



INFRASTRUCTURE MANAGEMENT: RAIL CASE STUDIES

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1. INTRODUCTION

The Office of Rail and Road (ORR) has commissioned Cambridge Economic Policy Associates (CEPA) to undertake a review of particular infrastructure management arrangements and alternative management approaches adopted by Network Rail. The project is focused on a number of case studies where Network Rail has transferred or shared its usual management responsibilities with other parties. We have also considered London Underground in one case study as a point of comparison. For each case, ORR required us to assess the merits of the alternative arrangements and consider their potential applicability elsewhere across the network, highlighting key lessons learned.

In the first phase of our work, we undertook a *high level* analysis of nine cases identified by ORR. In the second phase, we undertook a more *detailed* analysis of five of these case studies, as well as considering a further two studies (which had not been assessed in the first phase). This is our final report, which presents the results of our analysis across both phases of work.

This report is structured as follows:

- Section 2 discusses the background to this project;
- Section 3 sets out the methodology for our analysis in each phase;
- Sections 4 to 10 present the *detailed* case studies, with each study presented in its own section;
- Section 11 provides our conclusions, taking all of the case studies into account;
- Annex A provides a list by case study of the stakeholders with whom we have held discussions;
- Annexes B, C, D and E contain the *high level* case studies which were not progressed to a *detailed* study; and
- Annex F lists the sources of evidence for each case study.

Efforts have been made to verify the accuracy of information via the use of multiple sources of information where available. However, the project has drawn upon a wide range of material both in the public domain and from stakeholders with whom we have held discussions and this information has not been verified. Stakeholders have provided their opinions and these are reported in the cases; they are not necessarily the opinions of CEPA.

2. BACKGROUND

Network Rail is the infrastructure manager responsible for operating, maintaining, renewing and enhancing the mainline rail infrastructure network in GB, including track, signals and repair and renewal of the majority of its stations. Network Rail enters into collaborative multifunction framework agreements with suppliers for a large proportion of its work. These suppliers, via competitively tendered contracts, deliver renewals and enhancements on behalf of (and in collaboration with) Network Rail.

Given Network Rail's status as the monopoly infrastructure manager, its use of other suppliers – through contracting out in this way – is important because it introduces competition into the delivery of Network Rail's work, thereby incentivising efficiency and effectiveness.

Within this broad framework, there have been a number of cases where third parties have taken greater responsibility for infrastructure management, including changing the relationship between train operator and Network Rail. There have also been cases where there was serious intent for other parties to do so, but ultimately the responsibility was retained or subsequently handed back to Network Rail.

Examples of alternative approaches include another party being responsible for delivery and / or operation of the infrastructure e.g. the Chiltern Evergreen Project, or where Network Rail has conducted its activities under a close relationship with a train operator, for example the Wessex Alliance. In the case of Merseyrail there was a clear intention for infrastructure management to transfer but ultimately the responsibility was retained by Network Rail.

The aim of this project has been to prepare a report consisting of a series of case studies. In each case, functions that would ordinarily have been the responsibility of Network Rail were taken over by (or shared with) other parties, or were proposed to be taken over by other parties. The case studies consider:

- the specific relationship between Network Rail and its partner which was established in each case and the way in which this is different from the status quo;
- the pros and cons, and costs and benefits of proceeding in this manner;
- the circumstances or conditions that made it effective or made it more difficult, and hence the potential for applying this approach more widely across Network Rail; and
- the lessons learned in the process, including pitfalls to be avoided.

The project's purpose has been to provide both quantitative and qualitative evidence to ORR regarding the merits of deploying these models of infrastructure management. Principally, ORR is interested in understanding whether and why an initiative was a success or failure, and any implications this has for how Network Rail is regulated. The work is intended to help inform ORR's approach to the regulation of Network Rail in PR18.

This project also comes in the context of the McNulty report (2011) which provided a review of the GB rail industry and identified a number of issues that the industry should address¹. These included:

- increased fragmentation leading to insufficient cooperation (e.g. between Network Rail and the TOCs and FOCs²);
- "...a heavily centralised" approach being employed by Network Rail which adversely impacts its ability to meet the needs of customers; and
- ineffective or misaligned incentives between Network Rail and TOCs; e.g. Network Rail having a capex bias, which may impede optimal use of existing capacity.

The McNulty report provided a strong impetus to consider alternative infrastructure management approaches, and may have influenced a number of the case studies, the alliances in particular.

¹ Realising the Potential of GB Rail: Report of the Rail Value for Money Study, May 2011
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4203/realising-the-potential-of-gb-rail-summary.pdf (p.9)

² Train operating companies (TOCs) and freight operating companies (FOCs).

3. METHODOLOGY

As discussed in the Introduction, this project focuses on a number of case studies for which Network Rail has transferred or shared its usual management responsibilities with other parties. It also considers several cases where responsibilities have been devolved or internally re-organised either within Network Rail or within a potential comparator (London Underground).

In the first phase of our work, we undertook a *high level* analysis of nine cases identified by ORR. In the second phase of our work, we undertook a *detailed* analysis of seven case studies, five of which were further developed from the first phase.

The following sub-sections provide an explanation of our methodology under the first and second phases of this project.

3.1. First phase: High level case studies

List of case studies

The list of relevant case studies for the first phase was provided by ORR and is presented in Table 3.1 below.

Table 3.1: List of high-level case studies

Project	Summary description
Alliance arrangement	
Wessex Alliance	A 'deep' alliance between South West Trains and Network Rail covering the Wessex route, which operates under a joint business plan and utilises a single senior management team responsible for trains and track. The Alliance was launched in April 2012.
Paisley Canal Electrification	The alliance between Network Rail and First ScotRail that planned and delivered the award winning electrification of the Paisley Canal Line in 2012.
ScotRail deep alliance	A recently agreed 'deep' alliance between Network Rail and the new ScotRail franchisee. This alliance seeks to emulate, and in some respects extend the Wessex Alliance but the benefits have yet to flow through as the franchise start date was recent; April 2015.
Transfer of responsibility	
Evergreen 2 & 3	These projects are part of a series of infrastructure enhancements undertaken by Chiltern Railways under its extended (20-year) franchise agreement with the Department for Transport (DfT). The projects have expanded capacity between London and Bicester / Birmingham, including additional signalling and expansion of London Marylebone station. The early projects were delivered as planned but issues with Evergreen 3 led to Network Rail assuming responsibility for project management.

Project	Summary description
Borders Railway	Transport Scotland's original intention was that this project would be delivered under a novel PPP arrangement that restricted profit distributions. However as a result of limited interest in the procurement (two of three bidders withdrew), the project was transferred to Network Rail in 2012 and now forms part of its portfolio of projects in Scotland.
Project DIME	Plans to address a fragmented procurement and delivery approach to Network Rail's infrastructure projects and achieve efficiencies by restructuring business functions within Network Rail. The plan involved opening the infrastructure delivery process to more competition and greater collaboration with the supply chain. The plan was only partly implemented.
Merseytravel	Plans for devolution of control of the infrastructure used by the Merseyrail franchise to Merseytravel. Plans to devolve responsibility have been discussed more than once with the latest discussions concluding in 2011 when Merseytravel withdrew from the project.
Greater Anglia	Transfer of stations (under a 99-year lease) and station stewardship responsibilities from Network Rail to the Greater Anglia franchisee (Abellio Greater Anglia), which assumed maintenance, repair and renewal responsibilities under a DfT sponsored approach to franchising. This seeks to put responsibility for stations with TOCs as the organisation closest to passengers and provide scope for benchmarking of station costs.
Essex Thameside	Transfer of stations (under a 99-year lease) and the responsibility for station asset stewardship from Network Rail to the TOC (c2c) under a new 15-year franchisee that broadly follows the approach adopted for Greater Anglia.

We also discussed with ORR and Network Rail, the potential for a further study around the forms of collaboration between Network Rail and its suppliers for delivery of infrastructure management work. However, it was agreed that changes to supplier working arrangements are best covered within the Project DIME case.

Approach

Our high level case studies followed a set template, agreed with ORR, which helped to record information in a consistent way so that they can be easily compared, thereby helping ORR to draw robust conclusions. The high level cases describe the arrangements, consider the merits of the project / alliance and its potential applicability elsewhere across the rail network, and highlight lessons learned.

The cases studies were initially undertaken at a high level in order to decide which case studies should be progressed to detailed studies. Therefore, the studies included several 'work in progress' sections in relation to the quality and availability of information, outstanding questions and next steps. The case studies were informed by documents provided by ORR, desk-based research, and discussions with ORR and

Network Rail. For some case studies we also contacted other relevant individuals (i.e. outside of ORR and Network Rail), although in general, we reserved this depth of investigation for the *detailed* case studies.

The high level case studies which were not progressed to detailed studies are included in Annexes B, C, D and E. We have excluded the ‘work in progress’ sections.

3.2. Second phase: Detailed case studies

List of case studies

Following discussions with ORR and Network Rail, the following list of *detailed* case studies was agreed, as shown in Table 3.2 below.

Table 3.2: List of detailed case studies

Project	Summary description
Alliance arrangement	
Wessex Alliance	See Table 3.1
Paisley Canal Electrification	See Table 3.1
Transfer of responsibility	
Borders Railway	See Table 3.1
Evergreen 2 & 3	See Table 3.1
Greater Anglia	See Table 3.1
Network Rail route devolution	Added in second phase, based on suggestion by Network Rail. An internal organisational change by Network Rail in which new business units were created to match Network Rail’s existing ‘Route’ structure. Network Rail’s central organisation (the ‘Centre’) has devolved power, responsibilities and accountabilities to the Routes.
London Underground route devolution	Added in second phase, based on a suggestion from ORR to consider the evolution of the current organisation design with London Underground and Transport for London (TfL). The case considers the level of devolved authority prior to the Underground Public-Private Partnerships (PPPs), whilst the PPP was active and currently. This case is prepared for comparison with the Network Rail Devolution project.

Approach

Similar to the *high level* case studies, our *detailed* case studies also follow a set template as shown in the table below. In these cases we have added further detail, included comments from stakeholder engagement and have sought to quantify impacts. In developing the cases we have relied upon a range of sources. The data available varies

in that some was produced at the time but other information is more recent and potentially backward looking. It is not possible in all cases to clearly establish the price base of the data that we are using. We have indicated a price base where we have it, but instances are limited. Therefore, unless otherwise indicated we consider it sensible to assume a price base at or around the publication date of the sources used. Given the uncertainties we have not attempted to put data in the quantified analysis on a common price base.

The detailed case studies are long so we have also added a one page summary to each.

Table 3.3: Structure of template for detailed case studies

Template for detailed case studies	Comments
Summary (one page)	Replaces introduction
Detailed discussion	New heading
Context and status quo	-
Objectives	-
Key features, including if / how the arrangement differs from status quo	Also includes discussion of plan, if different to outcome
Outcomes	-
Quantitative analysis	Added
Conclusions, including potential implications for ORR	-

The ‘status quo’ (in the table above) refers to situation prior to the alternative arrangements which are the focus of the case study. For example, in a case study that considers the impact of transferring infrastructure management responsibilities to a third party, the status quo refers to the situation in which Network Rail undertakes these responsibilities.

In all cases we have provided conclusions but in some cases our conclusions should be considered to be emergent. A number of the cases considered –the Wessex Alliance and Greater Anglia station asset transfer for example – are relatively recent and so the full impact of the change may not yet be discernible given the long term nature of the projects.

Where a *high level* case study had already been developed in the previous phase, the *detailed* analysis in this phase involved:

- Verifying / refining the information in our high level case study.
- Developing our understanding of the arrangements in greater detail, e.g. the financing arrangements / risk allocation.

- Undertaking a greater range and depth of stakeholder engagement by obtaining the views of all affected parties, i.e. Department for Transport, Network Rail, Freight and Train Operating Companies, passenger representatives, ORR, etc.
- Collecting more data, developing a counterfactual (to the extent this was feasible), and undertaking a quantitative impact analysis.

As noted above, two of the agreed detailed case studies were not part of the first phase of this project. These were the devolution case studies for Network Rail and London Underground respectively. Although this meant there was a slightly shorter timeframe in which to undertake the analysis, our approach is consistent with the other studies.

3.3. Detailed case studies

Our *detailed* case studies are presented in Sections 4 to 10:

- Wessex 'Deep Alliance'
- ScotRail Paisley Canal Electrification
- Evergreen 2 & 3
- Borders Railway
- Greater Anglia Station Transfer
- Network Rail route devolution
- London Underground: Organisational arrangements and devolution

Our *high level* case studies are presented in Annexes B, C, D and E:

- Scotrail Deep Alliance
- Project DIME
- Merseytravel Devolution
- Essex Thameside Station Transfer

4. WESSEX 'DEEP ALLIANCE'

4.1. Summary

The Wessex 'Deep Alliance' ("the Alliance") involves integration between Network Rail and Stagecoach South West Trains (SSWT) on the Wessex Route. The Alliance commenced in April 2012, and was the first deep alliance between Network Rail and a TOC.³ It was formed as an industry initiative rather than being initiated by the franchising process as was the case with the ScotRail deep alliance. One of the main facilitating factors for the Alliance was the close geographic alignment between the Wessex Route and SSWT's train operating services and the fact that the Wessex Route was one of the first to be devolved. The Alliance was developed in phases over a period of about a year as illustrated in Figure 4.1 below.

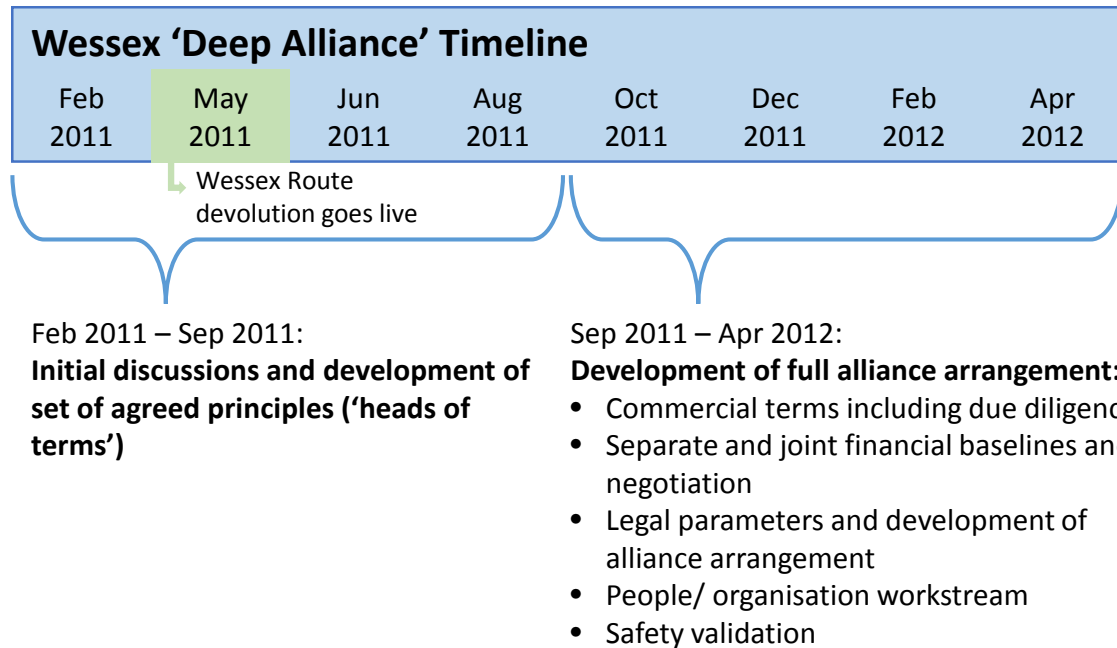
The Alliance operates under a formal contractual agreement and has a business plan against which progress is monitored. It features a joint senior management team headed by an Alliance Managing Director, responsible for infrastructure management and operation of train services on the Wessex Route, and a financial risk sharing agreement where under / over performance relative to agreed baselines is shared between Network Rail and SSWT.

The Wessex Route supports London commuter services into Waterloo station as well as passenger traffic from regional centres such as Southampton and Guildford and is one of the most heavily congested rail routes in the country. Freight traffic is significant particularly between the Port of Southampton and Basingstoke.

The main objective of the Alliance is to improve performance and reduce industry costs by aligning incentives and enhancing cooperation between Network Rail and the TOC. The operational performance metrics presented in this study show a general deterioration in performance since the start of the Alliance with results slipping below targets in a number of areas. However, our analysis shows that operational performance deterioration is not confined to the Wessex Route but has also affected other routes and train operators. The mitigating factors for the performance deterioration have been the amount of work required to improve the infrastructure on the route and the high growth in passenger numbers. In this context, the Alliance parties argue that although the targets set at the start of the Alliance have not been met, performance would have slipped even further under the status quo arrangements.

³ As we discuss in the relevant high-level case study, there is a deep alliance agreement concluded between Network Rail and ScotRail valid from the start of the new TOC franchise in April 2015 but the full details of what this alliance will look like are still to be revealed.

Figure 4.1: Timeline for the Wessex 'Deep Alliance'



Source: Network Rail, Wessex Alliance Development – Lessons Learnt

4.2. Detailed discussion

4.2.1. Context / status quo

Context

The Wessex Route serves a major commuter area from London Waterloo to the South and the South-West. It is primarily a passenger route, although freight traffic is also significant. It is one of the most heavily congested and busiest rail routes in the country.

The main passenger operator on this route is Stagecoach South Western Trains (SSWT). Other passenger operators are Southern, First Great Western, LOROL and CrossCountry. Freight operators include DB Schenker, Freightliner Limited, Freightliner Heavy Haul Limited and First GBRf.

Status quo

Under the status quo, Network Rail and the TOCs manage their own operations and maintenance activities separately. The nature of these standard industry arrangements means there are often diverging incentives between the network operator and the train operator, e.g. the network operator wishes to gain track access for maintenance works for as long as possible, while the train operator wishes to run as many trains as possible (late into the night or early in the morning). Network Rail is also the station manager

and facility owner (SFO) for Waterloo station on the Wessex Route. This creates another interface between Network Rail and the TOC that needs to be managed. Waterloo station is particularly important in this respect because it serves as the terminal point from which SSWT run their trains but which they would not be involved in managing under the traditional model.

Under Schedule 4 of the Track Access Agreement (TAA), Network Rail compensates passenger and freight train operators for the financial impact of possessions which affect train services. This covers the costs associated with loss of revenue as a result of train cancellations or delays and provision of bus replacement services. Under the Schedule 8 regime, compensation is paid per average minute of delay for unplanned disruption. Network Rail pays (charges) train operators when a delay it causes is worse than (better than) a certain benchmark while TOCs pay (charge) Network Rail when delays they cause are worse than (better than) a separate benchmark.

4.2.2. Objectives of project

The main objective of the Alliance is to align incentives (between Network Rail and the TOC) in order to improve performance and reduce costs.⁴ In effect, the Alliance seeks to address the basic conflict between the network operator (which needs track access to perform maintenance) and the TOC (which needs to run train services).

When the alliance was launched, SSWT stated that the benefits would include:⁵

- **More effective station management:** a single management team for London Waterloo, the UK's busiest railway station with more than 90 million passengers a year.
- **Better planning of track maintenance work:** smarter train planning and improved access to provide more time for renewals, leading to a more reliable and punctual train service.
- **Improved response to disruption:** a single team dealing with operational incidents on the network through the Wessex Integrated Control Centre.
- **Faster decision-making:** quicker resolution of issues through joint responsibility for work at stations.

⁴Network Rail, "Wessex Route: Summary Route Plan" (Strategic Business Plan submission)
<http://www.networkrail.co.uk/browse%20documents/strategicbusinessplan/cp5/supporting%20documents/our%20activity%20and%20expenditure%20plans/route%20plans/wessex%20route%20plan.pdf>

⁵ South West Trains website, "South West Trains and Network Rail Alliance"
<http://www.southwesttrains.co.uk/thealliance.aspx>

- **Aligned objectives and incentives:** employees from both organisations working towards common goals with consistent incentives to improve performance.
- **Building skills:** cross-functional development opportunities for employees, enhancing skills and providing wider job experience.
- **Pooled resources:** opportunities to share facilities, helping with winter preparations and providing a more efficient response to train service disruption.
- **Operational efficiencies:** joint training, communications and occupational health processes.

4.2.3. Key features of the Alliance (including differences to status quo)

Infrastructure management approach: Deep Alliance

The Alliance was initially intended to operate as a pilot project in two phases: the initial phase to run until 2014 (end of CP4) and subsequently the CP5 phase subject to renewed consents from ORR and the Secretary of State in 2013. The mismatch between the end of CP5 in 2019 and the expected end of the SSWT franchise in 2017 was seen as a possible impediment to continuing the Alliance into CP5. The DfT published its Franchising Programme which envisages a Direct Award Contract with SSWT continuing to operate the franchise to April 2019.⁶ As a result, the Alliance Agreement has been restated with the intention of operating to the end of CP5.

The Alliance introduced a joint management team responsible for infrastructure management on the Wessex route and operation of train services. There is no new legal entity, rather the alliance represents a contractual agreement between two entities with ultimate responsibilities retained by each party so there is autonomy in decision-making (in extreme cases, one party can decide to ignore a decision made by the alliance if it would result in a breach of its responsibilities).

Staff are encouraged to work together under the Alliance. Based on the stakeholder interviews we understand that integrated teams have been created, with a number of SSWT staff working in Network Rail offices, and station management teams having been merged.

Certain activities that Network Rail performs as System Operator (sale of access rights, charge setting, network planning, etc.) are managed outside of the Alliance, in order to comply with regulatory requirements and ensure fair treatment. Capacity allocation

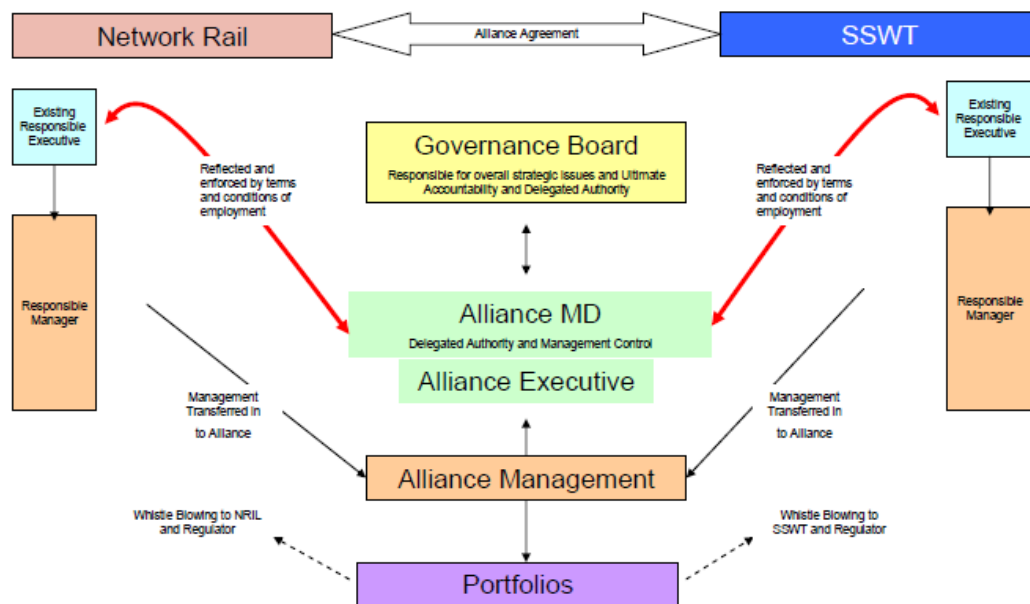
⁶ International Rail Journal news article, “Stagecoach to retain South West Trains until 2019” (January 2014)
<http://www.railjournal.com/index.php/main-line/stagecoach-to-retain-south-west-trains-until-2019.html>

matters are one example of activities handled outside the alliance. Capacity planning is developed by a joint team but signed off by Network Rail externally outside the Alliance.⁷ The Alliance Agreement requires that Schedule 4 and 8 compensation regimes continue to operate as though the Alliance does not exist however variances to financial baseline for these line items are split between the two parties under the financial risk sharing mechanism described below.

The Alliance is the first example of a ‘Deep Alliance’ following the McNulty report. Other alliances have been, or are being established by Network Rail including the alliance with ScotRail, which came into effect in April 2015. The ‘Deep Alliance’ on the Wessex route is facilitated by the geography of SSWT’s operations and the fact that the Wessex route was one of the first routes to be ‘devolved’ in May 2011.

The structure of the Alliance is outlined in Figure 4.2 below.

Figure 4.2: Alliance structure



Source: Network Rail

Responsibility and allocation of risk between stakeholders: Greater risk-sharing compared to status quo, but not full risk-sharing.

Although both parties retain ‘ultimate accountability’ in relation to their statutory and regulatory requirements, there is financial risk-sharing via an agreement to share

⁷ Capacity allocation is the responsibility of Network Rail’s Operational Planning team which is separate from the alliance structure. This includes timetable planning and engineering access functions.

outperformance or under performance. Under/over performance was shared on a 50:50 basis for the first two years of the Alliance (until end of PR13). From April 2014 this was renegotiated to 25:75 (SSWT: Network Rail) following discussions between the parties in relation to Network Rail's CP5 financial baselines. From discussions with DfT staff we understand that the two parties are currently negotiating a return to 50:50 sharing largely due to the fact that an unequal risk sharing arrangement was found to affect behaviours in a way that was not beneficial to the Alliance. We understand there are also discussions on-going around the evolution, governance and relationship of the Alliance with the wider Network Rail organisation, for example in relation to renewals and enhancements.

Both Network Rail and SSWT are parties to the Alliance on commercially negotiated terms and this includes a maximum liability cap and termination provisions. For the first two years of the Alliance, the total downside risk for each party was capped at £20 million.

Financial performance is measured relative to agreed baseline costs and revenues projections for those activities within the scope of the Alliance. This is reflected in a 'virtual' Joint Alliance financial statement. This baseline cost and benefit mechanism incentivises the Alliance management to consider the responsibilities and obligations of both parties.

Network Rail states that the financial sharing incentives mean that for the activities included in the scope of the Alliance, each party gains or loses in the same proportion such that it doesn't matter which entity incurs the cost or receives the revenue.

The Alliance covers operations and maintenance but renewals and enhancement works are currently excluded from the financial risk sharing arrangement. This seems to have been largely due to the uncertainty about how the alliance arrangements would align with the ongoing devolution process. In our discussions, Alliance staff commented that including renewals would be a step forward for the Alliance but their impression is that the Alliance arrangements have gone as far as possible under the current Network Rail structure.

It should also be noted that while renewals are not part of the risk-sharing mechanism the Alliance still has an impact on how renewals are carried out through joint planning activities. While formal responsibility for arranging the possessions timetable rests outside the Alliance with Network Rail's Operational Planning team, the timetable is prepared based on submissions from the Route Lead Access Planners which for the Wessex Route forms part of the Alliance structure. In addition very short term planning and emergency engineering work access requirements are handled through the Wessex Integrated Control Centre as was the case prior to the Alliance.

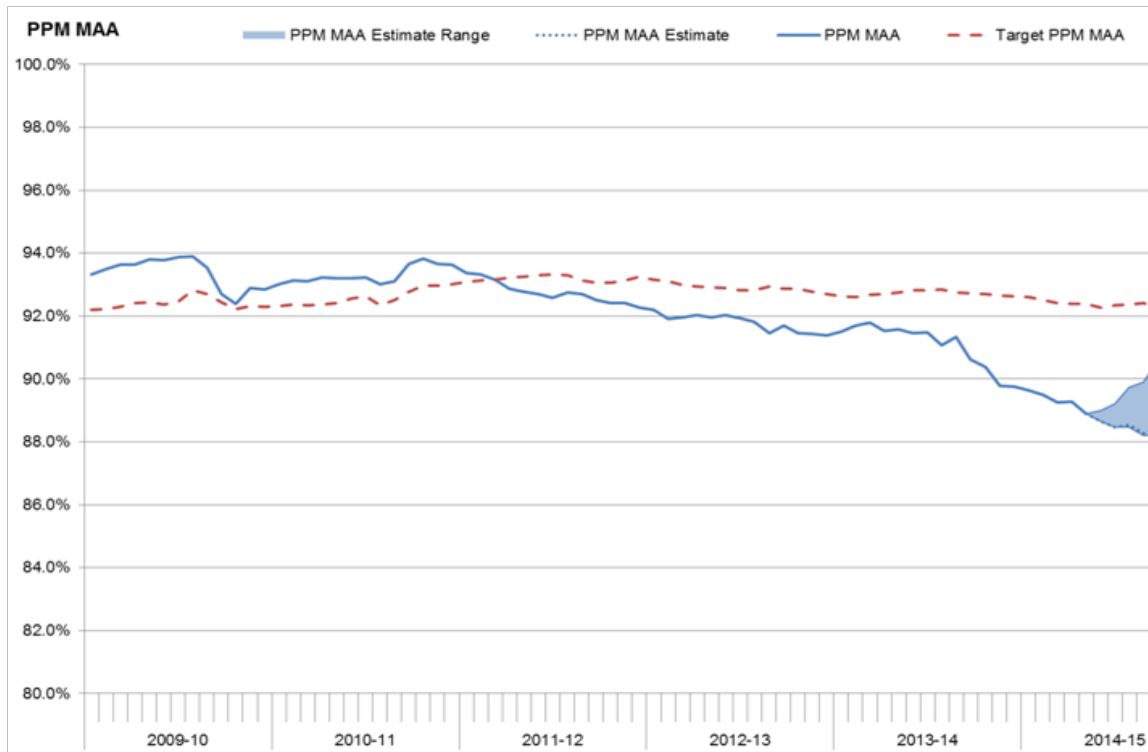
4.2.4. Outcomes

All aspects of the planned alliance appear to have been implemented and the Alliance is fully operational. There is evidence that operational performance has deteriorated on the route, which we discuss in more detail in the Quantitative analysis section. However, it should be noted that this is relative to previous historical performance, not relative to an exact counterfactual, which would involve determining what the performance would have been over the same period in the absence of the Alliance. The Alliance participants (e.g. Alliance Managing Director) believe that the counterfactual would have been worse given that the Wessex Route is one of the most congested on the network, which increases the potential for knock-on delays leading to further deterioration of performance indicators.⁸

Figure 4.3 shows the Public Performance Measure (PPM) moving annual average (MAA) indicator for SSWT from 2009-10. The performance reached a high of around 94% in 2009-10 and almost the same level again in 2010-11, after which a steady decline can be observed. A more detailed discussion of performance metrics is provided in the next section. Some initial observations are that the performance started declining around the beginning of 2011-12, a full year before the start of the Alliance, and the decline has been constant and even accelerated towards the end of the 2013-14 financial year.

⁸ Rail Review, “SWT’s success - with a warning for the future” (2014)

Figure 4.3: South West Trains Public Performance Measure (PPM) moving annual average (MAA) 2009-10 to 14-15



Source: ORR

Note: The figure represent actual PPM MAA up to Period 5 2014-15. The shaded area represents estimated ranges for the end of 2014-15.

Project costs and timings

An interview with the Alliance Managing Director suggests that some costs on the route have increased.⁹ Network Rail’s CP5 Business Plan submission shows a reduction in headcount mainly due to fewer signallers.¹⁰ However, cost savings from lower signaller headcount are offset by an increase in ‘Other Route’ opex. It is possible that the increase in costs is a necessary investment in the alliance to allow costs to decline in the future (i.e. initial costs of creating alliance relationships, leading to efficiencies in future years) however this is difficult to quantify.

As a result of these cost pressures, the Alliance seems to consider that passenger revenue growth is a more likely source of financial performance than cost-cutting.¹¹

⁹ Rail Review, “SWT’s success - with a warning for the future” (2014)

¹⁰ Network Rail, “Wessex Route: Summary Route Plan “ (available [here](#))

¹¹ ORR, “Note of Wessex route Strategic Business Plan meeting” (15 February 2013)

From discussions with the Alliance, we understand that cost savings have been achieved, however any cost savings achieved on a project are reinvested in other projects such that these efficiencies are not observed in the overall cost figures.

According to the Alliance, facilitating access for high output trains allowed 53 composite km of track renewals to be completed with an average of over 700 yards completed each night. This saved an estimated 12 weeks of weekend possessions. Other benefits have been reported, for example, ORR staff noted that it had been advised of a case where increased possession time for track maintenance had increased productivity (one extra hour brought a 40% productivity gain).

Quality / safety outcomes

Several indicators point towards a deterioration in the performance of SSWT in recent years, including lower passenger satisfaction results, more passenger complaints, etc. It is unclear what the performance would have been like in the absence of the alliance. It is possible that the drop in performance might have preceded the Alliance launch, and that the counterfactual could have been a greater deterioration in performance on quality / safety. This is the opinion of the Managing Director of the Alliance, who suggests that external factors such as increase in passenger numbers on an already overcrowded route, alongside chronic capacity constraints, are to blame for lower performance.

Organisational impacts

The joint management team point to successful organisational impacts, including:

- granting access for maintenance works: train planners can no longer refuse access – they can either grant it or refer the issue to senior management; emergency access is granted through the Wessex Integrated Control Centre;
- coordinating to find solutions to common problems: for example using the car park at Guildford station as a construction base for works related to the train-lengthening programme or adopting a Multi-Purpose Vehicle (MPV) approach to operating autumn and winter track treatment trains¹²; and

¹² The MPV approach involved using a SSWT passenger train driver to operate track treatment trains supported by Network Rail's maintenance team. This allowed the Alliance to bring the operation of these trains in-house. This reportedly allowed the Alliance to reduce delay caused by autumn leaf-fall and to increase treatment coverage across the network. (See South West Trains website, "Awards success for South-West Trains-Network Rail Alliance", available [here.](#))

- better understanding across both organisations of the costs of rail disruption – both infrastructure costs and costs in terms of lost revenues for TOC and lower passenger welfare.

These factors illustrate one of the main benefits of the Alliance, in that the Alliance management can intervene in decisions which would have been taken previously unilaterally by one of the parties, and reach a conclusion which takes into account the trade-off between the two parties' main objectives / obligations.

4.2.5. Quantitative analysis

Operational performance

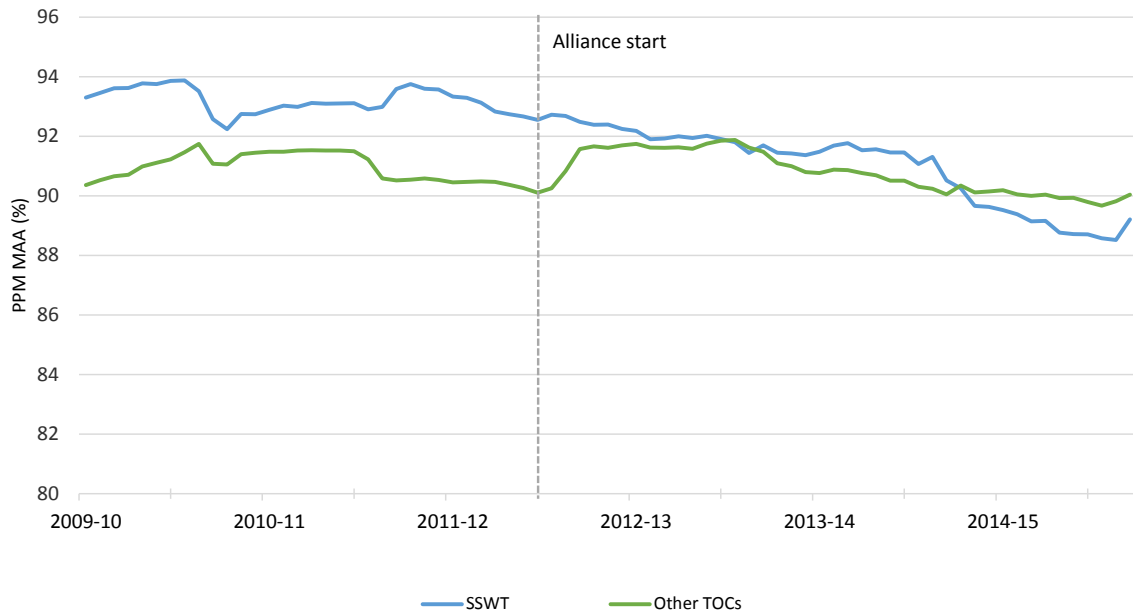
PPM and CaSL

The performance targets which were set for Wessex Route for CP4 included:

- 93% PPM MAA;
- 1.79% Cancelled and Significantly Late (CaSL);
- 555,000 Network Rail delay minutes annually, against all operators, 422,510 of which were specifically targeted against SSWT.

Figure 4.4 below, again shows the PPM MAA performance of SSWT since 2009-10, but this time compared to the average PPM MAA for all other TOCs. This shows SSWT's performance being above that of the other TOC average until around the middle of the 2012-13 financial year. While there has been a slight decline in the other TOCs' average performance in the last two and a half years, the performance deterioration is markedly worse for SSWT.

Figure 4.4: SSWT versus other TOCs: PPM MAA performance (higher is better)

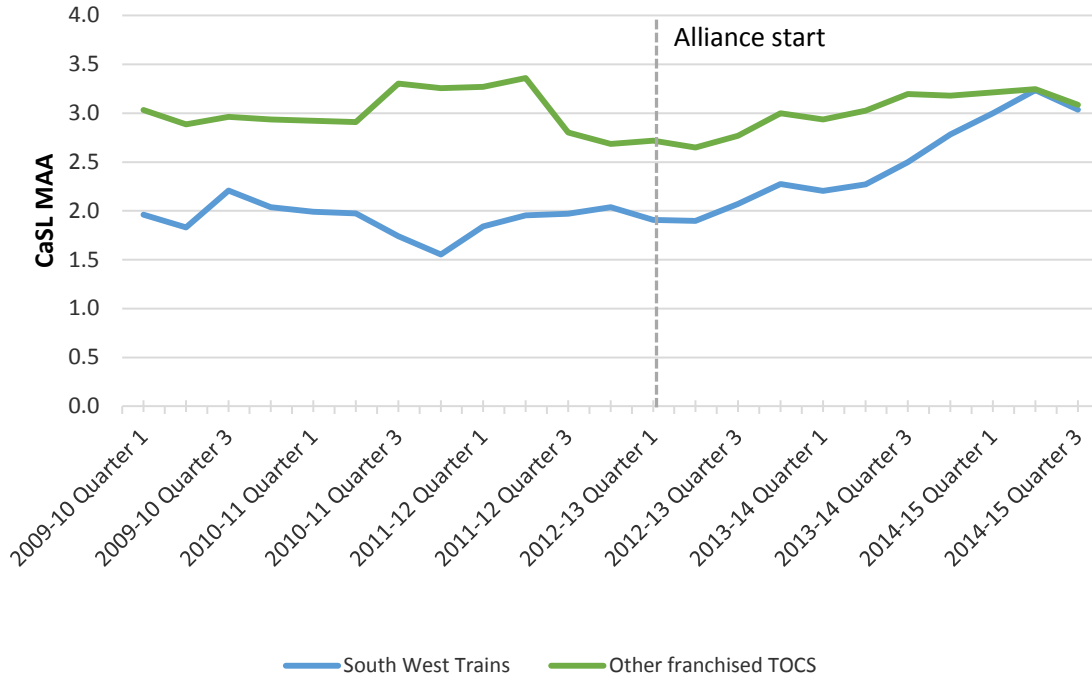


Source: ORR NRT data portal, CEPA analysis

An accelerated deterioration in SSWT's performance can also be observed towards the end of the 2013-14 financial year. This sharp decline is not mirrored in the average performance of the other TOCs.

A similar pattern can be observed when considering the evolution of the CaSL indicator shown in Figure 4.5. A lower CaSL indicates better performance and on this measure SSWT was also performing better than the average of the other TOCs up to mid 2012-13. In this case, the deterioration seems to coincide better with the start of the Alliance. An accelerated increase in the indicator is also observed towards the end of the 2013-14 financial year.

Figure 4.5: SSWT versus other TOCs: CaSL performance (lower is better)



Source: ORR NRT data portal, CEPA analysis

SSWT stated that severe weather conditions throughout the winter months of 2013-14 impacted operational performance resulting in a decline in PPM to 89.6% at the end of the financial year.¹³ To address this, SSWT says that plans are in place to enhance the infrastructure and to implement schemes to help address weather-related risks.

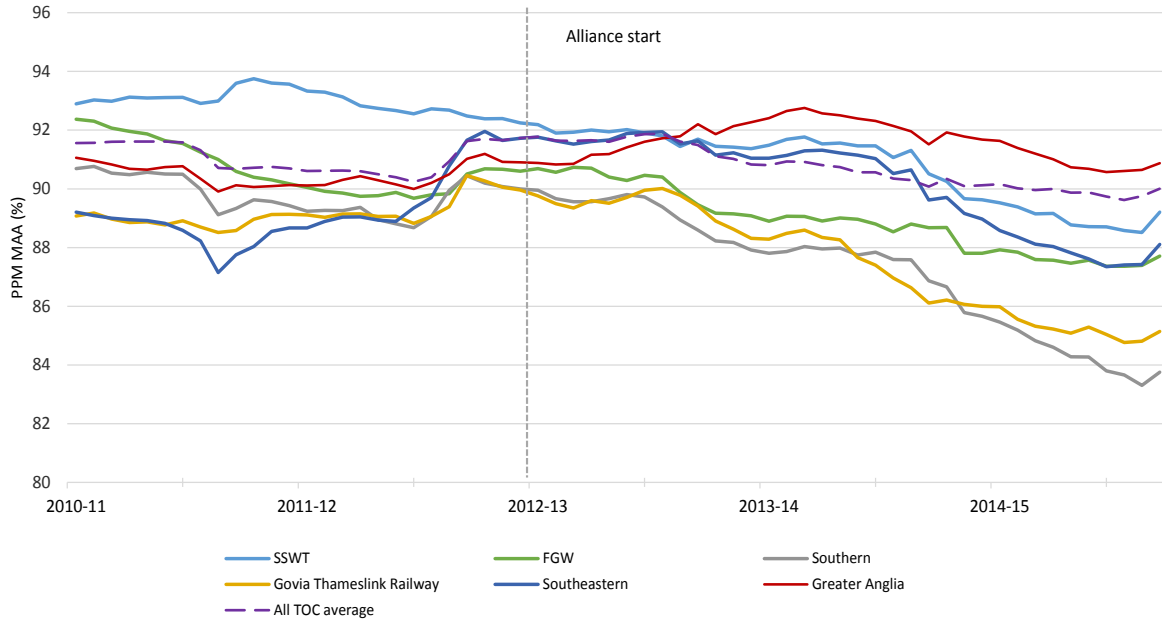
This argument highlights the fact that TOC performance can be affected by external factors such as extreme weather, demand growth or increase in rail traffic. To try to account to some degree for these factors, we have looked at the relative performance of SSWT compared to other franchised TOCs operating on the Wessex Route or in the South East of England that are likely to be similarly affected by the same external factors. The other TOCs considered, apart from SSWT, are Southern, First Great Western (FGW) (both of which have train services operating on the Wessex Route), as well as Southeastern, Greater Anglia and First Capital Connect (now Thameslink Govia) which operate mainly in the South East.

Figure 4.6 shows the SSWT performance against these similar operators. SSWT starts from a higher performance level, which persists across most of the period. A performance deterioration across all TOCs can be observed in the last three years with

¹³ Stagecoach South Western Trains Limited Financial statements for the 52 weeks ended 26 April 2014

the exception of Greater Anglia whose performance declined in the last two years after a significant improvement in 2012-13.

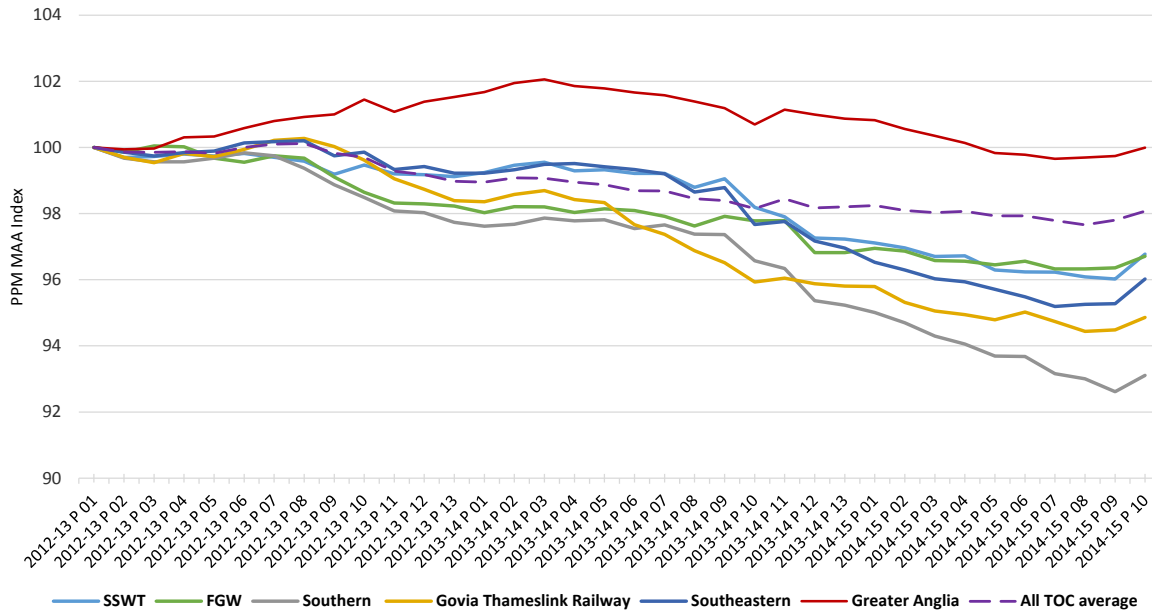
Figure 4.6: SSWT PPM MAA performance against similar operators



Source: ORR NRT data portal, CEPA analysis

Figure 4.7 shows the same information but in index form, starting in Period 1 of 2012-13 (the start of the Alliance). SSWT’s decline in performance is somewhat lower relative to the other TOCs. Southern and FCC (Govia Thameslink) experienced the biggest relative decline in performance. FGW shows a larger initial decline while Southeastern shows the biggest decline towards the end of the period. Greater Anglia records a similar PPM level at the end of the period compared to the first period after a strong performance in 2012-13 and a slightly flatter decline in the subsequent two years.

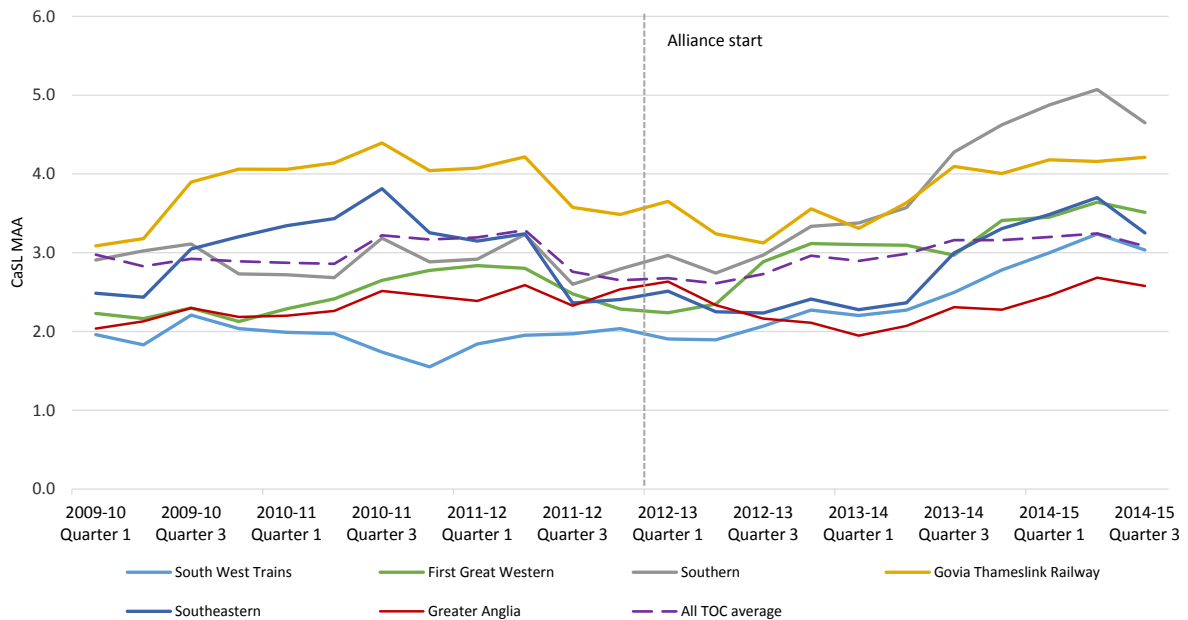
Figure 4.7: SSWT PPM MAA performance against similar operators (index, P1 2012/13 = 100)



Source: ORR NRT data portal, CEPA analysis

We have performed a similar comparison of SSWT’s performance against similar operators for the CaSL measure. Before the Alliance, SSWT was the best performer in terms of CaSL in the group of selected TOCs. The deterioration in performance since then means that SSWT’s CaSL metric was equal to the TOC wide average in Q3 2014-15 while the best performer in the group became Greater Anglia.

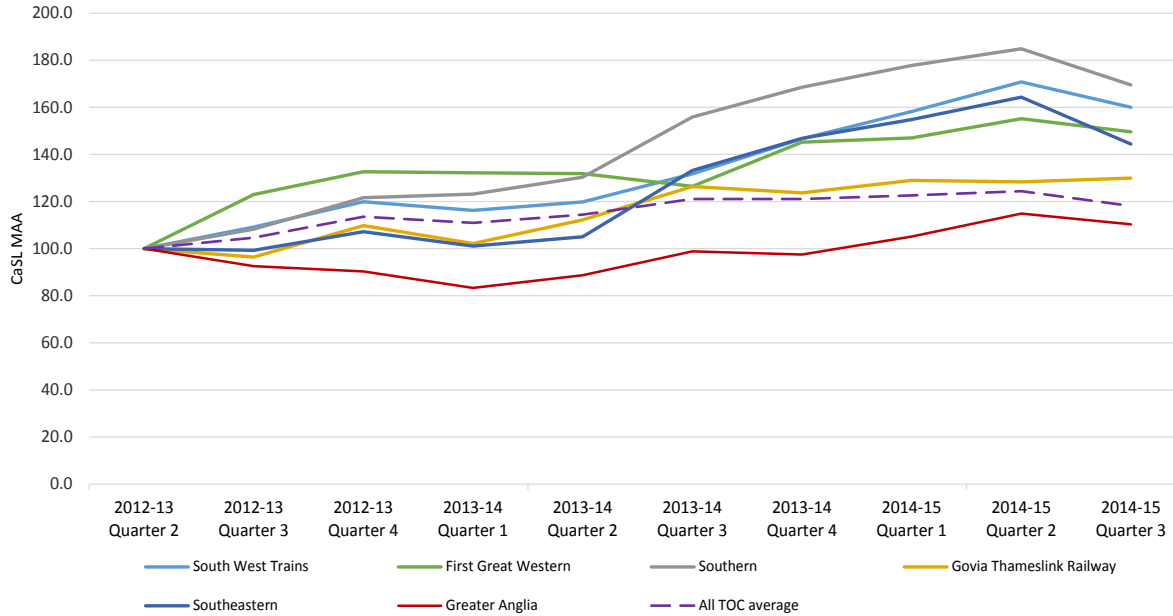
Figure 4.8: SSWT CaSL MAA performance against similar operators



Source: ORR NRT data portal, CEPA analysis

Considering relative performance since the start of the Alliance, all TOCs have suffered a deterioration in performance relative to April 2012. SSWT is the second worst performer during this period after Southern largely due to a significant deterioration in the 2013-14 financial year.

Figure 4.9: SSWT CaSL MAA performance against similar operators (index, P1 2012/13 = 100)



Source: ORR NRT data portal, CEPA analysis

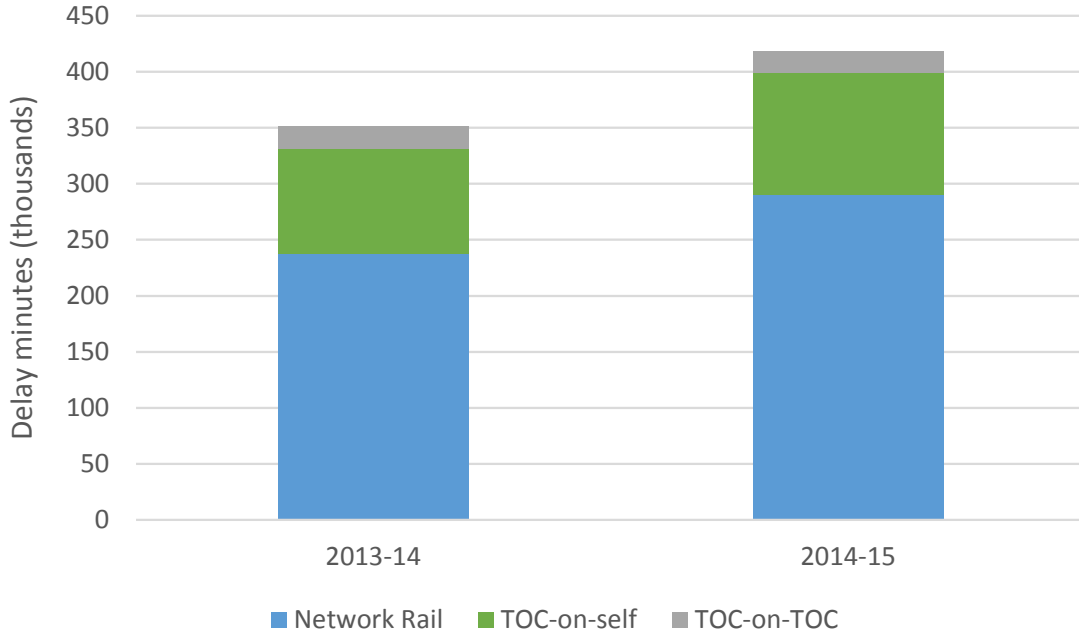
Delays

The primary driver of PPM and CaSL performance is the number of delay minutes incurred by the TOC. Delays are attributed to different cause groups. This includes delays inflicted by:

- Network Rail on TOC;
- TOC-on-self; and
- TOC-on-TOC.

The figure below presents total delay minutes split by cause group. The graphs shows year-to-date figures up to Period 7 of 2013-14 and 2014-15.

Figure 4.10: SSWT delay minutes by cause group

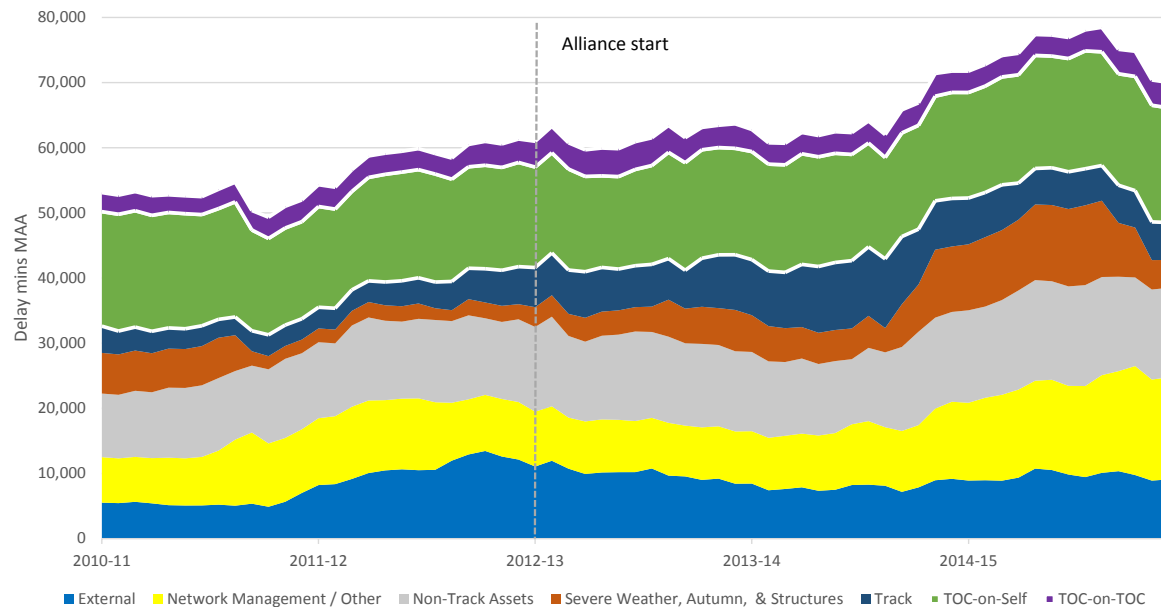


Source: ORR

Most delay minutes are attributed to Network Rail. A substantial share of delays is caused by the TOC-on-itself. Total year-to-date delay minutes have increased in 2014-15 by 19%. Delays caused by Network Rail and TOC-on-self delays have increased by 22% and 15% respectively while TOC-on-TOC delays have remained broadly the same.

