant financial indicators?
- What is the appropriate credit rating for the Regulator to assume in setting price controls?
- What are the implied levels of the relevant financial indicators?
- Should the Regulator take account of dividends paid by Railtrack PLC to Railtrack Group PLC?

Relevant indicators

4.43 The Regulator's consultations support his view that the emphasis should be placed on cash-based financial indicators. The Regulator will therefore focus on earnings before interest, tax, depreciation and amortisation (EBITDA) interest coverage, funds from operations (FFO) interest coverage, FFO to total debt, and the ratio of net cashflow to capital expenditure. Other measures which are widely used in other circumstances will also be examined although the Regulator considers that these are likely to be less relevant in this case (such as EBIT interest coverage and conventional gearing). In addition, the Regulator considers that it is relevant to examine the level of debt as a proportion of the overall RAB (plus the value of assets which are excluded from the RAB) since the RAB represents the value of debt plus equity on the assumption that the company will earn only its cost of capital. The relevant financial indicators are defined in Table 4.3 below.

Table 4.3: Definition of relevant financial indicators

Indicator	Definition
EBITDA interest coverage	Earnings from continuing operations before interest, taxes, depreciation and amortisation *Divided by* Gross interest incurred before subtracting capitalised interest and interest income
FFO interest coverage	Funds from operations (i.e. net income from continuing operations plus depreciation, amortisation, deferred income taxes, and other non-cash items) *Divided by* Gross interest before subtracting capitalised interest and interest income
FFO to total debt	Funds from operations (as above) *Divided by* Long term debt plus current maturities, commercial paper, and other short-term borrowings
Net cashflow to capex	Net cash inflow from operating activities *Divided by* Total capital expenditure
EBIT interest coverage	Earnings from continuing operations before interest and tax *Divided by* Gross interest before subtracting capitalised interest and interest income
Gearing	Net debt (i.e. long term debt plus current maturities, commercial paper, and other short-term borrowings, less investments and cash at bank and in hand) *Divided by* Long term debt plus current maturities, commercial paper, and other short-term borrowings + shareholders' equity (inc preferred stock) plus minority interest
Debt to RAB	Net debt (as above) *Divided by* RAB plus value of enhancements not included in RAB

4.44 When considering the impact of his decisions on these financial indicators, the Regulator will take note of the trends over the second control period and beyond, rather than concentrating on the value of any single indicator at any one point in time. This forward-looking approach reflects the approach generally adopted by credit rating agencies, lenders and investors.

Applicable credit rating

4.45 Given Railtrack's current level of gearing, it is likely that it will look to raise a significant proportion of its immediate funding requirements from new debt. The credit rating given to Railtrack will play a key role in determining both the cost and availability of such funds. The Regulator has therefore consulted on the credit rating which he should assume when considering the appropriate level of the relevant financial indicators referred to above.

4.46 The Regulator notes that both OFGEM and OFWAT have required licensees to maintain an investment grade credit rating on their debt, the minimum investment grade categories being Baa3 (Moody's) and BBB- (Standard &

Poor's). These requirements are calculated to ensure that each company manages its affairs to maintain access to a wide range of sources of finance, readily and at reasonable cost. OFGEM also notes that it would seem reasonable for it to take account of this requirement in the periodic review.

4.47 The Regulator agrees that it is important for Railtrack to maintain at least an investment grade credit rating in the long term. He is also mindful of the potential scale of Railtrack's investment requirements at this stage in the development of the network and the construction risks associated with these investments. He therefore agrees that there may need to be a degree of headroom so that the rating is only likely to slip if there is a significant shock to Railtrack's costs or revenues or to the credit markets themselves. In the longer term, when the network is nearer to a steady state, he believes there should be less need for this type of headroom.

4.48 The Regulator's consultation process confirmed that a credit rating of BBB would not, in itself, prevent Railtrack from raising significant amounts of additional debt finance from the Sterling, Euro and US Dollar markets. However, a combination of factors means that a BBB rating might make it unduly difficult in practice for Railtrack to have confidence that it would be able to raise sufficient long-term debt finance at an appropriate cost. In particular, the sterling market is much smaller for companies with BBB or lower ratings. Whilst the market for long-term debt is very limited in the Euro-denominated market, both the Sterling and US Dollar markets do have considerable capacity to provide funds of sufficient maturity. However, the proceeds from US Dollar borrowings would need to be swapped into Sterling and such long dated swaps might be relatively difficult or expensive for a company with a BBB rating to obtain.

4.49 Railtrack's current rating is AA- from Standard & Poor's and A2 from Moody's. Railtrack has argued that the Regulator should set the price controls such that it is able to maintain a strong A rating (i.e. at least A+) in order that there can be no threat of the rating falling below A-. The Regulator presently considers that this degree of headroom may be unnecessary, particularly given the low underlying risks arising from the nature of regulation. He therefore proposes to assess his proposals against the relevant financial indicators that would be required to maintain a flat A rating (although several respondents suggested that a rating of A- would be reasonable).

The level of the relevant financial indicators

4.50 Standard and Poor's 1998 financial ratio guidelines for energy transmission and distribution companies suggest that for a BBB rating, FFO interest coverage should be around 2.0, FFO to total debt ratio should be around 10%, and total debt to capital ratio should be 65%. For a single A rating, these move to 3.25, 15% and 55% respectively. It is important to note that these guidelines are only indicative. Credit rating agencies also pay close attention to perceived levels of business risk and cashflow volatility (for example, Standard and Poor's quote higher interest coverage ratios and lower gearing for power generation companies at a given credit rating).

4.51 The recent determinations issued by OFWAT and OFGEM set out the ranges for financial indicators considered consistent with an investment grade credit rating. The Regulator notes that the figures quoted were broadly consistent with Standard and Poor's 1998 guidelines. Given the perceived differences between Railtrack and other utilities, the Regulator has considered the constraints on the financial indicators that would be consistent with maintaining a flat A credit rating. His provisional conclusions are set out in Table 4.4 which compares the proposed ratios with those used by OFGEM and OFWAT.

Table 4.4: Constraints on expected financial indicators

Indicator	ORR	OFWAT	OFGEM
EBITDA interest coverage	Min 3x	Min 3x	Min 2.25x
EBIT interest coverage	Min 2x		Min 1.5x
FFO interest coverage	Min 3x		Min 2x
FFO to total debt	Min 15%		Min 12%
Gearing (D/D+E)	Max 50%	Max 45-55%	Max 65%
Cashflow to capex ratio	Min >40%	Min 40%	

Dividends paid to the Group

4.52 Railtrack PLC has proposed substantial special dividends to Railtrack Group PLC. It argues that this strengthening of the Group balance sheet is necessary to enable it to proceed with Phase 2 of CTRL and the London Underground, and that this is different to the special dividends for unrelated diversification of other utilities.

4.53 Railtrack has argued to the Regulator that payment of these dividends will not jeopardise Railtrack PLC's ability to meet the reasonable requirements of operators and funders in the current control period. It has also indicated that in subsequent control periods the company would expect there to be no material impact providing the regulatory determination properly reflects the level of renewals spend required to sustain the network in the next control period and allows an appropriate return to be earned on enhancement investment.

4.54 The Regulator would be concerned if these dividends affected Railtrack's ability to finance major enhancements as part of the regulated business, including the possibility of new equity finance. He will therefore need to consider this issue further before reaching final conclusions.

4.55 In the longer term, the Regulator also intends to consider how Railtrack's network licence should be modified to require greater ring-fencing of the regulated business. He presently considers that it would be appropriate for him to introduce conditions similar to those which have been adopted in the electricity, gas and water industries. This might, for example, include a requirement for the company to maintain a specified credit rating.

Conclusions and next steps

4.56 The proposed ranges for the cost of capital and the appropriate financial indicators take account of the approaches taken by other regulators and the differences between Railtrack and other utilities. For consistency with the treatment of enhancements which are negotiated between reviews, the Regulator proposes to adopt a pre-tax measure of the cost of capital.

4.57 Consultees are invited to comment on the Regulator's provisional conclusion that the appropriate range for the assumed real pre-tax cost of capital is 7.0-7.5%. Consultees are also invited to comment on the relevance of other financial indicators as well as their proposed values and the appropriate credit ratios. Finally, consultees are invited to comment on the appropriate financial ring-fencing arrangements for Railtrack PLC.

5. The initial RAB

Introduction

5.1 A key element of the financial framework for a regulated company is the value of the assets upon which it is allowed to earn a reasonable rate of return. This is usually referred to as the Regulatory Asset Base (RAB). This chapter presents the Regulator's provisional conclusions on the initial value of the RAB (i.e. at privatisation), whilst the following chapter explains how he intends to roll the RAB forward to reset Railtrack's price controls.

5.2 The previous Regulator concluded that the initial RAB should be equal to the initial value of debt plus the value of the equity at the end of the first day's trading. There is no dispute with Railtrack about either of these values:

- Railtrack has indicated that its actual net debt at the time of flotation was £543.5 million and the previous Regulator accepted this figure. This value can be broadly reconciled to Railtrack's prospectus which states that Railtrack had £585 million of debt at the end of the financial year 31 March 1996; and

- at the close of business on the first day's trading (20 May 1996), the shares stood at a partly paid price of 220.5 pence. Discounting the second instalment, which was payable in June 1997, using the one year LIBOR (6.4375% per annum) gives a total value of equity at the time of privatisation of £1.99 billion. This represents a premium of 5.4% over the offer price.

The previous Regulator therefore proposed an initial RAB of £2.53 billion. However, the August 1999 periodic review document reiterated the Regulator's earlier statement that he did not regard the previous Regulator's conclusions on the size of the RAB and other issues as binding on his future decisions.

5.3 By contrast, Railtrack argues that the RAB should include an uplift on the first day trading value proposed by the previous Regulator:

- for consistency with the approach adopted by other regulators in similar circumstances; and

- to provide reasonable compensation for the risks which investors took at privatisation.

Railtrack has therefore proposed that the initial RAB should be based on the average share price from the first day's trading to the date when the privatisation of British Rail was (virtually) complete, a period of 226 days. This implies an initial RAB of £3.0 billion which is equivalent to an uplift of 23% over the equity value at the close of the first day's trading (or 30% on the offer price). By comparison, Railtrack's earlier submission proposed an initial RAB of £3.7 billion which is equivalent to an uplift of 60% on the first day's equity value.

5.4 The August 1999 periodic review document invited interested parties to comment on Railtrack's revised proposals for the RAB. The Regulator has received a number of informal responses on this issue, mainly from financial institutions. These responses emphasise the importance of regulatory certainty and the role of financial ratios and these issues are therefore discussed in the following section. The remaining sections of this chapter discuss the arguments for an uplift on the first day's trading value.

Regulatory certainty and financial ratios

5.5 The Regulator's duties under section 4 of the Railways Act 1993 include the duty to promote the development of the network to the greatest extent economically practicable and the duty not to make it unduly difficult for Railtrack to finance its activities.

5.6 Given these duties, the previous Regulator argued that the key issue was whether an uplift on the first day's trading value is required to give Railtrack appropriate incentives to invest in projects to develop the railway network. He argued that this depends not on the initial RAB but on the way in which enhancement expenditure is incorporated in the RAB.

5.7 The Regulator agrees that it is essential to establish a framework for enhancements which provides Railtrack with sufficient regulatory certainty and an appropriate rate of return to incentivise efficient investment in the network (these issues are discussed in the following Chapter and in Part II of this document). However, he also considers that it is important for him to take account of the impact on Railtrack's cost of finance in his decision with regard to the initial RAB. If he were to adopt a value which was demonstrably inconsistent with the reasonable expectations of investors at the time of privatisation, this could increase investors' perceptions of uncertainty and so increase Railtrack's cost of finance. This may not therefore be in the interests of operators or funders, particularly in the light of the potential scale of the investment programme. The importance of these issues has also been recognised by OFGEM in its recent review of the distribution price controls.

5.8 With regard to the role of financial ratios, the preceding chapter highlighted the fact that Railtrack's ability to finance its activities may depend in part on its financial profile (for example in terms of interest cover) rather than simply the rate of return on capital. However, the Regulator agrees with his predecessor that this matter should appropriately be dealt with in developing proposals for the levelling and profiling of future charges rather than in establishing the initial RAB.

Regulatory precedent

5.9 The relevant precedents on the uplift which other regulators have included in the RAB are shown in Table 5.1 below. This shows that, in almost every case, other regulators have allowed some uplift on the first day value of equity. The only exceptions are the Scottish electricity companies where the RAB was much closer to the current cost asset values than the other cases. It should also be noted that OFWAT allowed a rate of return which declined gradually from its pre-review level to the assumed cost of capital and that this is equivalent to a further element of uplift. Finally, the uplifts used in electricity were applied to both equity and debt.

5.10 The most recent MMC report to address the initial RAB for a privatised utility was the report on Northern Ireland Electricity (NIE). This stated that comparisons with other utilities could only be used as an external check and that, while there had been a wide spread of uplifts applied in other cases, the general trend had been downwards. The MMC concluded that the case for an element of uplift was inevitably a matter of judgement and, in the case of NIE, it recommended an uplift of 7.5% over the first day trading value (implying an uplift of almost 20% on the flotation value).

Table 5.1: Regulatory precedent on uplift

Utility	Uplift over full offer price (%)	Uplift over fully paid close of first day value (%)
Water and sewerage		
Anglian	26.3	5.0
North West	22.9	7.3
Northumbrian	28.8	4.0
Severn Trent	17.1	3.7
Southern	17.1	0.0
South West	27.9	7.0
Thames	21.7	5.8
Welsh	27.9	9.3
Wessex	24.6	1.7
Yorkshire	28.8	6.9
Energy		
Scottish Hydro Electricity	5.4	-3.4
Scottish Power	2.9	-3.1
RECs Distribution	First assessment: 50% uplift on close of first day trading Second assessment: 15% uplift on close of first day trading	
National Grid	20% uplift on close of first day trading	
British Gas (MMC, 1993)	26% uplift on close of first day trading	
NIE (MMC, 1997)	7.5% uplift on close of first day trading (approximately a 20% uplift on flotation price)	

Note: Water and sewerage companies are based on a comparison of the average share prices over 200 days with their offer prices and their close of first day prices (undiscounted). SHE and Scottish Power are based on a comparison of their average share prices over 100 days with their offer prices and their close of first day prices (undiscounted).

Source: MMC Report on Northern Ireland Electricity plc (Table 9.11 and paragraph 2.84). Reproduced from the December 1997 periodic review document.

5.11 The Regulator considers that the main way in which these precedents may be relevant to the periodic review is through the impact that they may have had on the expectations of investors at the time of privatisation. In particular, these precedents could have affected the way in which investors would have interpreted the statements made by the then Regulator in advance of Railtrack's flotation. If so, it could be argued that failure to take account of these expectations would add to perceived regulatory uncertainty, with potentially adverse consequences for Railtrack's cost of finance.

5.12 In January 1995, the then Regulator stated that at the next review of charges he would 'expect to have regard to Railtrack's value at, and after, flotation'. Well-informed investors could have interpreted this statement in the light of their understanding of the relevant regulatory precedents available at that time. If so, these precedents would have confirmed that the RAB was likely to be significantly less than the current cost book value of the assets. In addition, however, if these investors had examined the relevant precedents, Table 5.1 suggests that they would have been likely to conclude that the RAB would include an uplift over both the amount which they paid and the closing value on the first day's trading.

5.13 One difficulty with this argument concerns the assumption that investors were well-informed about the relevance of these regulatory precedents at the time of privatisation. At that stage, Railtrack's shares were priced on a yield basis in comparison with the yields available from similar shares. Moreover, an examination of the analyst research published at or around privatisation shows that there was in fact very little understanding of the regulatory regime or the role of the RAB even among otherwise well-informed analysts. One analyst did, however, estimate in December 1996 that the initial RAB would be around £2.9 billion based on either an uplift of 50% on the initial market value or the peak share price to that date (although it is interesting to note that this analyst also concluded that the shares were significantly overvalued).

5.14 A further difficulty with this argument is one of circularity. To the extent that investors believed that the RAB would be based on the market value at or after privatisation, this would have tended to inflate the share price. This difficulty can, however, be reduced by considering the appropriate uplift on the offer price rather than the first day's trading value.

5.15 In conclusion, the Regulator considers that the relevant precedent does suggest that well-informed investors could have reasonably expected the RAB to include an uplift on both the amount that they paid for the shares and the first day's trading value. However, given the wide range of uplifts that have been applied in other cases (and the different ways in which they have been applied), it is difficult to draw any conclusions on the appropriate level of uplift from a simple analysis of these precedents. The following section therefore discusses the economic rationale for including an uplift in the RAB.

Commercial risks and share price movements

Commercial risks

5.16 The main argument which Railtrack has put forward in support of an element of uplift is that failure to allow this would deny shareholders a fair return on the risks which they took in purchasing equity at flotation.

5.17 In support of this argument, Railtrack argues that the privatisation occurred in the midst of an industry restructuring that eventually led to the creation of over 100 companies and the individual negotiation of over 15,000 contracts. Railtrack also asserts that this complex restructuring took place with the explicit purpose of facilitating the transfer of ownership of British Rail to the private sector and that this was by no means complete at flotation. It argues that these risks were significantly greater than those in other utility sectors which were not subject to the same degree of restructuring at privatisation. Finally, it argues that there was significant political risk associated with the privatisation.

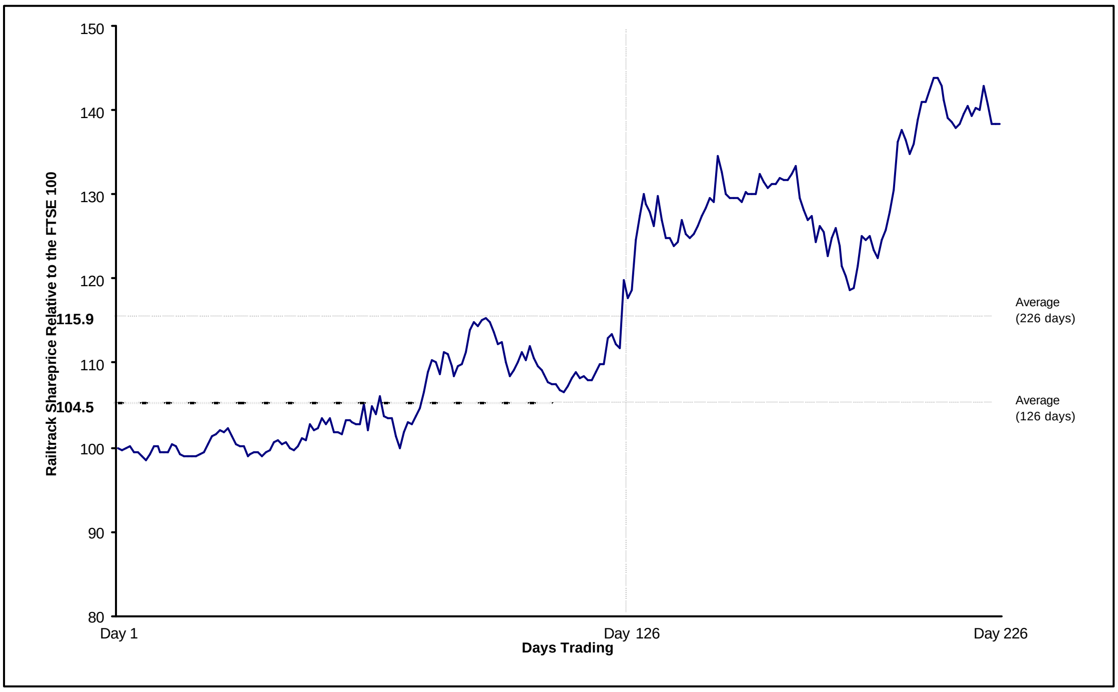
5.18 Unlike deliberate underpricing to ensure the success of a flotation, Railtrack argues that these risks could not be eliminated by one day's trading and that they only receded as it became clear that privatisation of the whole industry would be a success. Its proposed RAB is therefore based on the average share price over the 226 trading days until the last TOC franchise was let in March 1997.

5.19 Similar arguments have been accepted by other regulators, including the MMC, and the Regulator considers that there is some force in Railtrack's argument. In his view, however, Railtrack would not have been perceived as a particularly risky investment at flotation and he rejects Railtrack's argument that it was perceived as being much more risky than other privatised companies (such as the public electricity suppliers, where there was also an entirely new market). He therefore concludes any uplift should be relatively small. In addition, although it is not possible to attribute cause and effect with any certainty, a large proportion of the share price increase over this period is likely to be attributable to other factors which should not be reflected in the RAB. These other factors are discussed below.

Share price movements

5.20 The increase in Railtrack's share price over the period following privatisation is partly attributable to an increase in share prices in general. Railtrack's share price increased by 58% over the first 226 days' trading while the FTSE 100 index increased by 14% (implying a relative increase of 38%). Figure 5.1 illustrates the movement in Railtrack's share price relative to the FTSE 100 index over this period. This shows that the increase in Railtrack's average share price relative to this index over this period was 16%. This compares with the 23% increase referred to by Railtrack.

Figure 5.1: Railtrack share price



5.21 A major source of the relative increase in Railtrack's share price over this period appears to have been the financial results which were announced on 20 November 1996. These results were significantly better than expected and they prompted upgrades to the forecasts published by a number of analysts. Several analysts commented on the potential for significant cost reductions in the short term and for additional profits from the performance regime. The main movements in the share price over this period are summarised below:

- on 11 November 1996 the share price moved up 2.8% against an index gain of 0.1%. The move was said to be ahead of the forthcoming interim results;
- the largest single move in a day occurred on 15 November 1996 when the shares climbed 8.0% whilst the index managed only a 0.7% gain, following publication of the interim results; and
- over the period 19 November to 22 November 1996 the shares rose a further 10.4% whilst the index rose just 1% over the same three day

period as broker upgrades and reported stock shortages drove the price higher.

