steer davies gleave

RAIL VALUE FOR MONEY STUDY DfT / ORR

Leadership, planning and decision making

Final Report

29th November 2010

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Prepared for:

Rail Value for Money Study

5th Floor
55 Victoria Street
London
SW1H 0EU

Prepared by:

Steer Davies Gleave

28-32 Upper Ground
London
SE1 9PD

+44 (0)20 7910 5000
www.steerdaviesgleave.com

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Department for Transport
Great Minster House
76 Marsham Street
London SW1P 4DR
Telephone: 0300 330 3000
Website: www.dft.gov.uk

Office of Rail Regulation
1 Kemble Street
London
WC2B 4AN
Telephone: 020 7282 2000
Website: www.rail-reg.gov.uk

Steer Davies Gleave
28-32 Upper Ground
London SE1 9PD
Telephone: 020 7910 5000
Website: www.steerdaviesgleave.com

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DISCLAIMER

This report has been completed for the joint ORR/DfT Value for Money (VfM) team (the client). Steer Davies Gleave has prepared this report in accordance with the instructions of their client for their sole and specific use. Any other persons who use any information contained herein do so at their own risk. The analysis set out and conclusions drawn in this report are those of the authors and company and not the client team or their funders.

1 Executive Summary

Purpose of report

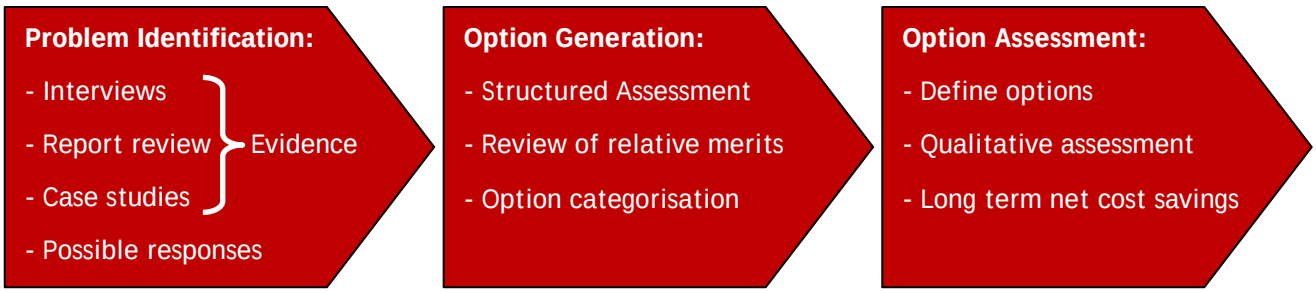
The purpose of the Rail value for money (VfM) study is to examine the GB rail industry and make recommendations on how to improve its VfM so as, to build a financially and organisationally sustainable platform for the future.

This report is the first output from the study workstream looking at whole industry leadership, planning and decision making (workstream B). It sets out and assesses options for change to improve leadership, planning and decision making across the GB National Rail network. This is completed on the premise that change is needed. The verification of the need for change is beyond the scope of this study.

Approach

Figure 1.1 provides an overview of the structured process followed in the study.

FIGURE 1.1 OVERVIEW OF PROCESS



The first stage of the study identified the problems and the key issues. These were generated using case studies; interviews; reviews of other railway systems and other industries; and other reports on the GB rail industry undertaken as part of this or other studies. The issues are discussed in Chapter 4.

The second stage of the study generated options to address the issues identified. The relative merits of each was considered and options were categorised, with some taken forward for further assessment and others that could be implemented relatively easily included in our final recommendations without further detailed assessment. These are discussed in Chapter 5.

The third stage of the study assessed the options. In Chapter 6 the options are defined and a qualitative assessment is undertaken. The long term net costs have been calculated as have the likely transition costs. These have been undertaken at a high level commensurate with the timescales and budget of the study itself.

Given the necessarily short timescales for the project, the assessment has been completed rapidly, and the level of detail to which options have been developed and impacts assessed reflects this. However, we have used a wide ranging issues-identification programme, trying to draw on a range of sources to ensure that the fullest range of issues were considered even if only strategically at this stage.

Key findings

The government is involved in almost every aspect of GB rail industry leadership, planning and decision making. This level of direct involvement is unprecedented and has been growing since the railway was privatised in the mid 1990's. The UK central government probably has more direct involvement in the day to day running of the railway than almost any other comparable rail network in Europe. Most rail industry players outside government think this is inappropriate and say that this is stifling innovation, its response to the market and is effecting the rail industries competitive position against other modes. The **lack of clear leadership** within the industry itself, **excessive government involvement** and **overly centralised decision making** are three of the major issues highlighted by this study.

There is also much dissatisfaction with the industry structure itself and many within the industry see inefficiencies and lack of innovation arising at the wheel rail interface caused by this. The three basic inputs that are required to the deliver the industry product sit astride of this division, namely: Train Service Specification; Infrastructure; and Rolling Stock, and each is being led and managed by different industry parties with often conflicting and seemingly irreconcilable objectives. The **lack of a system approach;** a **lack of a technical strategy; and inappropriate rolling stock investment and deployment** are three further issues highlighted in this study.

Many see the TOCs, who have most knowledge of the needs of passengers, being divorced from any role in meeting their long term needs. This is because of their relatively short to medium term tenure and the fact that they have little or no opportunity to specify or influence change. Many see Network Rail as too expensive and too keen to offer indiscriminate infrastructure enhancement as a solution to every identified need. Many see the role of the ORR, in economic regulation, as too focused and reliant on theory rather than in practical delivery. The serious tensions that exist between industry players and expressed in interview illustrate how immature the current structure actually is. These tensions and behaviours of the industry lead to **weaknesses in planning, weaknesses in decision making** and the **predominance of infrastructure solutions** as outcomes. These are the final three substantive issues identified by this study.

There is little consensus on what to do to address some of these issues. Interviewees are nervous about the impact that any big change to structure would have on the industry. It was not really possible to understand or analyse why individuals felt this beyond the obvious impact this change might have on their personal positions. Interviewees who were accompanied were more cautious in their responses than those who were not. Others interviewed were less comfortable speaking on the record as they didn't want to be quoted, saying that it might affect their position within their current employment or more likely affect the relationships they have with other parties with whom they have to work. There is clearly much discomfort about where the industry now is but even more discomfort about doing something about it.

Most expect the industry to be affected adversely in the short term, if big change is deemed necessary, but most also acknowledge that if big cost savings are to be made, beyond that which Network Rail are expected to deliver in CP5, then more

substantive change is probably the only route forward. Transition costs of big change are assumed to be high and particularly if these changes were made quickly and applied in one national restructuring. Material cost savings will be difficult to achieve before CP5.

There are however small changes that could be implemented quickly and without major structural change but these still all need the cooperation and agreement of many industry players to achieve successful outcomes.

Recommendations

Based on the preliminary review of a long list of options and a fuller assessment of a more limited number involving radical change, as described in Chapters 5 and 6, we have formulated a number of recommendations. These include a limited number of changes that, in our view, could be implemented relatively quickly as well as proposals relating to options for more fundamental reform.

Modification of existing processes and systems

Our recommendations for more immediate change to existing processes and systems draw on the results of the review reported in Chapter 5 and are as follows:

- *1.1. The industry should agree on improved data collection and circulation in order to provide decision makers with a consistent set of data to aid planning and decision making [Option 12].* We suggest that the ORR, which already collects and publishes data as part of its regulatory role and on behalf of the industry, should specify data requirements to allow a more detailed and consistent analysis of the value and costs of different parts of the network. In the course of this exercise it should consider how issues such as confidentiality should be addressed.
- *1.2. Project decision criteria should be redefined to ensure greater focus on the medium and long term costs of projects and, in particular, should include a comparison of costs with explicit affordability limits and an estimate of the impact on public spending commitments over a 15-year time horizon [Option 3].* This recommendation could be implemented as part of a wider reform of the NATA framework (in the form of a modification to the Appraisal Summary Table) but should anyway be applied to rail industry investment at the earliest opportunity.
- *1.3. A formal process should be put in place providing for industry apprenticeships and encouraging staff secondments [Option 18].* We suggest that this should be led by Network Rail, in collaboration with ATOC and other relevant organisations such as the ORR and RSSB.
- *1.4. Network Rail should be required to identify at least five areas in which a process similar to the JPIP could be applied in order to improve value for money [Option 15]. After agreeing these with the TOCs and the ORR, it should lead the implementation of the necessary processes and mechanisms.* The implementation should be overseen by the ORR, with progress reported in Network Rail's regulatory returns.
- *1.5. The ORR should be asked to identify options for streamlining industry change processes and initiate consultation processes as quickly as possible*

[Option 20]. The options should include processes relating to the ORR's functions and other procedures currently governing change across the industry. The ORR should be given a specific objective to identify changes that could be expected to result in significant improvements in value for money.

- *1.6 Some form of passenger representation should be included in decision making bodies [Option 1].* This could either be through Passenger Focus or through other mechanisms, such as user groups, or bespoke focus groups
- *1.7 Decision makers should place a greater emphasis on long term strategies and their fit with short term plans [Option 9].* Railways have long planning horizons and a high proportion of assets with long lives. A balance needs to be found between short term budgetary requirements and long term business investment (and passenger) needs. Most of the stakeholders included in our interview programme considered that the first HLOS did not achieve this.
- *1.8 Decision makers (and planners) should focus more on behaviour change and pricing options [Option 13].* DfT should require NR to focus on a wide range of solutions in the RUS and HLOS capacity scheme development process. To some extent this may already be happening given the well understood budgetary pressure.
- *1.9 The industry should utilise standardised specifications wherever possible [Option 14].* Common assets will improve integration and contestability and reduce unit costs. NR has developed modular stations and platform extension programmes and this concept should be extended to rolling stock and other appropriate assets or initiatives. However, in some circumstances standardisation will not be appropriate. Further work is recommended to consider whether the long term performance of the railway would be enhanced from more standardisation or more bespoke solutions.

Options for more substantive change

In our view, leadership, planning and decision making could be further improved through more radical reform of the contractual and regulatory arrangements and/or the structure of the industry. Such reform could deliver very substantial cost savings, possibly in excess of £200 million per annum. However, as noted in Chapter 5, the potential benefits need to be considered against the considerable transition costs and impact of disruption arising from the implementation of the options concerned. *Against this background, we recommend that the following options are considered for further investigation:*

- *2.1. A streamlined industry planning process [Option 19]*, which could be implemented within the existing broad structure of the industry and would require little or no change to the current contractual and regulatory framework;
- *2.2. Greater responsibility transferred to franchisees [Option 22A] and Virtual vertical integration [Option 24]*, which could in principle address many of the concerns about a lack of collaborative working and system-based decisions with limited changes to the contractual relationship between Network Rail and the TOCs;

- *2.3. The introduction of a railway agency [Option 16]*, which would establish an organisation capable of providing leadership and delivering integrated planning across the industry, albeit at the cost of some disruption and reallocation of key responsibilities; and
- *2.4. Vertical integration by market and by region [Options 23A and 23B]*, which in our view offer the prospect of fully integrated, long term planning and decision making following the elimination of complex contractual interfaces, although again at the cost of substantial disruption and transition activity.

Other recommended considerations

These options cover the range of possible outcomes in terms of potential cost savings and the challenge of implementation. Further analysis than has been possible within the time frame for this study would be needed in order to estimate costs and benefits with sufficient precision to allow one option to be recommended over another.

We also note that some of the other options assessed in Chapter 6 should not be set aside purely on the basis of this study. The establishment of a cross-industry leadership group, whilst rejected as a standalone option overlaid on the current industry structure, could in certain circumstances provide added value when coupled with other options and in particular where specification, operations and control are devolved from government and Network Rail to other bodies or railway companies. We would recommend further consideration in these circumstances.

At the same time, we note that in all cases the specification of service patterns and the levels of rail investment envisaged would need to recognise funding constraints determined centrally, particularly in view of the current climate in relation to public sector funding.

2 Introduction

Purpose

2.1 In December 2009 the Department for Transport (DfT) announced a study into the value for money of the GB rail industry, jointly sponsored with the Office of Rail Regulation (ORR). The study was to be completed by March 2011.

2.2 In June 2010 the new coalition government launched a Comprehensive Spending Review (CSR) which is due to report in October 2010. The Secretary of State for Transport requested the study team provide an initial report to inform the CSR.

2.3 The aim of the study is to examine the railway and make recommendations to improve its value for money (VfM) so as, to build a financially and organisationally sustainable platform for future growth.

2.4 An initial scoping study was completed in March 2010 and presented to the study sponsors. The report proposed a series of workstreams including one to look at whole industry leadership, planning and decision making. The study identified the follow issues relating to leadership, planning and decision making:

> *VfM Scoping Study Report, DfT/ORR VfM Study March 2010*
>
> *"During the development of the rail value for money scoping study a number of stakeholders have commented that there is no one organisation with overall effective leadership of the industry. Government has a high level leadership role which involves development of high level strategy, regulation and franchise management. However, its involvement in more detailed planning and decision making is variable. It has been accused of micromanagement in some areas (e.g. franchise specifications) and of leaving a vacuum of uncertainty in others (e.g. electrification and rolling stock plan). Network Rail provides leadership in some areas but its core responsibilities and incentives can lead it to focus on infrastructure solutions. A number of other organisations also contribute to leadership (e.g. RSSB, ATOC, RIA and individual TOCs) but none of these is in a position to provide the necessary leadership on all cross industry issues.*
>
> *Another strong theme from stakeholders was that the current planning process does not provide sufficient clarity in a number of areas and leads to boom / bust investment cycles, which are damaging to the industry supply chain and lead to inefficiency ("address the discontinuity of demand facing the supply chain"). Two key causes of boom / bust cycles were thought to be the five yearly periodic review cycle (rather than a rolling five year plan updated annually) and funding availability leading to a stop-go policy approach. The planning process needs to give the industry sufficient visibility and confidence in output requirements for the supply chain to invest in building capabilities.*
>
> *In terms of decision making, there is an unclear boundary between political and commercial decision making. Increasing clarity will help to identify where leadership responsibilities ought to lie. This should effectively summarise the scope of the political decisions to enable implementation related decisions to be taken on a commercial basis to ensure economic and efficient delivery."*
>
> www.dft.gov.uk/pgr/rail/strategyfinance/railvaluemoneystudyscopingreport.pdf

2.5 To inform that workstream the study team has commissioned Steer Davies Gleave and Cambridge Economic Policy Associates (CEPA) to assess whole industry leadership, planning and decision making. This report is the final report following an intensive 4-week study. It was completed in November 2010 and thus may not reflect any subsequent changes or proposed changes to industry structures or processes.

Study overview

2.6 Using a structured assessment framework, informed by interviews and cross sector comparisons, this report sets out the key issues influencing the effectiveness of leadership, planning and decision making. From this analysis a series of options to enhance leadership, planning and decision making have been developed, and these are assessed using a range of criteria. These include: long term net cost savings; short term transition costs, practicality, acceptability and resilience.

2.7 A range of options were developed, some of which require minor changes to skills, information and techniques; while others require regulatory, contractual or structural changes.

2.8 It should be noted that this assessment has not sought to assess whether or not there is a deficiency in leadership, planning and decision making, say through benchmark the effectiveness of processes and structures adopted in other countries or sectors and comparing the results to those achieved by the GB rail sector. There are three reasons for this. Firstly, the focuses of this study are leadership, planning and decision making, which are relatively 'soft' factors and not amendable to benchmarking. Secondly, the short timescales available for the project preclude such detailed analysis. We have therefore employed a structured assessment framework to compare and contrast approaches in order to generate ideas. It is not employed as evidence for change. Thirdly, this was beyond the scope of work set out in the invitation to tender.

2.9 In parallel to the Steer Davies Gleave and CEPA assessment of leadership, planning and decision making, OXERA and ARUP were tasked with assessing interfaces, incentives and structures over a 10-week period. We have liaised with OXERA and ARUP during the course of our work to minimise overlaps and consistency of assumptions, options, and approaches where appropriate.

2.10 There are also a wide range of other studies being completed by the Rail Value for Money team and other advisors. The outputs of our work and this workstream should be interpreted within this wider context.

Definitions

2.11 The focus of this workstream is leadership, planning and decision making. We have developed the following definitions for each so that the reader is clear on our interpretation of leadership, planning and decision making.

- **Leadership** is achieved by setting a vision and pulling (or pushing) people towards it. It requires clear direction, strategy and objectives to be formed and for these to be communicated effectively. Leadership is not management. Leadership does not necessarily require a single leader, although it is often the easiest mechanism. In the rail industry people look for leadership from an individual, partially reflecting the historic simple hierarchical structure pre-

privatisation. Different decision areas (e.g. performance, technical strategy) can be lead by different organisations. However, it is imperative that these organisations have responsibility for delivery and control. They can consult and work in partnership with other bodies, but must have ultimate accountability.

- **Planning** encompasses the process of setting goals, developing strategies and outlining tasks and schedules to accomplish the goals. In the rail industry, each activity from longer term strategic planning through to annual timetable development and capacity allocation there is a significant planning activity. Even managing the railway in real time requires the ability to revise and update plans continuously as events arise. The planning processes of the rail industry need to deliver the strategy and objectives set out by the leaders, but need not be completed by the same organisation**.**
- **Decision making** can be regarded as an outcome of processes leading to the selection of a course of action among several alternatives. Every decision making process produces a final choice. Within the rail industry decision making occurs at many levels: from the day-to-day decisions made by signallers and train planners, through less frequent strategic decisions made by middle and senior managers, through to the large strategic decisions made by key decision makers (who invariable are leaders). This study focuses on the latter two types of decisions.

Leadership

Writing about the early years of Nationalisation from 1948 to 1953, when the UK railway network was run by the Railway Executive who reported to the British Transport Commission, Michael R Bonavia wrote:

"Like nations, industries pass through phases during which they throw up the natural leaders the situation requires, followed by other periods when no outstanding figures emerge and the second eleven seems to hold the field" and added " …there were no real giants in the period covered….What a pity!".

Michael R Bonavia, 'The Birth of British Rail', Allen & Unwin, 1979

2.12 In this report we comment on the time horizons for planning purposes. To help the reader, we define three broad periods as follows:

- Short term – within the next five years, and thus roughly equal to one Control Period (CP);
- Medium term – within the next ten years; and
- Long term – more than 10 years into the future, but potentially over a much longer period, say 20, 30 or even 40 years.

2.13 Note that in all cases these time periods are intended to be illustrative.

Assessment framework

2.14 We have adopted a structured assessment process to:

- Identify issues with the current approach to leadership, planning and decision making. This has included analysis of other rail sectors (France and Hong Kong);

analysis of other sectors (UK electricity, UK water and UK aviation); an interview programme (27 interviews with representatives from all of the key players); and reviewing relevant reviews and 'lessons learned' reports.

- Identify options that would address these issues.
- Shortlist the options to allow a more thorough assessment of the options in the time available for the study.
- Assess the options against a number of criteria, including both financial and non-financial measures. Based on this assessment we have developed recommendations for change.

2.15 A more detailled description of the process adopted is set out in Appendix A.

Report structure

2.16 This report is structured as follows:

- Chapter 1 provides an executive summary;
- Chapter 2 introduces the report;
- Chapter 3 provides an overview of the GB rail industry, and in particular the planning processes;
- Chapter 4 sets out the issues, the evidence and the potential solutions that might address these issues;
- Chapter 5 sets out the prioritisation of options to focus the assessment on a manageable subset;
- Chapter 6 sets out the assessment of the options; and
- Chapter 7 draws conclusions and sets out the recommendations.

2.17 The report contains five appendices which are in a separate document:

- Appendix A describes the methodology employed;
- Appendix B sets out two case studies to illustrate leadership, planning and decision making examples;
- Appendix C summarises the assessment of rail sectors in France and Hong Kong
- Appendix D summarises the assessment of the electricity, water and aviation sectors; and
- Appendix E summarises the approach used to in developing the net cost estimates for the options.

3 GB Rail Sector

Overview

3.1 In this section we set out:

- A brief overview of the GB rail sector;
- The roles of the key players in terms of leadership, planning and decision making;
- The parties involved and their interaction in the development of the industry's output; and
- How cross-industry leadership, planning and decision making is currently met.

3.2 In addition the changes implemented in the 2004 White Paper are set out.

Sector overview

3.3 In Great Britain the rail network comprises more than 10,000 route miles[1] of track, more than 2,500 stations, approximately 11,000 vehicles and each year almost 1.3 billion journeys are completed[2]. In 2008/09 total revenues were £7.8bn (of which £6.0bn were from passengers), total costs £11.8bn, requiring total government funding from taxpayers of £5.2bn[3]. The need for taxpayer funding necessitates government intervention: to specify what they want from the sector (on behalf of tax payers) and to ensure they are getting value for money from the funding they provide. Rail is "a public service, specified by government and delivered by the private sector" (2004 White Paper, p6).

3.4 The rail sector in Great Britain has been through a series of major structural changes over the last century[4], with the last major change privatisation in the mid-1990s[5]. Today a range of private and public sector organisations are involved in the planning and delivery of rail services. This chapter introduces the organisations, explains the key planning process and sets out issues relating to leadership and decision making. Further details are available in the appendices.

Cross-industry planning

3.5 Irrespective of the current structure; the rail industry is a complicated sector. The delivery of the **timetable** 'product' to customers requires three basic inputs:

---

[1] Route mileage is 10,347 (19,320kms) and track mileage is 19,329 (31,093kms).

[2] Scotland's rail network has around 340 railway stations and 2,000 miles of track. Over 81 million passenger journeys are made on the network each year.

[3] Figures do not sum for a variety of reasons (e.g. some costs are financed through debt issued by Network Rail).

[4] In 1993 in 'New Directions for British Railways' Stephen Glaister and Tony Travers set out a timeline for the industry that sees major structural change every 12 years from 1921 to 1992.

[5] It is debatable whether or not the creation and abolition of the SRA in 2000 and 2004 respectively is a major structural change.

- A specification to represent the expected demand of customers seeking movement from A to B – **Train Service Specification (TSS)**;
- Trains to carry passengers and goods – **Rolling Stock**; and
- Track, signalling, stations, depots, bridges and power supply etc. to enable the trains to run – **Infrastructure**.

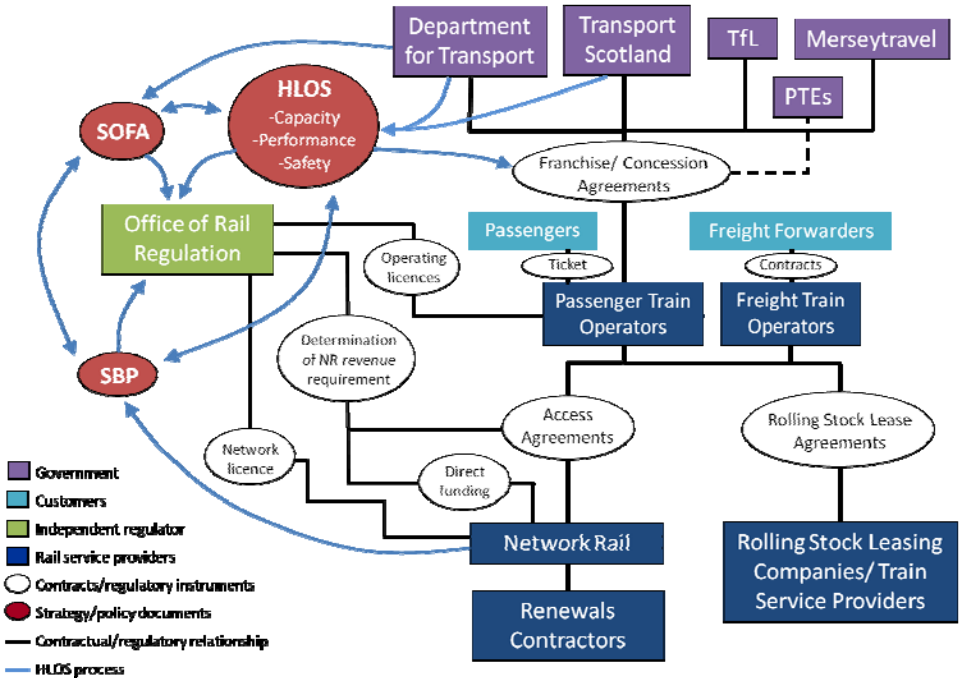
3.6 The various parties that contribute expertise, assets, resources, funding or direction to this process in both the short, medium and long term are set out in the next section.

Key Players

3.7 The GB rail sector comprises a variety of public sector organisations, private sector companies, customers and workers. Figure 3.1 sets out the key parties and the key contracts.

3.8 The parties listed in the diagram, their function and in particular their role in terms of leadership, planning and decision making are set out in this section.

FIGURE 3.1 SUMMARY OF GB RAIL INDUSTRY PLAYERS



Source: Steer Davies Gleave analysis

Department for Transport (DfT)

3.9 DfT's Rail Group was established in summer 2005 following the Railways Act 2005. The Group combines the Department's overarching strategic and financial responsibilities for the railways with many of the functions formerly carried out by the Strategic Rail Authority (SRA), from which many staff were TUPE-transferred.

The DfT's aim (as set out on their website[6]) is: "working in partnership with the industry, to secure the railway the country wants at a price it can afford". In addition the following objectives are listed:

- To ensure delivery of improved operational and financial performance, and safety, by the railway;
- To secure appropriate rail passenger services at an acceptable price through effective specification and procurement;
- To develop and deliver a robust, affordable and sustainable strategy for the development of the railway that supports wider transport objectives; and
- To ensure the cost-effective and timely delivery of major rail projects.

3.10 The 2007 White Paper (Delivering a Sustainable Railway) is the DfT's response to the remit the Government set itself in 2004/2005 to provide strategic direction for the rail industry. The 140 page White Paper comprises analysis of the issues facing the industry, a High Level Output Specification (HLOS) for the industry over the 5-year Control Period 4 (CP4, 1st April 2009 to 31st March 2014) and a Statement of Funds Available (SOFA).

3.11 In addition to the policy development set out above, the DfT specifies, procures and manages rail franchises and leads some cross-industry projects (e.g. Intercity Express Programme, IEP). The DfT has also produced a Rail Technical Strategy (2007) and a Rolling Stock Plan (2008) to set out what long term technological developments they believe the industry should develop and the future requirements for rolling stock (both in the longer term and in terms of the short term allocation to meet the HLOS targets).

3.12 With the current approximately equal level of funding from taxpayer and fare-payer many key decisions are taken by the Secretary of State. The previous government choose to be more active in decision making than the current coalition government have stated they intend to be. This difference reflects ideological differences, with the case for greater or lesser government involvement in decision making hard to assess definitively.

3.13 With a fragmented industry structure and importance of government funding the Secretary of State, as the senior politician and ultimate decision maker in the Department for Transport, is seen by many (including many of the interviewees) as a (or even the) key leader in the industry.

3.14 The DfT has responsibility for setting policy across all major modes: aviation, rail, roads, shipping, and through regional and local transport buses and light rail. This allows them to take all modes into consideration when making decisions. However, the degree of control DfT has over other modes reflects the level of public sector funding and the level of decentralisation. For example, the bus sector is generally operated by private sector operators (although there are some part publically owned bus operators) with limited central government grants (e.g. fuel duty and concessionary travel). Some services are run on a purely commercial basis, while others are tendered.

[6] www.dft.gov.uk/pgr/rail/rail/

3.15 The DfT is also responsible for the implements of some aspects of European legislation. The Highways Agency reports into the DfT.

Transport Scotland (TS)

3.16 Since 2006 TS has had similar responsibilities for rail services in Scotland as the DfT has in England and Wales. Intercity and inter regional services between England and Scotland are specified in franchises let by the DfT, although TS are consulted on the specification.

3.17 TS' funding comes from the Scottish Government (who have the power to vary income tax by up to 3%) and a funding settlement agreed as part of the regular Comprehensive Spending Review processes.

3.18 The Minster for Transport, Infrastructure and Climate Change is the senior decision maker.

3.19 TS' responsibilities extend beyond rail to the trunk road network and concessionary travel, which give it the ability to take all modes into account in decision making.

Network Rail (NR)

3.20 NR is the organisation responsible for the operation, maintenance, renewal and enhancement of Britain's' rail infrastructure. NR employs approximately 37,000 people and typically operates and maintains the infrastructure itself. It contracts-out major renewal and enhancement work to engineering companies and in 2009/10 spent £3.9bn on these activities, roughly two-thirds of its annual expenditure. NR leads a range of planning activities and is responsible for industry-wide operational performance.

3.21 NR is a company limited by guarantee and does not have shareholders. Both factors could have a material impact on NR's behaviour and governance and is being considered in other VfM study workstreams.

3.22 NR's expenditure is funded by track access charges levied on TOCs, direct grants from government and debt. The majority of the track access charges are fixed and their level is set by the ORR (as discussed below), with TOCs held harmless to any changes by DfT. This funding arrangement, the responsibilities of NR with regard to planning and performance and the size and resources of NR compared to its customers is seen as having led to NR dominating its customers and the customer-supplier relationship having been inverted.