To explore this further we have also reviewed the historic evolution of delay minutes and cause groups. The figure below shows the moving annual average of delay minutes by cause. In this case Network Rail on TOC delays are further broken down into various cause factors (external, network management, non-track assets and severe weather & structures). This figure shows that there has been a consistent increase in delay minutes over the last five years with more rapid increases occurring in the second half of 2013-14.

Figure 4.11: SSWT delay minutes MAA by cause group



Source: ORR, CEPA analysis

The number of TOC-on-self delay minutes has remained largely stable over the period. The start of the alliance does not seem to have had a major impact on this category although there has been a recent increase as shown in the previous figure. The TOC-on-TOC delays have also remained stable representing around 5% of total delay minutes. By far the largest number of delay minutes are attributed to Network Rail on TOC. The variation in this category drives the change in the total number of delay minutes. The share of Network Rail on TOC delay minutes has increased during the period from just over 60% in 2010-11 to over 70% in recent periods.

Weather related effects underpin some of the recent increase in delay minutes. In the winter 2013-14 there were over 40,000 delay minutes attributed to severe weather in some periods. Other longer term trends can also be observed from the graph. For example, track related delays have grown, most notably after the start of the alliance. The share of delay minutes attributed to track has increased from around 4% at the beginning of the period to a high of around 15% in mid 2014-15. Delay minutes related to network management and other factors have also increased with MAA rising from about 8,000 delay minutes at the start of the alliance to around 15,000 at the end of 2014-15.

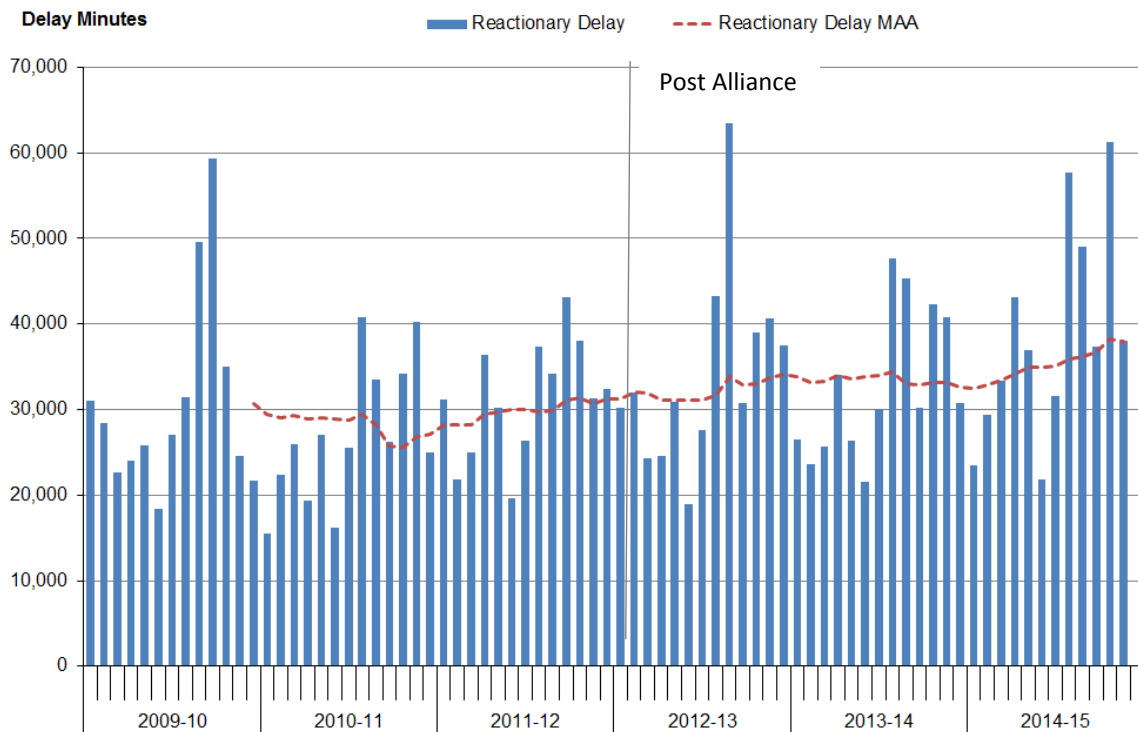
Primary vs. Reactionary delays

Delays incurred by train operators can also be classified according to the nature of the delay. Primary delays are those that are incurred directly as a result of a particular incident. Reactionary delays capture the knock-on effect of that particular incident on

other train services. The magnitude of reactionary delays reflects how well the system recovers following an initial incident. One objective of the Alliance was to improve the response to disruptions. This improvement should be captured in measures of reactionary delays.

Figure 4.12 shows the evolution of SSWT’s reactionary delay minutes since 2009-10. The red line represents reactionary delay MAA. This shows a steady increasing in reactionary delay minutes since the second half of 2010-11. This increase thus precedes the start of the Wessex Alliance but has continued rising in the post-Alliance period.

Figure 4.12: SSWT reactionary delay minutes



Source: ORR

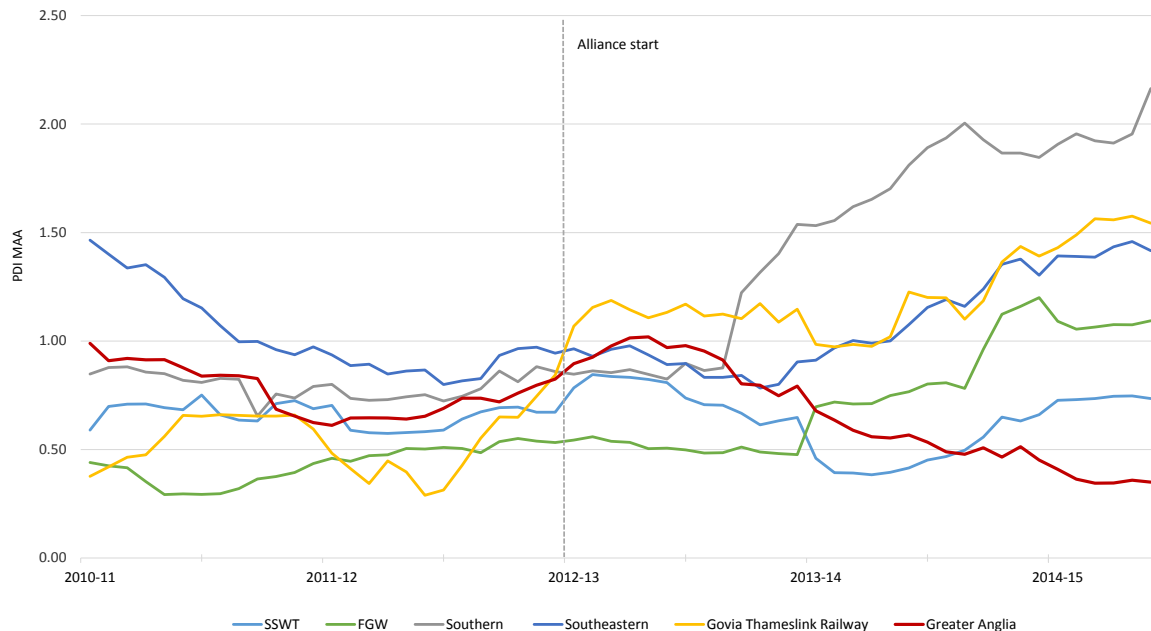
Data provided to us by ORR shows that this increase in reactionary delay minutes is driven by a similar increase in the number of reactionary delay events. As a result the reactionary delay minutes per incident ratio has remained fairly stable over the last five years.

Possessions disruptions

The metrics presented above provide a measure of the TOCs’ operational performance. Metrics related to possessions disruption capture the impact that Network Rail’s performance has on passengers and freight train services.

We show below the Possessions Disruption Index for passenger services (PDI-P) for SSWT and several other TOCs. The PDI-P measures the value of the impact of possessions on excess journey time as experienced by passengers.

Figure 4.13: SSWT PDI-P MAA performance against similar operators (lower is better)



Source: ORR NRT data portal, CEPA analysis

This measure shows there has been some improvement in the possessions disruptions experienced by SSWT. This improvement particularly during 2012-13 is not reflected in the other TOCs' performance except Greater Anglia. Since early 2013-14 there has been increasing disruption due to possessions for most TOCs (again with the exception of Greater Anglia).

Financial performance

The baselines for the financial performance of the alliance proved to be unrealistic and profit for the first financial year was expected to be below budget, although still similar to the previous year.¹⁴ The range of factors affecting this includes:

- costs have been higher due to extra infrastructure needs and higher Schedule 8 costs (resulting from declining performance).
- farebox revenue has increased, but was expected to be below budget.
- some costs have increased, such as EC4T costs.

¹⁴ SWT, "The Alliance Report: To the Department for Transport" (March 2013)

Costs during the first year of the Alliance (2012-13) were expected to decrease slightly relative to the previous year and meet the planned budget due to savings and efficiencies, including merging staff roles and sharing resources.

Asset condition

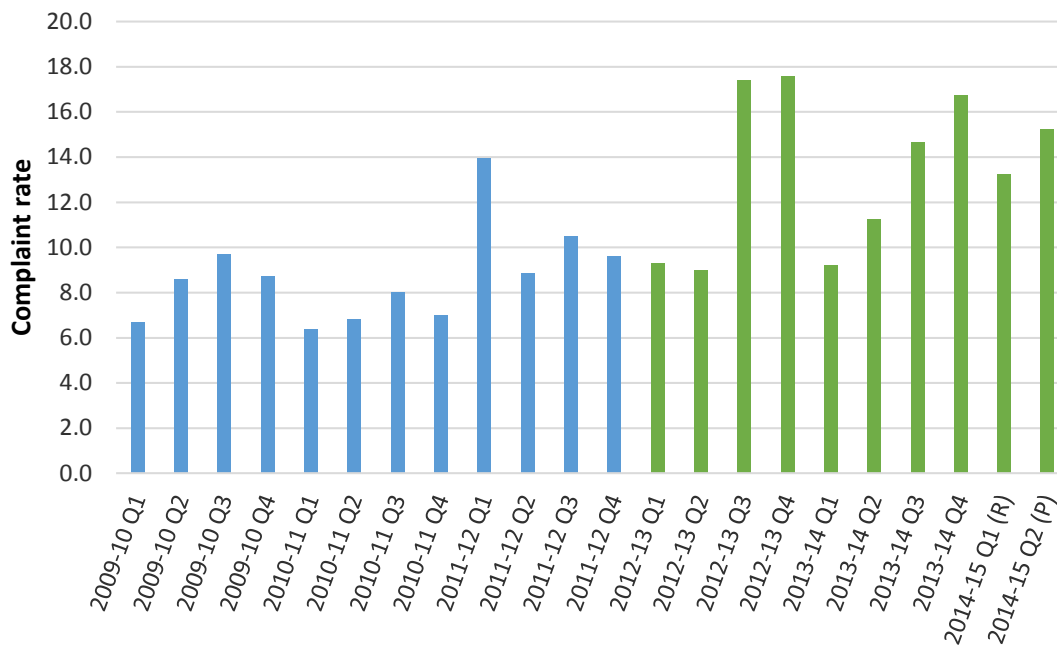
Capex is outside of the financial incentives, and is not within the control of the alliance. The Network Rail Central Investment Projects team manages approximately 80% of expenditure.

Customer satisfaction

Another important area where the performance of the Alliance can be measured relates to customer satisfaction. This refers both to passenger satisfaction with train operating services and TOC / FOC satisfaction with the infrastructure services provided by Network Rail / Wessex Alliance.

Figure 4.14 shows the complaint rate (per 100,000 passengers) experienced by SSWT since the start of 2009-10.

Figure 4.14: Number of complaint per 100,000 passengers (before and after the start of alliance)



Source: ORR NRT data portal, CEPA analysis

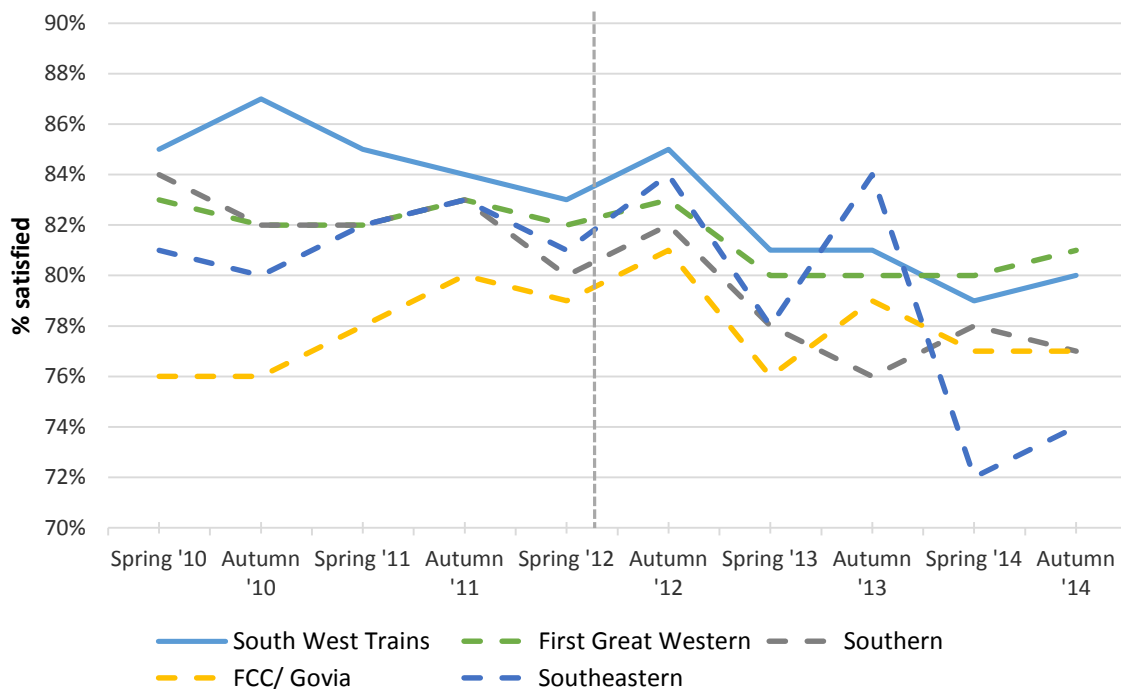
Customer satisfaction and complaints rates are partly driven by the operational performance of the TOC. Therefore the increase in the complaints rate in recent periods is not surprising given the decline in operational performance.

The latest release of the National Rail Passenger Survey, carried out twice a year by Passenger Focus, shows a slight deterioration in SSWT's rating in Autumn 2014 compared to a year earlier. SSWT scored 80% in overall satisfaction, 2% lower than in Autumn 2013, although this was a higher score than most of the other TOCs operating around London and the South East.¹⁵

SSWT showed improvement particularly in relation to station facilities where a higher proportion of passengers, compared to Autumn 2013, declared themselves satisfied with station upkeep, cleanliness and provision of information about train times. Passenger satisfaction with station upkeep and cleanliness in particular has typically been higher since the start of the Alliance compared with the previous two years. Satisfaction with provision of information, although relatively high (around 80%), showed mixed performance since the start of the Alliance.

Figure 4.15 shows the overall NRPS score for SSWT and the comparator operators since spring 2010. The first NRPS report released after the start of the Alliance showed an improvement in the overall score of SSWT. However a similar increase was also observed for the other TOCs and in all cases it was followed by a drop in score at the next survey.

Figure 4.15: SSWT versus similar operators: NRPS scores



Source: Passenger Focus, CEPA analysis

¹⁵ Passenger Focus (January 2015), "National Rail Passenger Survey: Autumn 2014 Main Report"

4.2.6. Conclusions

Overall, the Alliance participants are positive about progress in terms of allowing closer collaboration between the infrastructure operator and the TOC. Our discussions with Network Rail and the Alliance management suggest that there is a real belief in the positive impact of the Alliance on the working relationship between the two organisations.

Discussions with other stakeholders on the Wessex Route, such as freight operators, have also indicated that at least at the level of engagement with customers, the Alliance has delivered good outcomes, particularly through the quarterly stakeholder meetings where other users of the Wessex Route are informed about planned developments on the network. This view is supported by the route survey results. In addition our discussions with stakeholders have confirmed that initial concerns about the Alliance potentially “crowding out” other operators on the route have not materialised.

But in quantitative terms it is hard to conclude that the Alliance has met its primary objectives to reduce costs and improve performance when current railway industry metrics are considered. This may in part be the result of current metrics being high level such that improved operational performance cannot be identified and/ or of the current Alliance plans not setting clear and measurable targets. In terms of operational performance there has clearly been a deterioration in most current indicators and costs have increased. Certain mitigating factors are commonly mentioned such as the poor state of the infrastructure, congestion on the route due to high demand growth and severe weather. This may well be the case, but we assume that these factors were apparent before the Alliance commenced.

As part of our discussions we met with DfT which is similarly considering how the alliance might be measured. Our investigations suggest that the Alliance parties might consider setting metrics which capture cost savings even if these are then reinvested within the business. Other factors where successes might be clearly identified are work volumes completed and alongside this productivity gains, since these are areas where at least anecdotally we are advised that improvements have been delivered.

5. SCOTRAIL PAISLEY CANAL ELECTRIFICATION

5.1. Summary

The Paisley Canal project involved the electrification of the section of line from Corkerhill to Paisley Canal in Scotland (8.8 km) in 2012. The Paisley Canal Line is part of the Glasgow south suburban section of the network. Pre electrification, the line was operated using Class 156 diesel multiple unit (DMU) train stock, with a half-hourly service running Monday to Saturday, delivering an 18 minute journey time from Glasgow Central to Paisley Canal.

This project was part of a long-term plan, the Transport Scotland Strategic Transport Projects Review for migration of rail from diesel to electric (with only rural trains to be diesel by 2030).¹⁶ A key project objective was to reduce chronic delays to timetabled trains, as at the time only 16% of trains were running on time (based on Right Time performance) with 17,000 delay minutes per annum being recorded.¹⁷

The electrification project was completed under an alliance framework agreement signed in December 2011 between First ScotRail and Network Rail. This was the first major project delivered under this alliance and has been considered a potential example of the benefits of cooperation in the rail industry.¹⁸ The objective of the case study is to consider the impact the alliance agreement has had on the delivery of the project and the potential for replicating similar arrangements elsewhere. The overall approach is described as “Tri-Partite”, involving Network Rail, the construction contractor (Babcock), and the TOC (First ScotRail). The project was completed in December 2012, within 6 months of contract award and before an original envisaged completion date of March 2013. The project was delivered for a total cost of £12m.¹⁹

ScotRail and Network Rail were awarded the Partnership of the Year award at the 2013 National Transport Awards for their collaboration on this project.²⁰

¹⁶ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

¹⁷ Brian Sweeney, Asset Engineer (Electrification), Network Rail Scotland "Paisley Canal 'Low Cost Electrification'" presented at the Young Railway Professional Competition 2012.

¹⁸ RailStaff website: "Paisley pattern for Unified Railway" (available [here](#))

¹⁹ Network Rail, Better Railway website, available [here](#)

²⁰ ScotRail website, "UK award for Paisley Canal electrification project", available [here](#)

Figure 5.1: Paisley Canal electrification: project timeline



Source: CEPA

5.2. Detailed discussion

5.2.1. Context / status quo

The Paisley Canal Line is part of the Glasgow south suburban section of the network. Pre electrification, the line was operated by Class 156 diesel multiple unit (DMU) stock, with a half-hourly service running Monday to Saturday, delivering an 18 minute journey time from Glasgow Central to Paisley Canal.

Figure 5.2: South Glasgow Suburban Network and Paisley Canal line (circled)



Source: Alan Price, Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study

Although primarily a passenger route, the Paisley Canal is also a potential route for freight traffic to / from the Hawkhead Oil terminal. The oil terminal is currently mothballed and the ground frame and sidings at the terminal are currently declared as out of use. Scheduled freight traffic has not operated on the line since the early 1990's but there have been suggestions that freight operators are envisaging reusing the route in the future. Under Part G of the Network Code,²¹ in case of major network works, which materially affect train operations, access beneficiaries must be consulted and network changes agreed before being implemented. As part of the Network Change notice process, freight operators expressed their concern at having their access to the line restricted. Network Rail committed to accommodate capability for freight trains to operate after electrification.

Under the usual arrangements for delivering rail infrastructure in GB, Network Rail designs, plans and delivers / procures the delivery of railway infrastructure. Infrastructure projects are managed through the Guide for Railway Investment Projects (GRIP) process, which involves eight stages starting from output specification and feasibility study to project closure.

Under status quo arrangements, the TOC would receive compensation payments for disruption to train operations caused by overruns under Schedule 4 of the Track Access Contract. The TOC would also be required to:

- work with Network Rail to agree possessions;
- provide electric rolling stock for testing; and
- operate an electric service on completion of the works.

We understand that there can be some difficulty in agreeing possessions between the TOC and Network Rail particularly when it causes disruption to scheduled train operations.

The initial cost estimate for the project was produced by Network Rail during GRIP 1 and 2 and was in the range £20m-£28m,²² with a probable completion date of March 2013 (given that an opportunity to undertake works in a 4-week summer holiday period had been missed). The initial cost of the project was largely the result of the extensive work required on platforms and bridges to comply with requirements for cable clearance (e.g. raising bridges to allow the required clearance between electric wires and underside of

²¹ The Network Code is the set of rules and procedures that govern the contractual relationship between the track access right holder and Network Rail

²² Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study" (p.17)

bridges). As the project progressed to GRIP stage 3 (Option selection), savings were identified and the estimated cost was reduced to between £10m and £14.5m.

5.2.2. Objectives of project

This Paisley Canal project was part of a long-term plan, the Transport Scotland Strategic Transport Projects Review, for migration of rail from diesel to electric (with only rural trains to be diesel by 2030).²³ It was outlined in the "Initial Industry Plan for Scotland CP5 and beyond".²⁴ This project involved the electrification of 8.8km of track (an additional 4.4km was already electrified), with one key objective being to reduce journey times and reduce chronic delays to timetabled trains, with only 16% of trains running on time (based on Right Time performance) and 17,000 delay minutes annually pre-electrification.²⁵ The improved service performance was expected to contribute towards meeting the target of 92% PPM.

Our research and discussions with experts involved in the project at both ORR and Network Rail confirmed that the main impetus for the project was to improve punctuality on the line. This was to be achieved by replacing older generation diesel rolling stock with electric trains that have a faster acceleration. Moreover the rolling stock type previously used on the line had a conductor door operation requirement which further increased time spent at stations. The electrification would also reduce delays and deliver staff cost savings by introducing a Driver Only Operation (DOO) system.

A further benefit of electrification is that it brings reduced costs for the TOC, as electric stock is cheaper to run and maintain than diesel and it also offers reduced fuel costs and carbon emissions. For this reason, electrification projects are generally welcomed by TOCs, although the disruption caused during the installation period can be a point of contention between the TOC and Network Rail. The main objectives of the collaborative working arrangements used on this project were to reduce costs and ensure the speedy delivery.

A Network Rail Position Paper (April 2012) describes the project as a "keystone" of the alliance with First ScotRail and states that the project was identified by Network Rail Scotland Route and First ScotRail as an enhancement project to be undertaken under the alliance partnership.

²³ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

²⁴ "Initial Industry Plan Scotland: Proposals for Control Period 5 and beyond (September 2011)": <http://www.atoc.org/clientfiles/files/publicationsdocuments/IIP%20Scotland.pdf>

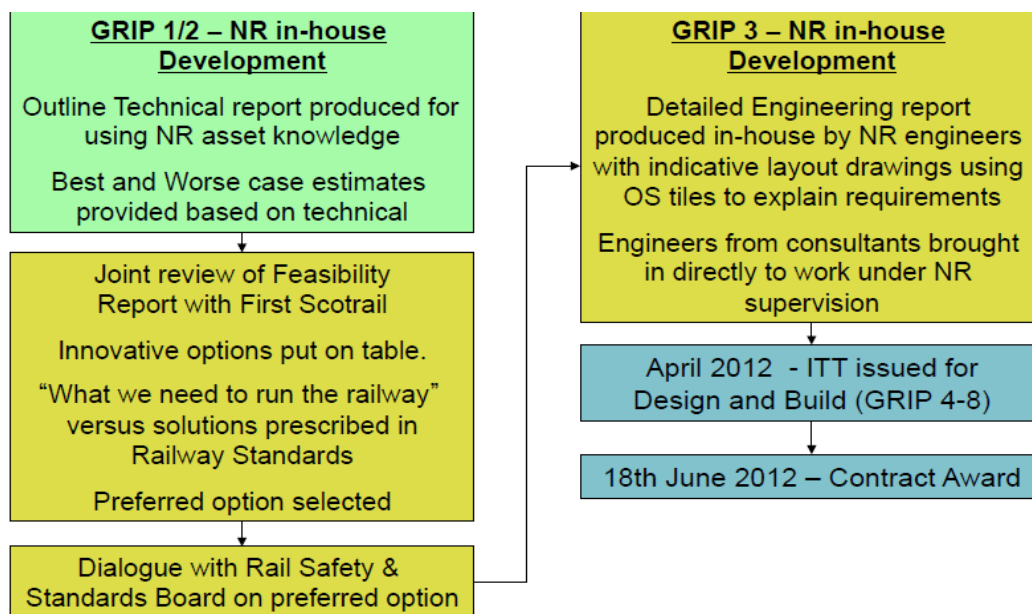
²⁵ Brian Sweeney, Asset Engineer (Electrification), Network Rail Scotland "Paisley Canal 'Low Cost Electrification'" presented at the Young Railway Professional Competition 2012.

5.2.3. Key features of project (including differences to status quo)

The project was originated by Network Rail with a GRIP stage 2 cost estimate of £20m-£28m. In GRIP Stage 3 (option selection), completed around February 2012, savings were identified and the cost reduced to £10 - £14.5m.²⁶ The expected price of the project was announced as £12m in July 2012²⁷.

According to an Authority Request paper from September 2011 provided to us by Network Rail, project scope reductions had been identified which would reduce the initial cost estimates developed at GRIP 2 stage to around £15m (although this still had to be confirmed by the end of GRIP 3). This timeline is confirmed by another Network Rail document which states that a “low cost” concept was jointly developed by Network Rail and First ScotRail engineers in August 2011.²⁸ This would suggest that some degree of cooperation between the two parties was already taking place before the alliance agreement between Network Rail and First ScotRail was formally signed in December 2011. For example the Network Rail development process for the project included a joint review of the feasibility report produced in GRIP 1/2 conducted together with First ScotRail in preparation for GRIP stage 3 as shown below.

Figure 5.3: Paisley Canal development process



Source: Paisley Canal 'Low Cost Electrification'

²⁶ Network Rail, Appraisal Summary - Paisley Canal Electrification

²⁷ First Group, “£12m alliance investment for Paisley Canal line” (July 2012)

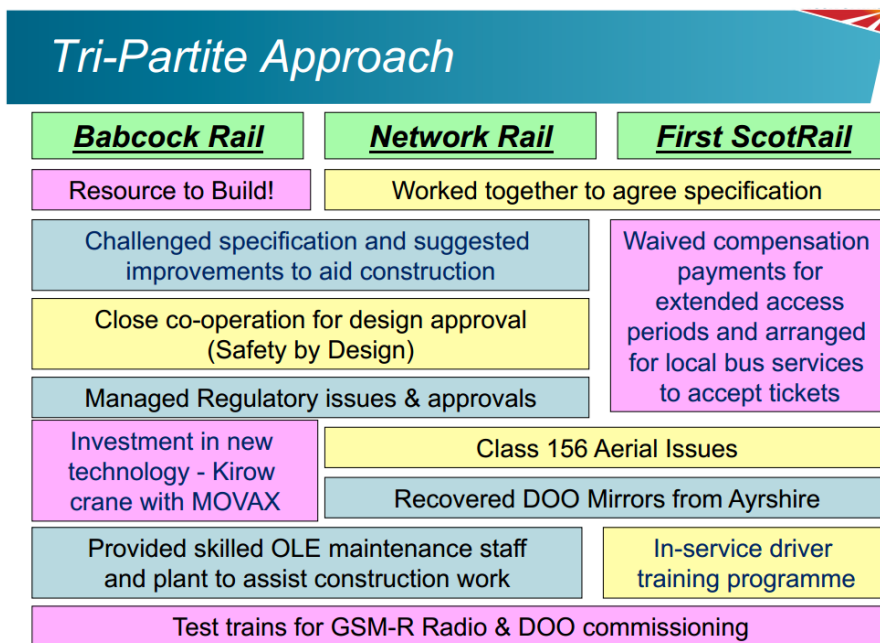
<http://www.firstgroupplc.com/news-and-media/latest-news/2012/11-07-2012-uktrain.aspx>

²⁸ Network Rail, Submission for George Stephenson Award for Engineering Innovation - Paisley Canal “Low Cost” Electrification

Infrastructure management approach: Alliance agreement and “Tri-Partite Approach”

The project was delivered under an alliance framework agreement between First ScotRail and Network Rail. The overall approach has been described as “Tri-Partite”, involving Network Rail, the construction contractor (Babcock), and the TOC (First ScotRail). This was the first major project to be delivered under the alliance agreement between Network Rail and ScotRail. The arrangements and the contributions made by each party are illustrated in Figure 5.4 below.²⁹

Figure 5.4: Tri-partite arrangement for Paisley Canal



Source: Network Rail

The first aspect of the approach was a close cooperation between Network Rail and the TOC in agreeing the project specification. We understand from our discussion with a former FirstGroup director who was closely involved with the project, that First ScotRail’s involvement in the project specification phase (i.e. before the end of GRIP 3) helped to reduce the scope of the works.

The TOC also agreed to waive its rights to Schedule 4 compensation payments and also to extend possession time. The TOC allowed the required cancellation of services to provide 10-hour midweek access and 54-hour weekend access. The organisations also worked together to maximise engineering time on the railway in mid-October (during

²⁹ Brian Sweeney, Andy Wilson, Network Rail, "Paisley Canal 'Low Cost Electrification'" <http://www.rail-infrastructure-work-windows.com/media/downloads/30-15-40-brian-sweeney-and-andy-wilson-network-rail.pdf>

school holidays), which allowed for a 9-day period of unrestricted access in which to undertake works.

Babcock was awarded the construction contract for the works in June 2012, and employed innovative construction techniques to speed up the delivery of the project. For example, a rail mounted crane fitted with a vibrating piling attachment was used which allowed for a much more efficient installation of piles (31 piles were reportedly driven in a one nine-hour shift)³⁰. The installation using this method was both quicker and quieter.

The agreement to extend possession time is partly attributed to the fact that Babcock could communicate directly with the TOC rather than using Network Rail as an intermediary. This also helped to secure access more promptly. Although formally Babcock's role in the project was the same as under any other construction contract, the alliance arrangements did facilitate collaborative behaviour between all parties involved in the project. The organisations worked together to maximise the time that engineers had available at evenings, weekends, and during a nine-day closure of the line in mid-October.³¹

The collaborative behaviour within the Tri-Partite Approach extended to alternative bus services, which First ScotRail facilitated. This did not involve a bus replacement service serving the stations along the rail route as is usually required in such situations, but instead train passes were accepted on the First Bus Glasgow network.³² Network Rail remarked in our discussions that this was more useful and better value for network users than the normal bus replacement service. This type of bus substitution service required agreement from Transport Scotland, which granted an exemption from usual bus replacement requirements. This arrangement was clearly facilitated by the fact that both the TOC and the bus operator were part of the same owning group but it does provide an example of the benefits that parties can bring to an alliance project.

Responsibility and allocation of risk between stakeholders: Financial risk-sharing

Network Rail and First ScotRail agreed to share some degree of financial risks in the project. Principally, ScotRail waived its right to Schedule 4 disruption compensation payments from Network Rail, which shifted some risk from Network Rail to ScotRail (i.e. if works were to run over schedule, ScotRail would not receive the compensation

³⁰ Network Rail, Submission for George Stephenson Award for Engineering Innovation - Paisley Canal "Low Cost" Electrification

³¹ Rail Staff news article, "Paisley pattern for Unified Railway", January 2013
<http://www.railstaff.co.uk/2013/01/23/paisley-pattern-for-unified-railway/>

³² Rail Engineer news article, "Paisley Canal Electrification", December 2012(available [here](#))

normally due in such a situation). However, the benefit for ScotRail was that the project was completed very quickly (probably sooner than would otherwise have been the case).

The project was funded through the CP5 Regulatory Asset Base (RAB). Transport Scotland did not agree to project costs being recovered in CP4. Network Rail funded interest costs until beginning of CP5 (April 2015).³³ These financing costs were estimated at £0.68 million and Network Rail expected to cover these e.g. from projected Schedule 8 savings.

5.2.4. Outcomes

The project plan was successfully implemented and the project was delivered on time. Under the alliance cooperation, the project scope was rationalised compared to the earlier project plan. Scope reductions included:

- Reducing the number of bridges requiring work from 9 to 5,
- Lowering track for the remaining 4 bridges rather than modifying the bridges themselves, and
- Reducing the number of station platforms having to be rebuilt from 3 to 1.³⁴

Additionally, a quick completion date of December 2012 was achieved. The time frame between the effective start of the works and the first electric train running was just 44 days.³⁵ The collaboration between parties meant that the alliance was able to undertake the project in a shorter timeframe than anticipated, given that the original completion date was March 2013.

To reduce the amount of work required to structures, a wire height of 4030mm was built which is below the standard height specification for electrical clearance. The wire height specifications and the various options considered for the project are discussed in more detail in the next section. One operational effect of the reduced height configuration is that it allows the operation of First ScotRail's EMU fleet (Class 314, 318, 320, 334 and 380) under a reduced clearance, but other operators, particularly freight which uses larger trains, can only be accommodated on the line if the electrification is switched off. The complex procedure required to do this means that freight traffic

³³ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study" p.22

³⁴ Brian Sweeney, Asset Engineer (Electrification), Network Rail Scotland "Paisley Canal 'Low Cost Electrification'" presented at the Young Railway Professional Competition 2012

³⁵ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study" p.23

would only be viable after passenger services have ceased. The expected impact of this is minimal however, as larger trains are not expected to run on the line and Network Rail procedures are in place, which would allow power to be switched off so that freight trains could operate if required.³⁶ An innovative mechanism (remote earth switching mechanism with authority key for added security) has been implemented to isolate the Overhead Line Equipment (OLE) and allow larger trains to use the line.

From our discussions with one freight operator (DB Schenker), we understand that at the moment, there are no envisaged freight operations on the line for the foreseeable future. The objective of freight operators was however to ensure that the line could still be used at a later date if necessary. While the arrangements implemented limit somewhat the access of freight trains, this was probably a reasonable solution and a pragmatic use of funds given the low probability of freight traffic. However it was mentioned that a similar approach would be very problematic from a freight perspective if applied on a line with regular freight use.

Project costs and timings

The planned cost of the project fell by more than 50% relative to the GRIP 2 high-end estimate, from £28m to £12m. The project was delivered on time and on budget. The cost-benefit analysis showed that the business case for the project was strongly dependent on estimated capital costs. For cost scenarios up to £12m, the benefit cost ratio (BCR) was higher than 1, but for capital costs of £13m and higher, the costs outweighed the benefits.³⁷ We discuss how these cost savings were achieved and how the BCR was calculated in more detail in the next section.

Our discussion with stakeholders involved in the project revealed some ambiguity about the exact contribution that each party made to the project, particularly regarding the role played by each party in implementing innovation and driving the project forward successfully. It is clear however that the working relationship between all three parties, and particularly between Network Rail and ScotRail, functioned well and contributed to the successful delivery of the project.

Although it is difficult to conclude that the costs savings would not have been made without the alliance arrangement, in some areas there is evidence that the alliance and the Tripartite approach genuinely facilitated cost savings such as:

³⁶ The Institution of Engineering and Technology (IET), *Paisley Canal 'Low Cost' Transformer* and discussion with Nigel Wunsch (Network Rail)

³⁷ Network Rail, Appraisal Summary - Paisley Canal Electrification

- ScotRail waiving its right to disruption compensation payments from Network Rail;
- new engineering methods being utilised;³⁸
- First ScotRail being able to make use of the cancelled Glasgow Airport (GAL) project EMU rolling stock;
- Cutting nearly 50% of the original £28m cost estimate accounted for by the modification of bridges to accommodate electric lines; working together to find solutions and provide the rolling stock necessary helped to reduce the structures work required and the cost involved.³⁹

On timings, the project was completed more quickly than is usually expected of such a project, with a total time of 6 months from contract award to the running of the first electric train.⁴⁰

Evidence that the alliance reduced the project timeframes includes:

- Engineers being granted extended midweek access to the network, which drastically sped up construction.⁴¹
- Network Rail reducing the design approval times to limit delays in the project.⁴²

Quality / safety outcomes

Other potential benefits of the alliance included reduced disruptions due to engineering works, with First ScotRail arranging for rail tickets to be accepted on regular bus services rather than provide a replacement bus service. Under the status quo, the TOC has to provide (and pay) for bus replacement services in case of train disruptions. The TOC is then compensated by Network Rail under Schedule 4.

From a rail standards perspective the project was delivered with many constraints and is not compliant with statutory interoperability requirements and did not fully consider other relevant statutory provisions. From discussion with ORR we understand that the project should have complied but on the advice of the Network Rail Acceptance Panel

³⁸ Network Rail Better Railway website, available [here](#)

³⁹ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

⁴⁰ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

⁴¹ Network Rail Better Railway website, available [here](#)

⁴² Network Rail Better Railway website, available [here](#)

(NRAP), the project elected not to be compliant with interoperability standards (TSI⁴³). NRAP made ORR aware of the project too late for interoperability to be applied retrospectively. The non-standard infrastructure design on the line means there are limitations in terms of the trains that can operate in the future. Given the nature of this line, it is unlikely to be a major issue but it does have implications on applicability of the approach to other electrification projects.

Organisational impacts

Based on our discussions, it is apparent that the TOC's involvement in finding ways of delivering the project for less cost was significant. There are indications that the level of cooperation between parties (Network Rail, ScotRail, and Babcock) played an important role in the successful delivery of the project. The contractor stated that there was a change in Network Rail's behaviour as a client.⁴⁴

Applicability to other projects

The electrification of the Whifflet line (Rutherglen to Coatbridge) was a £30 million project initially scheduled for 2018. In May 2013, the Scottish Transport Minister announced that the project would be brought forward to 2014.⁴⁵ The project was expected to be ready by July 2014, in time for the Commonwealth Games and the Ryder Cup. This move seems to have been driven, at least in part, by the success of the Paisley Canal electrification. The project was also delivered through the Alliance Framework Agreement between Network Rail and First ScotRail, with Carillion the contractor chosen to deliver the works. The project delivery timeline slipped however, and the project was not completed in time for either of the two sporting events.

Network Rail's CP5 Delivery Plan initially specified a GRIP 6 completion date (infrastructure ready for use) in August 2014. In the March 2015 update to the delivery plan, the August deadline is confirmed as missed, with the GRIP 6 stage marked as completed in September 2014.⁴⁶ Following driver training and authorisation under TSI requirements, passenger operations began in December 2014.

The collaboration between and ScotRail involved arranging evening and extended week-long possessions. For several months during the project, evening train services were replaced by bus services. Initially evening train services were supposed to remain

⁴³TSI (Technical Specifications for Interoperability) are technical standards designed to ensure interoperability requirements are met

⁴⁴ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

⁴⁵STV News, "Glasgow-Whifflet line to be electrified before Commonwealth Games" (available [here](#))

⁴⁶ Network Rail, "CP5 Enhancements Delivery Plan" (March 2015)

suspended until May 2014. The evening engineering works had to continue however until September 2014. Two week-long possessions were also arranged in February and March 2014.⁴⁷ One apparent difficulty with possessions during the project was that Network Rail was unable to make full use of the possessions as freight traffic required access to the line.

The Whifflet line was a bigger project than the Paisley Canal electrification. The line carries regular freight traffic and can be used as a diversionary route for other services which meant that a 'low-cost' solution as used on the Paisley Canal line could not be adopted. It also meant that Network Rail needed to take into account the views and interests of multiple stakeholders, in comparison to the Paisley Canal line where ScotRail is the sole operator.

A discussion with staff at ORR has revealed that the Whifflet (Rutherglen and Coatbridge ("RaCe")) line project required a TSI authorisation for train operations, which meant it had to meet legal requirements for trains to be allowed to run after electrification. In such cases, Network Rail is required to seek authorisation before passenger services begin.

Network Rail's statutory duties relating to interoperability were discussed at routine meetings between the Network Rail project team and ORR. We understand that the technical file for authorisation was submitted to ORR in the later stages of the project and in ORR's view, contained many omissions around risk assessment, non-compliance with relevant statutory provisions and non-compliance with relevant parts of the TSI. Some physical work was still outstanding. These concerns were fed back to the project and as a result, substantial re-work to the submission was required. Eventually the authorisation was granted with a significant number of conditions. These changes, which ORR considered should have been made at the beginning of the works, also contributed to the delay of the project.

ORR staff also remarked that there was a general tendency for Network Rail to engage with ORR in respect to standards requirements in the late phases of projects. This could imply delays and increased costs in the event that ORR has to request changes to be made to bring the project in line with the minimum legal requirements.

According to ORR staff, lessons learnt from RaCE and other similar electrification projects suggest that changes to processes such as GRIP are required, so that the process requires projects to improve their capture of all requirements early on – including compliance with legal and safety obligations. These lessons are being fed back

⁴⁷ First ScotRail, Service Alterations Announcement (December 2013) [here](#)

into Network Rail, including by being reflected in on-going improvement plans on interoperability and wider project management discussions.

5.2.5. Quantitative analysis

Project business case

A socio-economic appraisal of the project was conducted by Network Rail in March 2012. This estimated the benefit-to-cost ratio for the project under different scenarios depending on the capital costs involved. A summary of the appraisal identifies the following impacts:

- **Improvement in train service reliability:** these are time-related benefits resulting from reductions in delays on the Paisley Canal line and (smaller) delay reductions on adjacent lines;
- **Operational cost savings:** these are savings related to the operation of electric rather than diesel trains and include leasing and staff cost savings – it is assumed 92% of these savings are transferred to government;
- **Additional revenue:** line improvements are expected to attract new users that will increase revenue – 97% of the extra benefit is assumed to be transferred to government;
- **Modal switch effects:** the new line is expected to encourage users to switch from road to rail. A reduction in car journeys should bring decongestion benefits, but also result in an additional cost to government from loss of indirect taxation revenue; and
- **Environmental benefits** in the form of carbon emissions and noise reductions.

The appraisal assumed all capital costs would be funded by government via the RAB, therefore this is registered as a subsidy cost to government.

A positive business case existed for the project if the capital costs could be kept under or around £12m.

Initial project costs

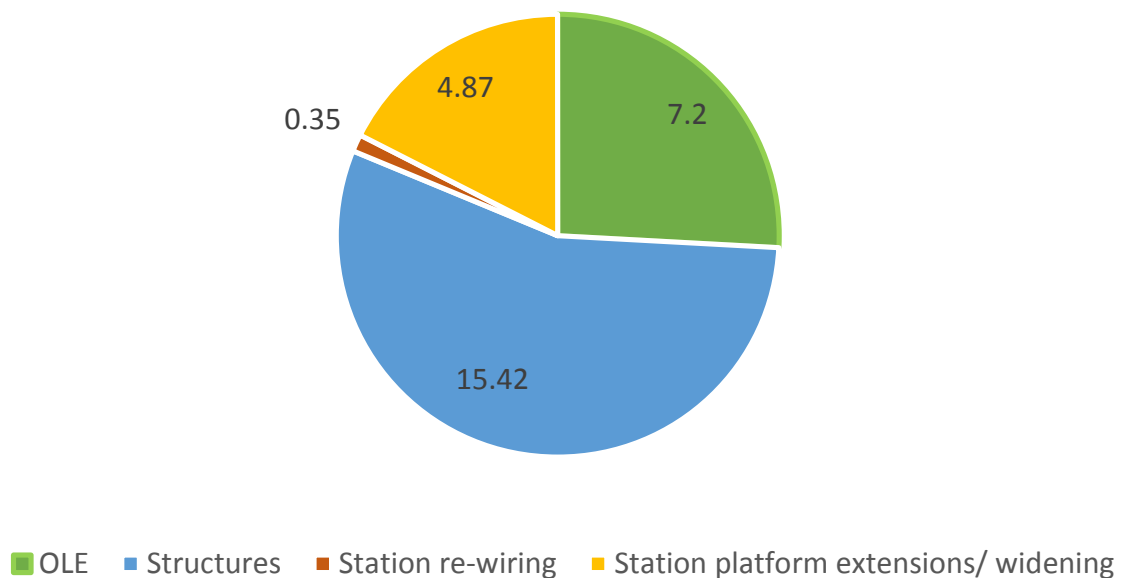
The initial cost assessment developed by Network Rail at GRIP 1 and 2 put the total costs of the project at between £20m and £28m. Comparing this with the cost-benefit appraisal discussed above, it is clear that a business case would not have existed for this project without significant cost savings.

Figure 5.5 below shows the breakdown of the highest cost estimate into different cost categories. The largest cost category, amounting to 55% of total costs, is works to

structures such as bridges. The installation of the overhead lines (OLE) represented around a quarter of total costs, while station platform works amounted to around 17% of total costs.

The initial assessment identified that work would be needed on 9 out of the 12 bridges along the route to meet standard requirements for wire height and bridge clearance and make the electrified line accessible to all rolling stock types. The required bridge soffit height to meet these standards is 4440mm. To reduce the amount of work required to bridges, different options were evaluated depending on the type of rolling stock envisaged to operate on the line.

Figure 5.5: Initial cost breakdown (£m) - max. GRIP 2 estimate = £28m



Source: Rail Delivery Group⁴⁸

Cost savings

The option chosen for the bridge and track adjustments and requirements allowed sufficient clearance for ScotRail’s EMUs to run, as well as providing the physical clearance necessary to accommodate freight trains. This reduced the number of bridges needing works to four, by reducing the bridge soffit height requirement to 4305mm.

The table below shows the soffit height of the twelve bridges along the route and how the number of bridges meeting clearance requirements changes, based on the option chosen relative to the standard requirement.

⁴⁸ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

Table 5.1: Soffit height of bridges along the Paisley Canal route

Name	Soffit height (mm)	Initial result (4440mm clearance)	Chosen height (4305mm clearance)
Corkerhill Road	4310	Not clear	Clear
Cat & Dog Home	4050	Not clear	Not clear
Mosspark Station FB	5000	Clear	Clear
Cardonald Place Rd	4230	Not clear	Not clear
Cardonald Place Rd	4670	Clear	Clear
Moulin Rd	4120	Not clear	Not clear
A736 Crookston Rd	4290	Not clear	"Marginally clear" ⁴⁹
Scotts Rd	4090	Not clear	Dead section
Pipe Bridge	5310	Clear	Clear
Hawkhead Rd	4130	Not clear	Not clear
A726 Barnhead Rd	4370	Not clear	Clear
Partick Street	4210	Not clear	Special local maintenance tolerances

Source: Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

Largely as a result of the reduced scope of the works required, the estimated capital cost of the project fell to £10.6m. An indication of the magnitude of the savings achieved in the different cost categories is provided in the figure below. According to these estimates, the costs associated with structures and OLE fell by around £10m. This is a reduction of 44% compared to the initial cost estimates. As some of the initial work included adjustments to station platforms, the reduced height specifications also significantly reduced costs in this cost category equal to around £4m (or around 77% of the initial estimates). The only station platform requiring work under the revised plan

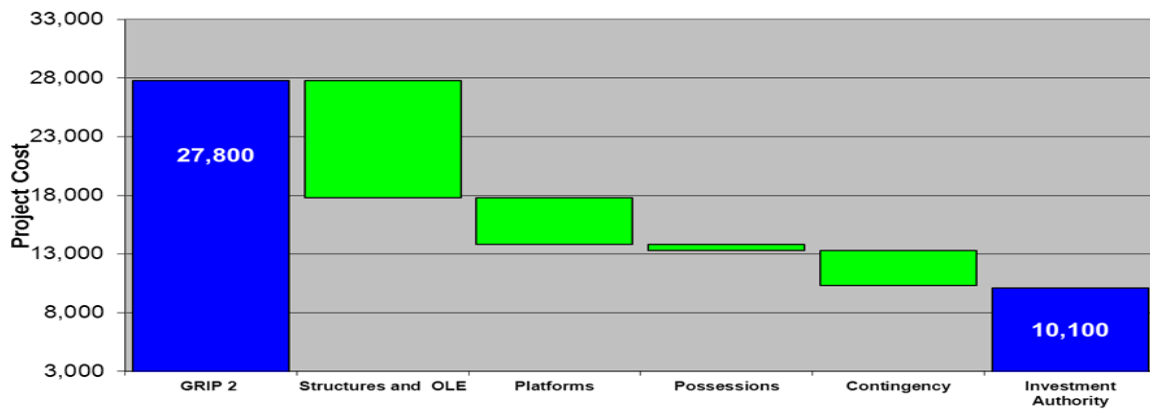
⁴⁹ In the original document, there were no further works specified for this bridge. Based on the soffit height the bridge does not seem to strictly provide the necessary clearance however the difference is marginal.

was at Hawkhead. The new track alignment there required the whole platform to be rebuilt, but money was saved by reusing existing platform furniture.⁵⁰

ScotRail waived its right to compensation for Network Rail possessions. This cost reduction amounted to about £1m (this is a broad estimate but has been confirmed by discussion with ScotRail). This amount reflects the loss of fare revenue to Scotrail caused by the service disruption during construction, and therefore while Network Rail may have benefited from waiving the compensation, the £1m still reflects a net cost of the project to the rail industry in the form of lost revenue.

The amount planned for contingencies also fell by around £3m.

Figure 5.6: Cost savings relative to GRIP 2 stage



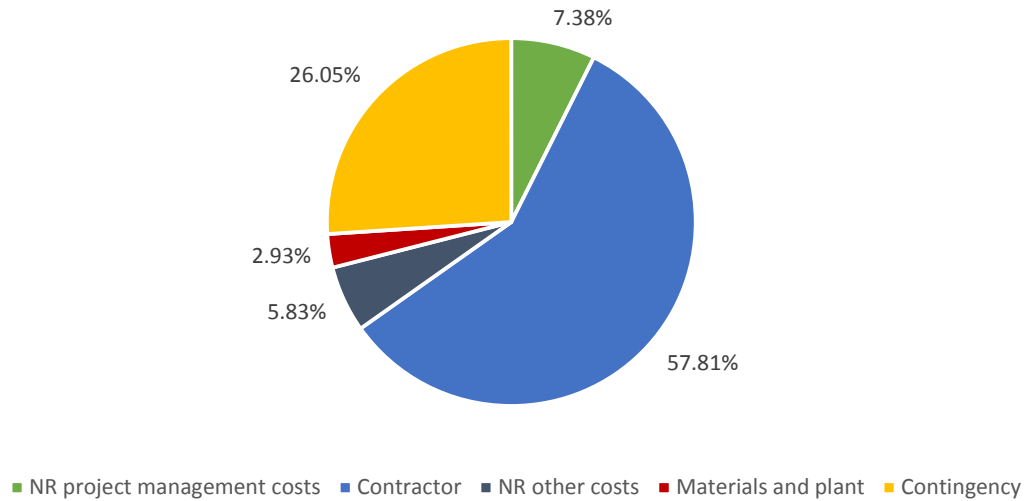
Source: Rail Delivery Group⁵¹

The breakdown of the reduced cost estimate is provided in Figure 5.7 below. As Network Rail solicits cost estimates from contractors at this stage, the breakdown is largely between contractor costs and Network Rail project management and other costs. There is still a significant element to cover contingencies.

⁵⁰ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

⁵¹ Alan Price, FirstGroup (November 2012), "Paisley Canal Electrification Project: Rail Delivery Group - Scope and Accountability for Major Projects case study"

Figure 5.7: GRIP 4 cost breakdown – total cost = £10.64m (%)



5.2.6. Conclusions

The information review and discussion with stakeholders point to the Paisley Canal electrification as a successful project both in terms of overall cost and timeframe for delivery. The project appears to have benefitted from the alliance – both in terms of cost savings and technical delivery. It may serve, particularly from a technical perspective, as a potential solution for other electrification projects that have the necessary characteristics. Innovative techniques for delivering electrification works can generally improve the business case for such projects if they manage to reduce project unit costs.⁵² However, one question that can only be answered in the longer-term is whether the approach adopted in this case resulted in good value for money in terms of costs over the lifetime of the project and not just reduced upfront capital costs.

One lesson that can be drawn from the case study is that there can be significant benefits to a project from closer cooperation between Network Rail and the TOC. Under the status quo, for example, there might be disagreement about length and timing of possessions required to undertake engineering works. The cooperation between Network Rail and First ScotRail meant there was agreement on extended possessions as well as improved communication between the TOC and the contractor. Under the status quo, the TOC would have also received compensation payments for disruption to train operations caused by overruns under Schedule 4 of the Track Access Contract, raising the overall cost to Network Rail of the project.

⁵² Industry Strategic Business Plan, Industry’s Response to the High Level Output Specification for CP5. January 2013. RFOA, RIA, ATOC, Network Rail. P.12

The interesting question is how many of these benefits would have been achieved without the alliance arrangement. The TOC's contribution to the alliance seems to have been significant. At the same time however, the cost estimate was reduced as the project progressed through the usual Network Rail GRIP stages, although the TOC was involved early in this process. The GRIP process normally results in fluctuations in costs, reflecting changes to estimated costs (which as the process progresses, become more firm) and reductions in contingency costs. Given the innovative nature of the solution required to reduce costs in this instance, it may be the case that without the impetus awarded to the project by the alliance agreement and the TOC input, the project might not have been progressed at all.

Another important observation is that while the alliance agreement facilitated and provided a framework for the cooperation, there were already clear incentives for the two parties to work together: firstly, it was in First ScotRail's interests for the project to be delivered and completed as soon as possible (to improve its operational performance); secondly, there was an imperative to produce a viable business case for the project, as without significant cost reductions the project would be unlikely to have gone ahead. These incentives were probably key in ensuring that the alliance functioned well. As incentives for the infrastructure operator and the TOC may not always be perfectly aligned, cooperation on other projects may turn out to be more difficult. This may suggest considering how to design or improve incentives on Network Rail and TOCs to facilitate cooperation. One potential way of encouraging cooperation would be to build incentive mechanisms (e.g. financial risk-sharing) into alliance agreements. One other potential lesson from the project is the importance of engaging with other train operators and stakeholders (including ORR) as early as possible in the delivery process (not only after one single option has been selected) – mirroring to some extent, the involvement of the main TOC.