5.22 Part of the increase over this period may have been due to the removal of uncertainty about Railtrack's performance. However, the Regulator believes that there is strong evidence that most of the increase can be attributed to perceived out-performance of earlier expectations. It would be inappropriate to include this source of share price gain in the RAB since investors would then benefit from out-performance twice. The exclusion of these gains is confirmed by the approach adopted by the MMC in its 1997 report on NIE.

5.23 Another potential source of the increase in Railtrack's share price relates to the anticipated profits from non-regulated income. By the time of Railtrack's privatisation in 1996, investors were beginning to see the potential for these additional sources of profits in other utilities (e.g. National Grid's investment in Energis). Moreover, recent analyst research attributes substantial value to Railtrack's involvement in non-regulated projects and some of this potential value could have been anticipated at, or shortly after, privatisation. However, the Regulator is not aware of any evidence to suggest that investors did ascribe any significant value to these potential businesses during the period in question.

5.24 In the light of these considerations, the Regulator presently considers that, in assessing the appropriate level of any uplift on the first day trading value, greater weight should be given to Railtrack's share price relative to the FTSE 100 in the period up to 11 November 1996, a period of 126 trading days. Railtrack's July 1999 corporate finance submission shows that over half of the industry had been privatised by this date. Given this, the Regulator believes that most, if not all, of any perceived commercial risks associated with the new regime should have been eliminated.

5.25 The overall increase in Railtrack's share price relative to the FTSE 100 Index over this period was 13% (or 19% compared to the offer price). The average share price relative over this period was 5% higher than the first day's closing value (or 10% compared to the offer price). However, the Regulator presently considers that, when focussing on this shorter period, the overall increase is more relevant than the average increase.

Conclusions

5.26 The Regulator's provisional conclusion is that setting the initial RAB equal to the first day's closing value would deny shareholders a fair return on the commercial risks which they took in purchasing equity at flotation. Given his assessment of the role of the relevant precedents and his analysis of Railtrack's share price at and around privatisation, his present view is that the RAB should include a 10-15% uplift on the first day's closing equity value (equivalent to just over 15-20% on the offer price). This compares with:

- an uplift of 16% (22% on the offer price) based on the increase in the average share price relative to the FTSE 100 index over the 226 days from flotation (the end of the privatisation process);

- an uplift of 13% (19% on the offer price) based on the increase in the share price relative to the FTSE 100 index after 126 trading days from flotation (just before the publication of Railtrack's results); and

- the MMC's recommended uplift for NIE of 7.5% (or just over 20% on the offer price).

5.27 For the purposes of the provisional conclusions in this document, the Regulator has assumed an uplift of 10%. This implies an initial RAB of £2.74 billion in May 1996 prices. Adjusting this value for inflation (using the change in the Retail Prices Index between May 1996 and the financial year ended March 1999), this is equivalent to £2.93 billion in 1998/99 prices.

5.28 Consultees are invited to comment on the Regulator's provisional conclusion that the initial RAB should include an uplift equal to 10% of the first day's closing value of equity.

6. *Rolling forward the RAB*

Introduction

6.1 The Regulator endorses the principles for rolling forward the RAB which were set out by the previous Regulator in his third periodic review document in December 1998. These principles state that the RAB will:

- increase to reflect enhancement expenditure which delivers an increase in the output of the network above that delivered by renewal in modern equivalent form and which meets the reasonable requirements of passenger and freight train operators and funders; and

- reduce to the extent that the outputs which represent renewal in modern equivalent form are not delivered.

6.2 The remainder of this chapter considers the way in which these principles should be implemented for the purposes of the periodic review taking account of the imperfect information on the outputs which the present charges were originally intended to fund. It therefore considers the treatment of the following issues:

- the provision for backlog spending at stations and depots;

- additional renewals expenditure during the current price control period which Railtrack argues should also be included in the RAB;

- net revenues arising from the track access performance regime in the current period;

- under-delivery by Railtrack in the current period;

- expenditure to date which should be logged up as enhancements and included in the base RAB; and

- further enhancement expenditure in the remainder of the current period and in the next period which could be included in the RAB.

Backlog spending at stations

6.3 At privatisation, Railtrack made a provision of £450 million (£480 million in 1998/99 prices) for backlog spending at stations and depots to enable it to meet its obligations. At that time it was understood by the company and the Regulator that this expenditure was to be added to the RAB at the end of the control period rather than being compensated through access charges in the current period. In his December 1998 periodic review document, the previous Regulator confirmed that he intended to include backlog spending at stations and light maintenance depots in the RAB to the extent that Railtrack had carried out this expenditure efficiently and it had delivered the outputs it was intended to.

6.4 There is evidence to suggest that Railtrack has not yet delivered the required outputs from the stations regeneration programme. However, Railtrack still has the opportunity to deliver these improvements within the current period. If it fails to do so, the Regulator would not expect to increase his expenditure projections for the next period. Given this, he proposes to include the full value of the original provision in the RAB (i.e. ignoring any overspend due to inefficiency).

Additional renewals expenditure in the current period

Principles

6.5 The previous Regulator's December 1998 periodic review document confirmed that, at the time of privatisation, investors would have known that Railtrack's renewal plans were of the order of £1 billion more than was allowed for by the then Regulator (in addition to the anticipated station backlog spending described above). Railtrack's recent expenditure submission claims that it will have spent around £1.9 billion more on renewals than was assumed when the current price controls were set (£1.7 billion more in 1994/95 prices). By comparison, its November 1998 and July 1999 submissions quoted lower estimates of this additional spend of £1.3 and £1.5 billion respectively (both in 1994/95 prices).

6.6 Railtrack's November 1999 submission argues that this £1.9 billion expenditure should be included in the RAB. It argues that:

- £290 million was backlog expenditure to make good the under-investment in stations and depots by British Rail and, for consistency with the treatment of the basic backlog allowance, this should be included in the RAB;

- £820 million was recognised in the prospectus prior to privatisation and should routinely enter the RAB; and

- the remaining £790 million should be included in the RAB on the basis that other regulators have tended to pass on part or all of the value of underspend to customers at periodic reviews.

6.7 The previous Regulator argued in December 1998 that this additional expenditure (which was then estimated at £1.3 billion in 1994/95 prices) should not be included in the RAB. In particular, he argued that it was not in general appropriate to make retrospective adjustments for factors which arise either as a result of efficiency or inefficiency on the part of Railtrack since this has the effect of transferring risk away from shareholders back to the funders of the network and ultimately the taxpayer. The Regulator agrees that retrospective adjustments to the RAB relating to over- or under-spending should be avoided wherever possible. He therefore concludes that any additional expenditure which was not anticipated at privatisation should not be included in the RAB (this is broadly equivalent to Railtrack's third category above).

6.8 With regard to the £1 billion of additional renewals which could arguably have been anticipated at privatisation, the previous Regulator noted that Railtrack did not choose to exercise its option to reopen the price controls in advance of privatisation. Railtrack argues that this was not a matter of choice but was a political and commercial necessity. It also argues that it was reasonable to assume that this expenditure would be included in the RAB so reopening the price controls was not necessary. However, the Regulator is aware that, between the review and the privatisation, Railtrack's projected tax charge fell by around £700 million over the period due to more favourable treatment of investment for tax purposes by the Inland Revenue. The net effect of the increased renewals and the reduced tax charge was therefore around £300 million (£320 million in 1998/99 prices). He considers that it would have been reasonable to assume that this change would be taken into consideration if Railtrack had exercised its option to reopen the price controls.

6.9 The Regulator acknowledges that there is some uncertainty about what investors would have assumed about the treatment of the additional renewal costs at the time of privatisation. He notes that N M Rothschild & Sons and Cazenove & Co (who both advised Railtrack at privatisation) have expressed the view that investors would have expected this expenditure to be included in the RAB. In his view, however, there is little evidence that investors would have made such an assumption (indeed the previous chapter highlighted their lack of understanding about the role of the RAB). In any case, he considers that this is largely academic since:

- if investors had not expected additional renewals to be included in the RAB, this would have reduced proceeds (including debt and equity) by around £320 million. This can be thought of as an additional element of debt which should be included in the RAB in exactly the same way as other debt at the time of privatisation. It is not the case that the Government has already paid for this through reduced proceeds because the RAB itself is based on these reduced proceeds; and

- if, on the other hand, investors had expected the anticipated additional renewals to be included in the RAB (to the extent that these would have been capitalised in the accounts), proceeds would have been inflated by the reduction in taxes. In this case, it would be appropriate to validate investors' expectations about the treatment of these anticipated renewals but to deduct the windfall gain from the tax changes – a net effect of around £320 million.

6.10 In conclusion, the Regulator's present view is that £320 million of additional renewals should be included in the RAB.

Additional revenues from the performance regime in the current period

6.11 The previous Regulator suggested that the RAB should be reduced effectively to claw back at least some of the gains which Railtrack has made under the performance incentive regime. He stressed, however, that this would not be done if Railtrack could demonstrate that these profits were made as a result of specific actions on its part which go beyond what might be expected of a reasonably efficient operator.

6.12 It would clearly not be appropriate to claw back any gains made towards the end of the period since this would undermine Railtrack's incentive to improve performance. However, Table 6.1 below shows that, in the period immediately after privatisation, Railtrack performed much better than was implied by the access charge supplement. This may be taken as evidence that the regime was unduly generous to Railtrack. In considering whether these gains should be clawed back, it is necessary to consider whether they represent a genuine windfall to Railtrack and to take account of the wider implications of clawing back such a windfall.

Table 6.1: The financial impact of performance regimes

	Actual 1995/96	Actual 1996/97	Actual 1997/98	Actual 1998/99	Forecast 1999/00	Forecast 2000/01
Turnover						
Access charge supplements	84	93	77	57	35	12
Schedule 4 compensation	(4)	(5)	(7)	(9)	(7)	(9)
Schedule 8 bonuses/penalties	(39)	34	29	25	42	50
Charge for disputed items	0	0	(12)	0	0	0
Total	41	122	87	73	70	53
Infrastructure maintenance						
RTIA contract premia	24	26	26	20	15	7
RTIB contract premia	7	7	4	2	0	0
RTIA/B bonuses penalties	2	24	22	26	25	25
Total	33	57	52	48	40	32
Net payment	8	65	35	25	30	21

Forecasts assume that Railtrack meets existing performance targets.

6.13 With regard to the first question, the Regulator accepts that some of the additional profits are likely to be attributable to genuine efficiency gains. In addition, some of these profits were passed on to contractors under the terms of the contracts which were put in place at privatisation. Finally, he notes that, in November 1995, the access supplement was reprofiled (to bring forward revenues without changing the average level) in order to smooth Railtrack's profit projections in advance of privatisation. He does not therefore consider that there is strong evidence that Railtrack enjoyed a large windfall gain.

6.14 With regard to the wider implications of clawback, the Regulator believes that it is important for him:

- not to undermine future incentives. The Regulator has stated that he believes incentive regulation provides the best prospect of continuing improvements in performance. He is therefore considering strengthening the incentives in the current performance regime.

Retrospective action in this area would tend to undermine the future effectiveness of these incentives; and

- to adopt a consistent approach. The Regulator would therefore need to consider very carefully whether it was appropriate to withdraw incentive payments whilst at the same time refusing to include in the RAB unanticipated increases in renewals expenditure. This would tend to increase the perception of regulatory risk and could therefore increase Railtrack's cost of finance.

6.15 In the light of these wider considerations and the lack of clear evidence that there was a large windfall gain, the Regulator does not believe that it would be appropriate to claw back these net revenues.

Under-delivery by Railtrack in the current period

6.16 The BAH report published in April 1999 concluded that Railtrack had under-performed on its obligation to deliver continuing improvements in network performance and to manage its network well. In particular, the report argued that Railtrack had focused on short-term issues at the likely expense of long-term asset health and that it had an inadequate understanding of the condition of its assets. A number of industry responses substantially endorsed the report's conclusion.

6.17 The Regulator has already taken action in a number areas to ensure that Railtrack improves its performance in the current period. However, his November 1999 document on Railtrack's stewardship of the network confirmed that he would be considering what further action to take in relation to under-delivery as part of the periodic review process.

6.18 Chapter 3 identified two specific elements of expenditure which have effectively been deferred from the current period to the next period and should not be paid for again in access charges for the next period. These relate to expenditure on information systems (£107 million) and stations (£39 million). Since Railtrack will still need to spend this money, excluding this expenditure from Railtrack's revenue requirement is equivalent to a financial penalty for under-delivery in the current period. An alternative approach would be to deduct these amounts from the RAB. Over the long term, this would have the same effect on Railtrack but the impact on revenues would be spread over a much longer period of time.

6.19 In addition to these specified elements of deferral, Chapter 3 discussed the possible need for Railtrack to increase its maintenance and renewals activity by around 10% plus a further 12% compared to adjusted 1998/99 levels. The following factors suggest that at least part of this potential increase in activity may be attributable to under-delivery of the outputs which Railtrack might reasonably have been expected to deliver during the current period:

- Track: although Railtrack has undertaken to improve track quality, it is unlikely to have regained its pre-privatisation level before the end of the current control period. Railtrack has also acknowledged that maintenance has lagged behind traffic growth on parts of the network and that poor track quality is one of the factors which has caused the recent increases in the number of broken rails. Finally, the April 1999 BAH report suggested that Railtrack's track renewal programme had focused heavily on rail replacement, and that other elements of the track asset base (notably sleepers and ballast) had seen renewal volumes significantly lower than Railtrack had planned. Railtrack is now saying that in the light of the October 1999 draft BAH report it needs to spend £150m extra on track renewals, partly on sleepers and ballast. The Regulator will therefore want to consider whether more effort should have been made to exploit synergies in the current control period between rail renewal and sleeper/ballast renewal;

- Signalling: the April 1999 BAH report and the 1999 NMS stated that Railtrack's signalling renewal programme had moved significantly from a policy of renewal of whole installations to partial renewal, essentially on grounds of efficiency. The BAH report published in April 1999 highlighted both an underspend on signalling and under-delivery of planned renewal volumes. Yet between the 1998 NMS and the November 1999 signalling AMP, signalling renewal expenditure plans for the 2001-2006 control period rose from £1.2 billion to £2.1 billion. Moreover, between the 1997, 1998 and 1999 NMSs there were significant changes in Railtrack's signalling technology strategy. The Regulator will want to be satisfied that Railtrack's signalling expenditure requirements for the next control period do not reflect failures of strategy or implementation in the current control period; and

- Maintenance/renewals trade-off: the 1998 NMS emphasised high levels of renewal spend in the short run to enable longer term reduction in maintenance volumes. These reductions do not appear to be materialising in Railtrack's latest submissions. This leads to questions about the effectiveness of the renewal spend in the current control period. The Regulator will want to consider whether this apparent strategic failure in the current control period has had knock-on effects on the expenditure requirements for the next control period.

6.20 However, in the light of the following factors, and taking account of his duty not to make it unduly difficult for Railtrack to finance its relevant functions, the Regulator believes that it would be inappropriate to penalise Railtrack for the full value of any apparent under-delivery:

- Railtrack's performance (in terms of delays) has already been taken into account through the Regulator's enforcement action on performance and through the performance incentive regime in Railtrack's access agreements. He has already indicated that it would be inappropriate to penalise Railtrack twice for poor performance;

- the other outputs which Railtrack was expected to deliver were not defined explicitly at privatisation; and

- since the Regulator does not propose to include most of the additional £1.9 billion renewals in the RAB, Railtrack will not have gained financially from this apparent under-delivery.

6.21 One basis for assessing the appropriate scale of any further adjustment to the RAB would be to apply the approaches which have been adopted by other regulators. For example, OFWAT and OFGEM have both proposed adjustments to the revenues of water and sewerage companies and regional electricity companies where performance has been inadequate:

- OFWAT has proposed an adjustment of +0.5% to -1.0% of revenues to reflect the overall standard of service provided to customers. Although no company's performance was judged to be so poor as to warrant a 1% reduction, a 0.5% reduction was applied to five companies (and five companies were judged to have earned a 0.5% increase); and

- OFGEM has proposed a revenue adjustment of +0.5% to -0.5% relating to quality of supply and a further adjustment of +0.25 to -0.25% relating to customer satisfaction.

6.22 The Regulator is therefore considering whether it would be appropriate to reduce Railtrack's RAB by 0.5-1.0% of Railtrack's turnover in the period since privatisation. This amounts to a reduction of around £60-120 million. For the purposes of his provisional conclusions on Railtrack's revenue requirement he has assumed a reduction of £120 million.

Enhancements

Principles

6.23 The previous Regulator indicated that he would wish to apply the following tests to determine whether enhancements after December 1998 should be included in the RAB:

- is the enhancement wanted by train operators and accepted by funders (or does it arise from safety, environmental, disabled access or security requirements)? and

- has the enhancement been delivered efficiently (i.e. are the costs reasonable and consistent with what an efficient company would incur and were the intended outputs delivered)?

For enhancement before this date, the previous Regulator indicated that he would want to discuss with Railtrack, on a case by case basis if necessary, the most appropriate treatment of expenditure which it has logged up as enhancement.

6.24 The Regulator endorses this approach. In addition to these tests, however, the Regulator will also need to take account of the extent to which any enhancements will already have been paid for during the current price control period. In particular, he will need to deduct:

- capital grants or other third party funding;

- depreciation which will already have been charged to operators through supplementary access agreements; and

- expenditure which should properly be treated as renewals.

6.25 The Regulator also wishes to consider the following questions relating to enhancement in the current price control period:

- should enhancements be logged up from the beginning of the current control period or from privatisation? Given the Regulator's proposed methodology for determining the RAB, he believes that he should not include pre-privatisation enhancement expenditure in the RAB. This is consistent with the approach adopted in other industries;

- should enhancements which are not for the benefit of franchised passenger operators be included in the RAB for the purposes of the periodic review? For example, significant enhancement expenditure to date relates to European passenger services and freight;

- should enhancement expenditure be included in the RAB when the money has been spent or when the project has been completed? In the latter case, capitalised interest during construction would need to be included as well; and

- should investments made for the purpose of improving efficiency or performance be included in the RAB? If the benefits are passed on to Railtrack's customers at each review, it would have little incentive to make investments which have a payback period of more than a few years. In the period immediately after privatisation, the payback period for most of these investments is likely to have been relatively quick which means that it may not be appropriate to include these investments in the RAB. However, this issue is likely to become more important in the future and the proposed treatment of these investments/savings will therefore be set out with the Regulator's final conclusions.

Application to enhancements in the current period

6.26 In order to apply the principles set out above, the Regulator asked Railtrack to provide details of the enhancement expenditure which it has logged up for inclusion in the RAB. The total amount which has been logged up over the period from April 1996 to March 1999 is £672 million (i.e. excluding the year before privatisation). Of this figure, Railtrack has reported that £139 million has been paid for through capital grants or other third party funding and that a further £70 million would not be expected to be included in the RAB (including the West Coast Route Modernisation, Thameslink 2000 and investments at the Railtrack headquarters). This implies a net investment of £463 million, an average of £154.3 million per year. However, this figure has not yet been reconciled with Railtrack's bottom up analysis of completed schemes which indicates a substantially smaller value (partly because it excludes expenditure on incomplete schemes).

6.27 For the purposes of developing provisional conclusions on Railtrack's base revenue requirements, the Regulator proposes only to take account of expenditure to date. This is consistent with the approach of considering the cost of maintaining the current capability and condition of the network. For illustrative purposes, he has therefore included Railtrack's figure of £460 million of enhancement expenditure in the base RAB.

6.28 However, the Regulator will need to review Railtrack's claimed enhancement expenditure carefully before including it in the RAB. He has asked Railtrack to provide further information on the output from each enhancement project, the total cost and the extent to which this has already been paid for by operators. In addition, he would welcome comments from operators and funders on whether this expenditure should be treated as enhancement in accordance with the principles set out above.

6.29 In addition to its historic enhancement expenditure, Railtrack has asked the Regulator to log up a further £923 million during the last two years of the current control period. This figure includes £25.8 million for Thameslink 2000 and £184.5 million for WCRM. Hence the net investment expected during the next two years is £712 million or £356 million per year. This figure allows for £32 million expenditure on Train Protection and Warning System (TPWS) which had not been anticipated in the 1999 NMS.

Potential enhancements in the next period

6.30 Some future enhancements may be included in the eventual baseline and therefore fall within the scope of the present periodic review. Others are likely to be negotiated separately outside the scope of this periodic review. However, in order to assess the potential implications of the review for Railtrack's total charges and financing requirements, the Regulator does need to consider the potential range of future enhancement expenditure.