3.23 NR decides how to balance maintenance and renewal activity to meet its commitments to customers and operate within its funding settlement.

3.24 In addition to delivering the infrastructure to allow the railway to function NR are responsible for leading strategic planning. The workstreams (and publications) they have initiated to meet this need are:

- The Planning Ahead process[7];
- Route Utilisation Strategies; and

[7] Note that this process was established jointly with other industry parties. The process is explained in more detail later in this chapter.

- Route Plans.

3.25 Each of these workstreams is discussed in the RUSs section below. NR also initiated the New Lines study, although this was a response to a Licence requirement to consider medium to long term demand-capability gaps on their network.

3.26 As a major employer and leader in certain aspects; NR provides some leadership to the industry. However, because of its reliance on government funding and need for authorisation from government for major projects it cannot truly lead the industry.

Train Operating Companies (TOCs)

3.27 There are two groups of TOCs: franchised TOCs and open access TOC[8]s. Franchised TOCs either receive a subsidy from government or pay a premium for the right to operate the service.

3.28 Franchises let by the DfT are run by TOCs, which are companies created specifically for a franchise. TOCs are owned by parent companies who are a combination of UK-based international public transport operators (e.g. First Group, Go-Ahead Group, National Express Group, Stagecoach Group) and subsidiaries of foreign state railway organisations (e.g. SNCF's Keolis, Ned Rail's Abellio, and DB's DB Regio). The market is currently shared as follows:

- 75% of journeys are carried by international public transport operators;
- 24% of journeys are carried by subsidiaries of foreign state railway organisations; and
- 1% of journeys are carried by publicly owned GB railway organisations[9].

3.29 The proportions are 70%, 20% and 9% using passenger kilometres rather than journeys. The large increase for the final category reflects the high average trip distance for passengers using services currently in public ownership.

3.30 The extent to which TOCs provide leadership, plan or make decisions depends on the nature of their franchise agreement. TOCs whose franchises have started since 2005 are typically contracted in a similar way (the Template Franchise Agreement) and have relatively little control over long term planning. They typically operate franchises for 7-10 years and are committed to delivering the specifications set out in their bids, which may include changes to the pattern of service and trains used. TOCs whose franchises started before 2005 are less homogenous and can operate under very different terms, with some having much wider planning and development roles. For example, the Chiltern franchise (operated by DB Regio) which extend to December 2021 will have a 20 year term has (as a condition of its contract) planned; procured; managed and commissioned two major infrastructure projects (Evergreen 1 and 2) and has amended their service to reflect the new assets available. They are in the process of planning a further enhancement (Evergreen 3). In addition they have procured additional rolling stock as their franchise has progressed to keep pace with demand growth. The Chiltern enhancement model is discussed later in this chapter.

[8] Note that in Figure 4.2 the TOCs shown are franchised TOCs.

[9] Directly Operated Railways Ltd, who own the company operating the Inter City East Coast franchise.

3.31 TOCs do make decisions on shorter term issues, for example train formations, and work with NR to improve performance.

3.32 TOCs are the main customer-facing component of the industry and argue that they have the best understanding of the customers' needs. However, passengers do not always see the TOCs as a separate entity from 'the railways', with many passengers still referring to 'British Rail', or using new terms in the wrong context (e.g. National Rail or Network Rail).

3.33 In total franchised TOCs employ approximately 50,000 people[10].

3.34 Open access TOCs have similar access rights and relationships with other parties as freight operating companies (FOCs) described below. They seek markets not served by franchised operators and provide these services, subject to being granted rights by the ORR. They are private companies and do not receive or pay franchise payments to DfT.

3.35 TOCs are represented by the Association of Train Operators (ATOC), who participates in some industry planning processes and lobby on their behalf (e.g. Planning Ahead). ATOC operate a range of key cross-industry services, including: through-ticketing via the Rail Settlement Plan (RSP); National Rail Enquiries; railcards; and rail staff travel. It should be noted that although ATOC represent their members, due to the diversity of their membership they will sometimes promote different policies to the individual views of their members.

3.36 ATOC co-ordinates the Passenger Demand Forecasting Council (PDFC) who are responsible for leading on demand forecasting research and its dissemination to members via the passenger demand forecasting handbook (PDFH). The council's members include TOCs, NR, DfT, TS, ORR, TfL and PTEG.

Freight Operating Companies (FOCs)

3.37 FOCs are purely commercial organisations that provide freight distribution services. In addition to on rail competition, they also compete with road hauliers.

3.38 They have longer planning horizons (obviously constrained by short term financial constraints) and participate in cross industry planning. In some aspects they have greater decision making powers than franchises passenger TOCs. The major players and their owners are[11]:

- DB Schenker – owned by DB;
- Freightliner (including Freightliner Heavy Haul) – an independent private sector company;
- GB Railfreight – recently acquired from First Group by Europorte (Eurotunnel Group's rail freight subsidiary); and
- Direct Rail Services – owned by the public sector Nuclear Decommissioning Authority.

[10] Rail Industry Monitor 2009

[11] Ranked in terms of train kilometres operated in 2009/10 from the 2010 NR Annual Return. The other much smaller operators are: Fastline, Colas and Advenza.

3.39 They are represented by the Rail Freight Operators' Association (RFOA). The RFOA are involved in the Planning Ahead workstream discussed below.

Office of Rail Regulation (ORR)

3.40 The ORR is the industry's independent safety and economic regulator. Its role is:

- To improve health and safety performance;
- To secure improved efficiency and performance;
- To improve and align relationships and its incentives in the industry; and
- To establish ORR as a combined safety and economic regulator[12].

3.41 The ORR are also responsible for licensing operators of railway assets, setting the terms for access by operators to the network and other railway facilities, and enforcing competition law in the rail sector.

3.42 They are involved in major planning processes (e.g. HLOS) and lead the five-yearly access charge review process, sometimes called the Periodic Review. Access charge reviews establish the revenues and associated financial framework required for NR to operate, maintain and renew its infrastructure. ORR determine the revenue required based on the level of service and funding available as specified by government (DfT and TS) in the HLOS and SOFA. ORR reviews this information and business plans submitted by NR that set out how they would deliver the specification and determine whether or not the business plan is efficient and robust. Through an iterative series of draft and final business plans and draft and final 'determinations' a settlement is agreed. Through this process some major investment schemes (and the train services the scheme would deliver) may be de-scoped, stopped or have their budgets reduced (with no change to the scope). The final determination leads to amendments to track access charges for TOCs and FOCs (to which they are held harmless) and a residual direct funding requirement for the DfT.

3.43 As an independent body ORR is not involved in setting policy or determining the level of funding available. However, as they decide the level of funding NR should be allowed (for them to efficiently deliver the infrastructure outputs they have committed to) the ORR in effect determines the severity of the challenge for a large part of the industry and has the power to accept or reject investments. This gives them a powerful role, which to some is perceived as leadership.

3.44 ORR has an industry leading role on safety, having subsumed some of the functions of the Health and Safety Executive (HSE) including Her Majesty's Railway Inspectorate (HMRI) following the 2004 White Paper.

Rolling Stock Leasing Companies (ROSCOs) and Renewal Contractors

3.45 ROSCOs provide vehicles for TOCs to operate services – and the majority of passenger TOCs' vehicles are provided by just three companies – Angel, Porterbrook and Eversholt. There are of course exceptions:

- Some TOCs (FGW and Chiltern) own a small number of vehicles; and

[12] www.rail-reg.gov.uk/server/show/nav.77

- The class 220/1 and class 378 fleets are owned by other financial institutions.

3.46 They are private unregulated companies and do not receive any income (directly) from government. They are only involved in industry planning as consultees.

3.47 Their investment decisions clearly determine the rolling stock that the industry has to deploy, but given the investment risks involved they do not tend to invest speculatively, and thus their decisions are tied to the decisions made by government. For example, whether government authorises a project or not, and whether the government will give a minimum usage guarantee (a Section 54 agreement). ROSCOs are not expected to and do not provide leadership.

3.48 Renewal contractors provide engineering services to NR. They are private companies, working to a greater or lesser extent across sectors. They are generally not involved in industry planning, leadership and decision making.

Customers (Passengers and Freight Forwarders)

3.49 Industry customers (passengers and freight forwarders) as individuals do not have the power to shape planning or decision making. However, they are represented by a number of user groups:

- Passenger Focus;
- Rail Freight Group (RFG); and
- Freight Transport Association (FTA).

3.50 These user groups champion the rights of their members. Passenger groups will typically lobby for better value for their users (at the expense of taxpayers). Freight groups will typically lobby for the preservation (or expansion) of their users rights and funding. Passenger Focus is consulted for most planning processes, in particular franchising.

Passenger Transport Executives (PTEs)

3.51 PTEs generally have the same level of contribution to the strategic planning workstreams in the industry. This role is as a consultee only, often both individually and through their association (PTEG). PTEs' roles do differ however with respect to train service specification. The PTEs involvement ranges from Merseytravel, who have let a concession for the Merseyrail Electric network under provisions of the 1968 Transport Act, through TfL who have been given the right to let a concession by the Secretary of State under the 2005 Railways Act for services operating in their boundary, to other PTEs (e.g. GMPTE) who are just co-signatories to the franchise agreement.

Other industry players

3.52 In addition to the key players who (generally) feature in the diagram and who are listed above there are a number of other parties:

Railway Safety and Standards Board (RSSB)

3.53 RSSB leads on the development of Railway Group Standards, a long term safety strategy, and interfaces (vehicle - structures, vehicle - track, vehicle - train energy, vehicle - train control and communications, and vehicle – vehicle).

3.54 RSSB is a not-for-profit company owned by major industry stakeholders (e.g. TOCs, NR, ROSCOs). The company is limited by guarantee and is governed by its members, a board and an advisory committee. It is independent of any single railway company/organisation and of their commercial interests.

3.55 RSSB runs a number of industry safety models and guides the industry in safety related decision making (see Taking Safe Decisions, 2009).

The Rail Accident Investigation Branch (RAIB)

3.56 RAIB is the independent railway accident investigation organisation for the UK. RAIB investigate in order to improve the safety of railways, and to prevent further accidents from occurring. RAIB makes recommendations on actions that it believes are needed to improve railway safety. The ultimate recipient of their report has a legal obligation to consider the report and take appropriate action.

3.57 The RAIB forms part of the DfT, but is independent. Both the RAIB and RSSB were established in 2003 following Lord Cullen's inquiry into the accident at Ladbroke Grove.

Employees and Trade Unions

3.58 The industry employs a large number of people either directly or indirectly. They are often represented by trade unions, including the: RMT; ASLEF; and the TSSA.

Railway Industry Association (RIA)

3.59 The RIA is the trade association for UK-based suppliers of rail equipment and services. It has around 140 member companies. RIA provides its members with representation of the supply industry's interests to Government and NR, opportunities for dialogue between members, supply chain improvement initiatives, and export promotional activity.

British Transport Police (BTP)

3.60 British Transport Police is the national police force for the railways providing a policing service to rail operators, their staff and passengers throughout England, Scotland and Wales. It is funded through levies on TOCs and employs approximately 2,400 staff[13]. In recent years BTP costs have been rising, partially due to an increase in the number of officers deployed. As a result the allocation of these costs has been disputed by a number of TOCs.

High Speed 1 Ltd (HS1)

3.61 HS1 are responsible for the operations, maintain and renewal of the Channel Tunnel rail link between Dover and St Pancras, including some major stations. Maintenance activities are contracted to NR (CTRL). The company is currently being sold.

Welsh Assembly Government (WAG)

3.62 Similar to the PTE's; the WAG is a co-signatory to the franchise agreement of franchises operating in their jurisdiction. They are able to specify additional services and invest to improve the quality of services provided. For example, WAG

[13] For 2007/08 3,311 offices in total were employed less 892 deployed within the London Travelcard area. See page 47 of: www.btp.police.uk/pdf/FOI_publications_statementofaccounts_310308.pdf

has recently committed to spend £7.5m to enhance the interiors of 24 class 158 trains.

3.63 Table 3.1 sets out the approximate number of staff for a number of the organisations and an estimate of the numbers involved in planning.

TABLE 3.1 INDICATIVE STAFF NUMBERS

	Total staff	'Planning' staff
DfT (Rail Group)[3]	386	115
TS	86	20[4]
NR	37,000	140[1]
TOCs	50,000	225[2]
FOCs	7,300	Unknown (but likely very few)
ORR	325	2.5[5]
ROSCOs	Unknown	Unknown (but likely very few)
Customer groups	50[4]	Unknown
PTEs	Unknown	Unknown
RSSB	223	Unknown

Notes: (1) Other NR staff will perform some planning tasks for particular projects. It is impractical to estimate the extent of this in terms of full time equivalents, because of the size and scale of NR's responsibilities.

(2) Assuming 15 staff per TOC (including train planners and management involved in planning).

(3) In its final full year of operation the SRA employed 420 staff.

(4) High-level estimate, no data available.

(5) Estimate provided by the Rail VfM team.

Source: Steer Davies Gleave analysis of company accounts, Rail Industry Monitor 2009, websites and data provided by the Rail VfM team.

Planning requirements

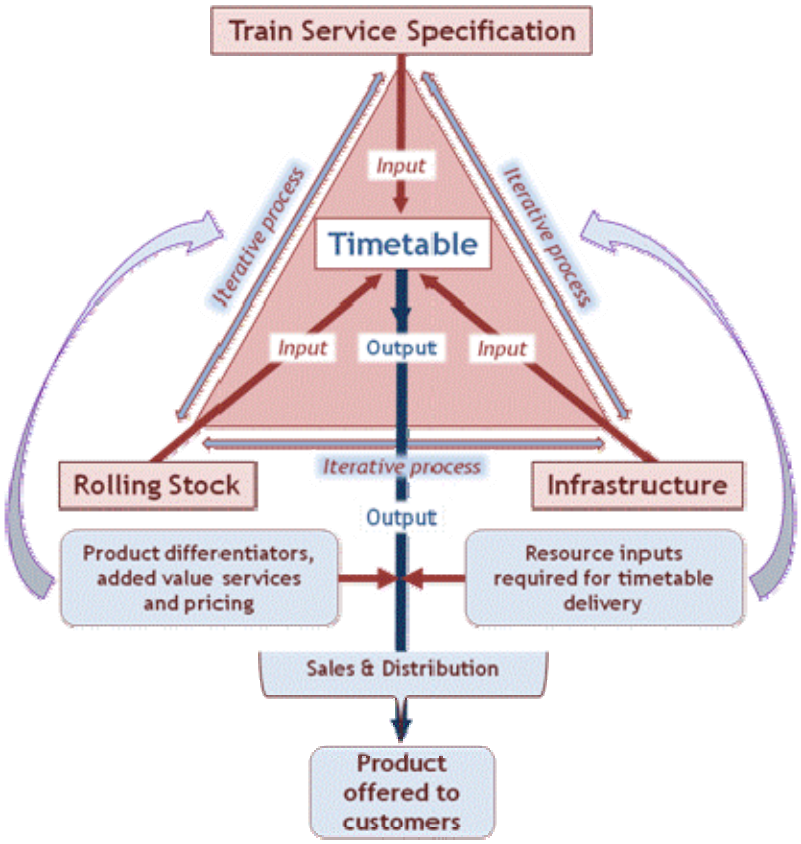
3.64 The schematic in Figure 3.2 summarises the process that balances the three basic inputs required to develop the timetable product output. Whilst the product output may be simple, the process required to develop it is complex and will always require many iterations to balance the available resources.

3.65 This process applies equally both to the:

- Annual review of timetables designed to reflect evolving changes in travel patterns in the market and fine tuning to address performance or minor infrastructure deficiencies or change; and the
- Period (less frequent) review of timetables to handle significant changes in the operation of trains typically driven by major scheme enhancements (whether

market driven or needed as input assets such as rolling stock and infrastructure are replaced or upgraded).

FIGURE 3.2 INDUSTRY TIMETABLE DEVELOPMENT PROCESS



Source: Steer Davies Gleave analysis

3.66 Most significant timetable recasts are driven by the combination of market driven changes and to take advantage of enhanced infrastructure and new rolling stock. Examples of this include South Eastern CTRL DS in December 2008, WCML VHF in January 2009, Thameslink KO0 in March 2009 and East London Line Extension in May 2010.

3.67 The leadership, planning and decision making required to produce the timetable 'product' is undertaken by multiple agencies and bodies (described later in this chapter and summarised in Figure 4.3 below). Note that, notwithstanding the complexity indicated by the figure, it does not include all of the organisations and interfaces making up the industry.

3.68 The relatively simple leadership, planning and decision making process required for the development and iteration of the train service specification, infrastructure and rolling stock in order to produce the timetable 'product' to end user customers pre-privatisation is absent. It has been replaced by contracts and regulatory instruments between multiple industry players. As a result, the rail industry's efforts to respond to the market, competition, the economic

circumstances of the day, or developments in technology are now generally perceived to be slow, inefficient and expensive.

3.69 The detailed processes currently employed to develop the product is set out later in this chapter, following the introduction of the key players

3.70 Table 3.2 below expands on Figure 3.2 above and summarises who does what today in developing and delivering the industry's output.

TABLE 3.2 KEY INDUSTRY ACTIVITIES AND ALLOCATION

Train Service Specification (TSS)	**DfT**: Determines the TSS for each TOC as an integral part of the franchise contract. The TSS establishes the underlying service structure, service groups and will include: I Service Origin and Destination (i.e. London Euston – Manchester Piccadilly); I Service Frequency (i.e. 3tph), Service Interval (i.e. every 20mins), any hard wiring features (i.e. must depart London Euston at xx:00, xx:20 and xx:40); I Intermediate Calling Pattern (i.e. 1tph Milton Keynes Central, Stoke on Trent, Macclesfield, Stockport; 1tph; Crewe, Wilmslow, Stockport; 1tph Stockport only); I Each of the above by time of day, day of week, variations for holidays and for special events; I Journey Times (i.e. 2hours 5mins with one intermediate stop); and I Any freedom the TOC has to vary or flex the TSS. Note: DfT is unable to participate directly in the iterative timetable development process itself. **TOCs** : Will vary or flex the TSS within the freedom given in franchise contracts in order to maximise passenger revenue (i.e. faster journey times; operating more services; revising intermediate calling patterns), or minimising cost (i.e. through optimisation of rolling stock or other resource deployment, not running services or serving stations where cost of doing so exceeds revenue). These revisions would be undertaken as part of the iterative timetable development process. Note: TOCs are unable to vary or flex the TSS as part of the iterative timetable development process beyond the bounds of their franchise agreement and therefore are often not able to minimise cost or maximise revenue. There have been some instances where TSSs have been tightly defined and this has caused problems for TOCs (e.g. Great Western where a large decrement was initially specified reversed after the franchise was let following stakeholder pressure; and Intercity East Coast where the specification included irreconcilable requirements.) **FOCs:** Provide the Train Service Specification to meet the needs of their customers.

Rolling Stock	**TOCs**: In theory it is the TOCs who decide what trains are deployed and on what services to meet the annual timetable requirements. TOCs are obliged to provide sufficient rolling stock to meet the TSS as set out in the franchise agreement, the majority of which is leased from the ROSCOs. **FOCs:** Also lease traction to haul their trains and some vehicles to handle the commodity being conveyed. FOC customers also own vehicles which are made available to FOCs to haul. Some other rolling stock assets (mainly traction purchased from BR at privatisation) are owned outright. **ROSCOs:** Own most of the fleet comprising locomotives, coaches, electric multiple units (EMUs) and diesel multiple units (DMUs). They have no further role in the development of the timetable product unless they are contracted as part of the delivery production line. **NR:** Have no direct involvement in the deployment of rolling stock beyond ensuring that the vehicles are certified and permitted to operate on the parts of the network that TOCs/FOCs wish to deploy them. **DfT:** DfT typically does not have a direct role in the rolling stock inputs for the annual timetable development process. However, given the constraints imposed by franchise agreements they do influence the deployment.
Infrastructure	**NR:** Provides the network over which the services specified by DfT (through the TOC) operate, using rolling stock provided by the TOC and FOCs. It has a licence obligation to maintain the existing network and meet safety, availability and performance targets. The prices specified in access contracts are meant to provide signals to TOCs about the costs of using the network (e.g. intensity, type of rolling stock) and to provide an incentive to deliver the 'right' level of service with the 'right' assets. **TOCs:** Have no direct role in the provision of infrastructure except where they own it (a few stations). **DfT:** Has no direct role in the provision of infrastructure.
Timetable	**NR:** Its obligations are laid down in Condition 1 of the Network licence (maintained by ORR), and more detail is supplied in the Network Code Part D (maintained by NR for the industry). These are legal documents and outline the responsibilities rather than specifying the timescales in detail. The detailled timetable rests on a series of contracts (e.g. 5 year access agreements) which determine the allocation of train paths and consequently the timetable must be consistent with this allocation. It can be hard to implement change given the allocation is defined in contracts. Timetables can be formally changed twice per year – the main occasion being in December ("Principal Change") with a secondary change in May ("Subsidiary Change") (but see below). Timetables are now changes in December to comply with European directives. In the past they changed in May and September to reflect changes for Summer services. It is NR's responsibility to maintain the timetable, and to provide systems

and procedures for all operators to use and follow. Discussions on major changes will be expected to take a number of years, but in any case, NR must start preparation of a Base Timetable at least 2 years before the implementation date. In parallel they must issue and agree with all potential Bidders (the various passenger and freight train operators on the route) dates for each of the stages, and particularly the Rules of the Route and Rules of the Plan. The former lay down the standard periods when parts of the railway will be accessible to bidders, and when they will be available for maintenance, and the latter lay down the precise detail of the constraints on train planning in terms of the capability of lines (e.g. opening times (based on signalbox staffing hours, headways, junction margins, platform lengths etc).

TOCs and FOCs: Given these details, a 'Bidder' (TOC or FOC) can prepare their bid for a timetable – naturally in most cases this will be along the lines of "no change to existing" or a list of changes to the existing, rather than completely starting again – the latter is likely to fall into the category of a major change and require much longer to discuss (the case study in the next chapter illustrates this type of project). The timetable conference, when all Bidders are invited to attend and have multi-lateral as well as bi-lateral discussions with NR, has now been moved to the summer because Bidders were increasingly making a lot of changes in the May timetable change rather than just the December one – as a result, the December Base timetable is now a copy of the previous May, with changes added on top (in a sense the roles of "Principal" and "Subsidiary" are becoming reversed). Arguably the industry has reverted to the historic practice of major changes being introduced with the summer timetable.

There is a Priority Date, by which all Bidders must make their requirements formally known to NR. Once the Priority date has passed, NR will publish a Draft Timetable – by this time only very minor changes will be considered. All existing agreed slots must be honoured by NR, though there will be flexibility to allow them to accommodate the agreed rights of other users – a dispute resolution process exists where ultimately ORR will determine the outcome.

NR are obliged to provide information on any changes to the normal timetable as soon as possible and no later than 12 weeks before the change so that passenger information systems should always be accurate from 12 weeks out. This is a condition on NR and they can be fined by ORR for failing to do so.

The example schedule below sets out in Figure 4.3 shows the timescales for the 2010/11 timetable changes. Note in the table that anything referring to "TT-xx" is showing the number of weeks prior to timetable implementation where xx = the number of weeks.

DfT: Has no role in this process.

FIGURE 3.3 SCHEDULE OF KEY DATES FOR TIMETABLE CHANGES

	Principal Change	Subsidiary Change
Formal Notification of Process Dates	06.11.08	06.11.08
Base Timetable Initial Date	02.01.09	02.01.09
Rail Industry Planning Conference	29.06.09 & 30.06.09	
Preliminary Rules of the Plan/Route Proposal (TT-59)	23.10.09	19.03.10
Development Commencement Date (TT-59)	23.10.09	19.03.10
Notification of Provisional International Paths	17.11.09	17.11.09
TOC Rules of the Plan/Route Comments	27.11.09	14.05.10
Base Timetable Publication Date	06.11.09	06.11.09
Base Timetable Notification Date	06.11.09	06.11.09
Submission of 'Aspirational Bid' electronic data	21.12.09	31.05.10
Start of Drafting Period	28.12.09	07.06.10
Priority Date	08.01.10	08.01.10
Rules of the Plan/Route Decisio	05.02.10	09.07.10
Timetable Change Assessment Group (TT-44)	04.02.10	16.07.10
Final Date for Bidders to appeals against Rules of the Plan/Route Decision	05.03.10	06.08.10
Capacity Request Deadline	19.03.10	27.08.10
Draft Timetable Issue (TT-34)	16.04.10	24.09.10
Start of Finalisation Period	17.04.09	25.09.09
Timetable Offer Date (TT-24/TT-26)	25.06.10	19.11.10
Appeal Period End	09.07.10	03.12.10
Start of Supplemental Period (TT-22/TT-24)	12.07.10	06.12.10
LTP Upload start	26.07.10	10.01.11
Timetable Briefing process complete (T-15)	27.08.10	04.02.11
CIF Electronic Data available (T-14)	03.09.10	11.02.11
NRT Data on Website (T-4)	12.11.10	22.04.11
Passenger Change Date	12.12.10	22.05.11
Timetable End Date	21.05.11	10.12.11

Source: Network Rail

3.71 Note that this process is currently being amended and the final conclusions of the team reviewing the industry approach to capacity and access planning reported in August 2010[14].

Implications for current cross-industry planning processes

3.72 The framework and issues set out in the section above require a number of cross-industry planning processes. This section considers some of the implications for the planning processes. The next section then describes the current planning processes adopted to meet the requirements in the medium to long term (strategic), short to medium to term (annual permanent timetable change cycle) and very short term.

3.73 Strategic planning is necessary to secure medium to long term network development and meet future train service requirements. The latter represents how the rail industry can and would respond to expected market changes be they stimulated by:

- The industry itself – offering new services, faster and more comfortable trains or withdrawal of services that the market no longer wants to buy;

[14] See www.rail-reg.gov.uk/server/show/nav.2253

- Changes to rail's relative competitive position against other modes or other competing activities or communication channels that do not involve travel for business or pleasure;
- Changes to technology - some of which will be triggered by life expiry of existing assets for which the technology is obsolete, no longer cost effective or efficient; or by
- External factors such as government policy, population growth, demographic change, economic activity, etc.

3.74 Strategic timetable development sits outside the annual timetable change cycle, but it is where the activity that most impacts on the future health and well being of the industry sits, and where cross industry leadership, planning and decision making is crucial. The train service specification that represents the future industry requirements must still be integrated with that of the other inputs in order to produce future timetables however notional they might be in advance of the actual delivery requirement. It is this process that confirms how much rolling stock and how much infrastructure is required and how much of the train service specification can be delivered. The strategic timetable development process is inevitably iterative as cost and benefit estimates are calculated and as the achievement of outputs are balanced against the objectives and affordability.

3.75 Permanent timetable development (as shown in Figure 3.3) is undertaken annually to:

- Meet evolving market needs for both passenger and long term regular contractual freight flows;
- Correct operational and performance deficiencies in current timetable;
- Reflect permanent (for life of annual timetable) changes in functionality of the infrastructure caused by asset condition (i.e. line speed reduction due to deterioration of track or formation);
- Reflect permanent (for life of annual timetable) changes in functionality of the infrastructure caused by industry or external project interventions (i.e. loss of route driven by a major project such as Thameslink, Crossrail, HS2 or new tramway, airport or road scheme);
- Reflect a change in rolling stock deployment driven by existing fleet being no longer available through lease expiry or legislative change meaning that existing trains can no longer be used; and
- For TOC franchisees this is where they are able to use what flexibility they have within their franchise contract to modify the train service. It is where TOCs balance the train service specification with rolling stock and infrastructure capability.

3.76 Short term (and very short term) timetable development – an ongoing industry planning process required to enable:

- New (or alteration to existing) train services to meet new or change in market requirements (particularly necessary in the freight and charter passenger

businesses) – indeed many freight services are managed by very short term planning process or 'control arrangements' in real time;

- Train service changes to correct operational and performance deficiencies in permanent timetable; and
- Train service changes driven by major incident (causing route or station closure), major infrastructure failure (i.e. causing loss of line capability), major rolling stock failure (i.e. causing fleet withdrawal), and external intervention.