The specific approach to reducing costs is unlikely to be applicable to many other electrification projects. Given the relatively isolated nature of the line and the fact that only one TOC operates on it, it might be argued that the cost savings achieved justify the non-standard infrastructure arrangement, noting there may be issues in future if larger passenger trains need to use the line. At the moment this situation seems unlikely, however, as noted by ORR, where a similar infrastructure approach is planned in future, it will be important to consider and agree any deviations from the statutory requirements with the relevant authorities *at the start of the project*. This includes getting agreement with funding authorities on any such trade-offs that could have long term financial implications for the line in question. The situations where such an approach might be applicable are likely to be limited, given the requirement for a TSI authorisation and the constraints that arise on routes with multiple train operators.

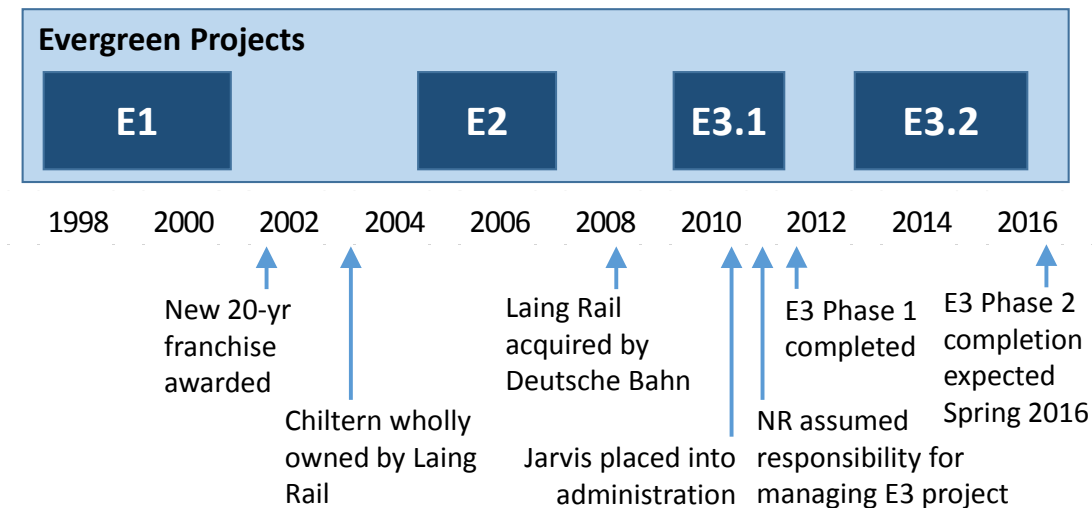
The Paisley Canal electrification is generally been regarded as a success both because of the low cost of electrification and the quick timeframe in which the project was delivered. The design innovations used in the project could potentially be used for other branch electrification projects, although this approach would not be applicable on routes with different types of fleets in operation (i.e. reducing the required clearance under bridges).

6. EVERGREEN 2 & 3

6.1. Summary

The 'Evergreen' projects are a series of major infrastructure improvement projects, developed by Chiltern Railways (Chiltern). The delivery of these improvements was a necessary condition for the franchise to continue for its full term of 20 years. Chiltern was able to successfully design, finance and deliver Evergreen 1 and Evergreen 2, which enhanced Chiltern's credibility and provided support for privately-funded / delivered rail infrastructure. However, there were delays in delivering Evergreen 3, resulting in Network Rail taking over project management responsibilities in March 2011. The second phase of Evergreen 3 has been subsumed into Network Rail's broader East-West Rail project. The timeline is shown below.

Figure 6.1 – Timeline for Evergreen projects



The overall premise for the Evergreen projects was a good one, as Chiltern Railways showed a willingness to take up the opportunities presented by its unique long-term franchise arrangement, indicating that there can be private sector appetite for infrastructure projects in the right circumstances. Furthermore, the particular conditions on the Chiltern line were ideal for the type of Evergreen project arrangements, as there was opportunity for expansion and because it is a 'single TOC' route. However, these conditions were specific to the Chiltern line, which may limit the scope for repeatability on other routes.

Despite the successful delivery of Evergreen 2, Chiltern was unable to deliver Evergreen 3 without Network Rail's assistance. The loss of John Laing and the increase in project size seem to be the main factors. This suggests that it is only appropriate for TOCs / other third parties to undertake projects of a size consistent with their technical / management / financial capabilities.

6.2. Detailed discussion

6.2.1. Context / status quo

Context

Franchise

Under Chiltern's franchise agreement, they received a longer-than-usual franchise period (up to 20 years) if certain investments were undertaken. Specifically, E2 extended the franchise from 10 to 12 years, and Evergreen 3 extended the franchise to 20 years. Chiltern (owned by 'M40 Trains') also held the previous franchise.

The Strategic Rail Authority (SRA) was the key driver of Chiltern's unique franchise arrangement. SRA had developed a vision for flexible franchises that provided a framework in which a TOC could have freedom to develop investment opportunities if they so wished. In return for delivering infrastructure projects, the TOC would receive a longer franchise period, which would provide greater longer-term revenue certainty for investors and create the potential for increased revenues through growth of volumes and / or market share. SRA also recognised (based on discussions with DfT) that this could provide potential opportunities for benchmarking Network Rail's enhancement costs against comparators.

From discussions with Chiltern, we understand that there were a number of related issues which drove this approach:

- The UK Government (via the Strategic Rail Authority) were subsidising railway infrastructure, and there was a desire to reduce the level of these subsidies.
- The Government wanted to encourage a shift from road to rail, so wanted increased investment, but placing considerable debt on Railtrack's balance sheet was not a popular option at the time.⁵³
- Related to creating comparators for enhancements, there was a view that TOCs were best-placed to make the investments due to their understanding of the timetable and knowledge of the aspects of service which customers value the most.

From discussions with various stakeholders (Chiltern, Network Rail and DfT), it is clear that Chiltern was the driver for the specific Evergreen investments. Their franchise agreement provided a framework in which they had the opportunity – but not the

⁵³ Guardian website article, 'Ministers demand Railtrack profit cut', February 1999:
<http://www.theguardian.com/business/1999/feb/28/observerbusiness.theobserver18>

obligation – to propose particular investment projects by certain trigger dates, in return for a longer franchise. Discussions with Chiltern and DfT suggest that the route was relatively underdeveloped in relation to its potential capacity (i.e. high bridges, track beds, etc. were already in place), which presented good opportunities for profitable expansion / growth.

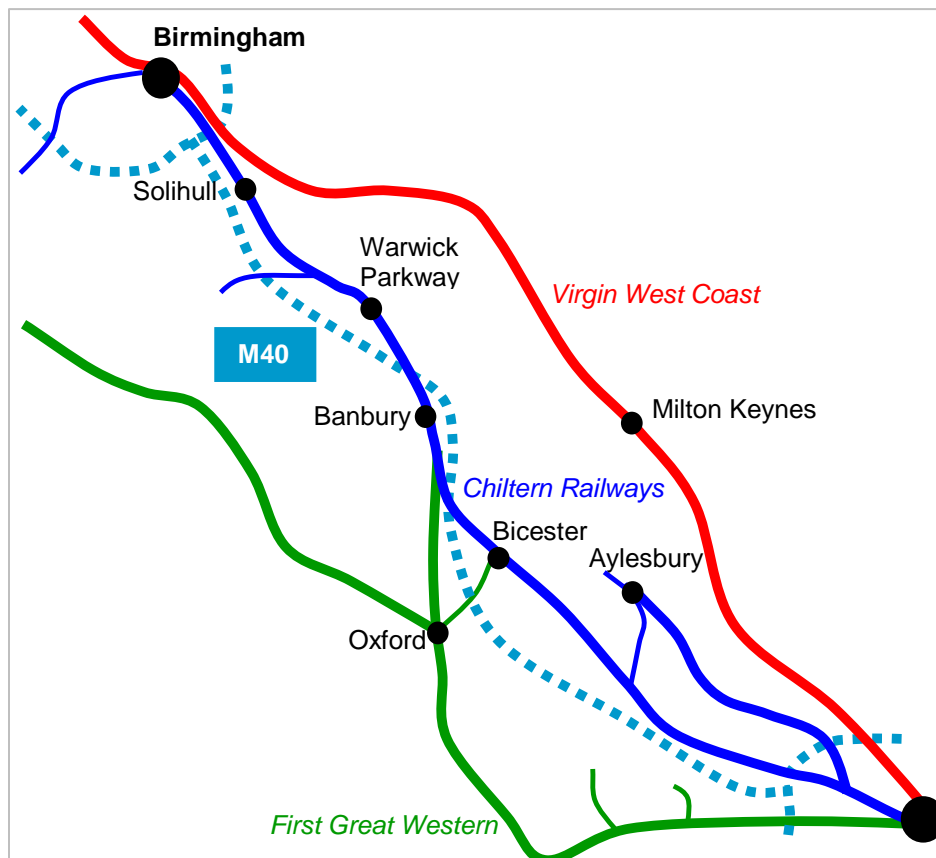
In addition, discussions with Chiltern suggest that Railtrack was primarily focused on operations / renewals, as Network Rail was in its early years (early-to-mid 2000s), and so was not proactively considering potential market opportunities for enhancement projects.

Geography

Figure 6.2 below shows Chiltern’s main routes and its main competitors on those routes:

- Virgin Trains: Compete on journeys between London and Birmingham.
- First Great Western: Currently compete on journeys between London and Banbury, but in future, will also compete on journeys between London and Oxford (upon completion of Evergreen 3 Phase 2).

Figure 6.2: Chiltern and its competitors



Source: Diagram supplied by Chiltern. Routes are based on current infrastructure.

Status quo

Network Rail's role is to secure "the improvement, enhancement and development of the network".⁵⁴ At each Periodic Review (PR), through the long term planning process, Network Rail together with the Department of Transport and Transport Scotland agree on the schemes which Network Rail will deliver during the subsequent period. ORR reviews this list from a funding and affordability perspective. The opex and capex (via the RAB) for such schemes are fed through into the calculation for Network Rail's allowed revenue, which is then recovered via track access charges from TOCs (which the government may offset through subsidy in the form of 'network grant', as was the case in the 2008 and 2013 periodic reviews).

The value of any investment schemes *additional to* those agreed at the PR can subsequently be logged up into Network Rail's RAB, assuming the value of such schemes is useful, efficient, etc. In this case, Network Rail will be reimbursed in largely the same way as above, except with a delay to some of the revenues that Network Rail receives for these, i.e. with these coming instead at the next periodic review.

Outside of this 'status quo', train operators are able to propose/deliver investment projects. This reduces Network Rail's role from 'deliverer' to 'facilitator'. The rail industry's Investment Framework⁵⁵, developed from 2005, provides a framework for this. Evergreen 3 is being undertaken using the Investment Framework, with Chiltern borrowing from Network Rail, whereas for Evergreen 2 Chiltern obtained private finance.

6.2.2. Objectives of project

High level objectives

The long-term franchise between the SRA (subsequently, the DfT) and Chiltern, which was signed in 2002, had the objective of increasing private investment in rail network infrastructure. The full 20 year term of the franchise agreement was conditional on Chiltern committing to infrastructure improvements at certain points of the franchise, without which the franchise would expire at an earlier point.⁵⁶ This long franchise length was intended to provide the greater longer-term certainty that private investors would require in order to deliver enhancements as part of the franchise agreement.

⁵⁴ ORR Investment Framework, Investment framework consolidated policy & guidelines, October 2010.

⁵⁵ Ibid.

⁵⁶ National Archives website, 'Building a Better Railway: £370 Million Investment Programme for Chiltern Railways - 20 Year Deal Signed', February 2002.

http://webarchive.nationalarchives.gov.uk/20020802025330/http://sra.gov.uk/sra/news/releases/franchise/20020218_building_a_better_railway_370_million_.html

Discussions with ex-ORR staff indicate that giving 3rd parties (i.e. not Network Rail) the opportunity to undertake investment projects (i.e. encouraging private investment) has the advantage of encouraging innovation and potentially increasing capacity. When Network Rail took over network responsibilities from Railtrack in 2002, it was important for Network Rail to ensure that operations, maintenance and renewals were of a very high quality, in addition to undertaking enhancements. TOCs and/or other 3rd parties can look at enhancements from a commercial perspective and identify potential projects that Network Rail might not otherwise consider. Discussions with Chiltern suggest that TOCs tend to have a greater understanding of revenue generating opportunities than Network Rail, and so may be in a better position to identify investment opportunities for market expansion, as opposed to capacity relief. Discussions have also raised the suggestion that private sector investment could increase competition for Network Rail, because successful projects may provide a model for other future projects to be undertaken by 3rd parties.

Stakeholder-specific objectives

Chiltern's objectives in undertaking the Evergreen projects were:

- Meeting obligations for extension of franchise agreement: The Chiltern agreement is described as an investment led franchise. In order for the agreement to extend, Chiltern must bring forward enhancements projects and reach agreement with DfT that these are beneficial.
- Profitable investment: Despite taking additional risk though the Evergreen projects (versus the risks which a TOC usually takes), Chiltern's expectations at the time of investment were that it would eventually make a sufficient return on its investment. Chiltern stated that "the Business Case for the Evergreen 3 scheme requires the improved services to run over the upgraded infrastructure for a period of approximately ten years before the shareholders of Chiltern see an acceptable return on the level of risk they are taking".⁵⁷
- From discussions with Chiltern, we understand that it is one of the few TOCs to take undiluted revenue risk for the full duration of the Franchise Term. This gives Chiltern strong / focused incentives to grow passenger numbers on profitable routes, and to make investments that will deliver enhanced services where there is high customer demand.

⁵⁷ 1 - Unredacted application form for ORR's section 22 approval.pdf

6.2.3. Key features of project (including differences to status quo)

Project details

Overview of duration / cost:⁵⁸ The timescales are actuals (if historic) or expected (if future):

- Evergreen 1 (E1): Phase 1 in 1998; Phase 2 in 2001/2. Cost c.£66m.⁵⁹
- Evergreen 2 (E2): 2005 – 2006. Cost £80m.⁶⁰
- Evergreen 3 (E3): Phase 1 in 2009 – Aug 2011⁶¹; c.£135m.⁶² Phase 2 in 2012 – Spring 2016 (expected); £131m-£139m⁶³ cost to Chiltern.

Evergreen 1 (E1) aimed to improve reliability / punctuality and to increase capacity. A c.£66m project which included redoubling 9 miles of single track on the Chiltern mainline (between Bicester North and Aynho Junction) and the raising of the line speed limit.

- As the precursor to E2/E3, in E1 Chiltern undertook enhancements that usually would be delivered by Network Rail. As these works occurred during the time of the Railtrack Administration, the SRA financed the construction period.
- John Laing, Chiltern's parent company at the time of E1, provided project delivery and construction expertise.
- From limited information available in public domain, E1 was delivered on time and to budget. A public source states that Chiltern "quickly gained an understanding of what needed to be done to give a better service", and that its success was due to Chiltern being "led by career railwaymen and women".⁶⁴ Several stakeholders have suggested that the success of E1 seems to have been important in building confidence that Chiltern could deliver subsequent Evergreen projects.

Evergreen 2 (E2) aimed to improve planning headways to enable more frequent trains to operate, and to improve performance. It included a route realignment at

⁵⁸ Chiltern Railways Evergreen 3 website: <http://www.chiltern-evergreen3.co.uk/index.php/project-team>

⁵⁹ Sourced from Chiltern Railways Evergreen 3 website. Price base unknown.

⁶⁰ Laing Rail Board Paper, June 2003. £80m is in 2003 prices.

⁶¹ RailNews website article: 'Chiltern Renaissance – The Evergreen Success', October 2011
<http://www.globalrailnews.com/blog/2011/10/26/chiltern-renaissance-the-evergreen-success/>

⁶² 2009 prices, sourced from Chiltern's Evergreen 3 business case model, December 2009.

⁶³ Price base not fully clear. Likely to be 2012 prices as sourced from Network Rail's Evergreen 3 Phase 2 Asset Protection spreadsheet, dated 3rd August 2012.

⁶⁴ RailNews website article: 'Chiltern Renaissance – The Evergreen Success', October 2011
<http://www.globalrailnews.com/blog/2011/10/26/chiltern-renaissance-the-evergreen-success/>

Beaconsfield (to allow faster speeds), improved signalling and two new platforms at London Marylebone (enabled by the relocation of sidings into a new depot at Wembley).

Evergreen 3 (E3) was a planned £250m⁶⁵ project designed to reduce journey times on Chiltern's Main Line (Marylebone to Birmingham), funded via the ORR's Investment Framework:

- Phase 1 aimed to increase line speeds at different points on the existing Chiltern Main line, aiming to cut journey times by 20%.
- Phase 2 will enable Chiltern to run trains between London Marylebone and Oxford, and involves the construction of a new chord line at Bicester; the upgrade of 10 miles of track between there and Oxford; the reconstruction of existing stations at Bicester Town and Islip; and a brand new station called Oxford Parkway. Once completed, Chiltern will enter the London to Oxford public transport market, in competition with First Great Western and coach services on the M40 motorway.

The second phase of E3 has now been subsumed within the 'East West Rail' (EWR) scheme to re-establish a link between Oxford and Milton Keynes / Bedford, and potentially to Cambridge in the future. Part of EWR will involve "incremental works required to provide additional capacity in order to accommodate... East West Rail services between Oxford and Bicester" and therefore it has considerable overlap with Phase 2 of Evergreen 3.⁶⁶ Network Rail has stated that undertaking EWR "concurrently" with Evergreen 3 Phase 2 will "secure efficiencies and economies"⁶⁷ and "minimise subsequent disruption to the new Chiltern service"⁶⁸.

Figure 6.3 below shows that the route between Oxford and Bicester is both part of Evergreen 3 Phase 2 and the planned East-West Rail project.

⁶⁵ Chiltern Railways, Evergreen 3, Railway Civil Engineers' Association, Jan 2012. Price base not specified.

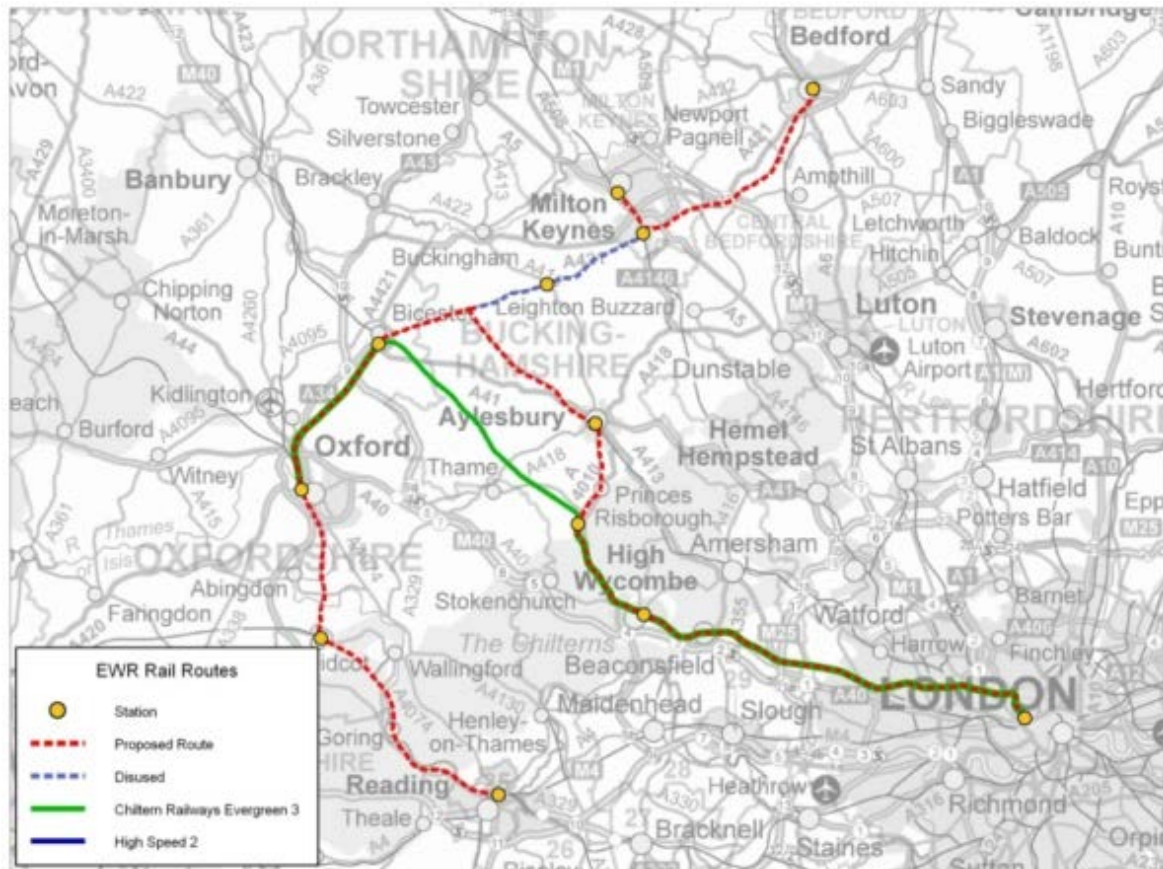
⁶⁶ NR CP5 Enhancements Plan, p40

<http://www.railfuture.org.uk/ox-cam/docs/NR-CP5-Enhancements-Delivery-Plan-OxCam-Project.pdf>

⁶⁷ Ibid.

⁶⁸ NR Evergreen 3 Phase 2 Asset Protection Model (August 2012)

Figure 6.3: Overlap between Evergreen 3 Phase 2 and East-West Rail project



Source: *Thame Gazette*, July 2013.⁶⁹

A further reason why E3 Phase 2 is being delivered as part of EWR, is because E3 Phase 2 was not completed in line with the original timetable. This was due to the need to re-scope the scheme (to provide for EWR) and the time taken to gain and defend statutory powers from judicial review⁷⁰. However, although the original programme dates have not been achieved, the scheme is on track to achieve its new programme for passenger services to commence to Oxford Parkway in Autumn 2015 and to Oxford station in spring 2016.⁷¹

DfT is funding the cost of the additional scope needed for EWR, over and above the original Chiltern budget for E3 Phase 2. Chiltern retains a considerable interest in the

⁶⁹ Thame Gazette website, 'Politicians back 'no brainer' £5.4 million spend on East West rail', July 2013: <http://www.thametoday.co.uk/news/local-news/politicians-back-no-brainer-5-4-million-spend-on-east-west-rail-1-5303481>

⁷⁰ Report to the Secretary of State for Transport, Chiltern Railways (Bicester to Oxford Improvements) Order 201: Request for a Direction and Application for an Exchange Land Certificate, July 2011: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4487/twa-10-app-01-report.pdf

⁷¹ Chiltern Railways Evergreen 3 website: <http://www.chiltern-evergreen3.co.uk/>

project through the joint governance arrangements and its £130m+ contribution, but Network Rail is the Client and employs the contractors, and uses the statutory powers originally gained by Chiltern.

Whilst E1 and E2 were delivered in accordance with the planned project timetables, E3 incurred some delays and cost overruns. E3 phase 1 was initially scheduled to be completed in April 2011, so was delivered four months later than planned. Under the original timetable for E3, phase 2 was potentially planned to be completed in May 2012⁷², although this was subject to receiving the necessary Transport and Works Act (TWA) powers. Due to various delays, Chiltern eventually acquired the TWA powers in October 2012, and the planned completion date was pushed back to May 2014.⁷³ Further developments have seen E3 Phase 2 assimilated into the East-West Rail Project, and completion is now expected in Spring 2016.

Infrastructure management approach: Works transferred from Network Rail to TOC

E2: Laing Rail, a subsidiary of Chiltern's parent company John Laing Group, managed and delivered the project: *"The first project where Network Rail has allowed a third party to manage major signalling works on the rail network"*.⁷⁴ Network Rail retained a limited role, which was to perform its wider Network Operator functions. Carillion was the enhancement contractor under the 'design-build-finance-transfer' approach (see 'Finance' section below).

E3: The intention was for Chiltern to manage and deliver E3, under the guide of its parent company John Laing, and via contracting out the construction work. However, John Laing sold its subsidiary Laing Rail (and therefore its share in Chiltern) in 2008 to Deutsche Bahn, the German State Railway company. As the project delivery of E3 phase 1 ran into difficulties (see section below entitled 'Plan and Outcome'), Chiltern requested project management support, to which Network Rail agreed. However, the project was still delivered by Chiltern. The enhancement work in phase 1 of E3 was carried out by main contractor BAM Nuttall, in partnership with Atkins. Jarvis was also initially a part of the consortium (as sub-contractor to BAM Nuttall), but it went into administration in 2010. For E3 phase 2, Chiltern agreed that Network Rail would take over full responsibility for project delivery, and deliver E3 phase 2 as part of the East-West Rail project, although under some of the contractual arrangements already established by Chiltern.

⁷² 1 - Unredacted application form for ORR's section 22 approval.pdf

⁷³ Network Rail

⁷⁴ Quote attributed to Laing Rail staff, sourced from Railway Gazette website article entitled 'Evergreen II completed on time', January 2007.

Financing

E2: E2 was financed using a 'Design Build Finance and Transfer' (DBFT) model with a facility charge. The project reached financial close in December 2004. The investment package was funded by Chiltern through a privately-financed special purpose vehicle (SPV). Under the DBFT arrangement, Carillion Construction Ltd delivered infrastructure works worth £50m⁷⁵ using a bank facility provided by Sumitomo Mitsui Banking Corp Europe Ltd. On completion, Network Rail bought the assets for a predetermined sum, and at the 2008 Periodic Review, the efficient costs of the project were added to Network Rail's RAB (i.e. the transfer price, adjusted for 'Project Variations', 'Network Rail Variations' and 'Project Events').⁷⁶ Laing Rail bore the construction risks. Chiltern agreed to pay Network Rail a facility charge (via additional track access charges) from the date of payment of the lump sum transfer price until the end of the control period 3 (CP3, running from 1 April 2004 to 31 March 2009). Chiltern also agreed to pay an Incremental O&M Charge until the end of CP3, to remunerate Network Rail for the incremental costs of operating and maintaining the additional infrastructure assets.⁷⁷

E3: The project was delivered via the Investment Framework, with Network Rail funding the project. The project is similar to a 'Design Build and Transfer' (DBT) model, with Network Rail financing the construction period of the project, and Chiltern repaying via a facility charge in its track access agreement.⁷⁸ Chiltern is the "Sponsor, Client and Agent" whilst Network Rail is "a co-sponsor but also has the role of mortgagor and approver".⁷⁹

The economic crisis meant that bank finance was not readily available. In addition, from discussions with Chiltern, we understand that Chiltern's new owners (Deutsche Bahn) were not willing to provide finance. Therefore, Chiltern approached Network Rail, and reached an agreement for E3 to be financed by Network Rail under the Investment Framework.

Initially it was planned that both phases of E3 would be funded in the same way. However, this was only implemented for Phase 1. Under this Phase 1 approach, Network Rail advanced funds to Chiltern against a schedule of deliverables, i.e. Network Rail paid as each asset was delivered into service. It charged interest on these advances,

⁷⁵ Railway Gazette Article, 'Evergreen II to boost Chiltern', February 2005. Price base not stated so assumed to be approximately as per time of article.

⁷⁶ Network Rail, *Project Evergreen 2: Updated Discussion Paper on the nature of support sought from the ORR*, 2004 (p.18-19)

⁷⁷ 1 - *Unredacted application form for ORR's section 22 approval.pdf* (p.4-5)

⁷⁸ 1 - *Unredacted application form for ORR's section 22 approval.pdf* (p.22)

⁷⁹ RailNews website article: 'Chiltern Renaissance – The Evergreen Success', October 2011

<http://www.globalrailnews.com/blog/2011/10/26/chiltern-renaissance-the-evergreen-success/>

but deferred to the date when the facility charge kicked in i.e. when Chiltern started to pay. On completion, Chiltern transferred the assets to Network Rail, with Network Rail taking a 6% return on its investment over 30 years through Chiltern (and the next franchisee) paying a 'facility charge' on top of the usual track access charges.

In relation to E3 Phase 1 (completed in 2011), Chiltern's payment stream to Network Rail was:

- to remunerate Network Rail's capital outlay in purchasing the scheme (through the facility charge); and
- to remunerate the additional operation, maintenance and renewal costs which Network Rail will incur due to the presence of additional infrastructure (through incremental track access charges).

The scheme was intended to be delivered without subsidy i.e. Chiltern would remunerate Network Rail from its revenues.

For Phase 2, the funding arrangements have changed since the assimilation of Phase 2 into the East-West Rail (EWR) project. With EWR being a Network Rail-led project (albeit working with Chiltern through joint governance arrangements), Chiltern is to pay a facility charge based on its agreed contribution to the scheme. There is no subsidy for this (aside from a small contribution from DfT to pay for the gauge clearance works in Wolvercot tunnel).

Responsibility and allocation of risk between stakeholders: Greater risk for Chiltern, although varies between projects

General: From discussions with Chiltern, we understand that the Chiltern is one of the few franchises to be both premium paying, and to take 100% revenue risk – that is there is no cap and collar arrangement. Chiltern therefore has to generate all of its revenue, e.g. via volume growth. Because Chiltern takes the full revenue risk on the franchise, it has very strong incentives to ensure it is providing services that meet customer demand and to operate in an efficient / profitable manner. On one hand, this improves incentives for completing projects on time and to budget, which is evident in E2 (see below). However, it can also lead to risk-taking in project development, because the longer a project takes to design/complete, the longer the TOC is constrained to operating with their existing capacity – see E3 (below).

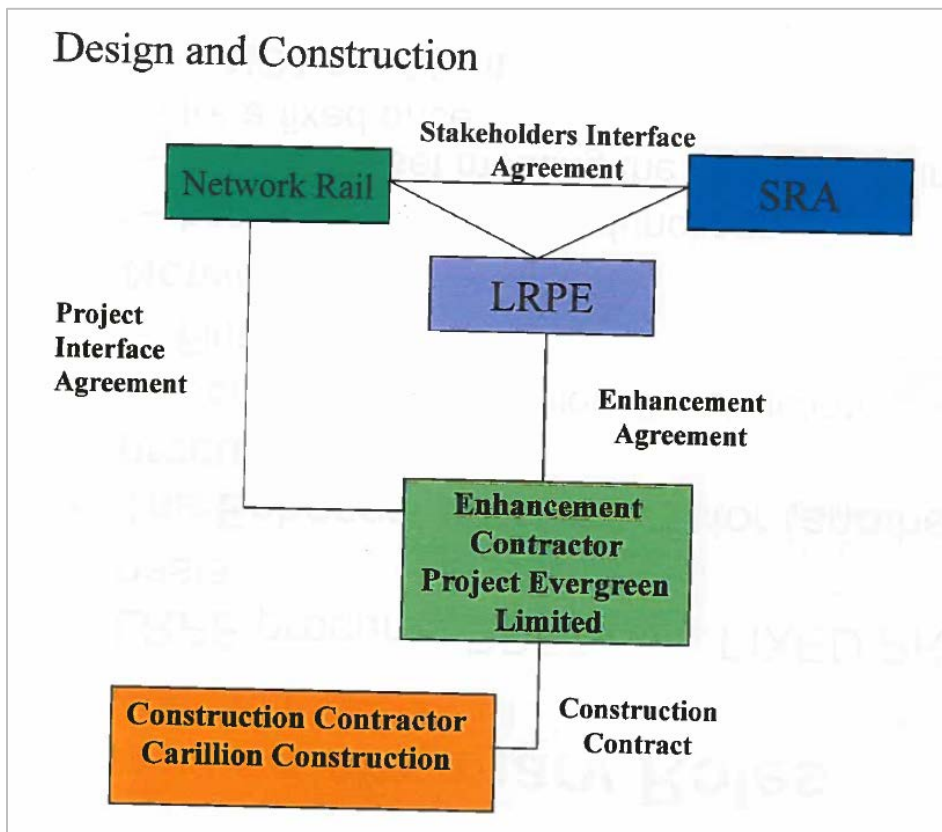
A further, more general point which was raised by Network Rail is that the Evergreen projects did generate some system-wide operator risks for Network Rail that are less direct, but are nonetheless real. For example, Chiltern took the risk that the infrastructure at particular critical points / on specific route sections would be fit-for-purpose, but this created risks for Network Rail around whether the new infrastructure

would integrate effectively into the wider rail network, and whether it wouldn't create any interface problems or adverse knock-on impacts.

E2: Chiltern established an SPV for the project – Laing Rail Project Evergreen – and appointed an enhancement contractor via competitive tender. The contractor was responsible for the design, build and financing of the scheme which would then transfer to Network Rail following construction and after a period of up to 12 months.

Figure 6.4 below shows the project arrangements for E2, in relation to design and construction. LRPE (Laing Rail Project Evergreen) was the SPV at the centre of the project. The advantage of the SPV concept is that a project finance DBFT approach involves a number of complex contractual relationships, and the SPV helps to provide a focal point. We note that the financial arrangements (a bank facility agreement between the enhancement contractor and the project funders – Sumitomo Mitsui Banking Corp Europe Ltd) are not shown in the figure below.

Figure 6.4: Project arrangements for E2 (design and construction)



Source: Network Rail presentation. Diagram supplied by Network Rail.

The contractual arrangements for Evergreen 2 are set out in the track access agreement, which states that “the Enhancement Contractor funds the scheme during the

construction period and for up to 12 months following Acceptance; Network Rail then purchases the completed scheme from the Enhancement Contractor”⁸⁰. N.B. This period of up to 12 months (in which Network Rail must pay the Transfer Price) is different to the 12-month ‘proving’ period.⁸¹

Network Rail in theory took no risk in the construction phase but was committed to purchase the scheme for an agreed transfer value within 12 months of the acceptance of the scheme. ORR agreed to a RAB addition for the scheme so that Network Rail received funding for it. Chiltern pays for the enhancement over a period of time through facility charges to Network Rail, paid under the terms of its track access agreement.

Although Chiltern is ultimately responsible for covering the costs of the scheme, discussions with ex-ORR staff indicate that there was also some risk-sharing between the TOC and the Government (SRA, later the DfT). Specifically, if scheme costs overran, there were arrangements to share additional costs. Discussions suggested that DfT would be willing to allow a larger *share* of cost overruns to be added to the RAB if the size of the overrun was relatively small. One of ORR’s tasks was to ensure that sharing arrangements would be as transparent as possible, i.e. clearly defining whether cost overruns could be added to the RAB, and if yes, under what conditions.

E3: The arrangements for E3 differ from E2.

Chiltern

Chiltern undertook some additional risk in E3 compared to E2 – particularly regarding design in the construction phase – because it no longer had the support of John Laing (which it had in E2). Therefore Chiltern was not able to rely on upon John Laing’s technical / managerial expertise when problems developed with the contractor Bam Nuttall.

Chiltern also bore additional cost risk, i.e. that the scheme's outturn costs would be consistent with those set out in the business case. There was no provision for DfT or others to pay any scheme costs over and above the amount assumed in the business case (as opposed to in E2, where DfT agreed that some cost overruns could be funded via an addition to Network Rail’s RAB). Where actual costs exceeded efficient costs, the additional costs were to be paid by Chiltern to Network Rail through the Asset Purchase

⁸⁰ Supplemental agreement to the track access agreement is available in the UK National Archives: http://webarchive.nationalarchives.gov.uk/20131001175041/http://www.rail-reg.gov.uk/upload/pdf/s22-chilt4sa_declt.pdf

⁸¹ The 12 month proving period is the time for NR and Chiltern to assess whether the enhanced infrastructure is capable of accommodating the Evergreen 2 timetable. If the new timetable cannot be accommodated, NR is protected from having to provide additional track access rights to Chiltern beyond those that are deliverable (i.e. without causing detrimental performance impact).

Agreement. Therefore, as stated in ORR's Letter of Approval to Chiltern for E3, "*the risk of any cost overrun [was] borne by Chiltern*".⁸² Any such additional costs would be paid by Chiltern, but not via the Facility Charge, because this was "*based on the efficient cost of the enhanced assets*", i.e. excluding any cost overruns.⁸³

Also as set out in the Asset Purchase Agreement for E3, Chiltern waived the right to compensation payments under Schedules 4 and 8 (these would be included as "project costs"), so Network Rail did not bear any financial risk in relation to planned or unplanned disruptions (respectively).⁸⁴ As a further example, Network Rail states that "Obtaining Transport & Works powers has proved more difficult than expected, with the Public Inquiry (which concluded in January 2011) being reconvened in May 2012 to consider further objections", and that "Chiltern is bearing the cost risk associated with obtaining powers".⁸⁵

However, in a number of ways the allocation of risk between Chiltern / contractors / Network Rail was similar to E2. Chiltern outsourced construction on a fixed priced contract to BAM Nuttall with some contingency allowances but limited scope for variation. Similar to E2, Chiltern stated that they took the following risks, all of which would normally lie with Network Rail:⁸⁶

- *Revenue risk from demand*: The Chiltern Railways Franchise Agreement does not provide for a revenue support mechanism should revenue outturns fall below prescribed levels. So Chiltern bore the risk of lower-than-expected passenger demand affecting fare revenue (and therefore scheme profitability).
- *Revenue risk from design*: Chiltern designed the scheme's infrastructure, so they bore the risk that the scheme infrastructure would be fit-for-purpose to deliver the enhanced train timetable (from which the expected higher revenues flow). Chiltern bore the risk of lower revenues if the scheme infrastructure was poorly designed.

Network Rail

Aside from the risks held by Chiltern during the project, Chiltern were able to rely on Network Rail in two important respects:

⁸² ORR decision letter, 2010, p.12:

<http://webarchive.nationalarchives.gov.uk/20140113074601/http://www.rail-reg.gov.uk/upload/pdf/s22-chiltern-73sa-decision-letter.pdf>

⁸³ Ibid.

⁸⁴ 1 - *Unredacted application form for ORR's section 22 approval.pdf* (p.15-16) and *Asset purchase agreement signed by NR* (Schedule 3)

⁸⁵ NR Evergreen 3 Phase 2 Asset Protection Model (August 2012)

⁸⁶ 1 - *Unredacted application form for ORR's section 22 approval.pdf*

- *Financing*: Chiltern were not able to finance the construction privately, but rather obtained financing from Network Rail under the Investment Framework. This was primarily due to the banking collapse in 2008, which had made it difficult for Chiltern to obtain finance from the markets. Deutsche Bahn was also unwilling to finance the project. In addition, TOCs are typically asset light and are therefore less able to take on significant financing risk / raise private sector capital.⁸⁷
- *Project management / delivery*: Chiltern was effectively able to rely on Network Rail taking over responsibility for project management / delivery when it encountered problems with its own arrangements.

It is unlikely that either of these roles for Network Rail were envisaged by Chiltern when the project was first contemplated. The fact that Network Rail provided financing and project management capability in E3 suggests that it may have some sort of 'last resort' role in these areas where the private sector / TOC fails. This implies that Network Rail does retain some risk in these areas.

Regulatory arrangements

General: The Chiltern franchise is No Net Gain / No Net Loss (NNL/NNG) in that it protects the company from changes⁸⁸ to the track access charging regime made by ORR at an access charges review. In this form of franchise agreement train operators pass to the Department, any changes to their access charges at Periodic Reviews⁸⁹.

E2: There was a "Supplemental Agreement" to the track access agreement, which gave Chiltern additional track access rights, conditional upon the completion of E2, and followed consultation by ORR with other affected parties.⁹⁰ On the industry consultation for this agreement, freight operators sought to understand the implications for their services arising from works and changes to the timetable. Chiltern and Network Rail were able to demonstrate that the impact of Evergreen 2 on freight companies' train timings would be small, and this gave ORR comfort that it could approve the supplemental agreement.

⁸⁷ 1 - *Unredacted application form for ORR's section 22 approval.pdf (p.22) and discussions with NR*

⁸⁸ Relative to its initial bid, and including both access charges and payments under the Schedule 4 and 8 Regimes

⁸⁹ NAO Regulating Network Rail's Efficiency, April 2011

<http://www.nao.org.uk/wp-content/uploads/2011/04/1011828.pdf>

⁹⁰ 4 - *20041217 ORR decision letter to approve Evergreen 2 access contract amendment.pdf*, available at: http://webarchive.nationalarchives.gov.uk/20140103114129/http://www.rail-req.gov.uk/upload/pdf/s22-chilt4sa_deklet.pdf

The supplemental agreement made some amendments to the Schedule 4 possessions regime (dealing with restrictions of use from planned disruption) and Schedule 8 performance regime (dealing with unplanned disruption). Through these changes, Chiltern waived its rights to compensation from Network Rail arising from the planned possessions required for the project and any overruns that might occur. To provide incentives to deliver the project on time, performance risk was passed to the enhancement contractor via the wider contractual regime, providing for it to pick up the financial impact arising from delays to other operators under their Schedules 4 and 8 regimes.

E3: E3 included more substantial works covering a wider area than in E2. As such, there were more third party operators interested in the consultation on the supplemental agreement for the access rights. The planned improvements to capacity and line speeds from the project also meant that other passenger operators might seek access rights to use the enhanced route to compete with Chiltern. To prevent potential competing operators from free-riding on Chiltern's investment, a 'rebate mechanism' was included in the track access agreement (as permitted by the investment framework), requiring Network Rail to include a rebate provision in any competing operator's track access agreement and obliging them to make a specific contribution to the investment costs on a per train path basis.

E3 amends the performance regime in a similar way to E2, in relation to Schedules 4 and 8 – see above.

6.2.4. Outcomes

E2: In terms of project costs and timings, the project was delivered on time / to budget under the DBFT model, as planned. In terms of performance, it achieved a step change (increase) in performance levels (PPM). These outcomes are discussed further in Section 6.2.5. Engineering / technical knowledge from staff in E1 was retained in E2, and "many lessons were learned" from E1.⁹¹

In terms of organisational impacts, Network Rail noted that E2 established good working relationships. These may have helped to ensure that Network Rail were willing to undertake a project management role in E3. Network Rail stated that the DBFT model used in E2 was effective in clarifying project risks and determining optimal roles, i.e. risks were discussed / understood, and were then allocated to those best placed to

⁹¹ RailNews website article: 'Chiltern Renaissance – The Evergreen Success', October 2011
<http://www.globalrailnews.com/blog/2011/10/26/chiltern-renaissance-the-evergreen-success/>

manage them. Chiltern's success in managing E2 may have been a result of the experience it gained from delivering E1.

Generally, E2 is considered by stakeholders to have been a success (i.e. ORR, Network Rail and Chiltern). Discussions with Chiltern suggest that part of the success of the project was due to a significant proportion of the design work being undertaken prior to financial close in December 2004. Given that Chiltern took on much of this design risk, there was lower design risk for the enhancement contractor (Carillion), which was therefore able to focus primarily on construction.

E3: In terms of project costs and timings, E3 was implemented via a deviation from the original plan. The plan was for Chiltern to promote, design and deliver the project.⁹²⁹³ In reality, Chiltern did design the scheme's infrastructure for E3 Phases 1 and 2⁹⁴, but only managed the start, with Network Rail taking over the project "management" of Phase 1 in March 2011 (also see below).⁹⁵ Chiltern documents from 2009 state that Chiltern had already designed the E3 infrastructure by that point⁹⁶, which suggests that Network Rail's role was focused on project management activities. This change was in response to an independent report for ORR by Halcrow⁹⁷ in January 2011, which was of the opinion that, at that point in time, the delivery plans did not credibly demonstrate that the planned implementation date (May 2011) would be achievable. Prior to that point, Network Rail had expressed concern about the quality of designs it received from Chiltern for approval. Network Rail said designs were "increasing the workload of Network Rail engineers" and were "creating significant amounts of rework and re-review that otherwise would not occur".⁹⁸

E3 Phase 1: Network Rail took over the project management during Phase 1 in March 2011, whereby a Network Rail staff member was brought into the team and given lead responsibility for project management. From discussions with Network Rail, they agreed to take over the project for a number of reasons:

- To ensure the quality of the infrastructure, given Network Rail's role as network operator.
- To maintain the working relationship with Chiltern that had developed under the long-term franchise.

⁹² Network Rail CP5 Enhancements Plan, p40:

<http://www.railfuture.org.uk/ox-cam/docs/NR-CP5-Enhancements-Delivery-Plan-OxCam-Project.pdf>

⁹³ 1 - Unredacted application form for ORR's section 22 approval.pdf

⁹⁴ 1 - Unredacted application form for ORR's section 22 approval.pdf (p.6)

⁹⁵ Rail Personnel website article: <http://www.railpersonnel.com/railnews/railnews110311txt.htm>

⁹⁶ 1 - Unredacted application form for ORR's section 22 approval.pdf (p.6)

⁹⁷ Halcrow, *Project Evergreen 3, Phase 1 Main Line Works*, January 2011

⁹⁸ Halcrow, *Project Evergreen 3, Phase 1 Main Line Works*, January 2011

- Chiltern is Network Rail’s customer.

There seem to be a number of reasons why the plan for E3 Phase 1 was not successful:

- John Laing was no longer able to support Chiltern (John Laing sold its share in Chiltern to Deutsche Bahn in 2008) and so Chiltern lost a considerable amount of project development experience, both from John Laing as an organisation in its own right, and because Laing had been involved in E1 and E2.
- Designs were not sufficiently developed prior to reaching agreement with enhancement contractor BAM Nuttall.
- Jarvis (sub-contractor) went into administration, leaving BAM Nuttall increasingly exposed to delivering the enhancements. Additionally, E3 Phase 1 was almost twice as large as E2, and given that TOCs tend to have a relatively small balance sheet (relative to Network Rail), this increased the risk that Chiltern might not have sufficient capital to cover exceptional events. Discussions with ORR and Network Rail indicated that Chiltern / Laing Rail were lacking working capital, which may have placed pressure on project resourcing.

Nevertheless, discussions with Chiltern suggest that completion of Phase 1, although delayed, has successfully reduced journey times to close to its targets, and has generated market growth. So it has generated real benefits in terms of performance. The eventual success of outputs could possibly be due to better collaboration between TOC and Network Rail post March 2011.

E3 Phase 2: Network Rail’s role in E3 phase 2 has also changed over time. Back in 2012, Network Rail held an “Asset Protection role”, whilst Chiltern would “let and manage the relevant contracts”.⁹⁹ However, Chiltern and Network Rail have since agreed that Network Rail will manage/deliver the project as part of the wider East-West Rail project.

Evergreen projects overall: At a high level, the Evergreen projects have provided increased transport options for customers, increasing competition against both other train lines and also the M40 motorway. Therefore, these projects have provided benefits to passengers / rail customers compared to if they had not been undertaken.

6.2.5. Quantitative analysis

Introduction

In this section we present a quantitative analysis of performance metrics and cost information for Chiltern. We also make comparisons, where relevant, to other TOCs.

⁹⁹ NR Evergreen 3 Phase 2 Asset Protection Model (August 2012)

Given that TOC performance is affected by a large number of factors, this analysis is not able to fully explain the specific impact of the Evergreen projects. However, it does generate some interesting observations, and provides a flavour of how the Evergreen projects are *likely* to have had an impact on Chiltern's overall performance.

Project costs and timings

Evergreen 2:

- The project was delivered to budget (circa £80m¹⁰⁰) and only used a small proportion of the contingency.
- The project was delivered on time, as per the timetable in the project plan.
- Cost and timings are key project aspects, and given these objectives were met, the project is generally considered to be a success.
- Whilst the approach taken to the project was successful, we note that in terms of cost, using private finance can be more expensive compared to obtaining finance from Network Rail through the Investment Framework. Whilst the Investment Framework was not available at the time of E2, if a similar project was considered in future, this would need to be borne in mind.

Evergreen 3 Phase 1:

- From discussions with Chiltern, Phase 1 was not delivered to budget (£135m¹⁰¹). Discussions with Chiltern (and Network Rail) suggested that cost overruns were primarily associated with claims by the contractor BAM Nuttall, i.e. designs needed to be reworked and Jarvis went into administration, both of which put additional pressure on resourcing. According to the Guardian newspaper, a leaked report includes a statement from a *“senior Network Rail manager that a cost claim from BAM (lead contractor), a lack of resources & inadequate planning were at fault”* for E3 Phase 1 running into problems.¹⁰²
- The project timetable was not achieved. The original deadline was May 2011, but the project was completed in August 2011.
- As noted earlier, discussions with ORR suggest that problems with the project, resulting in the delays, were in part due to John Laing no longer being involved in E3. John Laing's engineers had acquired experience / developed technical

¹⁰⁰ Laing Rail Board Paper, June 2003. £80m is in 2003 prices.

¹⁰¹ 2009 prices, sourced from Chiltern's Evergreen 3 business case model, December 2009.

¹⁰² The Guardian, “Chiltern Line upgrade ‘delayed by cost claims and poor planning’”, March 2011 (available [here](#))





expertise during E1 and E2, and when John Laing sold Laing Rail (including Chiltern) to Deutsche Bahn, Chiltern seems to have lost John Laing’s technical expertise. Chiltern also lost John Laing’s wider management capabilities, staff capacity, and financial backing. As such, Chiltern was thinly staffed and managed.

- The collapse of Jarvis, a sub-contractor to BAM Nuttall, was also an important factor. Jarvis was due to carry out much of the work (subcontracted from BAM Nuttall), so when Jarvis collapsed, that inevitably caused delays to the project timetable.

Evergreen 3 Phase 2:

- Phase 2 is still on-going, so an analysis of outturn costs is not yet possible.
- The project timetable has not been met, but reasons seem to be outside of Chiltern’s control, i.e. delays in receiving a Transport and Works Act Order and additional requirements arising from assimilation with East West Rail project.

Table 6.1: Summary of costs and timings

Evergreen project number	Costs		Timings	
	Completed to budget?	Comments	Completed on time?	Comments
E2		Budget = £80m ¹⁰³ , Outturn = £80m ¹⁰⁴ . Only used a small amount of contingency.		Planned completion = Dec 2006; Actual completion = Dec 2006.
E3 Phase 1		Budget = £135m ¹⁰⁵		Planned completion = May 2011; Actual completion = August 2011.
E3 Phase 2	tbc	Project is ongoing.	n/a	Original project timetable not been met, but delays seem largely uncontrollable

Volumes

Figure 6.5 below shows the annual percentage change in Chiltern’s *planned train journeys* (the total number of trains planned, against the timetable as agreed with the operator at 2200hrs the night before or against an emergency timetable). Data was

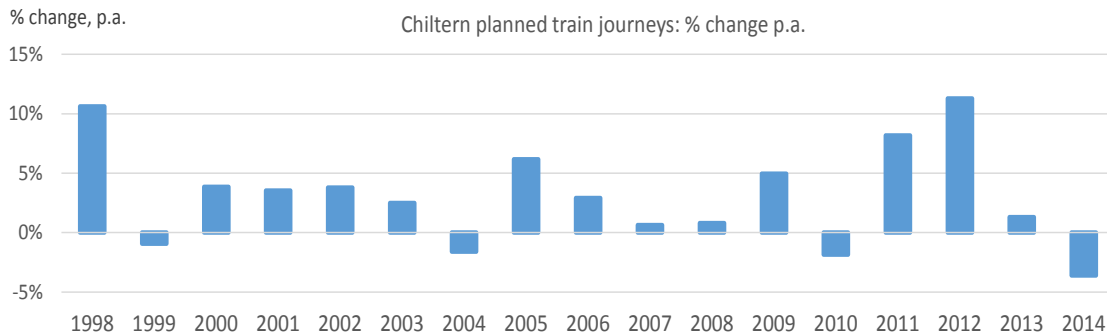
¹⁰³ 2003 prices. See earlier footnote.

¹⁰⁴ Price base unknown for outturn value.

¹⁰⁵ 2009 prices. See earlier footnote.

supplied by Network Rail, via ORR. Years are calendar years. (Data from Network Rail/ORR does not specify whether this is passenger journeys or total journeys.)

Figure 6.5: Planned train journeys: Chiltern

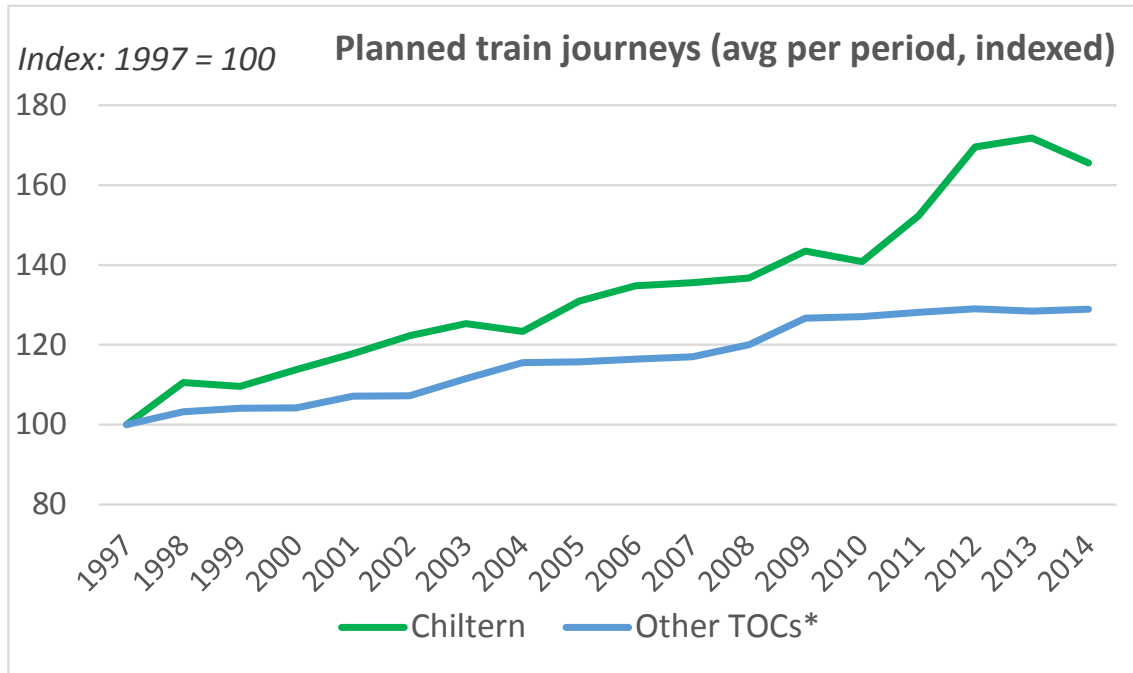


Source: Raw data from Network Rail, via ORR.

The chart above shows that the number of journeys increased in 13 out of the 17 years shown. There was a significant increase in 2011 and 2012: this aligns with the completion of E3 Phase 1, although further investigation would need to be undertaken (i.e. across the different parts of Chiltern’s network) to determine whether E3 Phase 1 was the primary cause of the increased journeys.

This graph below shows indexed average planned train journeys per period across calendar years. The average train journeys per period for a given year is the average of journeys in period 1, period 2, period 3, etc., up to period 13 within a calendar year. (The exception is 1997, which is an average of data from 9 periods, not 13.) These figures were then indexed, with 1997 being the base year (100).

Figure 6.6: Planned train journeys: Chiltern vs other TOCs*: Indexed average train journeys per period across calendar years.



Source: Raw data from Network Rail, via ORR.