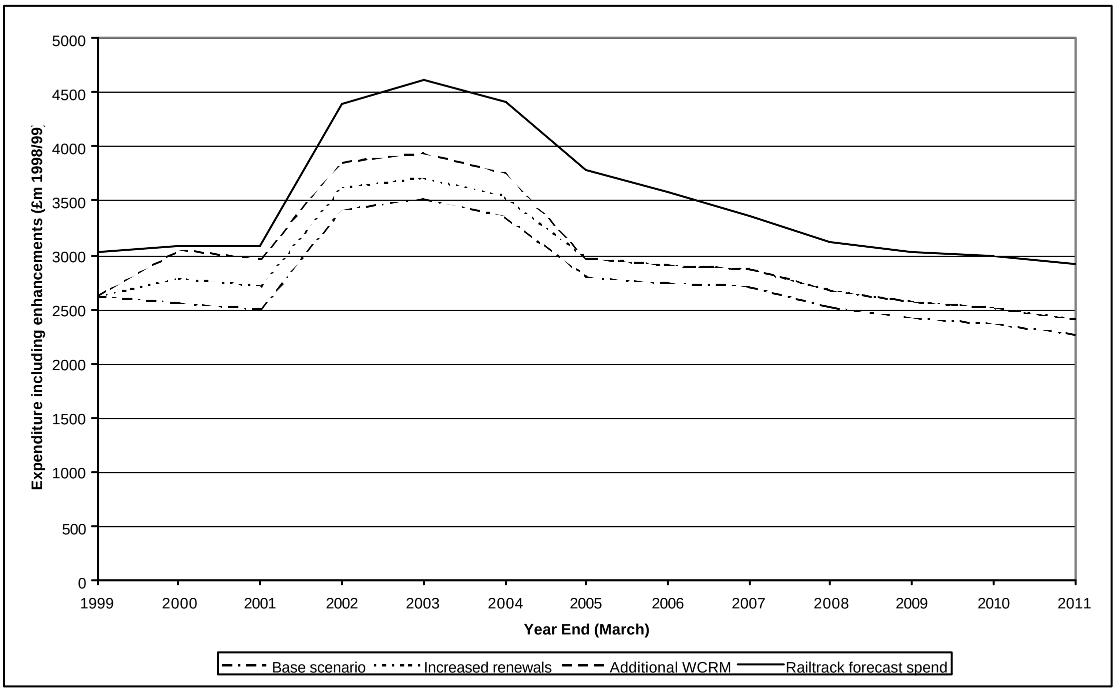
6.31 For illustrative purposes, the Regulator has adopted Railtrack's own assessment of enhancement expenditure in its November 1999 submission. This includes £710 million for Automatic Train Protection (ATP) in addition to £151 million already included for TPWS. The profile of this expenditure is shown in Table 6.2. When combined with Railtrack's projected enhancement expenditure for the remainder of this period, the total expenditure for the next 12 years is £11.6 billion, excluding the West Coast Main Line Passenger Upgrade and Thameslink 2000.

Table 6.2: Further enhancement expenditure

£m 98/99 prices	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**Total**
Track	376	297	320	232	209	1434
Structures	308	284	344	230	231	1397
Signalling	408	444	440	332	262	1886
Stations	451	789	699	427	473	2839
Electrification	194	89	107	107	78	575
Telecoms	1	1	3	2	1	8
Plant & machinery	13	1	3	6	1	24
Others	14	10	19	10	11	64
Total	1,765	1,915	1,935	1,346	1,266	8,227
Exc WCML & TL2K	1,386	1,578	1,501	1,018	1,035	6,517
£m 98/99 prices	**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**
Track	152	130	122	122	122	648
Structures	163	138	129	129	129	688
Signalling	266	226	212	196	137	1037
Stations	402	340	319	319	319	1699
Electrification	66	57	53	53	53	282
Telecoms	2	0	0	0	0	2
Plant & machinery	0	0	0	0	0	0
Others	10	8	8	8	8	42
Total	1,061	899	843	827	768	4398
Exc WCML & TL2K	1051	898	843	827	868	4386

6.32 Figure 6.1 illustrates the impact on Railtrack's total expenditure including the four scenarios for maintenance and renewal expenditure which were described in Chapter 3. This shows that total expenditure over the next period is expected to be well above the long term sustained level implied by Railtrack's projections for the third price control period.

Figure 6.1: Total expenditure projections



Application to network downgrades

6.33 During the current control period Railtrack has made many applications under Part G of the Track Access Conditions to down-grade its infrastructure, whether though removal or simple downgrading to a lower level of capability. These applications require Railtrack to consult with all interested parties and the Regulator also has to approve certain closures.

6.34 The Regulator is considering the value of these reductions in network capacity and may include an adjustment to the RAB in his final conclusions to reflect that value.

Conclusions and next steps

6.35 Table 6.3 below summarises the calculation of the April 2001 RAB based on the initial value from the preceding chapter and the adjustments described in the current chapter. As indicated above, however, further work is required to assess the expenditure which should be treated as enhancement expenditure during the current period.

6.36 If Railtrack's projected enhancement expenditure is included in the RAB, the initial value increases from £4.07 billion to £11.30 billion in March 2006 and

£15.69 billion in March 2011. If some of the bulge in renewals expenditure were included in the RAB rather than being provided for on a pay-as-you-go basis (e.g. expenditure relating to the West Coast), the RAB would be increased further.

Table 6.3: April 2001 RAB

Initial value (1996 prices)	
Equity	1.99
Uplift @ 10%	0.20
Debt	0.54
Total	2.74
Initial value (1998/99 prices)	2.93
Roll forward of base RAB (1998/99 prices)	
Backlog spending	0.48
Renewals	0.32
Under-delivery	-0.12
Enhancements to date	0.46
Network changes	-
Total adjustments to base RAB	1.14
Base RAB (1998/99 prices)	4.07

6.37 Comments are invited on the Regulator's provisional conclusions about the way in which he intends to assess enhancement expenditure during the current period, the proposed inclusion of an element of Railtrack's additional renewals expenditure and the proposed adjustment for under-delivery during the current period.

7. Other single till income

Introduction

7.1 The purpose of this chapter is to outline the Regulator's working assumptions for the level of income from other single till items (property, freight, open access and depots) over the next price control period. In the following chapter, these other sources of income are deducted from the overall revenue requirement in order to assess the implications for Railtrack's access charges for franchised passenger train services.

7.2 This chapter also outlines the further work the Regulator is planning in order to refine these assumptions for the purposes of his final conclusions.

Property income

7.3 The Regulator commissioned DTZ Pieda to review Railtrack's forecast property income over the next two price control periods. A summary of their conclusions is being published in conjunction with this document and is available from the ORR library and the ORR website (www.rail-reg.gov.uk). These projections are based on the assumption that Railtrack is reasonably efficient in optimising its property portfolio, that there are no unduly onerous regulatory constraints which affect its ability to optimise returns and that there is no change in Railtrack's property policy. They also reflect DTZ Pieda's view of the likely real growth in the property market.

7.4 Railtrack's projected property income of around £900 million over the next period lies at the centre of the range proposed by DTZ Pieda (£790 million to £1,030 million). For the purposes of the provisional conclusions in this document, the Regulator has assumed that Railtrack will achieve property income roughly half way between Railtrack's projections and DTZ Pieda's upper estimate (i.e. £975 million). He will, however, wish to consider further whether this level of income is realistic before reaching final conclusions in July 2000.

7.5 The possible changes to the Property allowance scheme (PAS) are discussed in more detail in Part II of this document.

Freight access income

7.6 Railtrack's access agreements with the main freight train operators expire around the same time as the periodic review is due to be implemented. Although these agreements do not fall within the formal scope of the periodic review, it is necessary for the Regulator to form a view of the likely costs and revenues associated with freight since the residual revenue requirements will need to be met by franchised passenger services.

7.7 The incremental maintenance and renewal costs associated with freight were discussed in the November 1999 technical periodic review document on Railtrack's usage charges. That document also states that the Regulator proposes that the total cost associated with a standalone freight network (i.e. a notional network which is designed and used exclusively for freight) should be used as an overall cap on the revenue that Railtrack may recover from freight operators (at least where the capacity is already in existence).

7.8 In developing his final conclusions, the Regulator will base his projections on the application of these principles. He will also wish to consider the likely level of demand for freight services. He has therefore asked National Economic Research Associates (NERA) to conduct an initial assessment of the likely implications of alternative growth and pricing scenarios.

7.9 For the purposes of the provisional conclusions in this document, however, the Regulator has adopted the working assumption that freight income will remain constant in real terms at the expected level for 2000/01 (£165 million). Ignoring the impact of growth in this way is consistent with the assumption that the structure of charges will be broadly cost reflective since the projected costs do not take account of the impact of growth. It should be noted, however, that the main freight operators have argued for significantly lower base charges and that the Regulator presently expects to see significant growth in rail freight activity.

Open access income

7.10 Railtrack has assumed a minimal increase in open access income for the next period. The Regulator will wish to review these forecasts in the light of the franchise replacement programme and his approach to moderation of competition. For the purposes of his provisional conclusions, he has taken Railtrack's projections.

Conclusions and next steps

7.11 Table 7.1 below shows the breakdown of the other sources of income which are used in the following chapter.

Table 7.1: Other sources of income

1998/99 £ million	2001/02	2002/03	2003/04	2004/05	2005/06	Total
Property	190	195	195	195	200	975
Freight	165	165	165	165	165	825
Open access	58	58	58	58	58	290
Total	413	418	418	418	423	2,090

7.12 Consultees are invited to comment on the assumed level of income from other single till items and the way in which these should be taken into account in setting Railtrack's access charges for franchised passenger services.

8. *Assessing Railtrack's revenue requirements*

Introduction

8.1 This chapter outlines the Regulator's provisional conclusions on the revenues which Railtrack requires to finance its relevant functions over the next price control period (which is assumed to last for five years from April 2001). There are, however, a number of important qualifications and assumptions which need to be taken into consideration when assessing these provisional conclusions:

- the projected revenues relate only to the sustained network outputs and do not therefore include (a) the incremental outputs which the SSRA has indicated it wants Railtrack to cost in its 2000 NMS; or (b) the cost of any enhancements which might be negotiated (or otherwise established) with operators/funders;

- given the lack of information on the condition of Railtrack's assets, there is considerable uncertainty about the level of maintenance and renewals activity (and hence expenditure) which is required to sustain the current condition and capability of the network;

- the Regulator has not yet assessed Railtrack's recent submission on the cost of the core investment programme associated with the West Coast Main Line;

- the Regulator may wish to reconsider whether renewals should continue to be treated on a pay-as-you-go basis or whether part of this expenditure should be included in the RAB;

- further work is required to assess the extent to which enhancement expenditure in the current period should be included in the RAB;

- further work is required to assess the cost-reflective level of freight access charges, the likely level of demand for freight services and the implications for Railtrack's revenues (if, for example, this results in a reduction in projected freight revenues, this may imply an increase in passenger access charges); and

- given the assumption that the future structure of charges will be broadly cost-reflective, the projected costs and revenues do not take account of the impact of growth (if there is positive growth, the actual costs and revenues would therefore be higher than assumed in this chapter but there would be no material effect on profitability).

8.2 These issues will therefore require further attention before the Regulator reaches his final conclusions on the periodic review. Given these qualifications, the following section presents the Regulator's present assumptions about the possible range for Railtrack's revenue requirement. The subsequent section discusses the financing implications.

Revenue scenarios

Assumptions

8.3 The base scenario assumes that the level of maintenance and renewal activity in 1998/99 (excluding backlog and other exceptionals) is sufficient to maintain the current condition and capability of the network. As explained in Chapter 3, the purpose of this scenario is to demonstrate the potential scale of the reduction in access charges and to challenge Railtrack to establish that additional revenues should be allowed.

8.4 The Regulator's provisional conclusions on each of the main building blocks were described in the preceding chapters. In summary, this scenario is based on the following assumptions:

- return on the RAB: the current RAB is assumed to be £4.07 billion and the allowed rate of return is set at 7% pre-tax real. This implies annual profits on the baseline network of around £0.29 billion (on a basis which is consistent with the price control methodology);

- future expenditure requirements: the adjusted level of operating, maintenance and renewal expenditure in 1998/99 is rolled forward assuming efficiency gains of 5% per annum. This implies average expenditure in the next period of £1.86 billion per annum; and

- single till income: this is projected to be around £0.42 billion per annum.

8.5 Given the uncertainty about the required level of maintenance and renewals activity, the following additional scenarios are also considered (see Chapter 3 for further details):

- Scenario 2: assumes a 10% increase in maintenance and renewals activity which may be necessary to maintain the current condition and capability of the network;

- Scenario 3: illustrates the impact of a further 12% increase in maintenance and renewal activity based on Railtrack's recent reassessment of the costs associated with the West Coast Main Line; and

- Scenario 4: shows Railtrack's own expenditure projections for comparative purposes.

8.6 Although future enhancements are outside the scope of the periodic review, the Regulator has examined the potential impact of future enhancements on Railtrack's overall revenue from franchised access charges. For illustrative purposes, he has adopted Railtrack's projection of enhancement expenditure for the remainder of the current price control period and for the subsequent ten years (see Chapter 6). For these purposes, he has also assumed that all enhancement expenditure earns a return equal to the base cost of capital as it is spent. This therefore ignores the possibility that some projects may warrant premium returns and that allowed revenues may be linked directly to the delivery of outputs (e.g. through an E Factor).

Revenue implications

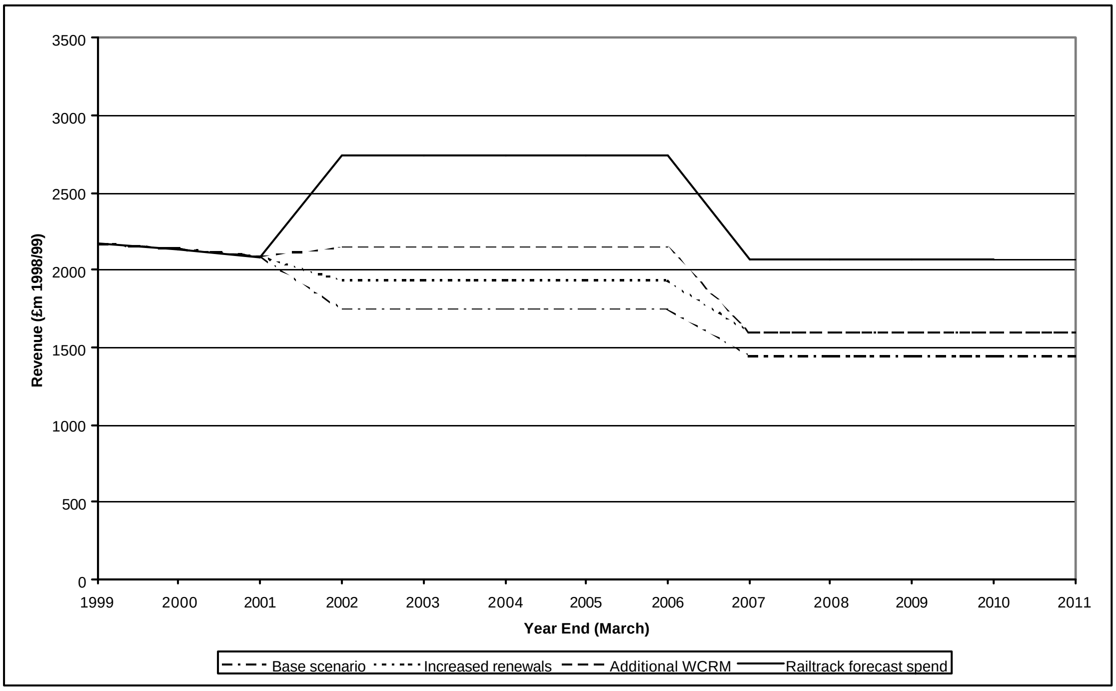
8.7 The derivation of the revenue requirements in each scenario is illustrated in Appendix C. In each case, it is assumed that the level of X is set equal to zero (i.e. no real change in charges during the next price control period). The resulting revenue projections are summarised in Table 8.1 and illustrated in Figure 8.1 (without enhancements) and Figure 8.2 (with enhancements).

Table 8.1: Initial adjustment to franchised passenger access charges

Initial price adjustment with X=0	No new enhancements	Including Railtrack 's enhancement projections
Scenario 1: Base	-17%	-1%
Scenario 2: Additional activity	-8%	8%
Scenario 3: Additional WCRM	2%	18%
Scenario 4: Railtrack	31%	47%

8.8 Figure 8.1 shows that the base scenario without any new enhancements implies a significant reduction in charges in the next period. However, it also shows that the possible increase in maintenance and renewals activity and the increased costs of renewing the West Coast Main Line could eliminate all of this potential for reduced charges. Finally, it shows that Railtrack's own expenditure projections imply a significant increase in charges.

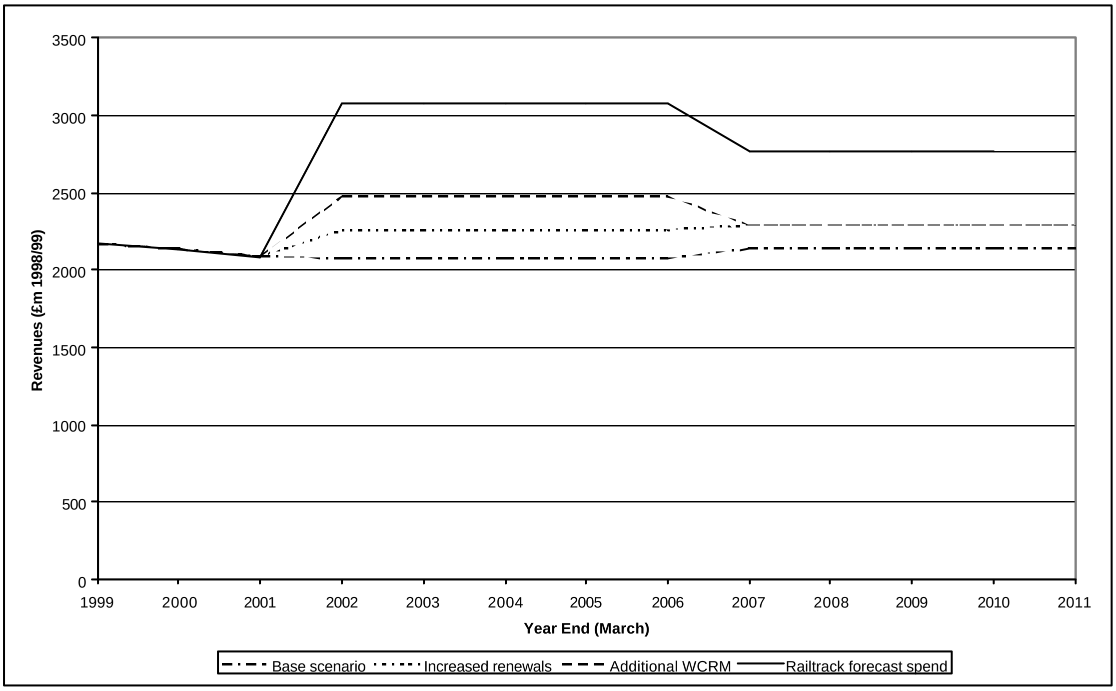
Figure 8.1: Revenue scenarios (excluding enhancements)



8.9 In each scenario, given the assumed level of expenditure, the rate of return on the RAB over the period as a whole is around 7%. However, due to the assumed profile of costs and revenues (i.e. X=0), the expected return is less than 7% at the beginning of the period and more than 7% at the end of the period. The Regulator will therefore need to consider whether it would be more appropriate to profile the revenues over the next period so that the expected rate of return on the RAB remains broadly constant. Without major enhancement, this would result in higher charges initially, followed by an annual reduction in charges.

8.10 Including Railtrack's projected enhancement expenditure in the RAB increases its overall revenue requirement for the next period by around 16% (the difference between the two columns in Table 8.1). Figure 8.2 shows that, even on the base maintenance and renewals scenario, this implies that overall franchised passenger access charges would need to remain broadly at their current level over the next price control period. Any increase in maintenance and renewals activity would therefore result in increased charges.

Figure 8.2 Revenue scenarios (including enhancements)



Financial indicators and debt capacity

8.11 As indicated in Chapter 2, the Regulator's methodology envisages a final check on the results of the application of the conventional building blocks to ensure that the resulting financial indicators do not make it unduly difficult for Railtrack to finance its relevant functions. Chapter 4 therefore sets out the Regulator's provisional views on the relevant financial indicators. Given this, the remainder of this section addresses the following questions:

- do the proposed revenues make it unduly difficult for Railtrack to finance the baseline outputs, ignoring additional enhancements in the next price control period and beyond?

- could the proposed baseline revenues make it unduly difficult for Railtrack to finance enhancements which are likely to be required over the next price control period?

8.12 On the first question, it is clear that the range of scenarios examined by the Regulator would not make it unduly difficult for Railtrack to finance delivery of the sustained network outputs alone. This is essentially because future expenditure is allowed for on a pay-as-you-go basis. The financial indicators therefore remain within the ranges specified in Chapter 4 without any requirement for new equity or any adjustments to Railtrack's initial capital structure (i.e. to adjust for the special dividend to Railtrack Group). In principle, however, this conclusion would need to be revisited if part of the planned renewals expenditure were capitalised into the RAB.

8.13 On the second question, since the revenues associated with major enhancement expenditure are dealt with separately, the periodic review on its own should not make it unduly difficult for Railtrack to finance these enhancements. In particular, its ability to raise new finance will depend on a range of factors including the allowed rate of return, the period over which the costs are recovered through additional access charges and the degree of certainty associated with those additional charges.

8.14 The scope for Railtrack to finance enhancement expenditure through additional debt will be considered further in conjunction with the Regulator's final conclusions on the periodic review. If Railtrack is expected to finance very significant enhancement and/or renewals expenditure, it may wish to raise new equity. This new equity would, in turn, enable Railtrack to finance further enhancements through increased debt.

8.15 Given the possible need to raise new equity and the Regulator's duty not to make it unduly difficult for Railtrack to finance its relevant functions, he considers that it is important for him to establish a framework for enhancements which provides:

- a sufficiently attractive rate of return on enhancement expenditure; and

- sufficient predictability about the way in which this expenditure will be treated at periodic reviews.

8.16 The development of this framework is therefore an important part of the periodic review process and the Regulator's present thinking on this issue is set out in Chapter 13.