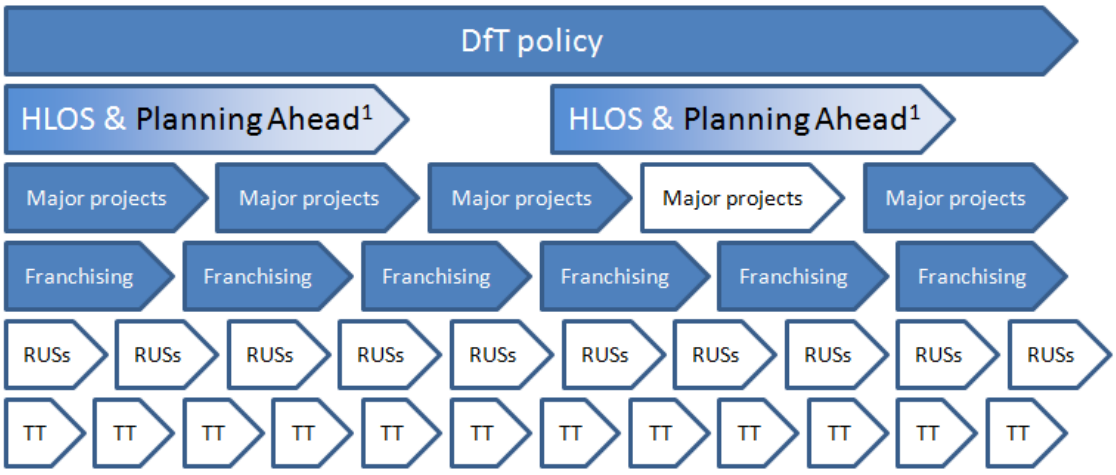
3.77 Development of strategic, permanent and short term timetables each require cross-industry co-operation as the key responsibilities required to prepare them lie within different industry bodies. The "Future of Rail" text box outlines (some of) the rationale for the current allocation of these responsibilities. There is less clarity how the development of strategic timetables, that are designed to demonstrate how a future train service requirement is met with a given level of investment in infrastructure and rolling stock, are translated into the delivery of the permanent timetable. It is also unclear who is responsible for securing the benefits demonstrated through a precise strategic timetable output once the industry process to create the annual permanent timetable starts.

Current industry processes to meeting cross-industry planning needs

3.78 This section describes these cross-industry planning processes, the roles played by the key players and identifies a number of issues relating to leadership, planning and decision making.

3.79 Figure 3.4 sets out the main strategic planning processes and shows the relative frequency and hierarchy between them. Processes shown in blue are led by DfT and processes shown in white are led by NR.

FIGURE 3.4 PLANNING PROCESSES SUMMARY SCHEMATIC



Notes: (1) The HLOS and Planning Ahead processes are key inputs into the wider Periodic Review process co-ordinated by the ORR. As set out in paragraph 3.89, Planning Ahead is led jointly by NR and other industry parties; through the Planning Oversight Group (POG).

Source: Steer Davies Gleave

3.80 The schematic shows that at the highest level DfT sets policy, which filters down into the HLOS and Planning Ahead strategic planning processes (which in turn inform the wider Periodic Review process discussed earlier in the chapter). More detail is provided on the HLOS and Planning Ahead processes below. The strategic planning **input** processes are included in this report rather than the wider Periodic Review process; as the latter is focussed on estimating how much money NR will require in the next CP and the subsequent adjustment of track access charges for TOCs and FOCs. These latter activities are a consequence of the main strategic planning processes and thus are not the focus for this report. The ORR has recently published an update on the timescales and activities involved in the next Periodic Review, which is available on their website[15].

3.81 On a less regular but more frequent basis the DfT leads on franchising and also (most) major projects. This draws on DfT Policy and the HLOS, and is informed by the other processes below it in the hierarchy.

3.82 These are the RUS process; and the most regular, the timetable development process, which is continually progressing, as timetables constantly change (e.g. for planned engineering works). In addition to the timetable, on a daily basis TOCs decide what train formations to operate and how to resource their services.

[15] www.rail-reg.gov.uk/server/show/nav.2446 for both the October 2009 letter setting out the likely timescales and processes and a recent letter (14th October 2010) setting out the changes to accommodate the RVfM review.

The Future of Rail, DfT July 2004 White Paper

The 2004 White Paper set out the following six key changes:

1. "The Government will take charge of setting the strategy for the railways;
2. NR will be given clear responsibility for operating the network and for its performance;
3. Track and train companies will work more closely together;
4. There will be an increased role for the Scottish Executive, the Welsh Assembly Government and the London Mayor, and more local decision-making in England;
5. The Office of Rail Regulation will cover safety, performance and cost; and
6. A better deal for freight will enable the industry and its customers to invest for the long-term" (p6-8)

Most commentators would agree that points 1, 2, 5 and 6 have been achieved, but there would be less agreement on the extent to which points 3 and 4 have been achieved. For example, NR and TOCs have worked closer together on improving performance (e.g. through integrated control centres, and on strategic planning such as Planning Ahead) but in general the focus has been performance improvement. Regional stakeholders (outside Scotland) would challenge point 4, arguing that although they may have more decision-making power they do not have control of funding beyond the multi-year settlements agreed with the DfT.

A number of structural changes were implemented to facilitate these changes, including the abolition of the SRA and transfer of responsibilities from the SRA and HSE railway functions including HMRI to the ORR. However, there are a range of issues that although flagged in the White Paper appear not to have been resolved. The extracts below illustrate this point:

- " The lack of any single body with operational responsibility for the whole railway at a national level lies at the root of many problems…there has been no one body that automatically takes leadership of major projects, and is able to spot the implications of decisions…no-one to take a balanced view of the costs and benefits." (p22, paragraph 1.4.16)
- "…planning and decision-making responsibilities have been dispersed across the whole industry…As a consequence, industry plans have often been drawn up and implemented in too slow and disjointed way." (p64, paragraph 4.3.9)
- A structural weakness to be addressed is "a complex and confusing public sector structure, with too many overlapping responsibilities and no clear command of strategy" (p18, paragraph 1.3.8)

These unresolved issues suggest that the Future of Rail changes have not fully achieved the intended aims and that further action is required to deliver better leadership, planning and decision making.

http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/about/strategy/whitepapers/previous/rail/

3.83 The matrix below summarises for each of the processes the parties that are: leaders (L) and participants (P). The matrix could be extended to show consultees, but because most consultation processes are open this allocation does not provide insight. This approach is similar to a 'RACI' matrix (responsible, accountable, consulted and informed), but these allocations fit better with industry processes.

TABLE 3.3 LPC MATRIX

Organisation	HLOS & Planning Ahead [4]	Technical Strategies	RUSs	Franchising/ Concessions	Annual timetabling	Performance	Infrastructure M&R[2]	Major projects
DfT	L	L[1]	P	L				L/P
TS	L		P	L				L/P
TfL			P	L				
NR	L[3]		L	P[5]	L/P	L	L	L/P
TOCs	L[3]		P	P	L/P	P		P
FOCs	L[3]		P		L/P	P		
ORR	P				P	P	P	
ROSCOs			P					P
Renewal contractors							P	
Customers			P					
PTEs			P	L/P				L/P
Trade Unions								
RSSB						P		
RAIB								
RIA								
BTP								
PDFC								
HS1 Ltd								
WAG			P	L				

Notes: (1) In conjunction with TSAG, as described below.

(2) M&R = maintenance and renewals activities

(3) The Planning Ahead component of the HLOS process is not led by DfT, as described below.

(4) As Note (1) to Figure 3.4.

(5) Typically assess some aspects of deliverability of bidders' offers on behalf of the DfT.

Source: Steer Davies Gleave analysis

3.84 The remainder of this chapter describes each of the processes and the resulting requirements for leadership, planning and decision making.

DfT Policy

3.85 DfT Policy is updated periodically in White Papers. Other announcements may be made in-between, but this is the formal channel. The Secretary of State decides what is included in this document, based on analysis completed by DfT staff. This policy informs all other DfT planning activities.

HLOS and Planning Ahead

3.86 The HLOS specifies what the government wants to buy and the SOFA what they can afford to pay. To do this government needs to assess passenger demand. The outputs specified in the first HLOS (in July 2007 for CP4) were focussed around safety, performance and additional capacity – as the first HLOS was prepared against a background of passenger growth. The HLOS was supplemented by a Rolling Stock Plan and a Rail Technical Strategy, which set out the DfT's views on the technologies that the industry should adopt and the rolling stock needs. It included the development of novel technologies like Tram-Train and next-generation multiple units as well as IEP, Thameslink and Crossrail trains.

3.87 DfT worked with TS, ORR and NR to develop models to facilitate the planning phase of the first HLOS; including the Network Modelling Framework (NMF). The final HLOSs were developed by the DfT and TS. These HLOSs then fed into the remainder of the Periodic Review process. NR then estimated the cost of delivering the outputs; ORR reviewed the estimates and set out what the outputs *should* cost and confirmed whether or not they could be delivered within the SOFA. This final (iterative) process is the latest form of the Periodic Review process through which NR's outputs; charges and income are set for a five year period. It has been modified from previous Periodic Reviews by adding the HLOS and SOFA process, thus ensuring DfT could specify the outputs they wished to buy from the infrastructure provider, NR.

3.88 As a result of the HLOS DfT had to negotiate with TOCs to amend their franchise agreements[16]. For the first HLOS this was typically to source and operate additional vehicles, sometimes to utilise additional capacity to be provided by NR. The next text box provides a selection of quotes from a recent NAO report on the effectiveness of this process.

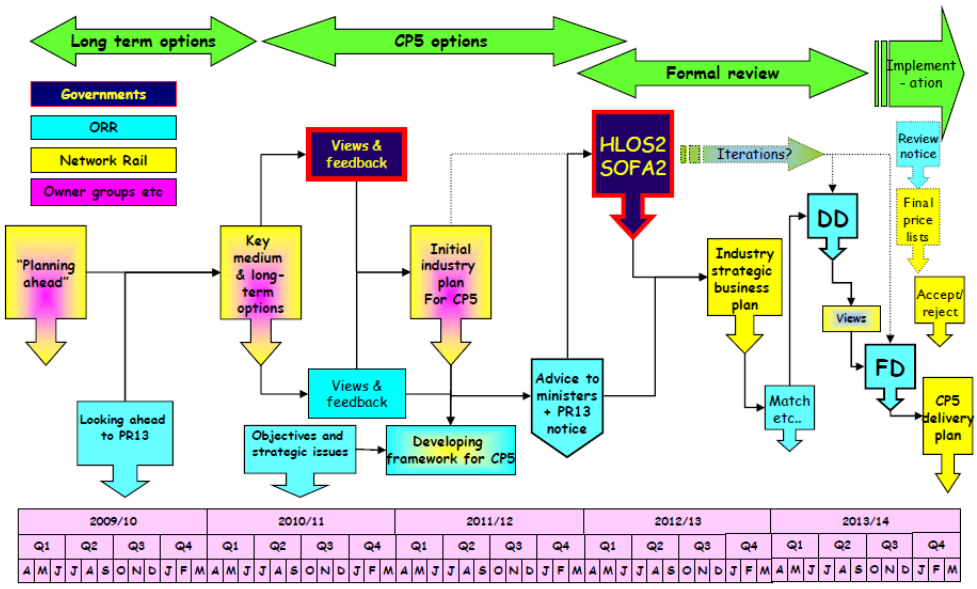
3.89 The roles and responsibilities for the second HLOS ("HLOS2", for CP5) will be different to the allocation for the first HLOS. The main changes are the development of a range of cross-industry planning groups. Details of these groups are set out below:

[16] So that the TOCs provide extra services to utilise the infrastructure and capacity created. Adjustments to track access charges are not strictly speaking negotiated as TOCs are held harmless to these changes.

- **HLOS2 development group** - DfT has established an HLOS2 joint planning group to contribute to the development of the HLOS. Its members include DfT, Transport Scotland, TfL, PTEs, Passenger Focus, Network Rail and ORR
- **Technical Strategy Advisory Group (TSAG)** - TSAG was created in response to the DfT 2007 White Paper. TSAG is a cross-industry expert group facilitated by RSSB. Its partners include DfT, TS, NR, ATOC, ORR, RIA. It was initially chaired by the DfT Technical Director, but this responsibility was recently transferred to NR. They will publish a revised Rail Technical Strategy to inform the next HLOS.
- **Planning Oversight Group (POG)** - POG is an industry steering group, initiated and led by NR, ATOC (and TOC owning groups) and RFOA; created to help inform decisions the Government will need to make in forming the HLOS and SOFA for CP5. POG has been setup to meet some of the responsibilities allocated to NR in the 2004 White Paper. It co-ordinates inputs from various industry forums including: National Taskforce; Seven Day Railway; Industry Governance Group; Safety Policy Group; Sustainable Rail Programme; and TSAG. The group has published two reports under the "Planning Ahead" series. In summer 2009 they set out their vision for CP5. The latest publication (August 2010) sets out the need for a long term vision of where the railway should be in 30 years to ensure effective decisions can be made in the short/medium term in the context of the longer term vision. This is expected to enable gaining better value for money from investment projects over the long term, and more effective transport planning. In the paper, NR and the operating companies outline their high-level vision for the railway in 30 years time; set out in which areas outputs should be achieved in order to accomplish the vision; and set out some high-level solutions which would contribute to delivering those outputs. The recent document does not set out a significantly more detailed 'long-term planning framework' to build on the first document.. The document includes some views on a plan for CP5 which will then be developed into NR's Industry Strategic Business Plan, which is part of the wider Periodic Review process.

3.90 Figure 3.5 sets out a process map for the next Periodic Review showing a potential sequence of activities, delivered by different parties, to complete the Periodic Review process. This includes the current two key input processes: HLOS2 and Planning Ahead.

FIGURE 3.5 POSSIBLE 2013 PERIODIC REVIEW PROCESS MAP



Source: ORR letter looking ahead to Periodic Review 2013 29/10/09

Increasing passenger rail capacity, National Audit Office, June 2010

In June 2010 the NAO reviewed the HLOS process. The roles of the DfT and the ORR in specifying and securing increased rail capacity were examined and the key findings reported. The extracts below are the key findings on industry planning:

"[The Department's] approach to the original forecasting and planning was robust in that it was based on good local knowledge of the network and on the whole used reasonable assumptions. Inevitably it had to make some assumptions to simplify the real world and some of these distorted estimates of demand." (p6)

"More extensive data on actual passenger numbers would improve the evidence base for calibrating and validating the forecasting model." (p6)

"The Department…assured itself that schemes had a positive business case before entering into contractual commitments wherever possible, and in some instances it decided not to proceed." (p5)

"The department did not test widely the sensitivity of the model's demand forecasts to changes in assumptions." This included both economic growth and the value placed on reducing crowding. (p6)

"The Department's planning focused on securing extra carriages to meet forecast demand in the peak periods. It explored the broad feasibility of shifting demand away from the peak, and is conducting limited trials of this approach. But it did not rely on this option or refitting of existing stock to carry more passengers to accommodate demand …" (p7)

"…the Department's latest plans would have delivered significantly less capacity … than originally specified, though the taxpayer would have provided almost as much extra support to train operators over the next five years as was originally envisaged." (p8)

"The Department and Regulator are pursuing value for money in a complex and unique industry structure. It is too early to say whether they have achieved value for money…" (p8)

In general the NAO did not identify material failures in the process adopted by the DfT. However, they do note that the costs of rolling stock are increasing; the recession erodes the need for additional capacity; and that additional capacity is proving expensive due to the challenge of negotiating and delivering changes to franchise agreements.

http://www.nao.org.uk/publications/1011/rail_capacity.aspx

Major projects and enhancements

3.91 The leadership (sponsorship) and planning of major projects is split across organisations depending on the project, for example:

- Crossrail – led by Crossrail Ltd, which was a joint venture between TfL and DfT until December 2008, when it became a subsidiary of TfL. The company is specifying and procuring the new infrastructure and rolling stock. They will either operate the service or lead the tendering process. NR is leading the delivery of enhancements to their infrastructure which will be used by Crossrail services.
- Thameslink Programme – DfT are leading on the development of the train service specification and on rolling stock and NR is leading on infrastructure, and timetable planning.
- New Lines / High Speed 2 – initiated by NR (New Lines), but now led by a company (High Speed 2 Ltd) owned by DfT.
- IEP – DfT lead, with NR leading workstream to deliver infrastructure requirements in CP4 and CP5. The franchise bidders were, until recently, planning their solutions.
- GSM-R – NR is leading and contracting with TOCs to deliver the vehicle modifications required.
- Other infrastructure enhancements – NR with potentially DfT as client (e.g. Reading station and Birmingham Gateway).

3.92 Generally DfT has a role, reflecting its position as the prime funder and decision maker, but the composition varies reflecting a range of factors, including the location, the nature of the project and its interfaces.

3.93 With the exception of Chiltern most TOCs have little involvement in enhancements or infrastructure changes apart from at stations. Even this is largely confined to car parks, cycle racks, information systems, toilets and relatively modest 'shop fit out' type activity. TOCs tend to be slightly more involved with changes to existing depots associated with the introduction of new trains and fleet cascades where NR adopts an asset protection stance.

3.94 Chiltern has both a long franchise and a good track record of developing schemes which are a prerequisite for it meeting its obligations to ensure that it attains the twenty year term. The two completed schemes have not been without difficulty:

- Evergreen 1: Railtrack underestimated the costs of key work and the difficulty of redoubling the line between Bicester North and Aynho Junction. Chiltern did not bear this cost overrun, but it undermined Railtrack's credibility.
- Evergreen 2: Was managed by Chiltern's own team and was delivered on time to meet achieve the train service enhancements that Chiltern had agreed with DfT. However, just before the scheme was completed, Chiltern services were severely affected by the Beaconsfield tunnel collapse. At the same time Virgin Trains and Silverlink's new trains were entering service and performance on the competing WCML began improving significantly. The combination of these factors meant that Chiltern suffered operating losses and asked DfT whether it could withdraw some trains to reflect a softening of demand growth. DfT

refused, the infrastructure enhancement was delivered as promised and the ownership of Chiltern changed soon thereafter (and again subsequently).

Franchising

3.95 DfT specifies, procures and manages franchises, leading the process throughout. With 16 franchises and typical durations of 7-10 years the DfT is typically specifying or procuring 1 to 2 franchises at any one time. The process generally takes 2 years from inception to the commencement of the new franchise. DfT completes almost all of the planning activities and decides what it wants to buy. This includes the development of the Service Level Commitment (SLC, which sets out the minimum service to be operated) and the level of quality to be delivered (generally through specification of targets for performance and service quality, but also for some inputs such as ticket vending machines, gates or car parking spaces). DfT will engage with NR (and use RUSs and Route Plans) and Passenger Focus to develop the specification, but only towards the procurement phase do they generally start to interact with TOC's parent companies.

3.96 For some franchises PTEs and WAG are co-signatories to the franchise agreement, which gives them the right to specify additional services or outputs, subject to funding. TS, Merseytravel and TfL let the franchises / concession in their area.

Route Plans and Route Utilisation Strategies (RUSs)

3.97 NR's Network Planning team develops and maintains the 17 Route Plans, which are published each year with the Business Plan. These are underpinned by a programme of RUSs. NR state that "RUSs establish the appropriate strategic direction from a systematic analysis of future requirements of the network". Each RUS is managed by a group consisting of key industry stakeholders.

3.98 A programme of 19 individual RUSs has now almost covered the entire GB network (e.g. the WCML RUS is currently being developed). It has been supplemented by a Network RUS which is developing strategies for stations, depots, rolling stock and electrification, and a Freight RUS which has developed a strategy to meet demand.

3.99 The Network Planning team acts as client for enhancement schemes funded by NR and liaises with customers and stakeholders with regards to the scope of future renewals programmes and the opportunities for enhancements.

3.100 Network Rail is obliged under its Network Licence to maintain established RUSs to ensure that the recommended strategy remains valid and fit for purpose. A number of factors can affect RUS recommendations over time, including changed Government policy, economic circumstance and Franchise change and remapping.

3.101 In the light of these factors NR is currently developing proposals for a second generation of RUSs. These strategies will adopt a more strategic viewpoint than undertaken in the established RUSs and, through analysis of the changes that have occurred, identify the strategic gaps that require further appraisal.

3.102 The strategies will not seek to confine themselves to a particular geographic area and will also not reappraise the recommendations made in established RUSs where these remain valid. The three workstreams are: London & South East, the North of England and Scotland.

4 Issues

Overview

4.1 This section sets out the key issues emerging from the case studies; interviews; and other rail and other sectors reviews. The issues can be summarised as:

- Lack of clear leadership;
- Lack of a system approach;
- Lack of technical strategy;
- Weaknesses in planning;
- Weaknesses in decision making;
- Overly centralised decision making;
- Excessive government involvement;
- Predominance of infrastructure solutions; and
- Inappropriate rolling stock investment and deployment.

4.2 The list above is not exhaustive but does encapsulate many of the issues perceived to be symptomatic of an industry with deficiencies in its leadership, decision making and planning.

4.3 Each section below explains the issue uncovered; the evidence; and potential solutions. These solutions are then shortlisted in the next chapter to focus on those most likely to improve value for money. Each option is numbered (using square brackets: [X]) to help the reader follow options through the remainder of the report.

Lack of clear leadership

Description of issue

4.4 Clear and consistent leadership is an essential requirement for good decision making and planning. In recent years lining up the rail industry parties in order to plan and make good decisions has proved to be a huge challenge at every stage of the development and preparation of the industry product. Within the current structure almost every plan and every decision requires each player to have made its own plan; to have made its own decision on an approach; and have a 'negotiating' brief on the matter in hand before even entering discussions and negotiations on a cross industry issue. The formal approvals processes that sign off plans and approve decisions is very different in each organisation and there are normally at least four big players involved for even the smallest increment or decrement. This takes time, effort and money.

4.5 The bigger the plan, and the more important the decisions are that rest on it, the more difficult achievement of clear and consistent leadership has proved to be. The vacuum left by this lack of industry leadership has been filled with political leadership. Government intervention in the day to day business of running the railway is at an unprecedented level. It is normally only in response to an

unplanned event, such as a major mishap or incident, that the industry itself seems able to respond quickly and efficiently without turning to government.

Evidence

4.6 A range of issues were cited by interviewees. These included:

- Great uncertainty over who leads the industry. Respondents when pressed generally said that it was the government, DfT or the Secretary of State leading the industry.
- Changing decisions on major strategies, such as the development of high speed lines and network electrification, so quickly following the completion of the first HLOS process[17]. This may partly result from the high turnover of the de-facto leadership (Secretary of State) in recent years (four in the four years from May 2006). It may partly be because of the responses made by DfT to initiatives advocated and/or developed by the industry itself where the former then decided to intervene and take over the leadership and planning from the industry. For example:
  - Initial development of high speed lines was undertaken by Network Rail[18] as a response to a demand-capability gap on the classic main lines and in fulfilment of their licence obligation to look as these issues in the medium to long term; and
  - Network electrification was first advocated by TOCs, Network Rail and other industry parties as the sustainable long term solution to the industries growing carbon footprint[19].
- The industry is reactive and lagging in embracing technological change and new developments in other areas. It was felt that many senior managers were protecting their personal positions rather than devoting energy, time and money innovating solutions and products with uncertain outcomes, which were not part of the 'contract' and would that therefore not be rewarded.
- That it was possible to cite examples of good leadership that had led to good outcomes (such as the WCML VHF timetable from January 2009, National Task Force and Joint Performance Improvement Programmes, JPIPs), but that these examples of good practice were not common. In particular the JPIP process was seen as a model to be repeated, with the key features being: clear targets; measurable goals; aligned incentives; and collaborative processes. Interviewees cited the strength of individual personalities or personal relationships that often led to these positive outcomes.

Possible responses

4.7 There is little evidence to suggest that it is an imperative to have one single GB rail industry leader, but without this form of the leadership, the industry does

[17] The HLOS was set out in the Rail white Paper published in July 2007 (www.dft.gov.uk/pgr/rail/whitepapercm7176/?view=Standard). Electrification was announced in July 2009 (www.wired-gov.net/wg/wg-news-1.nsf/0/C8549E16746FF571802575FC00228F1F?OpenDocument).

[18] Www.networkrail.co.uk/aspx/5892.aspx

[19] www.networkrailmediacentre.co.uk/Resource-Library/2007-letter-to-DfT-from-Network-Rail-and-ATOC-9c6.aspx

need to have a common purpose and direction. A range of potential responses could be adopted to address these issues including:

- Consolidation of industry parties to allow a single leader or single leadership body to control more areas of the rail product (vertical integration [23]). This would reflect the approach adopted in France or Hong Kong for example.
- Development of a cross-industry planning body, such as a 'rail agency' [16], to lead on all aspects of planning and make all the strategic decisions. They would clearly need to be empowered to ensure they had the skills, control and funding security to commit to long term investment and encourage/enforce actions from other parties.
- A cross-industry leadership group [8] (like the World Economic Forum that meets annually at Davos[20] or the regular G-7 and G-20 meetings of world leaders), to bring together industry leaders to facilitate joint decision making, partnering and agreement on common goals.
- More use of the JPIP model [15] in other areas, such as tackling railway unit costs.

Lack of a system approach

Description of issue

4.8 The flow line or 'production line' from strategy and objectives to delivery of the product to end user customers is unclear. Decision making and planning within parts of the industry do not always take into account the impacts on other parties (i.e. whole-life whole-systems costs). This may partially be due to a lack of cross-sector understanding/knowledge and/or a lack of partnering and collaborative working.

Evidence

4.9 Despite a number of recent major projects attempting to take a one-system approach (e.g. the Intercity Express Programme, IEP) and a number of system interface committees led by RSSB there are many areas in the industry where integrated approaches are not adopted. These following examples illustrate the lack of an industry approach.

Stations

4.10 The June 2010 Nichols report[21] that looked at the "Comparison of railway enhancement costs in Great Britain and barriers preventing delivery of station projects by train operators" identified:

- Procedural barriers including: Station Change; Network Rail over-specification; and Asset Protection Agreements (APAs) that do not encourage Network Rail to minimise costs.
- Structural barriers including: Short franchises and thin capitalisation meaning that TOCs are not well placed to invest; Network Rail being risk averse;

[20] www.weforum.org/en/index.htm

[21] Executive Summary published at www.rail-reg.gov.uk/upload/pdf/nichols-enhancement-costs-240610.pdf.

inefficiencies from the split of station maintenance and renewals responsibilities; and poor asset information held by Network Rail.

- Behavioural barriers including: Mistrust between parties (TOCs, Network Rail, suppliers); Network Rail resisting third party proposals for working on their assets; Assertions that the rail industry is 'special' may restrict incorporation of best practice.

Development of the Train Service Specification

4.11 The Windermere case study shown in Appendix B is a clear example where the contracted franchise Train Service Specification took no cognisance of the impact its timetable operation would have on the branch infrastructure if 100mph heavyweight DMUs were deployed. Furthermore the team that developed this specification were unaware, ignored or hadn't yet considered the impact that the planned WCML VHF timetable and associated transfer of services between Manchester and Scotland services from the Cross Country to Trans Pennine Express franchise would have on the operation of the Windermere branch service. The result of this lack of clear leadership and planning has led to significant unnecessary and abortive spend on branch infrastructure and new trains which were probably never really justified by the additional revenue generated. Operating 100mph Class 185 DHMUs is certainly no longer required given that the branch (on which the maximum line speed is 60mph) has largely reverted to being a shuttle in order to accommodate the WCML VHF timetable north of Preston.

Response to minor safety deficiencies

4.12 One interviewee cited the wholly inappropriate response by Network Rail to a minor safety deficiency that led to a slipping hazard and a minor injury to a member of train crew. The incident occurred at Bourne End ground frame when a train guard was resetting the road to enable the train to proceed after reversal on the Marlow branch. The incident was raised by the TOC as a safety concern and it was expecting the response to be the laying (or relaying) of a non-slip surface at the ground frame to avoid train crew or other staff slipping during the physical operation of the points and point locks. The actual response was the complete replacement of the mechanically operated pointwork with a miniature panel costing £millions instead of £hundreds.

Developing whole system approaches to problem solving

4.13 The years of effort and energy devoted to developing an operable timetable on the ECML and through numerous iterations of the train service specification illustrate the challenge of applying a holistic system approach[22]. The issues that need/ have needed to be considered in a holistic and strategic approach on the ECML include:

- Technical limitations of the existing infrastructure restricting the use of electric traction on busiest route section (National grid power supply outside the direct control of the industry);

[22] See for example the ORR decision in 2006 (www.rail-reg.gov.uk/server/show/ConWebDoc.7928) and NR's recent ECML capacity review (www.networkrail.co.uk/browseDirectory.aspx?dir=\RUS%20Documents\Route%20Utilisation%20Strategies\East%20Coast%20Main%20Line&pageid=4449&root=\RUS%20Documents\Route%20Utilisation%20Strategies).

- Various major schemes in development and with different levels of commitment and funding that may affect operations on the ECML including King's Cross station redevelopment, HLOS capacity schemes (i.e. train strengthening with associated infrastructure enhancements), GE/GN Joint lines upgrade, IEP, ETCS development and Thameslink Programme;
- Multiple open access operators seeking access;
- Difficulties of successive ICEC franchisees in meeting their contractual obligations; and
- Other major schemes that are not even on the agenda yet but which will directly affect the ECML in the medium term such as the replacement of the GN Inner rolling stock or an HS2 route to Leeds.