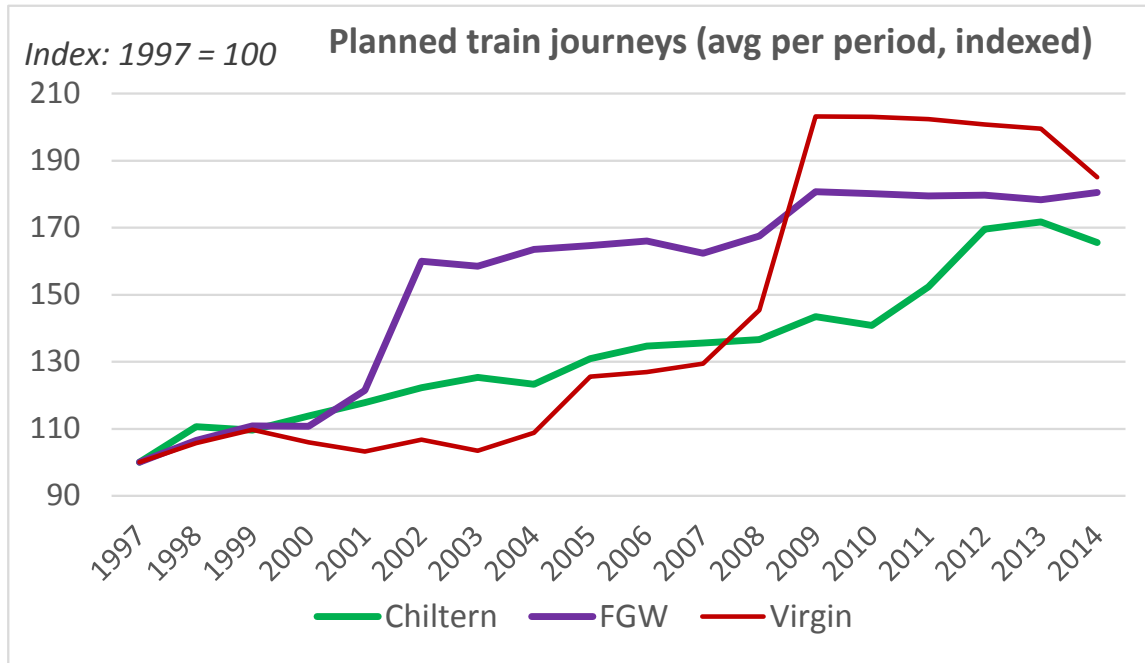
* 'Other TOCs' based on TOCs that have data available back to 1997: c2c, East Coast, FGW, First Scotrail, Merseyrail, Virgin Trains, Southeastern, Southern, SSWT.

Figure 6.6 above shows that Chiltern's journeys have increased significantly compared to an average of other TOCs (for which data is available), particularly since 2010. This shows that, on average, Chiltern has been able to expand its operations at a faster rate than other TOCs since 1997. Chiltern's own analysis also shows this.

Although there are a high level of factors/variables that affect these figures, the graph does at least suggest that Chiltern's market has grown at a faster rate than other rail markets in the UK. From discussions with Chiltern we understand that they had incentives to grow their market share, so there could be some causation between Chiltern's franchise arrangement (i.e. a long franchise, contingent on the Evergreen projects) and the growth in journeys.

The graph below also shows indexed average planned train journeys, but here shows a comparison against First Great Western and Virgin Trains. Chiltern competes with Virgin for passenger journeys to Birmingham, which is a significant market. Chiltern and First Great Western already compete for journeys to Banbury, but are set to become competitors for journeys to Oxford when E3 Phase 2 is complete.

Figure 6.7: Planned train journeys: Chiltern vs FGW & Virgin Trains. Indexed average train journeys per period across calendar years.



Source: Raw data from Network Rail, via ORR.

The relevance of considering the comparison in the graph above is to consider whether Chiltern’s ability to grow its own market share has generated benefits for the UK rail industry *as a whole* (i.e. by increasing rail travel), or to what extent Chiltern are simply attracting passengers away from their rail competitors such as Virgin and First Great Western (FGW).

The graph above shows that, at company level, Chiltern’s growth in journey numbers since 1997 has been matched by Virgin and FGW, with all companies having experienced compound growth since 1997 in the region of 60-80%. There is a caveat to using FGW as a comparator, as the increase in FGW’s journeys in 2001/2 may be due to the acquisition of Wessex Trains. The spike in Virgin’s journeys in 2008 is due to the West Coast Main Line upgrade (and a new timetable), so Virgin should be a fair comparator.

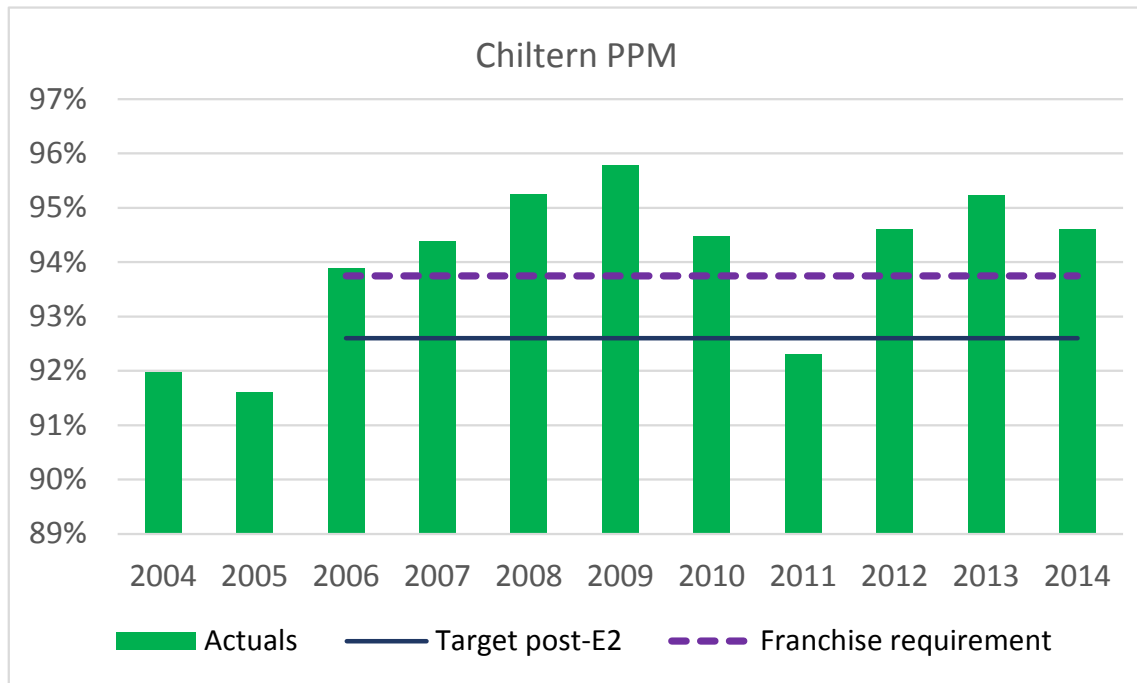
We note that the current level of competition between Chiltern and FGW is moderate because they only compete for journeys to Banbury. However, competition is set to increase when Chiltern is able to offer journeys to Oxford, so it would be interesting to undertake a comparison when E3 Phase 2 is completed, particularly around the number of train journeys between London and Oxford.

Performance

The chart below shows Chiltern’s PPM average across calendar years. The columns show Chiltern’s actual performance. The blue dotted line shows Chiltern’s expected level of

performance after Evergreen 2: Chiltern’s performance modelling, forecast an improvement in PPM of “slightly more than 1%” compared to the 91.5% at the time of the application for E2 (see proposal for amendment to track access agreement). The purple dotted line is Chiltern’s Moving Annual Average PPM requirement (93.75%), as set out in its Franchise Agreement.

Figure 6.8: Public Performance Measure (PPM): Chiltern’s average across calendar years



Source: Raw data from Network Rail, via ORR.

The graph above shows that E2 was successful in achieving Chiltern’s PPM target post E2 (of just above 92.5%). In fact, PPM rose by more than the target, rising to almost 94% in 2006, and then continuing to rise for several years, staying in the range 94%-96% for the period 2006 to 2010. For almost every year since 2007, Chiltern’s PPM has been above the PPM requirement set out in its Franchise Agreement (93.75%). This implies a high level of success in meeting the objectives of the franchise.

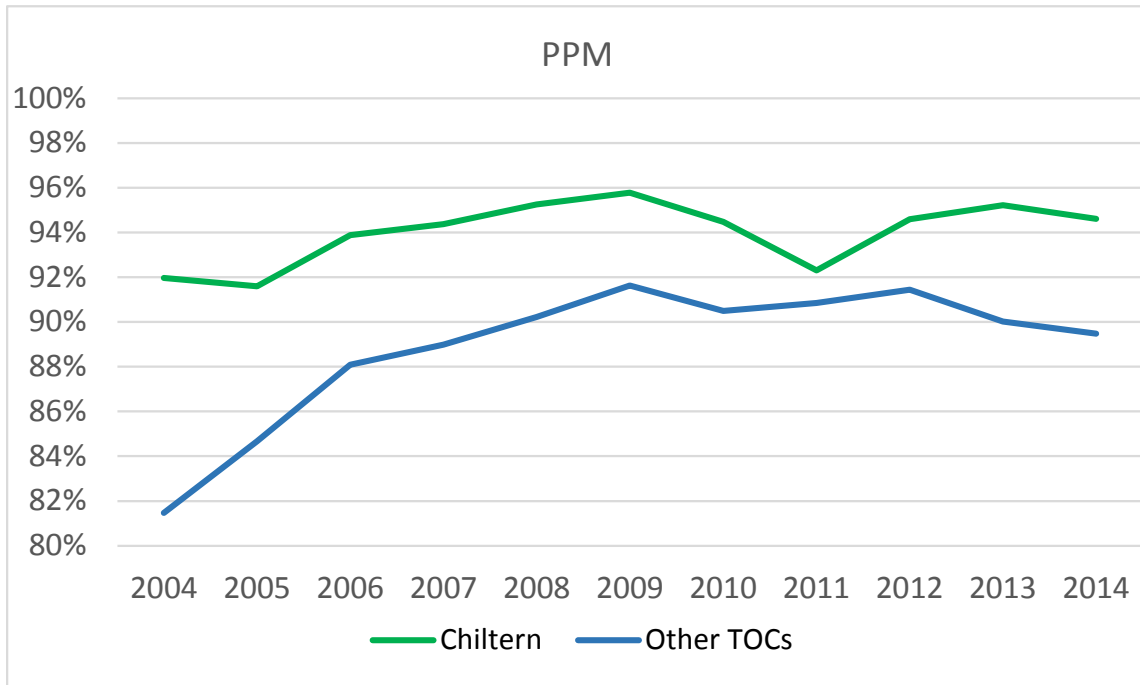
The obvious exception is 2011 when PPM did drop significantly. This could have been due to a number of factors:

- There was an increase in engineering works required to deliver Evergreen 3 Phase 1.
- Chiltern faced difficulties in trying to establish a resilient timetable. Evergreen 3 Phase 1 faced delays, which meant that the original May 2011 timetable was not met. In addition, discussions with ORR noted that the timetable from September 2011 also had to be adjusted because it was too tight, leading to poor performance in Autumn 2011.

- As shown by Figure 6.5, train journeys increased significantly in 2011. If network capacity was relatively constrained, an increase in trains running would have reduced the resilience of the line to any delays, such that a delay to one train would have increased the likelihood of knock-on delays to other trains.

The graph below shows Chiltern’s PPM relative to other TOCs.

Figure 6.9: Public Performance Measure (PPM): Chiltern versus other TOCs, across calendar years



Source: Raw data from Network Rail, via ORR.

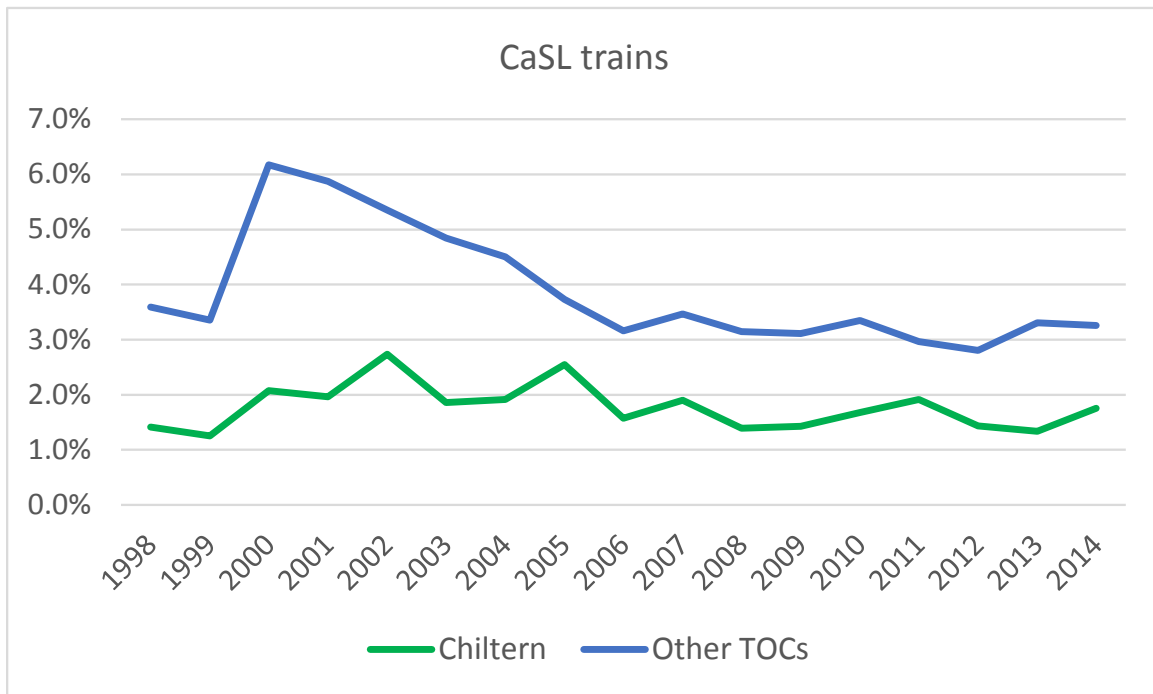
“Other TOCs” includes: ATW, c2c, CrossCountry, East Coast, EMT, FGW, First Scotrail, FTPE, Govia Thameslink Railway, Greater Anglia, London Midland, LOROL, Merseyrail, Northern Rail, Southeastern, Southern, SSWT and Virgin Trains.

The chart above shows that, although Chiltern experienced a large increase in PPM in 2006 and thereafter, other TOCs also experienced a significant improvement in their period, as well as also improving in 2005. Therefore, it is difficult to be certain whether the rise in Chiltern’s PPM in 2006 is fully due to Evergreen 2, or whether there could be some general rail industry-wide factors that are improving TOC performance.

Between 2009 and 2014, both Chiltern and other TOCs experienced a small / moderate fall in PPM. Chiltern’s dip in PPM performance in 2010 and 2011 was more pronounced than the fall in PPM for other TOCs, but Chiltern has subsequently recovered in 2012-2014.

The graph below provides another measure of performance, which is the percentage of trains, which are “cancelled and significantly late”. The graph compares Chiltern’s performance with an average of other TOCs (calendar years).

Figure 6.10: Cancelled and Significantly Late (CaSL) trains: Chiltern versus other TOCs



Source: Raw data from Network Rail, via ORR.

“Other TOCs” includes: c2c, East Coast, First Great Western, First Scotrail, Merseyrail, South West Trains, Southeastern, Southern, and Virgin Trains.

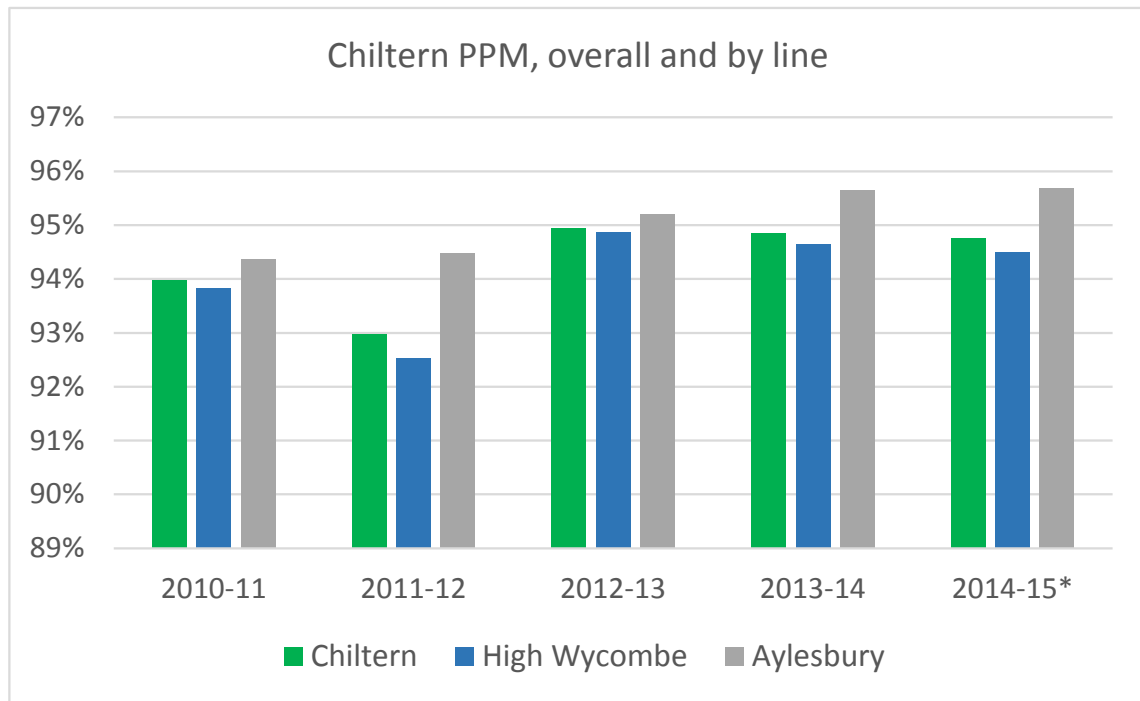
As with PPM, the chart above shows that Chiltern has continued to perform at a higher level than other TOCs (in terms of having a lower percentage of trains with are cancelled or significantly late). However, other TOCs have been able to close the gap with Chiltern over time.

Chiltern’s performance can also be broken down between its two main lines:

- The High Wycombe line (London Marylebone to Bicester, Birmingham, and associated branches)
- The Aylesbury line (London Marylebone to Aylesbury via Amersham). This line is shared with London Underground’s Metropolitan line to Amersham.

Some recent data is available, showing the breakdown in Chiltern’s PPM between the two main lines. We show this in financial years to maximise the data sample.

Figure 6.11: Chiltern PPM, overall and by line, average across recent financial years



* 2014-15 figures are year-to-date, up to and including period 11.

Source: Raw data from Network Rail, via ORR.

The chart above shows that Chiltern’s PPM on the High Wycombe line – the one affected by the Evergreen projects – has consistently been lower than the Aylesbury line PPM. However, Chiltern’s High Wycombe PPM is never more than 50 basis points below Chiltern’s overall PPM, which shows that the latter can be used as a reasonably reliable gauge of the impact of the Evergreen projects.

Conclusions from quantitative analysis

Overall, the quantitative analysis is fairly positive in terms of Chiltern’s performance during the current franchise:

- Train journey numbers have grown in most years, and on average have grown at a faster rate than other TOCs.
- Chiltern’s PPM has been very high and its annual average PPM has been above its franchise requirement level (93.75%) in every year since 2007, apart from 2011. (Although, as a caveat, PPM on the High Wycombe line – the one impacted by Evergreen – has been slightly lower than on the Aylesbury line).
- Based on the other TOCs for which we have long-term PPM data, Chiltern’s PPM has been above the average compared to other TOCs in every year back to 2004.

- Based on the other TOCs for which we have long-term CaSL data, Chiltern's CaSL percentage has been below the average compared to other TOCs in every year back to 1998.

As a caveat it may be that the characteristics of Chiltern's network have helped it to achieve these high level of performance, and therefore the high performance cannot necessarily be attributed to the Evergreen projects. For example, Chiltern had low CaSL levels even before the Evergreen projects.

Nonetheless, excluding 2011, Chiltern's PPM actuals indicate that its performance post E2 has been strong. The fact that it has increased its PPM to above the franchise requirement level, and has managed to *maintain* PPM at this very high level, does provide some evidence that the Evergreen projects have overall, been successful in achieving the original franchise targets.

6.2.6. Conclusions

The overall premise for the Evergreen projects was a good one, as Chiltern Railways has shown a willingness to take up the opportunities presented by its unique long-term franchise arrangement, indicating that there can be private sector appetite for infrastructure projects in the right circumstances.

The particular conditions on the Chiltern line were ideal for the type of Evergreen project arrangements, as there was opportunity for expansion and because it is a 'single TOC' route. These conditions are specific to the Chiltern line, which may limit the scope for repeatability on other routes.

E2 was a successful project overall. John Laing's involvement was important, particularly in terms of technical and management expertise. The project was a manageable size for Chiltern, and the project arrangements helped to clarify risks and their allocation.

E3 was less successful, in that phase 1 was delivered roughly four months late, and with Network Rail's help, and an amount of cost overrun. John Laing was no longer involved and so Chiltern lost engineering capability and managerial expertise. Chiltern may have failed to appreciate the scale of the challenge it would face in taking on a project (E3), which was considerably larger than E2, in particular without John Laing. However, some of the problems experienced by Chiltern were to an extent uncontrollable, i.e. the lack of private finance due to economic recession (which led it to seek funding from Network Rail through the Investment Framework) and Jarvis going into administration, which caused delays to the project. And E3 Phase 1 is achieving its commercial aims and attracting new passengers on to the route.

Overall, across the projects, the loss of John Laing seems to have been a key factor, as well as the increase in the project size.

It is not possible to compare the actual Evergreen project costs with *what they would have cost* under Network Rail's management because Chiltern initiated / proposed the projects, and so Network Rail did not develop estimates of how much it would cost if it were to undertake the projects.

Although Chiltern took a substantial amount of risk in undertaking the Evergreen projects, Network Rail did ultimately retain some risk, reflected in Network Rail providing financing and project management capability in E3. These roles were not anticipated when the project was envisaged, and suggests that Network Rail has some sort of 'last resort' role if the private sector / TOC runs into difficulties.

Implications for Network Rail

Provision of large-scale infrastructure projects by organisations other than Network Rail is only likely to be practicable under certain conditions:

- A long-term franchise – to enable works to be fully remunerated. Under the E3 arrangements, the responsibility for paying back the facility charge passes to Chiltern's successor (whoever it may be) when its franchise expires. Therefore, given the upfront costs involved, the longer the franchise period, the longer Chiltern has to make a reasonable return on investment during the period of its franchise. If the franchise period is not long enough to make a reasonable rate of return, the TOC would not have a sufficient financial incentive to undertake the project.
- A reasonably isolated network (Chiltern has some interface with other operators, but it is limited compared to other routes). This makes it more straightforward to plan and undertake disruptive engineering work and reduces the number of parties who will have a direct interest in the infrastructure changes.
- A network with potential / opportunity for growth, both in terms of asset expansion, and in terms of potential passenger demand.

The TOC / other third party should seek to undertake projects of a size that is consistent with its technical / management / financial capabilities. TOCs tend to be relatively asset light, and Chiltern was unable to deliver a project on the scale of E3 without the support of Network Rail. If John Laing had still been involved this might have been different.

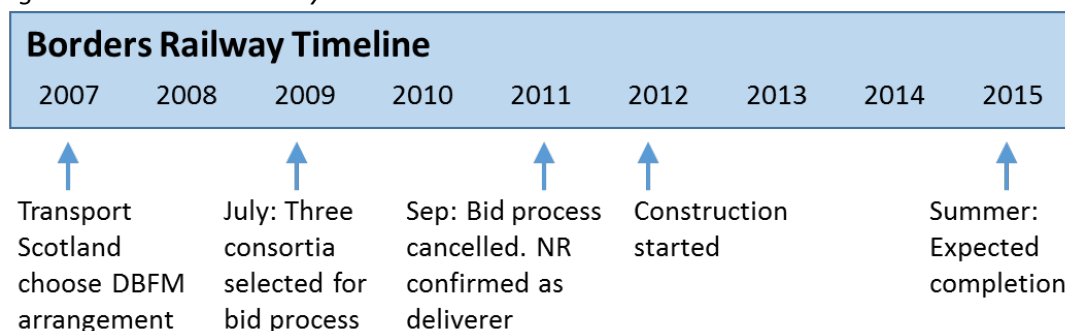
7. BORDERS RAILWAY

7.1. Summary

The Borders project involves the construction of track and stations to re-establish passenger railway services, for the first time since 1969, from Edinburgh through Midlothian to Tweedbank in the Scottish Borders. The line is 35 miles long including 30 miles of new track and 7 new stations. This will facilitate 2 trains per hour running in each direction. The project commenced in early 2012 and is due to be completed in summer 2015¹⁰⁶, with the first trains expected to run in September 2015¹⁰⁷.

The original Borders Railway was closed in 1969 leaving the Scottish Borders region as one of the few in the UK not served by a mainline railway. During the 1990s and early 2000s there was increasing interest in reopening the line. In 2003, the Waverley Railway Bill was submitted to the Scottish Parliament seeking authorisation to rebuild the railway. The Bill received Royal Assent in 2006. In 2008 Transport Scotland was appointed as Authorised Undertaker for the project. Transport Scotland's original intention however was to construct and operate the line through a Non-Profit Distributing (NPD) PFI-type arrangement running for a 33-year period (three years planned construction and 30 years of operation). The planned approach involved appointing a private contractor through a competitive tendering process to design / build / finance / maintain (DBFM) the railway over the concession period. However, two out of the three bidding consortia pulled out of the competitive procurement process, so project delivery was offered to Network Rail, who agreed to undertake the works. Network Rail is therefore now delivering the project under the standard arrangements for railway infrastructure delivery. The estimated project cost is £294m in 2012 prices.

Figure 7.1: Borders Railway Timeline



Sources: Network Rail website¹⁰⁸, Borders Railway project website¹⁰⁹

¹⁰⁶ Borders Railway website, Frequently Asked Questions (<http://www.bordersrailway.co.uk/faqs.aspx>)

¹⁰⁷ BBC news website, "Borders to Edinburgh railway: Opening date set" (August 2014)

<http://www.bbc.co.uk/news/uk-scotland-south-scotland-28867301>

¹⁰⁸ Network Rail Consulting website, Our projects section / Borders Railway

7.2. Detailed discussion

7.2.1. Context / status quo

The Borders Railway project involves establishing passenger railway services between Edinburgh and Tweedbank via Midlothian in the Scottish Borders region (see figure 7.2 below) through the construction of 30 miles of new track, rehabilitation of a further 5 miles and the construction of 7 new stations see figure 7.3 below. The passenger service will comprise of 2 trains per hour running in each direction. The project commenced in early 2012 and is still under construction; due to complete in summer 2015, with the first trains expected to run in September 2015.

Transport Scotland was appointed as the Authorised Undertaker for the project in 2008 following the adoption of the Waverley Railway Act in 2006.

Figure 7.2: Map of the location of the Borders Railway



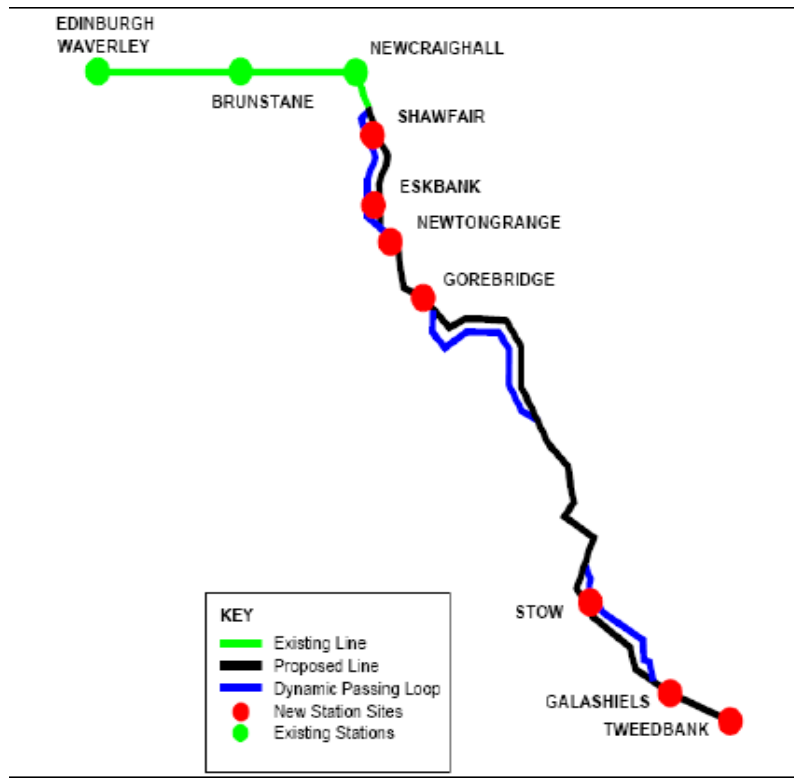
Source: Borders Railway project website

<http://www.networkrailconsulting.co.uk/our-projects/borders-railway/>

¹⁰⁹ Borders Railway website, Frequently Asked Questions

<http://www.bordersrailway.co.uk/faqs.aspx>

Figure 7.3: Rail line and stations on the Borders Railway



Source: Ian Brown Paper: Delivery of the Borders Rail Project

The status quo in infrastructure projects of this type is for Network Rail to design, construct, finance and operate the line. In this case, the asset becomes part of Network Rail's RAB and the operating costs would be reflected in the regulatory settlement. Part of the cost is covered through a grant from Transport Scotland (equivalent to the DfT grant in England & Wales).

7.2.2. Objectives of project

The Scottish Government considered that the rehabilitation of the Borders Railway would be beneficial to the economic development of the Scottish Borders region and would provide an alternative transport mode to car. According to the business case for the project, the railway would *"attract employment and growth to the area, and [provide] improved connections to central Edinburgh"* as well as helping cut carbon dioxide emissions by reducing car use and road congestion.

Transport Scotland originally planned to procure and operate the route separately from Network Rail through a third party contractor appointed through a competitive bidding process. Transport Scotland advised us that it considered several potential procurement models for delivering the railway in the initial stages of the project but concluded that a competitive tendering process would ensure best value for money and delivery to the

desired timelines. Media sources have also noted that this planned arrangement was aimed at *providing competition* to Network Rail to show that railway costs could be brought down.¹¹⁰ Our discussion with Network Rail and ORR suggested that a further reason for Transport Scotland opting for the competitive process was that it perceived the project might not otherwise be a priority for Network Rail at the time.

7.2.3. Key features of project (including differences to status quo)

Infrastructure management approach: Competitive tender for NPD concession

As mentioned above, Transport Scotland proposed to employ an alternative form of PFI already in use in Scotland, the Non-Profit Distributing (NPD) model. In this model equity requirements are limited and returns to investors are capped at financial close. Additional profits were to be distributed to charity or reinvested in the public sector. The model has been used on a number of projects in Scotland but never in rail and there was some discussion about its appeal to the market which is more used to retaining additional profits generated out of such schemes¹¹¹. The general features of the NPD model are further described below.

As mentioned above, at the Outline Business Case (OBC) stage of the project, four potential procurement strategies were considered by Transport Scotland. These included:

- Traditional approach – Network Rail delivered project;
- Private finance initiative (PFI);
- Non-profit distribution model (NPD); and
- Design and build (D&B).

Transport Scotland concluded that the NPD was the preferred procurement route at the time. In relation to the PFI and D&B, the Final Business Case produced in 2012 stated that using PFI did not fit with the Scottish Government's strategy at the time and that D&B models required significant capital funding and so would not provide an incentive to deliver value for money over the whole life of the project.¹¹²

¹¹⁰ Herald Scotland article, "£2m spent in failed attempt to secure Borders rail bidder" (October 2011) <http://www.heraldscotland.com/news/transport/2m-spent-in-failed-attempt-to-secure-borders-rail-bidder.15620937>

¹¹¹ M. Hellowell & A.M. Pollock, "Non-Profit Distribution: The Scottish Approach to Private Finance in Public Services", *Social Policy & Society*, 8:3, 2009, pp.405-418, available [here](#)

¹¹² Transport Scotland/ Ernst & Young, "Borders Railway Final Business Case" (Publicly available version, November 2012)

The NPD model is a variant of the more usual PFI models used for infrastructure and public services delivery in the rest of the UK. The typical structure of the NPD model involves the creation of a project company as a SPV limited by shares. The shares are held by the private sector equity investors. These shares carry no dividend entitlement. The Government also holds a so-called 'golden share', which allows it certain control over core principles. All surpluses achieved by the SPV are recycled not retained. Early NPD projects provided for the surpluses to be paid to a charity rather than back into the public sector. Changes in accounting and budgeting rules have, however, opened up the possibility of surpluses being channelled back to the authority. The surpluses are paid to the authority as a rebate against previous unitary charge payments.

In the typical PFI model in contrast, any surpluses are distributed to SPV shareholders as dividends.

The funding structure of the SPV comprises junior and senior debt. One of the main features of the NPD model is the principle that the SPV should be managed by those whose lending is at risk. In the absence of dividend bearing equity, the ownership of the SPV and the right to appoint directors remains with the incumbent junior investors.

The general order of preference for financial commitments under the NPD model is:

- normal project expenditure;
- payments to senior funders;
- cash reserve requirements ;
- payments to junior funders;
- cash buffer – on top of cash reserves as a contingency for unexpected events;
and
- payment of surpluses.

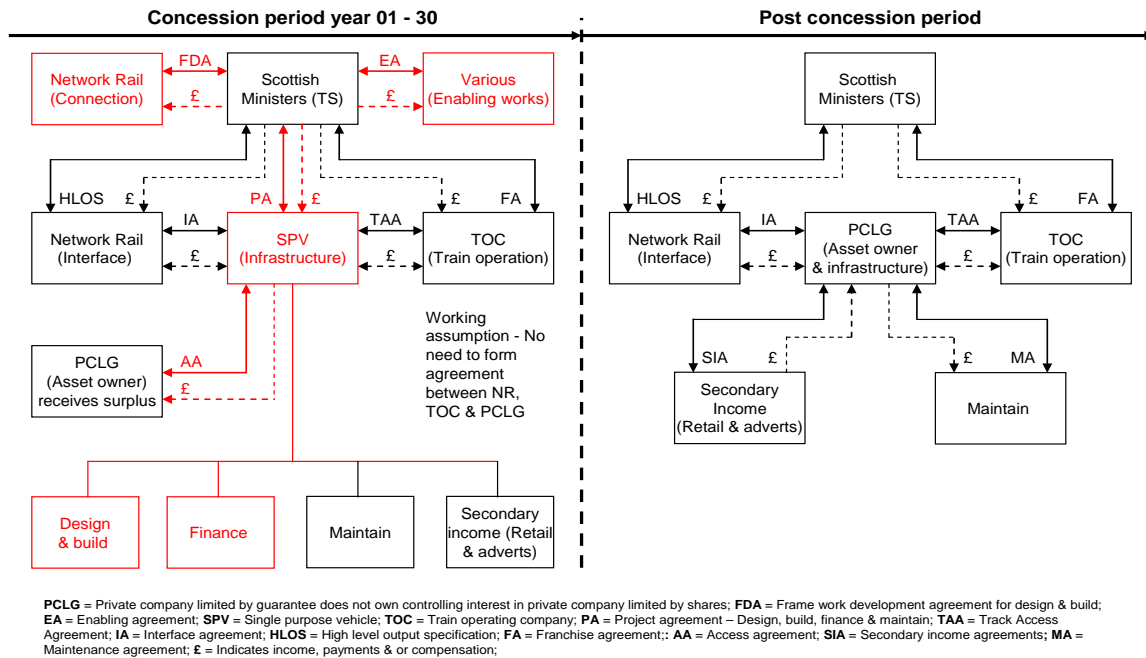
The NPD model is meant to address some of the criticism levied at PFI arrangements that private sector contractors receive excessively high returns from the delivery of public services. However from the perspective of a private investor, some of the issues under the NPD model are:

- limitation of upside risk and reduced incentive to outperform targets, as any financial surpluses above the returns agreed during the bidding process would have to be transferred; and
- public sector involvement in the governance of the SPV dilutes private sector control and introduces additional risks.

Transport Scotland initially tendered the project to appoint a contractor to act as the infrastructure operator under a 30-year NPD concession (plus a 3-year construction period), instead of delivering the project through Network Rail. The project was to be delivered via SPV, backed by Transport Scotland, which would act as the infrastructure operator for the period of the concession and be responsible for designing, building, financing, and maintaining the line. The assets would have been owned by a private company limited by guarantee (PCLG).¹¹³

The delivery structure during and after the concession is shown below.

Figure 7.4: Borders Railway NPD concession structure



Source: Transport Scotland, Borders Railway - Outline Business Case

The DBFM process was run by the highways section of Transport Scotland, which had a good understanding of the model from its experience of running such processes in the road sector.

Procurement models

This section compares delivery models used to deliver rail infrastructure. Table 7.1 illustrates how responsibilities for each stage of the project differ in each model.

¹¹³ Transport Scotland, Borders Railway - Outline Business Case, section 4.5 (Feb 2009)

Table 7.1: Characteristics of different procurement models

	1. Status quo	2. Design & build	3. DBFM (PPP)	4. DBFM (NPD)
Promoter:	TS	TS	TS	TS
Procured by:	NR	TS	TS	TS
Designed by:	NR/NR supply chain	TS supply chain	SPV supply chain	SPV supply chain
Built by:	NR supply chain	TS supply chain	SPV supply chain	SPV supply chain
Funding	RAB (largely TS)	Capital grant	Private finance	Private finance (capped returns)
Maintained by	NR	NR	SPV supply chain	SPV supply chain

Source: Transport Scotland, Outline Business Case with CEPA additions

Under the traditional status quo arrangements, Transport Scotland promotes a rail project that is then procured by Network Rail through one of its contractors. The contractor undertakes the construction work and participates together with Network Rail in the design of the project. The capital costs of the project are added to Network Rail’s RAB, for which the financing costs are recovered through the regulated revenues, which means that a portion of these costs are covered by Transport Scotland through a grant. The rail infrastructure is then maintained and operated by Network Rail. One benefit of this model is that it ensures one party (Network Rail) oversees all phases of the project, such that there is a link between design, construction and operational considerations.

Under a Design & Build (D&B) model, Transport Scotland appoints a third party contractor to undertake the design and construction of the project. The costs are funded through a capital grant by Transport Scotland and responsibility for operation and maintenance (O&M) of the assets is passed over to Network Rail once the construction phase is finished. One issue that has to be considered in this model, is to ensure that there is some reconciliation between the views of the party that undertakes the design and construction and those of the infrastructure operator.

Under the two DBFM models, a third party contractor undertakes the design, building and maintenance of the project and is also responsible for financing the capital cost of the project. In return, the private contractor receives a revenue stream over the life of the contract. Network Rail does not therefore play any direct role in such a model although there will be some involvement given the interaction/interfaces between the privately operated infrastructure asset and the wider rail network. The DBFM model also ensures one single party is responsible for all major phases of the project, addressing the concern expressed above in relation to the D&B model. However it also increases the complexity of the undertaking. While private contractors are routinely

involved in the construction of rail infrastructure assets, they have much more limited experience of operating a railway including dealing with signalling and timetabling issues.

The difference between the PPP and NPD models is that under the former, the private contractor can outperform and collect higher profits than expected. It also takes some risk of underperformance. Under the NPD model, any surpluses are redirected to the public sector but the downside risk remains the same as under the PPP model. In this sense the NPD model is more restrictive than the revenue-cap regulation that applies to Network Rail which still provides scope for outperformance.

Another difference between the models regards the ownership of the assets. Under the status quo, the infrastructure assets are owned by Network Rail, while under the DBFM models the assets can either revert to Transport Scotland or to the PCLG.

Responsibility and allocation of risk between stakeholders

The risk allocation between project stakeholders under the NPD model would have been laid out in the Project Agreement (PA) concluded between Transport Scotland and the winning bidder. The Outline Business Case for the project states that this would reflect HM Treasury's guidance in the "Standardisation of PFI Contracts" (SOPC).¹¹⁴

One of the areas which was to be addressed in the PA was the issue of latent defects risk for existing assets inherited by the SPV. The assets to be operated and maintained by the SPV included a number of existing structures (viaducts and bridges). The extent to which the private contractor would be responsible for any defects in those assets was one of the issues to be discussed during the tendering process.

Network Rail was not initially expected to be involved in building or operating the line but was expected to be involved in managing interfaces between the Borders Railway and the Network Rail network. The interaction between the Borders Railway network operator and Network Rail was to be governed by an operational interface agreement based on a standard ORR model contract, but with specific terms to reflect specificities of the case. Network Rail would also have been responsible for building the connection between the new line and the wider rail network, with the costs being recovered as part of the regulated revenue.

In addition, delays on the GB rail network originating from the Borders Railway were, under the original approach, to be allocated by Network Rail to the TOC, which would

¹¹⁴ Transport Scotland, "Borders Railway: Outline Business Case"

then have sought compensation from the contractor operating the Borders Railway (Star model arrangement).

Payment mechanism

Under the NPD concession plan, the winning contractor would have received payments through a contractual mechanism that would have paid back the capital and on-going O&M costs over 30 years. The total annual payment received by the contractor would have comprised – as per Network Rail – a combination of track access charges and government grants:

- track access charges paid by a franchised Train Operating Company (TOC) covering 45% of the total annual payment; and
- a government payment (through Transport Scotland) covering the remaining 55% of the total annual payment.

The track access charges element would have covered operation, maintenance and renewal costs plus a share of the investment costs through an investment recovery charge. Payments would have been based on availability of the infrastructure and deductions would have been applied if the appointed contractor did not meet agreed performance standards.

Regulatory matters

ORR stated that the Borders Railway network operator would require a licence, which would likely be developed using Network Rail’s licence as a start point. ORR has published a model network licence.¹¹⁵

ORR envisaged that a periodic review of access charges could be conducted every 10 years compared to the five-yearly price control reviews applied to Network Rail. The investment recovery charge would not have been subject to regulatory review.

We discussed the regulation of the Borders network operator with staff at ORR who were involved in the project. They expressed the view that Transport Scotland pushed for a simplified performance and regulatory regime for the railway and were particularly interested in how the investment recovery charge would be set. ORR were willing to facilitate a different regulatory regime (as is the case on other standalone projects such as HS1) but also wished to ensure that an appropriate level of standards and oversight was maintained. The 10-year price control was part of the drive to simplify the regulatory regime.

¹¹⁵ ORR, “Network licence model”, available [here](#)

7.2.4. Outcomes

The initial timeline envisaged for the DBFM competitive procurement process involved¹¹⁶:

- putting out a tender to the market in Spring 2009;
- starting preparatory work including ground preparation, utilities movement and invasive environmental work;
- appointing a preferred bidder in 2010 with work to begin in early 2011; and
- project completion by the end of 2013.

However, the planned DBFM arrangement did not materialise – three bidding consortia were initially chosen - out of five which expressed interest. The three consortia were BAM Nuttall, IMCD (Iridium, McAlpine, Carillion) and New Borders Railway, led by Fluor (also comprising Miller Construction and Uberior Infrastructure Investments). Fluor pulled out of the competition in November 2010, Carillion also subsequently withdrew. These experienced contractors could not be replaced. There was speculation about the viability of the project given the withdrawal of such major participants, but the specific reasons for their withdrawal are not well documented.

After the withdrawal of the bidders, Transport Scotland concluded that it could no longer be considered to be a competitive tender and consequently cancelled the tendering exercise.¹¹⁷ Following the cancellation of the bidding process, in September 2011 Transport Scotland approached Network Rail to consider taking on the development and delivery of the project. On 29th September 2011, the Scottish Transport Minister announced that Network Rail would be taking the project forward.

Network Rail appointed BAM Nuttall as contractor for the project. BAM was the remaining bidder from the original competitive process. Our discussion with people at Network Rail has revealed that BAM was considered to have a definite advantage over other prospective contractors in that it was already familiar with the project.

The project is now being delivered as a standard Network Rail infrastructure project in Scotland under a target price construction arrangement, with the operations and maintenance costs forming part of the CP5 regulatory settlement. Completion is expected in summer 2015.

¹¹⁶ ORR (May 2009), "ORR policy committee paper on Borders"

¹¹⁷ The Scotsman, "Borders rail plan rocked as top firm pulls out" (June 2011)

<http://www.scotsman.com/news/borders-rail-plan-rocked-as-top-firm-pulls-out-1-1691484>

Understanding the complications which led to the failure of the procurement exercise has proven to be difficult. According to information published in the media, it was claimed that difficulties and delays were created by:

- the decision to build, finance and maintain the route separately from the rest of the UK rail network, which added risk to the project by creating additional interfaces between the Borders line and the wider rail network;
- the non-profit distributing (NPD) finance which is untried on major (rail) transport infrastructure schemes;¹¹⁸
- changes to the specification of the contract and delays in the decision-making process to the project.¹¹⁹

This created a situation where the prospective bidders considered that their risk was too great compared to the envisaged rewards.

Our discussions with various stakeholders have revealed some potential factors which led to this situation. One such factor was an initial underestimation of the risks involved in the project – particularly risks resulting from the operation and maintenance of the line (e.g. signalling and timetabling challenges as well as asset failure risk). Our interviewees at Network Rail commented that whilst the prospective contractors had experience of designing and building a railway, they had limited experience of operational issues. It was also mentioned that some of the bidders approached Network Rail for assistance with operational aspects of running the railway, but Network Rail declined as it did not consider it appropriate to act as subcontractor to one of their contractors.

Another issue highlighted in an interview with ORR staff was that some of the financial assumptions regarding the profitability of the project from the bidders' perspective were unrealistic. For example, there was an assumption that engineering possessions would generally take place outside of 8am to midnight (so that services could continue to run). The concession would incur penalty payments for any possessions occurring within these hours, which would reduce profits.

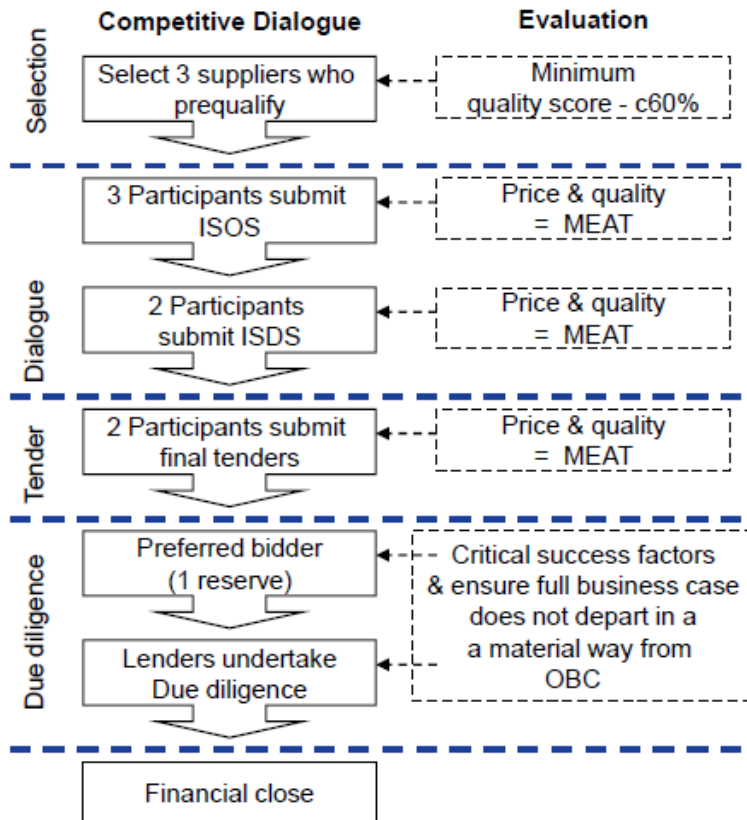
There were also apparent reservations among prospective bidders related to the expenses associated with the competitive dialogue process. EU procurement rules set a preference for this process in complex procurements but it can be expensive for bidders if the procuring authority is not fully prepared e.g. if it has not carefully considered the

¹¹⁸ Herald Scotland (October 2011), "£2m spent in failed attempt to secure Borders rail bidder" (available [here](#))

¹¹⁹ The Scotsman, "Doubts over Borders rail line as firm quits", (November 2010) <http://www.scotsman.com/news/doubts-over-borders-rail-line-as-firm-quits-1-832866>

areas that the dialogue will cover. The originally envisaged competitive tendering process is shown below.

Figure 7.5: Tendering process for Borders Railway DBFM competition¹²⁰



Source: Ian Brown Paper: Delivery of the Borders Rail Project

Project costs and timings

Given that the competitive procurement process was unsuccessful, the project timeline slipped. The December 2013 completion date initially envisaged was revised to end of 2014 in the course of the NPD procurement process. The project is now expected to be completed in summer 2015. The Scottish Government confirmed in 2011 that it had spent around £2.1m on the failed procurement exercise.¹²¹

Some criticism seems to have been levied at the project by rail campaigners who believed the project was overpriced and would not bring the expected benefits. Some of

¹²⁰ Acronyms in the diagram: MEAT (Most Economically Advantageous Tender), ISOS (Invitation to Submit Outline Solution), ISDS (Invitation to Submit Detailed Solution), OBC (Outline Business Case).

¹²¹ Response to parliamentary question S4W-03199 given by Keith Brown, Transport Minister. The £2.1m figure refers to the amount spent between December 2009 and September 2011, when the procurement exercise was cancelled.

this criticism was based on the fact that “the project, when approved initially, was estimated to cost £155m”,¹²² although it is unclear what this estimate included.

Another apparent negative cost impact regarded land acquisitions for the project. The local councils were responsible for assembling the land required for the Borders Railway. Normally, powers to acquire land are granted for a period of five years after Royal Assent (July 2006 for Borders Railway). Land acquisitions began in 2007, but Scottish Borders Council asked for a five-year extension in January 2011 to acquire the remaining land needed for access points for construction and maintenance of the railway.¹²³

Network Rail indicated that it would normally be responsible for land acquisitions for a rail project. In this case the councils lacked the necessary experience and the design of the line was not sufficiently advanced to give a proper indication of what land was needed for the works. Network Rail stated that this meant more land had to be acquired to allow works to be carried out, which could only be achieved by paying higher prices. Another example provided by Network Rail was that the impact on homes close to the construction sites was not properly assessed such that in the end there was a need to provide options to move a larger number of households than originally planned.

7.2.5. Quantitative analysis

In 2003, the Waverley Railway Partnership estimated the total cost of the project to be around £125-£130m (outturn prices) based on a technical assessment of the route. In 2006, when the Waverley Railway Bill was approved by the Scottish Parliament, the project estimated cost was around £155m (outturn prices).¹²⁴ Costs continued to escalate with the final capital costs stated to be £294m (in 2012 prices).¹²⁵ This final estimate of cost is in line with the figure estimated in 2008 after more detailed assessments of the proposed route had been carried out (that is, between £235m and £295m, 2008 prices).

Network Rail estimates that it is able to deliver and operate the project for £60m less, over a 30 year period covering construction and maintenance, than the original estimate for the NPD model.¹²⁶ From our discussions with Network Rail, we understand that this estimate is based on lower financing costs for Network Rail compared to what the

¹²² Railway Technology website, Projects: Scottish Borders Railway Waverley Project, United Kingdom <http://www.railway-technology.com/projects/bordersrailway/>

¹²³ BBC News article, “Borders to Edinburgh railway land delay fears dismissed”, January 2011 <http://www.bbc.co.uk/news/uk-scotland-south-scotland-12324778>

¹²⁴ BBC News website “Timeline: Borders to Edinburgh railway”, November 2012 (available [here](#))

¹²⁵ Borders Railway website, “Borders Railway Delivery Plan Finalised”, November 2012 (available [here](#))

¹²⁶ Borders Railway website, “Borders Railway Delivery Plan Finalised” November 2012 (available [here](#))

market would offer and the ability of Network Rail to better manage risk over the life of the project. Network Rail argues that it is in a better position to manage asset management/performance risk over a much larger number of assets across the whole network in Scotland, compared to a private contractor that only operates one piece of infrastructure.

Some concerns have been expressed that the quoted project cost has been underestimated by not including the costs already incurred by Transport Scotland in developing the project up to the point when Network Rail took over the project (including around £54m for land purchase, preliminary works and project planning).¹²⁷

Economic Appraisal

The Benefit-Cost Ratio (BCR) for the project was estimated in the initial business case at 1.22.¹²⁸

Apart from Transport Scotland, additional financing for the original project was to come from:¹²⁹

- European Investment Bank - £100m loan;
- Local councils - £30m (councils still participate in the funding of the project by contributing to the grant paid by Transport Scotland to Network Rail)

The initial economic appraisal supporting the business case for the project identified a range of benefits including: reduced travel times, reduction in road congestion and carbon emissions and safety improvements. These benefits stem from providing a rail transport alternative to road travel. Table 7.2 shows the estimated socio-economic benefits and costs for the project based on the baseline scenario. In addition, the Scottish Government argued that the project will bring wider economic and social benefits to the region which were not monetised and included in the BCR analysis (three of the four investment objectives set out for the project were focused on accessibility and social inclusion).

¹²⁷ The Scotsman news article, "£350m Borders railway work begins" (April 2013)

<http://www.scotsman.com/news/transport/350m-borders-railway-work-begins-1-2901446>

¹²⁸ Transport Scotland (2009), "Borders Railway: Outline Business Case"

¹²⁹ Railway Technology article, "EIB to Fund Scotland Borders Railway Project" (March 2011)

<http://www.railway-technology.com/news/news114195.html>

Table 7.2: Economic appraisal of the Border Railway project

Category	Value (£m)
Non-economic benefits	
Carbon emissions reduction	5.04
Safety improvement	7.45
User Benefits	
Travel Time	177.28
Decongestion Benefits	17.21
User Charges	-134.10
Vehicle operating costs (VOC) ¹³⁰	87.40
Private Sector Impacts	
Total	7.25
TOTAL PVB	162.49
Cost to Government	
Indirect TAX	-26.94
Total PVC	-137.84
Total	155.24
Net Present Value (NPV)	29.69
Benefit-Cost Ratio (BCR)	1.22

Source: Transport Scotland, Outline Business Case

A sensitivity analysis conducted as part of the appraisal showed the BCR ranging from 0.26 in the worst-case scenario to 2.14 in the best-case scenario.

Table 7.3: BCR sensitivity analysis

Scenario	BCR	NPV (£m)
Base case	1.22	29.69
Best case	2.14	121.53
Worst case	0.26	-296.88
Mean	1.00	-14.72
Median	0.94	1.07

Source: Transport Scotland, Outline Business Case

¹³⁰ VOC benefits result from savings in the cost of operating a vehicle (e.g. fuel, wear and tear) when using an alternative mode of transport

The Final Business Case (FBC) for the project (relating to the Network Rail delivered scheme) included an updated BCR which was lower, at 0.5. This was largely due to changes in the economic parameters used in the appraisal (for example, lower value of time and future demand growth as a result of the economic recession) rather than changes in the objectives delivered by the project.¹³¹ When wider economic and social benefits are taken into account the BCR increased to 0.7. In the best case scenario the BCR climbs to 1.3.

The FBC also states that the projected whole life cost outturn under the Network Rail delivered model is 15% less than the projected outturn under the NPD model.

7.2.6. Conclusions

The Borders Railway is a relatively small project compared to other rail projects that have attracted the interest of private investors (such as HS1, for example). Despite this, it has attracted a lot of attention from the Scottish media and authorities, with a significant amount of political capital invested in the project despite its fragile business case.

The focus of this case study has been the original Transport Scotland plan to deliver the project through a NPD model and the merits of this approach versus a more traditional Network Rail-led model. The analysis carried out before the project was taken over by Network Rail showed that whole lifetime costs would be lower than under the initially proposed NPD model due to lower O&M and renewals costs. Network Rail's expertise and economies of scale in operating and maintaining the infrastructure have been suggested as the main arguments in favour of Network Rail undertaking the project. Other alternative procurement models such as a Design and Build approach were considered as unlikely to provide good value for money because of the disconnect between the construction phase and whole life costs for the project.