Conclusions and next steps

8.17 The Regulator's provisional conclusions on the overall level of revenues required to finance the baseline outputs will be refined in the light of further work on the key building blocks identified in the preceding chapters. In particular, the Regulator will need to take account of responses to his provisional conclusions on the RAB and the cost of capital. In addition, significant further work is required to establish robust projections of the expenditure required to maintain and renew the sustained network and to identify the cost of any incremental outputs which the SSRA may want to buy as part of the periodic review.

8.18 Consultees are invited to comment on the way in which the baseline revenues should be profiled over the next price control period, taking account of the likely profile of costs and the interaction with further enhancement expenditure. Consultees are also invited to comment on the implications of the proposed approach for Railtrack's ability to finance its relevant functions.

PART II:

THE INCENTIVE FRAMEWORK

9. Progress on work to date

Introduction

9.1 The periodic review encompasses both the appropriate level of charges and the overall incentive framework created by access charges. This Part of the document reports on progress on the incentive framework following the Regulator's October 1999 periodic review document. The Regulator intends to publish his provisional conclusions on these issues in Spring 2000.

9.2 The remainder of this chapter reports progress on the consultations on the incentive framework. This includes the results on the consultation on charges for traction electricity. The final section considers the implementation issues concerned with changing the structure of access charges. The Regulator is considering the appropriate timing of the introduction of changes to different elements of the variable charges. He is also considering whether some proposals would be more appropriately introduced as part of a restricted interim review, which would not cover the overall level of Railtrack's access charge revenue.

9.3 Other aspects of the incentive framework are covered in separate chapters on property, stations, the definition of baseline outputs and the enhancement framework.

Consultation on the incentive framework

9.4 In October 1999 the Regulator consulted on the incentive framework which is created by the track access agreements. Responses to the consultation were due by 26 November 1999. However, in the light of the complex issues involved several parties asked for an extension to the deadline. It would not therefore be appropriate to summarise the responses at this stage.

Traction electricity

9.5 The Regulator published a technical consultation document in September 1999 on the charges for traction electricity in the next control period. A list of respondents to this consultation is in Appendix D and this section summarises those responses. Those responses which were not confidential have now been placed in ORR's library.

9.6 The charges for traction electricity are presently based on an estimate of the volume of electricity used by individual operators. Most consultees who expressed a view, supported the work to improve these estimates. As was stated in the technical consultation document on charges for traction electricity, Railtrack has conducted a preliminary review of the consumption rates which are used to estimate the volume of electricity consumed by individual passenger services. Passenger operators are currently being consulted on their own rates. Railtrack has begun a similar review of the consumption rates underlying the traction electricity element of variable freight access charges. The Regulator will continue to work with Railtrack and operators to improve the estimation of the volume of electricity used by individual operators for charging purposes.

9.7 Railtrack proposed that the wash-up mechanism (whereby risk concerning the amount of electricity consumed by services is placed on the franchised operators through *ex post* rebates or payments) should be geographically disaggregated. The majority of consultees supported this proposal in principle. However, various practical difficulties and suggestions were raised by consultees and these are being considered in conjunction with Railtrack.

9.8 The charges for traction electricity are calculated on the basis of tariffs which are indexed against the Medium and Large Users Index (MLUI) of electricity prices published by the Department of Trade and Industry. Consultees generally supported the Regulator's proposal that MLUI continued to be used for this purpose. Railtrack continued to argue that an index based on the new electricity trading arrangements should be used and some other consultees suggested that if a better option than the MLUI becomes available it should be used. Consultees' views on the rebasing of the tariffs at the start of the next control period were more mixed, but the majority of respondents argued that this would be appropriate. Some consultees stressed the need for any such calculation to be transparent and audited.

9.9 The Regulator also proposed that operators should eventually have the option of jointly or individually purchasing electricity directly from electricity suppliers. There was a range of views on this proposal. Some consultees were concerned about whether this would lead to a reduction in the economies of scale available in purchasing electricity (leading to higher prices overall) and the practicalities of the proposals. There was general support from consultees concerning the principle of fitting electricity meters to trains, though again respondents raised a number of practical difficulties.

9.10 There was also general support for the introduction of different discounts for different systems of regenerative braking, where it was used. Some concern was expressed about the incentives on Railtrack to upgrade the network so as to allow such systems to be used.

Usage charges

9.11 The Regulator published a technical consultation paper on usage charges in November 1999, in conjunction with a review by Booz Allen & Hamilton (BAH) of the work undertaken by Railtrack in this area. Initial responses to the consultation are due by 21 December 1999.

Recovery of congestion costs

9.12 Railtrack has developed a new model to estimate congestion costs (which for these purposes are defined as the expected increase in performance regime payments from an additional service). This is a predictive model based on a statistical analysis of past costs. Railtrack has proposed a system of tariffs (which it has called a capacity reservation fee) to recover these costs and incentivise improved use of the network by operators.

9.13 The October 1999 periodic review document consulted on the principle of such a tariff system, in order to recover these costs. The Regulator's view is that if such a charge were to be introduced this should not come into force at the beginning of the next price control period. The planned technical consultation on this issue has therefore been delayed until after the responses to the October 1999 document have been reviewed. The Regulator's provisional conclusions on these issues will be set out in the Spring 2000 periodic review document. This will take into account the views of consultees.

Implementation issues and potential interim review

9.14 The provision in the passenger track access agreements by which the periodic review is implemented was explained in the October 1999 periodic review document. The Regulator may serve a review notice on the parties to each agreement in respect of the amounts payable by either party to the other and the manner in which, and dates by which, such amounts shall be payable.

9.15 The review notice may therefore stipulate that changes to existing variable charges, or the introduction of new variable charges, could occur at different dates. The Regulator believes that changes to the individual fixed charges, usage charges and charges for traction electricity should be implemented at the start of the next control period. One option would be for these changes to be effective from 1 April 2001. Another option would be that they are effective from the start of the summer 2001 timetable. Access rights for services for the previous timetable (which will still be in force in April 2001) will have already been negotiated.

9.16 An option for introducing further changes to the structure of charges would be to make provision for an interim review, prior to the next periodic review. It would be important to ensure that the scope of this review is limited and that it does not extend to changes in the overall level of Railtrack's charges. An interim review might, for example, cover:

- whether the usage charge should vary geographically;
- adjustments to the usage charge to incentivise improved maintenance of track and vehicles;
- the recovery of congestion costs; and
- allowing operators to purchase electricity from any electricity supplier.

9.17 An alternative option would be for the review notice which the Regulator issues in July to contain provisions for the introduction of each of these changes, including guidelines as to when these provisions would be triggered.

9.18 If either of these approaches were adopted, it might be appropriate to separate further periodic reviews of the structure of charges from periodic reviews of the overall level of charges. This would have the advantage of reducing the extent of change at each periodic review but may introduce an element of uncertainty.

9.19 The Regulator invites consultees to comment on the implementation of possible changes to the charging structure, including the possibility of phasing introduction of changes or an interim review restricted to particular proposals.

10. The property allowance scheme

Introduction

10.1 This chapter concerns the arrangements for the property allowance scheme (PAS) in the next control period. Railtrack owns a substantial property portfolio and the profits from these holdings are one of the elements subtracted from its overall revenue requirement under the single till. The PAS was set up to provide Railtrack with an incentive to manage its property portfolio efficiently while also ensuring that this income is reflected in lower access charges. Potentially, however, this income could be used to finance additional investment.

10.2 The scheme consists of an overall target for property receipts (the baseline) and a sharing of all receipts above this level. The baseline represents the total property income which Railtrack is expected to receive in the control period and under the single till this amount is subtracted from the overall revenue requirement. Out-performance by Railtrack, in terms of any property income above the baseline, is shared between Railtrack and passenger operators (who at present have a back-to-back arrangement under their franchise agreements whereby savings are passed back to government). Presently Railtrack retains 75% of any out-performance.

10.3 The Regulator retained DTZ Pieda to review the workings of the PAS and consulted on their report in June 1999. The PAS was designed in order to deal with the uncertainty concerning the timing and amount of property receipts, especially where the market cycle does not align with the periodic review process. DTZ Pieda concluded that generally the scheme had worked well during the current control period and raised three possible options for its continuance into the next control period.

10.4 The remainder of this chapter describes the options for the PAS in the next control period and summarises the responses to the earlier consultation. It then sets out the Regulator's views on these issues and identifies the benefits and problems with each of the options. The subsequent section sets out the Regulator's provisional conclusions on the operation of the PAS during the next control period. The final section describes the work which the Regulator is undertaking to ensure that there are sufficient controls on Railtrack's stewardship of its property portfolio, ensuring the current and future development of the rail network.

The consultation on DTZ's report

10.5 The DTZ Pieda report considered three options for the PAS in the next control period. These were:

- to abandon profit shares and rely solely on a baseline, with Railtrack keeping all receipts above that level;
- to continue broadly with the current arrangements, with a reset baseline and possibly revised profit shares; and
- to abandon the baseline concept and apply percentage profit shares to all of Railtrack's property income.

10.6 DTZ Pieda concluded that the rationale for the PAS is still valid. Railtrack owns substantial property interests, which have the potential to generate significant future value, the extent and timing of which cannot be predicted against a volatile property market. DTZ Pieda also concluded that there were no significant regulatory distortions being introduced by the PAS and that the existing scheme 'appears generally to be achieving the objectives identified at its inception and there is no overwhelming reason for changes to the principles established'.

10.7 The majority of those responding to the consultation on this report supported the retention of the PAS. Railtrack made various comments on the detailed workings of the scheme, but argued that the scheme should be retained in broadly its current form. Some respondents raised the issue that train operators have little incentive to take an interest in property deals as the benefits of the PAS flow back to government. It was variously suggested that freight operators and the Passenger Transport Executives (PTEs) should also benefit from Railtrack's property income. Some respondents, including Railtrack, also argued that property income should be retained and reinvested within the railway.

The Regulator's views

10.8 Having regard to the opinions of his property consultants, and the fact that neither the majority of respondents nor Railtrack argue for significant changes to the current scheme, the Regulator intends to continue the PAS for the next control period in essentially the same form as in the current control period.

10.9 The option of abandoning a profit share and relying solely on the baseline would place great importance on the level at which the baseline was set. It would result in substantial risks of over or under-performance, which could penalise Railtrack or lead to it receiving windfalls. Relying solely on profit shares would introduce significantly more uncertainty for funders and would not provide the insulation from the uncertainties of the property market which the PAS is intended to achieve.

10.10 The PAS broadly in its existing form would have a number of benefits. First, the scheme appears to be working as was intended and does not unduly distort the incentives on Railtrack to manage its property portfolio efficiently. Second, it does not lead to excessive volatility in access charges or subsidy profiles as a result of the vagaries of the property market. Third, in the absence of major failings in the current system, the Regulator does not believe that it would be beneficial to introduce a new scheme, to which industry participants would need to adapt.

10.11 The main issues in retaining the current scheme are the appropriate levels for the baseline and the profit shares. DTZ Pieda have examined Railtrack's forecasts for profits from its property portfolio over the next control period and Chapter 8 sets out their projections of Railtrack's property income. A summary of their report is being published in conjunction with this document.

10.12 DTZ Pieda have reported to the Regulator that the current profit shares above the baseline provide a suitable incentive for Railtrack to manage its property holdings and that the incentives on Railtrack would continue to be sufficient if their 75% share of profits was reduced by a small amount. However, they conclude that any significant reduction in Railtrack's share would likely lead to insufficient incentives.

Railtrack's stewardship of rail related land

10.13 There is no clear distinction between operational and non-operational land in Railtrack's property portfolio. The PAS aims to incentivise Railtrack to maximise the returns it generates from its property holdings, thus benefiting the wider railway by reducing the level of access charges. However, it is essential that Railtrack ensures that the present and future development of the rail network is not compromised.

10.14 In responding to the consultation on DTZ Pieda's report a number of consultees have raised concerns about the effectiveness of the regulatory controls on Railtrack to safeguard particular land holdings for current or future rail use. Railtrack's network licence contains controls on the disposal of assets needed to meet access agreements, but these controls do not make reference to future use. The Regulator believes that generally the PAS should continue to incentivise Railtrack to manage its property portfolio efficiently and to generate profits from its estate to the benefit of the railway more generally. However, the Regulator also recognises that in individual cases there must also be a guarantee of effective stewardship of the network.

10.15 The Regulator is therefore considering the current controls on Railtrack's ability to sell or develop its property assets (including the property rights associated with those assets) for non-rail uses and the issue of whether greater controls to safeguard the future development of the rail network are desirable. The Regulator expects to consult on these issues separately from the periodic review.

Conclusions and next steps

10.16 As the current PAS appears to have generally worked as intended, the Regulator intends to retain the scheme broadly in its current form. A number of issues concerning the technical workings of the PAS have been raised by Railtrack and the Regulator's property consultants. The Regulator's conclusions on these issues will be published in Spring 1999.

10.17 The level at which the baseline is set should provide a challenging target for Railtrack, providing a strong incentive for it to manage its property holdings in an innovative way. This should also provide operators and funders with reasonable certainty concerning the level of access charges. As indicated in Chapter 7, the Regulator is therefore proposing to set the price controls based on an assumed income which is closer to the upper limit of the likely range of property profits which DTZ Pieda has proposed. The same projection of income would be used as the baseline for the PAS.

10.18 In setting the shares of profits above the baseline which Railtrack retains and which it distributes to train operators, the Regulator considers it important to retain a sufficient incentive on Railtrack to out-perform the baseline. Railtrack currently retains 75% of profits above the baseline and the Regulator considers that reducing this percentage is not desirable. The Regulator is therefore currently of the view that out-performance should continue to be shared in the proportion 75:25 between Railtrack and the train operators.

10.19 The levels of under- or over-performance in each year under the PAS are rolled forward to the subsequent year. There is therefore an issue concerning the roll-over of the level of under - or over-performance in the final year of the current control period to the next control period. The Regulator is currently of the view that there should be a roll-over between control periods, as otherwise an artificial incentive would be created to move property schemes between the last year of the current control period and the first year of the next.

10.20 Some consultees also raised the issue that currently only the franchised passenger operators benefit from the PAS. Under present arrangements these benefits flow back to the Shadow Strategic Rail Authority (SSRA) in the form of reduced subsidy payments. The Regulator does not consider it appropriate to change the beneficiaries of the scheme.

10.21 Consultees are invited to comment on the Regulator's provisional conclusion that the structure of the property allowance scheme (PAS) should remain broadly unchanged. His present view is that the baseline should be towards the upper end of the range proposed by DTZ Pieda and that out-performance of the baseline should continue to be shared 75:25 between Railtrack and operators.

11. Station charges

Introduction

11.1 This chapter considers the structure of station access charges in the next control period and implementation of any changes. The Regulator believes that it is desirable that the structure provides Railtrack with the appropriate incentives to deliver its obligations in a timely and efficient manner. Other station related issues have been considered elsewhere in this document:

- delivery in the current control period (Chapter 3);
- the appropriate level of Railtrack's costs and income requirements during the next control period (Chapter 3); and
- the appropriate output measures for stations (Chapter 12).

11.2 The following issues are considered in turn:

- the current level of station charges and their allocation;
- the future level of charges;
- alternative structures for station charges;
- performance incentives (charge abatement) and repair and maintenance responsibilities; and
- implementation issues.

Current station charges

11.3 As part of his review of access charges in January 1995 the then Regulator determined that Railtrack's income from stations should be sufficient to cover:

- capital costs for station renewal in modern equivalent form and an appropriate return on capital. These costs were based on the modern equivalent asset values (MEAV) of stations owned by Railtrack; and

- on-going maintenance and repair costs mainly for station structures and major capital equipment such as escalators and lifts. The specific obligations of Railtrack and the lease-holders are set out in the Station Access Conditions.

11.4 Railtrack's total income from stations was therefore set to cover these costs but net of Railtrack's property receipts at major stations. Its charges for use of the stations fall into two major categories:

- lease charges; and
- station access charges

11.5 Lease charges are paid by each Station Facility Owner (SFO), other than Railtrack. In most cases the SFO is the franchised TOC operating the station under a lease with Railtrack. Leases are generally co-terminus with the franchise agreements. The lease holders pay:

- long term charges (LTC) – it is these charges which are regulated via the Station Access Conditions;

- a proportion of the income they derive from lettings and car park operations (set at a level based on the 1994/95 income indexed to GDP); and

- 50% of any other payments they receive for use of the station property (e.g. from car boot sales).

11.6 Station access charges are also established in the Station Access Conditions and are levied by the SFOs on other operators using the station. For passenger operations these are allocated according to usage.

11.7 In 1995, the then Regulator established two separate control totals for station long term charges paid to Railtrack:

- for franchised stations of £117.2 million; and

- at major stations of £31.8 million.

The additional lease charges at franchised stations amounted to £26.6 million.

11.8 The long term charge to be included in station access agreements for individual stations was then calculated on the basis of the modern equivalent asset value of each station, net of Railtrack's expected receipts from property. Standard unit costs for particular facilities were defined to determine the modern equivalent asset value with specific uplifts for particular stations where costs were higher than for standard facilities (e.g. for listed buildings or higher specifications required by customers or funders at the time of construction).

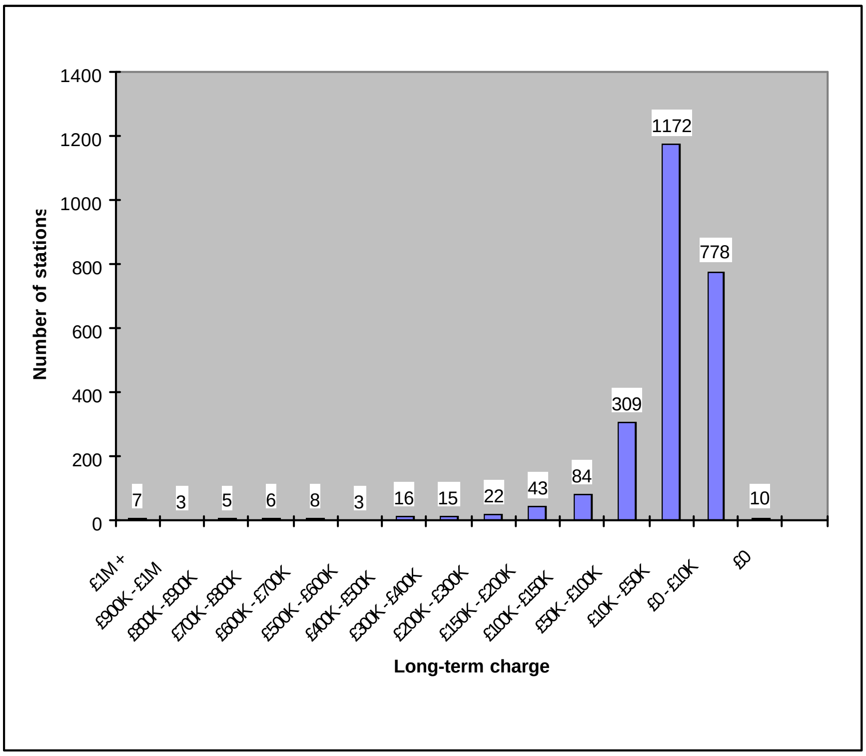
11.9 The long term charge is therefore different for each station. The floor for individual station charges was set at zero (i.e. where Railtrack's property income was expected to be higher than its costs for the station, a zero charge was determined). Half of the expected property income from that station was credited against track access charges whilst the other half was spread across all station long term charges.

11.10 The Regulator approved 2,476 long-term station access charges in May 1995. This excluded the 14 major stations operated by Railtrack. Figure 11.1 below shows the distribution of long term charges according to bands of value. The value of individual station long term charges ranges from £0 (ten stations) to in excess of £1m per year (7 stations). 1,950 of the 2,476 long term charges for franchised stations were less than £50,000 per annum in 1995/96. In 1995/96 only 509 stations were multi-user in the sense that passenger operators other than the station operator called at the station and, thus, were liable to pay access charges in respect of Railtrack's costs as well as those of the station operator.

11.11 One operator (Island Line) operates stations on its network on a full repairing basis and is, therefore, not liable for any charges from Railtrack for repairing and maintaining stations.

11.12 Long term charges are subject to increases each year by means of a price formula (presently RPI minus 2) in the Station Access Conditions. Other variations to the long-term charge can be made, based on the provisions in the Station Access Conditions for changes in law or to reflect any relevant property transactions. The methodology for any variations for either reason is specified in the Station Access Conditions. In addition LTCs may be changed to reflect the cost of enhancements carried out by Railtrack. The Regulator published guidance on this in November 1998.

Figure 11.1 Distribution of station long term charges



Future level of long-term charges

11.13 For the provisional conclusions Railtrack's costs of station maintenance and renewal have been included in its required revenues, and its total income from property has been netted from this, as described in Chapter 4.

11.14 In considering the appropriate level of the long term charges for the next control period and access charges at major stations, the Regulator will wish to consider:

- Railtrack's cost of maintenance and renewal of all stations during the control period;
- any under-delivery during the current control period;
- expected Railtrack property income from stations over the control period; and
- differences between station property income which Railtrack expected for the last control period and the income actually received by Railtrack.

11.15 Chapter 3 of this document has considered the costs of maintaining and renewing stations over the next control period. The Regulator will expect that the lower costs of maintenance and renewal of stations in the next control period will be reflected in lower station charges.

11.16 The Regulator will not expect to clawback any differences between actual and expected property income. Already Railtrack's property income at major stations is covered by the PAS. The information on the difference between expected and actual income will only be used to inform the understanding of expectations for the future.

11.17 The Regulator expects to incorporate the effects of these points in a change to the long term charge formula in the Station Access Conditions.

Structure of charges

11.18 Contractual obligations for maintenance and repair and renewal are described in Station Access Conditions which form part of every station access agreement and lease.