4.14 The effort expended trying to find out how to best to use existing capacity is dissipated and frustrated by the contradicting views of the industry players, none of whom have 'whole system' objectives as a goal. Whilst industry players have come together periodically to tackle one or other of the issues associated with a growing demand capability gap on the ECML there is little evidence that the range of issues affecting the ECML are ever considered together. Agreements reached on a solution that addresses one issue at a time are inevitably tactical rather than strategic.

Partnership/collaborative working

4.15 Many interviewees noted the lack of partnership/collaborative working, and this was also noted in the Nichols report. This may be due to a lack of understanding of the needs of the other party and also, as noted in a recent report by Halcrow[23], different levels of resources and skills in different organisations. Many other examples were quoted where the engineering response to maintenance and renewal was totally out of proportion to the value of the traffic on the route in question. Examples quoted by interviewees cited infrastructure renewal costs running at multiples of x10-20 times the annual total receipts of a line and where the renewal solution gave only small ongoing operating costs saving.

Possible responses

4.16 A range of potential responses could be adopted to address these issues, including:

- A rail agency [16]to take an integrated one-industry approach to train service specification, rolling stock and infrastructure trade-off and balance this against affordability and value for money.
- Vertical integration [23] or virtual vertical integration [24] to integrate leadership and planning across the operational, maintenance renewal aspects of the wheel-rail interface. The actual or virtually integrated body would take an integrated one-industry approach to train service specification, rolling stock and infrastructure trade-off and balance this against affordability and value for money.

[23] GSM-R - Lessons Learnt on Industry Collaboration, Halcrow 2010. Executive Summary published at: www.rail-reg.gov.uk/upload/pdf/enh-lessons-learnt-jul10.pdf.

- Consolidation of vehicle and infrastructure ownership [7] to provide integrated leadership and planning ownership of the wheel-rail interface.
- Allocation of franchising responsibility to NR [2] to facilitate optimising the wheel rail interface.
- Improving data collection and circulation/access [12] and sharing skills between different parties in the industry [18]. This might include data, but also people, say by giving them an opportunity to work in another part of the industry through railway apprenticeship, railway management training schemes or through secondments to other parts of the industry.

Lack of technical strategy

Description of issue

4.17 Technical strategy, technology development and technological innovation are all subordinate to short to medium term investment plans. This applies to both 5-yearly control periods for infrastructure and to circa 10 year franchise terms.

4.18 Some of the recent successful in-service technology developments (B5000 light-weight bogie on Class 220 and 222 DEMUs) are the fruit of work originally initiated, funded and developed by BR Research but with the intellectual development rights sold at privatisation. However, despite 20 years development and good in-service experience, the application of the same B5000 bogie to an otherwise successful Turbostar design (Class 172 DHMUs) has not worked well to date[24]. Each rolling stock manufacturer now offers technological USPs to customers who have to choose which product to buy without necessarily having the benefits of all technological advances in one product.

4.19 In addition some interviewees noted that the GB rail industry was increasingly lagging other sectors and that there little was real innovation in some areas (for example retailing). They noted that the GB rail industry only responded belatedly to technology advances in widespread application in other sectors. Others cited a lack of technological standardisation in other areas (for example, rolling stock design) which inhibited efficiency in operations and maintenance. Even where rolling stock is of the same basic design the lack of coherent technology standards means that trains from the same production line and deployed on similar services but acquired by different TOCs cannot work together or even be considered interchangeable. For example: the Class 220 and 222 DEMUs which despite having the same couplers – Dellner – which can be physically coupled in an emergency cannot be operated together in service because the units are wired differently.

4.20 One interviewee noted that there was no debate over whether innovation should take precedence over standardisation. A drive for standardisation can inhibit application of step change developments in technology. Evolution is easier and particularly where the new can be made back-compatible with the old. Many TOCs find it a blessing that Turbostar DHMUs are back compatible with the Pacer/Sprinter generation (Class 168 with Class 165 and Class 170 with Class 14x and 15x).

[24] Class 172 delays discussed at www.transportbriefing.co.uk/news/storyadx.php?id=7053 (subscription required) and Modern Railways.

4.21 So much of the industry supporting technology has its roots in interdependent legacy systems now owned and managed by different industry players. Parts maybe upgraded or replaced but each part still has to 'communicate' with the other parts in order for the industry effectively to plan, control, communicate to customers and allocate revenue collected by one TOC to the TOC(s) on which the passenger actually travelled. The implementation problems associated with Network Rail's new train planning system (ITPS) had an impact on a TOCs ability to present its offer to passengers, sell tickets or tell them where the train is in real time[25].

Evidence

4.22 A number of examples can be cited as shown in following paragraphs.

Electrification stop-go policy

4.23 The newly privatised rail industry had little or no interest in electrification. Worse still the infrastructure owner (Railtrack) had no incentive to complete schemes started by BR that would have saved £ms in traction energy consumption on trains delivered (or being delivered) and fitted with a regeneration capability (Class 365,465,466). Railtrack received no benefit from regeneration and had no mechanism to recover the cost of the completing the scheme, then almost 95% complete, from the benefit the TOC would receive.

4.24 The lack of strategic interest or incentive to extend electrification was enshrined by the SSRA[26] that opined that "the case for electrification of railways on a strategic national basis appears to be weak compared with the last major study (Rail Policy Review) undertaken by British Rail in 1991". The SSRA claimed that anything electric traction could do, diesel power could do as well, without the capital costs of electrification, the maintenance of the overhead equipment and risk of the wires coming down. The concept of the 'self powered' train was born to take advantage of as yet undeveloped technologies that would make future traditional electrification redundant or even replace existing electrified routes as and when the equipment was life expired. BR did, of course, de-electrify lines (Tyneside and Lancaster-Morecambe) but this was normally a precursor to line closure proposals.

4.25 In 2009 the governments view on electrification changed partly in response to lobbying by the rail industry itself saying that the case was strong (ATOC and Network Rail) and partly because the carbon agenda and rising cost of fossil fuels had rapidly changed the economics and the risk of reliance on fossil fuels. Sending such a strong go signal after such an unambiguous stop signal changed the dynamics and development of technologies and schemes. It effectively stopped the industry's ability to develop, fund and buy diesel traction for the passenger businesses. It also undermined the governments own HLOS capacity scheme rolling stock plans.

[25] www.rail-reg.gov.uk/server/show/ConWebDoc.10183

[26] SSRA, November 2000

Inter City Rolling Stock Replacement

4.26 The development of IEP has been extensively reviewed in the recent report by Sir Andrew Foster[27] and it is not necessary to expand on his conclusions in this report. Of the interviewees who mentioned the project, few thought that IEP was the right solution to the problem being addressed and few thought that it was appropriate for government to be so deeply involved in the detail of developing it. Of these respondents, most did still think that the preferred bidder will deliver the product itself and that it will work 'out of the box' if put into production. The lack of a clear technology strategy from within the rail industry itself and the often quoted damage that trains procured by TOCs do to the infrastructure may account for government feeling it needed to intervene to bridge the wheel-rail divide.

Slow and costly implementation of GSM-R

4.27 Global System for Mobile Communications - Railway (GSM –R) was selected by member States of the European Union as the European standard for train control and communication system technology. It is one component of European Railway Traffic Management System (ERTMS). It is designed to work with the other ERTMS component the European Train Control System (ETCS). The national roll-out of GSM-R by Network Rail has been protracted and expensive because of the need to fit the technology to the many different train and vehicle types used by the industry. A review of the formal responses from TOCs, FOCs and industry users to the network change proposals made by Network Rail under Condition G2 of the Network Code reveals the extent of the challenge in making national technology change quickly and efficiently. They all broadly "welcome the significant progress made…. but the proposal falls significantly short in providing assurance ….as such the Operator objects formally to the change being made"[28]. Reading between the lines it is clear that the affected parties see such an imposed intervention as a way of achieving some financial recompense for the something over which they have little control and have not budgeted for when they signed the franchise agreement or other contracts.

Slow implementation of ETCS

4.28 The European Train Control System (ETCS) is the signalling, control and train protection system designed to replace the many incompatible safety systems currently used by European railways and is the other component of ERTMS. This is a complex and difficult subject to summarise but, if implemented with a successful role out of GSM-R, could provide long term cost, capacity and safety benefits for the existing network. The chosen test bed for the system was the Cambrian lines and the decision to use this rural network was taken as long ago as 2003[29]. The stated reason for choosing the Cambrian lines was that it was relatively risk free and that the existing signalling control system was approaching life expiry and would require replacing anyway. Despite a massive overspend the system is still not operational[30] and most commentators would argue that

[27] Report published in July 2010 at www.dft.gov.uk/pgr/rail/pi/iep/fosterreview/.

[28] From standard letter sent by many TOCs to Network Rail and published on Network Rail's website.

[29] Network Rail statements

[30] Project due for completion in March 2009 (www.rail-reg.gov.uk/server/show/nav.1246).

experience gained on developing a scheme for the Cambrian lines offer little in taking the technical strategy forward for parts of the network where the benefits might be worth the effort.

4.29 Whilst there have been some successful applications of ERTMS in Europe most have suffered difficulties, delay and cost overrun[31]. Developing a 'one size fits all' signalling and control system across the whole European rail network is going to be hugely expensive and the question has to be asked are:

- Does ERTMS represent good value for money on all parts of the system; and
- Does the absence of strong, coherent and consistent railway leadership with a clear voice in the GB and elsewhere leave the development of technical strategy and innovation too much in the hands of suppliers who have grouped themselves to promote the deployment of such systems.

Slow implementation of Smartcards

4.30 Developing innovative new technologies such as smartcards in GB has lagged similar developments elsewhere. The successful London Oyster smartcard system has recently been extended, in limited form to the national rail network, but even this is still lags far behind the Octopus system as used in Hong Kong since 1997. The government has specified the ITSO technical specification for franchised TOCs and this has created significant problems where its application would interface with Oyster which is not currently ITSO compliant. The result is that full benefits of smart card technology will not be available on the national rail network for many years. The question to be asked is who should be leading the technology changes of this type.

Technical Strategy Advisory Group (TSAG)

4.31 During this study not one of the interviewees referred to TSAG despite several mentioning the industry's failure to keep pace with developments in technology. TSAG is the cross-industry group tasked with considering the future technical challenges and it is facilitated by RSSB. The 2007 Rail Technical Strategy that supported previous governments 'Delivering a Sustainable Railway' White Paper said that TSAG would be the agreed vehicle for owning and updating the industry technical strategy and responses to future technology developments.

4.32 That its role and work is so remote and unknown to interviewees might suggest that it is not in a position to shape leadership, planning and decision making relating to the future technical strategy of the industry. The organisation appears not to have been integrated with the rest of industry planning; with little direction provided and little interaction with delivery organisations (e.g. NR and TOCs). The TSAG and RSSB websites[32] make no reference to the technologies required by the big schemes in development such as IEP, HS2, Thameslink and Crossrail that present some of the greatest technical challenges for the industry in the coming decade. This potentially suggests one reason for the low profile of TSAG amongst the leaders of the industry.

[31] Railway Gazette International reports

[32] www.futurerailway.org/pages/home.aspx and www.rssb.co.uk/Pages/Main.aspx

Possible responses

4.33 A range of potential responses could be adopted to address these issues, including:

- Greater responsibility and authority for RSSB or TSAG [10] in developing and implementing technical strategies, including better links between research and major projects. For example, letting the sponsors of the major schemes focus the TSAG development agenda to the programme elements that might benefit from novel or advances in technology.
- Transfer more responsibility to franchisees [22] or the industry generally as adopted in some of the other sectors reviewed. This could be focussed on franchisees and facilitated through longer franchises and/or strengthened TOC-Network Rail relationships such as virtual vertical integration [23].
- More standardised specifications [14] in certain areas and research on the respective merits of standardisation and innovation.

Weaknesses in planning

Description of issue

4.34 Rail industry planning remains focussed on the relatively short term. Plans are often inflexible and activity is dispersed across different industry parties leading to duplication. Some planning processes are seen as either having low value or as impediments to delivery of necessary change itself. Processes such as GRIP and RADAR in franchise bid evaluation become ends in their own right and are driven by one-size-fits-all tick-box activity where gaining the tick take precedence over actual scheme outcomes. The relative values of the planning activity meant to drive the industry forward often appear subordinate to the process itself.

Evidence

4.35 The DfT's White Paper 'Delivering a Sustainable Railway' of 2007 contained few references to longer planning strategies beyond the projects then in development. It talked about planning for continuing growth and said the investments the government was making would enable the railway to carry twice as many passengers than today but not how this would be achieved.

4.36 The supporting Rail Technical Strategy[33] also published in 2007 said that the DfT would engage and support the industry more, but made it clear that outcomes depended on the government and industry working together in taking a whole-life approach in exploiting the opportunities presented by renewal of major assets and major enhancement projects. The paper again did not say how this would be achieved beyond the establishment of TSAG referred to above.

4.37 The industry (through POG) has published two high-level 'Planning Ahead' documents[34].. Page 3 of the first document states that in the second document they would 'publish a long-term planning framework which incorporates an initial view of the options for CP5'. The most recent document talks about the ambition

[33] http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/whitepapers/whitepapercm7176/railwhitepapertechnicalstrategy/pdfrailtechstrategyrts1.pdf

[34] www.networkrail.co.uk/browseDirectory.aspx?dir=%5CPlanning%20for%20CP5&pageid=5669&root=

of the industry to achieve various things but not how it will be achieved, how it will be funded or who will lead the delivery of these ambitions. The document sets out a vision for how rail can help meet a range of government objectives, but not the logic behind this or options considered, or how the vision can be adapted if planning assumptions change.

4.38 Inflexibility, such as GRIP, franchising, consultation and Network Change. Hard wiring franchise train service specifications and/or rolling stock to be deployed by a TOC inevitably leads to very expensive renegotiations every time an intervention becomes necessary. Even modest increments and decrements to a timetable are difficult to achieve, whether they are driven by market changes or necessary to accommodate physical network changes driven by schemes and projects. TOCs find themselves unable to thin services to meet changes in demand as the market evolves without a long and protracted discussion with the procuring agency.

4.39 There is no direct connection between development timetables prepared by industry parties to illustrate outcomes of strategies to the actual process of annual timetable change which ultimately delivers the product to customers. It is almost impossible to guarantee a planned outcome given this disconnect between project development processes and the actual delivery of the timetable product to customers.

4.40 There is little alignment between the franchising specification and the day to day franchise management process. TOCs are often held harmless to commitments it signs up to in franchise contracts when 'unforeseen' events and industry processes render them undeliverable.

4.41 Some interviewees suggested that they have become little more than 'wish lists' that raise stakeholder expectations but do not address the difficult trade-offs to be faced if the railway network is going to evolve and do more without raising the contribution of government and taxpayers. Even Network Rail interviewees acknowledge deficiencies in the planning processes and the company itself is proposing significant changes to RUS's.

4.42 Many interviewees express frustration with the GRIP system which primarily looks at the physical engineering inputs to projects rather than dealing with the iterative process of optimising the train service specification, infrastructure and rolling stock. It is seen by many as an expensive way of optimising the physical project inputs but without ever asking the question are they really necessary in the first place. It seems easier to do this than engaging in discussions between industry players about changes to the input specification or proposed rolling stock deployment as an alternative way of achieving broadly the same objectives. Nobody asks the question 'can I achieve 90% of the planned benefit for only 10% of the expected cost?' This may be because the 10% benefit lost from the whole scheme might represent 100% of the benefit to one party who would therefore gain nothing. However, this process is being challenged within Network Rail and changes are being made to streamline the GRIP process.

Possible responses

4.43 A range of potential responses could be adopted to address these issues, including:

- Streamline planning processes [19] (e.g. halt the RUS programme, consult less).

- Greater emphasis on long term strategies and their fit with short term plans [9].
- Transfer more responsibility to franchisees [22], say using different franchise models.

Weaknesses in decision making

Description of issue

4.44 A range of deficiencies in decision making have been identified, including:

- The data decisions are based on is often incomplete, out of date, not truly representative and often ambiguous where two data sets collected by different players say different things;
- The criteria/process used to make decisions such as GRIP noted above;
- Who makes the decisions; and
- What happens after decisions are made.

4.45 Each of these aspects is explored below.

Evidence

4.46 Lack of data or access to data, which may be collected but due to confidentiality is not universally available. For example, a number of interviewees cited the generally poor understanding of service profitability. One interviewee said that in the bus industry the cost and revenue of every service operated was known and was available for immediate review. In the rail industry there is no requirement to have this information because franchisees do not have to report on profitability by route or service to DfT. The interviewee added that he had to create service profitably reports for his own Board from information pieced together from his internal and external sources. Similar issues were also flagged in the recent Foster review of IEP. It cited a lack of transparency in the VfM process; the sensitivity of BCRs; the relatively narrow range of options considered; and the low importance ascribed to affordability.

4.47 Current cost benefit analysis, on which many decisions are made, may not capture the right effects or may require the weighting of the components to be changed. Various industry players are starting to look to alternative GDP based investment criteria[35] or are considering how to deal with the dissatisfaction with benefits arising from benefits claimed from small time savings or increases in fuel duty. Similarly, the disproportionate disbenefits arising from small numbers of passengers loosing journey opportunities when compared with the benefits of the many.

4.48 Although collegiate decision making in the industry is necessary, it is often slow and ineffective. Potential explanations cited included the tendency of personalities to dominate and that committee members lack influence in their organisations and were merely managing interfaces or stakeholders. Individuals

[35] www.networkrailmediacentre.co.uk/Press-Releases/INVESTING-TO-BUILD-BRITAIN-S-ECONOMY-1561/SearchCategoryID-2.aspx

were noted who were without portfolio within the company they represented but who appeared to act as their representative across wide ranging industry forums.

4.49 Decision making within Network Rail is not sufficiently devolved, with Route Directors having few delegated authorities. This partially is related to the point on leadership as leaders typically take decisions.

4.50 Interviewees operating in the private sector said that the only decisions that mattered to their respective Boards were the ones that affected their profitability and the own company objectives. Making compromises for the benefit of GB rail or UK PLC were a difficult sell and this made partnership working difficult because simple bi-lateral industry partnerships that exist in other sectors, where judgements could be made more effectively on the balance of risk and opportunity between two partners, were by the very nature of the current industry structure quite rare.

4.51 Simple decision making is similarly impaired by the need to follow the network code and industry consultation processes. The benefits arising from making quick decisions are lost or dissipated by the added time and cost of following these processes.

Possible responses

4.52 A range of potential responses could be adopted to address these issues, including:

- Improving data collection and circulation/access [12].
- Use alternative investment project decision criteria [3].
- Transfer more responsibility to franchisees [22] and so cascade decisions to those with a better understanding of the market.
- Internalisation within one organisation (through vertical integration [23]).
- Streamlining the Network Code and consultation processes [20].

Overly centralised decision making

Description of issue

4.53 A number of interviewees argued that decision making was made too centrally and too remote from the market. Most felt it should be cascaded to either franchisees who would respond better where services are commercial, or to regional bodies, who might better understand the needs of local passengers (and non-users) and would be better placed to make the cost benefit trade-offs. In both instances the organisations were better able to act as proxies for consumers when developing the train service specification. A third approach would therefore be to employ greater user representation directly. Transferring decision making responsibility to TOCs is captured in the more general next issue: excessive government involvement.

Evidence

4.54 TfL's success in letting the London Rail Concession and delivering a material investment programme is perceived as a model by other stakeholders. Several interviewees directly involved with London Overground cited the clarity of TfL's objectives and the quality of the relationship between TfL and the industry

players. However, most noted that this comes at a material cost, and said that it was clear that the Overground network was much more about achieving other economic and social objectives than merely benefiting the passengers who use the service. That TfL's previously stated ambitions to extend the Overground experience to other parts of the London network are not at the forefront of their agenda now, might suggest that the cost of applying the same level of quality and service elsewhere might be more difficult to justify, might be unaffordable or may just be beyond the capability of the team at this time.

4.55 Transport Scotland has a clear transport strategy articulated in both the Government Economic Strategy and the National Transport Strategy documents[36]. New outputs for the Scottish network are developed from the Strategic Transport Projects Review (STPR)[37]. With an ambitious programme of schemes in development and delivery including: Class 380 new train introduction; Airdrie-Bathgate re-opening; and the comprehensive EGIP programme there is evidence that decision making at this level works well in Scotland. However, this very visible and ambitious programme hides what are clear tensions in the relationships between industry players over who is in charge. It was clear from the interviewees that the rail industry itself feels that it should be left to 'get on with it' but similarly concern by Transport Scotland that left to 'get on with it', the industry would just spend taxpayers payers money with little regard to affordability or value for money.

4.56 Merseytravel's long held ambition to take control of the dc electric network infrastructure on Merseyside has been frustrated they believe by Network Rail who, to Summer 2010, have refused to cooperate with any such programme. Merseytravel believe that devolved decision making will enable them to save money and make better use of the opportunities for network expansion into the future. An absence of actual data about the cost and condition of the assets to be transferred has made it more difficult for Merseytravel to make a robust case. It is clear that on such a self contained network, which has few operational, control or technical interfaces or affinity with adjacent parts of the national network, that the case could be strong. With fully devolved decision making it might be possible for Merseyrail to escape the costly 'National Rail' overheads through treating this network as a local transit system such as DLR or a local tram network.

4.57 In other PTE areas, and in particular those served by the Northern and TransPennine TOCs, there is much disquiet that the benefits they were expecting from HLOS capacity schemes have been lost[38]. These two TOCs have lost most of their allocation of additional vehicles originally expected from the 1300 vehicles announced as part of the programme. The sop of North West electrification[39] and Tram-Train trials in West/South Yorkshire[40] have done little to assuage the PTE's

[36] Published at: www.scotland.gov.uk/Publications/2007/11/12115041/0 and www.scotland.gov.uk/Publications/2006/12/04104414/0.

[37] www.transportscotland.gov.uk/strategy-and-research/strategic-transport-projects-review

[38] For example, see www.thenorthernway.co.uk/downloaddoc.asp?id=319 and www.gmita.gov.uk/download/2926/item_09_rail_capacity.

[39] www.wired-gov.net/wg/wg-news-1.nsf/0/C8549E16746FF571802575FC00228F1F?OpenDocument

[40] www.railway-technology.com/projects/yorktramtrain/

concerns that they are being sidelined by a centrally driven decision making process that is out of touch with local needs.

4.58 The reason given for not devolving decision making to PTE's is that their interests are too local and do not take account of wider regional needs. Allowing PTE's to specify local train services would create a whole host of new tensions where the needs of commercial passenger, inter regional passenger and freight operators would be in direct competition for line and terminal platform capacity on congested networks around the major cities of Birmingham, Liverpool, Manchester and Leeds. A PTE has recently expressed concern to the study team about a TOCs proposals which may reduce local station stops in order to achieve the time saving benefits of faster services. Most major corridors around the major cities have these problems and each additional new station or station stop takes valuable route capacity. A halfway house would be devolve control of stations to PTE's to enable them to develop and present them in a way that better suits the local needs of the communities that they serve.

4.59 Where PTE's and other industry and external bodies come together they can present powerful agreements for change across regional networks as is evident from the recently announced Northern Hub proposals and this is a good example of collective decision making that satisfies common objectives. It will be expensive though if the scheme is to meet and satisfy national, regional and local needs without compromise.

4.60 However, the results of regionalisation in France are mixed with asymmetrical skills, experience and knowledge making it challenging for regional specifiers and funders to buy the services they want at a fair cost.

Possible responses

4.61 A range of potential responses could be adopted to address these issues, including**:**

- Greater specification powers for local bodies [11].
- Transfer more responsibility to franchisees [22].
- Add passenger representation to decision making bodies [1].

Excessive government involvement

Description of issue

4.62 The level of government involvement in provision of rail services is neither necessary nor desirable. It has a number of consequences:

- Dis-incentivising (and in some cases restricting the ability of) train operators to be innovative and responsive in markets that are largely commercial;
- Potentially reduces the ability to make difficult decisions on service levels as the market changes;
- Allows projects to be shaped by politically needs or expediency rather than the market need;
- Necessitates contracts which inhibit change and partnering; and

- Requires absolute intervention when the industry fails such as in TOC failure or in the case of WCML where an absence of government intervention may well have led to a wider collapse of confidence in the whole industry structure.

4.63 There are some advantages though:

- Relatively long period of funding stability for Network Rail – longer than enjoyed by the Highways Agency or British Rail; and
- The ability to trade-off the needs of different modes; and between passengers and taxpayers.

Evidence

4.64 Prescriptive train service specifications developed by a body that is relatively removed from the market and one that does not have the experience, detailed knowledge and tools to ensure the assumed outcomes can be guaranteed. Interviewees quoted several examples of the undeliverability or sustainability of franchise specifications. Most interviewees noted that government (or local funding body) specification was necessary to some extent for services that would not be provided on a commercial basis, but not so for largely commercial services. Even where services required subsidy it was still felt that TOCs might better tailor services to actual need than central government.

4.65 When existing capacity is exhausted or where there are major projects it was felt that there may always be some government involvement in specification and authorisation particularly where there was a need either for initial or ongoing funding. In was noted that Governments retain control over major investment projects in France and Hong Kong.

4.66 Government decision making makes it harder to take difficult decisions such as cutting services, closing stations or routes. The fact that so many 'parliamentary' or very low use services are still specified and funded and that so many urban and rural stations exist that have long lost their raison d'être says much about political willingness to take decisions to change things. It is easier in France, potentially as government is removed from this process. This may reflect the fact that the railway is state owned allowing government oversight without detailed specifications and contracts. It nevertheless demonstrates substantive public funding and delegated authority over service planning and delivery is not incompatible.

4.67 Political decision making:

- Electrification decisions that are more about satisfying stakeholder demands rather than on the basis of best or optimal business case. For example, certain aspects of the NW electrification scheme alongside the announcement of the electrification of the Great Western Main Line.
- Announcing 1000 vehicles before the HLOS planning process was completed and White Paper published[41], and before negotiations with operators were completed (or in many cases even begun), which was a hostage to fortune.

[41] The announcement was made in mid-March 2007 (Modern Railways, April 2007, page 13), 4 months before the White Paper was published in July 2007.

4.68 Contracts that make change difficult. This manifests itself in two ways:

- Franchise specifications and Control Period settlements with Network Rail are inflexible. TOCs are not able to easily flex supply to match rising or falling demand. TOCs not having access to the complete set of levers does not help either as they would undoubtedly use price as a regulator were there was no other alternative.
- Government is unable to flex contracts easily to provide additional capacity. The recent NAO report, described in Chapter 3, on progress on delivering the HLOS capacity schemes notes that the cost of delivering the capacity is much higher than expected. The mismatch between delivery of the physical infrastructure and the rolling stock is disconnected and has led to leased trains being put into store and completed infrastructure fenced off waiting for the trains to arrive. It has also led to completed 12-car platforms sitting unused for years, and in some cases probably never likely to be used except in an emergency (Mill Hill Broadway fast line platforms).

Possible responses

4.69 A range of potential responses could be adopted to address these issues, including:

- Transfer more responsibility to franchisees [22]. For example, allow different treatment of subsidised and non-subsidised services, with greater freedom for TOCs in the latter.
- Delegate responsibility (but not accountability) to a rail agency [16].
- Transfer major project decision making responsibility to an independent body (say the national Infrastructure Planning Commission[42], IPC) [21].
- Cascade responsibilities to integrated railway operating companies (vertical integration [23]).
- Auction most valuable train paths (e.g. intercity) and let the market set the level of service [4].

Predominance of infrastructure solutions

Description of issue

4.70 There is a tendency for solutions to be infrastructure focussed. This partially reflects the higher utilisation of the network and lack of available capacity following a long period of sustained growth. However, it also reflects the incentives of the parties leading aspects of planning.

Evidence

4.71 Network Rail's launch strap line in 2002 - *Delivering Excellence in Engineering*[43] – set the tone for the early years of the company, which was focussed on 'improvement in the performance and efficiency of the rail infrastructure'

[42] http://infrastructure.independent.gov.uk

[43] Network Rail Annual Reports

accordingly to the Chairman's statement in the its 2005 Annual Report[44]. Network Rail's processes initially paid little attention to its role as the network operator and controller.

4.72 Since 2005 the Network Rail led RUSs have tended to include more infrastructure solutions than those developed by the SRA. For example, a comparison of the recommendations in the GW RUS developed by the SRA in 2005 with that developed by Network Rail in 2010[45] shows that a much higher proportion of recommendations include material infrastructure programmes today. This is clearly only a single comparison and reflects the context within which both RUSs were developed - in 2004-2005 funding was scarce and route utilisation strategies aimed to make best use of the available capacity, whereas in 2008-2009 funding appeared more available and making the infrastructure fit for purpose was given a greater priority. In addition rapid growth has continued throughout this period making options using existing capacity less feasible. In other examples: only the SW RUS included pricing options[46]; and the ECML RUS specified significant infrastructure enhancements, despite the fact that an operational solution was ultimately found (although still not delivered). Again, these reflect the context within which the RUSs were developed. For example, fares policy has been constant since the first GW RUS was developed and consideration of fares policy has not been within NR's remit.