The failed competitive tendering process raises questions about delivering and operating rail assets through novel contracting arrangements, especially when there are more established models available. It also raises questions about the level of preparedness of the public sector to undertake more complex procurement processes and suggests that value for money may not be best served by novel arrangements when Network Rail is more able to absorb risk. At the very least, this issue needs to be considered in pre-procurement.

¹³¹ Transport Scotland/ Ernst & Young, "Borders Railway Final Business Case" (Publicly available version, November 2012, available at <http://www.transportscotland.gov.uk/report/borders-railway-final-business-case>).

8. GREATER ANGLIA STATION TRANSFER

8.1. Summary

The Greater Anglia franchise has served as a pilot programme to test whether / how station stewardship responsibilities could be transferred from Network Rail to the TOC franchisee. Station stewardship responsibilities¹³² (maintenance, renewals, and some enhancements) were transferred from Network Rail to the TOC at the beginning of the latest franchise (February 2012).

Figure 8.1: Timeline of Greater Anglia franchise



Prior to the transfer, the TOC / franchisee only had responsibility (via lease) for the day-to-day maintenance/management of the station – known as a Station Facility Owner (SFO) role – which is the ‘status quo’ arrangement across the majority of franchises. This transfer generates a significant increase in responsibilities for the TOC.

Abellio and Network Rail both state that the transfer has improved clarity of responsibilities in one sense, by removing grey areas around maintenance. However, both organisations also state that new grey areas have emerged around the definition of ‘station assets’, resulting in greater legal complexity. There are examples of how this has impacted safety in the short-term, and considerable discussions have taken place to attempt to resolve these problems.

In terms of implications, TOCs have greater commercial incentives and this is likely to create a trade-off: It is likely to generate improvements in passenger experience, although the TOC may not necessarily consider asset condition with such a long-term perspective, given a fixed franchise term. Effective regulation in the franchise will help to ensure that standards are maintained.

¹³² Station Licence granted to Abellio Greater Anglia by ORR, condition 27 ([link](#))

8.2. Detailed discussion

8.2.1. Context / status quo

Status quo

Stations form part of Network Rail's asset base. The standard industry arrangement involves the TOC taking a short-term lease for the duration of the franchise. The TOC has responsibility for the day to day operation / maintenance of the stations, and is known as the Station Facility Owner (SFO). Network Rail retains responsibility for large repair works, renewals and insurance and acts as SFO at certain larger / more complex stations, such as Charing Cross, King's Cross, Paddington, etc.^{133 134}

Under these arrangements the TOC pays a Long Term Charge (LTC) to cover Network Rail's costs. The LTC is shared amongst the operators that use the station.

Historically, ORR has regulated Network Rail's performance via the Station Stewardship Measure (SSM). This is reported by station category and a single score for Scotland Stations. All NR stations are divided into six categories (A to F) depending on size, strategic importance and footfall (A being the largest, down to F being the smallest). Each category score is based on the average condition of the stations within that category. The scoring is measured using a five-point scale, 1 being excellent condition and 5 being very poor, with most stations scoring between 2 and 3.

Stakeholder views on the status quo

Various stakeholders have noted that under the status quo there tends to be a lack of clarity around whether Network Rail or the TOC is responsible for particular maintenance activities, which can result in lower quality services in relation to any assets that fall in the middle:

- Network Rail noted a potential lack of clarity around responsibility for providing information to customers and certain relatively minor infrastructure works. It suggested that this may be because station access contracts have not changed significantly since privatisation.
- Discussions with ORR reported a potential lack of clarity around 'medium-sized' works. For example, 'large' renewal items (e.g. roof, platform, ticket hall) are Network Rail's responsibility, 'small/minor' items are the TOC's responsibility

¹³³ Network Rail: *Stakeholder relations code of practice: Getting access to stations managed by Network Rail* (p.3)

¹³⁴ ORR website: <http://orr.gov.uk/what-and-how-we-regulate/station-and-depot-access/station-access>

(e.g. signs, painting such as the double yellow line on platform edge), but 'medium' items (e.g. platform waiting room) might fall somewhere in between.

- Discussions with ORR also highlighted some specific examples of lack of clarity. One example given was in relation to the lighting in a taxi bay outside (the very busy) East Croydon station, where Network Rail, TOC and the Local Authority could all potentially have been responsible. Another example is that Network Rail and TOCs have disagreed about responsibilities for painting the poles which support a platform roof, e.g. in terms of whether the poles are part of the roof structure (which is Network Rail's responsibility) or not.
- ORR suggested that responsibilities could even vary slightly between different locations.
- In discussions, Abellio used the example of canopy gutters to show the potential for grey areas. Under the status quo (where the TOC is the SFO), the TOC is responsible for operations, which includes some regular planned preventative maintenance, which is relatively light maintenance. Network Rail would be responsible for repairing the gutter if it broke. However, if the problem with the gutter arose to a lack of planned preventative maintenance by the TOC, there could be potential for dispute.

This example from discussions with Abellio also highlights the potential for misalignment of incentives. Under the status quo, the TOC is responsible for some planned preventative maintenance on canopy gutters, so would be required to clean the gutter regularly to ensure that it works effectively. Network Rail is responsible for maintenance overall, so would be required to restore the gutter's condition if it had deteriorated. Therefore, hypothetically, if the TOC avoids their planned preventative maintenance responsibilities for long enough – such that the gutter's condition starts to deteriorate – then the problem could pass to Network Rail.

8.2.2. Objectives of project

DfT

In recent years, the Department for Transport (DfT) has proposed to introduce greater responsibility for franchised TOCs to invest in and manage rail infrastructure assets. Station transfer is now part of the Government's franchise policy, following the recommendations of the McNulty report, and Greater Anglia represented a pilot programme in which assets were transferred from Network Rail to the franchised

TOC.¹³⁵ Discussions with Network Rail also highlight that a key objective of the transfer of responsibility was to align the objectives of Network Rail and the SFO (the TOC), which was a key recommendation of the McNulty Report.

Under the current 'status quo' approach, both the TOC and Network Rail have some responsibilities in relation to maintenance. As noted above, Network Rail is responsible for maintenance overall, but the TOC (having a SFO role) is responsible for planned preventative maintenance. A DfT report published in March 2012 states that with this approach, "there is a risk of duplication of effort, inefficiency and slow decision-making", which makes it "slower, more expensive and more difficult to run, maintain or improve the stations for passengers".¹³⁶

By transferring greater responsibility for stations to train operators, DfT "aims to enable an efficient streamlined approach by placing most responsibilities with one party".¹³⁷ DfT expected that this would deliver "greater efficiency by eliminating duplication of activity and supply chains".¹³⁸ Where appropriate, this would also include greater commercial freedom for TOCs to "develop stations for the benefit of passengers and to improve commercial returns", although with safeguards to prevent inappropriate station use or disposal. Discussions with ORR staff indicate that DfT is the key driver of the station transfer arrangements as a means of driving greater cost efficiency.

A separate document from February 2011 (jointly developed by Network Rail, ORR and ATOC) reiterated the objectives of: "efficiency through simplification and clear ownership, increasing focus on passenger needs, and better value through a more commercial approach".¹³⁹ The report valued the transferred responsibilities at Greater Anglia stations at around £10m per annum and noted that, whilst this meant there would be relatively "limited opportunity for cost saving", there would be "considerable scope to improve the direct experience of passengers".¹⁴⁰

TOC

The TOC can potentially benefit in a number of ways from taking responsibility for station maintenance, as it would have the ability to:

- more directly influence / improve customer satisfaction;

¹³⁵ Greater Anglia rail franchise: <https://www.gov.uk/government/speeches/greater-anglia-rail-franchise>

¹³⁶ Department for Transport, *Reforming our Railways: Putting the Customer First*, March 2012

¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ NRR, ORR and ATOC, 'Responsibilities at Stations, Work in Progress', February 2011, p.4:

<http://www.atoc.org/clientfiles/files/GA%20stations%20proposition.pdf>

¹⁴⁰ Ibid.

- rebrand stations with its own logo, which can increase brand awareness;
- attempt to generate additional profit by taking on Network Rail's workbank and budget and seeing if it is able to deliver the work at lower cost;
- maximise commercial opportunities, e.g. improving station layout to introduce more shops or improve the retail environment (although this should be subject to ensuring that maintenance/enhancements at stations are driven by meeting passengers' basic requirements); and
- potentially reduce costs by hiring local firms to undertake maintenance / renewals, rather than reimbursing Network Rail which might use larger / nationwide firms at higher cost.¹⁴¹

ORR

Discussions with ORR suggest that they agree that there may be a benchmarking benefit from transferring responsibilities to the TOC, as the station condition for TOC-operated stations could then potentially be compared against the condition for Network Rail-operated stations (see description of the Station Stewardship Measure, below). Benchmarking may be possible both at a single point in time and over time. However the potential for benchmarking is not great in the short-term. Station condition is reviewed on a rolling basis once every five years, such that 20% of the station population is assessed each year. For Greater Anglia (which has 165 stations) this means that the sample being assessed each year is fairly small, making it more difficult to draw strong conclusions from the data at this stage. (Although not specifically discussed with ORR, there might also be some benefit in benchmarking costs between TOC and Network Rail stations, in order to compare cost efficiency.)

ORR noted that the transfer of station asset stewardship responsibilities to the franchisee was aimed at generating "higher efficiency, lower costs and a better passenger experience" in the long run.¹⁴² The current (relatively short) Greater Anglia franchise acts as a pilot study,¹⁴³ and ORR noted that future franchises were likely to involve a similar transfer of responsibility (where agreed by the franchising authority).

¹⁴¹ N.B. The potential for TOCs to make cost reductions is offset by NR's devolution strategy (which is likely to reduce the emphasis on contractors' suppliers) and NR's ability to benefit from economies of scale.

¹⁴² ORR, Station operator licence – asset stewardship obligations, 2012, Annex B: http://orr.gov.uk/data/assets/pdf_file/0020/2297/aga-reg-statement-2012.pdf

¹⁴³ Ibid.

Consumers

London's transport watchdog (London TravelWatch) has been a driver/supporter of the transfer of responsibilities to the franchisee. Responding to DfT's Greater Anglia franchise consultation in 2010, London TravelWatch highlighted concerns with the previous 'status quo' arrangement, stating that it was a "high priority" issue to address the fragmented responsibilities for station upkeep between different parties.¹⁴⁴ They stated that the responsibilities were "split variously between the station facility owner (train company), Network Rail and local authorities". As such, they recommended that the new franchise agreement should "emphasise the franchisee's role in the station" to prevent these "complex interactions" and "confusing relationships".¹⁴⁵

8.2.3. Key features of project (including differences to status quo)

Infrastructure management approach: Transfer of responsibility for stations from Network Rail to Abellio¹⁴⁶

The Greater Anglia franchise is the first case of the franchisee being given responsibility for station asset stewardship.¹⁴⁷ Responsibilities were transferred from the beginning of the most recent franchise, which started in February 2012.¹⁴⁸

Under the current franchise agreement, where the TOC previously acted as Station Facility Owner (SFO)¹⁴⁹, responsibility for station asset stewardship is transferred from Network Rail to Abellio Greater Anglia, giving the TOC responsibility for undertaking maintenance, renewals and enhancements at the station, as specified in ORR's 2012 statement on the asset stewardship obligations for Greater Anglia¹⁵⁰. All maintenance, repair and renewals functions (and some enhancements) are undertaken by Abellio, which makes communication easier as the interfaces are all within one organisation. Abellio's internal units are its Asset Management Team, its Facilities Management

¹⁴⁴ LondonTravelWatch, Response to the DfT Greater Anglia Consultation, April 2010, p.10:

http://www.londontravelwatch.org.uk/documents/get_lob?id=2120&field=file

¹⁴⁵ Ibid.

¹⁴⁶ It is proposed that responsibility for some stations will transfer from Abellio to TfL and Crossrail.

<https://www.tfl.gov.uk/cdn/static/cms/documents/board-20141210-part-1-item09-west-anglia-transfer.pdf>

¹⁴⁷ CRESC: Public Interest Report, The Great Train Robbery: Rail Privatisation and After, 2013:

http://www.tuc.org.uk/sites/default/files/tucfiles/The_Great_Train_Robbery_7June2013.pdf

¹⁴⁸ UK Government source 1: <https://www.gov.uk/government/speeches/greater-anglia-rail-franchise>

UK Government source 2: <https://www.gov.uk/government/speeches/franchise-announcement>

¹⁴⁹ LondonTravelWatch, Response to the DfT Greater Anglia Consultation, April 2010:

http://www.londontravelwatch.org.uk/documents/get_lob?id=2120&field=file

¹⁵⁰ ORR, Station operator licence – asset stewardship obligations, 2012:

http://orr.gov.uk/_data/assets/pdf_file/0020/2297/aga-reg-statement-2012.pdf

Team, and its Project Team. Abellio's station stewardship responsibilities include maintenance, renewals and enhancements on all 'station assets', which includes footbridges, platforms, canopies, lifts and escalators.¹⁵¹ Network Rail does not retain responsibilities that fall under the term "station stewardship".

This transfer has occurred for 166 out of the 167 stations in the Greater Anglia franchise. The exception was Stratford, for which the status quo has been maintained, i.e. Abellio's role is only as a conventional SFO. DfT has stated that the largest stations (such as London terminals) "*will remain the responsibility of Network Rail*", perhaps because they involve greater operational complexity.¹⁵²

However, in April 2015, Abellio's new station responsibilities for a small group of stations were changed:

- Responsibilities for circa 15 stations were transferred from Abellio to Crossrail.
- Responsibilities for circa 20 stations were transferred from Abellio to Transport for London, i.e. West Anglia inner stations.

Although the arrangements notionally cover maintenance, renewal and enhancement, based on discussions with Abellio, the franchisee may not be responsible for all enhancements, particularly major and / or complex projects. For example, Network Rail could still have responsibility for substantial platform extensions and / or disability access, particular if the project is driven by DfT. Abellio also states that there is some uncertainty around responsibility for particular assets, e.g. embankments, cuttings, viaducts, etc. Abellio and Network Rail have been meeting to define their responsibilities, and there is likely to be greater clarity over time.

The new arrangement represents a significant change from the status quo. Previously, when Network Rail was responsible for station stewardship, it had more of a 'client' role, with the TOC providing a much smaller SFO role. Now, Abellio acts as 'client'. From discussions with Abellio we understand that Network Rail needs to request sign-off from Abellio prior to undertaking a major enhancement project.

As part of the transfer arrangements, Abellio inherited an existing 'workbank' from Network Rail for Greater Anglia, i.e. a register of works required at the different stations.¹⁵³ This is because at the time of the transfer of responsibility, Network Rail had already developed the workbank for the period to the end of CP4. It was deemed to be simpler to transfer the existing workbank (and associated funding), rather than for Abellio to redevelop it. This highlights one difference between the Greater Anglia

¹⁵¹ Ibid.

¹⁵² Department for Transport, *Reforming our Railways: Putting the Customer First*, March 2012

¹⁵³ Ibid.

franchise agreement and the Essex Thameside franchise agreement (at the time of writing, this is the only other signed agreement under which station responsibilities have transferred). Because the Essex Thameside agreement timing aligned more closely with the regulatory cycle, the franchisee was responsible for developing the details of the initial workbank. We note that Abellio has developed the Greater Anglia workbank for CP5.

Transfer of station assets from Network Rail to the Greater Anglia franchise

The transfer of the responsibility for asset stewardship is delivered via a 99-year lease arrangement¹⁵⁴, although this only applies for the duration of the franchise.¹⁵⁵ Because the new arrangement continues to be via a lease, Network Rail remains the freeholder of the vast majority of station assets.¹⁵⁶ However, as highlighted by Network Rail, the lease period (99 years) is longer than the useful economic life of some of these assets, and so in effect this lease arrangement amounts to a transfer of the assets to the Greater Anglia franchise.¹⁵⁷

From discussions with Network Rail, the transfer covers all stations assets that are within the station lease area, i.e. platforms footbridges, undercrofts, canopies, train sheds, etc. The transfer does not include any network assets, i.e. track, signals, overhead lines, etc. which remain the responsibility of Network Rail. Network Rail notes that although these definitions are relatively clear-cut in theory, it is more complicated in practice to determine which assets are included within the transfer. This is discussed below in the sub-section entitled 'implementation'.

Contractual relationships

The diagram below shows the change in contractual / accountability arrangements under the new franchise. (We note that this is a draft version.)

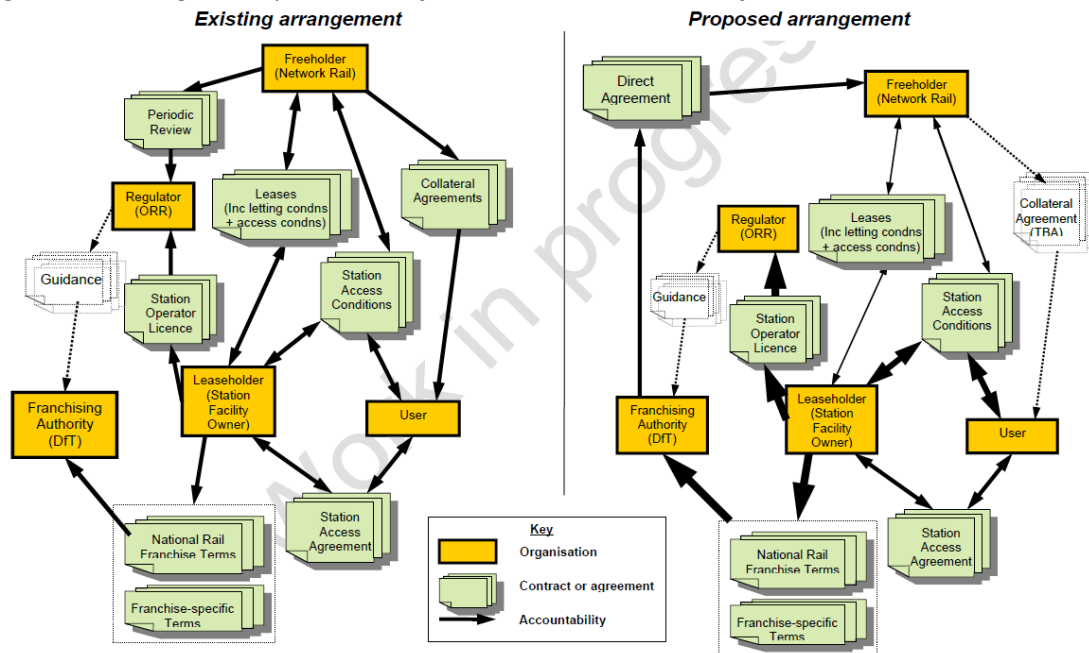
¹⁵⁴ Network Rail: *Stakeholder relations code of practice: Getting access to stations managed by Network Rail* (p.3)

¹⁵⁵ ORR, Station operator licence – asset stewardship obligations, 2012, p.1:
http://orr.gov.uk/_data/assets/pdf_file/0020/2297/aga-reg-statement-2012.pdf

¹⁵⁶ House of Commons Library briefing paper: 'Railways: stations', March 2012:
www.parliament.uk/briefing-papers/SN03170.pdf. Also corroborated from discussions with Abellio.

¹⁵⁷ Network Rail: *Indicative GAF financial implications for CP4* (p.1)

Figure 8.2: Change in responsibilities for stations under the new franchise



Source: NR/ORR/ATOC, 'Responsibilities at Stations, Work in Progress', Feb 2011, p.20

Responsibility and allocation of risk between stakeholders: Transfer of risk from Network Rail to Abellio

Greater Anglia has responsibility for all maintenance and renewals and for insurance. All asset risks – including pre-existing conditions of the assets – have been passed to the franchisee. This is reflected in regulatory arrangements, as Abellio is subject to regulation for the quality of station assets, not Network Rail.

However, Network Rail notes that it still retains some risk from secondary impacts, i.e. due to its role as infrastructure owner and system operator. Although Network Rail is not accountable for the specific station assets, poor station condition could potentially cause knock-on effects to other parts of the network, which would therefore impact Network Rail.

Our discussions indicate that the grey areas which the asset transfer sought to remove, have not been eliminated, rather they have moved. This may be resolved over time but in the meantime, discussions around which party is responsible for what continue.

Our discussions also indicated that there was a lack of clarity in relation to the condition of footbridges that were transferred to Greater Anglia, with the actual (poorer) condition only becoming apparent following the transfer.

Regulation

Since the transfer of responsibility, Abellio is the infrastructure manager for station assets, and so it is Abellio (not Network Rail) that is accountable to the regulator ORR. Abellio's responsibilities in terms of asset condition are set out in its station licence (issued by ORR). The station licence describes Abellio's responsibilities in fairly broad terms. Abellio has a *general duty* to undertake its asset stewardship responsibilities "*in accordance with best practice, acting in the long-term interest of the assets, and in a timely, efficient and economical manner, so as to satisfy the reasonable requirements of persons providing services relating to railways, funders and station customers, including potential providers, funders and customers*" and to do so "*to the greatest extent reasonably practicable having regard to all relevant circumstances*".¹⁵⁸

Typically, station assets are regulated via the Station Stewardship Measure (SSM). For its initial franchise agreement (during CP4), Abellio inherited Network Rail's SSM targets for the remainder of CP4. For CP5, Abellio's new franchise agreement (awarded in 2014) states that "*the Franchisee shall co-operate with ORR in developing the Station Stewardship Measure during the Franchise Term*"¹⁵⁹. This has been confirmed via discussions with Network Rail, who stated that Abellio continues to need to produce SSM reports/scores during CP5 for assessment by ORR. We also note that in ORR's 2013 periodic review of Network Rail's funding, ORR set new SSM targets and funding for other stations for which Network Rail is the landlord.

An additional station metric is the Percentage Asset Remaining Life (PARL). Network Rail noted that it proposed and helped to develop this metric. Abellio's new franchise agreement (awarded in 2014) specifically states that the franchisee's obligation is to ensure that PARL does not fall below certain minimum levels (the 'minimum percentage asset remaining life'), as specified by DfT. These targets are for groups / categories of station assets, i.e. platforms, footbridges, canopies and buildings:

*"... The Franchisee shall ensure that the Asset Remaining Life (as a percentage) in relation to each of Station Asset Group... is (on a basis aggregated across all relevant assets at all Stations) not less than the corresponding Minimum Asset Remaining Life specified..."*¹⁶⁰

¹⁵⁸ Station Licence granted to Abellio Greater Anglia by ORR, condition 27

http://orr.gov.uk/_data/assets/pdf_file/0010/2224/Abellio_Greater_Anglia_stat_lic.pdf

¹⁵⁹ Greater Anglia Franchise Agreement, 2014:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/344567/Interim_Franchise_Agreement_Direct_Award_21_July_2014.pdf

¹⁶⁰ Greater Anglia Franchise Agreement, 2014:

Discussions with Abellio confirmed that PARL targets (i.e. 'minimum percentage asset remaining life') will be used in CP5.

However, it is not fully clear which organisation will have primary responsibility for regulating Abellio's stations. Whilst DfT has set the condition targets for Abellio's stations and can hold the franchisee accountable through its franchise agreement for delivering these, we note that Abellio also remains accountable to ORR through its station asset stewardship licence condition. Abellio's view is that DfT is primarily responsible for setting / monitoring these condition targets, rather than ORR.

Funding

Abellio Greater Anglia: The TOC no longer has to pay the Long Term Charge and Property Rent to Network Rail, which creates funding for its new responsibilities.¹⁶¹

Network Rail: Firstly, the transfer of responsibilities from Network Rail to the TOC involved DfT effectively buying the station assets from Network Rail, based on the asset valuation. For Greater Anglia, a number of factors were considered in order to value the assets, such as future earnings and replacement cost.¹⁶²

Secondly, the transfer means that Network Rail both avoids costs and accrues less revenue. The transfer was undertaken in a manner that ensured Network Rail was left financially neutral to the impact of the change.¹⁶³ The activities which Network Rail avoids are:

- Operations / management: Network Rail avoids the costs but forgoes the revenue related to the management of station assets. The revenue forgone includes the Long Term Charge, property rent and other commercial revenues.
- Capex (renewals and enhancements): Network Rail no longer has to undertake the capex, but is not able to log up any capex costs into the RAB. Network Rail estimated that the RAB at the beginning of CP5 would be £50m¹⁶⁴ lower than it would have been if it had undertaken this capex.¹⁶⁵

For Greater Anglia, Network Rail undertook this adjustment by 'unwinding' the aspects of Network Rail's PR08 determination that related to Network Rail's management of the Greater Anglia stations.

[https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/344567/Interim Franchise Agreement Direct Award 21 July 2014.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/344567/Interim_Franchise_Agreement_Direct_Award_21_July_2014.pdf)

¹⁶¹ Network Rail: *Indicative GAF financial implications for CP4* (p.2)

¹⁶² Network Rail presentation: *GA SFO stations transfer - illustrative financial impacts* (June 2011)

¹⁶³ Network Rail: *Indicative GAF financial implications for CP4* (p.2)

¹⁶⁴ 2011/12 prices

¹⁶⁵ Network Rail presentation: *GA SFO stations transfer - illustrative financial impacts* (June 2011)

Implementation versus plan

Overall, the transfer of station assets has proceeded to plan, i.e. as per DfT's original policy intentions. However, as discussed above, Network Rail noted that it has not been entirely straightforward to define the assets that are transferred to the Greater Anglia franchise. Initially, two-dimensional diagrams were used to illustrate the different assets, and therefore to identify whether Abellio or Network Rail is responsible for asset stewardship. However, increasingly, three-dimensional diagrams have been required, and more complex legal wording has been developed to ensure that responsibilities are clearly defined.

Network Rail has also noted that this issue remains problematic in the case of Essex Thameside, where circa 30% of assets have been defined by two-dimensional illustrations and simple legal wording, with the remaining 70% of assets requiring three-dimensional illustrations and / or more complex legal definitions. Network Rail gave an example of one particularly complex scenario, relating to an Essex Thameside station building, which is on top of a bridge. The franchisee (c2c) is actually responsible for the bridge because it is a station asset, but in this case c2c did not realise this to be the case. There was a pipe under the bridge which needed repairing, but because c2c were not aware of its responsibilities, Network Rail repaired the pipe. Thus, implementation of the transfer has not been as straightforward as initially might have been expected.

8.2.4. Outcomes

Project costs and timings

There is no strong evidence that the objectives of the transfer have been met as yet, as the franchise is relatively new and because it has not been possible to obtain data on Abellio's actual expenditure. Nonetheless, stakeholders have offered views on what the impacts may be.

One commentator (albeit speculatively) has suggested that the transfer could increase costs because:

- the transfer is "...expensive in the short term as leases have to be re-assigned and presumably an asset condition register created [by the TOC]" (although we note that Network Rail presumably has an asset register that it may be able to give to the TOC).

- in the long-term, the register will “need to be revisited every time the [franchisee] changes and the residual value of repairs and improvements accounted for”.¹⁶⁶

In contrast, other stakeholders believe that costs may fall. ORR staff have, for instance, suggested that TOCs may have a greater ability to contract out maintenance work more cheaply than Network Rail by making greater use of local firms (and therefore local rates). TOCs would also have greater incentives for cost efficiency as they can profit from savings.

Quality / safety outcomes

Transition phase

There is some evidence that the process of transferring responsibility can result in disruption and poor service in the short-term as the TOC adjusts to new responsibilities. One example of this process causing a reduction in customer service was provided recently (August 2014) at Brentwood station, where long delays in fixing a broken lift resulted in a lack of station access for elderly and disabled rail users.¹⁶⁷ When asked about these delays, Abellio highlighted the relatively recent transfer of responsibilities as the reason why the problem had occurred.

Asset management

Abellio’s view is that the transfer of responsibility has enabled it to improve the efficiency of asset management because all maintenance, repairs and renewals are undertaken by the same organisation. This removes the uncertainty around the division of responsibilities between Abellio and Network Rail, and allows Abellio to more quickly identify the optimal solution.

Although Abellio has a 99-year lease on the assets, it only holds this lease (and its stewardship obligations) for the duration of its franchise (after which the lease is passed back to DfT and on to the next franchisee). It is conceivable therefore that this could create an incentive for Abellio to favour a ‘short-term’ approach to its asset management responsibilities. That is, the short-term nature of its franchise may incentivise it not to undertake its asset management responsibilities in a manner that

¹⁶⁶ Rail.co.uk website article: ‘Massive Disruption After Wires Come Down at Bethnal Green’, 2011: <http://www.rail.co.uk/rail-news/2011/network-rail-wires-down-at-bethnal-green-creates-havoc-on-the-great-eastern-route/>

¹⁶⁷ Romford Recorder website article, 2014: http://www.romfordrecorder.co.uk/news/broken_brentwood_station_lift_leaves_commuters_stranded_1_3750409

considers optimal whole life costs and it may look to 'sweat the assets' to reduce costs in the short run.

However, as stated earlier, Abellio is regulated via DfT's minimum targets for PARL. Assuming that it is possible to accurately measure the remaining asset life, this approach should ensure that Abellio undertakes maintenance and renewals to the required standard.

Enhancements

Although Abellio does not have as much experience as Network Rail in delivering enhancements, Abellio considers itself to be more customer-facing, and therefore potentially better-placed to determine what enhancements will be optimal from the customer's perspective. Network Rail is not entirely in agreement with this view but acknowledges that it has no evidence to the contrary.

Commercial Trade-offs

Trade-offs can arise between commercial and engineering / safety considerations, and Abellio, as a private company, may have incentives to operate in a more commercially-minded manner than Network Rail. There are likely to be pros and cons to this in terms of the impact on customers. On the one hand, the TOC's more commercial approach is likely to result in stations that customers like / enjoy. On the other hand, Network Rail's significant experience in station asset management may reduce the likelihood of asset condition falling.

Discussions with Network Rail highlighted the example of columns in stations, which are sometimes used to hang lighting equipment. In determining the optimum lighting load for each column, there might be a trade-off between increasing the appearance of the station and preserving the life of the column. For instance, the optimal load from a whole life costing perspective may not necessarily be the maximum load, illustrating the point that the transfer of station stewardship responsibilities may involve trade-offs.

Organisational impacts

In theory, this change delivers a clear definition of responsibilities, and should improve decision-making in long-term. From Abellio's perspective, responsibilities under the new approach are much more clear cut. All operations, maintenance and renewals functions are undertaken internally by Abellio, which makes communication easier, as issues can be resolved internally. The grey areas of responsibility around maintenance are no longer important because Abellio takes all responsibility.

However, although uncertainty around maintenance has been removed, new grey areas have emerged around defining asset responsibility, and this has led to increased costs

(e.g. for 3D drawings etc) and discussions between the TOC and Network Rail to resolve ongoing issues. However it seems likely that these are temporary difficulties and that improvements to definitions over time will increase clarity around responsibilities.

Quantitative analysis

Introduction

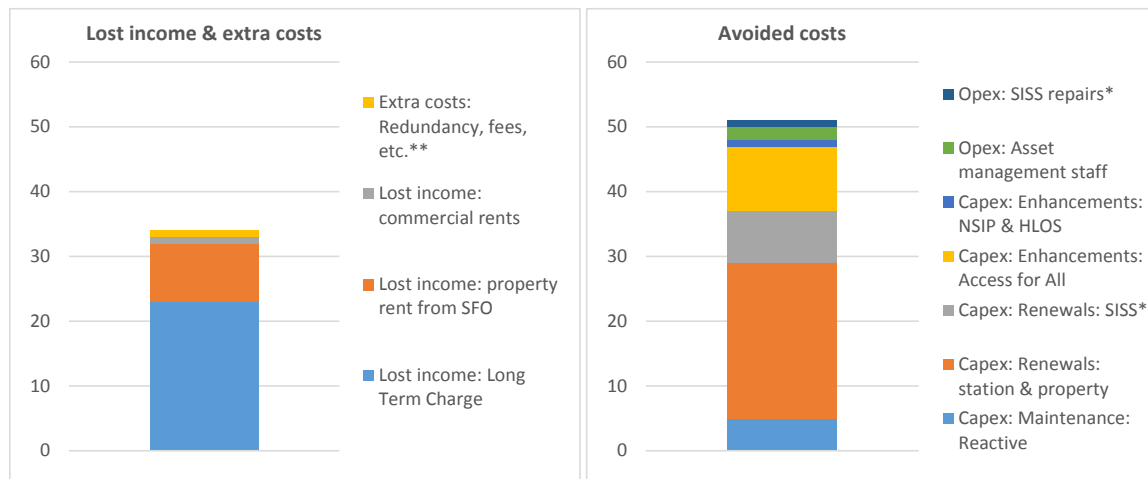
In this section we present an analysis of:

- expenditure and income: planned levels based on information from Network Rail and Abellio Greater Anglia.
- station performance based on the Station Stewardship Measure (SSM): Actual performance for Greater Anglia stations versus other stations (i.e. those still under Network Rail’s stewardship).
- passenger satisfaction at stations in Greater Anglia.

Expenditure and Income: Network Rail forecasts

Network Rail has provided data, which shows its expected loss in income and avoided costs under the transfer of station stewardship responsibilities to the Greater Anglia franchisee (Abellio). The charts below show these estimates for the approximate two-year period between the start of the franchise (beginning of February 2012) and the end of CP4 (end of March 2014). Figures are in 2011/12 prices.

Figure 8.3 – Network Rail forecast avoided costs/income due to transfer, £m, 2011/12 prices



Source: Network Rail draft presentation, Greater Anglia SFO stations transfer: illustrative financial impacts, 28 June 2011

* SISS = Station Information and Surveillance Systems

** Includes TUPE, legal & professional fees

N.B. Although Network Rail’s expected ‘avoided costs’ are higher than the expected ‘lost income’ in these charts above, in reality Network Rail’s lost income would be higher because capex is RAB-funded, and so Network Rail are also losing the associated future income stream from not adding this capex to the RAB.

Expenditure and Income: Abellio

ORR’s 2012 statement on the asset stewardship obligations for Greater Anglia¹⁶⁸ states that planned expenditure on maintenance and renewals was £20m in 2012/13 and £9m in 2013/14¹⁶⁹. This is consistent with the subtotal of Network Rail’s avoided costs for reactive maintenance and station/property renewals, which are represented by the blue and orange sections (respectively) in the right-hand chart above.

We have not yet been able to obtain forecast/actual expenditure data from Abellio.

Performance: Station Stewardship Measure (SSM) – Abellio Greater Anglia

The SSM measures the condition of station assets, i.e. the buildings, canopies, platforms and lighting. The table below shows how the SSM for Greater Anglia’s stations has changed since the start of the Franchise in February 2012. The table presents the results for **groups** of stations, based on an average of the SSM scores for all the stations in that category. A lower SSM number indicates better asset condition, whilst a higher SSM number indicates worse asset condition. The station categories are listed in decreasing order of station size, i.e. Category B represents the largest stations within the Greater Anglia franchise for which Abellio has stewardship responsibilities, whilst Category F represents the smallest. Abellio does not have responsibility for any Category A stations. As a caveat, stations are assessed in rotation (i.e. once every few years), so the SSM scores provide an average (i.e. imperfect) measure.

Table 8.1: SSM targets and performance for Greater Anglia stations

Station Category	End of CP4 Target	Franchise Start	2014		
			2013 Year End	2014 Year End	
Station Category B	2.60	2.47	2.46	2.47	→
Station Category C	2.65	2.43	2.40	2.43	→
Station Category D	2.69	2.42	2.47	2.46	↓
Station Category E	2.74	2.39	2.41	2.44	↓
Station Category F	2.71	2.65	2.59	2.53	↑

Source: Various SSM documents from Abellio Greater Anglia

¹⁶⁸ ORR, Station operator licence – asset stewardship obligations, 2012, Annex B: http://orr.gov.uk/data/assets/pdf_file/0020/2297/aga-reg-statement-2012.pdf

¹⁶⁹ Price base not specified.

The table above shows that, comparing the **2014 year end** position to the **Franchise start** position (Feb 2012):

- asset condition has stayed broadly constant for the larger stations (Categories B and C);
- condition has slightly worsened for the medium-sized stations (D and E, represented by a *higher* SSM score); and
- condition has improved for the smallest stations (F).

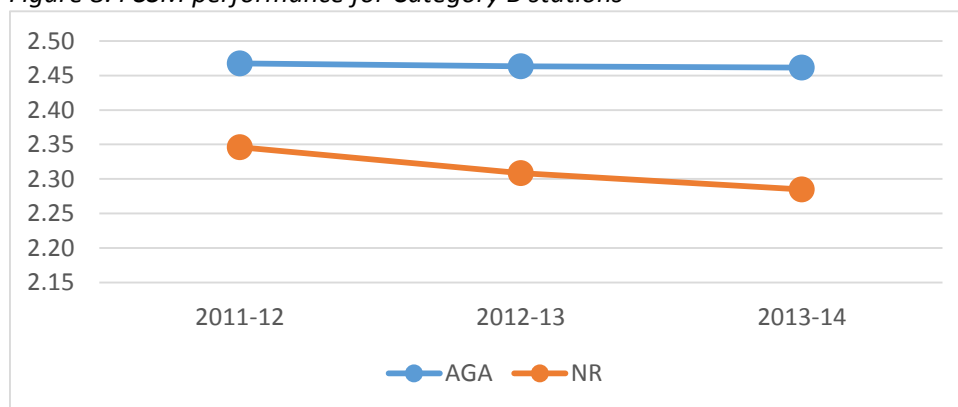
However, we note that the SSM scores for all categories are still well under the ‘end of CP4 target’ levels, which demonstrates that asset condition remains above condition targets.

Performance: SSM – Abellio Greater Anglia and Network Rail

Whilst it is useful to observe Abellio’s performance, it is also helpful to compare it to a counterfactual. This can be done by comparing Abellio’s SSM performance against Network Rail’s SSM performance.

Comparing performance levels is difficult due to the level of data manipulation required. Therefore we provide below a single illustrative example in which we have collated SSM data from ORR’s data portal for all Category B stations, and separated the stations for which Abellio *now* has responsibility. We have then taken the average SSM performance for each group of stations, and plotted them on the graph below. As a point of comparison, the SSM scores for Abellio in the chart below are in line with the SSM scores for Abellio’s Category B stations shown in the table above, i.e. just below 2.5. We note that the chart below is shown with a truncated scale on the y-axis.

Figure 8.4 SSM performance for Category B stations



Source: ORR data portal

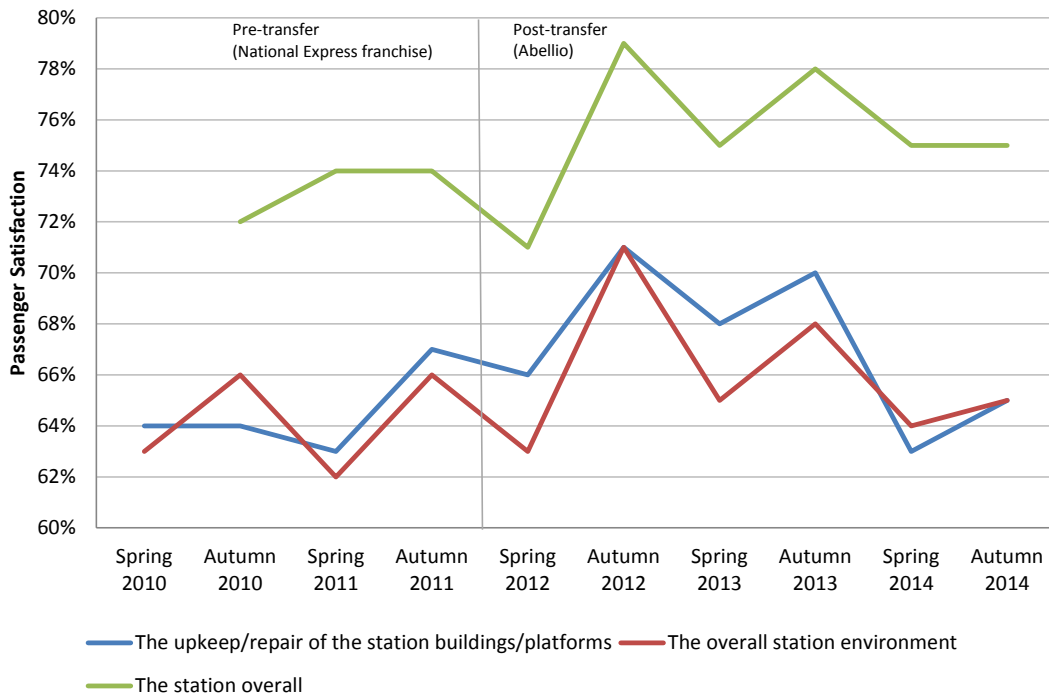
The chart above shows that, while Abellio’s SSM scores for its Category B stations has remained fairly constant over time, SSM scores have fallen for Network Rail’s Category B

stations. A lower SSM indicates that a station’s assets are in better condition, and so the SSM metric implies that Network Rail’s stations have improved, whereas Abellio’s have stayed the same.

Passenger satisfaction

Another useful measure is passenger satisfaction with stations on the Greater Anglia route. Whilst it is not possible to create a perfect counterfactual, it is useful to compare satisfaction levels before and after the transfer of responsibilities in February 2012. The comparison is complicated by the fact that the station transfer occurred at the start of the new Abellio franchise (taking over from National Express East Anglia). Therefore, both the change of franchisee on the route and the transfer of responsibilities might have had an impact on the measures reported here. The figure below shows passenger satisfaction levels since Spring 2010 in three areas: station upkeep, overall station environment and satisfaction with the station overall.

Figure 8.5: Passenger satisfaction at Greater Anglia stations

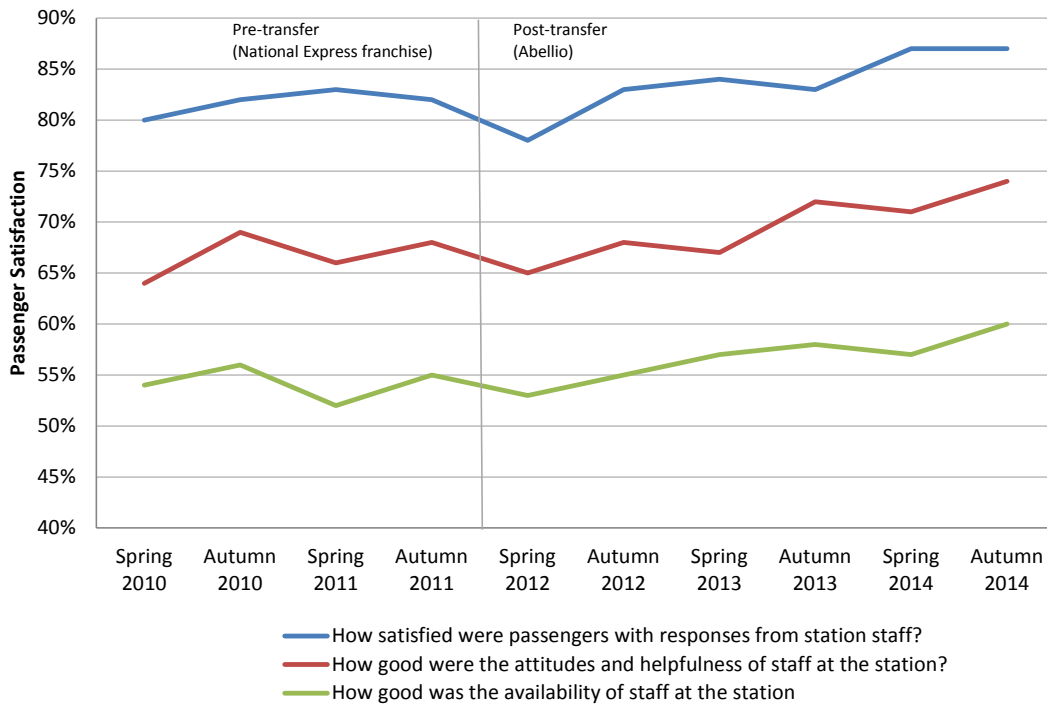


Source: Passenger Focus, National Rail Passenger Survey

Overall passenger satisfaction has been higher since the station stewardship responsibilities were transferred to Abellio, although there are also signs that the initial increase in satisfaction has been followed by a fall back to 2010/2011 levels. The decrease in satisfaction with station upkeep in the last two surveys has been particularly pronounced.

One area of passenger satisfaction which has seen a more gradual but consistent increase relates to performance of station staff. The three measures shown below refer to satisfaction with availability, attitudes and responses provided by station staff. Higher passenger satisfaction in this area may be indicative of the impact that a more commercially-minded TOC has in terms of staff-customer interactions.

Figure 8.6: Passenger satisfaction with station staff at Greater Anglia stations



Source: Passenger Focus, National Rail Passenger Survey

Conclusions from quantitative analysis

In terms of station performance, the SSM data suggests that station condition under Abellio has, on average, remained similar over the last few years, i.e. since the start of the franchise in February 2012. Station condition levels are in line with the SSM targets. From a more detailed analysis of Category B stations, Network Rail has outperformed Abellio Greater Anglia over this same period, based on SSM data. On one hand, Abellio is meeting the SSM targets, so is meeting the required outputs. Although Network Rail has shown improvements in Category B stations relative to Abellio, if it is doing so at higher cost then Abellio’s approach may be more efficient (assuming the targets are set appropriately).

However, we note that the transfer of station stewardship responsibilities is not only relatively recent, but discussions are still on-going to fully define each party’s responsibilities. Therefore, it is too soon to draw firm conclusions from the quantitative data.

8.2.5. Conclusions

Following recommendations from the McNulty report, DfT has signalled that transferring station stewardship to TOCs could become more common in the future by applying it within the new franchise policy. Greater Anglia is a pilot study for this, so this case study is relevant for considering whether such arrangements are likely to be effective in other cases.

Both Abellio and Network Rail provided a fairly consistent view that the transfer of station stewardship responsibilities to the Greater Anglia franchise (and therefore currently to Abellio) has improved clarity of some responsibilities, by removing grey areas around maintenance. Efficiency is likely to have improved for these activities.

However, both organisations are also of the view that new uncertainties / grey areas have emerged around the definition of 'station assets'. Considerable discussions have taken place between Greater Anglia and Network Rail to improve clarity in this area, and progress is being made to determine legal definitions. Although Greater Anglia is a pilot for this transfer of responsibilities, and hence this problem may diminish in time, discussions with Network Rail have highlighted that considerable effort has also been required in this area for the Essex Thameside franchise. This suggests that the issue is not confined to Greater Anglia and that the arrangements for transfer of stations assets in other franchises may need to be refined in order to ensure that clarity is created.

There are also some transitional issues that can emerge with the transfer of responsibility, as shown by the example of a broken lift at Brentwood station in August 2014 and with footbridge condition at some stations (both discussed above).

The relative difference in experience between Network Rail and an incoming TOC in performing this stewardship role means that it will be a challenge for an incoming TOC to undertake the required activities to a high standard, initially at least. Although in the case of Greater Anglia relevant Network Rail staff formed part of the transfer. However, that is not to say that a TOC would necessarily perform poorly. Analysis of the SSM metrics shows that Abellio is meeting its station condition targets, which suggests that Abellio's approach to date has been sufficiently robust. There has also been a small improvement in passenger satisfaction at Greater Anglia stations since the transfer took place, particularly in relation to station staff.

It may also be important to consider the approach to regulation. Generally speaking, privately-owned TOCs are likely to have stronger commercial incentives compared to Network Rail. TOCs are likely to have greater incentives to reduce costs and improve efficiency, although there is a risk that the relatively short-term nature of their franchises may encourage them to sweat assets or take short term (rather than whole life cost) approaches. Effective monitoring of asset condition is therefore important to

ensure that they deliver their obligations. However, we note that asset condition monitoring is equally important where Network Rail has responsibility, as shown by the example of Greater Anglia's footbridges.

For TOCs taking over station responsibilities in the future, key issues are likely to be:

- Determining that the TOC has asset managers and engineering staff with sufficient expertise.
- The TOC satisfying itself as to the condition of the assets it is taking on from Network Rail and that responsibility for the assets is clearly defined.
- For the franchising authority and regulator to be satisfied with the TOC's approach and resources.
- Effective monitoring of asset condition.

Finally, from discussions with Network Rail, our understanding is that the appetite for acquiring this greater responsibility may vary between different TOCs, and this may affect the applicability of station transfer to other franchises.

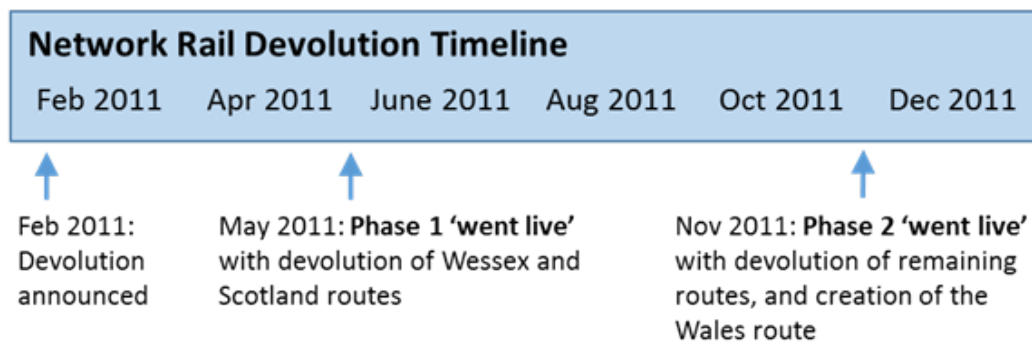
9. NETWORK RAIL ROUTE DEVOLUTION

9.1. Summary

Route devolution was an internal organisational change implemented by Network Rail in which: (i) new business units were created to match Network Rail's existing 'Route' structure; and (ii) responsibilities and accountabilities were devolved from Network Rail's central organisation ('the Centre') to these new regional units ('the Routes').

Network Rail's degree of centralisation / de-centralisation has varied over time, and in 2011 the McNulty Report recommended greater devolution in Network Rail's structure and operational approach. Devolution was undertaken in two phases, as shown below.

Figure 9.1 – Timeline for Network Rail Route Devolution



Note: Since Nov 2011, the arrangements under the devolved route structure have evolved further, with some additional organisation changes.

Devolution has provided the Routes with greater discretion and autonomy, but they must continue to operate within the overall framework set by the Centre, albeit with input / feedback from the Routes. Specifically, Network Rail introduced the roles of Route Managing Director (RMD) and Director Route Asset Management (DRAM), which have increased Route autonomy around budget spending, asset management, and developing business plans.

Overall, measuring the exact impact of devolution is difficult, given that metrics that could be used to assess the impact of Devolution (such as PPM) are also affected by other factors. At this stage, the impacts of devolution appear to be mixed. Customer satisfaction rose immediately post-devolution, but has since returned to close to pre-devolution levels. The same is true for performance metrics.

However, there are indications that devolution was implemented too quickly, leading to a lack of clarity over responsibilities and accountabilities. Devolution has evolved since, partly to try to address these issues. However, it is not clear that it has yet been fully embedded consistently across Network Rail or become fully effective. For example, the stakeholder interviews we carried out indicated that there was still a lack of clarity

between the roles of the Centre and the Routes and there were issues in the relationship between the Routes and the Centre's Infrastructure Projects (IP) division. One train operator specifically suggested that further benefits could be achieved through greater devolution.

Given this, more time may be needed (as well as some further refinements) before Devolution is fully effective.

9.2. Detailed description

9.2.1. Context

Definitions

Devolution can have different definitions within the rail sector. In this case study we refer to the devolution of responsibilities from Network Rail's central organisation ('the Centre') to the Routes (Network Rail's regional business units). Under devolution, the Routes have been given greater discretion and responsibility to operate and manage their regional network. However, the Routes must still operate within a framework set by the Centre. Maintaining a degree of control within the Centre (via the framework) has a number of benefits including quality assurance, economies of scale, and the ability to keep a network-wide perspective.

A Route is a geographical operational unit. There are currently ten of these across Great Britain, headed by a Route Managing Director who manages the Route.

Historical context

Although Route devolution is relatively recent, it is important to recognise the historical context in which devolution has developed. In previous decades (e.g. the 1980s/1990s), the regional managers (i.e. the equivalent of Network Rail Route level managers) were deemed to have had too much autonomy and discretion. As such, the increased centralisation of standards and policies in the 2000s had benefits:

"It is undeniable that under Coucher [Iain Coucher, previous Network Rail Chief Executive, who left in October 2010], Network Rail corrected many of the ills of Railtrack and, as a result, managed to reduce costs. Ensuring, for example, common standards and practices across an industry that at times still retained legacies from British Rail days when local managers ruled with an iron rod over their territories was no bad thing".¹⁷⁰

¹⁷⁰ Article by Christian Wolmar, 'Alliances: integration or dismemberment?', 2012
<http://www.christianwolmar.co.uk/2012/03/alliances-integration-or-dismemberment/>

“The government [in the late 1990s] didn’t have a lot of confidence in the railway’s ability to control costs. Network Rail was created with that in mind. It centralised everything. That was right for the time” (Richard O’Brien, formerly Managing Director of the Wessex Route).¹⁷¹

However, increased centralisation in the 2000s may have gone too far:

“There is widespread recognition that Network Rail became far too centralised when it was run by the previous Chief Executive, Iain Coucher... As a former senior Network Rail source explained... ‘Coucher went too far and prevented local managers from having any initiative.’”¹⁷²

Richard O’Brien (when Managing Director of the Wessex Route) stated that, while centralisation was appropriate in Network Rail’s early days, it had been right to devolve powers more locally in recent years:

“Now the government has regained that confidence in rail, it can put a pound in rail and get some value out. Big companies are slower than they should be, and more expensive. Pushing accountability to a local level will up the pace of decision making, drive out cost and save money”.¹⁷³

Network Rail confirmed plans for devolution in February 2011, just months before the McNulty report was published, which contained recommendations for *“Decentralisation and devolution within Network Rail”*.¹⁷⁴ One source suggested that Network Rail’s announcement may have aimed to pre-empt the McNulty Report’s recommendations.¹⁷⁵

Network Rail’s pre-Devolution characteristics

Prior to Devolution, Network Rail was divided into different Routes. However, from discussions with Network Rail, at a high level the organisation was characterised as follows:

- A more ‘central’ organisation.
- More of a feel of ‘command and control’.
- The Centre was accountable for performance, rather than the Routes.

¹⁷¹ Rail Professional article: ‘Wessex begins devolving’, 2011

<http://www.railpro.co.uk/railpro-magazine/magazine-archives/wessex-begins-devolving>

¹⁷² Article by Christian Wolmar, ‘Alliances: integration or dismemberment?’, 2012

<http://www.christianwolmar.co.uk/2012/03/alliances-integration-or-dismemberment/>

¹⁷³ Railpro magazine article, ‘Wessex begins devolving’

¹⁷⁴ Realising the Potential of GB Rail, Summary Report, May 2011, Executive Summary, page 11

¹⁷⁵ NCE article, Network Rail appoints managers for devolved routes, June 2011

Further below (in the section entitled ‘key features’), we present details on Network Rail’s *pre-Devolution* characteristics by providing a comparison to Network Rail *post-Devolution*, i.e. the current state.

Evolution and concurrent initiatives

As discussed in subsequent sections, Devolution occurred at a point in time, but has continued to evolve as Network Rail has sought to achieve an optimal balance.