11.19 The current charges are station specific and are fixed with no usage related component. This approach is intended to spread charges over the life of the asset. As explained above, charges are also net of expected income from other sources, resulting in lower charges reflecting these contributions towards Railtrack's costs. In this section the Regulator seeks views on whether this structure of charges should continue in its present form or, if not, how it should be altered.

11.20 In the October 1999 and November 1999 periodic review documents, the Regulator consulted on the structure of track access charges and the incentives for Railtrack to deliver on its obligations to repair, maintain and renew the network, to undertake enhancements, and to improve performance and efficiency. These questions apply to station charges as much as to track access charges. However, the two charging regimes may need to differ to achieve the Regulator's objectives.

11.21 Station long term charges have been criticised by industry parties on a number of occasions over the past few years. The most prominent criticism concerns the differences between station specific charges. The Regulator is aware that since their installation into access contracts from 1995, the assumptions underpinning the charges appear to have been poorly understood within the industry. The inability of parties, including Railtrack, to understand and explain differences in the level of charges for individual stations may have undermined confidence in the structure and level of these charges. Understanding is certainly important to achieving perceived fairness and acceptance of charges as representing value for money.

11.22 Another potential shortcoming of the present approach is that due to the fixed nature of the charges Railtrack does not share in the success – or failure - of stations in terms of passenger numbers and usage. Therefore there is little incentive for Railtrack to undertake its obligations promptly, or in a particular form, in order to maintain or increase passenger usage of a station. In addition, the fact that projected enhancements – and the related charges – are not built into the station access agreements introduces costs of negotiation which can be substantial in relation to small-scale schemes. The Regulator published guidelines for station long term charge adjustments in November 1998.

11.23 There are a number of benefits of the current approach. Key benefits the Regulator has identified are:

- the methodology applied in 1995 means that charges and payments from train and station operators to Railtrack are lower than they might otherwise need to be reflecting contributions to maintenance and renewal costs from rents and other receipts;

- the bulk of the cost of maintaining, repairing and renewing stations is independent of passenger usage of the station. A flat charge for maintenance, repairs and renewals may be the best means of safeguarding the underlying health of assets which may be used little (particularly on less busy parts of the network); and

- negotiation of enhancements on a station-by-station basis can ensure that operators pay the best price at the time the enhancements are undertaken if appropriate tendering processes are carried out and they do not pay in advance for works that are not delivered.

11.24 On balance the Regulator is presently minded to conclude that a fixed station long term charge should continue for existing stations. However he expects that some changes in the performance incentives for stations may be appropriate. This issue is discussed later in the chapter.

11.25 The Regulator recognises that this approach may not address perceived anomalies between individual station charges. During the course of 1998, Railtrack developed a scheme of categorisation for stations according to type and use. These were described in the 1999 Network Management Statement (NMS). The Regulator considers that there may be benefits in Railtrack re-allocating its income from station long term charges according to station categories in order to smooth out any significant differences. If Railtrack adopted this approach in implementing the Regulator's conclusions on the periodic review, the Regulator would expect the following conditions to apply:

- the overall control total would not increase either at the industry level or at the level of the train operating company; and
- local receipts from property should be reflected in the charges for specific stations.

11.26 Railtrack has expressed support for the broad structure of the long term charge, with some caveats about the incentive structure. The Regulator will consider Railtrack's proposals further in his provisional conclusions on the incentives framework in Spring 2000.

11.27 For enhancements to stations, operators have the option of using Railtrack as project manager and in this case long term charges would rise to reflect the enhancements. Alternatively they may use an independent contractor.

11.28 One option for further reducing the costs of small-scale station enhancements would be for Railtrack to publish a table of tariffs. The tariffs would relate to specific enhancement in certain types of stations, and would provide a range of costs for different quality of equipment or work. The costs would include at least equipment, installation, construction and Railtrack project management. Railtrack has expressed its support for a tariff table of some description.

11.29 The Regulator intends to discuss the option further with Railtrack.

Performance incentives (abatement of charges)

11.30 The Station Access Conditions, incorporated into all franchised station access agreements and access agreements for the use of the stations operated by Railtrack, allocate responsibilities for repair, maintenance and renewal of station infrastructure and equipment between Railtrack and the SFO. These obligations are for the parties to enforce.

11.31 Currently the Station Access Conditions provide for abatement of specified amounts of station access charges in the event of a failure by Railtrack or the SFO to provide or secure the provision of specified common station amenities or common station services. Operators' access charges and LTCs are reduced – or abated – if the SFO or Railtrack fails to provide or secure the continuous operation of key services and facilities such as lifts, escalators and public address systems. For all but the major stations there is no incentive for sustained improvement over time.

11.32 The Regulator has appointed consultants Lambert Smith Hampton (LSH) to review the effectiveness of the abatement regime. Fieldwork took place in January 1999, an initial report was submitted to the Regulator in April 1999, and a report of final conclusions is currently under consideration by the Regulator. Copies of the April report are available from the Regulator, and the final report will be available in the new year.

11.33 The review has considered the:

- current impact of the abatement regimes in ensuring that repairs have been carried out;
- current use of the regimes;
- interaction of the regimes with third party contracts and third party obligations and franchise obligations; and
- potential scope of the regimes.

11.34 The preliminary conclusions are that the existing regimes do not properly incentivise the station operators or Railtrack because:

- their scope is limited;
- the definitions are inadequate, leading to lack of clarity about entitlements; and

- the value of abatements is low and has no relationship with either the impact of the failure (e.g. operators' additional operating costs) or the cost of repairs.

11.35 The Regulator therefore proposes to require changes to the abatement regimes following his July 2000 conclusions. He proposes that Railtrack should develop proposals for revised abatement regimes with the following objectives:

- transforming the abatement regime into a set of positive contractual standards built into the Station Access Conditions;

- extending the scope of these contractual standards to ensure that a wider range of station elements is included. For example, standards should be included for station lighting and the performance of Railtrack's routine management actions such as annual inspections of the station premises and response times to communications from operators when there are failures; and

- providing for comprehensive performance monitoring and the continuous uprating of standards to reflect changes in passengers' expectations (including appropriate means and obligations to ascertain passengers' views and reflect these in standards over time).

11.36 The compensation provisions should also be improved by moving away from abatement of charges which is ineffective where the charges are zero, to an explicit tariff of compensation payments for specified failures. These should be matched to the expected impact of the failures: for example, on passenger priorities and needs (including the needs of the disabled), on costs actually incurred by operators in mitigating the effects of failures, and on the length of the failure. These tariffs should also provide for extra payment to Railtrack for performance above the specified standards.

11.37 Railtrack has also proposed amendments to the abatement regime to include an automatic element based on response times in areas not currently covered, and a bonus element to incentivise continuous improvement.

11.38 In seeking views on the above changes to the abatement regime, the Regulator also considers that changes will modernise and simplify the operation of the contractual regime. The Regulator anticipates that this will involve significant and proactive negotiations on Railtrack's part to secure appropriate and acceptable changes. It will be for Railtrack to plan and manage consultation and negotiation with train operators in the first instance so that details of what is proposed are developed in good time for submission to the Regulator for approval in 2000. The Regulator is proposing to publish further guidance and approval criteria for the new/revised abatement regimes in the Spring after he has received responses to this consultation. Guidance/criteria could cover questions of similar standards for similar types of stations (possibly based on Railtrack's specifications for modern facilities for stations published in 1998) and could link all standards to compensation explicitly.

Repair and maintenance responsibilities and incentives

11.39 The April 1999 LSH report notes that other changes may be appropriate to ensure that the contractual incentive regime works to maximum effect. These changes include clarification of repair and maintenance responsibilities, where these are presently split between Railtrack and the SFO and are poorly defined in the Station Access Conditions. The LSH report specifies particular areas which are currently poorly defined.

11.40 The LSH report also notes that reporting and carrying out of property repairs between the different players is poor and that there is scope to incentivise contractors more, through back-to-back contractual arrangements.

11.41 The Regulator's present view is that the Station Access Conditions should be amended to clarify the definition of repair and maintenance responsibilities. The Regulator considers that improving the day-to-day co-ordination of repair requirements and activities is a matter which can, and should, be dealt with at an operational level within the industry. He does not therefore consider that either co-ordination or the content of contractors' contracts are matters for him to address directly through the periodic review of access charges. However, a substantially improved contractual performance regime would be expected to incentivise Railtrack to improve the reporting and response times to faults and the performance of contractors.

11.42 The LSH report also suggests that changes to the allocation of some repair and maintenance responsibilities could reduce the extent and duration of equipment failures at stations. This would be particularly true if, for example, station operators had the entire responsibility for all customer information systems and communication systems at stations where responsibility is presently divided between the SFO and Railtrack. BAH supports the concept that Railtrack response times are poor, and proposes that Railtrack should prepare time-to-repair statistics for operators on a regular basis. These could be progressively incentivised.

11.43 The Regulator's initial view is that without significant consensus that this is the right way to go across the whole industry he would not expect the basic structure of obligations to be fundamentally altered as part of this periodic review. However he does recognise that, as part of franchise replacement, operators may wish to see a change in the balance of those obligations.

11.44 Where franchises are longer than 7 years franchisees may wish to take responsibility for more of the maintenance and repair – and also renewal – obligations at stations and thus determine for themselves the timing and pace of technological change and improvement. In any situation where a station operator agrees with Railtrack that it wishes to take more responsibility for station repairs and maintenance, the Regulator would expect such changes to bring reductions in LTCs. The reduction would need to be determined on a case by case basis and directly reflect the reduction in Railtrack's obligations.

11.45 It is important that any changes do not dull the contractual incentives to ensure essential equipment is kept in good working order. In any individual cases the Regulator will want to discuss with the SSRA how the effective repair and maintenance of equipment can be secured, over time, for the benefit of passengers and other operators.

Implementation issues

11.46 In both the national Station Access Conditions (Condition F11.5) and the Station Access Conditions for major stations (Part 6) the Regulator has powers over the amount of the long term charge, the manner and dates by which the charge is payable, and its allocation between operators.

11.47 Station access contracts will need to be amended to reflect any conclusions reached by the Regulator in July 2000. As part of the July 2000 conclusions, the Regulator will issue guidance on the procedures to be followed for submitting amendments to him, including the information which he will require in order to consider the proposals.

Issues for consultation

11.48 The current station access regime includes fixed charges defined by the access agreements and access conditions which determine the incentives for efficient operation of the stations. The Regulator seeks views on his proposals for:

- **reducing the differences in charges for similar stations;**
- **requiring Railtrack to develop a tariff schedule for different types of enhancements;**
- **improving the performance incentives for stations; and**
- **allocating responsibility for maintenance and renewal.**

12. Baseline outputs: sustained network and incremental outputs

Introduction

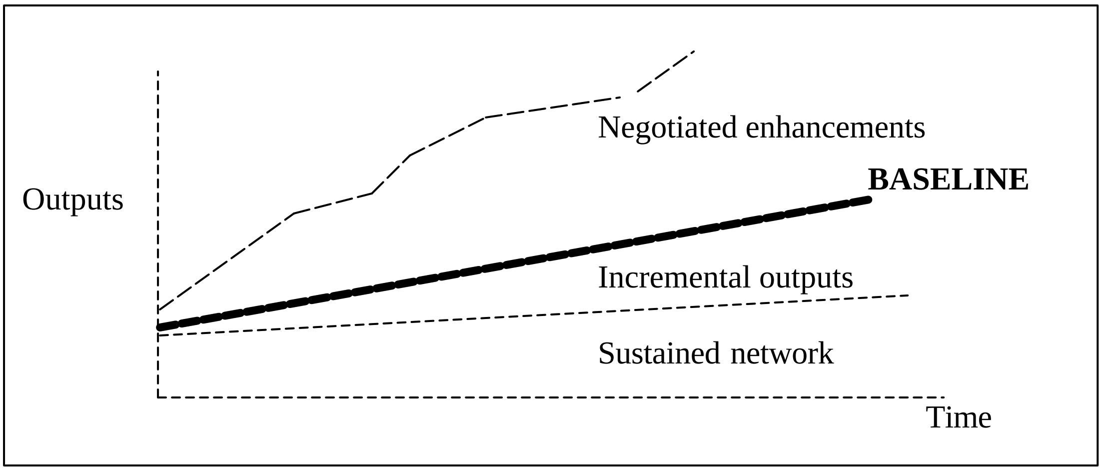
12.1 In order to determine Railtrack's revenue requirements, it is necessary to determine the baseline outputs which Railtrack is expected to deliver over the next control period. These include:

- the sustained network outputs, essentially based on existing network outputs, which are achieved primarily through maintenance and renewal of the network; and

- incremental outputs which are included in the baseline, generally as enhancements to the existing network, to accommodate the needs of passengers, operators, and funders.

12.2 However, the baseline outputs exclude additional enhancements which may be separately negotiated (or otherwise established) with operators/funders and approved by the Regulator. Figure 12.1 presents the different levels of output which may be required from the network during the next control period. These different levels of output are described in more detail in the following section.

Figure 12.1: Network outputs



12.3 The subsequent section describes the proposed approach to output measurement. The final section sets out a programme for defining outputs through the 2000 NMS, the proposed asset register and the periodic review.

Baseline outputs

Sustained network

12.4 The output of the sustained network is essentially that of the existing network as it is renewed over time. Capability and condition are therefore maintained with neither deterioration nor improvement other than that arising from an efficient maintenance and renewal cycle. This is the basic principle embedded in Railtrack's criteria for investment published under Condition 7 of its network licence in September 1998. The decision rule is essentially that of minimum whole life cost maintenance and renewal. As explained below, the Regulator supports this decision rule but expects that it will be applied transparently and equally across the network.

12.5 There are three main exceptions to the basic principle of maintained capability and condition which mean that the output line in Figure 12.1 is drawn with a modestly rising gradient – it is not horizontal. The exceptions are that:

- maintenance and renewals will be carried out to comply with the best practice obligations of Railtrack's network licence. Although it is not assumed that all renewals will deliver enhanced levels of output, certain renewals of assets with modern designs and modern equipment and components will provide some incidental improvements. The Regulator expects that, as part of sustaining the network, Railtrack will enhance the network to provide additional outputs wherever the whole life cost of doing so is no greater than that of steady state maintenance and renewal (this maxim applies widely - for example to bringing forward renewal and maintenance activity in order to maximise synergies under other projects);

- operations, maintenance and renewal will deliver improvements in performance year on year (e.g. in response to the contractual performance incentive regimes); and

- growth in demand will result in greater utilisation of the sustained network.

12.6 In the 1999 NMS, and more recently in its November 1999 submission to the Regulator, Railtrack has costed the maintenance and renewal required to preserve the sustained network capabilities and condition throughout the control period whilst protecting network safety at all times. These costs are discussed in Chapter 3. The Regulator has worked with his consultants BAH to understand further the output assumptions behind Railtrack's cost estimates. These are presented, as understood by the Regulator, in Table 12.1 below, and form the output definition of the sustained network going forward.

Table 12.1: The sustained network - definition of key outputs

Category	Output requirement
Performance	2.5% performance improvement year on year, as measured by Railtrack caused minutes delay per train mile.
Capability	*Key assumption:* The network should not offer lower functionality nor fewer opportunities for use than existed at the start of the control period, subject only to any authorised network changes. **Speed restrictions**: The net impact of condition related temporary restrictions should be no worse on the network as a whole; the permanent speed profile of any route should not be reduced. **Route availability:** There should be no increased access restrictions across the network. **Gauge**: There should be no reductions to existing clearances on any part of the network, and no greater traffic restrictions should be applied. Railway Group Standards should be met.
Asset condition	*Key assumption:* Network quality should be maintained throughout the control period at least at the same level as that applying at the beginning of the period, unless this assumption is superseded by other specific requirements. (Note: this is subject to further requirements in respect of Railtrack's safety obligations.) **Track:** The measured quality of track geometry on the network should be no worse than the higher of the actual recorded level at 1 April 2001 and the individual target values declared by Railtrack on 15 January 1999. Component failure forecasts, such as the number of broken rails, should also be met across the network. **Structures:** The condition profile of the all network structures should be as least as good as that existing at 1 April 2001. **Signalling:** Measured performance and condition of signalling systems should be no worse than the condition at 1 April 2001, with scheme renewals proposed for the period to have been completed. **Stations and depots:** Targets for condition of facilities should be achieved and measured condition should be no worse than the condition at 1 April 2001 (plus completion of the backlog in the station regeneration programme).

12.7 The Regulator understands that the sustained network is consistent with achieving the objectives set out in the current Railway Group Safety Plan and Railtrack's safety, environmental and other obligations. In addition, Railtrack prepared its expenditure plans for the sustained network in the knowledge that the plans must allow it to deliver its obligations on accessibility for disabled passengers.

Incremental outputs

12.8 The baseline network may include improvements during the next control period over and above the levels specified by the sustained network. These improvements will be delivered in a programme of incremental outputs.

12.9 The SSRA has recently been through a wide consultation with passenger and freight operators and other funders about possible network developments. This exercise has been carried out as a series of route based Train Operator User Group (TUG) meetings, from which has emerged a detailed and very extensive schedule of desired output improvements known as the Incremental Outputs Statement (IOS). These are both at national level and for specific routes. In addition to this process, under condition 7 of its network licence, Railtrack has developed an annual customer reasonable requirements (CRR) process and has committed to specific enhancements which should be included in the baseline. Operators and other funders may also wish to specify additional outputs which could be included in the baseline.

12.10 The IOS will be the key determinant of the incremental outputs which may be required of Railtrack as part of the baseline in the next control period. Together with enhancements committed during the current control period, it will therefore determine the works over and above those required to deliver the sustained network.

12.11 In order to move from the current IOS, which is simply a schedule of aspirations and desired outputs, to an established programme of incremental output delivery, Railtrack will need to cost the increments in the 2000 NMS. These costs will need to be reviewed by the Regulator and the SSRA, and operators/funders will need to confirm or modify their requirements. More detail about the required form and period of the 2000 NMS and the supporting information which the Regulator will require is contained in the last section of this chapter. Detail about how the enhancements will be treated at the next periodic review (i.e. in terms of their inclusion in the Regulatory Asset Base (RAB)) is dealt with in Chapter 13.

12.12 The IOS includes some additional requirements in respect of stations. The Regulator will want to consider with the SSRA and Railtrack whether, in the light of the emerging conclusions of his review of the Code of Practice for Disabled Passengers, further allowance should be made in the baseline network for access improvements.

12.13 SSRA's current views on the IOS were set out in a letter to Railtrack on 14 December 1999, which is reproduced as Appendix E to this document without Schedule 2. The SSRA is also making the full IOS including Schedule 2 available in its library.

Negotiated enhancements

12.14 Further enhancements which are not included in the baseline fall outside the scope of the periodic review. These enhancements would generally be negotiated or established with operators and/or funders. Chapter 13 discusses the framework for enhancements proposed by the Regulator. As with the incremental outputs, once these enhancements are in use operators, funders and the Regulator would expect to see suitable output measures being applied, and, of course, the capability and condition of the assets maintained.

12.15 The Regulator will wish to establish with the Health and Safety Executive whether it considers that the Railway Group Safety Plan is sufficient to meet Railtrack's safety obligations. Currently TPWS plus some provision for ATP are included in the enhancement expenditure proposed by Railtrack for the next control period and would be included in the baseline. Additional expenditure which may be required following Sir David Davies' review of train protection is not included at present. If Railtrack were to seek additional funding to meet these additional requirements, the Regulator would want to be satisfied that this additional funding took account of the synergies with renewal programmes.

Measurement of outputs

12.16 Railtrack has the primary responsibility for asset management. It is in the best position to determine the scope and the timing of the maintenance and renewal inputs required to sustain the network to a given level of performance and to ensure its long-term health.

12.17 The October 1999 periodic review document discussed incentives for Railtrack's delivery of the sustained network and any incremental outputs. For example, it highlighted the role of contractual incentives and distinguished between monitoring targets and enforceable targets. Where possible, it will be desirable to ensure that specific incremental outputs are clear in the relevant access agreements so that operators have a specific and direct role in ensuring that the outputs are delivered. The Regulator's provisional conclusions on the incentive framework are due in Spring 2000.

12.18 Any incentive regime requires a framework to set out the means by which Railtrack's achievement will be measured and judged throughout the control period. It will also form the basis for any payments or penalties. Clear definition is required and should allow:

- properly defined expectations by means of specific objectives for Railtrack;
- monitoring of Railtrack's performance against those objectives during the control period, and hence a means of testing Railtrack's discharge of its obligations; and
- determination of Railtrack's overall performance by comparing the measured criteria achieved at the end of the control period with those applying at the outset.

12.19 The Regulator believes that output measurement should:

- be clear and transparent;
- possess criteria for success and failure to deliver;
- have a means of measurement which is clear and capable of consistent repetition and comparison over time;
- reflect the key aspects of system performance so that it will not distort incentives;
- be defined at the appropriate level; and

- leave Railtrack with flexibility to manage the maintenance and renewal of network assets in the most appropriate manner.

Measurement during the current control period

12.20 The basis for monitoring Railtrack's delivery in the current control period has been the concept of timely renewal of the infrastructure in modern equivalent form (MEF). This was used at the last periodic review and was one of the *Regulatory Objectives for Railtrack* published by the then Regulator in January 1997.

12.21 The strengths of MEF are that it leaves Railtrack free to manage the network assets in a way which continues to support the services which Railtrack's customers and funders wish to operate, and for which they are paying access charges. Moreover, the renewal of assets in a way which is both *modern* and *equivalent* continues to be a fundamental requirement of Railtrack's network stewardship. Railtrack has an obligation to manage the network to secure its continuity without reducing either its functionality or capability. Any reductions in these elements would require Railtrack to go through the network change procedure and may result in a reduction in the RAB.