4.73 Current funding mechanisms will tend to encourage this sort of solution as infrastructure enhancements can be funded by debt, added to Network Rail's RAB and paid back over the life of the asset. The RAB has increased dramatically duringCP3 and CP4 in particular due to enhancements, such as HLOS capacity schemes. Conversely operating and timetable led solutions place immediate requirements on government funding and inevitably are seen by some stakeholders as less satisfactory particularly if, as often is required, there are losers.

4.74 The best example of this was the BML RUS. Work on the BML RUS was started first by the SRA but it was not finalised until DfT took over the SRA's functions. The BML RUS required significant changes to the timetable affecting six TOCs (SC, SE, FCC, FGW, CC and GatEx) and big a change in the way Gatwick Airport was served. The airline industry orchestrated a big campaign to frustrate what was considered by the rail industry, and most stakeholders, a quick and effective solution benefitting most passengers on this busy network[47]. The BML RUS required withdrawal of the dedicated train service between Victoria and Gatwick Airport despite it being clearly underutilised and using a large amount of capacity. DfT eventually succumbed to the airline industry pressure and agreed a lower value for money compromise. This meant that the dedicated Gatwick Express service continued to operate in the off peak but with the trains (Class460) sat in sidings in the peak to make way for a peak-only Brighton-Gatwick-Victoria service operated

[44] www.networkrail.co.uk/browse%20documents/annual%20report%20and%20accounts/2005/2005networkraillimitedannualreport.pdf

[45] RUSs produced by NR are available at www.networkrail.co.uk/aspx/4449.aspx

[46] With other RUSs recommending, but not assessing options.

[47] For example see: www.railwaypeople.com/rail-news-articles/save-gatwick-express-270.html

by Class 442 trains which conversely sat out the off peak in different sidings. Network Rail has little incentive to take on the kind of hassle as they would be accused by TOCs, and other stakeholders, of interfering in matters which are none of their business.

4.75 Currently TOCs have little incentive to stop this happening as they see periodic opportunities to be paid by DfT to support network development work. They then also seek to maximise profits through the resulting negotiation of the change.

Possible responses

4.76 A range of potential responses could be adopted to address these issues, including:

- Use alternative investment project decision criteria [3].
- Improving data collection and circulation/access [12], for example, improve data circulation between organisations to give Network Rail access to more disaggregate operating cost and revenue data so that they can make more informed trade-offs within RUSs and in the maintenance and renewal planning.
- Transfer more responsibility to franchisees [22] for example for medium to long term planning.
- Changes to funding rules [5], for example, to reduce the number of projects that can be funded using the RAB). Or reform of access charges [17] as price elasticity of demand would act as a discipline on expenditure and incidence of gold plating.
- Virtual vertical integration [24] or actual vertical integration [23] to allow the TOCs and Network Rail (or integrated railway operating company) to select the best method to deliver enhancements.
- More focus on operational / behaviour change / pricing options [13].
- Changes to NR's governance arrangements [6], although this is beyond the scope of this report and being considered by other parts of the Rail VfM team.

Inappropriate rolling stock investment and use

Description of issue

4.77 Low rolling stock investment, no liquid market at the point of re-franchising, examples of poor allocation of rolling stock and (disputed) high profitability of ROSCOs for ex BR MOLA rolling stock.

Evidence

4.78 By September 2005 the average age of the national fleet fell to its lowest point (13 years),[48] but this represented the height of the Cross Country, WCML and Southern Region Mark 1 rolling stock replacement activity. Since then it has started to rise again (to 16.7 years in June 2010) as new orders have fallen away and some of the new capacity has come from the refurbishment and reinstatement of Mark 3 HST, Loco hauled and EMUs displaced by these programmes. Some of the additional rolling stock for the Evergreen 3 scheme is expected to come from the

[48] See the National Rail Trends yearbook at www.rail-reg.gov.uk/upload/pdf/nrt-yearbook-2009-10.pdf

reinstatement of further Mark 3 vehicles already purchased by DB[49]. This might suggest that some rolling stock was replaced prematurely but more likely shows the difficulty of making cascades happens efficiently and effectively as they arise within the industry structure today. It is highly unlikely that BR would have allowed some of its most valuable assets to be sat in sidings for prolonged periods of storage given the cost of reinstatement as has been experienced by the TOCs recently.

4.79 Franchisees have little or no choice of rolling stock when franchises are re-tendered. Often the only choice is between the existing stock and new vehicles. There is also a lack of flexibility due to un-aligned franchise terms and lack of standardisation of trains and the bespoke characteristics of much of the national infrastructure.

4.80 TOCs have not been able to invest (directly) in VfM long term vehicle solutions. Off the shelf solutions have led the TOCs to make what appear to be poor decisions. The replacement of almost new Clas170 Turbostar DHMUs on the MML with Class 222 DEMUs appears poor value given that the latter has far fewer seats[50]. This meant that in order to maintain seating capacity three Class 222 cars were needed to replace two Class 170 cars. As the energy consumption and track access change per vehicle was also higher for Class 222 vehicle this seemed a poor deal. Given the MML infrastructure and different rolling stock characteristics, the Class 222 trains only had a modest journey time advantage over the Class 170 trains to offset these greatly increased costs.

4.81 The Windermere case study shown in Appendix B illustrates another example of the inappropriate deployment of new and very expensive trains.

4.82 The Competition Commission's lengthy report into the rolling stock leasing market published in April 2009[51] concluded that:

- There is a shortage of rolling stock option available to TOCs;
- Interaction between the franchising system and the leasing of rolling stock is an important determinant of the structure of the market;
- ROSCOs have weakened incentives to compete on lease rentals;
- There are barriers to entry into the market (in particular, additional supply of used rolling stock is not possible); and
- TOCs have limited incentives to negotiate with ROSCOs

4.83 The Competition Commission was unable to make any real conclusions on whether the profits made by ROSCOs provided any reliable means of assessing whether the returns made by the ROSCOs are, or are not, in excess of the cost of capital. It largely blamed DfT for the failings in this market.

4.84 The GB rolling stock market as operating within the current industry structure is clearly very difficult to compare with other industries or any other rail operation.

[49] Published rolling stock databases

[50] Published rolling stock databases

[51] See www.competition-commission.org.uk/rep_pub/reports/2009/fulltext/546.pdf

The modus operandi is so untypical that it is clearly impossible for even lengthy and costly investigations to make any sensible judgements about how effective it is at giving value for money. It is therefore unsurprising that the industry leadership and decision makers feel unable or unwilling to tackle this as there is little incentive for them to do so. It might also explain why the DfT remains unhappy with this state of affairs. The costs of not addressing this costly element of the market pass through to the taxpayer either directly or indirectly.

Possible responses

4.85 A range of potential responses could be adopted to address these issues, including:

- Consolidation of vehicle and infrastructure ownership [7] – either compulsory purchase of current ROSCO fleets or as a new entrant providing some liquidity to the market.
- Transfer more responsibility to franchisees [22], for example using TOCs to procure rolling stock (say through longer franchises and/or residual value protection).
- Vertical integration [23], which with more assets under its control and a very long term would be likely to be able to finance new rolling stock investment.

5 Options for Change

Overview

5.1 In the previous chapter, we discussed a wide range of issues relating to industry leadership, planning and decision making and identified a number of possible ways to resolve them through modifications to existing industry processes, relationships and structures. In this chapter, we define a series of options for change more precisely in order to undertake a more structured assessment of their advantages and disadvantages. At this stage, we report the outcome of a preliminary review of their relative merits before describing the results of a more substantive assessment of options (typically for major change) in Chapter 6.

5.2 As described in the outline of our assessment framework in Chapter 2, the preliminary assessment drew on the results of a workshop and further discussion with the Rail VfM team. The aim at this stage was to categorise options as follows:

- **Rejected**: options that appeared to offer little in terms of additional value for money, for example because they would be very difficult to implement given the industry's current culture and range of skills, or simply duplicate similar measures tried in the past or already in place;
- **Recommended for further evaluation elsewhere**: options that raise issues that go beyond the scope of this study (some of which are being considered under other Rail VfM study workstreams);
- **Recommended for implementation without further assessment**: options offering significant benefits (although not necessarily substantial cost savings) that could be implemented relatively easily, in particular without incurring significant implementation costs. It may be possible to implement pilot studies to test the merits of these options rather than proceeding immediately to full pan-industry implementation.; and
- **Recommend for more detailed assessment**: options that may offer value for money but which need to be considered in more detail.

5.3 The results of this categorisation, summarised at the end of the chapter, underpin the selection of options for assessment in Chapter 6 as well as a number of the recommendations set out in Chapter 7. The rejected options and options recommended for further evaluation elsewhere are not considered in chapters 6 and 7.

Table 5.1 sets out a comparison of the issues described in Chapter 4 and the potential options identified to resolve them.

TABLE 5.1 COMPARISON OF ISSUES AND OPTIONS (ALL OPTIONS)

Option		Lack of clear leadership	Lack of a system approach	Lack of technical strategy	Weaknesses in planning	Weakeness in decision making	Overly centralised decision making	Excessive government involvement	Predominance of infrastructure solutions	Inappropiate rolling stock investment and use	Total
1	Add passenger representation to decision making bodies						X				1
2	Allocation of franchising responsibility to NR		X								1
3	Alternative investment project decision criteria					X			X		2
4	Auction most valuable train paths							X			1
5	Changes to funding rules								X		1
6	Changes to NR's governance arrangements								X		1
7	Consolidation of vehicle and infrastructure ownership		X							X	2
8	Cross-industry leadership group	X									1
9	Greater emphasis on long term strategies and their fit with short term plans				X						1
10	Greater responsibility and authority for RSSB or TSAG			X							1
11	Greater specification powers for local bodies						X				1
12	Improving data collection and circulation/access		X			X			X		3
13	More focus on operational / behaviour change / pricing options								X		1
14	More standardised specifications			X							1
15	More use of the JPIP model	X									1
16	Rail agency	X	X					X			3
17	Reform of access charges								X		1
18	Sharing skills between different parties in the industry		X								1
19	Streamline planning processes				X						1
20	Streamlining the Network Code and consultation processes					X					1
21	Transfer major project decision making responsibility to an independent body							X			1
22	Transfer more responsibility to franchisees			X	X	X	X	X	X	X	7
23	Vertical integration	X	X	X		X		X	X	X	7
24	Virtual vertical integration		X						X		2
	Total	4	7	4	3	5	3	5	9	3	

Preliminary review

5.4 The tables below provide a description of the 24 options initially identified and discussed at the workshop and subsequently, indicate the results of the categorisation exercise and set out the associated rationale. In each case we have sought to explain how the option might address the specific issues discussed in the previous chapter and summarised any difficulties concerning implementation.

5.5 For the purposes of the review, we have grouped together changes that can be delivered within the current broad industry structure and those that require changes to that structure in order to ensure reasonable coverage of the range of options available. These are set out in Table 5.2 and Table 5.3 respectively. In particular, we have sought to include options at both ends of the scale of implementation costs. We consider that this is important since:

- As demonstrated in Chapter 4, there is a wide range of issues that need to be addressed and potentially a large number of options that could be considered, some potentially resolving several of the problems identified and others focused on a more limited number;
- The study has been undertaken against a background of major constraints on public spending and it is open to question whether the options involving more radical change would be affordable given the substantial, upfront costs that would probably be incurred in implementing them; and
- The industry's appetite and readiness for change, while it goes beyond the scope of this study, must be considered given that the current value for money review is being undertaken only five years after the last substantive modification of the structure of relationships and responsibilities (following the 2005 Railways Act).

5.6 Our aim has therefore been to identify a number of options that will inform the work of the Rail VfM team, recognising the broader set of considerations that they will need to take into account in formulating advice to Government. However, we note that the number of options considered has necessarily been limited by the time constraints of the study, and we do not suggest that the list presented here is comprehensive.

TABLE 5.2 PRELIMINARY REVIEW: CHANGES WITHIN THE CURRENT INDUSTRY STRUCTURE

Option	Description	Category	Rationale
[1] Add passenger representation to decision making bodies	Adding passenger representation to decision making bodies will ensure that all parties contributing to the funding of rail services (including fare paying passengers) are able to directly influence output specifications presented to the industry. Passenger Focus (or other user groups) would be required to represent passengers. To some extent this already happens through the early-consultation provided to Passenger Focus in the re-franchising process. However, this role could be strengthened.	Recommended	The option should not be costly to implement and would build upon recent changes noted.
[3] Alternative investment project decision criteria	Modify decision criteria to encourage greater consideration of affordability, longer term impacts on public spending and/or benefits to economic growth. This would imply changes to the Appraisal Summary Table required by WEBTAG to include, for example: - explicit consideration of project costs against defined affordability limits; - estimates of the discounted value of the impact of the project on public expenditure over the next (say) ten years (particularly where costs are to be added to Network Rail's Regulatory Asset Base); and - estimates of impacts on Gross Value Added at the regional and national level (as distinct from estimates of time savings).	Recommended for further evaluation elsewhere	There would be significant benefits in terms of more focus on the medium to long term impact of investment on public spending, which currently tends to be obscured as a result of the spreading of costs over time through the Regulatory Asset Base mechanism. Hence, the option should improve decision making by making impacts on spending more transparent. It is beyond the scope of this study to assess whether the traditional framework of welfare economics underpinning WEBTAG should be replaced by an alternative approach focusing on economic growth impacts. We note, however, that there are a number of methodological issues that would need to be overcome, not least the difficulties of identifying the effect of transport projects on GVA and GDP. Setting aside the last point, changes to decision criteria encouraging a greater focus on affordability and public spending impacts could be implemented relatively quickly at little or no cost.
[5] Changes to funding rules	Project funding rules could be changed to reduce the number (and value) of projects that can be funded using the Regulatory Asset Base (RAB). The objective would be to ensure both a greater focus on the medium and long term costs of projects	Rejected	Given the scarcity of public funds it would be inappropriate to place artificial constrains on the funding methods available. A growing RAB is not an issue provided it is kept below prudent thresholds, and NR is already required to do this.

Option	Description	Category	Rationale
	(to be recovered over time through the amortisation and remuneration of Network Rail's RAB) and to ensure a level playing field between infrastructure and operational solutions[52].		
[8] Cross-industry leadership group	Periodic gathering of key decision makers from Government, the rail industry and its passengers, funders and suppliers. This would provide a forum for discussing key issues and establishing a consensus over major areas of policy. It could provide the remits and accountability for other existing and new cross-industry working groups (for example, POG, TSAG, Stations Steering Group or Sustainable Development Steering Group). This may then empower the working groups and help them engage with the industry more effectively. The option has parallels with the Transport Advisory Committee in Hong Kong.	Rejected*[53]	There is a risk that the forum if overlaid onto the current industry structure would duplicate and confuse parallel decision making processes and react too readily to headlines and events. In addition, it is not clear how decisions reached would be translated into action on the ground. A cross-industry group may facilitate co-operation and decision making should some of the other options that delegate more responsibility to the industry be implemented. However, the representatives need to have the right level of authority and be able to make decisions at the meeting to allow parties to agree action/policy and work together quickly and effectively. Although this option is rejected* as a standalone option, it could facilitate some of the other options that progress.
[9] Greater emphasis on long term strategies and their fit with short term plans	Government to use the opportunity afforded by the HLOS process to set out a 20-30 year rail strategy. The DfT could be required to demonstrate how a five-year HLOS contributed to the delivery of a longer term strategy. In practice the government setting the strategy can never guarantee that the entire strategy will be implemented: subsequent governments will inevitably want to make changes; and other contextual	Recommended	While in principle this could address weaknesses in long term planning and is consistent with a reduced and more high-level role for Government in decision making, in practice it might not result in significant change. The HLOS process already provides for the publication of a long term strategy, but so far DfT has continued to focus on short and medium term investment plans and has not withdrawn from detailed decision making.

[52] The current investment framework allows the RAB to be used for non-infrastructure solutions, as long as the TOC repays the RAB addition via a facility charge. In practice this mechanism has not been frequently used to date. This may be because the asset lives of major non-infrastructure investments (e.g. trains and depots) are longer than the typical residual franchise terms and thus ROSCO-finance is likely to be a more attractive financing option as the cost can be spread over a long period.

[53] This option, whilst rejected as a standalone option overlaid on the current industry structure, could in certain circumstances provide added value when coupled with other options and in particular where specification, operations and control are devolved from government or Network Rail to other bodies or railway companies. We would recommend further consideration in these circumstances.

Option	Description	Category	Rationale
	changes may necessitate them, (e.g. the economy and the environment).The relationship between the short term plan and long term strategy need to be mapped out, with scenarios to show how the long term plan will be met should different events occur (i.e. show the risks and mitigations).		Subsequent governments may be able to alter or reverse plans; but this does not reduce the importance of planning for the long term. Hence, while it could be achieved through a simple policy change, the option is only likely to be successful if implemented as part of a broader package of measures that would force a change in behaviour, the "streamline planning processes" option considered below (Option 19).
[10] Greater responsibility and authority for RSSB or TSAG	RSSB or TSAG would take the lead on the development and delivery of a technical strategy for the industry, which could include the standardisation of specifications considered below. Its existing role would therefore be enhanced to enable it to assess key technological developments and determine the direction of investment in new technologies across the network. Parties responsible for long term planning and investment would need to demonstrate that their plans were consistent with the published strategy. RSSB or TSAG would need to lead an industry working group to ensure buy-in and delivery, which appears absent from the current TSAG led strategy.	Progress to more detailed evaluation	Potentially, this option would directly address concerns about the lack of a clear industry-accepted technical strategy and enable the industry to secure a leading position in technological development in Europe. More generally, it could encourage better planning and decision making in a critical area of activity and might also support a more system-based approach to investment (through the development of a strategy that recognised the technological interaction of rolling stock and infrastructure). Again, it would be possible to implement the option within the current industry structure. However, the powers, skills and resources of the RSSB or TSAG would need to be reviewed to determine the changes needed to support an enhanced role.
[11] Greater specification powers for local bodies	Cascade aspects of planning and decision making to decentralised bodies such as Integrated Transport Authorities, Passenger Transport Executives and Local Enterprise Partnerships, possibly following the model already in place on Merseyside (whereby Merseytravel, the Passenger Transport Executive is responsible for awarding and managing the local rail concession).	Progress to more detailed evaluation	This option directly addresses the issue of centralised decision making since the power to specify services and determine levels of investment is devolved to the local level. However, implementation would be challenging since it would be necessary to resolve issues related to boundaries and overlapping responsibilities. Note that the Merseytravel model is not readily transferable since Merseyrail operates on a largely dedicated network, in contrast to the Northern franchise. In addition, responsibilities for funding would need to be defined, recognising the potential political objections to central funding of locally specified services.

Option	Description	Category	Rationale
			Nevertheless, in view of the apparent success of the precedents set by Transport for London and Merseytravel in the development of local rail services, we consider that this option merits further assessment.
[12] Improving data collection and circulation/access	Introduce processes for formal sharing of data between parties, including information on loadings, costs by route and franchise and business case analysis. The exchange of information should be collaborative and reciprocated: all appropriate parties need to participate in good faith. Support through investment in improved count data and tools to better estimate the value of each train, path or seat.	Recommended	This would address some of the weaknesses in planning and decision making by providing industry parties with a consistent set of data to help determine the best allocation of capacity in the very short term. It could also assist in achieving a whole system approach to planning by supporting a shared understanding of demand, costs and constraints at a relatively detailed level, although in itself it would clearly not be sufficient to ensure co-ordinated investment in infrastructure and rolling stock and effective management of the wheel-rail interface. Relatively simple to implement within the current structure, although would require some changes to existing responsibilities and limited investment in data gathering and analysis. It also raises issues surrounding the confidentiality of commercially sensitive data.
[13] More focus on operational / behaviour change / pricing options	Specify that operational, behavioural and pricing solutions are given greater priority in the HLOS capacity scheme and RUS development processes, and also in the renewal and enhancement projects developed within NR. The latter may be best implemented by amending NR's 'GRIP' project development process.	Recommended	Relatively inexpensive to implement and could quickly lead to a re-balancing of the type of solutions developed. To achieve the best outcome it would need to be implemented quickly to ensure schemes developed for the next HLOS capacity scheme and next phase of RUSs reflect this re-focussing. To some extent this may already be happening as NR and DfT will be aware of the likely scarcity of funds for future projects.
[14] More standardised specifications	Adopt simpler and more standardised specifications for new trains, stations and other asset-based enhancements.	Recommended	This could support the development of a more coherent technical strategy as well as improving decision-making in relation to rolling stock and other procurement and providing for greater flexibility in the allocation of train capacity across the network. However, it is difficult to see how it might be implemented without establishing a body with clearly defined responsibility for standardisation. It would also be necessary to determine the

Option	Description	Category	Rationale
			appropriate trade-off between standardisation and innovation. Hence, while we suggest that this option should not be taken forward in its own right, it could be implemented as part of a broader package of changes for the development of an industry technical strategy. For the purposes of this review, we have assumed that it would be part of the option involving an enhanced role for RSSB or TSAG, discussed earlier.
[15] More use of the JPIP model	Apply the key elements of the JPIP (a clear objective, well-defined responsibilities, aligned incentives and regular interaction of relevant staff) to other industry issues (e.g. cost escalation).	Recommended	Given the success of the JPIP in the area of performance improvement, we consider that the same approach could be used to strengthen leadership and improve decision making in relation to focused cost-control initiatives and short term capacity planning. It is less clear that it would assist longer term planning with less well-defined outputs. The JPIP provides a template that would assist implementation.
[17] Reform of access charges	This could also involve a number of changes, including establishing a clearer link between enhancement expenditure and fares through access charges and charging open access operators to reflect the external costs that they impose on franchisees (e.g. in terms of planning/dislocation of services).	Recommended for further evaluation elsewhere	Could strengthen decision making by aligning infrastructure investment more with passenger demand. Might also discourage tendency to infrastructure led solutions since price elasticity of demand would act as a discipline on expenditure and incidence of gold plating. However, passenger demand led investment difficult to achieve in practice, particularly where infrastructure is shared and issues concerning appropriate allocation of costs of capacity expansion between services arise. This is perhaps more of an option for funding than for improving planning and decision making. The ORR is separately considering options for improving incentives through reform of access charges.
[18] Sharing skills between different parties in the industry	Provide new staff in different parts of the industry with opportunities to work in different areas through secondments. Formalise the process through some form of industry-recognised qualification. This could be implemented in parallel with an industry	Recommended	This would help to improve planning and decision making and foster more of a system approach by exposing staff to issues and perspectives in different parts of the industry. Secondments are already a feature of the industry to some degree and the practice could be increased relatively easily. The

Option	Description	Category	Rationale
	apprenticeship scheme.		incentives to sponsor apprenticeships might need to be strengthened, particularly among TOCs with relatively short time horizons and low staffing levels. However, Network Rail would have greater flexibility to offer staff, although confidentiality and staff-poaching issues would need to be considered.
[19] Streamlined planning processes	Government to set a high-level page limited HLOS (say four pages), explicitly linked to a long term strategy for the rail industry. No Government involvement in the development of detailed plans to meet it. Network Rail and ATOC develop joint solutions in response and price them (which goes beyond the current Planning Ahead workstreams), with ORR arbitrating as necessary and contractualisation of plans prior to the control period. Minimal further RUS development.	Progress to more detailed evaluation	This would strengthen leadership and planning by redefining and clarifying key roles for Government and different industry parties. It would also reduce the role of Government in decision making and hence decentralise some aspects of the decision making process (although it would not deliver geographical decentralisation, which would require a separate response). As noted above, it would incorporate a requirement for Government to publish a long term rail strategy and demonstrate that the HLOS supported longer term objectives. The option could be implemented within the existing broad structure of the industry, and would require a modification rather than a replacement of the current HLOS process. However, implementation costs and timescales would be significant. In particular, while we have not reviewed the 2005 Railways Act to determine the need for legislative change, we note that mechanisms to limit Government involvement in detailed planning and provide for a joint, or at least co-ordinated, Network Rail-ATOC response to the HLOS would be required. This supplements the current Planning Ahead workstreams which bring NR and TOCs together to input into the HLOS, but not to respond to it. It would be necessary to consider how ATOC's involvement and role could be funded as its members may not wish to contribute on a voluntary basis. Franchised TOCs could be mandated to contribute and fund through franchise agreements.
[20] Streamlining the Network Code and consultation processes	Introduce simpler change processes, for example in relation to the Network Code, station closures and associated procedures and processes. Shorten consultation periods where possible and provide for more decisions on the basis of majority voting	Recommended for further evaluation	The need for faster decision making is recognised by a wide range of industry parties. As well as addressing some of the weaknesses in existing decision making processes identified, it could help to focus investment and maintenance expenditure on parts of the

Option	Description	Category	Rationale
	rather than consensus.	elsewhere	network most valued by passengers and support a more efficient allocation of capacity. The industry does amend such processes relatively regularly, but implementation is likely to be protracted given resistance from some stakeholders, as existing processes have been developed to provide protection to parties such that their financial and commercial position cannot be undermined by decisions affecting the network without consultation and compensation - consensus is required, outcomes are negotiated and need to reflect the interests of all parties. However, the option could be achieved with existing industry processes and is being considered by the ORR. The ORR could provide a lead by reviewing its own procedures relating to the Periodic Review of access charges and encouraging similar reviews of those surrounding network change and other aspects of decision making.
[24] Virtual vertical integration	There are a range of possible sub-options: - Better alignment of incentives across the wheel-rail interface , for example, by removing the no-net-loss no-net-gain provisions in the Franchise Agreement that hold TOCs harmless to changes in variable track access charge rates (but with provisions relating to changes in fixed charges remaining); - Exposure of TOCs to a small component of NR's operational costs (say 5% of the Strategic Routes that the TOC uses); and - Introducing joint profit and loss accounts or even a joint venture relationship between NR and TOC on certain aspects of infrastructure costs (for example track). In practice the best option may depend on which other options are also implemented, for example, Transfer more responsibility to franchisees (Option 22).	Progress to more detailed evaluation	These sub-options could improve planning and decision making significantly, as well as encouraging a system-based approach, by aligning NR and TOC incentives more effectively. It might also discourage the tendency towards infrastructure-based solutions to capacity constraints since TOCs would be incentivised to suggest lower cost operational and rolling stock solutions where these existed. It could be implemented through the modification of the contractual framework for track access but would need to be phased in line with refranchising (application of the Schedule 9 change compensation process within existing franchises would be unlikely to deliver value for money). The option would also probably be most effective if coupled with broader franchise reform, including the introduction of longer franchise terms, allowing TOCs to take greater risk.