Devolution has also occurred in the context of some other major initiatives by Network Rail, such as Project Dime (see Annex C), Project Apple, and the re-design of Network Rail as a matrix organisation:

- **Project Apple:** This was an initiative in 2013 by Network Rail to “develop a new operating model which will encourage more effective delivery at the frontline”. The aim of Project Apple is to “realise efficiencies in processes, time and ultimately value” by adapting the internal culture and processes.¹⁷⁶ From discussions with Network Rail, this project aimed to optimise the balance in the activities done by the Centre and the Routes, post-Devolution. It also aimed to optimise ways of interacting and to improve working relationships.
- **Matrix organisation:** As a result of Project Apple, in 2014 Network Rail re-designed its organisational structure as a two-dimensional matrix: National Functions are one dimension, and the Routes are the other dimension. The aim of formalising this matrix has been to promote “*clarity in accountabilities and responsibilities throughout the organisation*” and to “*enable increased focus on improved business performance delivery*”. Network Rail’s two-dimensional matrix organisational structure is illustrated further below.

9.2.2. Objectives

Network Rail

Network Rail’s objectives for Devolution were:¹⁷⁷

- to re-evaluate which activities are undertaken at the Route level versus at the Centre, under the guiding principle that centralisation should only occur “*where there are clear benefits for the industry*”;

¹⁷⁶ Network CP5 business plan, Corporate services

¹⁷⁷ See Network Rail Handbook for Devolution v1.2, p.4

- to achieve greater alignment between Network Rail and its customers by reducing the extent of central control and empowering devolved decision-making;
- to improve the relationships that Network Rail has with its clients, by reviewing its approach to client engagement and to customer-facing staff.

From discussions with Network Rail, the terms “clients” and “customers” encompass the TOCs, FOCs and passengers, although it depends on the circumstance in which the term is used. Network Rail also makes the distinction between ‘external’ and ‘internal’ clients. The former refers to TOCs and FOCs, while the latter refers to the relationship between different parts of Network Rail, e.g. for enhancements, the Route is the client/customer of the Infrastructure Projects (IP) function.

McNulty report

In relation to decision-making and organisational structure, the McNulty report recommended “*Decentralisation and devolution within Network Rail*”.¹⁷⁸

In terms of decision-making, the report states that decisions are “*too often taken centrally within organisations, for example within Network Rail*”, but that decisions should, where possible, be made “*by the parties that operate the network, and at the levels within the industry which are closest to the market*”. It notes that greater devolution should support “*increased partnership working*”.

In terms of operational structures and interfaces, the report states that the operation of interfaces (both between and within organisations) could be improved through reform. It states that devolution offers the potential to “*bring delivery closer to operators*” and to enable benchmarking (“*comparative regulation of route performance in both financial and operational contexts*”). The report’s recommendation for greater devolution is made “*particularly for Network Rail*”.

However, the report also states that devolution should still be compatible with running an effective single rail system, on the basis that Routes are still parts of a single network. In particular, the report recognises that where there are economies of scale in certain activities, these should be undertaken by the Centre, because it will:

- facilitate seamless operation of the network;
- ensure best use of network capacity;
- provide system-wide coordination, assurance and central support activities.

¹⁷⁸ Realising the Potential of GB Rail, Summary Report, May 2011, pages 11, 47, 48.

The report suggests that certain infrastructure management functions are examples of activities that may benefit from economies of scale if undertaken by the Centre, e.g. procurement and heavy plant.

9.2.3. Key features

Project details

At a high level, Devolution involved Network Rail devolving more of its responsibilities to the Routes, such that *“the Routes have been given primary accountability for delivering the core performance outcomes of the business and its stakeholders”*.¹⁷⁹ Stakeholders in this context are the TOCs and FOCs.

Initially, the formal process of Devolution was implemented in two phases:

- Phase 1 included the devolution of the Wessex and Scotland Routes which ‘went live’ on the 3 May 2011.
- Phase 2 included the devolution of the remaining Routes and the creation of the Wales Route which ‘went live’ on the 14 November 2011.

However, since November 2011, Network Rail states that the arrangements under the devolved route structure have continued to evolve, with some additional organisational changes.

High level framework

The current responsibilities of different parts of Network Rail are reflected in Network Rail’s latest Devolution Handbook (version 6). Compared to Network Rail’s pre-Devolution structure, at a high level the current structure has shifted accountabilities away from the Centre and towards the Routes. Version 6 of the Devolution Handbook states that, wherever possible, *“the management of performance shall be fulfilled at the lowest level possible, with ownership for performance starting at the ‘front line”*”.¹⁸⁰ From discussions with Network Rail, previously the Centre was accountable for performance, whereas now (post-Devolution) the principle is that the Routes are now accountable for performance / delivery.

However, although the Routes are now more accountable than before Devolution, the Centre still has a role in several different areas. In particular, discussions with both ORR and Network Rail have made clear that the Routes operate within the framework developed by the Centre. Discussions with Network Rail note that the Routes have

¹⁷⁹ Network Rail Handbook for Devolution v6, p.12

¹⁸⁰ Network Rail Handbook for Devolution v6, p.12

freedom to design their organisation, but within the constraints of the operating model set by the Centre.

Specifically, the Routes' current accountabilities are as follows:¹⁸¹

- Statutory requirements:
 - Manage operations in line with all legal and regulatory obligations.
- Operations:
 - Operate the timetable, including the application of the Railway Operational Code during and after disruptions.
 - Operate the Managed Stations on the Route.
 - Investigate incidents and put in place appropriate remedial actions.
 - Manage competency, training and personal development of Route staff.
- Asset management and maintenance:
 - Act as the owner of Route assets; develop and deliver Route Asset Management Plans for the management and sustainability of infrastructure assets.
 - Manage the quality and completeness of asset and performance data to enable periodic reporting.
 - Plan and deliver inspections, maintenance and renewals of infrastructure assets – including stations as appropriate – in line with corporate strategies, to achieve agreed performance, sustainability, financial and customer objectives.
- Enhancement projects:
 - Act as the client for all projects being undertaken on the route (excluding National Projects).
 - Enable effective and efficient delivery of projects within the route.
- Financial:
 - Manage costs and deliver revenue to targets.
 - Oversee project delivery to budget and schedule for those delivered by the route.
- Relationships:

¹⁸¹ Network Rail Handbook for Devolution, v6, p.8

- Manage commercial relationships with customers of the route (train operators) and suppliers to the Route.
- Manage external stakeholders for route matters.

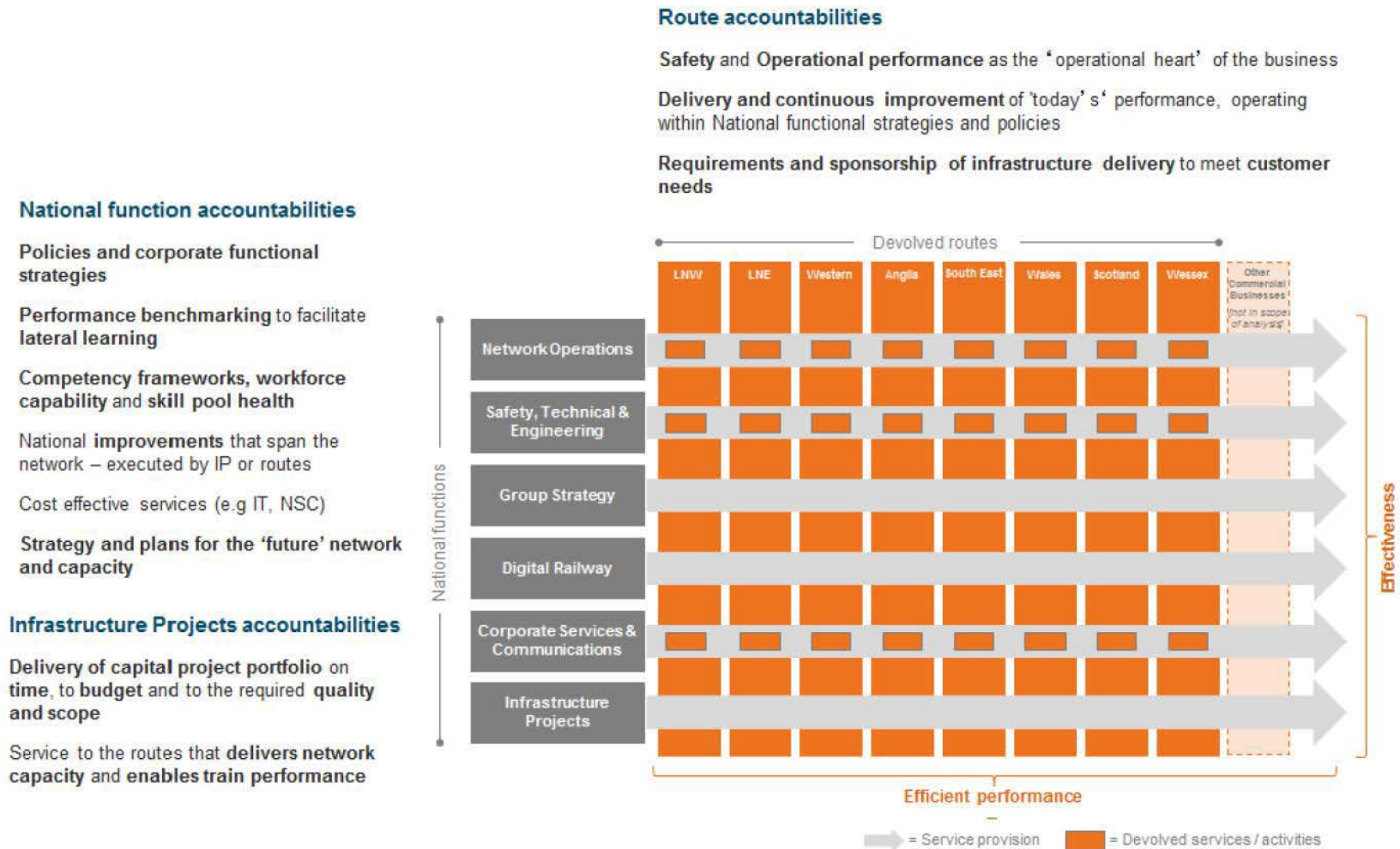
From our research and stakeholder discussions, the main role for the Centre is currently as follows:

- **Performance management / assurance.** Network Rail states that: *“Route performance shall be integrated and managed at a National level”*. The objective of having this oversight is *“to enable the monitoring and management of performance within the routes, including identification and resolution of performance issues in a timely manner”*. Network Rail also states that the Centre’s support / oversight is aimed to *“drive continuous performance improvement (e.g. through lateral learning, benchmarking and innovation)”*.¹⁸² From discussions with ORR, we understand that the Centre does undertake performance benchmarking between the Routes, although it is fairly limited (see later sub-section on benchmarking).
- **Setting national policies and standards.** From discussions with ORR we understand that the Routes are accountable for undertaking day-to-day core network activities, but that in many cases these activities are undertaken ‘in line with’ policies which are set by the Centre. For example: Routes are responsible for operations and incident response, but the Centre sets the policies for inspecting assets; the Routes deliver the timetable that is set by the Centre; the Routes record data on asset condition using systems that have been developed by the Centre. However, as shown in the diagram below, although ‘setting policies and standards’ is done for the Routes by the Centre, the Routes have ‘local responsibility to provide strong input / challenge’.
- **Central services.** The Centre still also provides a number of services to the Routes, which offers benefits of economies of scale, as well as the Centre’s experience in undertaking these tasks historically. For example, centralised finance and HR functions are likely to be more efficient in terms of costs and having a single standard. From discussions with Network Rail, our understanding is that Network Rail continues to evaluate whether particular functions / activities would be best undertaken by the Centre and / or the Routes, in order to optimise internal efficiency.

¹⁸² Quotes taken from Network Rail Handbook for Devolution v6, p.12

Network Rail's Devolution Handbook provides a summary illustration of the current key accountabilities of the Route and the Centre ("National function"), as shown below. As part of the illustration below, we note that one of the National functions is 'Infrastructure Projects' (IP), which is a specific division within Network Rail that is responsible for enhancements / capital projects.

Figure 9.2 - Key top level principles of accountabilities of the Routes and National functions



Source: Network Rail Devolution Handbook v6, page 7.

We discussed with a senior Network Rail staff member the balance of responsibilities between the Centre and the Routes. Their view was that prior to Devolution there was too much control held by the Centre. Now, there is a much healthier process of 'challenge' between the Centre and the Routes about how activities are undertaken, which enables both sides to test each other's views and progress towards best practice.

The following sub-sections provide further information around the key features of the current approach post-Devolution.

Organisational structure

Prior to Devolution, each Route had a Route Director who reported to Robin Gisby, who was then Director, Operations and Customer Services. He has previously described the role of the Route Director as being "in charge of day-to-day management of their routes and inspiring their teams".¹⁸³ From discussions with Network Rail, this role led each Route's operations and the customer-facing activities, e.g. discussions with TOCs.

Prior to Devolution, each Route had a Route Infrastructure Maintenance Director (RIMD) who was responsible for the engineering (maintenance) activities. The RIMD for each Route reported to the Infrastructure Maintenance Director in the Centre.

When Devolution took place, a Route Managing Director (RMD) post was created for each Route. This post combined responsibility for both the operational and engineering activities. It therefore supersedes the Route Director role. The Infrastructure Maintenance Director post at the Centre was abolished and the RIMD now reports to the RMD on their Route (rather than to the Centre).¹⁸⁴

Each RMD is accountable for "the day to day management of all activities in [their] route"¹⁸⁵ and reports to the Director of Network Operations at the Centre (Phil Hufton, who succeeded Robin Gisby in early 2015).¹⁸⁶ From reference to Network Rail's Devolution Handbook, these activities include: managing and embedding health and safety strategies at the Route level; collecting and managing asset data, developing asset management plans; carrying out inspections and maintenance; acting as the client for Route enhancements (excluding national projects) and overseeing enhancements

¹⁸³ Attributed to Robin Gisby, Director Operations and Customer Services, Network Rail, 2004. Sourced from Railway People article, 'Network Rail: Restructuring Round Up', June 2004.

<http://www.railwaypeople.com/rail-news-articles/network-rail-restructuring-round-up-15.html>

¹⁸⁴ Although the (Central) Infrastructure Maintenance Director role was abolished, there is a new post of 'Director Infrastructure Maintenance Services'.

¹⁸⁵ RailNews article, 'Network Rail infrastructure has now been devolved', November 2011

<http://www.globalrailnews.com/2011/11/15/network-rail-infrastructure-has-now-been-devolved/>

¹⁸⁶ Network Rail organogram March 2015

<http://www.networkrail.co.uk/WorkArea/DownloadAsset.aspx?id=30064794722>.

and renewals; implementing risk management, complying with legal and regulatory obligations; managing train operations (including operating the timetable); and monitoring delivery against the business plan / budget.¹⁸⁷ Some activities are still undertaken by the Centre where this is deemed most appropriate, e.g. there is a National Freight Director (at the Centre) who is responsible for relationships with FOCs, given that FOCs often run trains across multiple Routes and it would be more complicated for FOCs to coordinate if undertaken at a Route level.

Although the RMD role is similar to that of the Route Director, the RMD has new responsibilities. For example, Richard O'Brien went from being Route Director of the Wessex Route to RMD in 2011. He stated that, as a result of this change, his team now undertook budgeting for asset management expenditure, whereas previously this was done by the Centre: *"Many of the things that used to be done centrally are now being pushed out. Before, I had 1,500 staff. Now I have 3,000. The most significant change is in asset management. Before the budget was handled centrally. Now I'm doing it"*.¹⁸⁸

RMDs have more freedom and autonomy in the way that they spend their budgets and allocate resources, but are "still required to maintain central standards and use common purchasing procedures for materials such as ballast and rails".¹⁸⁹ From discussions with Network Rail, any surplus that exists after each year may be returned to the Centre, but within the year Routes can broadly reallocate savings from one area to another, subject to Network Rail's financial governance arrangements. Also, Route Managing Directors and staff are incentivised to outperform their budgets each year.

The budget responsibility is a significant change. Whereas the Centre used to 'hold' the budgets on behalf of the Routes, now the Routes 'hold' the budget. Although the Routes do not have separate financial accounts (they are not separate legal entities), Network Rail's regulatory accounts now contain detailed sections on each of the Routes, with various breakdowns of expenditure. The Routes now have a choice of how to undertake particular activities (e.g. by using Route-specific staff or through procuring from the Centre), and so now the Centre 'pitches for work' from the Routes.

Asset Management

As per the latest version of Network Rail's Devolution Handbook, the following table shows, at a high level, the division of responsibilities in relation to asset management.

¹⁸⁷ Network Rail Handbook to Devolution Phase 2, Version 6, October 2014, Annex A

¹⁸⁸ Rail Professional article: 'Wessex begins devolving', 2011

<http://www.railpro.co.uk/railpro-magazine/magazine-archives/wessex-begins-devolving>

¹⁸⁹ Article by Christian Wolmar, 'Alliances: integration or dismemberment?', 2012

<http://www.christianwolmar.co.uk/2012/03/alliances-integration-or-dismemberment/>

Table 9.1: Split of asset management accountabilities between the Centre and the Routes

Centre		Route
Safety Technical & Engineering	Digital Railway	
Strategy	Lead collection and management of asset data	Manage the quality and completeness of asset data to enable periodic monitoring.
Define systems and frameworks		
Govern some National Improvement Programmes	Govern some National Improvement Programmes	
Performance benchmarking	Manage telecoms assets	Act as the owner of Route assets; develop and deliver Route Asset Management Plans for the management and sustainability of infrastructure assets.
Develop competency frameworks		
Define national asset policies	Govern Network Rail's power distribution assets	
Lead approach to whole-life cost		

Source: Devolution Handbook v6, Annex A

Prior to Devolution, assets were managed in a relatively ‘average’ manner, with the Centre specifying standards, volumes, etc. based on national data. This meant that there wasn’t anyone looking at asset management from a top-down *Route* perspective.

Following Devolution in 2011, the first major change within asset management was that the role of ‘Director Route Asset Management’ (DRAM) was established in each Route. The DRAM oversees asset management within the Route and provides this top-down Route perspective. The DRAM position means that there is a senior employee who has a ‘bird’s eye view’ of asset management at the Route level.

The DRAM is accountable to the RMD. Given that the DRAM has a high level of autonomy from the Centre (because they report to the RMD rather than to the Centre), the changes arising from devolution have provided much greater Route ownership of their assets, and have increased discretion for the Routes in terms of asset management, e.g. Network Rail states that the DRAM can propose switches between maintenance and renewals during business planning, depending on what they consider to be the optimal solution within their Route. Changes have to be well-planned because access schedules are set 2 years in advance, but this does give the Route greater discretion. In addition, DRAMs continuously review and monitor the balance of activity to ensure asset management is being optimised.

Under this structure, the Route is now accountable for maintenance, renewals and some enhancements. In light of these new responsibilities, the Route has greater discretion in how it goes fulfilling them. For example:

- For a re-signalling project west of Salisbury, in April 2011, Richard O’Brien (then Managing Director of the Wessex Route, subsequently RMD for Wessex) stated

that following Devolution he would seek out ‘local suppliers’ and that ‘may include choosing companies not favoured by the rest of Network Rail’. O’Brien stated that *“there is both opportunity and risk in that. There is the opportunity to bring smaller suppliers into the market place, but they may have less experience”*.¹⁹⁰ As a further example, he stated that *“if the Ford Transit factory in Southampton could give me better value vans than Network Rail might buy from Vauxhall nationally, I’ll buy Transit vans”*.¹⁹¹

- The Route Plan for East Midlands (as part of Network Rail’s business plan submission for CP5) emphasised the local discretion – and expected benefits – arising from devolution: “With Network Rail having devolved responsibility to the Routes – and integrated functions within the Routes – we are able to use our local expertise to make judgements, rather than following a one-size-fits-all approach from the centre”.¹⁹²

Despite the changes, there has been some continuity under Devolution. There are ‘Professional Heads’ – technical specialists within the Centre – who continue to set asset management policies. They set the technical standards and define good practice, e.g. in relation to ergonomics and safety. From discussions with Network Rail, the change under Devolution is that the Routes are now able to challenge the Centrally-created asset management policies and guidelines. The Routes can propose changes, and the Centre considers these proposals to see if they are well-justified. Where a Route puts forward a strong rationale for a deviation, the Centre may update their policy, in which case the change would filter through to other Routes.

Maintenance, renewals and enhancements

Within maintenance, a major change as part of Devolution has been in the reporting lines for the ‘route asset managers’ (RAMs) on each Route, who are the technical engineering experts. Before Devolution, we understand from Network Rail that the RAMs reported to the Centre. However, since Devolution in 2011, the RAMs have reported to the DRAM for each Route. So for maintenance work, the DRAM is the

¹⁹⁰ Rail Professional article: ‘Wessex begins devolving’, 2011

<http://www.railpro.co.uk/railpro-magazine/magazine-archives/wessex-begins-devolving>

¹⁹¹ Rail Professional article: ‘Wessex begins devolving’, 2011

<http://www.railpro.co.uk/railpro-magazine/magazine-archives/wessex-begins-devolving>

¹⁹² Network Rail, Route Plan East Midlands CP5 SBP Submission, Summary Route Plan

<http://www.networkrail.co.uk/browse%20documents/strategicbusinessplan/cp5/supporting%20documents/our%20activity%20and%20expenditure%20plans/route%20plans/east%20midlands%20route%20plan.pdf>

sponsor (overseeing work across all assets) and the RAM is the client (overseeing specific assets).

In relation to the 'three lines of defence' for assurance and safety, RAMs (being the clients) provide the first line of assurance/safety for maintenance, whereas the Centre provides the second line. The 'three lines of defence' are discussed later in the subsection entitled 'Assurance'.

For renewals, the arrangements are similar, i.e. the RAM is the client and the DRAM is the sponsor. As a team, their responsibility is to select the optimal deliverer for the renewal, e.g. the IP division or the delivery unit within their route.

For enhancements, there is a mixed approach to enhancements post-devolution. If a proposed enhancement project is particularly large or complex, then it would still tend to be planned, procured and delivered by the Centre (IP). Network Rail staff noted that major enhancement projects are often defined by DfT or Transport Scotland, in which case their initial discussions with Network Rail are with the Centre.

However, for more minor enhancement works, the Route (i.e. the DRAM) would have autonomy to either ask IP to undertake the works or to deliver it using ('in-house') Route-based staff. In either scenario, the DRAM is the client and is accountable (in contrast to the large or complex projects).

IP must now make a request to the DRAM if it wants access to the line, and the DRAM has the power to accept or decline the request. Prior to Devolution, the Centre (IP) was supposed to make a request for access, but this was considered best practice rather than being the requirement that it is today. This represents a degree of shift in responsibilities towards the Route. From Network Rail's perspective, the benefit of this approach is that by providing greater visibility (around access requirements) to the more customer-focused Routes, TOCs/FOCs will subsequently have better visibility over when access will be available, thus improving communication/relationships between Network Rail and its external clients.

Benchmarking of performance

From discussions with Network Rail, prior to Devolution there was a comprehensive benchmarking structure, including safety, performance and unit costs, which was used to create league tables.

Currently (i.e. since Devolution), there is some performance benchmarking, and a KPI / monitoring structure exists. Every asset has a KPI and across Network Rail there is a comprehensive KPI dashboard for each Route, including KPIs related to regulatory outputs (which are provided to ORR). From discussions with Network Rail, although some benchmarking is undertaken, it is not formal and does not affect Route budgets,

e.g. Routes do not get punished financially if they fail to meet one of their KPIs. Instead, benchmarking has reputational incentives.

Cooperation and co-ordination

Although there is some benchmarking between Routes (as discussed in the previous sub-section), Devolution has provided an opportunity for Network Rail to consider how / whether Routes should coordinate with each other, and also the existing relationships between the Routes and the Centre.

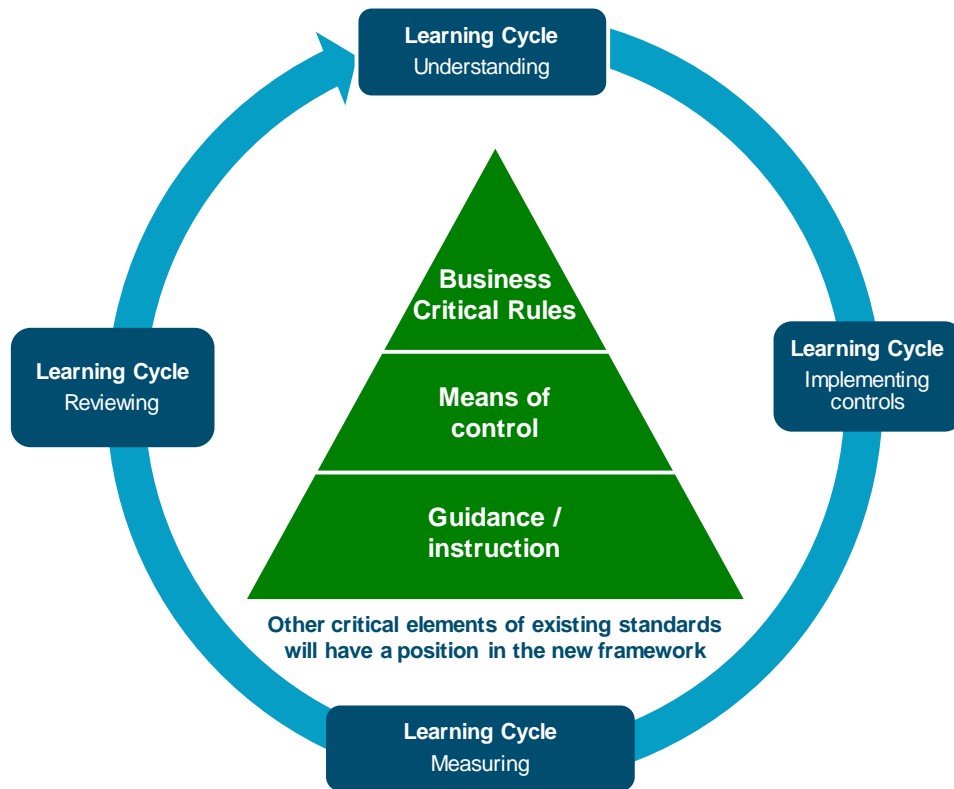
Devolution has involved the Centre in a dual role: on the one hand, setting standards and policies for the Routes to deliver (i.e. more of a 'director' role); and on the other hand, improving mechanisms for knowledge-sharing, e.g. forums, recognition to encourage sharing, ensuring that senior managers go to the relevant meetings, etc.

Safety / Standards

The Route Managing Director is responsible for health and safety for the Route. As part of Devolution, Network Rail also created a new post of Route Safety Improvement Manager (RSIM). The role of RSIM was established to lead the development and delivery of safety improvements across each Route. It was initially implemented in Phase 1 for Wessex and Scotland and was rolled out across all Routes as part of Phase 2. Each RSIM reports to their Route Managing Director.

From discussions with Network Rail, one further key change (which is ongoing) is the development of a safety control framework with three levels: (1) Business critical rules; (2) Means of control; and (3) Guidance / instruction. This is illustrated below.

Figure 9.3 – Network Rail’s Business Control Framework



Source: Network Rail, Presentation on ‘Business Critical Rules’, March 2015, slide 9.

The diagram above illustrates that Network Rail intends to define a small number of ‘business critical rules’ which are applied to areas of high risk. Although the full suite of rules is still under development, some of these rules already exist, e.g. there are 10 ‘life-saving rules’, which include “never work or drive under the influence of drugs or alcohol”.

The means of control is ‘how’ the risk is addressed, which includes ‘critical limits’, which are the points at which intervention is required, e.g. in relation to whether an asset requires maintenance or replacement. Finally there is guidance and instructions which provide greater detail around how to undertake the intervention.

Network Rail’s presentation states that this approach allows the Route to “tailor [their] inspection and maintenance regimes according to [their] local risks, environment and needs”.¹⁹³ This is driven by a desire to move away from the previous ‘compliance-driven’ organisational approach (based on Network Rail’s thousands of standards and controls), and towards a more ‘risk-based’ approach to safety. From discussion with

¹⁹³ Network Rail, Presentation on ‘Business Critical Rules’, March 2015, slide 5.

Network Rail, Routes are able to propose deviations to the guidance, which provide greater flexibility for the Routes compared to the more 'compliance-based' approach prior to Devolution. There is a prescribed process for these potential deviations to ensure that any changes are quality-assured. One example of a deviation is on Network Rail's South East Route, where changes to fault testing have increased availability of Ultrasonic Testers, thus improving efficiency.¹⁹⁴

From discussions with Network Rail, Devolution has only led to minimal changes to Network Rail's Health & Safety Management System (H&SMS) because policies and systems continue to be set by the Centre. As presented in Network Rail's latest Devolution Handbook (v6), the Centre is solely responsible for the following health and safety activities:

- Setting the overall direction and corporate strategies for safety, health & environment.
- Defining applications, systems and frameworks for management of safety, health & environment.
- Maintaining the framework and being the custodian of business critical rules.
- Setting the overall direction and governing delivery of national improvement programmes for safety, health and environment including level crossing risk reduction.
- Leading forecasting and performance benchmarking across safety, health & environment to uphold quality.
- Continuous improvement and sharing of best practice through lateral learning events.
- Providing and maintaining competency frameworks and assuring the strength of the professional workforce across safety, health & environment including key appointments in Routes.
- Acting as the primary point of contact with safety and environmental regulatory bodies.

Assurance

Network has developed an 'Assurance' approach along the same lines as its 'Safety' approach (see earlier sub-section), by trying to move away from being a 'compliance-based' organisation and become more of a 'risk-based' organisation. This seems to have

¹⁹⁴ Network Rail, Presentation on '*Business Critical Rules*', March 2015, slide 18.

been an evolving process, because Network Rail’s Devolution Handbook v1.2 (October 2011) contains a section on assurance entitled “Compliance”, whereas in the most recent Handbook (v6, October 2014) the comparative section is entitled “Monitoring”. In reality there is likely to be considerable continuity in terms of the actual assurance activities that are undertaken as a result of these changes, but it suggests that Network Rail is (at the very least) aiming to change the emphasis of its assurance activities.

The most recent Devolution Handbook sets out an assurance framework based on ‘three lines of defence’, as illustrated below.

Figure 9.4 – Network Rail’s ‘three lines of defence’ assurance process



Source: Network Rail Devolution Handbook v6, Appendix C

The Route is given much of the responsibility for the first line of assurance. The Centre continues to provide a significant role in the second and third lines of defence.

Interestingly, both the Route and the Centre are able to propose changes to the assurance framework:

*“Where a Route/National function identifies a key risk/control/mitigation that they consider requires additional monitoring in addition to the central compliance/monitoring framework, the Route/National function shall instigate further monitoring to provide them with assurance the controls/mitigation measures are operating effectively to mitigate the risks to an acceptable level”.*¹⁹⁵

¹⁹⁵ Source: Network Rail Devolution Handbook v6, Appendix C

Regulation

Prior to Devolution, for the 2008 Periodic Review, Network Rail split its delivery plan into 26 different 'routes'.¹⁹⁶ However, the business plan was not split into the routes: Efficient expenditure was simply split between (1) England and Wales and (2) Scotland.¹⁹⁷

For the most recent Periodic Review in 2013 (i.e. post Devolution), Network Rail's business plan for England and Wales was based on bottom-up expenditure estimates for each of the nine Routes, which were then summed together.¹⁹⁸ As such, Network Rail's CP5 business plans submitted to ORR in 2013/14 were the first to specifically set out expenditure levels by Route.

From discussions with Network Rail, the requirement for Routes to develop their own business plans has generated a greater sense of ownership, increased the Routes' confidence in identifying their future expenditure requirements, and improved business planning. However, our understanding is that the development of Route-level business plans was a difficult process, with initial Route plans requiring subsequent efficiency overlays by the Centre.

Network Rail remains a single legal entity, although expenditure is now split between the different Routes. For the 2013 periodic review (PR13), Network Rail submitted a single business plan, albeit it built up from "*submissions from each Route*".¹⁹⁹ Whilst ORR regulates Network Rail as a single entity overall, for PR13 it carried out much of its analysis at the route-level and published route-level expenditure assumptions in its determination. However, from discussions with ORR, Network Rail is currently able to internally reallocate funding between Routes, i.e. at a Route level, Network Rail's funding allocation does not have to follow ORR's revenue determination. In terms of efficiency targets, each Route's targets in their respective delivery plan contain built-in efficiencies, so each Route's performance in meeting these targets/efficiencies is assessed by the Routes themselves and the Centre.

As identified by the McNulty review, one of the benefits of devolution for ORR is that it will have greater scope for carrying out comparative regulation as it can now benchmark the Routes and compare their performance and the different approaches that they use. Whilst the extent to which ORR could do this in PR13 was limited (as devolution was relatively new), the potential for future periodic reviews to be informed by such analysis

¹⁹⁶ Network Rail, Control Period 4 Delivery Plan 2009: <http://www.networkrail.co.uk/asp/5500.aspx>

¹⁹⁷ ORR, Periodic review 2008, Determination of Network Rail's outputs and funding for 2009-14: http://orr.gov.uk/_data/assets/pdf_file/0011/2180/383.pdf (Section 12)

¹⁹⁸ Network Rail, Strategic Business Plan for England & Wales, January 2013, p.60

¹⁹⁹ Network Rail, Strategic Business Plan for England & Wales, January 2013, p.60

means that ORR will be able to use a regulatory approach that other utility regulators have been using since the early 1990s.

Implementation

Overall, Devolution has occurred for all Routes, and so to that extent, the plan has been realised. However, there were some variations between the original plan and the level of devolution that occurred within each Route. For example, from discussions with First ScotRail, Scotland was the first region where devolution was discussed and there was an initial understanding that devolution would go even further in Scotland than in other regions. However, in practice only certain areas were devolved. Control was kept at the centre in areas which were important to the TOC such as planning and infrastructure project management.

A further related point is that, whilst devolution was 'implemented' in 2011, the Routes and Centre are still in a 'fine-tuning' stage, so in one sense devolution continues to evolve in small ways. From discussions with Network Rail, the Routes and the Centre are continuing to work together to identify the optimal working processes for their specific region, e.g. identifying the optimal allocation of services between the Centre and the Route. In particular, where an alliance arrangement is in place between the TOC and Network Rail, the interface between the Centre and the Route is slightly different, to reflect the TOC's greater involvement.

9.2.4. Outcomes

In terms of assessing the outcomes/impacts of Devolution, most of the most relevant available information is from Network Rail's 12-month Post Implementation Review (PIR) of Devolution. As such, it only measures the impacts based on the first 12 months after Devolution 'went live', so is unlikely to take account of the full impacts of the reorganisation. Network Rail and ORR have both noted that it is important to view the outcomes over a longer term perspective. Therefore, any subsequent PIR undertaken (e.g. a 5 year PIR) would be likely to provide some relevant insights into the impact of Devolution, especially given that it has evolved since the PIR.

However, we also have some more recent stakeholder views from the 2014 Route Reports (see below), which provide some insights which are more up-to-date.

Project costs and timings (timetable / deadlines, upfront and ongoing costs)

Devolution was delivered to the timetable set out by Network Rail. We have not been able to obtain information on the actual upfront costs of devolution or the specific ongoing costs of maintaining it (compared to the status quo). Trying to identify whether

Devolution has affected Network Rail's efficiency would be very difficult, given other factors.

Quality and safety outcomes (disruptions, punctuality, health & safety, Incidents, customer service)

Stakeholder surveys produced by GfK on behalf of Network Rail provide information on stakeholders' views on both individual Routes and Network Rail overall (set out in individual Route Reports). The surveys involve interviewing senior staff from passenger and freight train operators.

The 2014 Route Reports provide mixed evidence around the current levels of safety. For example, some positive comments are as follows:²⁰⁰

"It is very visible that Network Rail make safety their top priority; their new campaigns and the Life Saving Rules are very clear evidence." (c2c Rail Ltd)

"The rail industry as a whole, including Network Rail, has safety as their principal focus. This is one area where it is impossible to criticise Network Rail." (London Overground)

However, the same stakeholders also identified some shortcomings / areas for improvement in relation to safety:²⁰¹

"It has come to light recently that various structures have not been properly surveyed, this includes footbridges that hundreds, sometimes thousands of people use on a daily basis. I see this as a failure to protect the public." (c2c Rail Ltd)

"Network Rail's Strategy in using competent contractors with little or no Network Rail supervision onsite for station works, often allows contractors to cut corners on safety." (London Overground)

In relation to train performance, there were also positive and negative comments from stakeholders. Examples of positive comments are as follows:²⁰²

"Post-incident investigations are transparent with a willingness to identify lessons learnt and instigate actions." (Merseyrail Electrics 2002)

"Train service delivery is generally excellent and the management of infrastructure on the routes over which we operate is to a consistently high standard." (Chiltern Railways)

²⁰⁰ 2014 Anglia Route Report

²⁰¹ Ibid.

²⁰² 2014 London North West (LNW) Route Report

Examples of shortcomings, as provided by the same stakeholders, are as follows:²⁰³

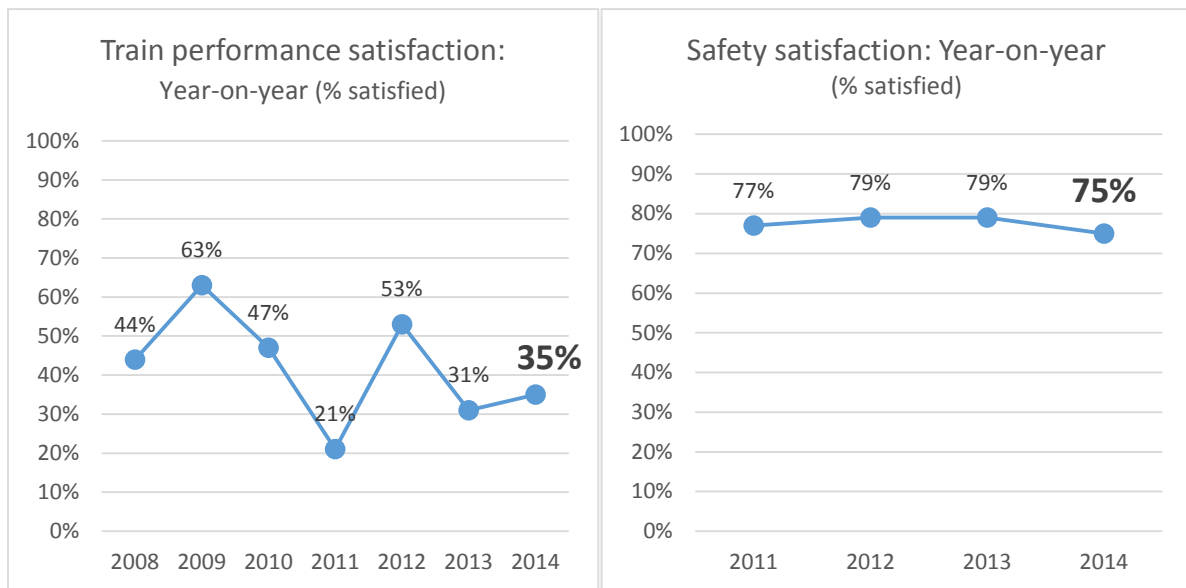
“Does this organisation learn from past mistakes? No.” (Merseyrail Electrics 2002)

“Capacity Planning need to take more of a performance driven approach to timetable changes.” (Chiltern Railways)

In terms of metrics showing customer satisfaction in the areas of train performance and safety, the 2014 Route Reports show how customer satisfaction has changed over time:

- **Train performance:** Immediately post-devolution, there was a significant increase in the proportion of Network Rail’s customers who were satisfied with train performance. The proportion of ‘satisfied’ customers rose from 21% (pre-devolution) to 53% (post devolution). This has since fallen, but in recent years appears more stable at 30-35%. This is shown in the left-hand chart below.
- **Safety:** Satisfaction has remained consistently high over the last four years, in the range 75-80%. This is shown in the right-hand chart below.

Figure 9.5 – Customer satisfaction with Network Rail’s train performance and safety



Source: Network Rail 2014 Customer Survey Reports (January 2015)

In terms of other recent stakeholder views, DB Schenker (freight operating company) noted that, currently, freight performance metrics are good. The Freight performance measure, which measures the percentage of freight operator trains that arrive ‘on time’ at their destination, was 74.8% in 2014, which is just 0.1% below the 2014 target of

²⁰³ Ibid.

74.9%. However, DB Schenker does not see any particularly strong evidence that links high performance to devolution.

Organisational impacts (quality of decision-making, risk allocation, incentives, relationships and coordination, Impact on other stakeholders)

Network Rail's views and analysis

Network Rail notes that upward feedback continues to be provided from the Routes to the Centre, which is helping the Centre to provide the services which are of most benefit to the customer.

Unions

In 2011 (i.e. after Phase 1 of Devolution, but before Phase 2), one of the major transport unions stated that Devolution had generated positive impacts in terms of greater transparency of information:

*“The company (Network Rail) have become increasingly confident in sharing information with us at an early stage, breaking from the traditions of withholding relevant information, dodging questions and refusing to engage in any way that could be considered meaningful”.*²⁰⁴

We note that this is a general statement around information availability, and does not provide any further specific details about the type of information provided.

ORR

Although ORR did not specifically provide its view on Devolution, it noted that the route element of Network Rail's business planning process had worked better in 2015 than it had in previous years (though the overall process took longer than it perhaps should have done). Compared to previous years and the PR13 Strategic Business Plan (SBP), the Routes more clearly 'owned' their parts of the process and the Centre paid more attention to the Routes' plans, with more of an iterative process following from challenge from the Centre. However, ORR also noted that there were still cases where a lack of clarity in accountabilities within Network Rail had led to missed opportunities – for example, between the Routes, the Centre and IP, indicating that there was further work to do to stop this from happening in future. Similarly, sharing of information across the different parts of the organisation did not yet seem to be fully effective.

²⁰⁴ TSSA website article, 'Devolution Phase 2 update', July 2011:
<http://tssa.org.uk/en/Your-union/Your-company/company-pages/network-rail/index.cfm/devolution-phase-2-update>

Views from other stakeholders

We have undertaken recent interviews with a number of stakeholders to seek their current views on the impact of Devolution from 2011 to the present day. The key themes coming out of these interviews were that:

- Devolution was perhaps rolled out too quickly, with a lack of clarity in accountabilities and responsibilities. There remained scope for improvement here and one TOC specifically suggested more devolution to the Routes (though no particular areas were highlighted).
- Relationships with the Routes were mostly seen as positive, though some issues with high turnover of key personnel were noted as making things more difficult.
- There was a consensus that the relationship between the Routes and IP was not currently fully effective. It was also felt that RMDs do not always know what is happening in relation to delivery of enhancements or seem to be in control. Delays to schemes and disruption from project overruns had caused some frustration.
- Route-level objectives may be too focused on PPM/reducing delay minutes, leading to operational decisions that were not in the interests of passengers.

9.2.5. Quantitative analysis

Introduction

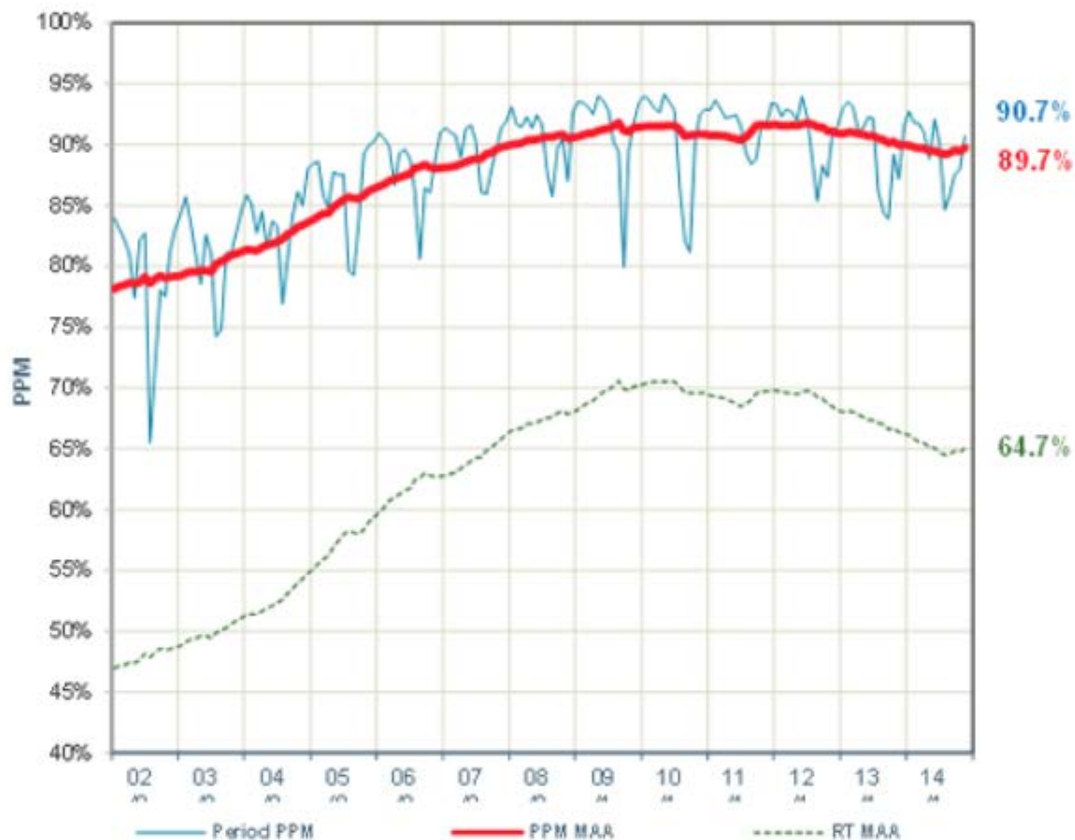
As with any quantitative analysis there is the issue of multiple causes. As a hypothetical example, if costs changed in a particular way after Devolution, that may have been as a result of Devolution, but equally it may have been as a result of other factors, e.g. the CP4 regulatory settlement required Network Rail to become more efficient and any reduction in cost may have been a reflection of Network Rail responding to this challenge.

Performance metrics

The chart below shows the national average PPM over time, indicating the percentage of trains which arrive at their terminating station 'on time'. As shown in the red line in the chart, the PPM moving annual average (MAA) jumped up during 2011, but the chart shows that this was primarily due to the 2010 performance low point falling out of the MAA.

Furthermore, PPM levels have fallen slightly since 2011/12. As shown by the chart below, the PPM MAA has gradually fallen over time, and is now at 89.7%.

Figure 9.6 – National Public Performance Measure (PPM), 2002 – 2014



Source: Network Rail website²⁰⁵

Surveys with Network Rail’s customers

2014 survey

In a recent survey (September–November 2014), senior-level individuals at some of Network Rail’s customers – TOCs and FOCs – were interviewed by GfK to ascertain their level of satisfaction with Network Rail’s services. This was done across all ten of Network Rail’s routes, via a mixture of telephone and online interviews. Interviewees were asked to state their level of satisfaction across a number of Network Rail’s activities. They could choose from ‘Very satisfied; Fairly satisfied; Neither; Fairly dissatisfied; or Very dissatisfied’.

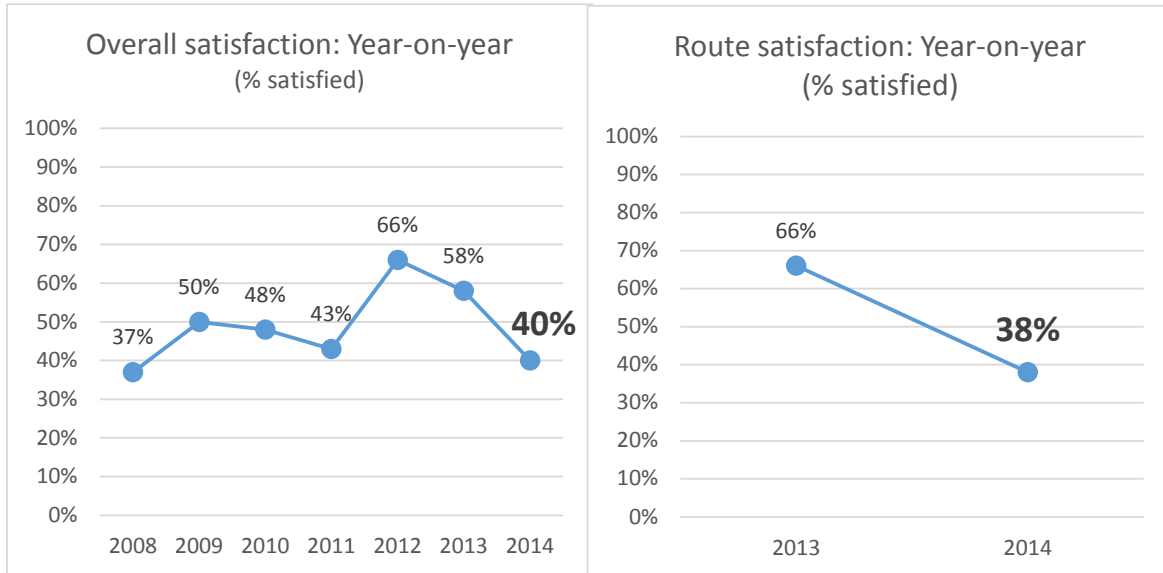
Interviewees were also asked to state their satisfaction:

- in overall terms, i.e. satisfaction with Network Rail as a whole; and
- at a Route level, i.e. satisfaction with each specific Route.

²⁰⁵ Network Rail website: <http://www.networkrail.co.uk/about/performance/>

The charts below show the trend in customer satisfaction for Network Rail over time, both 'Overall' (left-hand panel) and 'at Route level' (right-hand panel). These charts show the percentage of customers who are 'satisfied', which includes *Very satisfied* and *Fairly satisfied*. The remainder are not necessarily dissatisfied because, as the choices above indicate, the respondent had the choice of stating '*Neither*'. Therefore, the number which is below 50% does not necessarily mean that dissatisfaction is above 50%.

Figure 9.7 - Customer satisfaction with Network Rail's performance (Overall and for Routes)



Source: Network Rail 2014 Customer Survey Reports (January 2015)

An interesting observation from the left-hand chart (above) is that overall customer satisfaction rose significantly in 2012 – immediately post-devolution – but by 2014 has fallen back to its 2011 level. One possible (albeit speculative) explanation is that the implementation of devolution was beneficial in getting Network Rail and the TOCs to engage in constructive dialogue, but as operations have returned to 'business as usual' this level of satisfaction has worn off.

In terms of specific questions within this survey, the table below shows the percentages of interviewees who were 'satisfied' with Network Rail in particular areas, i.e. including 'very satisfied' and 'fairly satisfied'.

Table 9.2: Customer satisfaction with Network Rail's performance in specific areas

Overall % satisfied			
Customer service attributes		Activities	
Works collaboratively	56%	Route operations	40%
Prepared to challenge	53%	Strategic Route planning	32%
Openness and engagement	50%	Managed stations	29%
Effective communication	46%	Franchised stations and depots	28%
Focus on long term strategic needs	46%	Delivery of enhancements projects	28%
Takes ownership	42%	Timetable planning	26%
Learns and applies lessons learnt	26%	Infrastructure maintenance and renewals	25%
Customer driven	23%	Access planning	18%
Delivers what it says	22%		

Source: Network Rail 2014 Customer Survey Reports (January 2015)

In the table above, it is interesting to note that the customer service attributes that score most highly tend to be in the 'soft skill' areas, such as 'working collaboratively' (56% satisfaction), 'prepared to challenge' (53%), and 'openness and engagement' (50%). However, arguably these are more *intermediate* objectives compared to some of the lower scoring categories such as 'customer driven' (23%), and 'delivers what it says' (22%).

Summary of quantitative analysis

In summary, the quantitative analysis suggests:

- PPM has fallen slightly since 2011/12 and is now at 89.7%.
- From surveys of Network Rail's customers, there seem to be relatively mixed messages on the impact of devolution, with some positive feedback, but also areas where improvement is needed. The Route Reports (January 2015) show that satisfaction levels are currently similar to the levels they were at before Devolution.

9.2.6. Conclusions

Network Rail's Route Devolution in 2011 comes in the context of historical variations in the extent of centralisation / de-centralisation, and it is important to recognise that it is neither straightforward to understand what the correct balance is, or achieve it. Nonetheless the McNulty Report (2011) was of the view that Network Rail's structure and operational approach prior to that point in time was overly centralised.

At a high level, the result of Devolution is that the Routes have greater discretion and autonomy, but must continue to operate within the overall framework set by the Centre, e.g. around safety rules. However, the Centre requests input / feedback from the Routes when undertaking its roles, so the Routes involvement has increased even in areas where the Centre continues to have primary responsibility.

In terms of specific examples, the main changes as a result of devolution are the introduction of the RMD (which replaces the previous Route Director role), giving greater responsibilities to the RMD in terms of spending the Route's budget, the introduction of the Director Route Asset Management so that asset managers are more accountable to the Route, and giving Routes the responsibility to develop their own business plans.

Routes are now able to have a closer relationship with train operator customers, which of itself should lead to a more responsive approach to customer needs. However, the effectiveness of this will depend on the extent to which Routes have clear ownership and control of key decisions.

The impacts of devolution are difficult to measure, given the other factors that could affect Network Rail's performance and the challenge of isolating the causal effect of Devolution on performance metrics. Nonetheless, our research and stakeholder discussions have provided some evidence. Overall, the impacts so far appear to be fairly neutral, although with some variation.

In terms of customer satisfaction (e.g. train operators), this rose sharply immediately following devolution (i.e. in 2012), but fell subsequently and in 2014 was back close to its pre-devolution level.

The interviews we carried out with external stakeholders suggested that Devolution may have been implemented too quickly, and that accountabilities and responsibilities were still not clear. There was a consensus that the relationship between the Routes and IP was not always effective. Also, some stakeholders stated that Route level objectives were too focused on PPM/Schedule 8.

In terms of quantitative measures, operational performance measures initially improved, although PPM in particular fell subsequently.

In conclusion, whilst consistent quantitative benefits from Devolution have yet to materialise, there is evidence that Devolution was introduced rapidly, so that in some cases the changes to reporting and accountability were not clearly defined. Changes to improve these shortcomings have been made since but this work is still ongoing.

It may be that the apparent remaining lack of clarity in some areas around responsibilities and accountabilities reflects the challenge of trying to embed significant changes consistently across a large organisation. For example, ORR noted that the business planning process in 2015 was the first time that the Routes seemed to clearly 'own' their part of the process (which provided for a better process compared to recent years). So, more time may be needed for the arrangements to fully embed. There are also indications that further refinements may be necessary – for example, in respect of the relationship between Routes and IP – before Devolution is fully effective.

In terms of Network Rail's own objectives for Devolution, there is evidence that the Devolution process (including subsequent initiatives such as Project Apple) has helped Network Rail to re-evaluate which activities are undertaken at the Route level versus at the Centre, with the 'matrix organisation' being an output from the process. However, stakeholder discussions suggest that the evidence is more mixed around the impact of Devolution on Network Rail's alignment and relationships with its customers, at least to date. The McNulty report also highlighted that devolution would enable inter-route comparisons by ORR and therefore supports more effective regulation of Network Rail. The timing of the regulatory cycle is such that these potential benefits will take longer to realise.

10. LONDON UNDERGROUND: ORGANISATIONAL ARRANGEMENTS AND DEVOLUTION

10.1. Summary

Over the last 15-20 years the organisational structure within London Underground (LU) has changed considerably. These changes were driven by external impacts, e.g. government policy, in particular the creation of PPPs to maintain, renew and enhance the Underground Infrastructure and internal drives for efficiency. The creation of TfL, which replaced London Regional Transport, led to the centralisation of common services such as HR, legal etc., which had previously been replicated in LRT businesses, e.g. London Underground and London Buses. This case study provides a high level overview of the changes as a comparison to devolution within Network Rail.

Prior to the PPP arrangements being developed, LU was operated as a single business under the direction of London Regional Transport which also had responsibility for other operating subsidiaries such as London Buses. Most departments, development (renewals / enhancements), engineering and safety, were centrally managed but the passenger services directorate was split into a series of line business units headed by a line general managers with some degree of autonomy, although operating within wider company policy, corporate standards, etc.