12.22 There has however been much debate about the precise meaning of MEF in practice. In reviewing Railtrack's performance in the current control period, the Regulator has found it difficult to compare actual outcomes with expectations. Not only has the means of measurement been incomplete, but expectations have also lacked definition.

12.23 The role of MEF in defining the boundary between renewal and enhancement is discussed further in the following chapter.

Output measurement going forward

12.24 The Regulator defines Railtrack's baseline network outputs in terms of the:

- performance of the system (including Railtrack-caused delays network utilisation and other high-level measures of performance and serviceability);

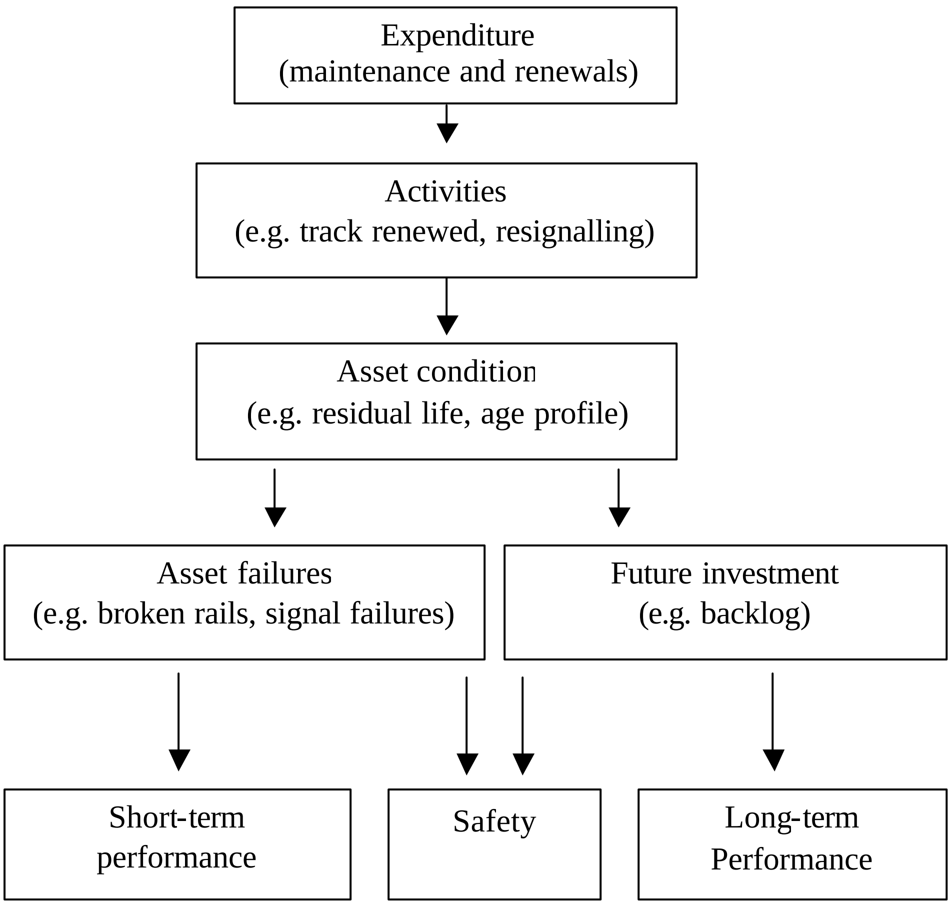
- delivery of the national and route specific requirements included in the SSRA's incremental output statements and customer reasonable requirements and maintenance of the capability of the sustained network; and

- long-term health of the assets.

12.25 He will measure Railtrack's delivery of outputs in these three areas to ensure value for money from the base level of access charges. This section sets out how this will be monitored by both the Regulator and operators.

12.26 The flow chart in Figure 12.2 below shows how Railtrack's physical inputs to the network, in terms of expenditure and hence activity levels, influence asset condition and thus the ultimate outputs which are delivered to network users in terms of safety and performance. In addition to the short run effects of asset condition on performance, the diagram shows that poor asset condition can result in a significant build up of future investment requirements which Railtrack would need to be able to finance. This in turn can have an indirect effect on long term performance because of the disruption which may be caused by remedial action.

Figure 12.2: Input effects on network outputs



12.27 Given these different influences and the complex and diverse characteristics of Railtrack's network, the challenge is to develop a set of output measures which is both practical and meaningful. The Regulator proposes to develop the framework of measures to monitor Railtrack's performance in the following three areas which are discussed in more detail below:

- network performance and serviceability in its widest sense including for example minutes delay per train, track (and hence ride) quality and station services;
- network capability: journey time, line speed, capacity, axle load and gauge; and
- asset condition.

12.28 The Regulator intends that train performance should continue as a key output measure which is incentivised through the access agreements. This would also act as an indicator of possible areas of concern for asset condition and network stewardship. As indicated in the October periodic review document, however, performance measures are considered to be inadequate on their own since they do not fully reflect long-term network condition and serviceability and they may not give warning of deteriorating asset condition in sufficient time to plan effective remedial action.

12.29 Network capability has been used by the SSRA as a key definition of output in the IOS. It is also key to monitoring continued delivery of the sustained network in that this may define the level of service which operators can offer.

12.30 The Regulator also expects Railtrack to meet obligations in terms of station capability. Over the last few years Railtrack and the industry have been developing a range of station facility and condition measures. These measures, and standards which Railtrack and the industry expect to reach over the next few years, were established in the 1999 NMS. Chapter 11 describes the Regulator's proposals to improve incentives relating to stations.

12.31 Asset condition is a background measure which the Regulator believes is important in ensuring long-term network performance. Key to this is the definition of the existing state of the asset base. The April 1999 BAH report on Railtrack's performance in the current period made specific reference to the lack of progress made by Railtrack in developing its knowledge and understanding of its network assets. In November 1999 the Regulator said he intends to propose a licence modification requiring Railtrack to develop an asset register as part of its responsibilities to its customers.

12.32 The 1998 and 1999 NMSs (following a request from the then Regulator) began to reflect the increasing importance attached to particular measures of asset quality and condition, for example in terms of the quality of track geometry, station average condition and numbers of broken rails. These measures illustrate well the structure of measurement and monitoring which the Regulator is proposing for the next control period, but the concepts need to be extended and formalised.

12.33 Table 12.2 describes the framework of asset condition measurement which the Regulator is proposing. This highlights the principle that asset condition on the network cannot realistically be represented by a single measure or by the derivation of a single aggregated index. The Regulator is proposing a more practical approach to the measurement of asset condition which will rely on the combination of a number of measures to provide a representative view of the condition of the network. Measurement of asset condition is therefore proposed in a matrix form where, for each major asset group, there are two possible condition measures: availability/functionality and quality/condition.

Table 12.2: Measurement of Asset Condition

Asset group	Availability/functionality	Quality/condition
Track	Temporary speed restrictions (condition of track) Component failures (e.g. broken rails)	Ride quality (track geometry measurement and exceedances) Component condition (e.g. defective rails, ballast and sleeper condition)
Structures	Temporary speed restrictions (condition of structure) Route availability	Condition profile (inspection based scoring and quality banding)
Signalling and control systems	Failure rate and effects	Residual life (based on signalling infrastructure condition assessment reports)
Electrification and plant	Failure rate and effects	Wire alignment exceedances Component condition Residual life
Statios and depots	Facility scores	Condition scores

12.34 The Regulator also believes that other pieces of information are useful as indicators of asset condition, and will continue to use them to inform his understanding about problem areas in terms of asset condition. In particular, he will monitor:

- the impact of specific asset failures on train performance; and
- maintenance and renewal activity by asset type. This will be particularly relevant in interpreting the measures of asset condition (although the Regulator does not expect to regulate inputs).

12.35 The Regulator does not expect that asset condition measurement within this framework should cause any conceptual difficulties. Indeed, he considers that Railtrack will itself require such a mix of immediate and longer term measures - often in considerably greater detail and more disaggregated form - in order to manage its business.

12.36 The Regulator proposes that the availability/functionality and quality/ condition measures may be required elements of the asset register which he has recently announced Railtrack will be required to prepare.

12.37 Following the publication of his final conclusions in July 2000, the Regulator will expect Railtrack to revise its criteria for maintenance, renewal and enhancement of the network under Condition 7 of its network licence. The revised criteria should include Railtrack's decision rules and its approach to prioritisation of maintenance, renewal and enhancement activities over time and between routes.

Incentives and enforcement

12.38 The Regulator will monitor delivery of the baseline network commitments. Contractual and regulatory incentive regimes will play an important role in ensuring delivery, with enforcement as a back up. As indicated in the September 1999 periodic review document, the Regulator intends to set out in advance any implications of failure to meet monitoring or enforceable targets. His provisional conclusions on these matters will be set out in the Spring 2000 provisional conclusions on the incentives framework.

12.39 The Regulator is also considering how train operators could be given the ability to enforce, via their access agreements, the delivery of route specific outputs.

Moving forward

12.40 In moving away from complete reliance on the concept of renewal in modern equivalent form, these proposals represent a significant change of emphasis for the measurement of network output. In order to ensure that they can be developed in a meaningful way for the July 2000 periodic review conclusions and therefore for the next control period, several actions are required of Railtrack and the Regulator.

2000 NMS

12.41 The 2000 NMS should cover the period to March 2011. It must:

- define the work required to deliver baseline outputs including the incremental outputs specified in the SSRA's IOS;
- assess the cost of delivering the baseline outputs, distinguishing between maintenance, renewal and enhancement; and
- determine a proposed programme for completion of the incremental outputs.

12.42 Information on specific schemes may be grouped to route level in the 2000 NMS but the Regulator will require Railtrack to provide him with supporting information at the same time that the NMS is published. The information will generally be required at scheme level and must satisfy him that the expectations set out above have been met. It must also provide supporting detail about the rigour and appropriateness of the costing. In particular, the Regulator requires Railtrack to:

- determine whether the required outputs can be delivered as part of its planned maintenance and renewal programmes or whether specific enhancement will be required;

- take account of any economies of scope between maintenance and renewal of the sustained network and delivery of the incremental outputs and potential enhancements; and

- notify him if any IOS requirements overlap with any customer reasonable requirements already committed.

12.43 The SSRA will then need to confirm or modify its requirements for incremental outputs in the baseline network for the next control period. When this specification has been completed, it will enable full quantification of the baseline network as follows:

Baseline = sustained network outputs + specified incremental outputs

12.44 The 2000 NMS will also need to include information about the programme, outputs and costs of any other enhancements to the network of which Railtrack is aware as possibilities for the next control period. This may include enhancements which it has discussed with its customers under the CRR process but which are not included in the IOS.

Asset register

12.45 Not all asset condition measures have yet been fully developed. There is still a significant amount of work to be done to complete the satisfactory definition of such measures in certain asset categories. This is particularly true of measures of the condition of signalling and train control systems.

12.46 Once the means of measuring asset condition are fully defined, Railtrack will have a major task to collect actual asset condition information in order to implement the measurement framework. The collection of this information has two purposes:

- the condition of the network can be established at 1 April 2001. This must form the reference position against which performance through the control period will be compared; and

- targets and forecasts for the next control period can be established.

12.47 Railtrack has already made detailed submissions to the Regulator setting out its estimated funding requirements for sustaining the network beyond 2001.

Following the 2000 NMS process, the Regulator expects that Railtrack will also be able to define the outputs which its planned activities and expenditure will deliver in terms of the network's performance, capability and condition.

12.48 In order to achieve this, the Regulator expects Railtrack to take major steps to develop the asset register in the 2000 NMS as stated in his November 1999 response to the BAH report on Railtrack's stewardship of the network.

Spring provisional conclusions

12.49 The Spring 2000 provisional conclusions will cover all of the issues discussed in the October 1999 periodic review document on the incentives framework. Of particular relevance for the measurement of output is the Regulator's commitment to establish, in the Spring 2000 document, the implications of possible failure to meet monitoring or enforceable targets.

Conclusions and next steps

12.50 The Regulator invites comments on the proposed framework for measuring Railtrack's performance in the next control period. In particular, he invites comments on:

- **whether the focus on network performance, capability and quality/condition forms the right basis for measuring Railtrack's performance in the next control period;**
- **whether these proposals provide a sufficiently robust and detailed means of defining the network performance which is required of Railtrack;**
- **whether consideration should be given to any other aspects of measurement;**
- **whether these proposals are practicable and workable;**
- **whether, and to what extent, network-wide and aggregated measures and targets provide sufficient output measurement which will meet the requirements of individual Railtrack customers and funders; and**
- **how monitoring and measurement should be established for the next control period.**

13. Regulatory framework for enhancement expenditure

Introduction

13.1 The periodic review is concerned primarily with the cost of maintaining and renewing the baseline network. This is essentially about sustaining the current capability, performance and condition of this network (although renewal will also deliver some improvement and some incremental outputs will also be included in the baseline, as explained in Chapter 12).

13.2 However, given the growth in demand for rail services since privatisation and the Government's commitment to public transport, it is widely recognised that there is also a need for considerable investment to enhance the capability of the network. Delivery of this investment is critically dependent on an effective partnership between Railtrack, its investors and suppliers, train operators and funders. While the Regulator does not wish to impose his commercial judgement on contracting parties, he believes that a key part of his role is to facilitate these partnerships by providing a predictable and transparent framework for enhancements.

13.3 The previous Regulator's statements on the criteria for access charges in March 1996 and July 1997 dealt with the issue of network enhancements. The key elements of the criteria laid out in those documents are that:

- charges should be greater than or equal to a reasonable estimate of the avoidable costs likely to be incurred in enhancing the network and granting access to it (including the capital cost of the enhancement and an appropriate return on those capital costs);

- any share of net benefits included in the access charge should reflect the relative risk being borne by the facility owner and by other parties and the overall source of that benefit; and

- the treatment of access charges in respect of network enhancement at periodic reviews should generally take account of any agreement between the funding body or bodies and Railtrack on the future basis of charging whilst having regard to specific public interest concerns.

13.4 This chapter aims to provide further guidance on the Regulator's proposed treatment of enhancement expenditure. This should help to avoid unnecessary uncertainty, thereby reducing the overall cost of financing major enhancements. The first section of the chapter defines the boundary between renewal and enhancement. The second section discusses the alternative allocations of risk between Railtrack, operators and funders under different contractual models and the implications for the allowed rate of return. The Regulator's current thinking on a code of practice for enhancements and the processes for including enhancement expenditure in the RAB are then explained. The final section outlines the next steps.

13.5 Enhancements are discussed in the context of Railtrack and the train operator/funder having reached agreement on the matters in question. It should be borne in mind that the Regulator has powers to require Railtrack to carry out works and to enter into contracts which provide for enhancements. Legislation presently before Parliament would, if passed in its current form, add to those powers. Where appropriate, however, the Regulator would set out the ways in which he would expect to use those powers.

The boundary between renewals and enhancements

13.6 During the current control period the previous Regulators relied on the concept of timely renewal in modern equivalent form (MEF) to determine the boundary between enhancements and renewals. As discussed in the previous Chapter, this has had several weaknesses as a tool for assessing whether Railtrack has delivered what it should have done. In addition, its use to determine the boundary between enhancement and renewal has resulted in some uncertainty for both Railtrack and operators.

13.7 However the basic principles underlying the concept of MEF remain important. They are that Railtrack should:

- develop the network through replacement of assets according to best practice at the time, using up-to-date materials, components and designs; and

- exploit the opportunity which renewal provides to adapt, improve and rationalise the railway to meet the current reasonable requirements of operators and funders.

13.8 In addition, the Regulator considers that the difficulties in applying MEF in practice have stemmed partly from the relatively loose way in which this has been defined. In particular, there has been a tendency to argue that additional outputs should be delivered as part of the renewal process even if this results in significant additional costs for Railtrack. The Regulator therefore proposes to adopt a strict definition of Railtrack's renewal obligations in which operators would be required to pay for additional outputs unless:

- they are specifically identified as being part of the baseline (including the incremental outputs described in the preceding chapter); or

- Railtrack is able to deliver the additional outputs at minimal extra cost, whilst renewing the network.

13.9 Given this strict definition of the renewal obligation (which will be reflected in the access charges for the baseline network), the Regulator considers that Railtrack should adopt a proactive approach to the identification of additional outputs which can be delivered as part of the renewal process. In particular, it should:

- ensure that operators are aware of its renewal plans at an early stage and as they develop;

- seek to identify additional outputs which can be delivered at no additional cost as part of the renewal process; and

- identify further opportunities for cost effective enhancement which could be delivered efficiently in conjunction with the renewal process.

13.10 The Regulator has already required Railtrack to put in place arrangements for sharing information on renewal plans and for transparency of costs in his response to BAH's April 1999 report on Railtrack's stewardship of the network.

13.11 The incremental cost of improvements over and above the cost of renewal (referred to in the third point above) could be paid for by operators/funders. Alternatively Railtrack could decide to make the investment itself on the basis that, if it proves worthwhile, it would be included in the RAB (this issue is discussed further below).

13.12 If the Regulator considers that Railtrack has failed to meet these requirements, he would expect to reflect that when approving the charges for subsequent enhancements. If, for example, the cost of the enhancement is increased substantially because Railtrack failed unreasonably to allow appropriate flexibility when renewing the network, the charges for the enhancement should not include these additional costs.

13.13 A related issue concerns the treatment of maintenance and renewal expenditure which is brought forward as part of an enhancement or to exploit synergies with an enhancement. In these circumstances, the lifetime cost savings could be shared between Railtrack and the operators/funders. The operator might, however, be expected to pay Railtrack's financing costs (based on the regulated WACC) relating to the advancement of expenditure. Where Railtrack establishes to the satisfaction of the Regulator that the maintenance and renewals expenditure needs to be brought forward from a subsequent price control period as a result of the enhancement, it may be appropriate for him to include the advanced expenditure in Railtrack's revenue requirements for that subsequent period.

Risk allocation and contractual models

13.14 Work on railways, as on any piece of infrastructure, always involves some risk – construction, completion, financing etc. What is crucial for successful and efficient enhancement is the allocation and management of that risk. The majority of these risks arise in the course of Railtrack's normal business and are taken into consideration at the periodic review. The need for a clear framework for enhancement expenditure arises from the contractual involvement of operators or funders and from the potential for Railtrack to carry demand risks.

13.15 The Regulator considers that the allocation of these risks is primarily a matter for commercial negotiation (subject to regulatory protection in cases of unreasonable demands or refusals to contract on the part of Railtrack). However, the way in which these risks are allocated between Railtrack, operators and funders has important implications for the way in which enhancement expenditure is treated in the new or revised access agreements (which are subject to approval by the Regulator) and at subsequent periodic reviews.

13.16 The role of the Regulator is therefore to:

- ensure that the negotiated allocation of risks is clearly understood by all parties and that this is reflected accurately and consistently in his calculation of the RAB and his assessment of the cost of capital. This should help to provide sufficient transparency and predictability to give investors the confidence to continue to provide finance for new infrastructure projects at an appropriate cost. It should also help ensure that Railtrack has sufficient incentive to provide worthwhile network enhancements;

- reduce transaction costs associated with the negotiation of enhancements (in many cases involving four or more parties: Railtrack, the operator(s), the funder, and the Regulator), by defining the contractual options and the negotiation process;

- ensure that negotiated contracts do not have any adverse effects on other operators; and

- protect operators and funders against abuse of Railtrack's monopoly position. In terms of the allocation of risks, it is therefore important to ensure that operators and funders are given the *option* of choosing a contractual model which reflects the default allocation of risk. In principle, this would enable operators and funders to compare the cost of alternative and more innovative options with the cost of the default option.

13.17 For the reasons explained below, the Regulator considers that the default option should be that Railtrack bears the construction risk and delivery risk while the operators/funders bear the demand risk. This default option has been referred to as the *contractor model* since the enhancement is defined in terms of output and cost with the agreement of the operator/funder. Under this model, the costs would be covered through either:

- a long term track access agreement with provision for appropriate charges for the enhancement covering the whole of the life of the asset; or

- an increased track access charge for the remaining duration of the operator's agreement or until the next periodic review at which point the enhancement would be reflected in the RAB. Since increases in the RAB have long term implications for the funder, it would need to provide some form of approval of these enhancements (either in general terms or on a project specific basis).

13.18 The alternative is referred to as the *equity-partner model* where Railtrack shares the demand risk whether in the short or long term. Under this option Railtrack does not therefore have a fixed price contract. In practice, however, there is a range of options in between the pure contractor model and the equity-partner model.

13.19 A third option, currently less well developed but considered particularly important in relation to the Regulator's duties to protect against abuses of monopoly power, would be for a third party contractor to be employed directly by the operator/funder instead of Railtrack. However, it should be noted that existing legislation does not give third parties rights to enter Railtrack's land and carry out work on its network without the agreement of the company. There are also significant practical difficulties, particularly with regard to safety, to be overcome in defining this model. These difficulties do not remove the basic principle that some of Railtrack's activities may be contestable and that where they are Railtrack should be subject to competitive pressure. The Regulator expects to return to the issue of the third party contractor model in his provisional conclusions on the incentive framework in Spring 2000.

13.20 The remainder of this section deals explicitly with the allocation of construction and delivery risks and demand risks in more detail.

Construction and delivery risk

13.21 Railtrack will generally be better placed than the operators/funders to manage the construction cost risk associated with enhancement projects. In most cases, it is therefore likely to be in the mutual interests of the contracting parties for Railtrack to commit to a predetermined estimate of construction costs which would be reflected in a firm contract price. This implies that it might be appropriate to include a predetermined residual value in the RAB at subsequent periodic reviews (rather than using the actual cost), if this is the chosen cost recovery option.