TABLE 5.3 PRELIMINARY REVIEW: CHANGES TO THE INDUSTRY STRUCTURE

Option	Description	Category	Rationale
[2] Allocation of franchising responsibility to NR	The DfT's responsibility for franchising would be transferred to Network Rail, which would then be responsible for train service specification and infrastructure investment and delivery.	Progress to more detailed evaluation	Since train service specification and responsibility for the infrastructure would be combined within a single organisation, this option could be expected to encourage a system-based approach and reduce or eliminate the tendency towards infrastructure-based solutions to capacity constraints. It might also address other weaknesses in leadership, planning and decision making by breaking down barriers between different groups and overcoming "silo" thinking. Again, the option would involve major change and significant implementation costs. However, as it could address a number of key issues, we consider that it merits fuller consideration.
[4] Auction most valuable train paths	Auction the more commercial (primarily intercity) train paths and allow the train operators acquiring pathing rights to determine the timetable. Some protection would be needed to ensure that bidders could assess the value of different paths. Paths would also need to be packaged to enable bidders to determine coherent service options before submitting bids.	Rejected	The option would lead to a more commercially focused allocation of capacity on the routes on which paths were auctioned. TOCs would be incentivised to generate the maximum revenue from the capacity available to them and would therefore develop timetables reflecting passenger demand. Incentives to minimise costs would also be maintained and possibly increased. However, implementation would be challenging as the industry has no experience of capacity auctions. Complexities related to interactions with franchised services would need to be resolved. Bidders would require long term security over their access rights, limiting the ability to re-balance capacity between different types of users or different markets. Measures would be required to ensure that the network benefits offered by a franchise were not lost, as this would impact adversely on total GB rail revenue.
[6] Changes to NR's governance arrangements	Inject private equity into Network Rail's capital structure and/or strengthen the organisation's accountability to	Recommended for further	Introducing private equity would impose stronger financial discipline on the organisation, with shareholders exercising

Option	Description	Category	Rationale
	Government by reforming the existing membership structure.	evaluation elsewhere	scrutiny of investment decisions and cost levels. More accountability to Government would also ensure more effective oversight of some key decisions, for example those relating to levels of senior remuneration. This option involves significant structural change and may need legislation. Consideration of the basis for changing Network Rail's governance arrangements goes beyond the scope of this study, but we suggest that this is a key issue to be addressed within any reform measures intended to deliver better value.
[7] Consolidation of vehicle and infrastructure ownership	Network Rail would own the GB train fleet and be responsible for refreshing it. The organisation could either finance new trains and build up its share of the fleet over time or purchase existing stock from the ROSCOs.	Progress to more detailed evaluation	Similarly, this option could be expected to lead to a system-based approach to the maintenance and development of the network by giving Network Rail more direct control of the wheel-rail interface as well as a broader leadership role. The trade-off between significant implementation costs and benefits requires further consideration.
[16] Rail agency	Restructure the industry along similar lines the model in place between 2000 and 2005, but ensure that the new agency had more direct control over Network Rail's investment decisions. The agency would develop 5-year rolling plans, updated annually with a view to delivering the HLOS and SOFA published by Government. Franchising and the RUS development function currently the responsibility of Network Rail would be transferred to the agency.	Progress to more detailed evaluation	The agency would provide leadership and make for a more effective trade-off between train service and infrastructure-based solutions to capacity constraints. It would plan within clear financial parameters and a broad strategy for rail set by Government. In addition, it could clearly be introduced alongside other reforms, for example longer, less prescriptive franchises providing train operators with greater commercial freedom. The trade-off between significant implementation costs and benefits requires further consideration.
[21] Transfer major project decision making responsibility to an independent body	Establish an independent body to examine applications and give final planning consent for major rail schemes and select projects based on the available funding.	Rejected	The organisation would not be able to trade-off rail and other transport and non-transport project as they would only have funding for rail projects, unless more responsibilities were devolved. They would also only have responsibility for major (infrastructure) projects and so not be able to take into account the impacts on the ongoing cost of operating rail services.
[22] Transfer more	The train planning, service quality and the investment needed	Progress to	This would make for clearer leadership and allocate responsibility

Option	Description	Category	Rationale
responsibility to franchisees	to support franchise-led asset management and investment would be determined by TOCs as they are passenger-facing and responsible for the delivery of the final rail service. They would therefore drive decisions relating to investment in both trains and infrastructure. TOCs are not currently incentivised to do this as they have no interest in NR costs (due to the no-net-loss no-net-gain provisions in the Franchise Agreement) and little interest in enhancements (as they are specified and paid for by government). Rectifying this might be most easily achieved through some of the other options set out in this table (for example, actual or virtual vertical integration). However, it is possible that changes to other franchise terms may help to achieve this objective, for example, adapting the level of risk transfer to meet market conditions and lengthening franchises to increase the TOCs' planning horizon.	more detailed evaluation	for key investment decisions unequivocally to the TOCs. TOC MDs would therefore acquire a stronger leadership role than they currently have. In principle, they would also be able to take a system-based approach to investment. TOCs However, this option could not be implemented without major changes to the franchising process and/or more radical reform of the industry and requires further assessment.
[23] Vertical integration	Integrate train service and rolling stock specification, timetabling and train service delivery with infrastructure operations, maintenance renewals and enhancement. Vertically integrated companies could be based on geographical regions or markets and subject to different ownership and financial arrangements. Each would be responsible for its own network planning but measures would be put in place to preserve network benefits.	Progress to more detailed evaluation	While complex and difficult to implement within the constraints of EU legislation, this option could provide for stronger leadership throughout the industry and ensure a system-led approach to the development of the network. It would remove contractual barriers currently encouraging "silo" thinking and enable more co-ordinated planning and allocation of capacity. Infrastructure would be treated as an input into the final service rather than a primary focus of investment. Some new contractual tools would be needed to manage the interface between parties to manage the production of a national timetable product and also to manage the interaction with national operators such as freight. The trade-off between significant implementation costs and benefits requires further consideration.

Summary of preliminary review

5.7 In the course of our review of the options described above, we have identified seven that, in our view, could improve value for money in the rail industry and do not require further evaluation in this workstream. In summary, these are:

- [1] Adding passenger representation to decision making bodies;
- [9] Placing greater emphasis on long term strategies and their fit with short term plans;
- [12] Improving data collection and circulation/access;
- [13] More focus on operational / behaviour change / pricing options;
- [14] More standardised specifications;
- [15] More use of the JPIP model; and
- [18] Sharing skills between different parties in the industry.

5.8 In addition we recommend further evaluation of four more options is undertaken, albeit outside the scope of this study. In summary, these are:

- [3] Alternative investment project decision criteria;
- [17] Reform of access charges;
- [20] Streamlining the Network Code and consultation processes; and
- [6] Changes to NR's governance arrangements.

5.9 In addition, we have also outlined nine more radical options that are likely to give rise to significant implementation costs. These require a fuller assessment, in particular the quantification of costs and benefits, in order to determine those likely to offer the greatest improvement in value for money. They are listed in Table 5.4, which indicates the issues discussed in Chapter 4 that each could address.

5.10 Several of these options could be implemented in different ways depending on the particular objectives underpinning the change. For example, as noted above, vertically integrated railway companies could be regionally based or market led. In the following chapter, we therefore define the options in more detail, identifying sub-options where appropriate and explaining how they might improve decision making in different areas before assessing them against a number of criteria.

5.11 The effect of different kinds of ownership of the companies described in each of the options has not been considered as part of this study. It is assumed that in options that build on today's industry structure there is no change in ownership beyond that normally associated with franchise change or franchise intervention, or that occasioned through normal commercial transactions. In options that involve more radical change to industry structure there are many different ownership options available. Ownership change may have an impact on the performance of these options, but this has not been considered further.

TABLE 5.4 COMPARISON OF ISSUES AND OPTIONS (OPTIONS SELECTED FOR FULL ASSESSMENT)

Option		Lack of clear leadership	Lack of a system approach	Lack of technical strategy	Weaknesses in planning	Weakeness in decision making	Overly centralised decision making	Excessive government involvement	Predominance of infrastructure solutions	Inappropiate rolling stock investment and use	Total
2	Allocation of franchising responsibility to NR		X								1
7	Consolidation of vehicle and infrastructure ownership		X							X	2
10	Greater responsibility and authority for RSSB or TSAG			X							1
11	Greater specification powers for local bodies						X				1
16	Rail agency	X	X					X			3
19	Streamline planning processes				X						1
22	Transfer more responsibility to franchisees			X	X	X	X	X	X	X	7
23	Vertical integration	X	X	X		X		X	X	X	7
24	Virtual vertical integration		X						X		2
	Total	2	5	3	2	2	2	3	3	3	

6 Detailed Assessment

Overview

6.1 This chapter describes 11 options, each involving significant change to the processes, the regulatory and contractual framework and/or the structural organisation of the GB rail industry. They include two sub-options for two of the options requiring structural changes to the industry outlined in the previous chapter. All are subject to a structured assessment involving consideration of financial impacts (in terms of cost savings and implementation costs) and other factors to be considered (for example, the speed with which cost savings could be achieved and the extent of any legal barriers to implementation).

6.2 All of the options considered here would involve major disruption to the industry during implementation and, as discussed at the beginning of Chapter 5, it is open to question whether the overall costs of implementation would be acceptable in the current economic and political climate. Further, a full appraisal of each option would require more substantive and detailed analysis than has been possible within the time constraints of this study. However, we consider that the results of the assessment described here will help to inform further consideration of changes with the potential to deliver considerable improvements in the value for money of the rail industry over the medium to long term. Accordingly, the assessment underpins a number of the recommendations set out in Chapter 7.

Methodology

6.3 Again, our assessment drew on outputs from the workshop included as part of our overall study framework and subsequent discussions with the Rail VfM Team. The aim was to consider how each option might affect key areas of decision making (capacity allocation and planning, train procurement, infrastructure maintenance and renewals, planning enhancements, performance and technical and safety decisions) and then score its performance against two financial criteria and five qualitative criteria. The criteria were defined as follows:

- Net long term cost savings;
- Transition costs;
- The speed with which cost savings might be realised;
- The impact of the option in terms of the level of competition and the effectiveness of the incentives created;
- Practicality and deliverability, for example taking into consideration issues such as acceptability to stakeholders;
- The extent of any legal barriers to implementation; and
- The likely flexibility and resilience of the industry if the option were to be adopted.

6.4 In applying the financial criteria we made estimates by reference to the following bands:

- Net long term cost savings:
  - Low: £0-£100m;
  - Medium: £100m-£400m; and
  - High: Greater than £400m per annum.
- Transition costs:
  - Low: £0-£5m;
  - Medium: £5m-£20;
  - High: £20m-£100m; and
  - Very High: Greater than £100m.

6.5 The main financial assessment was completed on a bottom-up basis, with examples of mis-specification, duplication and inefficiency identified and the extent to which each option would prevent this being repeated estimated. The total potential cost saving was sense-checked to ensure that the estimated cost savings for each option are of the right order of magnitude. This included considering how well the categories of costs align with the breakdown of total annual industry costs (i.e. 4 categories of NR costs, 2 categories of TOC costs and total FOC costs); and whether the relativities between the cost savings and the total annual industry costs are robust. Appendix E explains the cost estimation process in more detail.

6.6 Options were scored against each of the qualitative criteria on a five point scale, with "✓✓" representing a good score, "XX" a poor score and "0" no material impact in terms of the factor being considered. Hence, a score of "✓" indicates a moderately favourable impact.

6.7 In all cases, cost impacts and qualitative scores are expressed relative to a do minimum case in which Network Rail achieves all efficiency, safety and performance targets for CP4 and that franchised operators change as franchise contracts expire and are retendered (with franchise payments varying to reflect revenue support). Hence in the case of some options (which do not overlap materially with others) it is possible to aggregate results, at least at a high level. For example, the results for Option 24 (virtual vertical integration) could be combined with Option 22A (transferring more responsibility to franchisees). Clearly, this aggregation can only approximate the benefits, as it will not reflect any synergies from the implementation of both options together, or any conflicts that may reduce the benefits or add additional costs. More generally, not all options can be added in this way and care should be taken to avoid double-counting the potential savings. Nevertheless, the aggregated options can be used to develop hybrid options for the Rail VfM team to assess in more detail.

Assessment

Option 19: Streamlined planning processes

6.8 The objective of this option is the development of a new industry planning process (in addition to franchising), within the constraints of the existing structure. This would involve:

- Retaining the HLOS concept, but with DfT setting only the high-level long term strategy and policy and defining a short-term (one Control Period) high-level, page limited output specification and budget;
- No Government involvement in the development of detailed plans to meet the either the long term strategy or short term specification; NR and TOCs developing solutions in partnership and pricing them (which extends the evolving partnership developed in the Planning Ahead workstream beyond option generation);
- ORR arbitrating, considering the wider value for money of the solutions proposed and contracting changes before the beginning of each control period; and
- Minimal RUS development work (as arguably NR has a good understanding of the networks' capability and how much it would cost to flex it, and could now update this every 5-10 years).

6.9 Two key additions are required: (i) a rolling medium term look-ahead progress report produced annually to increase visibility of progress and illustrate what changes have been made to the short term plans and how these will influence the long term strategy, and (ii) an explicit explanation of how the 5-year plan contributed to the 20/30-year strategy to force a lengthening in the planning horizon. Similar changes could be made to the planning processes in Scotland (indeed, running two different processes in parallel could be expected to lead to inefficiency).

6.10 The choice of parties to lead the arbitration/negotiation could be different in practice. However, there may be value in ORR leading on both NR and TOC discussions, in particular if they are given some latitude to trade-off requirements within an overall output target.

6.11 These changes would prevent repetition of a number of instances of planning duplication in recent years, for example: (i) NR's New Lines and DfT's HS2 studies, (ii) the Stafford by pass and GWML electrification (both of which have NR and DfT business cases), and (iii) the emerging Planning Ahead & HLOS2 parallel processes. There would be no changes to other industry processes or responsibilities.

6.12 The option would not materially impact on leadership, but would enhance planning and decision making, as indicated in the table below.

TABLE 6.1 OPTION 19: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Responsibility would remain with TOC/s NR/ORR.
Capacity planning (2-5yrs)	Streamlining of functions and participants. NR & TOC changes to be contracted before the CP commences creating stability and focus. Simpler process with TOCs proposing changes and these being negotiated quickly. Flexibility delivered by including options in contracts. Responsibility would now be with TOCs/NR/ORR with no DfT involvement.
Train procurement	Could still be led by a range of parties, but the leading party would be clear about what they should assume and what other parties will contribute.
Infrastructure M&R	No material changes.
Planning enhancements (5-30 yrs)	Streamlined, as described above.
Performance	No material change, except where performance levels negotiated within the HLOS process.
Technical & safety	No material changes.

6.13 In our view, this option is likely to generate significant cost savings with relatively low implementation costs. It also scores reasonably well against a number of qualitative criteria, as indicated below.

TABLE 6.2 OPTION 19: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	Cost savings from fewer staff and studies. Fewer poor specifications for renewal projects. Lower costs associated with franchise & network change.
Transition costs	**Low**	Consultation, organisational re-structuring, but no material costs.
Speed of savings	✓	Rapid – HLOS2 process started and needs to be finalised in 2012.
Competition & incentives	**X**	ORR does not have experience completing transactions and arbitrating with TOCs. Further, TOCs are still not incentivised to co-operate, and mid-franchise change and single tender negotiations are still required. TOC's licences could be amended to force co-operation but such requirements could only be added as franchises were re-let (without material cost). Incentives could be enhanced by allowing the TOC to share some of the gain.
Deliverability, practicality	**X**	Trying to negotiate/implement all of the HLOS capacity scheme changes simultaneously will create resourcing issues for all parties. Some potential synergy from ORR negotiating with TOCs and NR simultaneously, especially if integrated submissions are requested.
Legislative barriers	✓✓	Probably none.
Resilience & flexibility	✓	Options need to be built-in to preserve flexibility. Unlikely to be robust to a severe recession.

Option 10: Greater responsibility and authority for RSSB or TSAG

6.14 This option could be expected to provide a stronger basis for the facilitation of technological change across the industry, thereby addressing concerns that innovation and technological change across the rail industry is beginning to lag other sectors because of a lack of clear leadership. This is particularly relevant in critical areas such as the wheel/rail interface, where evolving control and real time management systems require a consistent and integrated systems approach across the network. It is also important for retailing, distribution and information systems, which still require total cross industry agreement and leadership.

6.15 In the absence of strong market incentives, allocating clear responsibility to one party should help facilitate leadership, co-ordination and delivery. RSSB leads on standards, (some elements of) safety and interfaces and its role could be expanded to include technology. This would ensure that the industry benefitted from the same clear leadership in this area as in safety and performance. In addition, RSSB's remit could be updated to ensure that the organisation is also focussed on VfM. DfT's technical team would be disbanded and the limited research activities undertaken by NR would also be curtailed. There would be no other changes to industry leadership, planning, decision making or structures.

6.16 The option could be implemented either by requesting RSSB or TSAG to lead on the development of new technologies sponsored by other industry parties (or on a standalone basis as the BR Research Department did before privatisation), or by providing the organisation with a fund to administer and inviting other parts of the industry to bid for resources to support investment. The bidder would need to justify its proposals and report on progress and delivery, an approach similar to that adopted by the water regulator.

6.17 Irrespective of which parties were responsible for technological development, the RSSB or TSAG would be tasked with providing leadership, coordinating an industry-generated strategy and a detailed implementation plan and ensuring delivery of the plan. They would need to build on the initiatives implemented by TSAG and the DfT Rail Technical Directorate. This might require a change to the current approach to decision making (with possibly less emphasis on achieving a consensus) and possibly further incentivisation. The key impacts in each main decision area are summarised below.

TABLE 6.3 OPTION 10: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	There may be some benefits from the development of technologies and techniques that would allow trains to be timed to the nearest second as opposed to every 30 seconds. This may result in additional capacity becoming available without recourse to other infrastructure enhancement. It is understood that this is a key objective of ERTMS, for example. Responsibility would remain with TOCs/ NR/ORR except where they sponsored RSSB or TSAG to undertake the work on their behalf.
Capacity planning (2-5yrs)	No change, unless new technology were to lead to enhanced assets, techniques or resources. Responsibility would remain with DfT/ NR/ORR except where they sponsored RSSB or TSAG to undertake the work on their behalf.
Train procurement	If residual value risks could be overcome, greater innovation and/or standardisation depending on which route RSSB decided to pursue. However, material underwriting of risks would probably be required. Responsibility would remain with ROSCOs/TOCs, with NR retaining the handling of vehicle acceptance.
Infrastructure M&R	No changes, except perhaps at the wheel-rail interface. NR's adoption of technology to enhance maintenance and renewals should continue to remain an internal commercial decision, subject to regulatory oversight. Responsibility would remain with NR except where they sponsored RSSB or TSAG to undertake the work on their behalf.
Planning enhancements (5-30 yrs)	Leadership of planning for major projects would remain in other bodies, but RSSB could take a more active role, focusing on ensuring technology was given appropriate emphasis. Responsibility would remain with DfT/ TOCs NR/ORR except where they sponsored RSSB or TSAG to undertake the work on their behalf.
Performance	Similar impact as set out in the infrastructure maintenance and renewal section above.
Technical & safety	Potentially a material change in technological change. Responsibility would pass to the enlarged RSSB or TSAG.

6.18 As this option is focused on only one area of decision making, we consider that the associated cost savings would be limited. In addition, the option scores relatively poorly against the qualitative criteria, as indicated below.

TABLE 6.4 OPTION 10: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Low**	Adoption of new technology leading to long term cost savings (and revenue increases).
Transition costs	**Low**	Consultation, organisational re-structuring, but no material costs. Need to create a team in RSSB or TSAG and provide funding for research, but largely offset by cost savings from DfT technical team and Network Rail.
Speed of savings	**XX**	The pay-off from technological change is likely to take several years – if it were less then there may have been more of an incentive for TOCs to lead.
Competition & incentives	**X**	RSSB or TSAG will need to be focussed and incentivised and other industry parties incentivised to co-operate with the organisation. A risk that people involved will not be affected by the consequences of their decisions. Potential risk that RSSB- or TSAG-led research might crowd-out existing privately financed research and investment. This needs to be set against recent history of little technological change in the rail and other regulated sectors. Potentially loose cross-sector benchmarks too.
Deliverability, practicality	**X**	No material delivery issues, although some uncertainty as to whether it will deliver significant change.
Legislative barriers	✓✓	No material issues.
Resilience & flexibility	**X**	Investment programmes may take time to return value and stable long term funding will be required.

Option 22A: Transfer more responsibility to franchisees A

6.19 This option would involve implementing the proposals contained in the recent Reforming Rail Franchising consultation document, which in summary are:

- Using different franchise models in different markets/environments with greater responsibility for planning, decision making and investment;
- Longer franchises to allow investment, and greater residual value protection;

- Government retention of (some/all) GDP and London employment risk; and
- Looser specifications with indicative budgets.

6.20 Hence, more leadership, planning and decision making responsibilities would be cascaded to franchisees in this option. The TOCs could therefore be expected to make commercially focused decisions around the specification of the train service within defined parameters. The responsibilities of other parties would not be affected directly, but ROSCOs', freight operators' and ORR's interaction with TOCs would change. Some form of cross-industry leadership group (similar to Option 8) may be a useful forum to address common issues.

6.21 The expected impact of the option in each area of decision making is summarised below. Note that we have assessed the option on the assumption that the changes would only apply in respect of franchises awarded by the DfT (and not to the ScotRail franchise and Merseyrail Electrics and London Rail concessions).

TABLE 6.5 OPTION 22A: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Responsibility would remain with NR/ORR/TOC, but the TOC would have more freedom to decide which services it runs (subject to a minimum specification).
Capacity planning (2-5yrs)	Some changes to current responsibilities, with the extent depending on the nature of the franchise. DfT would retain high-level strategy responsibility for all franchised services (through a 5-yearly HLOS), some responsibility for franchise specification for high-value franchises and the majority of responsibility for lower-value franchises. TOCs would take a greater role in some areas and continue to input into cross-industry planning processes. NR would also remain involved in planning (principally through the RUS process).
Train procurement	Again, the degree of change would depend on the type of franchise. TOCs able to accommodate material investment would lead (with support from ROSCOs and NR to ensure a whole life, whole system view). In other cases, DfT would need to specify the requirement, although TOCs could act as agents.
Infrastructure M&R	Depending on the market, the TOC could play a greater role. However, there would still be little incentive for the TOC to promote potentially lower cost operational solutions unless it was also exposed to infrastructure cost risk.
Planning enhancements (5-30 yrs)	TOCs would lead, but issues might arise where enhancements cut across boundaries: a joint project board, perhaps with a DfT/ORR/independent project rep (i.e. neutral & to preserve confidentiality), might be required to ensure proper direction.
Performance	No change to responsibilities, NR would continue to lead.
Technical & safety	No change to current responsibilities, although TOCs might consider more technologically innovative solutions.

6.22 The results of our assessment suggest that this option could generate significant cost savings. Moreover, as it could be implemented largely through the refranchising process, with some additional work to re-specify franchise terms for different markets, transition costs could be expected to be low. At the same time, phasing in the changes in this way would mean that the full cost savings would take time to materialise.

TABLE 6.6 OPTION 22A: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	Significant savings from the better alignment of the timetable with passenger demand and removal of "over-specified" services. Reduction in poor maintenance and renewal specifications and the ongoing costs associated with them. Greater investment in assets (or policies) with longer payback periods.
Transition costs	**Low**	A change in policy that could be implemented simply through the re-specification of franchise terms.
Speed of savings	**X**	As fast as the franchising cycle can deliver new contracts (perhaps 10 by the end of CP4), with additional time for savings to materialise (possibly 5 years overall).
Competition & incentives	✓	Incentives could be strengthened for TOCs through new franchise terms. Note NR's directions would need to be updated to have any positive effect.
Deliverability, practicality	**0**	Deliverable largely through existing mechanisms. Likely to be acceptable to the majority of industry participants. Passengers and other local stakeholders potentially less satisfied should TOCs have much greater freedom to decide when trains run and where they call (putting established daily journey patterns at risk). Risk of not being able to easily compare bids, differentiate between them and/or demonstrate their value for money. Freight impact likely to be neutral.
Legislative barriers	✓✓	Unlikely to be any barriers (no primary legislation needed), although would need to have regard to EU legislation in setting maximum franchise length.

Criterion	Score	Rationale
Resilience & flexibility	X	Depends on the extent to which the new franchise agreement enables franchisees to match supply and demand, and the combined effects of longer franchises, more bonding and less macro-economic risk transfer. Flexibility will also depend on the extent to which network capacity is shared with other TOCs and FOCs. On the multi TOC routes and routes where capacity utilisation is high i.e. on those routes that generate the most revenue and carry the most passengers, the freedom to change service patterns will remain quite limited as there is little ability to makes changes unless all parties agree. Long term contracts will reduce the ability of government to specify new requirements.

Option 22B: Transfer more responsibility to franchisees B

6.23 In addition to the changes set out in the previous option (Option 22A), franchises could be consolidated in order to:

- Allow greater potential for vehicle cascades and strengthen the negotiating position of TOCs vis-à-vis the ROSCOs; and
- Increase the negotiating strength of TOCs vis-à-vis NR.

6.24 The consolidation of franchises might also provide stepping-stone to regional vertical integration, discussed further below.

6.25 For the purposes of the assessment, we have assumed that the consolidation would be either along BR sector lines (circa 1992) or aggregations of routes to give 6-8 franchises. Note that the resulting groupings might not be as market-focussed as some current franchises.

TABLE 6.7 OPTION 22B: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Responsibility would remain with NR/ORR/TOC. As the franchisee would have control over more types of passenger services, they might look to re-balance capacity in line with the value generated by each of the markets served.
Capacity planning (2-5yrs)	In addition to the responsibilities outlined for Option 22A above, the TOC would have the ability to re-allocate capacity between the different services operated. DfT would retain responsibility for high-level specification for all franchises.

Decision area	Comment
Train procurement	TOCs would have a larger fleet to deploy, increasing their ability cascade stock as requirements changed and opportunities arose.
Infrastructure M&R	As for Option 22A, but with more TOC power to influence NR Route Directors to make changes to their delivery standards or asset policy.
Planning enhancements (5-30 yrs)	As above, but eased as there would be fewer interfaces. The boundaries could be designed to minimise the need for cross-TOC negotiations on the known likely projects (e.g. Crossrail, Thameslink Programme).
Performance	No change to responsibilities, NR would continue to lead.
Technical & safety	No change to current responsibilities, although TOCs might consider more technological innovative solutions.

6.26 This option could deliver further major cost savings, although the transition costs could be expected to be correspondingly greater given the need for a substantive franchise remapping exercise. Again, the realisation of cost savings would take time, and remapping would itself delay the refranchising process.

TABLE 6.8 OPTION 22B: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	Likely to deliver similar savings to those under Option 22A, with potentially lower interface and transaction costs (as there would be fewer franchise re-lettings). Note, however, that cost savings from economies of scale are unclear, although there is some evidence for economies of density[54].
Transition costs	**High**	Significant costs of re-mapping. These can be contained if remapping generally takes place at the franchise end date. However, franchise end dates may not align, which will necessitate single-tender negotiations to extend several franchises. Such negotiations have been found to be a cause of some of the increases in rail operating costs since privatisation[55].
Speed of	**X**	Determined by the timing of franchise expiry, but then

[54] Based on research by Phill Wheat and Andrew Smith of the Institute for Transport Studies (ITS) at the University of Leeds (Econometric Evidence on Train Operating Company Size, January 2010 for the ORR)

[55] See recent research by Andrew Smith and Phill Wheat at ITS (The effects of competition for the market on productivity and efficiency: evidence from the passenger rail sector in Britain, 2009, www.vti.se/11992.epibrw).

Criterion	Score	Rationale
savings		realised reasonably quickly following implementation (as in Option 22A). Unlikely to be implemented by end of CP4.
Competition & incentives	**0**	As franchises would be larger and awarded less frequently (perhaps one being tendered every 2-3 years) the market for franchises would probably shrink, which may lead to higher margins. The threat of vertical integration might be a powerful motivator for NR.
Deliverability, practicality	**X**	Delivery is more challenging as the nature of the franchise would change even more than under the previous option, making it more difficult for the private sector to assess the risks and potential rewards. Risk of lower passenger satisfaction, as smaller companies have tended to perform better in National Passenger Surveys (NPS), for example, c2c, Chiltern and GNER[56]. Operational performance has tended to follow a similar trend, although this also reflects other factors (such as the simplicity of the network or the age of the rolling stock)[57].
Legislative barriers	✓✓	As for Option 22A above.
Resilience & flexibility	**0**	Could be more resilient and flexible than Option 22A as the franchisee would have the ability to trade-off revenue and returns in different markets.

Option 11: Greater specification powers for local bodies

6.27 Under this option, specification of outputs would be the responsibility of regional bodies, for example PTEs, ITAs, LEPs and other local authorities (acting individually or in groups) with responsibility for rail services. The term PTE is used here for simplicity. A national body (DfT or some form of cross-industry leadership group – Option [8] – with subordinate working groups) would specify the outputs for strategic passenger and freight routes. All decisions on output requirements could then be made on a multi-modal basis and at a level commensurate with the importance of the flow.

6.28 In some areas of the country, this option is arguably the continuation of a trend towards fully devolved rail services. In particular in Scotland, Merseyside, London

[56] See NPS survey results at www.passengerfocus.org.uk/research/statistics/content.asp?dsid=496

[57] See PPM by TOC at www.rail-reg.gov.uk/upload/pdf/nrt-ch2-railperformance.pdf.

and Wales. Certain areas of the country may be more or less suitable as regards this approach.

6.29 Central funding for PTEs would need to be set by Government, with the PTE then able to determine how funds were allocated and supplement them with local resources in order to support additional services and/or investment (following the Merseytravel model). Arguably, procurement could still be undertaken centrally to capture economies of scale.

6.30 It would be essential to manage interfaces effectively and protect industry value generators - ORR could play an enhanced role, or PTEs could be asked to agree priorities between themselves, using an approach similar to the recent discussions on Regional Funding Allocations. Provided the regional bodies had control of funding, they would be in a position to lead decision making in their respective areas. The changes would not affect other national industry bodies, such as ORR, RSSB and RAIB.

6.31 In London and the South East, it might be necessary for long distance commuter services to be specified by a body other than TfL. Passengers from outside Greater London (those from say Salisbury, Bournemouth, Portsmouth, Brighton, and Canterbury) could object if their services were specified by an elected Major in London. Similarly in Scotland, the precise roles of Transport Scotland and Strathclyde PTE would need to be considered, taking into account the size of the latter's area in relation to the rest of the network.