Line business units were responsible for day to day operation of the line including management and recruitment of staff, the line control centre and the operation of stations and train services generally. They also had a significant role in the development of the line; i.e. in the programme of capital investment that would apply within an overall allocation of funds set centrally.

This part-centralised / part-devolved structure was changed significantly with the advent of the PPP programme. The London Underground Limited (LUL) PPPs were developed in response to a political position that was averse to further privatisation of national assets, but which recognised the need to bring private sector funding and investment to those assets. By the late 1990s, the Underground system had a multi-billion pound backlog of underinvestment and growing demand. Government decided to address this via a PPP programme. The three PPP transactions were the UK's largest and required the development of complex legal and contractual arrangements under which London Underground Limited (LUL) entered into three separate Public Private Partnership (PPP) Agreements, with Tube Lines (TLL) in December 2002 and with Metronet (two separate agreements) in April 2003. Under these Agreements, three separate companies ('Infracos') were created and then 'concessed' under 30-year PPP contracts. The Infracos were responsible for the maintenance, renewal and

upgrading of specific parts of LUL's infrastructure. LUL retained responsibility for operations.

In 2007 the Metronet companies entered administration and LUL took back control of the assets via the special PPP administration regime. In 2010 TfL took the decision to bring Tube Lines back in-house and bought back shares in the company to achieve this. This brought the PPP period to a close. Subsequently, and alongside efficiency work led by TfL, the company has become more centralised (perhaps more so than was the case pre PPP). Infraco Line groupings are maintained under a Director of Operations responsible for both day to day operation and maintenance. Sitting alongside this directorate is Major projects directorate responsible for delivery of large projects, e.g. the line upgrade programme, wider engineering issues, e.g. standards and overall asset management. The table below summarises the organisation changes with LUL / TfL:

Table 10.1 - Summary timeline of organisational change in London Underground

Date	Organisational structure	Date	Procurement stage
Pre 1998	Generally centralised. Passenger Services Directorate devolved (to some degree) to line-based units led by Line General Manager		
December 1998	Three unincorporated Infracos established as division of LUL	July 1998	Prior Information Notice announcing PPP followed by Market Sounding
		March 1999	Announcement of call for competition
		June 1999	OJEU notice placed
		October 1999	Prequalification evaluation complete and ITT issued
February 2000	Infracos incorporated as wholly owned subsidiaries of LUL	July 2000	Shortlisted bidders announced
April 2000	Asset transfer scheme and Infracos begin operation under PPP contracts – Shadow Running.		
		October 2000	Best And Final Offer (BAFO) instruction issued
		Late 2000 / early 2001	Revised BAFO run for affordability reasons and revised responses adjusted for affordability
		April 2001	Preferred bidders announced
		Spring/Summer 2001	Bob Kiley joins LUL and seeks to renegotiate terms. Discussions break down and the first Judicial Review is launched
		December 2001	Bids refreshed and Committed Finance Offers

Date	Organisational structure	Date	Procurement stage
			submitted
		February 2002	LUL announces intention to proceed. TfL launch second Judicial Review and representation made to EU authorities about scale of change in the procurement process
		December 2002	Financial close: Tube Lines (JNP)
		April 2003	Financial Close: Metronet (BCV and SSL)
2007	PPP Infraco structure retained to facilitate comparisons	July 2007	Metronet enters administration
		2010	Prior to completion of Periodic Review TfL buys back shares in TLL
2013	New LUL structure – see Annex G: TLL remains a separate entity under the control of the LUL COO		

10.2. Detailed discussion

This case study considers the arrangements put in place for the PPP (effectively full devolution) and the current situation, which is more centralised but also somewhat similar to the devolution project within Network Rail.

10.2.1. Objectives of project

The objectives of the PPPs were to:

- Safeguard and improve services to passenger with guaranteed safety standards;
- Reduce and eliminate the Underground’s investment backlog;
- Deliver risk transfer to the private sector;
- Provide VFM to the taxpayer through improved efficiency and management; and
- Contribute to integrated transport policy for London.

The PPP delivered complete devolution, within a complex contractual and regulatory framework more akin to the arrangements in UK water and energy, than the devolution project currently underway in Network Rail. Infracos had considerable autonomy, with a framework of standards (that they could change) and contracts. They were also incentivised to deliver improved performance via a regime that allowed them to increase profits, as they met the requirements of the regime. The regulatory framework

created wider incentives to perform – as in the case in heavy rail and other sectors, only efficient costs would be used in setting future prices.

10.2.2. Key features of project (including differences to status quo)

The PPPs had several interesting features that are relevant to Network Rail devolution

Incorporation

For the purposes of the PPP, London Underground created three fully functioning companies - Infraco BCV (Bakerloo, Central and Victoria), Infraco JNP (Jubilee Northern and Piccadilly) and Infraco SSL (Sub-surface Lines District, Circle, Hammersmith and City) - which took control of the assets and liabilities of the Lines they were responsible for. As the PPP was developed, the companies operated under the draft contract and created the performance history that was an important part of the PPP transaction. Approximately five thousand staff were formally transferred under TUPE arrangements into these new companies and unusually Government gave guarantees to these staff that covered pension rights. At financial close these companies were transferred to the ownership and direction of Tube Lines and Metronet.

Asset Management

Making choices about the balance between maintenance, renewal and upgrade was at the heart of the Infraco's business: in part this was the external skill that LU was buying via the PPP. The view at the time was that making Infracos responsible for maintenance, renewal and enhancement would lead to better choices e.g. considering the whole life of the asset. The PPP performance regime was generally established in output terms and Infracos were given freedom to elect how to deliver this output. For instance, Line Upgrades were contracted as increases in capability (capacity of the system) with a target set by reference to improvement in journey times.

Given the risks of this approach, LU required assurance about the integrity of each Infraco's approach and the reasonableness of its conclusions. An asset management regime was developed. Infracos had to document their asset management strategy in which they were to:

- demonstrate a whole life approach;
- show how asset health benchmarks would be met; and
- demonstrate how their asset knowledge would improve over time.

The Strategy had to be approved by LUL, which could withhold approval if it believed, acting reasonably, the Infraco would not meet its obligations. Initial asset management

strategies were developed for approval before the transactions closed. Approval was granted with a list of issues to resolve and on the agreement of transitional activities that would occur after close. The Infracos were also required to submit an annual Asset Management Plan covering each year in a 9 year period (i.e. a period extending beyond a review). Plans were based on the bids but were submitted only after close once each Infraco had had sufficient time to update for transitional information and to combine its plan with that of the Shadow Infraco.

The asset management process also required Infracos to improve asset knowledge and to establish in detail, the condition of all of the Underground assets prior to the first periodic review.

Cooperation and co-ordination

London Underground and the Infracos were required by the Service Contract to cooperate and act in good faith. They also agreed a partnership charter which governed their behaviour towards each other.

Safety/Standards

Safety

LU retained the right to instruct Infracos or step in where it considered such action was necessary for health safety or security reasons. Step-in was regarded as a very significant sanction, expected to be used only in extreme circumstances and considered to be one of a range of factors that would incentivise an Infraco to perform. Step-in could occur even where there was no breach of Infraco obligations, but where LUL considered that an Infraco was unwilling or unable to take timely and necessary steps to rectify a health safety or security issue.

Standards

The standards regime and asset management regime were closely linked; both of which constrained Infraco's freedom of action and as such were designed to provide assurance to LUL that Infracos would carry out their activities effectively and appropriately. The standards regime was designed to deliver consistency at the interfaces between Infracos, which was considered important in terms of performance and safety.

All parties were subject to a standards code which governed the way in which standards were set and changed. Codes were enforceable between Infracos, not just between LUL and an Infraco. The development of standards within London Underground is discussed in further detail in Annex G.

Under the code, all parties had to comply with category 1 standards, set by London Underground initially and changeable only by following a procedure set down in the code. The Code required that objective criteria be used to assess any request for change, to avoid LUL being in a position to simply turn an Infraco down. A simple example of a category 1 standard would be a requirement to maintain a group of assets in safe condition along with metrics for condition measurement. Category 2 standards were also mandatory, but could be changed independently by an Infraco as long as it followed the procedure set out in the code. An example of a category 2 standard might include the maintenance regime and maintenance frequencies for a group of assets. These could be amended independently providing that the category 1 standard to maintain safe condition was satisfied.

Giving Infracos the right to change standards was an important feature of the PPPs. Although the transactions were largely output specified the number and range of LUL's standards acted as a significant constraint on delivery. Infracos required freedom to apply more modern working methods and bring innovation to maintenance, renewal and enhancements. Processes whereby standards could be changed independently, but in a controlled way, were an important part of delivering efficiency.

Codes were enforceable between Infracos, not just between LUL and an Infraco. The development of standards within London Underground is discussed in further detail in Annex G.

Access regime

With obligations to deliver improvements, came the issue of access to the railway to implement projects and the need to balance time for work with operation of the railway. Infracos had an automatic right to the railway in engineering hours although this had to be shared with London Underground's broader group of PFI contractors²⁰⁶ who had pre-established rights to access the assets involved in their PFI contracts. LU had the right to object.

In addition, and because engineering hours access was insufficient, they were allocated a right to minor closures of their network. This was specified as an amount of disruption, consistent with the availability metric discussed below, and they could decide how to allocate this (busier areas of the network accounted for a greater degree of disruption) subject to rules about the overall amount of disruption at any point in

²⁰⁶ London Underground had pre-existing PFI contracts with Prestige (auto ticketing), Power (operation and maintenance of the power system) and Connect (radio). A fourth for provision of Northern Lines Trains was novated into the JNP PPP Contract.

time across the whole LU Network. Where LU failed to grant minor closures, compensation was payable to the impacted Infraco.

Performance regime

Under the contracts between LUL and each of the Infracos, the Infracos were paid a 4-weekly Infrastructure Service Charge (ISC). The charge, which was initially set as part of the procurement process, was fixed (and broadly flat) for a period of 7.5 years. Adjustments were anticipated for the annual change in RPIX and for performance above or below benchmark. The Infracos did not take revenue risk; payments to them were backed by a government guarantee. London Underground revenues broadly covered its operating costs, but not all of its enhancement expenditure and it therefore received a subsidy from Government.

Adjustment for inflation: Within the original contracts, the Infracos agreed ISC included a component for forecast differential inflation over the first 7.5 year contract period. This element of cost was not transparent to LUL, rather it was rolled into overall operating and capital costs. The contract then allowed for annual indexation based on RPIX. At Periodic Review, the Arbiter had to forecast both RPIX and Differential Inflation, building the latter into his estimate of economic and efficient costs for the next contract period.

The approach taken by the Arbiter was based on the following formula:

Real trend in unit rates = 1) Input price inflation - 2) efficiency improvements – 3) forecast RPIX

These three elements were calculated accordingly:

Input price inflation

- Identify the main inputs used in each of the business areas (labour, materials, equipment, rents and rates, other).
- Use the input price inflation estimates based on a combination of third party forecasts; analysis of historical trends; and estimates based on market commentary or Network Rail data.
- Given the input price inflation estimate for each of the main inputs, attach a weight according to the relative importance for the three main business areas (opex, capex, Central costs).

Efficiency improvements

- Use the EU KLEMS database to identify a frontier shift benchmark.

- Identify Total Factor Productivity (TFP) growth in the chosen comparator group to estimate the scope for frontier shift in the future over the years 1990 - 2004.
- Make an adjustment to TFP growth based on regulators' view of the ability of regulated company to achieve comparable productivity growth and / or view of the extent to which previous TFP growth includes catch up productivity growth.

RPIX

- HM Treasury forecasts for the period 2010 – 2017 (using actual RPIX for 2008 and 2009).
- The three components were brought together to give the estimate for the real trend in unit costs for the Notional Infraco. The Arbiter's method of estimating the allowances using differential inflation was to apply the differential inflation estimate across all elements of cost, but recognising that some of the costs may fall within contracts for which bespoke inflationary adjustments had already been agreed (potentially leading to some double counting of differential inflation allowances).

The table below compares the outturn differential inflation amounts proposed in the LU and TLL submissions to the Arbiter's determination of the allowance.

Table 10.2: Comparison of proposed differential inflation allowances (£m February 2007 real terms)

	LUL	TLL	Notional Infraco		
			Low	High	Range
Total	~350	1,209	534	583	49

Source: The PPP Arbiter

Adjustment for performance:

The PPP contract allowed for the Infracos to receive **performance bonuses** (or abatements). The main measures of performance were:

- **Capability:** measured through outcomes such as reduced journey times as a result of major line or signalling upgrades.
- **Availability:** which measured the 'in service' performance of the infrastructure through the reduction of delays.
- **Ambience:** which reflected the condition and cleanliness of the system and was determined through mystery shopper surveys.

- **Service points:** which provided a measure of the number of breakdown in assets such as lighting and cameras at stations that might affect customers (but which would not result in delays).

With the exception of capability, where hard targets were set, benchmarks were set for each of the measures. The Infracos received bonuses for outperforming the 'benchmark, but had their ISC abated (reduced) for underperforming compared to benchmark. Within a period, performance was entirely incentive driven; the Arbiter had no specific powers to monitor / intervene on the quality of performance during the review period unless requested to provide guidance.

The key measure of day to day performance was availability (the reduction of passenger affecting delay). Further details are provided below.

Measurement of Availability

The Infracos were theoretically exposed to an unlimited liability for poor performance based on the availability measure. Though it should also be considered that the Infracos had scope to receive significant bonuses for outperforming the benchmarks.

ISC for availability

The Notional Infraco's performance in terms of the lost customer hours resulting from 'Availability' was based on the Disruption Availability Score and the Speed Restrictions Availability score, calculated for each of the Underground lines on which it provided services. The lost customer hours resulting from the Infraco's 'Availability' performance was equal to the sum of these two scores.

The Disruption Availability Score measured the lost customer hours resulting from the level of disruption occurring for each four-week payment period, that resulted from the service provided by each Infraco; every delay of two minutes or above was recorded and attributed to an Infraco or LU. The score was calculated for each Underground line as the sum of the train service availability, the station service availability, the platform service availability, and the lift/escalator service availability.

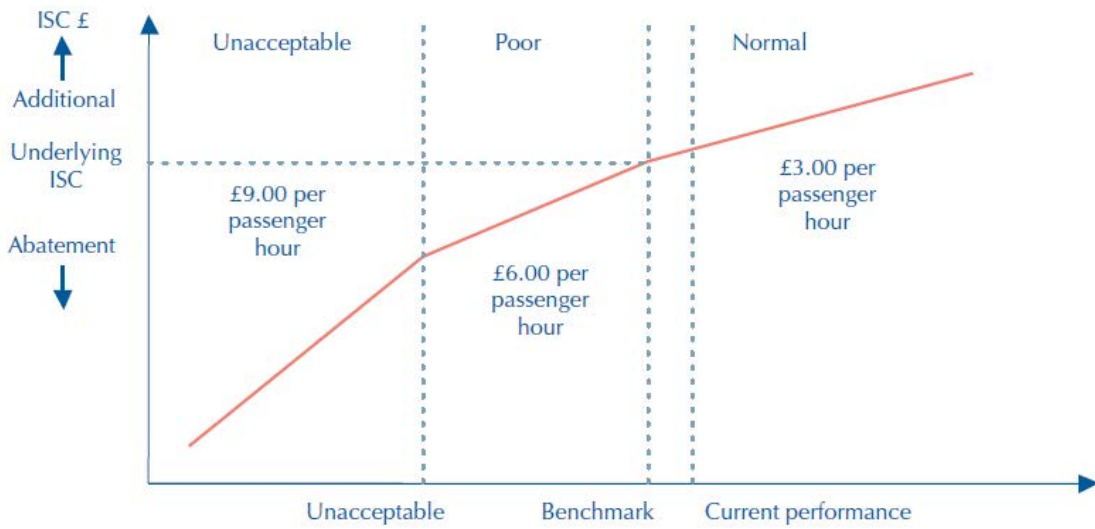
The Speed Restrictions Availability score measured the number of lost customer hours resulting from speed restrictions made necessary by the performance of the Infraco. This was measured using a complex formula that takes account of the divergence between the expected run time of the trains through the tunnel and the actual run time.

Calculation of the availability adjustment

The PPP contracts contained agreed benchmarks against which Infraco performance was monitored and payment made.

Figure 10.1: The Underground PPP availability regime

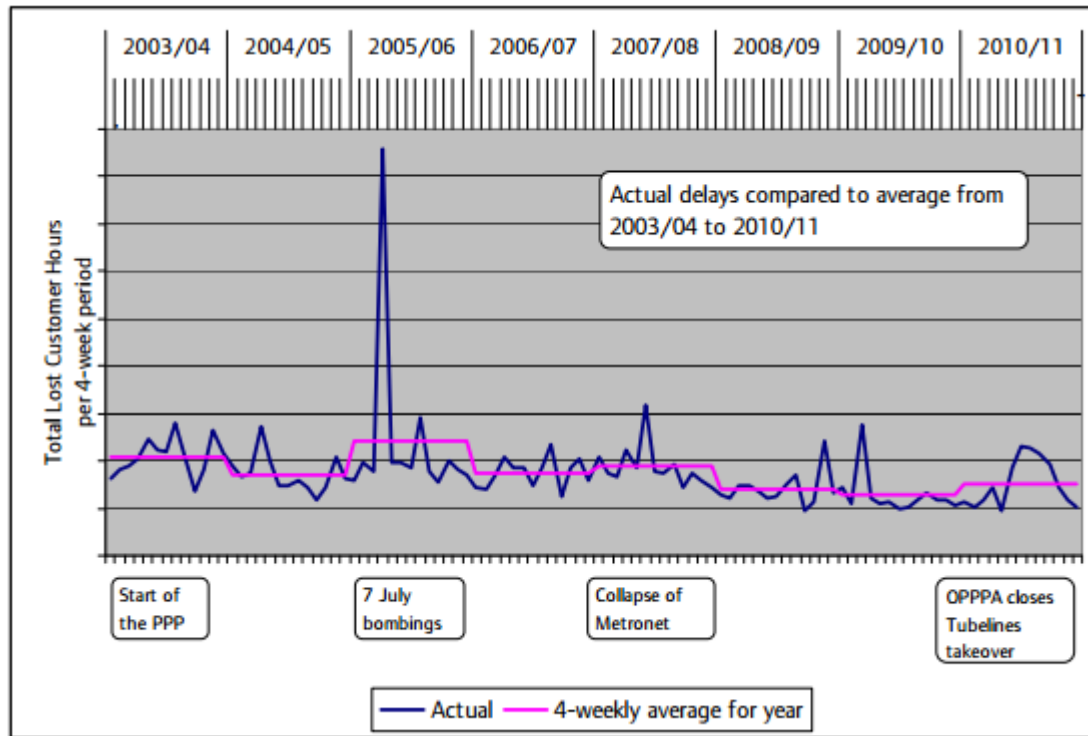
The abatement increases with worsening performance.



The performance regime took 3 years to develop; it required a detailed understanding of travel patterns, analysis of the value of time and the creation of significant data history and shadow running. By the time of the first TLL periodic review, delays on its lines had fall by more than 50%.

The performance regime was a key success of the PPP:

Figure 10.2: Combined Lost customer hours 2003/4 to 2010/11



Delays on the Underground fell steadily under the PPP arrangements, overall by 30%, but for some line by more than 45%²⁰⁷

In addition to the performance regime, the PPP contracts contained provisions to incentivise good asset stewardship. Asset condition benchmarks were set for achievement by the end of each contract period and a withholding of the ISC could be made in the event that these were not achieved

At periodic review, the ISC would be reset based on the parties' agreement or direction of the Arbiter. Within this, the 'fixed amounts' required to cover debt service etc. were passed through without adjustment.

Monitoring and Audit

The PPP gave LU audit rights over the Infracos and the contract required an open book approach to sharing information between the parties.

²⁰⁷ GLA Website, Annex to the State of the Underground report, September 2011 and available at: http://www.london.gov.uk/sites/default/files/technical%20annex%20final%20version_1.pdf

Regulation

At the outset, the PPP contracts were expected to run for a period of 30 years with reviews at 7.5 yearly intervals. The review process sought to balance the difficulty of specifying requirements for a growing network over 30 years and the need to give certainty for as long as possible.

The role of the PPP Arbiter was established by the Greater London Authority (GLA) 1999 Act to ensure that any differences between the PPP Parties about the ISC to be paid to an Infraco, or about economy and efficiency could be resolved independently, swiftly and with certainty. The Arbiter was made independent of both government and the PPP parties and received support in carrying out these functions from the Office of the PPP Arbiter (OPPPA).

In order to ensure that the transactions were financeable with some regulatory risk, the Arbiter's powers were limited to providing direction or guidance only when a matter was referred to him by one of the PPP parties. The Arbiter therefore had no power to intervene unilaterally in the implementation of the PPP contracts, although it was always anticipated that the Arbiter would oversee the progress of each Periodic Review, providing directions on some or all of the matters that could be referred to him, given that it was extremely unlikely that the Parties would reach commercial agreement without outside assistance.

The Metronet companies entered administration before a Periodic Review occurred. A Review was however carried out for TLL in 2009/10 but not fully completed, as TfL bought the company back between draft and final directions. Within the review, the Arbiter considered the contractual changes proposed by LUL and the costs proposed by TLL.

Although the role, powers and functions of the Arbiter differed from those of a traditional regulator, the Periodic Review was in effect a form of price control, given the implicit expectation that the Arbiter would determine the ISC (being the amount required by an Infraco to recover opex, capex and financing costs and a profit element for the next contract period).

Once asked to participate in the process, the Arbiter had powers to review the entirety of the cost base, estimate the potential for efficiency and opine on financing costs as part of directing the ISC to be paid in the next contract period.

For the TLL Periodic Review, the Arbiter:

- established an independent view of the cost of delivering the output specification as provided by LUL, including the commissioning of independent technical advice and external benchmarking of costs;

- set explicit reductions within the ISC to require both catch up and frontier shift efficiency;
- explored likely financing costs; and
- commissioned work to revisit the indexation methodology about which all parties had reservations.

In the Review, the Arbiter did not revisit the performance mechanism as LUL left the contract largely unchanged in relation to key day to day quality measures.

An important aspect of the work undertaken by the Arbiter was to establish and embed benchmarking; a key driver of the PPP was having multiple Infracos to facilitate comparisons. LU and the Infracos established an internal benchmarking programme which compared each Infraco at line level to its peers on issues such as cost of track maintenance and renewal, signal maintenance costs, etc. To this, the Arbiter added international benchmarking that set the Infracos in context of a wider range of peer Metros, OPPPA's view being that good practice required the Infracos to look externally as well as internally in order to demonstrate that they were delivering efficiently and economically. Once all Infracos had been reacquired, this benchmarking work was passed to IIPAG²⁰⁸.

10.2.3. Outcomes

Metronet entered administration in July 2007 following a period in which it had failed to deliver on many of its obligations, particularly in relation to stations upgrades. Issues included the poor governance – the Metronet Board having little autonomy from the holdings board which comprised shareholders whose companies had a significant interest in the works required by the PPPs, and the overall concept of a tied supply chain²⁰⁹. Metronet's insolvency was reported as follows:

Metronet said its two Public Private Partnership contracts to renovate and maintain the capital's tube system were unsustainable. Its Metronet BCV programme, for the Bakerloo, Central and Victoria lines, had an unpluggable funding gap of just under £1bn. Metronet's creditors and shareholders – Balfour Beatty, WS Atkins, Bombardier, EdF and Thames Water – had refused to provide more funding. "Metronet Rail BCV requires additional funding to enable it to carry out its contractual obligations during the period of the Extraordinary

²⁰⁸ An internal body established by TfL as part of the agreement with DfT to bring Tube Lines back in house. The body has a remit to scrutinise projects and maintain benchmarking. See

<http://www.tfl.gov.uk/corporate/about-tfl/how-we-work/corporate-governance/iipag>

²⁰⁹ The failure of Metronet, National Audit Office, June March 2009" available at <http://www.nao.org.uk/wp-content/uploads/2009/06/0809512.pdf>.)

Review," said the company.

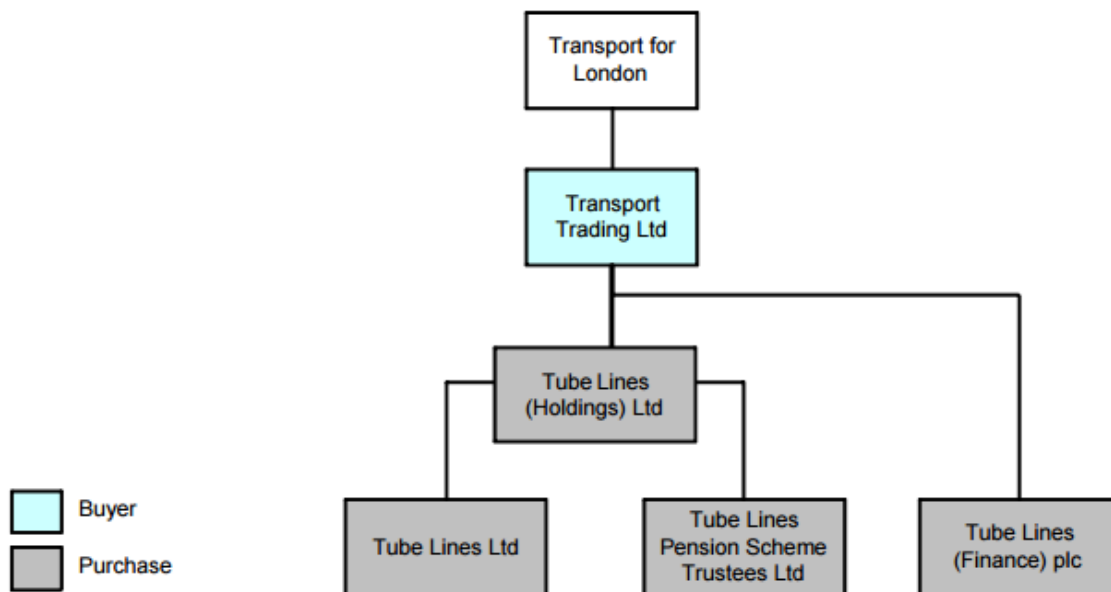
Its second contract, Metronet SSL, for London's sub-surface tube lines, had built up an overspend of £1bn. Metronet said Monday's negative ruling by the PPP regulator on a request for emergency funds for Metronet BCV had effectively doomed the other contract as well.

Source: The Guardian²¹⁰

TfL wanted the companies to exit administration as rapidly as possible so the staff and the assets of the two Metronet companies, BCV and SSL, were transferred into two Transport for London nominee companies, managed on a standalone basis whilst the long-term structure was agreed with the Mayor and Government. A key element of the transfer back to LUL was that the companies remained separate, to facilitate on-going comparisons with Tube Lines.

However in June 2010, as the first periodic review of the Tube Lines PPP neared completion, TfL elected to buy back the shares of Tube Lines and create an internal JNP division structured as follows:

Figure 10.3: Structure of Tube Lines companies when returned to LUL²¹¹



Although the initial organisational arrangements for both Metronet companies and Tube Lines anticipated standalone businesses, they have over time been rationalised

²¹⁰ <http://www.theguardian.com/business/2007/jul/18/transportintheuk.money>

²¹¹ Transport for London Board paper, Tube Lines post acquisition governance, dated June 2010 and available at: <https://www.tfl.gov.uk/cdn/static/cms/documents/Item08-Tube-Lines-Post-Acquisition-Governance-Board-23-June-2010.pdf>

into the current structure employed within London Underground. This is less apparent for Tube Lines which still has its own corporate website but which we now understand falls under the remit of the LU Chief operating officer – see Annex G. TLL describes itself as *‘a wholly-owned subsidiary of Transport for London responsible for delivering the engineering and modernisation programme on our lines. We work in partnership with London Underground, which is responsible for the overall strategy and management of the Tube network including the operation of train services, ticketing, fares and Travelcards, timetables and the closure of lines and stations.’*²¹²

The units under the LUL COO are responsible for both operations and maintenance but not capital projects which, as for Network Rail, are now managed in the capital programmes directorate which also has responsibility for overall asset management, i.e. maintaining the link between maintenance and capital projects and ensuring that plans are made on a whole life basis. Each of the original PPP line groupings is headed by an operations director reporting to the COO but as indicated above only Tube Lines maintains any separate corporate personality. The COO also has a head of asset management within his team. We assume this post holder makes the link between maintenance and renewals/enhancements which sit with the director of capital programmes.

Performance metrics which focus on services levels (e.g. percentage of schedule operated) and disruption (lost customer hours) are monitored for each of the lines. They are reported internally and published on the TfL website²¹³. They are also of interest to scrutiny bodies internally such as IIPAG and externally, e.g. the Greater London Authority’s Transport Committee which regularly considers issues facing the Tube. London Underground has no ORR equivalent but DfT takes a role in setting performance targets. Staff remuneration includes an element of performance pay that is related to business performance²¹⁴.

We understand that LUL is continuing the project to rationalise standards but further details on progress and current objectives are not available in the public domain.

Quantitative analysis

It is difficult to identify LU data in a consistent form, it is often the case that information relating to LU is reported as part of a wider TfL figure. It is not possible to identify

²¹² <http://www.tubelines.com/about-us>

²¹³ <http://data.london.gov.uk/dataset/london-underground-performance-reports>

²¹⁴ Remuneration Committee 27 March 2014 Performance awards. See: <https://tfl.gov.uk/cdn/static/cms/documents/remcom-20140327-part-1-item06-tfl-performance-awards.pdf>

figures on a comparable basis to those presented in the devolution case for Network Rail. This section therefore considers the high level costs and benefits of the organisation changes discussed above.

The move from a largely centralised business to the PPP structure involved a large and complex transformation programme, in which four completely new companies were created and in which interfaces were managed through contract.

The costs to reorganise Underground and establish the PPPs were large. The NAO states that Price Waterhouse produced a report in October 1997²¹⁵ about possible PPP business structures. Price Waterhouse (now PWC) estimated that the cost of reorganising London Underground and procuring the PPP would be about £110 million. This figure was estimated from the known costs expended in privatising British Rail. The LU board initially budgeted £150m.

However, in total the transaction costs from the early preparations by London Underground through to closing all three PPP deals reached £455 million, including restructuring costs, internal costs, external costs and bidders' costs - but excluding spending incurred by Transport for London. The figure rose in part as a result of delays caused by interventions from TfL, which extended the programme, and from support for bidders costs (which were large) considered necessary in order to bring the transactions to a close. These costs can be set in context of the £2bn of savings that the deals were forecast to deliver in the first 15 years of operation.

In reviewing the PPP shortly after close, the NAO concluded that there was limited assurance that the price of the three Tube PPPs was reasonable, and some uncertainty about the eventual price, although any price revisions have to meet tests of economy and efficiency. The complexity of the PPPs resulted from the scale of the deals, innovative output specifications and a limited knowledge of the condition of some assets. The resulting deals offer the prospect, but not the certainty, that improvements will be delivered.

Sir John Bourne the Auditor and Comptroller of the NAO said at the time *“these are complicated deals, worth a great amount of money and spanning a long period into the future. I welcome the fact that there are prospects for improvement to the Tube. But in the face of the inevitable uncertainty about what the next 30 years will bring,*

²¹⁵ PwC; Delivering the PPP Promise: a review of issues and activity, dated October 1997 and available at: <http://www.pwc.com/gx/en/government-infrastructure/pdf/promisereport.pdf>

only time will tell whether these prospects are fully realised and, therefore, whether the eventual price that the taxpayer pays is worth it²¹⁶

In the period of operation, costs did fall and performance improved, most notably in Tube Lines. Benchmarking undertaken by the PPP Arbiter demonstrated that significant reductions in key costs categories were delivered by Tube Lines, less so by Metronet²¹⁷. In addition, the PPP performance regime proved successful with a c.30% improvement overall in availability (rising to over 40% on Tube Lines)²¹⁸.

Since the demise of the PPP, TfL, in line other public sector bodies, has been challenged to cut costs and deliver efficiency savings. Board papers from October 2014 indicate the scale: *'TfL is committed to saving £16bn of efficiencies up to 2020/21; £12bn has already been secured with a further £4bn still to be secured in the next seven years. The £16bn savings programme reduces TfL's total annual expenditure of £10bn – £11bn a year by an average of 14 per cent to allow TfL to further invest in infrastructure improvements while holding down fares and managing with lower levels of government funding.'*²¹⁹ We note that LU's contribution to this is significant although not separately identified.

It is not clear how the post PPP reorganisation within LU has contributed to cost savings but the board paper referenced above indicates that significant efficiencies arise from *'on-going savings in Rail and Underground from reorganisations and staff reductions in previous years, including the integration of Metronet, reductions in operational and back office staff'*.

Within LU, an independent advisory body (the Independent Investment Programme Advisory Group - IIPAG) provides independent assurance and expert advice to the Mayor of London concerning the TfL investment programme. It takes part in project reviews as projects develop, provides input to LU on asset management and oversees internal and international benchmarking of performance²²⁰. Routine benchmarking takes place at line level but LU also undertakes a range of asset level benchmarking, e.g. of escalators and rolling stock where it has identified a particular issue of activity that it

²¹⁶ NAO Report, London Underground PPP's: Were they good deals, dated 17 June 2004 and available at: <http://www.nao.org.uk/wp-content/uploads/2004/06/0304645.pdf>

²¹⁷ PPP Arbiter, International benchmarking of the costs and performance of maintaining and renewing Metro systems (anonymised benchmarking); dated October 2010 and available at: <http://webarchive.nationalarchives.gov.uk/20110218141057/http://ppparbiter.org.uk/output/page22.asp?DocTypeID=7>

²¹⁸ See footnote 181

²¹⁹ TfL Audit and Assurance Committee; Savings and efficiencies update dated October 2014. Available at: <http://www.tfl.gov.uk/cdn/static/cms/documents/aac-20141008-part-1-item17-savings-and-efficiencies-update.pdf>

²²⁰ IIPAG Annual Report 2013-14, dated April 2014 and available at: <https://www.tfl.gov.uk/cdn/static/cms/documents/iipag-annual-report-2013-14.pdf>

wishes to review in greater detail. IIPAG's report for 2013 discussed the benchmarking programme and concluded that:

- staff and passenger safety on the Tube remains good;
- the reliability of the Tube continues to improve and overall, it compares well with most European and North American metros²²¹;
- the proportion of trains delayed by staff on the Tube is greater than anywhere else;
- the cost of maintaining the Tube is reducing, but is still 28% higher than average;
- the cost of operating the Tube has improved and is now less than average; and
- the cost of delivering infrastructure projects on the Tube is reducing, in some cases significantly, but track renewal costs remain high.

It indicates that despite efficiency savings being made, there remains scope by reference to external benchmarking, to reduce costs for key activities such as track maintenance. International comparisons for 2014 are not yet in the public domain but summary papers prepared by TfL²²² suggest continuing improvement.

10.2.4. Conclusions

The scale of the reorganisation within London Underground for the PPP's dwarfs devolution in Network Rail, but was clearly undertaken for different reasons which required complete legal separation of the entities and reliance on a contractual structure which had to work from day one. LU could not rely on evolution over time. Notwithstanding this, the PPP did address many of the same issues that face Network Rail. At the heart of this was the level of oversight retained by the centre and how far responsibility was devolved into the Infracos. Given the purpose of LU devolution, significantly more responsibility was devolved, arguably creating greater scope for innovation and efficiency.

However, only one of the three Infracos delivered improvement on any scale. Tube Lines both improved performance and reduced cost, but even its progress was not without significant difficulty, e.g. in respect of the upgrade of the Jubilee Line, which

²²¹ LUL is a member of the large metro international benchmarking group CoMet which is managed by Imperial College London. London Underground routinely compares its performance to that of this group.

²²² TfL Finance and Policy Committee paper, Benchmarks and Financial Planning at TfL, dated October 2014 and available at:

<http://www.tfl.gov.uk/cdn/static/cms/documents/fpc-20141014-part-1-item-09-benchmarking-financial-plan.pdf>

proved more costly and complex than was originally anticipated. The project was far more complex than Tube Lines' PPP bid contemplated and as a result time to deliver extended, causing widespread disruption on the line, and costs escalated.

Having brought the Infracos back in-house, the LUL structure has again evolved partly driven by public sector spending cuts and the need for efficiency with TfL, which has seen all centralised functions brought under the control of the TfL Centre. The current LU structure is centralised in the main, perhaps more so than pre PPP. However a common factor between the current Network Rail and LU organisations is that operations and maintenance are now managed together, with Infrastructure projects managed outside of these units. The function of asset management is to ensure that work programmes from both parts of the organisation deliver whole life asset management. It is also the case that both organisations continue to work on the rationalisation of standards, moving towards risk or reliability centred approach to work.

11. CONCLUDING REMARKS

In considering conclusions it is important to note that the cases that we have considered are disparate having different drivers and objectives. We therefore consider the pros and cons of each as well as the themes that emerge from across this wide ranging group of projects/initiatives. In drawing conclusions it is also important to bear in mind that:

- The GB rail network is complex, and a number of related factors that determine the success of an investment project or operational approach. Therefore, a lesson learnt from one project may not necessarily be directly applicable in an alternative instance, e.g. in relation to a different area of the network, or a different TOC, or a different type of investment project.
- In some case studies the change in infrastructure management has occurred relatively recently, and it may be too early to understand the full impacts.
- For most case studies, it is difficult to generate a proper counterfactual scenario, i.e. the level of performance in the absence of the initiative.

Nonetheless, the case studies that we have assessed provide useful insights, and it is reasonable to consider whether it is possible to apply these insights more widely. Our view is that the case studies do generate lessons learned, and we draw out some of these further below. However, it is important to note that the success of each specific operational approach or investment project depends on a number of interrelated factors, not all of which will apply generally. Every initiative / project has its own characteristics, and therefore should be given individual consideration.

For example, the relative success of the Paisley Canal Electrification depended in part on the seemingly unrelated availability of excess rolling stock from the Glasgow Airport procurement exercise. As a further example, the issues facing Chiltern's Evergreen 3 project were numerous, including Chiltern taking more risk and running into planning delays, but also external factors such as the sale of Laing Rail to Deutsche Bahn, such that Chiltern lost John Laing's managerial and technical expertise and separately a key sub-contractor going into administration.

Summary of detailed case studies

The table below provides a very high level summary of the impacts identified from each of the detailed case studies. Further explanation is provided within in the 'conclusion' section of each case study chapter.

Table 11.1: Summary of detailed case studies

Case study	Summary comments
Wessex Alliance	<p>The Alliance management team in particular, and also other stakeholders, are positive about the impact of the Alliance in terms of working relationships. However, current railway industry metrics do not provide evidence that the Alliance has met its objectives i.e. reduced costs / improved performance. More time may be required to assess the full impacts of the approach and it seems likely that it would be possible to create a set of performance metrics which capture other aspects of the Alliance perhaps related to work volumes delivered, productivity improvements and funds saved on a project and reallocated to other projects.</p>
Paisley Canal Electrification	<p>Analysis and stakeholder discussions indicate this was a successful project in terms of cost and delivery timeframe and in improving ways of working. The Alliance approach appears to have contributed to the project's success. However it is hard to clearly identify the extent of the benefits arising from these arrangements and the adopted solution may not be capable of transfer to other locations given that the solution limits use of the railway by freight traffic.</p>
Borders Railway	<p>Transport Scotland's proposal to tender the project to the private sector was not achieved as bidders pulled out during the procurement process. Scottish authorities invested political capital in the project, despite a fairly fragile business case, and returns were capped by the proposed Non-Profit Distributing model which might have reduced the attractiveness of the project to private investors. It also appears that uncertainties e.g. related to asset condition and planning permissions made bidders wary of their risks and therefore less likely to participate.</p>
Evergreen 2 & 3	<p>Chiltern's franchise agreement was effective in encouraging private investment, partly due to the Chiltern line having expansion opportunities. Evergreen 2 was successful in terms of costs, timings, clarifying allocation of risk, and the impact on performance. Evergreen 3 incurred problems/delays – arising for a number of reasons e.g. loss of John Laing's technical expertise and increase in project size – and Chiltern required support/intervention from Network Rail. This project highlights Network Rail's ability to manage risk more effectively, than a single project entity, given the large portfolio of projects that it manages.</p>
Greater Anglia	<p>The transfer of station stewardship responsibilities to Greater Anglia has removed some uncertainties (around minor maintenance) but has created others (around definition of stations assets). Station condition is currently on-target, but there is some evidence that the condition of Network Rail's other stations is improving by more. However, it may be too early to draw firm conclusions. It is also the case that the transfer may create a trade-off: The TOC has greater commercial incentives so may be able to deliver cost efficiencies, but this raises the risk that it may take a more short-term approach to asset management and suggests the performance monitoring will be important as this approach develops and extends.</p>

Case study	Summary comments
Network Rail route devolution	The Routes have greater discretion and autonomy under Devolution but must continue to operate within an overall policy framework set by the Centre. There is little evidence yet that Devolution has generated significant benefits, as both performance measures and customer satisfaction indicators are currently at similar levels to those observed pre-devolution (although there was a short-term improvement immediately post-implementation in 2012).
London underground devolution	London Underground moved from a largely centralised structure with limited autonomy in operations to a fully devolved structure as part of its PPP arrangements. The current structure has evolved from these arrangements in an environment where there has been significant pressure to deliver efficiencies. Although the organisation is now centralised the current arrangements have some similarities to Network Rail in that operations and maintenance are managed together with infrastructure projects. In both organisations Asset Management teams are responsible for maintaining a focus on whole life issues.

Impacts

The table below provides an overview of the main impacts observed for each case study in terms of project costs and timings, quality/safety outcomes and organisational impacts relative to the status quo and/or the stated objectives of the project. We have provided our overall high-level judgments on the success of the arrangements, both on a standalone basis and relative to the likely counterfactual scenario in each (although noting that there is a degree of uncertainty around the latter). We have used a simple 'RAG' rating (i.e. red, amber or green) for each aspect, where red (R) is poor and green (G) is good.

We have not provided an impact analysis for London Underground arrangements / devolution because we have considered the evolution over time (rather than the impact at a point in time), and as such the purpose of this case study is as a comparator for the Network Rail Devolution case study.

Table 11.2: RAG rating of the main aspects of the projects' impacts

Project	Project costs and timings		Quality / safety outcomes		Organisational impacts	
	Rating (RAG)	Summary	Rating (RAG)	Summary	Rating (RAG)	Summary
Wessex 'Deep Alliance'	A	Costs have increased slightly – but the extra costs might be investment in alliance that enables later cost savings or cost savings allocated to other projects.	A	SSWT performance has deteriorated on several key indicators, but one argument is that the counterfactual would have been even worse.	G	The joint management team is one of the main benefits of the alliance, i.e. agreeing improved access for possessions, coordinating to find solutions.
ScotRail Paisley Canal Electrification	G	The project was delivered below budget with ScotRail waiving its right to disruption payments from Network Rail and the cooperation of the TOC in finding solutions for the project. Cooperation also enabled more track access for the engineers, therefore the project finished early.	G	Disruption was minimised by making train tickets acceptable on regular bus services. There is some concern about infrastructure not meeting standards but the approach is probably justified from an economic perspective.	G	Very good cooperation between all parties involved and a good start for the alliance agreement.
Evergreen 2 (E2)	G	E2 was completed on time, with no evidence of large cost overruns.	G	E2 was successful (see PPM metrics) and lessons were learned from E1.	G	E2 was successful overall. It helped to clarify and allocate projects risks.
Evergreen 3 (E3)	R	E3 Phase 1 was delivered late, partly due to the absence of expert technicians / engineers / managers from E1 and E2. Was eventually delivered with Network Rail's project management support.	n/a	E3 Phase 2 has not yet been completed.	R	The designs by Chiltern for E3 were of worse quality, with suggestions that E3 was too large for a company of Chiltern's size / organisational capabilities.

Project	Project costs and timings		Quality / safety outcomes		Organisational impacts	
	Rating (RAG)	Summary	Rating (RAG)	Summary	Rating (RAG)	Summary
Borders Railway	A	Timeline slipped due to the unsuccessful competitive procurement process, which also had financial costs. The protracted project preparation did not allow early (and cheaper) land acquisitions for the project.	n/a	The project ended up being delivered under status quo arrangements.	n/a	The project ended up being delivered under status quo arrangements.
Greater Anglia Station Transfer	n/a	No strong evidence as the franchise is relatively new and cost data is not yet available.	A	The transfer of responsibility caused some initial issues i.e. reduced customer service. This was due to lack of clarity in defining responsibilities. The TOC should be more customer focused so may have greater incentives to improve the quality of customer-facing assets.	A	Clearer definition of responsibilities expected to improve decision-making in long term, but new grey areas around asset responsibility.
Network Rail route devolution	A	Data for the first year following devolution indicated that Network Rail's ongoing costs remained at broadly the same level.	A	Performance metrics (e.g. PPM & customer views on performance) improved immediately post-devolution (i.e. in 2012), but have since returned close to pre-devolution levels.	A	Stakeholder views were mostly neutral/mixed. But there were some positive views, e.g. a senior-level Network Rail staff survey in late 2012 indicated that devolution had improved customer service and was helping the industry to work together more effectively.

Potential implications for ORR

This final sub-section presents some potential implications / lessons learned for ORR, based on considering all the case studies together. These implications are not intended to be exhaustive, but rather aim to highlight the main themes that have emerged from the case studies.

Empirically, the benefits of some initiatives are not apparent

In a number of the case studies which we have looked at, it is not always clear that benefits have been delivered.

- The **Wessex Alliance** does not seem to have generated significant benefits in terms of the empirical evidence. For example, most of the operational performance metrics have declined. Therefore, it is difficult to make a strong case for the effectiveness of alliancing, at least to date. This is despite Network Rail and the Alliance management being of the opinion that there have been benefits in terms of the working relationship, with freight operators also being relatively positive about the Alliance.
- For **Network Rail devolution**, the empirical evidence is fairly neutral at this stage. Performance measures and customer satisfaction indicators both improved immediately post-devolution (i.e. in 2012), but have subsequently fallen to close to their pre-devolution levels. Costs have fallen slightly, although this may have been offset by the costs of implementing the devolution process.

Organisational capabilities need to be sufficient in relation to project size

Arrangements that seek to transfer responsibility from Network Rail to a third party should take into account the third party's capabilities in relation to the magnitude of the project/operations.

- For the **Evergreen projects**, although Chiltern successfully delivered Evergreen 2, it was unable to deliver Evergreen 3 without Network Rail support. It seems that Chiltern were lacking technical and managerial expertise at that point in time, and the large size of the project exposed this. Network Rail has the scale to manage this. An SPV established for a particular project is unlikely ever to be in a similar position
- Similarly, in relation to the failed attempts at **Merseytravel devolution** (see Annex D), Network Rail noted that a key factor was that the costs/risks of taking over responsibility for infrastructure would have been very high in relation to Merseytravel's size.

Geographical factors can be important

In a number of studies it seems that the geographical features of the network have played a role in determining the level of success.

- The **Paisley Canal Electrification project** related to an isolated section of rail network used only by First ScotRail, with no current freight usage. In these circumstances, First ScotRail and Network Rail made a number of cost compromises and developed a relatively bespoke design which enabled significant cost savings to be made compared to electrification that could accommodate larger trains and frequent freight usage.
- In relation to the **Evergreen projects**, discussions with Chiltern and DfT noted that the London-Birmingham route was previously relatively underdeveloped in relation to its potential capacity (i.e. high bridges, track beds were already in place, etc.). This presented relatively ready-made opportunities for profitable expansion/growth, and so provided incentives for private sector investment.

Alternative arrangements tend to generate pros and cons

For most of the case studies, it is not as simple as to say that the initiatives have been successful or unsuccessful. Rather, there tend to be pros and cons. A good example of this is the **Greater Anglia station transfer**. This arrangement seems to have removed some uncertainties around whether the TOC or Network Rail is responsible for certain maintenance activities, but has exposed ambiguities around the definition of station assets. If these definitions can be clarified over time then there should be net benefits, but in the meantime downsides are still present. A further trade-off occurs because Abellio (the franchisee) has a greater commercial incentive and may be able to meet the station condition targets at a lower cost than Network Rail, but may adopt a more short-term approach to asset management given franchise length.

Politics can influence the success of an initiative

In at least two studies, political factors seem to have contributed towards the failure of a proposed initiative. The **Borders Railway project** was politically a fairly high profile project, which may have increased pressure on the bidders and increased the perceived reputational risk. During the attempt at **Merseytravel devolution** in 2010/11, public sources suggest that Merseytravel was under political pressure, including from the unions, who did not want greater private sector involvement in network operations.

Lessons for regulation

Many of these projects have some regulatory involvement, but few (if any) have been initiated by the regulator. The lessons discussed above focus on the projects/initiatives rather than any role that ORR might play. From the perspective of economic regulation we consider that there are some noteworthy issues:

- Although participants are strongly supportive of closer collaboration between Network Rail and the TOCs, these approaches are not yet clearly showing quantifiable benefit. Any incentives to encourage ongoing collaborations are likely to need to be targeted. In this context we note the absence of quantified measures

in the KPI suite that are able to capture the benefits that alliance participants mention.

- Flexibility around the possession and performance regimes (e.g. the ability to waive, dis-apply, or share compensation/bonus payments, etc.) has been an important factor in delivering projects and encouraging collaboration, i.e. in the case of Paisley Canal, Evergreen and the Wessex Alliance. Therefore, it is helpful to allow sufficient flexibility within these regimes in such a way as to align incentives and encourage collaboration as much as possible.
- It seems that procuring authorities e.g. DfT and Transport Scotland propose alternative approaches because of concern about high cost estimates from Network Rail and or for reason of creating benchmarks. This places some emphasis on Network Rail being able to demonstrate that its costs are reasonable; benchmarking at route level might be a way into understanding the scope for cost reduction.
- That devolution has yet to show significant quantifiable benefits and there is some evidence to suggest that it has not had as much effect on 'business as usual' that was originally anticipated. Network Rail already recognises that the balance between autonomy for the routes and control from the centre is difficult and not yet right. If the purpose is to deliver efficiency from this process then ORR may need to think about how it can become involved in encouraging Network Rail to continue to focus on this balance.

ANNEX A – TABLE OF STAKEHOLDER DISCUSSIONS

The table below provides a list of our stakeholder discussions for each case study. The different studies are shown under the categories: (1) alliance arrangements; and (2) transfers of responsibility. Within each category, the projects shown in bold are those which we have assessed as **detailed studies**.

Table A.1: Stakeholder discussions

Project	Stakeholder discussions to date
Alliance arrangement	
Wessex Alliance	Alliance SSWT/Network Rail (Samantha McCarthy) Network Rail (Peter Swattridge, Simon Fullard) ORR (Chris Collett) Department for Transport (David Allsop) DB Schenker Rail (Nigel Jones)
Paisley Canal Electrification	ORR (Alan Price, Paul Hooper) Network Rail (Nigel Wunsch, Peter Swattridge, Simon Fullard) DB Schenker Rail (Nigel Jones) First ScotRail (Steve Montgomery)
ScotRail deep alliance	Network Rail (Nigel Wunsch)
Transfer of responsibility	
Borders Railway	Network Rail (Nigel Wunsch, Kiernan Doherty, Peter Swattridge, Simon Fullard) ORR (Joe Quill, Carl Hetherington, Les Waters, Peter Doran) Transport Scotland (Damian Briody)
Evergreen 2 and 3	Chiltern Railways (Graham Cross) Department for Transport, Rail Executive (Stuart White) Network Rail (Kiernan Doherty, Simon Fullard, Peter Swattridge, David Thomas, Ben Worley) ORR (Peter Doran) Previously ORR (Jon Clyne)
Greater Anglia	Abellio Greater Anglia (Ian Davison) Network Rail (Anthony Dewar, Rubina Greenwood, Peter Swattridge, Simon Fullard, Charlotte Brigden) ORR (Mervyn Carter)
London Underground route devolution	IIPAG (Mike Woods) Major Projects (Lorraine Humphrey)
Network Rail route devolution	Abellio Greater Anglia (Peter Lensink) CrossCountry (Andy Cooper) DB Schenker Rail (Nigel Jones) First Group (Steve Montgomery)

Project	Stakeholder discussions to date
	ORR (Deren Olgun) Network Rail (Eliane Algaard, Mark Inwood, Charlotte Brigden) Passenger Focus (Mike Hewitson) Southern (David Scorey)
Essex Thameside	Network Rail (Peter Swatridge, Simon Fullard) ORR (Mervyn Carter)
Merseytravel	Network Rail (Peter Swatridge, Simon Fullard) ORR (Les Waters)
Project DIME	Network Rail (Peter Swatridge, Simon Fullard) ORR (Les Waters)

In addition to discussions with the organisations/people in the table above, we met with ORR staff (Emily Bulman and Richard Gusanie) on a regular basis during the project. These discussions were used both for project planning and for refining the case studies.

ANNEX B – SCOTRAIL DEEP ALLIANCE

B1. Introduction

Summary: The proposal is for a 'Deep Alliance' between Network Rail and ScotRail franchisee, akin to the Wessex Alliance but going further by including renewals. Network Rail and Abellio, the newly selected franchisee, signed a high-level Deep Alliance agreement during the bidding phase but at the point this case study was produced the full working details of the Alliance had yet to be established and any impacts yet to be observed given that the new franchise start date is April 2015.

Main stakeholders: Network Rail, ScotRail, franchised TOC (Abellio), Scottish Government.

Duration / cost: A Deep Alliance agreement has been signed and is expected to run throughout the franchise. Costs and expected benefits are not yet documented given that the new franchise start date was April 2015.

Additional context / background information: Network Rail and ScotRail signed an Alliance Framework Agreement in CP4 (December 2011); the objectives were around closer working to provide passengers with a better service. The Scottish Government announced in 2012, the intention for the next ScotRail franchisee and Network Rail to work together to develop a deeper alliance – the only other active example of which is Wessex.

B2. Context / status quo

Network Rail and First ScotRail already operated under an Alliance Framework Agreement signed in December 2011, although this has involved the existing First Group franchise which expires on 31st March 2015. Within this 'Alliance Framework', a number of initiatives have been undertaken:

- A joint approach to timetabling;
- Reviewing the arrangements within Network Rail's control organisations, to give decision-making to the most appropriate people;
- Working together to reduce the costs and deliver the Paisley Canal electrification project;
- Jointly reviewing the scope for a new station at Conon Bridge, which has reduced costs by more than £0.5m.

B3. Objectives of project

The goal of a deeper alliance is to align the incentives between the infrastructure operator, Network Rail, and the TOC to ensure a better service to passengers. In the then Minister for Transport's statement to Parliament, it was stated that a Deeper Alliance would avoid

“internal arguments over responsibility” and allow better services for passengers, including enhancing resilience and operational effectiveness to deliver cost savings (~£30m p.a.)²²³

B4. Plan vs outcome

The plan is to form a Deep Alliance, as discussed above. Network Rail stated that it is “*working with Transport Scotland to develop proposals for a deep alliance for the next franchise in late 2014.*”

The franchise tender process included a non-mandatory requirement for the appointed franchisee to consider a close alliance with Network Rail. Bidders were also required in their submissions to explain their plan for such an alliance with Network Rail, but this was not formally part of the assessment criteria. Based on our discussion with Network Rail, we understand that Network Rail conducted alliancing discussions with all bidders. Alliance framework agreements were signed with all bidders (with provision to extend this into a full alliance) except with Abellio, which agreed to enter into a deep alliance agreement.

The ScotRail franchise was awarded in October 2014 to Abellio, which will run trains in Scotland from April 2015. After the franchise award, Abellio stated that the Deep Alliance with Network Rail will be put in place for the life of the franchise.²²⁴ The signed agreement provides for the start of the deep alliance in April 2015, but the exact details of what the alliance will cover are not settled.