13.22 Railtrack, rather than the operator/funder, is also likely to be in the best position to manage the timely delivery of the project. In most cases, it may therefore be appropriate for payment to be made conditional upon delivery of the agreed outputs. Similarly, the parties might wish to establish that the enhancement expenditure should only be included in the RAB at subsequent reviews (again where this is the chosen cost recovery option) to the extent that the committed outputs have been delivered.

13.23 Where the risks associated with an enhancement project are not comparable with those involved in Railtrack's core activities taken as a whole, it has previously been recognised that Railtrack may require some form of risk premium for bearing these risks. One option would be to reflect any additional asymmetric risks in the expected construction costs (i.e. in a form of contingency margin) rather than in the rate of return. In these cases, the agreed construction cost would include an element representing the quantification of these risks. Subject to the allocation of demand risk and any risks relating to the security of payment from the operator, this implies that the rate of return on all enhancement projects would be the same as for the base network.

13.24 However, Railtrack argues that it should receive a risk premium of between 1.0% and 1.5% on the regulated cost of capital for different classes of enhancement project delivered under the contractor model. Railtrack's justification for this level of premium is based on the size of the project and the construction and other risks associated with enhancements. It therefore proposes that enhancement expenditure should be remunerated based on three levels of risk and return:

- Level 1 risks: no additional risk to Railtrack over those associated with its normal business and hence the regulated cost of capital;

- Level 2 risks: some additional risk and therefore a premium of 1% over the regulated cost of capital; and

- Level 3 risks: considerable extra risk and therefore a premium of 1.5% over the regulated cost of capital.

13.25 It should be noted that a premium of 1% to 1.5% would be equivalent to an increase in Railtrack's asset beta of between 0.28 and 0.43 (assuming the mid-point of 3.5% for the equity premium assumed in Chapter 4). The Regulator would therefore need to consider whether this premium is justified in the light of the additional risks involved. He also recognises the potential benefits in terms of transaction costs in adopting a simple and transparent approach.

However, there may also be scope for further definition of risks in some cases and it is important that the implications of the financial structure of projects are taken into account.

13.26 In addition to these possible risk premia, it has been suggested that Railtrack should be allowed a premium over its cost of capital for entering into specific enhancement agreements. Such a premium would provide a direct incentive to encourage Railtrack to negotiate enhancements and might be justified, for example, in terms of the opportunity cost of such major projects. Provided that the payment is linked to delivery of the outputs, it would also provide a stronger incentive for delivery. However, care would need to be taken to ensure that this did not provide an opportunity for overcharging by what is at present a monopoly provider – to the extent that competitive provision becomes possible these risks would be reduced and the 1998 Competition Act will provide further protection against monopoly abuse.

13.27 As noted above, the default allocation of construction risk provides a strong financial incentive for Railtrack to deliver enhancement projects in an efficient and timely manner. In some cases, however, the degree of uncertainty and the scale of the project may be large. Funders may therefore prefer to share some of these risks rather than pay a large risk premium to Railtrack. The Regulator would then need to ensure that the rules in relation to the RAB and the implications for the risk premia are clearly understood in advance.

Demand risk: short term (within access agreement)

13.28 Short-term (i.e. within the duration of a single access agreement) demand risk can be defined in terms of the level of utilisation of the enhanced network during the initial agreement with the operator. There are two main reasons why it may be attractive for operators to share these risks with Railtrack:

- first, it may result in more predictable net cash-flows (since Railtrack would be sharing some of the volatility) and less front end loading of costs (since risk sharing would tend to result in lower access charges in the early years after a major enhancement); and

- second, it could provide an incentive for Railtrack to deliver the required enhancement in a timely and efficient manner and to continue to provide a good service.

This type of risk sharing is therefore related to the volume incentive which was discussed in the October 1999 periodic review document.

13.29 Sharing short-term demand risk in this way would however increase the level of non-diversifiable risk faced by Railtrack (i.e. risks which cannot be eliminated by investing in a portfolio of uncorrelated assets or projects), and hence its cost of capital. This would therefore need to be reflected in the allowed rate of return. Operators and funders would need to weigh the increase in expected charges against the potential benefits referred to above.

13.30 Issues relating to negotiated revenue sharing arrangements have been discussed in the previous charging criteria referred to above. In considering whether to approve this type of arrangement, the Regulator would need to be satisfied that Railtrack is not abusing its monopoly position. He would also need to consider whether individually negotiated sharing arrangements are likely to create a significant risk that Railtrack would discriminate unduly between different operators. This may cause particular difficulties between operators on the same route, but the difficulties could be more widespread if Railtrack were to be selecting between maintenance/renewal expenditure on different routes. The Regulator intends to consider these issues further in the light of comments on the general volume incentive in response to the October 1999 periodic review document and to revisit them in his provisional conclusions on the incentive framework to be published in Spring 2000.

Demand risk: long term (post-agreement) under the contractor model

13.31 Long-term (post-agreement) demand risk can be defined in terms of the extent to which the enhanced network is utilised after the end of the new or revised access agreement. If the expected life of the asset is longer than the term of the agreement, the basic principle of the contractor model is that the funder bears any long-term demand risk. This model removes the risk for Railtrack that its investments might become stranded at the end of the agreement since the residual value would be included in the RAB and the costs would be recovered through franchised passenger access charges as a whole. Given this, long-term debt finance is likely to be relatively attractive and Railtrack's cost of capital should be relatively low.

13.32 The involvement of the funder implies that the outputs and charges associated with contractor model enhancement projects would need to be agreed by all parties at the outset (i.e. Railtrack, the operator, the funder and approved by the Regulator).

13.33 At the end of the agreement the enhancement would be included in the RAB on the basis of the residual asset value. The basis for determining the residual asset value would depend on the appropriate allocation of construction risk between the contracting parties, as discussed above.

Demand risk: long-term (post-agreement) under the equity partner model

13.34 The basic principle underlying the equity partner model is that by taking long term demand risk, Railtrack faces the prospect that the investment may become stranded at the end of the access agreement. In the extreme case, Railtrack might undertake an investment entirely at its own risk without the security of a pre-agreed access contract.

13.35 One possible version of the equity partner model would allow Railtrack to charge an unregulated market price for capacity which it has invested in at its own risk outside the scope of the single till. This may be relevant, for example, where Railtrack makes a commercial investment as a property developer rather than a network owner since operators/funders would not expect to bear the risks associated with this type of investment. In general, however, given Railtrack's monopoly position, the Regulator does not consider that it would be appropriate for it to be allowed to set unregulated charges in this way.

13.36 It is therefore desirable for the Regulator to introduce an alternative mechanism for rewarding worthwhile investment made at Railtrack's own risk. This would involve a basis for determining the rate of return and the amount to be included in the RAB. Since the long-term demand risk is unlikely to be fully diversifiable, the required rate of return may be higher than that associated with Railtrack's core business. With regard to the RAB, the previous Regulator proposed a *used and useful* test which could be used to determine the amount to be included in the RAB.

13.37 The used and useful test was proposed in an appendix to the then Regulator's December 1998 periodic review document. The principle of the approach is that Railtrack should only be remunerated (via an increase in the value of the RAB) for that proportion of an investment which is used and useful. The 1998 document suggested that the basic approach would be to compare actual and expected usage of the enhancement. The identified options for this comparison were:

- passenger numbers or freight volumes carried as a result of the enhancement;

- passenger or freight revenue generated by the enhancement; and

- number of trains using the enhancement (though this was deemed less appropriate given that it might not reflect usefulness particularly in the context of a subsidised railway).

13.38 There are a number of circumstances in which this model may be useful:

- where the transaction costs mean that it is difficult to justify revisions to the access agreements but where there is strong evidence that the enhancement would be worthwhile. These will generally be relatively small schemes or schemes where the benefits accrue to several operators;

- where Railtrack is renewing part of the network and there is a clear case for incorporating a significant enhancement in advance of need in order to minimise lifetime costs;

- where Railtrack makes significant investment either to reduce future costs or to improve performance and the pay-back period is too long to justify the investment within a single price control period; and

- where Railtrack is more optimistic than the funder about the prospects for demand growth and the associated value of particular enhancements (and it is willing to back its own projections). These schemes could be much larger but, in practice, they are most likely to arise where Railtrack has a contract for at least the front end.

13.39 However there are difficulties in applying the test, especially in cases of small scale enhancements such as station improvements. It would therefore be important to ensure that the test is workable in practice before committing to a premium rate of return.

13.40 The Regulator is considering an approach which would require Railtrack to set out the link between the enhancement and increased use. The Regulator would review Railtrack's justification. If the Regulator remained unconvinced by the linkages explained by Railtrack, he would propose alternatives. Thereafter Railtrack could review its expenditure plans and resubmit its justifications to the Regulator. The onus would be on Railtrack to explain and justify the linkages between expenditure and increased use.

13.41 A variation on the used and useful test has been approved in the case of West Coast Main Line and Thameslink 2000 enhancements in that a portion of the operator's revenue is shared with Railtrack for the duration of the access agreement. In this case, therefore, the operator and Railtrack share the risk of demand (Railtrack refers to this as the deemed revenue approach). The applicability of this approach may be more problematic for smaller schemes (unless an overall volume incentive were introduced).

13.42 An alternative approach has been proposed for stations. This involves Railtrack being required to provide its dependent customers with a tariff for specific enhancements. This would define the increase in charges and where appropriate the increase in the RAB.

13.43 The Regulator considers that these issues should be considered further in light of responses to his consultations and will return to it in his provisional conclusions on the incentive framework in Spring 2000.

Criteria for including enhancements in the RAB

13.44 Given the complexity of the principles discussed in the preceding section, the Regulator regards it as important to establish a code of practice for enhancements which will deal with the practical implications. The code will provide guidance for Railtrack and operators/funders in order to reduce the transaction costs and uncertainty of enhancement projects going forward.

13.45 The code of practice could be implemented through a new condition in Railtrack's network and station licences and/or a separate policy statement by the Regulator. For small schemes, and for enhancements within the baseline, the code would incorporate a general consent approach to inclusion of appropriate enhancement expenditure in the RAB (either on completion or following the end of an access agreement). For larger schemes, the code would provide a framework for establishing the key commercial and regulatory terms. The remainder of this chapter deals with these issues in more detail.

General consent for inclusion of enhancement expenditure in the RAB

13.46 Given that the SSRA will have already endorsed the enhancements which are included in the baseline outputs referred to in Chapter 12 (and the Regulator will have reviewed the cost), the Regulator would expect to include them in the RAB. The amount to be included would equal the expected cost of these enhancements to the extent that the incremental outputs have been delivered and provided that the planned and actual expenditure and outputs have been logged up in accordance with the Regulator's requirements. The Regulator does not presently envisage that these expected costs should be adjusted if actual costs are substantially higher or lower than expected. However, this issue is subject to further consideration and will be revisited in the provisional conclusions on the incentive framework in Spring 2000.

13.47 In the light of the contractual models discussed in the preceding section, the Regulator also anticipates that funders will want to give some form of general consent to the inclusion of the appropriate cost of certain enhancements in the RAB. The Regulator hopes that it will be possible to devise a system for automatic approval. For example, the residual value of appropriately defined single schemes which satisfy all of the following criteria might be automatically included in the RAB:

- the scheme cost is lower than a threshold value to be determined by the Regulator and funders; and

- the train operator bears an appropriate proportion of the costs – in particular, it accepts the capital costs and the residual value at the end of the current access agreement is no more than the established capital cost multiplied by the ratio of the number of years to the end of the agreement to the expected life of the asset (or the funder has agreed to waive this requirement); and

- the project has been delivered in accordance with the agreed specifications; and

- the planned and actual expenditure and outputs have been logged up in accordance with the requirements set out by the Regulator.

In this case the residual value of the accepted capital cost would be included in the RAB. The allowed cost of capital for these schemes would be equal to the base cost of capital assumed for Railtrack PLC's core business.

13.48 Further enhancement expenditure might be included in the RAB even if this does not relate to a specific requirement from an operator or funder. This might include small scale expenditure where Railtrack has enhanced the network on its own initiative (although in this case, the Regulator would need to be satisfied that the costs were efficiently incurred and that the enhancement was worthwhile). It might also include enhancements arising from a change in law or other statutory requirement (provided that the expenditure has been efficiently incurred). The criteria by which these enhancements would be included in the RAB will be developed as part of the code of practice.

The code of practice for larger enhancements schemes

13.49 Larger enhancement schemes will not be given automatic approval for inclusion in the RAB. In this case, the Regulator and the funder will want to define the approach to estimating residual values. They will, therefore, be subject to specific approval from the funder, as well as the Regulator, particularly in relation to the residual RAB. The Regulator will ensure that the established principles are understood to minimise the scope for dispute at subsequent periodic reviews. Specific models of procurement are proposed as set out above.

Contents of the code

13.50 The code would include provisions covering at least the following issues:

- statement of regulatory principles and status of the code;
- the boundary between renewal and enhancement;
- circumstances in which Railtrack would be required to enhance the network (if necessary having resort to the Regulator's jurisdiction in this respect);
- the role of operators and funders in situations where multiple users benefit from a proposed enhancement;

- the general consent procedure;
- circumstances where other investment would be included in the RAB;
- approved contractor model schemes;
- approved equity partner model schemes;
- commercial property development outside the single till;
- appropriate costs including the treatment of development costs;
- cost transparency requirements;
- output measures and linking payment to delivery;
- logging up requirements;
- treatment of risk assessment processes/levels of confidence;
- appropriate levels of risk and reward/incentive for Railtrack;
- procedures for amending track access agreements and elements to be included in revised charges; and
- acceptable timescales.

13.51 The code is closely related to the proposed code of practice concerning Railtrack's dealings with its dependent customers which was announced by the Regulator in response to BAH's report on Railtrack's stewardship of the network.

13.52 The Regulator also intends to begin consulting the industry on the establishment of model clauses for track access contracts shortly. The objective will be to simplify the contracts and improve the clarity of the rights and obligations of each party, streamline and accelerate the negotiation process and so reduce transaction costs, and enhance accountability, predictability and so stability and fairness of the relationship. Depending in part on the nature and quality of the responses to that consultation, model clauses could provide a sound framework for the negotiation of increased access charges for enhancements.

Logging up

13.53 One element of the code will concern the arrangements which Railtrack would be required to put in place to log up enhancement expenditure. The Regulator envisages that Railtrack will need to provide some information before embarking on schemes and then further information once the project has been completed. This information could be provided on a periodic basis. The information would be provided in order to allow the Regulator to establish whether a particular enhancement should be included in the RAB. For this to be the case, the contractual models described above and requirements of the code of practice would have to have been followed.

13.54 In relation to all enhancements, the Regulator will require from Railtrack at the outset:

- a brief description of the project and the outputs;
- an indication of which category the enhancement falls into (i.e. whether it is included in baseline, covered by the general consent, undertaken under a contractor model or short term equity partner model or at Railtrack's own risk);
- a summary of the relevant contractual provisions and any comfort received from funders in accordance with the code;
- details of the expected expenditure;
- details of the planned delivery dates (including interim milestones where appropriate);
- information on the customer demand which it is planned to meet, where relevant, and what it had done to satisfy itself that there is likely to be a continued demand in the medium term, again where relevant;
- alternative options which it had considered for improved performance (e.g. through renewal or retimetabling), where relevant;

- evidence that the most efficient option has been adopted, where relevant;

- information on capital grants or other capital contributions from funders, operators or third parties; and

- details of other proposed franchise support/payment.

13.55 The Regulator will also require an annual submission from Railtrack on:

- the actual expenditure (where relevant);

- details of the actual delivery dates;

- details of the utilisation of the enhancement (where relevant); and

- depreciation recovered under the new or revised access agreements and residual values (at each relevant periodic review).

13.56 Where the outputs have been delivered on time, the Regulator would generally expect to include a residual value based on expected expenditure in the RAB. In cases where planned and actual delivery dates differed, the difference between actual and expected delivery dates would generally be taken into account.

13.57 More generally, the Regulator would not expect to include enhancement expenditures in the RAB at periodic review which had not resulted in some output improvement. In some cases, however, it may be appropriate to include some investment in the RAB at intermediate milestones

Conclusions and next steps

13.58 It is particularly important that the code of practice for enhancements is developed quickly in order to allow the required investment in the network to take place. Railtrack has already provided the Regulator with some provisional views on the code of practice, which, together with this chapter, will form the basis for the discussions which will be required between Railtrack, operators, the SSRA and the Regulator over the next few months. It is expected that the details of the code of practice will be announced around the time of the Spring 2000 provisional conclusions on the incentive framework.

13.59 This chapter has set out the Regulator's provisional views on the boundary between renewals and enhancements. It has focussed on his proposals for treatment of enhancement expenditure under different contractual models and in particular his approach to inclusion of expenditures in the RAB.

13.60 The Regulator invites comments on the appropriate framework for enhancement expenditure, including:

- **the proposed definition of the boundary between renewal and enhancement expenditure;**
- **the various contractual options, risk allocations and the cost of capital under each option;**
- **the appropriateness of an additional premium specifically to encourage Railtrack to enter into enhancement agreements;**
- **the issues which should be covered in a code of practice for enhancements; and**
- **the proposed approach to logging up of enhancement expenditures for inclusion in the RAB.**

Appendix A: Periodic review documents and consultant reports

Date	Periodic review document
December 1997	The periodic review of Railtrack's access charges: A proposed framework and key issues: A consultation document
July 1998	The periodic review of Railtrack's access charges: The framework and timetable and further consultation on financial issues: Second consultation document
December 1998	The periodic review of Railtrack's access charges: The Regulator's conclusions on the financial framework: Third paper
August 1999	The periodic review of Railtrack's access charges: Timetable process and issues
September 1999	The periodic review of Railtrack's access charges: Electricity for traction: A technical consultation
October 1999	The periodic review of Railtrack's access charges: The incentive framework: A consultation document
November 1999	The periodic review of Railtrack's access charges: Usage charges: A technical consultation
December 1999	The periodic review of Railtrack's access charges: Provisional conclusions on Railtrack's revenue requirements
	Other relevant consultation paper
November 1999	Railtrack's Stewardship of the network

Date	**Consultant**	**Report title**
March 1999	Booz-Allen & Hamilton	Railtrack's Performance in the control period 1995-2001
April 1999	Lambert Smith Hampton	Station Charge Abatement
June 1999	DTZ Pieda	Property allowance scheme and associated regulatory framework
November 1999	Booz-Allen & Hamilton	Railway infrastructure cost causation
December 1999	Booz-Allen & Hamilton	Railtrack's expenditure needs 2001-06
December 1999	Europe Economics	Review of Railtrack's efficiency
December 1999	DTZ Pieda	Railtrack's property income 2001-06

Appendix B: Consultation questions

Chapter 1: Introduction

1. As well as the specific issues identified in this document, consultees are invited to comment on other aspects of the periodic review.

Part I: Provisional conclusions on revenue requirements

Chapter 2: Methodology for resetting Railtrack's price controls

2. Consultees are invited to comment on the Regulator's proposed application of the standard utility model, including the use of the single till, the treatment of past efficiency gains and whether it remains appropriate to treat renewals expenditure on a pay-as-you-go basis. Consultees are also invited to comment on the appropriate methodology at the next review and whether it would be appropriate for the Regulator to signal his proposed approach in conjunction with his final conclusions.

Chapter 3: Efficiency and expenditure

3. Consultees are invited to comment on the range of expenditure projections identified by the Regulator. The Regulator would particularly welcome comments on the assumed rate of efficiency improvement (equivalent to 3-5% per annum from 1998/99 to 2005/06) and on the appropriate profile for these assumed savings. He would also welcome comments on whether there is a need to increase the level of activity to maintain and renew the network (apart from any enhancements which might be considered appropriate).

Chapter 4: Cost of capital and financial indicators

4. Consultees are invited to comment on the Regulator's provisional conclusion that the appropriate range for the assumed real pre-tax cost of capital is 7.0-7.5%. Consultees are also invited to comment on the relevance of other financial indicators as well as their proposed values and the appropriate credit ratios. Finally, consultees are invited to comment on the appropriate financial ring-fencing arrangements for Railtrack PLC.

Chapter 5: The initial RAB

5. Consultees are invited to comment on the Regulator's provisional conclusion that the initial RAB should include an uplift equal to 10% of the first day's closing value of equity.

Chapter 6: Rolling forward the RAB

6. Comments are invited on the Regulator's provisional conclusions about the way in which he intends to assess enhancement expenditure during the current period, the proposed inclusion of an element of Railtrack's additional renewals expenditure and the proposed adjustment for under-delivery during the current period.

Chapter 7: Other single till income

7. Consultees are invited to comment on the assumed level of income from other single till items and the way in which these should be taken into account in setting Railtrack's access charges for franchised passenger services.

Chapter 8: Assessment of Railtrack's revenue requirements

8. Consultees are invited to comment on the way in which the baseline revenues should be profiled over the next price control period, taking account of the likely profile of costs and the interaction with further enhancement expenditure. Consultees are also invited to comment on the implications of the proposed approach for Railtrack's ability to finance its relevant functions.

Part II: The incentive framework

Chapter 9: Progress on work to date

9. The Regulator invites consultees to comment on the implementation of possible changes to the charging structure, including the possibility of phasing introduction of changes or an interim review restricted to particular proposals.

Chapter 10: The property allowance scheme

10. Consultees are invited to comment on the Regulator's provisional conclusion that the structure of the property allowance scheme (PAS) should remain

broadly unchanged. His present view is that the baseline should be towards the upper end of the range proposed by DTZ Pieda and that out-performance of the baseline should continue to be shared 75:25 between Railtrack and operators.

Chapter 11: Stations

11. The current station access regime includes fixed charges defined by the access agreements and access conditions which determine the incentives for efficient operation of the stations. The Regulator seeks views on his proposals for:

- reducing the differences in charges for similar stations;
- requiring Railtrack to develop a tariff schedule for different types of enhancements;
- improving the performance incentives for stations; and
- allocating responsibility for maintenance and renewal.