TABLE 6.9 OPTION 11: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Responsibility would remain with NR/ORR/TOC.
Capacity planning (2-5yrs)	PTEs (and the national strategic route body) would specify outputs and set out the funds available. The TOCs and NR would respond by indicating what could be delivered at what price (with the ORR undertaking an arbitration/reconciliation function, as in relation to the current HLOS arrangements).
Train procurement	Projects could be initiated by PTEs (and the national strategic route body), which would be led by them or other parties.
Infrastructure M&R	PTEs (and the national strategic route body) would specify outputs and set out the funds available as part of the capacity planning process described above.
Planning enhancements (5-30 yrs)	PTEs (and the national strategic route body) would set a medium to long term strategy, with the initial delivery facilitated by the 5 year plans above. This would be largely unfunded as any settlement would be unlikely to cover more than one parliamentary term. Cross-TOC and intercity projects would be more challenging under this structure, unless they remained entirely within a

Decision area	Comment
	PTE's area (or within the area of a group of PTEs if they agreed to enter into a partnership arrangement).
Performance	PTEs (and the national strategic route body) would specify outputs but NR would continue to hold primary responsibility for delivery.
Technical & safety	No change to current responsibilities.

6.32 We consider that the cost savings, while substantial, would be towards the lower end of the range indicated in the table and the transition costs could also be significant. In addition, there are a number of issues surrounding the practicality and deliverability of this option.

TABLE 6.10 OPTION 11: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	Likely to be towards the lower end of this range as local understanding might be offset by duplication, interfaces and, initially at least, a desire to implement previously rejected projects. A national body would also be required to specify the national requirements. In the longer term, more efficient planning based on a better understanding of the needs of the local area, including greater use of (private sector) bus services. Some savings from more locally focussed specifications. At the same time, more interfaces for TOCs, especially in the North of England, and PTEs might have conflicting objectives. Note that existing PTE boundaries do not align with the development of interregional networks like the Northern Hub.
Transition costs	**Medium**	Potentially towards the lower end of the range, but would require legislation and some activities might be duplicated until the planning arrangements were fully established.
Speed of savings	**X**	Affected by the legislative barriers discussed below.
Competition & incentives	**0**	No material changes to current incentives, although these could be modified by PTEs.
Deliverability, practicality	**XX**	Significant information asymmetry as PTEs have less experience and are not able to compare efficiency across TOCs in the way that DfT can at present.

Criterion	Score	Rationale
		Need for co-operation between PTEs in adjoining regions – in particular in respect of services crossing boundaries. Also a need for co-operation with the national body. Where there are no PTEs, organisations will need to be created. TfL will need to specify services in London and possibly in the South East as a whole. The impact on freight is likely to be adverse as PTEs may focus on the needs of passengers, unless otherwise directed by ITAs or DfT. Need to ensure that the key revenue generating intercity and long distance commuter markets are not affected. Some European experience suggests this will be challenging (and some European railways operate at a lower density than those in the UK).
Legislative barriers	**X**	Primary legislation could be required. If this were enacted by the end of the 2011/12 sitting of parliament, the option might be implemented by the end CP4.
Resilience & flexibility	**X**	May lead to a focus on local needs above standardisation, thus reducing flexibility.

Option 24: Virtual vertical integration

6.33 This option is based on the current industry structure, although could be delivered with the alternative franchise policy options above (note that the impacts described below are all additional to those of the previous option). On routes where there is a good fit between the TOC and a NR region (e.g. Scotland and Anglia and Essex Thameside), a closer partnership could be formed between train and infrastructure operator. This could either be through a 'joint profit and loss account' or through less ambitious cross-incentivisation mechanisms whereby the TOC was exposed to some infrastructure cost risk and NR exposed to some demand (or possibly revenue) risk. Benefits could also be delivered across the network if NR were to report at a regional level (which would create internal comparators of efficiency) and, in those areas where many TOCs operate, if all had some interest in NR's costs (and NR some interest in TOC revenues).

6.34 An arrangement of this kind could make NR more responsive to its customers' needs. In addition, if the right balance of risk transfer were achieved, this structure should incentivise both parties to work to minimise total system net costs, and provided the time horizon was appropriate, whole-life and whole-system net costs. The latter would probably require longer franchises (e.g. 15-20 years) to deliver the maximum benefits. Assuming the three areas noted above were selected, this arrangement would account for approximately 15% of annual passenger kilometres and 18% of passenger journeys in GB.

6.35 Assuming the TOCs had more autonomy (through the proposals in the current rail franchising policy consultation document, as outlined in Option 22A), they would be in a position to lead planning and provide leadership (within their franchise

areas) as well as making key strategic decisions (within the constraints set by franchise terms). The level of risk transfer would need to be appropriate to ensure that TOC margins did not increase to the point where they outweighed the benefits. This is arguably a less significant issue for NR, which operates without risk capital, but could be an issue for companies holding NR debt not backed by the financial indemnity mechanism.

6.36 In isolation, this change would be unlikely to impact on leadership materially, but could be expected to encourage greater planning co-operation between NR and TOCs and joint decision-making in some areas.

6.37 There would probably be little impact on other public sector industry bodies, although ORR might have a greater role (e.g. in enforcing access rights and monitoring transfer pricing between NR regions). The option would potentially have an impact on franchises and concessions other than those specified by DfT, including the ScotRail franchise and Merseyrail Electrics concession.

TABLE 6.11 OPTION 24: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Subject to final ORR approval (to protect the rights of any services operated by freight, open access or other franchised operators), the TOC and NR could work in partnership to optimise the timetable as they would have control over all of the relevant aspects.
Capacity planning (2-5yrs)	In the longer term the TOC could optimise medium term capacity planning subject to budgetary constraints.
Train procurement	Irrespective of the introduction of longer franchises, provided a Section 54 agreement and sufficient funding was available a TOC could engage with train manufacturers and ROSCOs when preparing their bids and include new rolling stock in their proposals. Provided the impact of energy and track damage costs was sufficiently strong (as indicated through the price signals provided by regulated charges), the TOC could lead on the development and delivery of new rolling stock under this structure. With a longer franchise, some TOCs' parent companies might also be able to fund investment in new trains themselves, although even a 15 year franchise would fall well short of the 30-40 year life of typical new rolling stock.
Infrastructure M&R	The TOC would be incentivised to scrutinise the maintenance and renewal activities of NR. Both parties would be incentivised to consider whether operational solutions would be less expensive (e.g. operating lighter trains that can operate on track maintained to a lower standard). Regional NR accounts would be more robust and could be used more extensively in regulatory reviews to contrast performance.

Decision area	Comment
Planning enhancements (5-30 yrs)	Provided planning time horizons were aligned, the TOC and NR could co-operate to deliver enhancements.
Performance	Under the JPIP, both NR and TOCs are already incentivised to work together, and the key features of JPIP could be integrated into the new incentive arrangements.
Technical & safety	No change to current responsibilities, although TOCs might consider more technological innovative solutions.

6.38 In our view, this option could deliver substantial savings depending on how far it was adopted across the network. Transition costs could be significant if it were applied outside those areas indicated above where the franchise map is broadly coincident with the relevant NR route definition.

TABLE 6.12 OPTION 24: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	Less duplication of maintenance and renewals planning functions. Reduction in poor maintenance and renewal specifications and the ongoing costs associated with them. Likely to be higher TOC margins, more effective service delivery and lower NR costs.
Transition costs	**High**	Could be feasible through current legislation. Franchises subject to the new incentive arrangements could be competitively tendered in Anglia and Scotland (the latter in 2014). Other areas would require some re-mapping. Negotiations with NR could be more challenging, although recent comments suggest they may be more amenable.
Speed of savings	✓	The change could be implemented within a year and some savings might be expected within 2-3 years.
Competition & incentives	✓	Incentivises NR and TOCs to cooperate and plan to minimise whole-system, whole-life costs. The incentive framework would need to be carefully designed to ensure that the level of risk transfer was appropriate and that perverse incentives were not created. It might be difficult to sufficiently incentivise NR given the size of its turnover relative to the typical turnover

Criterion	Score	Rationale
		of a TOC. One solution would be to ensure that local management bonuses were geared to TOC revenue.
Deliverability, practicality	**X**	ORR would need to protect the rights of any services operated by freight, open access or other franchised operators who crossed franchise boundaries. Unlikely to be an issue for other stakeholders. A forced partnership would not work effectively – both parties would need to approach the new arrangements in a constructive way.
Legislative barriers	✓✓	Unlikely to be any barriers.
Resilience & flexibility	**0**	Unclear at this stage. Should be flexible and resilient, but would need further investigation in the light of specific proposals for risk sharing.

Option 2: Allocation of franchising responsibility to NR

6.39 This option would involve the consolidation of NR's existing functions and responsibility for the specification, procurement and management of franchises. The resulting organisation would then be in a position to trade-off infrastructure and train service solutions in the course of planning network development more easily than at present. It could also provide more effective leadership across the industry, within the broad strategic and financial framework set by Government.

6.40 The new organisation would need clear guidance on its objectives, particularly in relation to non-commercial services and the extent of public service obligations to be met within the framework of franchise agreement. The Government would continue to publish a long term strategy and HLOS, providing a broad framework within which NR would develop more detailed, costed plans. Funding limits would be set on a five-yearly basis, as now, and the organisation would be afforded the necessary flexibility to change specifications and investment plans in order to ensure that these were not exceeded. However, the ability to ensure NR maximises the services it procures within this budget would be challenging. If budgets were not sufficient (and NR procured effectively), it would be challenging for government to resist the call for additional funding to protect the services that might otherwise be threatened by the shortfall.

6.41 This reallocation of responsibility could be implemented in parallel with other reforms, for example an injection of private sector equity as discussed in Chapter 5. Regardless of the ownership and capital structure of the organisation, ORR would retain its existing regulatory responsibilities and arbitrate in cases where costed plans did not meet the HLOS. It might also need new regulatory powers relating to NR's franchising function. The role of the PTEs and other bodies with responsibility for public rail services in their areas would also need to be developed in order to ensure that they had some control over relevant aspects of

the service specification (and could fund additional services where they chose to do so).

6.42 The option would not affect any other industry party (e.g. RSSB, RAIB, ROSCOs and freight operators). The ORR would continue to resolve disputes related to capacity allocation (e.g. relating to open access or freight operations).

6.43 The impact on decision making in key areas is summarised below.

TABLE 6.13 OPTION 2: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Internalised within the new organisation, although capacity would continue to be allocated through track access agreements and in line with the requirements of individual franchise specifications. Open access and freight operators would continue to contract with NR as now.
Capacity planning (2-5yrs)	Potential to optimise the balance of capacity through changes to both infrastructure and services, although existing franchise contracts would continue to act as a constraint.
Train procurement	The new organisation could lead on the procurement of new trains and plan appropriate cascading of existing stock, which would ensure proper focus on the wheel-rail interface. Alternatively, TOCs with long franchises could lead on rolling stock procurement (although as noted above, in practice it is not clear whether sufficiently long franchises could be put in place). There would be no other changes, unless the option was also progressed with Option 7 (consolidation of vehicle and infrastructure ownership) considered below.
Infrastructure M&R	The new organisation would be incentivised to minimise total costs (train operation and M&R), but this impact would be diluted by the constraints within franchise contracts.
Planning enhancements (5-30 yrs)	An integrated approach is possible, which should encourage whole-life and whole-system planning.
Performance	Could facilitate further improvement where the benefits exceeded the costs.
Technical & safety	No material impact.

6.44 We suggest that this option could generate substantial costs savings by allowing better coordination of planning activities and optimisation of train service and infrastructure changes. However, it would be difficult to implement and might be strongly resisted by stakeholders.

TABLE 6.14 OPTION 2: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	Potentially substantial headcount reductions by consolidating train service planning functions currently within DfT and NR. In addition, the option would enable optimisation across interfaces and more co-ordination in planning. Reduction in poor maintenance and renewal specifications and the ongoing costs associated with them. Lower costs associated with franchise & network change. Adoption of new technology leading to long term cost savings (and revenue increases).
Transition costs	**Medium**	Could require primary legislation and involve disruption due to major change. Costs would be minimised by waiting for franchises to expire before transferring responsibility for re-letting to NR.
Speed of savings	**X**	Affected by the legislative barriers discussed below.
Competition & incentives	**X**	The transfer of additional functions to NR would present a greater regulatory challenge, not least how to ensure NR procured efficiently to maximise the service levels within the budgets available.
Deliverability, practicality	**X**	The presentation of the option and credibility of the new organisation's leadership team will be critical to its success. A superficial rebranding of NR would not be credible to stakeholders. The relationship between the Chairman of the new organisation and Government and other stakeholders will also be crucial.
Legislative barriers	**X**	Primary legislation could be required.
Resilience & flexibility	**X**	Again, the resilience and flexibility of the new arrangements would depend on professional relationships, in particular between a powerful new organisation, Government, the ORR and the TOCs.

Option 7: Consolidation of vehicle and infrastructure ownership

6.45 An alternative would be for NR to take responsibility for the ownership and refreshing of the GB train fleet. This could be delivered through one of two broad mechanisms:

- A long term policy of NR financing new train investment, the organisation leveraging its access to low interest sources of finance in order to exert more of a competitive discipline on ROSCOs in the market for new rolling stock; or
- NR purchasing trains from the ROSCOs based on their current market value (based on recent ROSCO sale prices, value the total market is likely to be £6bn to £8bn).

6.46 However, for the purposes of this assessment we have assumed that level of funding required for the second alternative is not available in the immediate future and have therefore focused on the first approach.

6.47 We envisage that NR would have full responsibility for specifying and procuring new rolling stock, enabling it to optimise whole-system and whole-life costs. More specifically, the option would enhance the organisation's ability to manage the wheel-rail and train-signal communications interfaces in a more cost effective way. It could also help to deliver standardisation and interoperability and facilitate innovative technical solutions (although these might be strongly resisted if they required major changes to working practices). Indeed, NR could be given a specific objective to increase the level of standardisation and inter-operability of the fleet and maintain a continuous level of work for manufacturers, possibly even guaranteeing a minimum order of, say, 200 vehicles per year over a rolling five year period.

6.48 However, we note that NR has little experience in owning or procuring passenger rolling stock. Hence, allocating this function to the organisation will significantly increase its cost base, and this is unlikely to be offset (at least in the short to medium term) by a corresponding reduction in the staff employed by ROSCOs.

6.49 This option would impact all franchised operators, including those with services specified by Transport Scotland, Merseytravel and TfL. It would not materially affect other aspects of industry leadership and no other parties would be significantly affected.

TABLE 6.15 OPTION 7: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Responsibility would remain with NR/ORR/TOC.
Capacity planning (2-5yrs)	No change, until additional and/or more inter-operable vehicles were available, which might facilitate better capacity allocation through improved vehicle deployment.
Train procurement	NR would lead on new train procurement, although TOCs with longer franchises could manage the procurement exercise, subject to meeting NR's output requirements.
Infrastructure M&R	NR would be incentivised to ensure that trains minimised track damage, encouraging optimisation in this area of decision making. Note, however, that there would be no incentive to minimise energy consumption as energy costs would continue to be met by the TOCs.
Planning enhancements (5-30 yrs)	Two of the three components required for major schemes would be integrated within the same organisation. Given that these have the longest lead-times, project delivery would be coordinated more effectively.
Performance	Improvements from better management of the wheel-rail interface, although changes likely to be limited.
Technical & safety	Potentially an incentive for NR to challenge standards to reduce the cost of procuring new rolling stock, and also to streamline acceptance procedures. NR would be forced to trade-off technological innovation and standardisation.

6.50 Again, while the option could deliver substantial cost savings in time, it would be difficult to implement. The realisation of cost reductions would be particularly protracted as it would depend on the speed with which NR gained control of the national rolling stock fleet.

TABLE 6.16 OPTION 7: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**Medium**	These savings would result from cheaper debt, no residual value risk pricing, fewer vehicles (from a common fleet), lower unit costs from bulk purchase and smoothing orders for the supply chain. There would also be cost savings from better management of the wheel-rail interface. The tax advantages previously enjoyed by the ROSCOs have recently expired, which reduces one of their advantages in this market. Reduction in poor maintenance and renewal specifications (and the ongoing costs associated with them), specifically those that effect both wheel and rail.
Transition costs	**Medium**	NR would require a more comprehensive rolling stock procurement and management capability than exists today.
Speed of savings	**XX**	It would take some 30 years for NR to own all rolling stock, and if compliance with PRM TSI were achieved through modifications and life extensions to existing vehicles the savings in CP4 and CP5 would be limited.
Competition & incentives	**X**	If NR became a monopoly supplier there would be a risk of gold plating and monopoly pricing. However, in the short term the option should encourage competition and create a comparator. NR is further from the passenger than TOCs and further from the taxpayer than DfT. Hence, it is not clear that the organisation would be well-placed to respond to the requirements of ultimate users and funders.
Deliverability, practicality	**X**	There would be some delivery risk as NR would be new to passenger train ownership. NR might not be best placed to specify passenger train requirements, and could procure rolling stock that was best for the infrastructure rather than the passenger.
Legislative barriers	✓	Unlikely to be any significant constraints, although any barriers preventing NR from owning passenger rolling stock would need to be investigated.
Resilience & flexibility	**0**	No material impact.

Option 16: A rail agency

6.51 It would be possible to create a new rail agency that would consolidate various planning functions currently within NR, DfT, RSSB, RAIB and ORR. In some respects

the agency would be similar to the former Strategic Rail Authority, but would have greater control over key decisions, particularly in relation to infrastructure development. It would also be responsible for assessing NR's efficiency in the first instance and ORR's role would therefore be materially reduced, largely focusing on adjudicating on access decisions (although the ORR could provide arbitration in the event of a dispute between the agency and NR or the TOC over reasonable costs).

6.52 Again, the Government would set long term strategy as well as a HLOS and funding limits within each five-year control period. However, the agency would provide leadership and undertake detailed planning and specification of the train service. It would contract with NR and the TOCs in order to secure the necessary infrastructure and train services across the network. The option would only apply to the franchises specified by DfT, with Transport Scotland, TfL and Merseytravel continuing to contract and manage services within their respective areas, although the rail agency would regulate the network in each area.

6.53 No other changes to industry structure are assumed or required.

TABLE 6.17 OPTION 16: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	Responsibility would remain with NR/ORR/TOC. DfT's responsibility for train service specification and procurement would transfer to the agency.
Capacity planning (2-5yrs)	All responsibility would be subsumed within the rail agency. NR would significantly reduce its project sponsorship team.
Train procurement	This could be led by the agency (or TOCs if longer franchises offered sufficient incentives).
Infrastructure M&R	Outputs would be specified (and approved) by the agency, although NR would continue to determine the level of activity and the techniques applied.
Planning enhancements (5-30 yrs)	The agency would also lead in this area, reflecting the long term strategy and policy framework set by DfT (e.g. the need for high speed lines vs. motorways). Cross-TOC projects would be deliverable under this structure.
Performance	No change to responsibilities, with NR continuing to lead.
Technical & safety	Safety regulation would be retained by ORR. The agency could take a role in stimulating technologically innovative solutions but would need informed technical, engineering and operational skills, which would add to its cost base.

6.54 In our view, this option could deliver very substantial cost savings by consolidating planning and reducing the scope for political involvement in the development of the network and day-to-day operations. However, the costs of implementation would be comparatively large given the need to set up an entirely new organisation.

TABLE 6.18 OPTION 16: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**High**	There would be less duplication in planning provided NR focused on delivery and did not attempt to "man mark" rail agency staff. Planning would be more integrated but cross-industry interfaces would need to be managed effectively. Reduction in poor maintenance and renewal specifications and the ongoing costs associated with them. Less political interference with specifications could be expected to lead to more cost effective solutions. Lower costs associated with franchise & network change. Adoption of new technology leading to long term cost savings (and revenue increases).
Transition costs	**High**	Primary legislation would be required and the new organisation established and properly resourced.
Speed of savings	**X**	Affected by the legislative barriers discussed below.
Competition & incentives	**X**	Separation of the funding and delivery mechanisms could make for difficult relations with Government, as experienced by the SRA. To the extent that the agency was "captured" by the industry, Government's ability to optimise across modes might be undermined, although this could be addressed by providing the new organisation with clear objectives and funding constraints.
Deliverability, practicality	**X**	Would undermine multi-modal decision making. Separates budget holder and specifier. By separating specification and ultimate funding responsibilities, potentially creates complexity within public sector structures and ambiguity over responsibilities for strategy (as identified in the 2004 White Paper). The impact on freight should be neutral.
Legislative barriers	**X**	Primary legislation will be required. Assuming this can be enacted by the end of the 2011/12 sitting of parliament, the option might be implemented by the end CP4.
Resilience & flexibility	**X**	Given the short life of the SRA, this option would be susceptible to a change in policy.

Option 23A: Vertical integration A – market led

6.55 The objective of this option would be to secure the potential benefits of a vertically integrated railway without a loss of market focus, particularly on those key parts of the network that generate the most revenue, carry the most passengers or provide scope for significant cost reduction and rationalisation. For the purposes of the assessment, we have assumed three Railway Operating Companies (ROCs) broadly organised along the same lines as BR's OfQ structure (a structure implemented between 1991 and 1992, whereby the passenger railway network was 'owned' by three fully devolved market sector led organisations - InterCity (IC), Network SouthEast (NSE) and Regional Railways (RR)).

6.56 We note that in practice it might be appropriate to modify these former BR sectors to better reflect today's market and achieve a further benefit by reducing the number of interfaces between the three ROCs. Therefore, the Gatwick Express and London-Norwich services could, for example, be included in the NSE ROC and not the IC ROC that existed under BR. There would be many other opportunities to refine ROC boundaries to improve the performance of this option but these have not comprehensively considered at this stage.

6.57 Infrastructure would be allocated to each ROC based on the importance of the route to their respective businesses and the importance of the sector to the overall financial well being of the industry and broader economy. For example, we envisage that the core of the WCML would be allocated to the IC ROC, but some peripheral route sections on which intercity services run but are not the key user (e.g. Crewe-Chester) would be allocated to the RR ROC. On the MML the route section between St Pancras and Bedford could be allocated to the NSE ROC on a similar basis given the dominance of London commuter services by revenue and passenger volume and the need to protect the operational integrity of Thameslink services on this part of the network.

6.58 Given the more fundamental nature of the changes to the industry structure proposed in this option, it is necessary to define the various roles and responsibilities in more detail than for previous options.

Potentially profitable ROCs: IC and NSE

6.59 At the time of privatisation, BR was working on the basis that IC and NSE would both be profitable, although NSE never achieved profitability in practice. In our view, depending on the precise allocation of costs, the majority of services within these two ROCs would be profitable today, although even within a new IC ROC some services would not be able to cover their costs, in particular:

- Services currently operated within the New Cross Country franchise beyond the Bristol-Birmingham-Leeds-York core;
- Anglo Scottish services north of Preston; and
- West of England services beyond Exeter/Plymouth.

6.60 Within the NSE ROC area there would remain several very poorly performing lines such as Bedford-Bletchley, Colchester-Walton-on-Naze and Dorking-Horsham. How (or whether) such lines could be protected within an otherwise inherently profitable portfolio of services would require further consideration. Similarly, how the recently introduced, but highly uneconomic, CTRL DS currently operated by

Southeastern would be treated is unclear, not least because of the implications for the current sale of HS1 (which would generate far less value if there were no commitment to the operation of these services).

6.61 Other issues to consider include:

- How major projects such as Thameslink, Crossrail and HS2 would be accommodated; and
- How TfL's Overground network and future aspirations would be accommodated if all the lines within London were allocated to the IC and NSE ROC operations or, conversely, if parts of the existing London Overground network (such the DC and NLL) that have no other ROC services were allocated to an Overground ROC or LUL.

Unprofitable ROC: RR

6.62 The financially weakest sector would be the RR ROC, which would have the difficult task of serving:

- Local networks around and within the major cities outside London where:
  - Services could be specified and contracted by PTEs or equivalent bodies; or
  - In the case of Merseyside, fully devolved and managed outside the national industry framework;
- Major inter-regional services such as Liverpool-Manchester-Leeds or Manchester-Sheffield-Nottingham;
- Rural branches and secondary services such as the Cumbrian coast and Settle Carlisle;
- Wales - where services could be specified and funded by WAG; and
- Scotland - where there is a strong argument for full devolution, although in this case possibly still under the national rail framework.

6.63 Some routes currently operated by Cross Country could also be included within the RR ROC. These services could be better integrated with many services currently operated by TransPennine Express and East Midlands Trains. This would ensure some of the geographical extremities like Cornwall and East Anglia had more coherence and connection with the core RR ROC network. There would also be more opportunity to achieve economies of scale in rolling stock procurement and heavy engineering.

6.64 Revenue generated on many of these services typically covers less than 10% of the cost of their operation and it is clear that Government would need to set a clear framework governing the ROC's freedom to improve the financial performance of these operations. This could follow the approach taken under BR, in which the latter was periodically allowed to test the boundaries of what was or was not acceptable (e.g. the attempt to sell the Settle and Carlisle line in 1989, and periodic attempts to close stations or lines). However, in our view it would be preferable for Government to provide clear guidance that it would permit service reductions where this was likely to result in significant cost savings but little or no measurable economic disadvantage or social hardship. Similarly, allowing the RR

ROC to operate seasonal trains using dated rolling stock where the markets are primarily for leisure or tourism could result in cost savings while providing for more flexible employment opportunities.

6.65 Against this background, there would inevitably be more frequent dialogue concerning funding, renewals and investment on the RR ROC network. This could cover ways of addressing crowding when the solution (more vehicles) would cost more than the revenue generated, or replacement of life-expired assets such as track, signalling and bridges with limited funds. In these circumstances the ROC would be afforded the maximum flexibility to find an alternative approach, following the precedent set by BR in the past (e.g. the single-tracking of the Cornish main line between Probus and Burgullow in 1987 in order to sustain broadly the existing service levels).

6.66 The opportunity for devolution of the Scottish, Welsh and some urban networks, like Merseyside, may be an attractive overlay to this option. However, there is a risk that this would create a largely incoherent network of rural branch lines and some unconnected secondary routes (which would be exposed to much greater scrutiny and suffer poor financial performance due to diseconomies of scale).

Freight and other services

6.67 A full articulation of this option would also involve consideration of the accommodation of freight and open access services. While these are not considered in detail here, we note that the implementation of the option would need to be consistent with European railway legislation in providing for separate accounting and a "level" playing field in respect of access charges and the allocation of capacity. For example, it would be important to ensure, through regulation, that other ROCs, open access or freight operators would have access to the infrastructure (should there be the capacity to accommodate them) and that the price they were charged was appropriate. Such regulation would be needed given that the ROC could have a strong commercial incentive to claim that there was no spare capacity and/or to inflate the price of access – potentially by transferring costs from operations to infrastructure.

Network Ownership and regulation

6.68 In our assessment we have assumed that ultimate network ownership would be retained by Government or a Government agency and that the ROC has a reasonably long concession of around 20 years. However, there may be some merit in considering a much longer concession of, say, 40+ years. This would enable ROCs to plan for asset renewal and enhancement across the full life cycle of trains, track and modern signalling systems, although it would also result in a greater transfer of demand risk.

6.69 Our initial assumption is that these contracts (and the financial support) could be fixed for the duration of the concession with requirements to provide the capacity the market requires and to constrain fares within specified levels. However, this could present risks or poor value for money to government for a number of reasons:

- It may not be an attractive proposition to the market given the level of risk being transferred (in terms of magnitude and duration) and so the level of financial support government would be required to commit might be high.
- The government would lose the ability to periodically market test the efficient cost of operating services and the efficient level of revenue generation. This would be less of a concern should the length of franchises be increased anyway.
- Conversely, the concessionaire could make windfall profits should demand grow beyond its expectations. Government might choose to mitigate this risk by introducing a regular review process (say every 5 to 8 years) to reset the level of support. Such a process would be similar to the current regulatory process, but add the complexity of dealing with a number of contractual parties and cover a wider scope (including the operation of services in addition to infrastructure management and enhancement).

6.70 The trade-off to be made is whether the cost of these additional regulatory challenges exceeds, or is exceeded by, the benefit of a long term, integrated concession that would facilitate planning over time horizons commensurate with the life of railway assets.

6.71 In the case of those parts of the network that were inherently profitable, there might be short and long term benefits from a complete sale of the assets and operations, with ROCs subject to limited regulation to prevent them from exploiting monopoly power and to ensure compliance with European rail legislation. There would also be a need to protect the network from asset stripping and neglect, and to discourage the diversion of revenues away from the railway, through appropriate licence conditions or covenants. Alternatively, one or more of the ROCs could be publicly owned but encouraged to contract out the operation of services to private sector operators where this could be expected to lead to better value for money.

Leadership, planning and decision making

6.72 As indicated in the table below, the ROCs would take responsibility for leadership, planning and decision making in respect of all aspects of train service operation, including the provision and operation of the infrastructure. Senior managers within each ROC would provide leadership, having much greater control over decision making than the current TOC managers, and the organisations would be able to plan on a longer term basis.