Chapter 12: Baseline outputs: sustained network and incremental outputs

12. The Regulator invites comments on the proposed framework for measuring Railtrack's performance in the next control period. In particular, he invites comments on:

- whether the focus on network performance, capability and quality/condition form the right basis for measuring Railtrack's performance in the next control period;
- whether these proposals provide a sufficiently robust and detailed means of defining the network performance which is required of Railtrack;
- whether consideration should be given to any other aspects of measurement;
- whether these proposals are practicable and workable;
- whether, and to what extent, network-wide and aggregated measures and targets provide sufficient output measurement which will meet the requirements of individual Railtrack customers and funders; and

- how monitoring and measurement should be established for the next control period.

Chapter 13: Regulatory framework for enhancement expenditure

13. The Regulator invites comments on the appropriate framework for enhancement expenditure, including:

    - the proposed definition of the boundary between renewal and enhancement expenditure;
    - the various contractual options, risk allocations and the cost of capital under each option;
    - the appropriateness of an additional premium specifically to encourage Railtrack to enter into enhancement agreements;
    - the issues which should be covered in a code of practice for enhancements; and
    - the proposed approach to logging up of enhancement expenditures for inclusion in the RAB.

Appendix C: Revenue requirements

Table C.1: The Revenue Calculation. Base Scenario: no enhancements									Total control period 2	Average control period 2
(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006		
Opex, maintenance and renewals expenditure	2321	2218	2120	2027	1939	1855	1776	1700	9298	1860
RAB	4073	4073	4073	4073	4073	4073	4073	4073	20366	4073
Return on Capital	285	285	285	285	285	285	285	285	1426	285
Gross Revenue Requirement	2606	2503	2405	2313	2224	2141	2061	1985	10724	2145
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Revenue	2202	2127	2049	1900	1806	1723	1643	1562	8634	1727
NPV of revenue requirement				7372						
Electricity for Traction revenue	92	99	92	113	113	113	113	113	565	113
Other Passenger Franchise Access Revenue	2077	2037	1993	1625	1625	1625	1625	1625	8125	1625
Total Passenger Franchise Access Revenue	2169	2136	2085	1738	1738	1738	1738	1738	8690	1738
NPV of passenger franchise access revenue				7372						
Po cut and X	-2.0%	-2.0%	-2.0%	-16.6%	0.0%	0.0%	0.0%	0.0%		
Return	252	294	321	124	217	301	380	461	1482	296
Return on RAB	6.2%	7.2%	7.9%	3.0%	5.3%	7.4%	9.3%	11.3%		7.3%

Base Scenario: with enhancements									Total control period 2	Average control period 2
(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006		
Opex, maintenance and renewals expenditure	2321	2218	2120	2027	1939	1855	1776	1700	9298	1860
RAB	4073	4410	4786	6171	7750	9250	10268	11303	44741	8948
Return on Capital	285	309	335	432	542	648	719	791	3132	626
Gross Revenue Requirement	2606	2527	2455	2459	2482	2503	2495	2491	12430	2486
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Revenue	2202	2151	2099	2046	2064	2085	2077	2068	10340	2068
NPV of revenue requirement				8768						
Electricity for Traction revenue	92	99	92	113	113	113	113	113	565	113
Other Passenger Franchise Access Revenue	2077	2037	1993	1954	1954	1954	1954	1954	9771	1954
Total Passenger Franchise Access Revenue	2169	2136	2085	2067	2067	2067	2067	2067	10336	2067
NPV of passenger franchise access revenue				8768						
Po cut and X	-2.0%	-2.0%	-2.0%	-0.9%	0.0%	0.0%	0.0%	0.0%		
Return	252	294	321	453	546	630	709	790	3128	626
Return on RAB	6.2%	6.7%	6.7%	7.3%	7.0%	6.8%	6.9%	7.0%		7.0%

Table C.2: Revenue Calculation. Increased Renewals Scenario: no enhancements

(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006	Total control period 2	Average period 2
Opex, maintenance and renewals expenditure	2546	2432	2323	2220	2123	2030	1941	1857	10171	2034
RAB	4073	4073	4073	4073	4073	4073	4073	4073	20366	4073
Return on Capital	285	285	285	285	285	285	285	285	1426	285
Gross Revenue Requirement	2831	2717	2609	2506	2408	2315	2226	2142	11597	2319
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Rev	2427	2341	2252	2093	1990	1897	1808	1719	9507	1901
NPV of revenue requirement				8117						
Electricity for Traction revenue	92	99	92	113	113	113	113	113	565	113
Other Passenger Franchise Access Revenue	2,077	2,037	1,993	1,801	1,801	1,801	1,801	1,801	9004	1801
Total Passenger Franchise Access Revenue	2169	2136	2085	1914	1914	1914	1914	1914	9569	1914
NPV of passenger franchise access revenue				8117						
Po cut and X	-2.0%	-2.0%	-2.0%	-8.2%	0.0%	0.0%	0.0%	0.0%		
Return	27	80	118	106	209	302	391	480	1488	298
Return on RAB	0.7%	2.0%	2.9%	2.6%	5.1%	7.4%	9.6%	11.8%		7.3%

Increased Renewals Scenario: with enhancements

(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006	Total control period 2	Average control period 2
Opex, maintenance and renewals expenditure	2546	2432	2323	2220	2123	2030	1941	1857	10171	2034
RAB	4073	4410	4786	6171	7750	9250	10268	11303	44741	8948
Return on Capital	285	309	335	432	542	648	719	791	3132	626
Gross Revenue Requirement	2831	2741	2658	2652	2665	2677	2660	2648	13303	2661
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Rev	2427	2364	2302	2239	2247	2259	2242	2225	11213	2243
NPV of revenue requirement				9513						
Electricity for Traction revenue	92	99	92	113	113	113	113	113	565	113
Other Passenger Franchise Access Revenue	2,077	2,037	1,993	2,130	2,130	2,130	2,130	2,130	10650	2130
Total Passenger Franchise Access Revenue	2169	2136	2085	2243	2243	2243	2243	2243	11215	2243
NPV of passenger franchise access revenue				9513						
Po cut and X	-2.0%	-2.0%	-2.0%	7.6%	0.0%	0.0%	0.0%	0.0%		
Return	27	80	118	436	538	631	720	809	3134	627
Return on RAB	0.7%	1.8%	2.5%	7.1%	6.9%	6.8%	7.0%	7.2%		7.0%

Table C.3: The Revenue Calculation. Additional WCRM Scenario: no enhancements

(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006	Total Control period 2	Average control period 2
Opex, maintenance and renewals expenditure	2824	2696	2574	2459	2349	2245	2146	2051	11249	2250
RAB	4073	4073	4073	4073	4073	4073	4073	4073	20366	4073
Return on Capital	285	285	285	285	285	285	285	285	1426	285
Gross Revenue Requirement	3109	2981	2859	2744	2634	2530	2431	2337	12675	2535
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Revenue	2705	2605	2503	2331	2216	2112	2013	1914	10585	2117
NPV of revenue requirement				9038						
Electricity for Traction revenue	92	99	92	113	113	113	113	113	565	113
Other Passenger Franchise Access Revenue	2077	2037	1993	2018	2018	2018	2018	2018	10090	2018
Total Passenger Franchise Access Revenue	2169	2136	2085	2131	2131	2131	2131	2131	10655	2131
NPV of passenger franchise access revenue				9038						
Po cut and X	-2.0%	-2.0%	-2.0%	2.2%	0.0%	0.0%	0.0%	0.0%		
Return	-251	-184	-133	85	200	304	403	503	1496	299
Return on RAB	-6.2%	-4.5%	-3.3%	2.1%	4.9%	7.5%	9.9%	12.3%		7.3%

Additional WCRM Scenario: with enhancements

(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006	Total control period 2	Average control period 2
Opex, maintenance and renewals expenditure	2824	2696	2574	2459	2349	2245	2146	2051	11249	2250
RAB	4073	4410	4786	6171	7750	9250	10268	11303	44741	8948
Return on Capital	285	309	335	432	542	648	719	791	3132	626
Gross Revenue Requirement	3109	3005	2909	2891	2891	2892	2864	2843	14381	2876
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Revenue	2705	2628	2553	2478	2473	2474	2446	2420	12291	2458
NPV of revenue requirement				10434						
Electricity for Traction revenue	92	99	92	113	113	113	113	113	565	113
Other Passenger Franchise Access Revenue	2077	2037	1993	2347	2347	2347	2347	2347	11736	2347
Total Passenger Franchise Access Revenue	2169	2136	2085	2460	2460	2460	2460	2460	12301	2460
NPV of passenger franchise access revenue				10434						
Po cut and X	-2.0%	-2.0%	-2.0%	18.0%	0.0%	0.0%	0.0%	0.0%		
Return	-251	-184	-133	414	529	633	733	832	3141	628
Return on RAB	-6.2%	-4.2%	-2.8%	6.7%	6.8%	6.8%	7.1%	7.4%		7.0%

Table C.4: The Revenue Calculation. Railtrack Spend Scenario: no enhancements

(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006	Total control period 2	Average control period 2
Opex, maintenance and renewals expenditure	2730	2745	2712	3011	3032	2910	2768	2556	14277	2855
RAB	4073	4073	4073	4073	4073	4073	4073	4073	20366	4073
Return on Capital	285	285	285	285	285	285	285	285	1426	285
Gross Revenue Requirement	3015	3030	2997	3296	3317	3195	3053	2841	15703	3141
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Revenue	2611	2654	2641	2883	2899	2777	2635	2418	13613	2723
NPV of revenue requirement				11614						
Electricity for Traction revenue	92	99	92	110	110	110	110	110	548	110
Other Passenger Franchise Access Revenue	2077	2037	1993	2629	2629	2629	2629	2629	13144	2629
Total Passenger Franchise Access Revenue	2169	2136	2085	2738	2738	2738	2738	2738	13692	2738
NPV of passenger franchise access revenue				11614						
Po cut and X	-2.0%	-2.0%	-2.0%	31.3%	0.0%	0.0%	0.0%	0.0%		
Return	-157	-233	-270	141	124	246	388	605	1505	301
Return on RAB	-3.9%	-5.7%	-6.6%	3.5%	3.1%	6.0%	9.5%	14.9%		7.4%

Railtrack Spend Scenario: with enhancements

(all figures £m 1998/99) Year end 31 March	1999	2000	2001	2002	2003	2004	2005	2006	Total control period 2	Average control period 2
Opex, maintenance and renewals expenditure	2730	2745	2712	3011	3032	2910	2768	2556	14277	2855
RAB	4073	4410	4786	6171	7750	9250	10268	11303	44741	8948
Return on Capital	285	309	335	432	542	648	719	791	3132	626
Gross Revenue Requirement	3015	3054	3047	3443	3574	3558	3487	3347	17409	3482
"Single till" revenue deduction	-404	-376	-356	-413	-418	-418	-418	-423	-2090	-418
Required Passenger Franchise Access Revenue	2611	2678	2690	3030	3156	3140	3069	2924	15319	3064
NPV of revenue requirement				13010						
Electricity for Traction revenue	92	99	92	110	110	110	110	110	548	110
Other Passenger Franchise Access Revenue	2077	2037	1993	2958	2958	2958	2958	2958	14790	2958
Total Passenger Franchise Access Revenue	2169	2136	2085	3068	3068	3068	3068	3068	15338	3068
NPV of passenger franchise access revenue				13010						
Po cut and X	-2.0%	-2.0%	-2.0%	47.1%	0.0%	0.0%	0.0%	0.0%		
Return	-157	-233	-270	470	454	576	717	935	3151	630
Return on RAB	-3.9%	-5.3%	-5.7%	7.6%	5.9%	6.2%	7.0%	8.3%		7.0%

Appendix D: Responses to consultation on charges for traction electricity

Railtrack

Passenger train operators and owners of passenger train operators

Anglia Railways
Central Trains
Connex
Eurostar
First Group
First North Western
Great North Eastern Railway
Heathrow Express
Merseyrail Electrics
National Express Group
Northern Spirit
Prism Rail
ScotRail
South West Trains
Thameslink
Virgin Trains

Freight operators

English, Welsh & Scottish Railway
Freightliner

Government, Local Government and other Government Bodies

Shadow Strategic Rail Authority

Passenger Transport Executives (PTEs)

Strathclyde Passenger Transport
Merseytravel
West Yorkshire PTE

Industry associations

ATOC
ESTA

Others

Angel Train Contracts
First Procurement Associates
ILEX
Northern Design
WS Atkins Rail

Appendix E: SSRA letter

Gerald Corbett
Chief Executive
Railtrack Plc
Railtrack House
Euston Square
LONDON NW1 2EE

14 December 1999

Railtrack year 2000 NMS: continuously improving baseline (Incremental Outputs)

Following extensive discussions between our teams, with passenger and freight operators and with the Office of the Rail Regulator, I am sending you the sSRA draft specification of the incremental outputs that it wishes to see delivered during the next charges control period 2001 – 2006. I also set out more general policies which I want Railtrack to take forward. I do not deal with major enhancements to the network. I shall be writing to you and the Regulator separately on that matter.

I expect both the policies and the incremental outputs to be reflected in your 2000 Network Management Statement as a commitment to the outputs which Railtrack are ready to provide during the next control period and the policies it will follow. This will enable choices to be made and priorities to be determined regarding outputs to be included in the baseline.

There is, I believe, general agreement that the current charges regime leaves ambiguity as to the outputs Railtrack is required to provide. I know that this has been a source of considerable uncertainty and frustration both to Railtrack and its customers and it is important that it is remedied. Railtrack must commit to clear, measurable and monitorable outputs for charges. sSRA expects to see sufficient information in the 2000 NMS to enable this to happen for the next Charges Period. To the extent that it is not provided, I would expect the lack of commitment to result in a lower level of charges.

This letter does not constitute a commitment on the part of sSRA to pay for a particular level of outputs. I need to know the cost of the outputs before committing to pay. The Rail Regulator will take a view on the level of remuneration which an efficient network provider would require in order to deliver the year 2000 NMS outputs, and once we have that information, sSRA will be able to take a view on both value for money and affordability.

I attach to this letter two schedules. The first schedule sets out my current views on generic policies which I believe should be reflected in the year 2000 NMS. Where

Railtrack believe that the policies are not consistent with best practice, I would be happy to have discussions with you.

In any event, the 2000 NMS needs to demonstrate how you will deliver the policies (including any amendments agreed following discussions), the detailed Railtrack underlying assumptions and the relevant costs.

The second schedule details the route specific incremental outputs arising from the Train Operator User Group (TUG) process together with a set of explanatory notes. This information has already been passed over to Railtrack at working level to enable a detailed costing exercise for the year 2000 NMS to commence. Would you ask your staff to contact Phillip O'Donnell here, if they require further clarification on the purposes and contents of the two schedules. You may also want them to discuss how Railtrack's response in the 2000 NMS is best presented.

I would like to take this opportunity to express our appreciation for the efforts which Railtrack Zones and Headquarters have put into the process of developing the incremental outputs statement and hope that the spirit of openness and co-operation demonstrated will continue. I should also like to thank passenger and freight train operators for their co-operation.

I am copying this letter (including schedules) to the Rail Regulator, Scottish Executive, Welsh Assembly, PTEs, (C)RUCCs, and train operators. A copy goes to my register, for inspection by the public.

Mike Grant

SCHEDULE 1

POLICIES TO BE REFLECTED IN THE 2000 NMS

Introduction

This Schedule sets out the policies and programmes that the sSRA wishes Railtrack to evaluate for potential inclusion as part of a continuously improving baseline for the next control period. Railtrack are to set out clearly in the 2000 NMS the implications and costs of these policies and programmes.

Provision of Information

Railtrack shall co-operate with train operators and funders in the development of infrastructure related projects including stations. It is to make information (including draft or provisional information) available in a timely manner on the costs, capabilities and implications of options. It should not seek to deny access to such information on grounds of prejudicing its own commercial position, nor provide insufficient time for operators and funders to consider the information before finalising its plans.

Safety & Other Statutory Obligations

The sSRA expects that Railtrack plans shall provide for continuous improvement in the safety of the rail network, consistent with achieving the Railway Group Safety Plan, and any additional requirements needed to meet its other safety, environmental and other statutory obligations.

Railtrack shall clearly set out its plans for complying with its statutory responsibilities under the Disability Discrimination Act.

Performance

In advance of the 1999 NMS Railtrack were asked to cost alternative targets for performance improvement.

As part of the sustained network, sSRA understands that Railtrack will deliver a 2½% year-on-year reduction in the aggregate minutes lost to passenger and freight services attributable to Railtrack over the control period (2001 to 2006). At the same time there is to be no material deterioration in this measure for any individual service group in any year. sSRA notes that the costs of this requirement were included in the 1999 NMS.

Railtrack as part of the 2000 NMS are to provide details of the incremental costs of delivering a 5% or a 7½% year-on-year reduction in the aggregate minutes lost to passenger and freight services attributable to Railtrack over the control period. At the same time there must be no material deterioration in this measure for any individual service group in any year.

Capability of the network

There is a need to understand the capability of the network both for freight and for passenger. sSRA has written specifically to Railtrack to make the point in respect of gauge, but the principle applies to other aspects of network functionality; including, for example, route availability, power supply characteristics, signalling immunisation and compatibility of rolling stock.

Railtrack has yet to compile a comprehensive database for route capability. As part of the 2000 NMS Railtrack should commit to completion of a fully functioning database as soon as reasonably practicable.

sSRA believes that Railtrack should recognise that there are standard gauges on the network, predominantly the old C1 and C3 gauges, and that the current Group Standards are based on these gauges. Hence, for those parts of the network where the C1 or C3 gauge applies (as appropriate), if the structure gauge is found to be inadequate to accommodate new trains which have been designed to meet the C1/C3 gauge, Railtrack should carry out the necessary changes to the infrastructure as part of sustaining the network.

Railtrack should also make clear how it plans to deliver wider application of the Group Standard derived from the C1/C3 gauge whenever maintenance and renewal of the appropriate infrastructure takes place, including by scheduled tamping where reasonably practicable.

Freight

Railtrack in the normal course of its maintenance and renewal programme on freight core network route corridors (see annex), are to provide for W10 gauge, or piggyback gauge wherever the incremental cost is minimal.

In addition, when renewing existing or constructing any new loops on any of these route corridors, the loops are to be provided to the following specification wherever reasonably practicable.

- Long enough to accommodate 775 metre freight trains.
- Entry speeds of 30% of line speed or 30 mph whichever is the higher.
- Exit speeds of 50% of line speed or 30 mph whichever is the higher.

Railtrack are to set out in the 2000 NMS details of how it is to meet these draft requirements, including the costs involved.

Asset condition

The sSRA supports the action taken by the Rail Regulator on Railtrack's stewardship of the network. It believes that network quality must be maintained throughout the next control period at least to the same level as currently, unless superseded by other more specific requirements. There should be no general degradation in the quality of the asset base.

Maintenance & Renewal

The sSRA expects maintenance and renewals to be carried out to comply with the best practice obligations of Railtrack's network licence, consistent with best available technology, not exacting exceptional cost.

Maintenance and renewal programmes need to be shared with train operators, who should be given timely opportunity to comment on and request any incremental works to be carried out concurrently.

In adopting criteria, Railtrack should presume that maintenance and renewal is being carried out for a growing railway with increasing traffic levels. Hence, as part of their renewal of infrastructure layouts, Railtrack should endeavour to optimise operational flexibility.

Whenever Railtrack reviews existing programmes for maintenance and renewal of track and/or signalling or develops future programmes it should make reasonable endeavours to exploit synergies between works involving different infrastructure elements in order to minimise disruption and deliver improved outputs to users. The same policy should also apply where electrification infrastructure is involved.

Wherever practicable, maintenance and renewal programmes should seek to lift line speeds to realise fully the capability of the most modern traction and rolling stock using the route currently or which is anticipated to be introduced on the route within the next control period.

Railtrack should develop its engineering procedures so that, over time, the hours of availability of the network are steadily extended to meet the aspirations of users.

Stations

Railtrack should provide the information requested previously by the sSRA on the cost of delivering the station improvements identified on page 51 of 1999 NMS. It should convert that information into a monitorable programme which makes clear what improvements are to be provided at which stations and by when.

Additionally Railtrack are to set out costed programmes for delivering the station facilities achievement measures for 2006 shown on page 51 of 1999 NMS both one year and two years earlier, with corresponding improved progress in previous and subsequent years. The costed programmes are to be shown separately for each category of station (A to F) and theme adopted for measuring facilities.

Shadow Strategic Rail Authority
December 1999

Annex to schedule 1

Core Freight Network Route Corridors

Glasgow – North West England – Midlands – London – Channel Tunnel
(Includes via WCML, GSW, Settle-Carlisle, Midland Main Line, and associated routes such as via Manchester and Birmingham)

Tilbury / Felixstowe / Ipswich / Harwich – West Midlands
(Via Peterborough and Leicester)

Southampton / Portsmouth – West Midlands
(Includes Oxford – Worcester)

Glasgow – Edinburgh – ECML Corridor – London
(Includes associated routes such as the Joint Line, the Askern Branch, and the Durham Coast)

London – South Wales
South Wales – West Midlands
South Wales – East Midlands
South West – West Midlands
(Includes GWML, Berks and Hants, and via Trowbridge)

Merseyside – Trans-Pennine – Humberside
(Includes Standedge, Summit and Copy Pit Tunnel routes)

Inverness – Scotland Central Belt

Aberdeen – Scotland Central Belt

North London Line

Note: The core network includes connections between the above route corridors and access to freight facilities, terminals, private sidings, and ports associated with the corridors.