6.73 There may be some advantage to ROCs co-ordinating some activities (for example, technological change and rolling stock investment) and in other areas common policies may also be useful. Therefore a cross-industry leadership group (similar to that described in Option 8) may be beneficial.

6.74 The ROCs would, of necessity, continue to lease existing rolling stock from the ROSCOs, but would be free to adopt other financing and procurement mechanisms for future new train requirements as appropriate. There would be more flexibility for ROCs to reallocate rolling stock around their respective networks to reflect both seasonal and long term market changes.

6.75 Regulation would be required to prevent the ROCs from exploiting a monopoly position, particularly if they were privately owned. In addition, the ORR could be required resolve complex issues arising around operational interfaces, not least where the services of one ROC needed to operate over tracks 'owned' by another. This would be:

- On the GWML, WCML, MML and ECML where NSE services share the IC routes on the approaches to London;
- Around the major English city regions of the West Midlands, East Midlands, South Yorkshire, West Yorkshire, Greater Manchester and Merseyside;
- In South Wales; and
- In Scotland.

6.76 Ideally the ROCs would try to solve these issues through bilateral negotiations or through the cross-industry leadership group.

6.77 Common safety and other standards would clearly be required, and the roles of RSSB, RAIB and ORR in relation to safety and standards would not need to change.

TABLE 6.19 OPTION 23A: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	The ROC would allocate capacity and would need to follow criteria and rules specified by Government to protect the rights of other operators. ORR would be required to intervene and be the arbiter in the event of disputes. An appropriate allocation of routes would help to ensure a balance between buyers and sellers of track access to avoid disputes arising routinely. Some new contractual tools would be needed to manage the interface between parties to manage the production of a national timetable product.
Capacity planning (2-5yrs)	The ROC would be responsible.
Train procurement	The ROC would be responsible, as discussed above.
Infrastructure M&R	The ROC would be responsible, as discussed above.
Planning enhancements (5-30 yrs)	The ROC would undertake this activity except in the case of major schemes of national significance (e.g. HS2) where the incentives would be insufficient to encourage scheme development. Projects that crossed boundaries would need co-operation and potentially some form of arbitration provided by the regulator.
Performance	The ROC would be responsible.
Technical & safety	Safety would be regulated as now, with ROCs having full responsibility for safety on their respective networks. Safety targets would need to be agreed and formalised. The ROCs would lead on technological change and it is possible that competitive rivalry might emerge. This desire to

Decision area	Comment
	innovate would need to be tempered by the benefits of standardisation, and RSSB would be required to provide direction in this area.

6.78 Our assessment of this option is based on judgements concerning the benefits of combining key planning and operational functions within a single organisation with a long term planning horizon. We note that these benefits have, and no doubt will continue to be, subject to debate within and outside the industry. We also recognise that the evidence provided by academic studies on the economies of scope within rail industries in Europe and elsewhere is mixed[58]. Nevertheless. We consider that the potential costs savings resulting from the removal of a number of complex contractual interfaces and the associated change in behaviours would be likely to be considerable. Against this, it is clear that the transition costs incurred in implementing this and the following option would also be substantial and that further work would be needed to validate the results of the preliminary assessment reported in the table below.

TABLE 6.20 OPTION 23A: ASSESSMENT

Criterion	Score	Rationale
Net long term cost savings	**High**	There would be less duplication in planning provided NR focused on delivery and did not attempt to "man mark" rail agency staff. Planning would be more integrated but cross-industry interfaces would need to be managed effectively. Reduction in poor maintenance and renewal specifications and the ongoing costs associated with them. Less political interference with specifications could be expected to lead to more cost effective solutions. Lower costs associated with franchise & network change. Adoption of new technology leading to long term cost savings (and revenue increases).

[58] See for example two articles in the Journal of Transport Economics and Policy (JTEP): January 2009 Testing for economies of scope in European railways by Growitsch & Wetzel; and May 2010 Vertical and horizontal separation in the European railway sector and its effect on productivity by Cantos, Pastor & Serrano.

Transition costs	**Very High**	Primary legislation would be required and the reorganisation of the existing structure of the industry would require substantive effort over a prolonged period. Three large concessions would need to be awarded and compensation paid to franchisees (although we note that eight expire in the next 3.5 years). In addition, the prospect of major change might result in incumbent operators 'handing back the keys' and NR losing focus on revenue and cost management. Government would need to set out the vision for the industry in some detail and establish in shadow mode those parts of the new structure that could be implemented relatively quickly (through replacement of franchises shortly to expire and transfer of NR assets). It is conceivable that most of a new IC ROC could be in place within 2-3 years as EC is in public ownership now, WC expires in 2012 and GW could expire in 2013.
Speed of savings	**XX**	Unlikely to be deliverable before the end of CP4 and it would be some years before the benefits were fully realised.

Competition & incentives	**X**	On – line competition would remain in some of the biggest markets by revenue and volume e.g. Reading-London; Birmingham-London; Milton Keynes-London; Peterborough-London; and Bedford-London. Services would become more clearly differentiated by the product offer. However the ROCs should be able to compete more effectively against other modes with a wider and more coherent network offer. This could be particularly evident for IC and NSE through network wide branding and marketing and for RR in local markets (e.g. Liverpool-Warrington-Manchester where three/four TOCs becomes one ROC). Competition for the initial ROCs, however contracted, could be expected to be fiercely contested, but if 20 years elapsed before the second round the potential bidders might be more limited (and the competition potentially dominated by foreign state operators). A strong regulatory regime would be needed to prevent monopoly abuse (for example, limiting access to other parties through timetabling; transferring costs between different parts of the business to artificially increase access charges for other parties). Regular price reviews may still be required (say every 5-8 years) to prevent windfall-profits
Deliverability, practicality	**X**	Protection for other users (e.g. freight) would need to be assured. Stakeholders might view the option as open to the same objections as the London Underground PPP, although ROCs would be differently structured (including operations and asset provision). National systems and network benefits to passengers (e.g. through-ticketing) would need to be preserved on those parts of the network still deemed to be under the national rail umbrella, although these could be managed and developed jointly by the ROCs without the need for ATOC coordination.
Legislative barriers	**X**	European legislation requires accounting separation of infrastructure and operations and independent setting of access charges and capacity allocation. Although it might be possible to achieve this through the use of a group of companies and modifications to the current regulatory framework, this would increase the complexity of the structure and transactions.

Resilience & flexibility	**X**	Market changes, either organically through changing patterns of demand (e.g. increases in commuting distances) or through major service changes accompanying enhancement schemes (e.g. Crossrail), might cause imbalances between the originally defined ROC sectors over the medium to long term. Government would not be able to easily specify changes to the ROC sector allocation. This might not be a problem for the high value IC ROC and long distance NSE ROC flows, which would target the valuable traffic. However, providing additional peak commuter carriages could require a change to be negotiated, particularly on the RR ROC network.

Option 23B: Vertical integration B – by geographical region

6.79 The objective of this option would be to divide the national network by geography, with ROCs operating on largely self contained networks – as in the case of the railway groupings in 1923 (with the big four private companies), sustained through nationalisation in 1948 (with initially six and later five separate operating regions), and continued through to 1992 (when full market sectorisation was implemented).

6.80 Notwithstanding this different approach to vertical integration, many of the features of Option 23A would continue to apply, not least the integration of infrastructure and service provision. However, within each ROC there would be a portfolio of services, from the profitable long distance intercity and London commuter services to the non-commercial rural branches and non-London urban commuter and secondary services. Inevitably, there would be less market focus than under Option 23A.

6.81 There are a range of potential structures, including one with 11 ROC regions (Southern, Anglia, London North Eastern, Midland, London North Western, Chiltern, Great Western, Northern, Merseyside, Scotland and London Overground), one with 7 ROC regions (Southern, Anglia, London North Eastern, London North Western, Merseyside, Great Western and Scotland), and one with 1 ROC (with four divisions LSE, InterCity, Regional and Freight). The latter option is similar to the 1992 BR structure.

6.82 Note the Merseyrail Electrics DC network is separated out in each case despite being materially smaller than the other regions as it is in many ways a metro system (akin to the Tyne and Wear metro or DLR) and could, if necessary, be almost entirely physically separated from the national rail network except at the extremities - Southport, Hunts Cross and Chester.

6.83 In some variants of the option the management of some existing and important services would be challenging, for example:

- Thameslink Key Output 2, a specification in which trains could run over more than four different ROC networks;
- Cross Country, where the trains could run on more than nine ROC networks;

- Trans Pennine services, where the trains could run over five ROC networks; and
- Freight, with many flows crossing multiple ROC interfaces.

6.84 However, in order to progress the option prior to resolving these issues, it would be possible to pilot it on specific routes (more specifically Merseyrail, Scotland and Anglia). Transport Scotland and Merseytravel would retain the power to specify their respective services. However, the role of TfL in the seven region option would require further definition. In general, geographically based vertical integration will be easier to implement in areas where there is a single dominant operator (like Merseyrail, Scotland and Anglia).

6.85 In other respects, decision making would be as described under Option 23A and other assumptions underpinning that option. For example, the 20 year concession arrangements as described in paragraph 6.68, would also apply.

TABLE 6.21 OPTION 23B: IMPACT ON DECISION MAKING

Decision area	Comment
Capacity allocation (annual)	The ROC would allocate capacity and would need to follow criteria and rules specified by Government to protect the rights of other operators. ORR would be required to intervene and be the arbiter in the event of disputes. An appropriate allocation of routes would help to ensure a balance between buyers and sellers of track access to avoid disputes arising routinely. Some new contractual tools would be needed to manage the interface between parties to manage the production of a national timetable product. With regionally based ROCs, the number of disputes concerning short term capacity allocation could be expected to be less than under Option 23A. However, this benefit needs to be set against a potential loss of market focus in determining which services to operate within capacity limits.
Capacity planning (2-5yrs)	The ROC would be responsible.
Train procurement	The ROC would be responsible.
Infrastructure M&R	The ROC would be responsible. In this option, the ROCs would typically be much smaller than those proposed in Option 23A. This may make it easier for management to understand, control and improve infrastructure M&R.
Planning enhancements (5-30 yrs)	The ROC would undertake this activity except in the case of major schemes of national significance (e.g. HS2) where the incentives would be insufficient to encourage scheme development. Projects that crossed boundaries would need co-operation and potentially some form of arbitration provided by the regulator.

Decision area	Comment
Performance	The ROC would be responsible.
Technical & safety	Safety would be regulated as now, with ROCs having full responsibility for safety on their respective networks. Safety targets would need to be agreed and formalised. The ROCs would lead on technological change and it is possible that competitive rivalry might emerge. This desire to innovate would need to be tempered by the benefits of standardisation, and RSSB would be required to provide direction in this area.

TABLE 6.22 OPTION 23B: ASSESSMENT

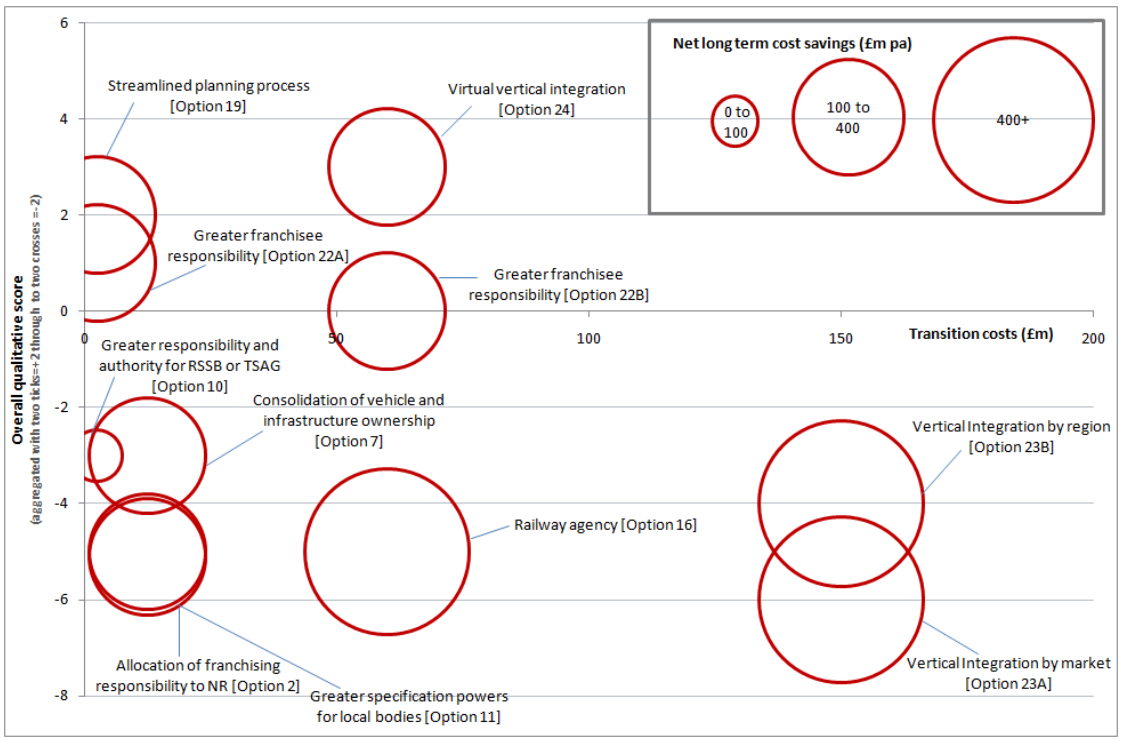
Criterion	Score	Rationale
Net long term cost savings	**High**	There would be less duplication in planning provided NR focused on delivery and did not attempt to "man mark" rail agency staff. Planning would be more integrated but cross-industry interfaces would need to be managed effectively. Reduction in poor maintenance and renewal specifications and the ongoing costs associated with them. Less political interference with specifications could be expected to lead to more cost effective solutions. Lower costs associated with franchise & network change. Adoption of new technology leading to long term cost savings (and revenue increases). Could be lower than the market-based option as less focussed on a specific passenger group.
Transition costs	**Very High**	Could be higher than the market-based option as there would be more (but smaller) transactions. However, compensation to TOCs could be lower if the change is phased-in and focuses initially on areas with single dominant operators where franchises are due to shortly expire. Primary legislation would be required and the reorganisation of the existing structure of the industry would require substantive effort over a prolonged period.
Speed of savings	**X**	Possibly faster than the market-based option as fewer services to re-map and access rights to protect.

Criterion	Score	Rationale
Competition & incentives	**0**	Similar to market-based option, but potentially better as they would be more, smaller ROCs, which would increase the frequency of letting and the contestability of the market.
Deliverability, practicality	**X**	Similar to market-based option.
Legislative barriers	**X**	Similar to market-based option.
Resilience & flexibility	**X**	Similar to market-based option.

Comparison of options

6.86 We have compared each of the options discussed above in terms of the associated potential cost savings, transition costs and qualitative considerations. Figure 6.1 shows the results of this comparison. Cost savings are indicated in terms of the size of the circle for the option concerned, with the overall qualitative score and transition costs shown respectively on the vertical and horizontal axes. Again, we stress that these results are based on the application of the framework described in Chapter 2, which has inevitably involved judgement in view of the time scales for this study.

FIGURE 6.1 OPTION SUMMARY



6.87 On the basis of these results, we conclude that the majority of the options assessed would generate substantial cost savings, in a number of cases in excess of £200 million per annum. However, there is considerable variation in terms of transition costs and the practical issues surrounding implementation. In particular, we note that:

- Streamlined planning and the first of the two franchise modification options (which is anyway being actively considered by DfT) offer the prospect of major cost savings with only limited transition costs, as well as scoring relatively highly in terms of the qualitative criteria;
- Further modification of the franchise as under Option 22B appears to have little merit, in that is delivers similar benefits to Option 22A but results in significantly higher transition costs; Virtual vertical integration merits serious consideration since it also delivers substantial savings with relatively limited transition costs and scores highly in terms of practical implementation;
- The options involving enhancement of NR's existing functions and the decentralisation of decision making option, while also delivering clear benefits would be difficult to implement, for example because of the legislative implications, stakeholder resistance or complications surrounding the interfaces created;
- The rail agency and vertical integration options would deliver the largest benefits, possibly in excess of £400 million per annum, but would be similarly challenging to implement and, at least in the case of vertical integration, result in very substantial transition costs; and
- RSSB technical leadership could generate modest savings but over an extended period, and it is anyway open to question how far this option would differ from the TSAG initiative already in place.

6.88 In the light of these conclusions we have developed a number of recommendations, as set out in the following chapter.

7 Conclusions and Recommendations

Summary of issues

7.1 While focused on the core question of how to improve leadership, planning and decision making across the GB rail industry, this study has highlighted a wide range of weaknesses and deficiencies with the procedures, contractual and regulatory framework and structural arrangements currently in place. These were highlighted in the course of an extensive programme of interviews and investigation of other rail industries and industrial sectors, and are discussed in detail in Chapter 4. In summary, we have concluded the following:

- **Lack of clear leadership:** there are two aspects to this issue, namely a lack of clear and effective leadership within the industry and, in the view of many stakeholders, too much leadership from Government notwithstanding the relatively short period in office experienced by successive Secretaries of State for Transport. This has led to a lack of coherence in strategic decision making, as evidenced by, for example, a change in the position on high speed lines and electrification following the completion of the first HLOS process.
- **Lack of system approach:** a number of stakeholders noted a general failure of organisations to work in a collaborative way, with the result that rail investment it typically not planned or delivered based on a single-system approach. A number of major initiatives, while initially based on a recognition of the need to for integrated planning embracing both rolling stock and infrastructure investment (e.g. IEP), have met with little or no success because the difficulties of working across numerous and complex interfaces.
- **Lack of technical strategy:** the technical strategy for the industry is not well defined and generally regarded as subordinate to the delivery of short term investment. In the course of the interview programme, stakeholders highlighted both a lack of innovation and a failure to standardise with, for example, the slow implementation of ERTMS and smartcards cited in evidence.
- **Weaknesses in planning:** there are a range of concerns under this broad heading. Planning tends to be focused on short term delivery, inflexible and undertaken by a number of different parties leading to duplication and inconsistency. For example, franchise specifications have often failed to recognise the potential impact of major projects, leading to expensive renegotiations with incumbent operators, while Route Utilisation Strategies have developed into "wish lists" raising stakeholder expectations rather than strategies to make the best use of available capacity.
- **Weaknesses in decision making:** we have identified various deficiencies, including shortcomings in the data on which key decisions are based, inappropriate or incomplete criteria for making decisions, particularly in relation to investment, and inadequate delegation of decision making authority. For example, it is difficult for planners to obtain a full understanding of how the value of different parts of the network (as indicated by passenger demand) relates to the corresponding cost of service provision. In addition, investment decisions often fail to take account of the impact of project costs on public spending over the medium to long term, particularly where these are added to Network Rail's Regulatory Asset Base.
- **Overly centralised decision making:** at the same time, local transport authorities and TOCs (who are arguably best placed to understand the needs of passengers) have little say in the specification of train services (with some notable exceptions, including Transport for London

and Merseytravel). Several stakeholders have suggested that services could be better aligned with passenger requirements if decision making were devolved, both to local authorities able to identify economic and social needs and to TOCs able to take a more commercial approach where appropriate.

- **Excessive Government involvement:** Government involvement in the detailed specification of train services is regarded as unhelpful by many in the industry. While it ensures that non-commercial services are protected, it tends to undermine innovation and efficiency, thereby reducing the benefits of private sector involvement. Further, Government influence over major initiatives carries a risk of undue political interference leading to inappropriate investment (for example, announcing investment in 1,300 new vehicles before the completion of the HLOS process), although we recognise that Government will inevitably be involved in major projects requiring substantial public funding.
- **Predominance of infrastructure solutions:** there is a clear tendency for NR to identify infrastructure solutions to address capacity constraints, as evidenced by the predominance of infrastructure investment options in recent Route Utilisation Strategies (the initial RUS documents produced by the SRA were focused on improving the use of existing capacity and included mainly operational solutions to the problems identified). This outcome is a direct result of the way in which both NR and the TOCs are remunerated, which results in neither party having an incentive to identify the least cost option (optimising over train service and infrastructure changes).
- **Inappropriate rolling stock investment and use:** given the lack of standardisation, TOCs have little flexibility to identify different rolling stock options and test the market through competitive negotiations with ROSCOs. At the same time, the short planning horizon of most TOCs provides little or no incentive to invest in new rolling stock. In recent years, the DfT has taken a more direct role in the specification of new trains but projects have proved difficult to implement (involving the management of interfaces with rolling stock service providers, NR, train operators and the providers of finance). Moreover, as noted above the DfT is not well placed to understand the needs of passengers.

7.2 While we do not consider that these findings represent a comprehensive view of the current challenges faced by the GB rail industry, they provide an indication of the scale and range of barriers to achieving better value for money. They also demonstrate the need to consider a wide range of changes in order to improve leadership, planning and decision making in the future.

Recommendations

7.3 Based on the preliminary review of a long list of options and a fuller assessment of a more limited number involving radical change, as described in Chapters 5 and 6, we have formulated a number of recommendations. These include a limited number of changes that, in our view, could be implemented relatively quickly as well as proposals relating to options for more fundamental reform.

Modification of existing processes and systems

7.4 Our recommendations for more immediate change to existing processes and systems draw on the results of the review reported in Chapter 5 and are as follows:

- *1.1. The industry should agree on improved data collection and circulation in order to provide decision makers with a consistent set of data to aid planning and decision making [Option 12].* We suggest that the ORR, which already collects and publishes data as part of its regulatory role and on behalf of the industry, should specify data requirements to

allow a more detailed and consistent analysis of the value and costs of different parts of the network. In the course of this exercise it should consider how issues such as confidentiality should be addressed.

- *1.2. Project decision criteria should be redefined to ensure greater focus on the medium and long term costs of projects and, in particular, should include a comparison of costs with explicit affordability limits and an estimate of the impact on public spending commitments over a 15-year time horizon [Option 3].* This recommendation could be implemented as part of a wider reform of the NATA framework (in the form of a modification to the Appraisal Summary Table) but should anyway be applied to rail industry investment at the earliest opportunity.

- *1.3. A formal process should be put in place providing for industry apprenticeships and encouraging staff secondments [Option 18].* We suggest that this should be led by Network Rail, in collaboration with ATOC and other relevant organisations such as the ORR and RSSB.

- *1.4. Network Rail should be required to identify at least five areas in which a process similar to the JPIP could be applied in order to improve value for money [Option 15]. After agreeing these with the TOCs and the ORR, it should lead the implementation of the necessary processes and mechanisms.* The implementation should be overseen by the ORR, with progress reported in Network Rail's regulatory returns.

- *1.5. The ORR should be asked to identify options for streamlining industry change processes and initiate consultation processes as quickly as possible [Option 20].* The options should include processes relating to the ORR's functions and other procedures currently governing change across the industry. The ORR should be given a specific objective to identify changes that could be expected to result in significant improvements in value for money.

- *1.6 Some form of passenger representation should be included in decision making bodies [Option 1].* This could either be through Passenger Focus or through other mechanisms, such as user groups, or bespoke focus groups.

- *1.7 Decision makers should place a greater emphasis on long term strategies and their fit with short term plans [Option 9].* Railways have long planning horizons and a high proportion of assets with long lives. A balance needs to be found between short term budgetary requirements and long term business investment (and passenger) needs. Most of the stakeholders included in our interview programme considered that the first HLOS did not achieve this.

- *1.8 Decision makers (and planners) should focus more on behaviour change and pricing options [Option 13].* DfT should require NR to focus on a wide range of solutions in the RUS and HLOS capacity scheme development process. To some extent this may already be happening given the well understood budgetary pressure.

- *1.9 The industry should utilise standardised specifications wherever possible [Option 14].* Common assets will improve integration and contestability and reduce unit costs. NR has developed modular stations and platform extension programmes and this concept should be extended to rolling stock and other appropriate assets or initiatives. However, in some circumstances standardisation will not be appropriate. Further work is recommended to consider whether the long term performance of the railway would be enhanced from more standardisation or more bespoke solutions.

Options for more substantive change

7.5 In our view, leadership, planning and decision making could be further improved through more substantial changes within, and to, the structure of the industry, including radical reform of the contractual and regulatory arrangements and/or the allocation of responsibilities. Table 7.1 summarises the options we recommend are considered by the Rail VfM team for implementation.

TABLE 7.1 OPTIONS RECOMMENDED FOLLOWING DETAILED ASSESSMENT

Recommended	Not recommended
Streamlined planning process [Option 19]	Allocation of franchising responsibility to NR [Option 2]
Greater responsibility transferred to franchisees [Option 22A]	Consolidation of vehicle and infrastructure ownership [Option 7]
Virtual vertical integration [Option 24]	Greater responsibility and authority for RSSB or TSAG [Option 10]
Railway agency [Option 16]	Greater responsibility transferred to franchisees plus consolidation [Option 22B]
Vertical integration by market or region [Options 23A & 23B]	
Greater specification powers for local bodies [Option 11] in specific circumstances but only where network impact and network interfaces are minimal*	

Notes: * See paragraph 7.11 for further discussion on the merits of Option 11.

7.6 The recommended options in the table above have been included based on their performance in the detailed assessment. Options that scored well against all measures (net long term cost savings, transition costs and the overall qualitative score have been included). Options that scored well against some of these criteria, in particular the net long term savings criterion have been included. Options that do not score well against any of the criteria are not recommended.

7.7 Options that are not recommended may still offer some benefit (for example, as noted below for Option 11) or have elements that could be added to other options to enhance them. For example, although Option 10 is not recommended, transferring responsibility for technical strategy to a single party may offer value if another option is implemented in which parties are required to co-operate (say Option 24) and more cross-industry working independent of government is required.

7.8 Table 7.2 shows how the options recommended following the detailed assessment address the issues identified in this study and described in Chapter 4.

TABLE 7.2 COMPARISON OF ISSUES AND OPTIONS (RECOMMENDED OPTIONS FOLLOWING DETAILED ASSESSMENT)

Option		Lack of clear leadership	Lack of a system approach	Lack of technical strategy	Weaknesses in planning	Weakeness in decision making	Overly centralised decision making	Excessive government involvement	Predominance of infrastructure solutions	Inappropiate rolling stock investment and use	Total
11	Greater specification powers for local bodies						X				1
16	Rail agency	X	X					X			3
19	Streamline planning processes				X						1
22A	Transfer more responsibility to franchisees			X	X	X	X	X	X	X	7
23A+B	Vertical integration	X	X	X		X		X	X	X	7
24	Virtual vertical integration		X						X		2
	Total	2	3	2	2	2	2	3	3	2	

7.9 Such reform could deliver very substantial cost savings, possibly in excess of £200 million per annum. However, as noted in Chapter 5, the potential benefits need to be considered against the considerable transition costs and impact of disruption arising from the implementation of the options concerned. *Against this background, we recommend that the following options are considered for further investigation:*

- *2.1. A streamlined industry planning process [Option 19]*, which could be implemented within the existing broad structure of the industry and would require little or no change to the current contractual and regulatory framework;
- *2.2. Greater responsibility transferred to franchisees [Option 22A] and Virtual vertical integration [Option 24]*, which could in principle address many of the concerns about a lack of collaborative working and system-based decisions with limited changes to the contractual relationship between Network Rail and the TOCs;
- *2.3. The introduction of a railway agency [Option 16]*, which would establish an organisation capable of providing leadership and delivering integrated planning across the industry, albeit at the cost of some disruption and reallocation of key responsibilities; and
- *2.4. Vertical integration by market and by region [Options 23A and 23B]*, which in our view offer the prospect of fully integrated, long term planning and decision making following the elimination of complex contractual interfaces, although again at the cost of substantial disruption and transition activity.

Other recommended considerations

7.10 These options cover the range of possible outcomes in terms of potential cost savings and the challenge of implementation. Further analysis than has been possible within the time frame for this study would be needed in order to estimate costs and benefits with sufficient precision to allow one option to be recommended over another.

7.11 We also note that some of the other options assessed in Chapter 6 should not be set aside purely on the basis of this study. The establishment of a cross-industry leadership group, whilst rejected as a standalone option overlaid on the current industry structure, could in certain circumstances provide added value when coupled with other options and in particular where specification, operations and control are devolved from government and Network Rail to other bodies or railway companies. We would recommend further consideration in these circumstances.

7.12 At the same time, we note that in all cases the specification of service patterns and the levels of rail investment envisaged would need to recognise funding constraints determined centrally, particularly in view of the current climate in relation to public sector funding.

CONTROL SHEET

Project/Proposal Name	Rail Value for Money Study - Leadership, planning and decision making
Document Title	Final report
Client Contract/Project No.	Workstream B
SDG Project/Proposal No.	22302901

ISSUE HISTORY

Issue No.	Date	Details
1	08/10/10	Draft Final Report
2	29/11/10	Final Report, incorporating comments from some Steering Group members

REVIEW

Originator	MK	
Other Contributors	JC, SE, NR, IA	
Review by:	Print	JC
	Sign	

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