It is worth noting that this was the first time that a deep alliance was encouraged so strongly in a franchise competition and the first time that a form of alliance agreement was signed during the bid phase.

B5. Key features of project (including differences to status quo)

Infrastructure management approach: ‘Deep Alliance’

The Deep Alliance would extend scope and include the sharing of costs / benefits arising from over and under performance relative to an agreed baseline. Baselines are constituted by the CP5 regulatory settlement for Network Rail and the franchise bid for ScotRail. Any savings or overspend relative to those baselines would be shared between the two parties on a 50:50 basis. Network Rail’s base proposal included a provision that the TOC would have to opt out of the REBS mechanism as the Alliance will already provide benefit sharing.²²⁵ The alliance would cover:

²²³ TheyWorkForYou website, “Rail: Part of the debate in the Scottish Parliament on 21st June 2012”, (June 2012)

<http://www.theyworkforyou.com/sp/?id=2012-06-21.38.2>

²²⁴ Abellio website, “Abellio awarded contract to operate Scotland’s National Railway, ScotRail”

<http://www.abellio.com/news/abellio-awarded-contract-operate-scotlands-national-railway-scotrail>

²²⁵ Network Rail, *Alliance Base Commercial Proposition*, November 2013

- all revenues;
- operation and maintenance costs;
- Network Rail renewals.

The alliance would operate under a commercial agreement and the two parties would continue to operate as separate legal entities. Each party would retain its obligations in areas of responsibility (safety, system operation, franchise obligations, etc.) whilst working more closely together. Network Rail’s independent capacity allocation function would be maintained.

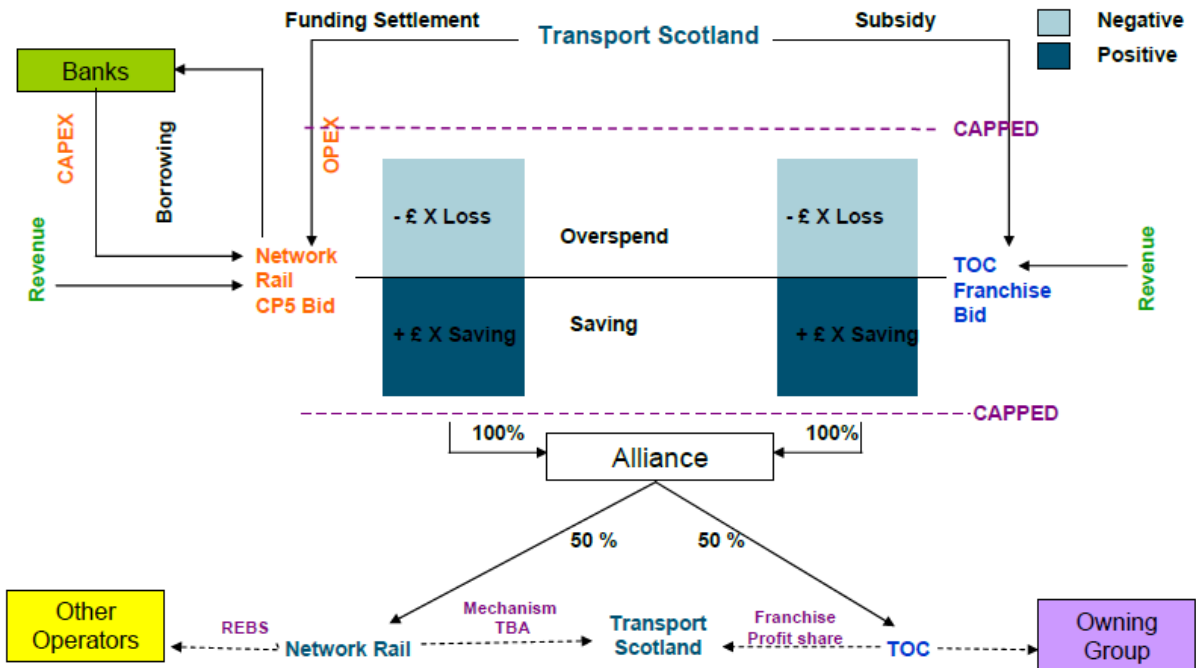
The Deep Alliance goes further than existing framework alliance agreements. The framework alliance template developed by Network Rail provides for transparent sharing of information between Network Rail and the franchised TOC, a code of conduct governing behaviour and identification of specific projects which the alliance intends to take forward.

Responsibility and allocation of risk between stakeholders: Financial risk-sharing

Under the Deep Alliance envisaged, both parties would retain ‘ultimate accountability’ in relation to their statutory and regulatory requirements.

However, as discussed above, there would be financial risk-sharing via an agreement to share outperformance or under performance on a 50 / 50 basis relative to agreed baseline costs and revenues projections for those activities within the scope of the alliance. This is illustrated in the diagram below.

Figure B.1: Deep Alliance benefit share model



Source: Network Rail, Aligning Scotland’s Railway (May 2013)

B6. Outcomes

There are no outcomes to discuss at present, as the Alliance has not yet been implemented.

B7. Conclusions

This alliance is an attempt to expand the level of collaboration between Network Rail and the TOC from a standard Alliance Agreement to a Deep alliance model similar to the one operating on the Wessex route (although, based on the discussion with Network Rail, it seems that the ScotRail alliance will also cover renewals unlike the Wessex route). It is not clear yet what the final shape of the alliance will be. It is noteworthy however, that 'Alliancing' has been actively encouraged in the franchising process in this instance and ORR may wish to consider the implication of this on its approach to regulation.

The fact that the deep alliance is not yet operational means there are not yet any impacts that can be assessed, so the timing for conducting a detailed case study may not be right at the moment. Further work would cover:

- looking into the alliance negotiations during the bid phase (what the proposals were, the level of engagement of the bidders and why Abellio decided to sign a full alliance agreement but not the other bidders);
- gaining better insight of what the alliance will actually involve (if such details become available); and
- understanding the implications for franchising policy more generally and what this might say about the regulatory approach adopted by ORR.

ANNEX C – PROJECT DIME

C1. Introduction

Summary: Project DIME was an initiative started by Network Rail in 2011 as part of a drive to improve project management and delivery capability. Originally, the intention of Project DIME was to create a more commercial environment for the procurement and delivery of investment projects based on separating internal functions within Network Rail, opening infrastructure works to competition, and working with suppliers from an earlier stage in the project. However, the project as initially envisaged was not fully implemented. Functions were internally separated within Network Rail, but this stopped short of separating into distinct legal entities. Project DIME was officially ‘closed’ in October 2013 with much of the work being included into schemes for improving clienting arrangements.

Main stakeholders: Network Rail, ORR, potential ‘would-be’ competitors to Network Rail.

Duration / cost: New business unit separation structure was planned to be in place by April 2012, with regulated UK rail work open to contestability by the start of CP5.

Additional context / background information: Project is also related to the process of route devolution.

C2. Context / status quo

Before Project DIME, Network Rail’s organisational structure was fragmented with planning and procurement split between different units (Infrastructure Projects (IP), Asset Management, Network Operations). The devolved routes had limited procurement functions. This resulted in an inefficient and fragmented approach to procuring and managing delivery of infrastructure projects.

There was also little or no competition from third parties for leading and managing the delivery of capital projects, with IP functioning as an internal monopoly. The project requirements were focused on specifying inputs resulting in cost and time overruns.²²⁶

Potential savings from better cost management by Network Rail of infrastructure works were identified to be in the range of 10-30% of total spending, while Network Rail’s overhead structure was deemed to be more inefficient than in the case of other asset intensive companies based on international cost benchmarking.²²⁷

²²⁶ civity, *Review of Network Rail’s Supply Chain Management*, May 2012

²²⁷ civity, *Review of Network Rail’s Supply Chain Management*, May 2012

C3. Objectives of project

The objective of the initiative was to reduce costs and improve efficiency in the procurement, management and delivery of capital projects in CP5, by setting up a more collaborative approach with suppliers and introducing more competition in the delivery of investment projects. Through this initiative Network Rail was seeking to:

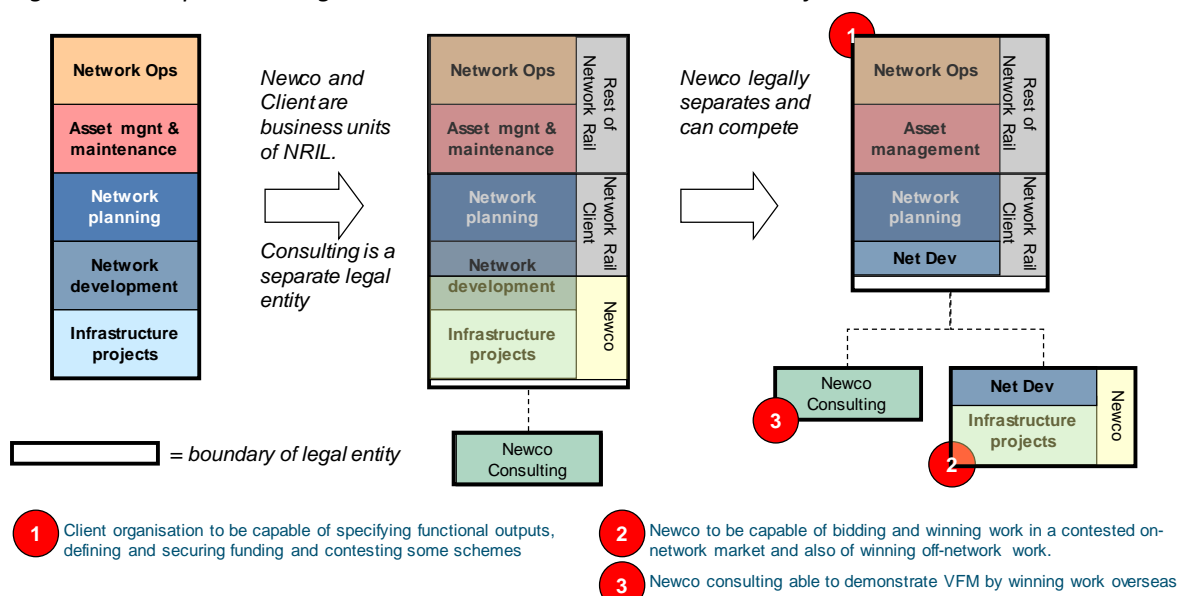
- meet and /or exceed its efficiency targets in CP4 and CP5 by improving the way Network Rail manages its capital projects' delivery and achieving a reduction in costs and overheads;
- bring in additional revenue by competing for and winning international business and UK non-regulated rail works;
- respond to issues, including the perceived lack of openness to competition in the rail business and the Value for Money (VfM) agenda.

C4. Plan vs outcome

Project DIME proposals involved streamlining the separate functions within Network Rail's company group structure by creating:

- **An internal 'client' organisation:** Network Rail Infrastructure Ltd (NRIL) to serve as an 'early client' organisation designed to issue specified projects on an output basis for delivery by the IP division or other third parties;
- **A separate infrastructure delivery unit:** a newly separated Infrastructure Projects division (in the form of a new company – a 'Newco'), which would be responsible for project management and be able to compete for other UK rail works;
- **A separate consulting entity:** a Newco entity established to deliver international consulting work.

Figure C.1: Proposed changes to Network Rail's structure under Project DIME



Source: Network Rail, *Project DIME: Discussion with the ORR (August 2011)*

According to Network Rail's programme plan the project should have progressed in four phases:

1. Approval;
2. Programme validation and development;
3. Programme delivery; and
4. Implementation.

The Infrastructure projects division (the 'Newco') was to be reorganised as a separate business unit within Network Rail by April 2012 as part of DIME Phase 3 and then constituted into a separate legal entity by 2013 as part of DIME Phase 4. The new entity was intended to be the project manager on the majority of Network Rail's capital projects. The plan was for more simple work to be open to competition (simple renewals and minor works) with the more complex projects being led initially by Network Rail's IP (particularly enhancements and high complexity renewals).

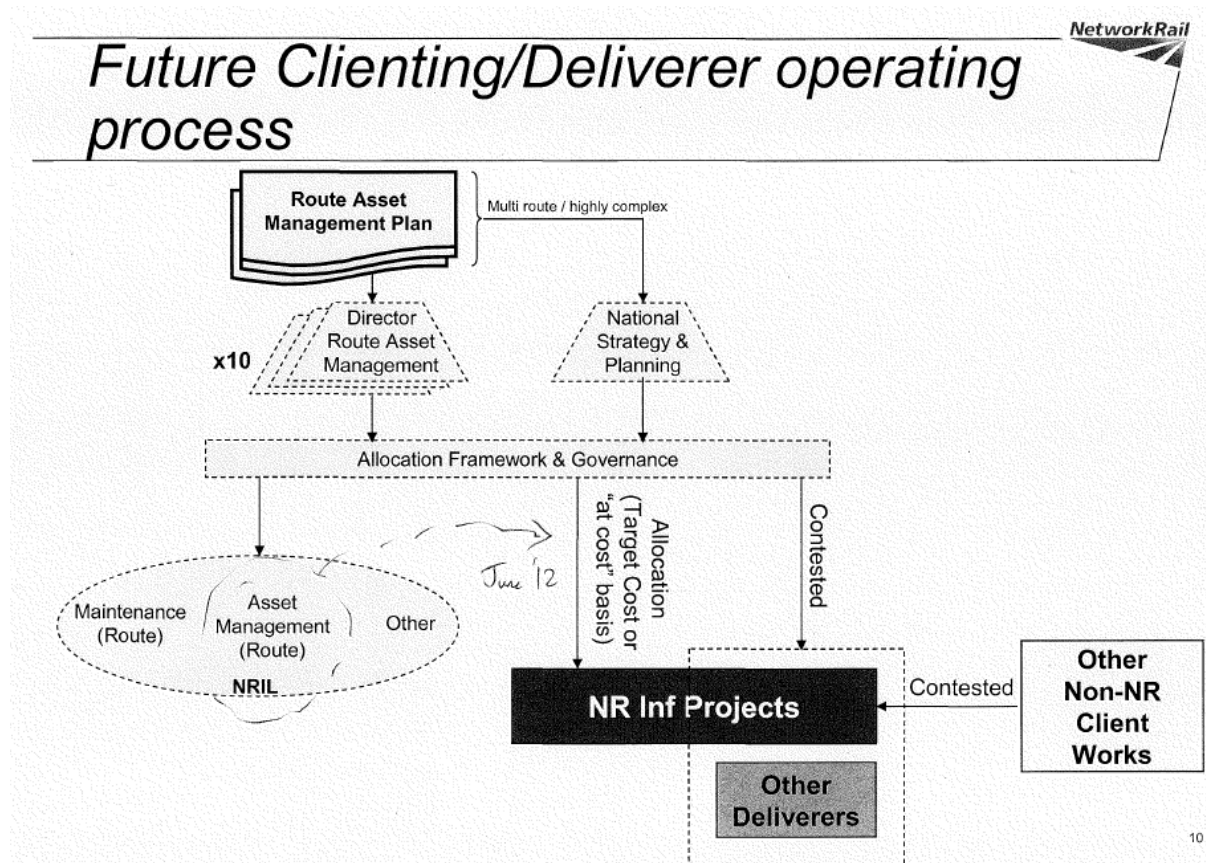
The *restructuring of the infrastructure projects unit* also raised the prospect of staff redundancies as part of the reduction in the overhead associated with capital projects.²²⁸ The TSSA union estimated that around 10% of the 4,000 staff working in the IP unit would be at risk of redundancy.²²⁹

Network Rail's *proposed* operating process (i.e. if DIME had been fully implemented) is shown in the following illustration.

²²⁸ Network Rail, *Efficiency Summary*, CP5 Strategic Business Plan: Supporting Documents (available [here](#))

²²⁹ TSSA Union newsletter, *Project DIME Update* (available [here](#)), 28 March 2012.

Figure C.2: Network Rail envisaged operating process after full **proposed** changes



Source: 'Project DIME update to ORR' presentation, May 2012 (p.10)

However, although DIME phase 3 was delivered in April 2012, Phase 4 was not implemented and the IP was not legally separated off from Network Rail into a standalone business.

Shortly after the creation of the separate IP unit, the thinking in Network Rail shifted towards viewing the costs associated with establishing a separate legal entity, as not justifying this final step. Instead, Network Rail believed it could achieve most of the benefits by creating a 'Chinese wall' between the different business units.²³⁰ Since October 2013, Project DIME has been closed.

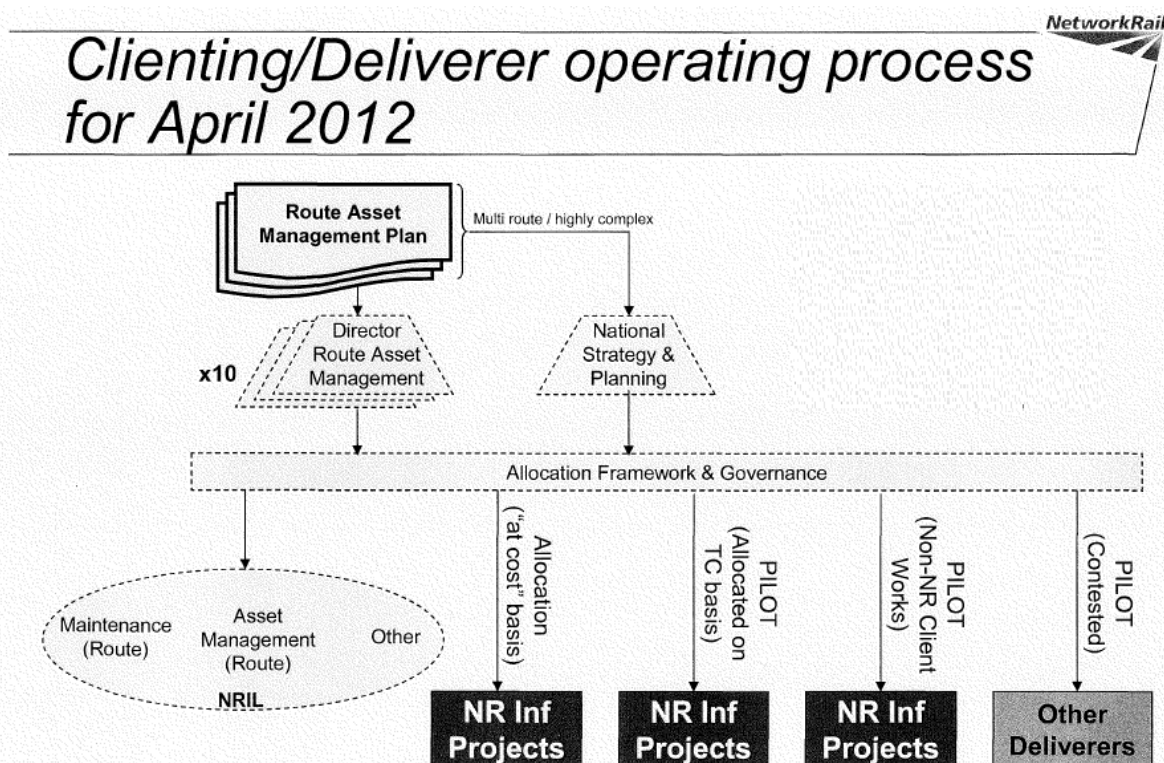
An ORR briefing note states: "Network Rail has stated that Project DIME is now officially closed and the 'DIME' name is no longer used in Network Rail. Consequently the market testing/project shadowing work has ceased – it is not clear how much of this was actually completed. No specific reason given for not going to legal separation but it seems the costs outweighed the benefits."²³¹

The illustration below shows Network Rail's *actual* operating process, given that Phase 3 was implemented but Phase 4 was not.

²³⁰ ORR, Draft notes on meeting with Network Rail on Project DIME, (23rd October 2012)

²³¹ ORR, ORR brief note of key points from the DIME-Clienting meeting with NR, (24th October 2013)

Figure C.3: Network Rail Operating process after DIME Phase 3 implementation



Source: 'Project DIME update to ORR' presentation, May 2012 (p.9)

Our discussion with Network Rail revealed that the business separation process involved high costs, including the potential for disruption and delays to current enhancement works.

C5. Key features of project (including differences to status quo)

Infrastructure management approach: Separate internal organisations for network planning and project delivery

Plan: Under the Project DIME reorganisation, a new subsidiary within Network Rail Group would ultimately be created, responsible for managing the delivery of infrastructure projects. The IP entity would be competing for work with outside suppliers for leading and managing the delivery of projects where deemed appropriate.

An internal 'client' organisation would also be formed, with responsibility for planning the network and specifying projects on an output basis. The 'client' organisation would have attributions of network planning and network development while the IP unit would engage in network development and have responsibility for managing the delivery of capital projects.

Outcome: Our understanding is that internal separation was implemented within Network Rail between network planning and infrastructure projects. However, the plan to split the IP unit into a separate company was not implemented.

Infrastructure management approach: Engaging with supply chain at earlier stage

Network Rail has in the past engaged with its supply chain at the detailed stage of a project (GRIP 5) but with the introduction of DIME, it looked to involve suppliers (referring to both the IP unit and external suppliers) at an earlier stage - the pre-feasibility or option selection stage (GRIP 2-3). This is meant to reduce delays and costs, by reducing the number of design changes required at the later stages of the project.

Links to other organisational measures: Route devolution

Project DIME is interlinked with the devolution process giving more powers to regional routes. DIME envisaged giving more procurement powers to the routes thus improving accountability. This also involved aligning the IP structure to the routes. The new IP unit has four regional directors and three programme directors.

C6. Outcomes

The initial phases of Project DIME were completed by mid-2012. This included:

- the creation of a new separated infrastructure projects unit (April 2012).²³²
- merging the Network Planning and Network Development units into one Strategy & Planning unit;
- establishing pilot programmes for client organisation, to allocate projects to IP with cost targets and for IP unit to compete for non-Network Rail work;
- creating a regionally structured IP unit with separate regional P&Ls. The 'regional structuring' matches the devolved operational routes; and
- the development of Clienting Guidelines which lay out the roles and accountability of different units on Network Rail projects.

The 6-month Post Implementation Review report for DIME Phase 3 found that the objectives had been achieved.²³³

As stated above, Project DIME was however not fully implemented and a separated legal entity has not been created.

Measuring success: The indicators put forward by Network Rail to measure the success of DIME Phase 3 were²³⁴:

- Reduced overheads and lower unit costs;
- Increased non-regulated revenue;
- Successful pilot programme; and

²³² Network Rail, *Project DIME: Update to ORR* (May 2012)

²³³ Network Rail, *Project DIME Phase 3: Six Month Post Implementation Review Report*, (January 2013)

²³⁴ Network Rail, *BCP Supplementary Pages, DIME Project Update*, (January 2012)

- No impact on CP4 schemes.

At this stage it is unclear how Project DIME performed against these indicators.

Project costs and timings

The project was dropped before being fully implemented therefore it is difficult to assess the costs and timings of the project, however:

- There are likely to have been some costs involved in the restructuring process.
- While the total costs associated with the partial project implementation are unclear, the approved budget for DIME Phase 3 was £7.4m.
- The fact that DIME was stopped after Phase 3 may have prevented even higher costs because Network Rail state that costs of legal separation would have exceeded benefits.

For phase 3 of Project DIME, Network Rail estimated costs of £7m (excluding redundancies) and benefits of £35m (excluding redundancies). It is unclear what the actual outcome was and how much of these benefits / costs actually materialised and particularly what redundancies have been made.

The cost of redundancies (estimated at around 400) is likely to involve high up-front costs, while some of the benefits envisaged would probably occur over a longer period of time.

It is unclear why the costs of full implementation were considered higher than benefits. Indications are that this was due to legal costs and organisational disruption causing delays to CP4 works.

Quality / safety outcomes

It is unclear at this stage whether the changes implemented had any impact on Network Rail's safety obligations or performance.

Organisational impacts

This rating is based on two main factors:

- Internal restructuring delivered new business unit focused on capital projects delivery.
- IP unit structured along regional lines, providing better matching to operational routes.

The current IP unit provides regional structure but retaining a significant amount of control and decision-making at the national level. . The routes specify asset condition and project requirements, while the IP takes the role of the project manager responsible for delivering the project.

C7. Conclusions

The internal restructuring that occurred under Project DIME has produced a step in the direction indicated by the McNulty report and part of a broad organisational restructuring programme.

The failure to follow-through with the initial restructuring plan raises questions about whether enough consideration and planning has been put into the design of the project. It also raises the question as to whether there is sufficient competition in the rail industry.

ANNEX D – MERSEYTRAVEL DEVOLUTION

D1. Introduction

Summary: The plan is for Merseytravel (formerly the Merseyside Passenger Transport Executive, MPTe) to take over responsibility from Network Rail for operations / maintenance / renewals of the Merseyrail Network – a largely self-contained urban network in the Liverpool city area.²³⁵

This ‘devolution’ proposal has been discussed on various occasions in the past (specifically in 2005/06 and 2010/11) but was not implemented.

Main stakeholders: Network Rail, Merseytravel, DfT, ORR.

Duration / cost: Proposed / discussed in 2005/06 and 2010/11, but not implemented

Additional context / background information: Merseytravel is the passenger transport executive (a local government body) responsible for public transport in the Liverpool City Region. Merseyrail is the name given to both the franchise and the TOC which currently operates the franchise (Abellio and Serco).

The Merseyrail franchise is tendered by Merseytravel, i.e. responsibility for franchising is devolved from DfT (similar to TfL in London). Merseyrail’s network is highly self-contained – no other trains in *regular* service use its tracks.

Note on terminology: In this study, we quote the term ‘vertically integrated’ – a company that has a concession for both train operation and infrastructure management – because this is the term used in the McNulty report.

We understand that the First European Rail Directive required a separation of infrastructure and services provision, so technically a “vertically-integrated” company cannot legally exist. However, some European companies (e.g. Germany) have adopted a structure of a single holding company, within which there are separate operating and infrastructure companies.²³⁶

The European Commission’s (EC’s) latest proposals (the Fourth Railway Package) do not appear to force a permanent / legislative separation of infrastructure from train operating services. Rather the EC’s Fourth Railway Package (published Jan 2013) states that “institutional separation is the *simplest and most transparent way*” to achieve non-discriminatory network access, but that the EC would accept “vertically integrated or holding structure” could also deliver the necessary independence, on the condition that

²³⁵ Merseytravel website: <http://www.merseytravel.gov.uk/Site%20Documents/MerseyrailNetworkMap.pdf>

²³⁶ Europolitics website article: <http://europolitics.eis-vt-prod-web01.cyberadm.net/sectoral-policies/advocate-general-says-german-model-legal-art342626-20.html>

“strict ‘Chinese walls’ are in place to ensure the necessary, legal, financial and operational separation”.²³⁷

D2. Context / status quo

In the vertically separated GB rail network structure, Network Rail is responsible for network operation, maintenance and renewals. Train services are operated largely by franchised Train Operating Companies (TOCs).

Discussions with Network Rail suggested that Merseytravel may not currently bear the full cost of Network Rail’s work as infrastructure manager, due to the existence of cross-subsidies. This would imply that a deviation from the status quo might cause the true costs to be reflected and make the approach less attractive.

D3. Objectives of project

Policymakers

The detailed version of the McNulty report (2011) says that “there is a case for piloting vertical integration as soon as possible”, as this appears to be the structure “which could best align incentives between train operators and the infrastructure manager” (where vertical integration is based on “letting a joint concession for train operators and infrastructure management”).²³⁸ The report suggests that “the first opportunity for a vertical integration trial is in the Greater Anglia region starting in 2014”, but suggests that “in some ways vertical integration in the Merseytravel area could be ideal given the lack of other operators in this area”.²³⁹ McNulty suggests that vertical integration is best suited to areas which are “largely self-contained and where there is a dominant train operator”.²⁴⁰ A vertical integrated structure was identified as an option of addressing the lack of coordination and alignment of incentives between the infrastructure management and train operation functions.

However, this is a view which has been discussed by policymakers for a number of years, as demonstrated by the fact that proposals for Merseytravel were developed both in 2005/06 and 2010/11, the former being well before the McNulty report in 2011. Merseyrail’s network is highly self-contained (no other trains in regular service use its tracks); it is been

²³⁷ UK House of Commons Library briefing note, ‘Railways: EU policy’, February 2013: www.parliament.uk/briefing-papers/SN00184.pdf

²³⁸ McNulty Report, ‘Realising the Potential of GB Rail, Detailed version, May 2011, p.99-101: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4204/realising-the-potential-of-gb-rail.pdf

²³⁹ Ibid.

²⁴⁰ Ibid.

proposed on several occasions that Merseyrail would be a good candidate for a “vertical integration experiment”.²⁴¹

DfT has also shown that it is considering similar arrangements. In DfT’s 2012 report “Reforming our Railways: Putting the Customer First”, it “agrees (with McNulty) that vertical integration could offer promising benefits in the longer term”.²⁴² However, any proposals “would need to be compatible with EU legislation and satisfy a number of criteria, including... respecting competition and fair procurement principles”.²⁴³

Merseytravel

Merseytravel has – at various times – proposed devolution as a means ensuring that “investment can be controlled and focused locally, delivering better services at lower cost”.²⁴⁴

ORR

ORR supported the project as a potential means of establishing a benchmark for Network Rail’s performance.²⁴⁵

Network Rail

Network Rail supported the proposed devolution project but believes that there remain advantages in it continuing to operate and maintain the network. In particular, there are system-wide synergies / benefits given that Network Rail operates the vast majority of the network (e.g. economies of scale, fewer organisations involved in network interface).

D4. Plan vs outcome

The plan put forward in both 2005/06 and 2010/2011 was to transfer responsibility for network operations / maintenance from Network Rail to MPTE. In theory, the plan had potential, primarily because the network is relatively enclosed. However, the proposal was not implemented on either occasion, and several different factors are put forward to explain this:

In general:

- Network Rail suggests that the costs of Merseytravel taking over responsibility for infrastructure would have been high, partly due to the removal of existing cross-subsidies, and that this hurdle was too great.

²⁴¹ Rail Professional article: <http://www.railpro.co.uk/magazine/?idArticles=1537>

²⁴² DfT report. ‘Reforming our Railways: Putting the Customer First’, March 2012, p.44-45: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4216/reforming-our-railways.pdf

²⁴³ Ibid.

²⁴⁴ Merseytravel letter to ORR about LfM and objectives of transfer (p.1), October 2010

²⁴⁵ ORR Board paper on Merseyrail, December 2005

- One of the issues encountered was how to finance the transfer of the network given that Merseyrail did not have the necessary resources.

Specific to 2005/06:

- ORR meeting notes suggest that DfT found the 2005/06 business case unconvincing.²⁴⁶
- Discussions with ORR suggest that the 2005/06 plan did not occur partly because MPTE potentially faced a large increase in costs if they did take control of the network.
- Discussions with ORR indicate some difficulty in decision-making. This view is supported by an ORR board paper which states that “to work effectively this project really needs the agreement of all four parties - DfT, ORR, Network Rail and Merseytravel”, which would be particularly difficult to achieve without Network Rail constructively engaging in the process.²⁴⁷

Specific to 2010/11:

- For the proposed 2010/11 plan, Network Rail suggested that the transfer did not go ahead because Merseytravel “got cold feet at its AGM in June 2011” and refused to countenance any further involvement.²⁴⁸ At the AGM, The Chairman of the Authority moved a motion “to stop all work on this issue immediately” which was approved by a vote.²⁴⁹
- There were also suggestions that Merseytravel was under political pressure, including from the unions, who did not want to see greater involvement by the private sector in network operations. There were criticisms that Merseytravel gave in to union pressure, although Merseytravel stated that there was “*too much uncertainty*” to go through with the transfer of responsibilities.²⁵⁰

D5. Key features of project (including differences to status quo)

Infrastructure management approach under the plan: Transfer of responsibility for infrastructure from Network Rail to Merseyrail

Original plan (2005/06):

²⁴⁶ ORR, *Meeting of the Board*, 20 April 2006

²⁴⁷ ORR, *Meeting of the Board*, 20 April 2006

²⁴⁸ *Rail Professional* interview with Maarten Spaargaren: <http://www.railpro.co.uk/magazine/?idArticles=1537>

²⁴⁹ Article by Chris Blakeley, Conservative Action Team councillor, 2011:

<http://chrisblakeley.com/2011/06/28/merseytravel-agm-part-two-localism-for-merseyrail/>

²⁵⁰ RTM jobs website, ‘Merseytravel rejects vertical integration – after spending £1.5m’ June 2011

<http://www.rtmjobs.com/rail-news/article/1858-merseytravel-rejects-vertical-integration-after-spending-1~2E5m/>

The original plan (in 2005/06) entitled ‘Full Local Decision Making’ (FLDM) envisaged Network Rail leasing the Merseyrail network to Merseytravel. Merseytravel would then have set up an infrastructure company (“Infraco”) to undertake the operation, maintenance and renewals on the network (a mini Network Rail). The TOC (Merseyrail Electric) would have continued to operate train services, and would pay variable access charges to Infraco.

Although there would have been different infrastructure and train operation companies, this was considered to be a ‘virtual vertical integration’ as the proposed structure envisaged one holding company owning both the Infraco and the TOC. Merseytravel would also pay a fee to Infraco for making the infrastructure available. Contractual arrangements would have been used to set and enforce outputs.

The original plan in 2005 was not implemented, in part due to DfT finding the business case unconvincing.²⁵¹ Further work could consider Network Rail’s involvement in the plan.

Most recent plan (2010/11):

The 2010/2011 plan, entitled Localism for Merseyrail (LfM), followed the same principles put forward in 2005. Full responsibility for the Merseyrail network was to be transferred from Network Rail to Merseytravel, which would enter into an infrastructure management agreement with Merseyrail i.e. it would act as an infrastructure concessionaire.²⁵²

The approach undertaken in this case was seen to be setting a precedent for other potential asset transfers from Network Rail, particularly the issues surrounding how the transfer is reflected on Network Rail’s balance sheet and how Network Rail is compensated for the asset loss.

This plan was abandoned in June 2011.

Infrastructure management approach under the plan: Transfer from Network Rail to Merseytravel

Most recent plan (2010/11):

Merseytravel proposed that devolution would “mean that investment can be controlled and focused locally, delivering better services at lower cost”.²⁵³ Merseytravel, being the local body, might have stronger incentives to improve quality than Network Rail (being a national organisation), and therefore the transfer of responsibility could improve performance.

Under the plan, DfT agreed (in principle) that the RAB and associated debt (and therefore financial risk) should also transfer to Merseytravel, because the transferee would then be best placed to manage these risks. Merseytravel noted that there could be an “increased risk from Merseytravel (rather than Network Rail) operating the network”.²⁵⁴ However, we

²⁵¹ ORR, *Meeting of the Board*, 20 April 2006

²⁵² Merseytravel letter to ORR about LfM and objectives of transfer (p.2), October 2010

²⁵³ Merseytravel letter to ORR about LfM and objectives of transfer (p.1), October 2010

²⁵⁴ Merseyrail - DfT draft update memo to minister on LfM.pdf

do not have further information on DfT's level of confidence in the proposals because the DfT memo from 2011 states that MPTE was still "developing the business case".²⁵⁵

Regulation

Original plan (2005/06):

In planning for devolution, ORR considered its options for regulation of the new network operator ("Infraco" in the section above). In 2005/06, ORR's preference was for a 'middle way' between the extremes of:

- Treating the Infraco like a mini Network Rail, and so implementing full regulation.
- Minimal regulation, under the assumption that Infraco's future contracts with Merseytravel and the TOC would contain sufficient controls.

Most recent plan (2010/11):

In 2011, ORR stated that it was inclined to apply light-touch economic regulation. ORR stated that the model network licence would serve as the starting point for the Merseytravel network licence, but that other conditions would need to be included as well. Apart from the standard network licence conditions, the Merseytravel licence would include network management, information disclosure and regulatory accounts requirements. Compared to Network Rail's requirements, the Merseytravel network would not be subject to financial and governance conditions.

Financial impacts

Most recent plan (2010/11):

Under the most recent plan, there would have been several important financial impacts:

- Impact on DfT: Devolution might have produced a short-term cash effect and might have created some 'accounting issues' affecting how the transfer takes place.²⁵⁶
- RAB: ORR and Network Rail's initial view was that they would wish to see the Merseyrail RAB (and associated debt) transferred to Merseytravel. It was noted that the financial impact for DfT should be neutral, because previous subsidy payments to Network Rail would now simply be made to Merseytravel instead.

D6. Outcomes

As stated above, the plan was not implemented, and therefore Network Rail continues to have responsibility for network maintenance, renewals, etc.

²⁵⁵ Ibid.

²⁵⁶ ORR internal briefing document for meeting with Merseytravel on 27 June 2011

However, there is probably a greater degree of collaboration between TOC and Network Rail than there otherwise might have been, because there is awareness of the potential benefits (even if the transfer has not been implemented).

In 2012, Merseyrail MD Maarten Spaargaren stated that the eventual outcome (of informal collaboration, rather than transfer of responsibility) may have generated benefits:

- *“I’m certainly not saying that I think Merseyrail would have the skills and the capability to run the infrastructure more cost effectively, but I think a closer collaboration may be good for quicker decision making. But we can collaborate anyway. We are, together with Merseytravel, looking at rolling stock for Merseyrail, and Jo Kaye, the route director of Network Rail, is completely supporting that.”*
- *“I consider the relationship with Network Rail to be really good. We have a local area manager dedicated to our area and that’s really important. You can see that that works – we’re co-located in the same building, so it’s so much easier to discuss developments and manage disruption if you need to do that. We’ve put a structure in place that really helps us in this collaboration.”*

D7. Conclusions

There is an issue around ‘concession’ versus ‘vertical integration’, because the former need not necessarily require the latter. Although the majority of the focus around Merseyrail appears to be around some form of ‘vertical integration’, ORR could also consider concession options.

Our research suggests that there are not any on-going devolution proposals for Merseytravel, and therefore they are unlikely to be revisited in the near future. However, there are a number of other relatively enclosed networks, and the McNulty Report suggests that “vertical integration could eventually be considered in seven possible areas” (in addition to Merseyrail): Anglia, Sussex, Kent, South Eastern, Wales, Western and Scotland.²⁵⁷

This could generate an interesting case study, particularly given the multiple stakeholders involved, and we think there would be sufficient information available.

²⁵⁷ McNulty Report, ‘Realising the Potential of GB Rail, Detailed version, May 2011, p.100: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4204/realising-the-potential-of-gb-rail.pdf

ANNEX E – ESSEX THAMESIDE STATION TRANSFER

E1. Introduction

Summary: Transfer of the responsibility for station asset stewardship from Network Rail to the TOC (c2c) under a new 15-year franchise. (See Greater Anglia case study for further details).

Our research to date suggests that the transfer of responsibilities for Essex Thameside mirrors that of Greater Anglia, except that c2c had greater responsibility for developing their workbank (maintenance, renewals and enhancements) within the franchise process, whereas Abellio Greater Anglia inherited a largely predetermined workbank from Network Rail.

Main stakeholders: DFT, c2c, Network Rail

Duration / cost: Since November 2014.

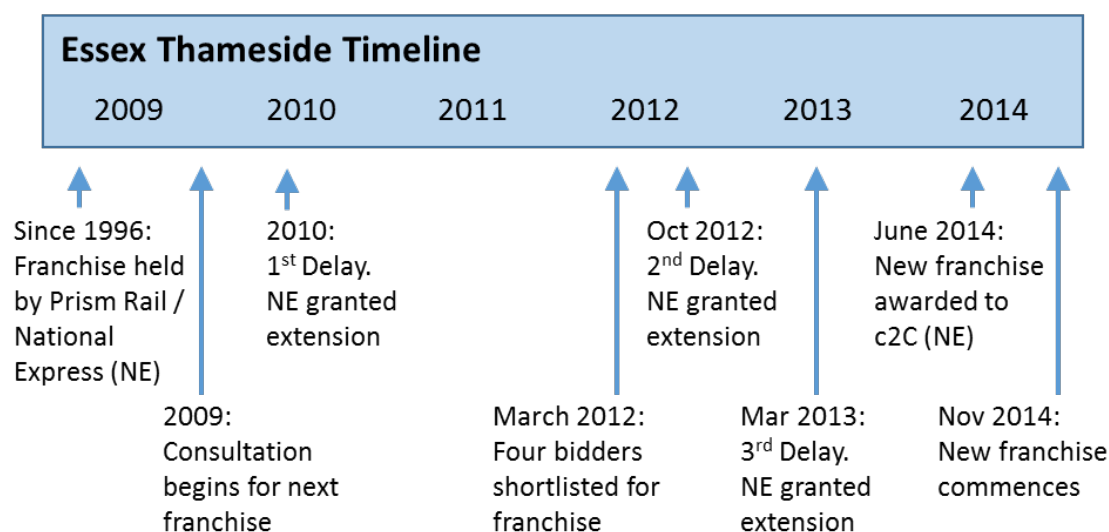
Additional context / background information: The new 15-year franchise was awarded to c2c in June 2014, and commenced in November 2014.²⁵⁸ Previously, the line had also been operated by c2c, although under the name 'National Express', and they had received several extensions to the previous franchise prior to November 2014.

The transfer of station responsibilities also comes in the context of an alliance arrangement with Network Rail: National Express (c2c), the operator, has committed to "form an alliance with infrastructure manager Network Rail to 'reduce running costs and deliver right-time operational performance'."²⁵⁹

²⁵⁸ BBC website article: <http://www.bbc.co.uk/news/uk-england-essex-28052887>

²⁵⁹ Railway Gazette article, 'New trains and ticketing as National Express retains Essex Thameside', June 2014: <http://www.railwaygazette.com/news/passenger/single-view/view/new-trains-and-ticketing-as-national-express-retains-essex-thameside.html>

Figure E.1: Timeline of Essex Thameside



E2. Context / status quo

For the status quo, see the *Greater Anglia* case study in Section 8 of this report.

E3. Objectives of project

DfT

DfT's main objectives seems to have been to encourage private sector investment, to increase efficiency, and to make services more responsive to customer demand. In July 2012, Rail minister Theresa Villiers said: "A more flexible franchise will encourage private sector investment, for example in improving stations. It will promote greater efficiency to drive down costs and also enable the train operator to react more flexibly to changing passenger demand. "The introduction of new requirements on passenger satisfaction will mean the operator has to focus strongly on the issues that matter most to passengers".²⁶⁰

DfT's consultation document states that the transfer would aim to transform passengers' experience at stations in Essex Thameside, as the station operator (TOC) would have a closer relationship with the end-user (passenger), and would therefore be more responsive. DfT note that this could include "security enhancements such as extensions to CCTV coverage and improved working with the British Transport Police (BTP)".²⁶¹

Discussions with ORR noted that DfT was the key driver of the station transfer arrangements, as a means of driving greater cost efficiency. Discussions suggested that DfT

²⁶⁰ Rail Technology Magazine article, 'DfT promises more flexibility in Essex Thameside franchise', July 2012: <http://www.railtechnologymagazine.com/Rail-News/essex-thameside-franchise-offers-private-sector-investment-opportunities>

²⁶¹ DfT, Essex Thameside Franchise Consultation, February 2012, p.34: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/2682/essex-thameside-franchise-replacement.pdf

was keen to move some costs away from Network Rail in order to provide greater competition via cost comparisons.

Other stakeholders (TOC, Network Rail, ORR, Consumers)

For additional comments from other stakeholders, see the *Greater Anglia* case study in Section 8 of this report.

E4. Plan vs outcome

In DfT's consultation document for the new franchise (in 2012), DfT stated it was considering ways in which bidders might provide long-term investment in the rail network, and that there would be an option for stations to be transferred to the franchisee (under a 99 year lease), and transferred between operators at the end of a franchise. This would "give the operator full responsibility for maintaining, operating and enhancing the stations and rights for certain commercial development".²⁶² DfT also noted that this "followed the approach adopted in other recent replacement franchises".²⁶³

E5. Key features of project (including differences to status quo)

Infrastructure management approach: Transfer of responsibility for stations from Network Rail to c2c

The new franchise agreement drawn up by DfT (for 2014 onwards) requires that, under 'Station Maintenance Obligations', the franchisee "ensures that it cleans, decorates, maintains, repairs and renews all of the Stations so that it complies with the Target Station Condition Level applicable".²⁶⁴

The consultation document provides some added explanation, stating that the new franchisee would need to "maintain, renew, improve and develop stations for the long term".²⁶⁵

In terms of station performance (as measured by the SSM), the original ITT for the franchise clarifies DfT's intentions which are that "at a minimum, the baseline scores established

²⁶² DfT, Essex Thameside Franchise Consultation, February 2012:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/2682/essex-thameside-franchise-replacement.pdf

²⁶³ Ibid.

²⁶⁴ Essex Thameside Franchise Agreement, 2014, p.186:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245076/b-franchise-agreement.pdf

²⁶⁵ DfT, Essex Thameside Franchise Consultation, February 2012, p.32:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/2682/essex-thameside-franchise-replacement.pdf

Essex Thameside Franchise Agreement, 2014, p.350 (para 1.1 of schedule 14.2):

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245076/b-franchise-agreement.pdf

within the first 12 months of the franchise, recalculated for improvements to the SSM methodology set out below, will be maintained for the term of the franchise for each Network Rail category of station set out in the data site”.²⁶⁶

The franchise agreement does contain a table with “Target Condition Level” for each station, but it has been left blank.²⁶⁷

Difference to Greater Anglia

We understand from discussions with ORR, that the key difference between this and the Greater Anglia station transfer is that the Essex Thameside franchise agreement is less prescriptive in terms of the workbank that the TOC must undertake. For Essex Thameside, ORR will approve asset management standards (e.g. ensuring that quality stays the same or improves during the franchise), but may not specify the full details of the workbank (maintenance, renewals and enhancements). For example, DfT’s consultation document for the Essex Thameside Franchise states that “It will be for bidders to consider what appropriate enhancements should be made at stations”.²⁶⁸ In contrast, Abellio inherited an existing workbank from Network Rail for Greater Anglia, i.e. a register of works required at the different stations: Abellio committed to “collating Network Rail maintenance and renewals data, NSIP data, AfA data, maintenance plans from the previous franchise operator and all industry enhancements”, and to “bring them together into a single, consolidated workbank”.

Responsibility and allocation of risk between stakeholders: Transfer of risk from Network Rail to c2c

The original ITT document states that the TOC “is expected to bear the full risk of their asset stewardship obligations at stations”.²⁶⁹ Initial discussions with ORR suggest that responsibilities are the same for Essex Thameside as they are for the Greater Anglia franchise, all asset risks – including pre-existing conditions of the assets – have been passed to the franchisee.

Financial risk does seem to have been passed entirely to the franchisee. The original ITT also states that the TOC is “required to secure a parent company guarantee of £10 million for

²⁶⁶ DfT, Essex Thameside Franchise, Invitation to Tender, July 2012, p.56:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3554/essex-thameside-itt.pdf

²⁶⁷ Essex Thameside Franchise Agreement, 2014, p.196:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245076/b-franchise-agreement.pdf

²⁶⁸ DfT, Essex Thameside Franchise Consultation, February 2012, p.32:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/2682/essex-thameside-franchise-replacement.pdf

²⁶⁹ DfT, Essex Thameside Franchise, Invitation to Tender, July 2012, p.55:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3554/essex-thameside-itt.pdf

unfulfilled asset stewardship licence obligations to cover liabilities at handover of station assets to a successor operator”.

The franchise document states that the TOC must set up a ‘Maintenance Account’, which is a ring-fenced amount to fund the Integrated Station Asset Management Plan. The franchise states that on termination of the Franchise Agreement, if any Stations fail to comply with the relevant Target Station Condition Level, then the Secretary of State can take over the Maintenance Account.²⁷⁰ This appears to be designed to ensure that the franchisee bears the risk of station condition levels.

Funding

TOC:

The initial ITT states the provisions for the TOC to fund its new asset stewardship role:

- The Franchisee will not pay Long Term Charges to Network Rail for the stations at which the Franchisee is SFO (i.e. all except very large stations).
- The TOC is no longer required to share the benefits from commercial activities with Network Rail.²⁷¹

As stated in the paragraph above, the franchise states that the TOC is required to set up a ring-fenced ‘Maintenance Account’ to fund activities to ensure station condition achieves target levels, and therefore the TOC bears the risk.²⁷²

In relation to station enhancements, the ITT states that these are “not expected to be funded by the use of Network Rail’s RAB” although there may be some “ongoing RAB loan facility payments expected for the stations they inherit”. Therefore, aside from any ‘legacy’ funding, it appears that the TOC will need to raise funds to finance enhancements. The ITT notes that enhancement proposals will need to be supported by information on “the provision of credible associated funding” within the TOC’s Station Asset Management Plan.²⁷³

²⁷⁰ Essex Thameside Franchise Agreement, 2014, p.191:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245076/b-franchise-agreement.pdf

²⁷¹ DfT, Essex Thameside Franchise, Invitation to Tender, July 2012, p.55:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3554/essex-thameside-itt.pdf

²⁷² Essex Thameside Franchise Agreement, 2014, p.188-191:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245076/b-franchise-agreement.pdf

²⁷³ DfT, Essex Thameside Franchise, Invitation to Tender, July 2012, p.55:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3554/essex-thameside-itt.pdf (p.55)

E6. Outcomes

There may be opportunities to deliver greater efficiency and improve passenger outcomes via better station management. However, it is too soon to tell whether the outcome has been successful, e.g. in terms of improving passenger experience.

E7. Conclusions

The franchise commenced in November 2014, so it is too recent to judge results.

The Essex Thameside franchise is only the second time that station stewardship responsibilities have been transferred to the TOC – the first being Greater Anglia. The key difference is that the Essex Thameside franchisee had greater responsibility for developing their own workbank as part of the franchise process, whereas Abellio inherited their workbank from Network Rail when they were awarded the Greater Anglia franchise. DfT appears to want to give greater responsibility to the TOCs in the future, which implies that the Essex Thameside model (i.e. TOCs developing their own workbank) will be applied.

There is benefit in attempting to define the impacts to assess whether this transfer of responsibilities is likely to be effective within other future franchises. It could highlight if there might be any benefits and/or risks with scaling back Network Rail's involvement, e.g. the loss of Network Rail's corporate knowledge from many years of carrying out station stewardship responsibilities, or Network Rail's ability to diversify cost risk over a much larger number of stations (the Essex Thameside franchise is small, with only 25 stations).

As with Greater Anglia, we recommend that further work should attempt to focus on the 'actual impacts' of the transfer, rather than the 'aims'. However, it is likely to be very difficult to obtain information in relation to the former because the franchise is so recent (November 2014). Therefore, if ORR wants to develop this study in more detail the most value is likely to come from stakeholder views, e.g. DfT, c2c.

ANNEX F – SOURCES OF EVIDENCE

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ANNEX G – ADDITIONAL INFORMATION FOR LONDON UNDERGROUND CASE STUDY

Evolution of standards within London Underground²⁷⁴

London Underground (LU) commenced a review of their business processes and standards in preparation for the PPP contracts with Metronet Rail and Tube Lines. This review found that many of the standards at that time were:

- Outdated, or written in different styles, or specified different requirement levels.
- Were sometimes conflicting, or had notable gaps, especially in relation to operational requirements.

Many of these deficiencies could be traced to the development of these standards as they had grown over the years, sometimes in response to discrete safety incidents rather than in response to strategic objectives. This in itself is not surprising as evidence gathered through this IUK review has found this to be a typical reason for burgeoning company standards.

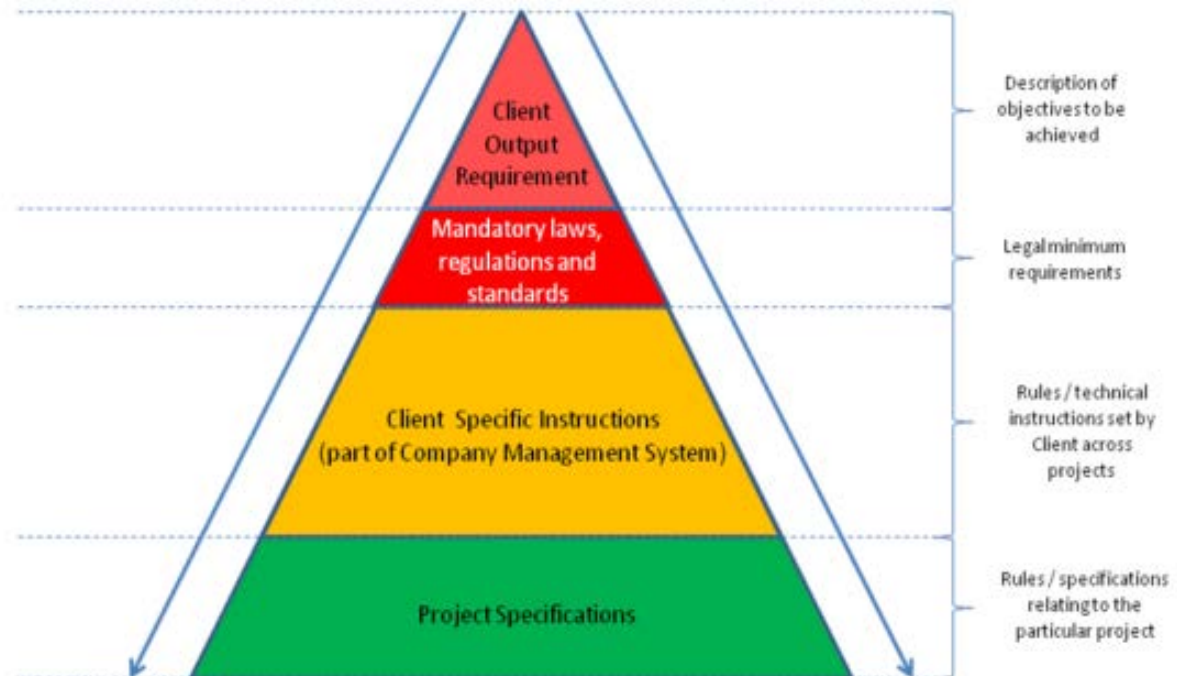
The plan for LU's programme of standards improvement (2001-2004) was written such that it could be incorporated in consultant's commissions (where used) as well as LU in-house standard creators to provide all the necessary information on methodology and ensure collaborative working across the whole company. The main thrust of this programme was to create a coherent, output-based, set of standards, which became LU's Category 1 and Category 5 Standards as outlined below:

- **Category 1:** These are **mandatory standards** on LU, all suppliers and anyone else working on or accessing the LU network. These reflect the LU environment and are additional to legislation, Euro Norms, British Standards or any other International Standard that LU may select. They are mostly output based and set LU's minimum safety, technical and performance constraints.
- **Category 2:** These standards either offer solutions to the output based Category 1 Standards or determine LU's minimum requirements in the absence of an overarching Category 1 Standard. They are prescriptive rather than output based.
- **Category 3: Guidance** purposes only – not a Standard.
- **Category 4: Redundant – no longer required.**
- **Category 5:** These are mandatory standards but apply to LU only. They mostly determine LU's Business requirements.

²⁷⁴ Adapted from a report on the Institution of Civil Engineers (ICE) website, 'Specifying successful standards': <https://www.ice.org.uk/disciplines-and-resources/best-practice/specifying-successful-standards>

This categorisation of standards is aligned with the hierarchy of project specifications as set out in Figure G.1 below, which provides a sound basis to achieve the optimum Level of Prescription illustrated.

Figure G.1 - London Underground categorisation of internal company standards



Following the return of the former Metronet Rail organisation and work into LU, this programme has moved on to reviewing and streamlining Category 2 standards that Metronet brought with them. The drivers for this were to ensure that they were up to date and do not unnecessarily constrain suppliers. For example, maintenance regimes under this approach were now far more risk based than the previous time interval regimes, and as a result provided resource savings through greater efficiency.

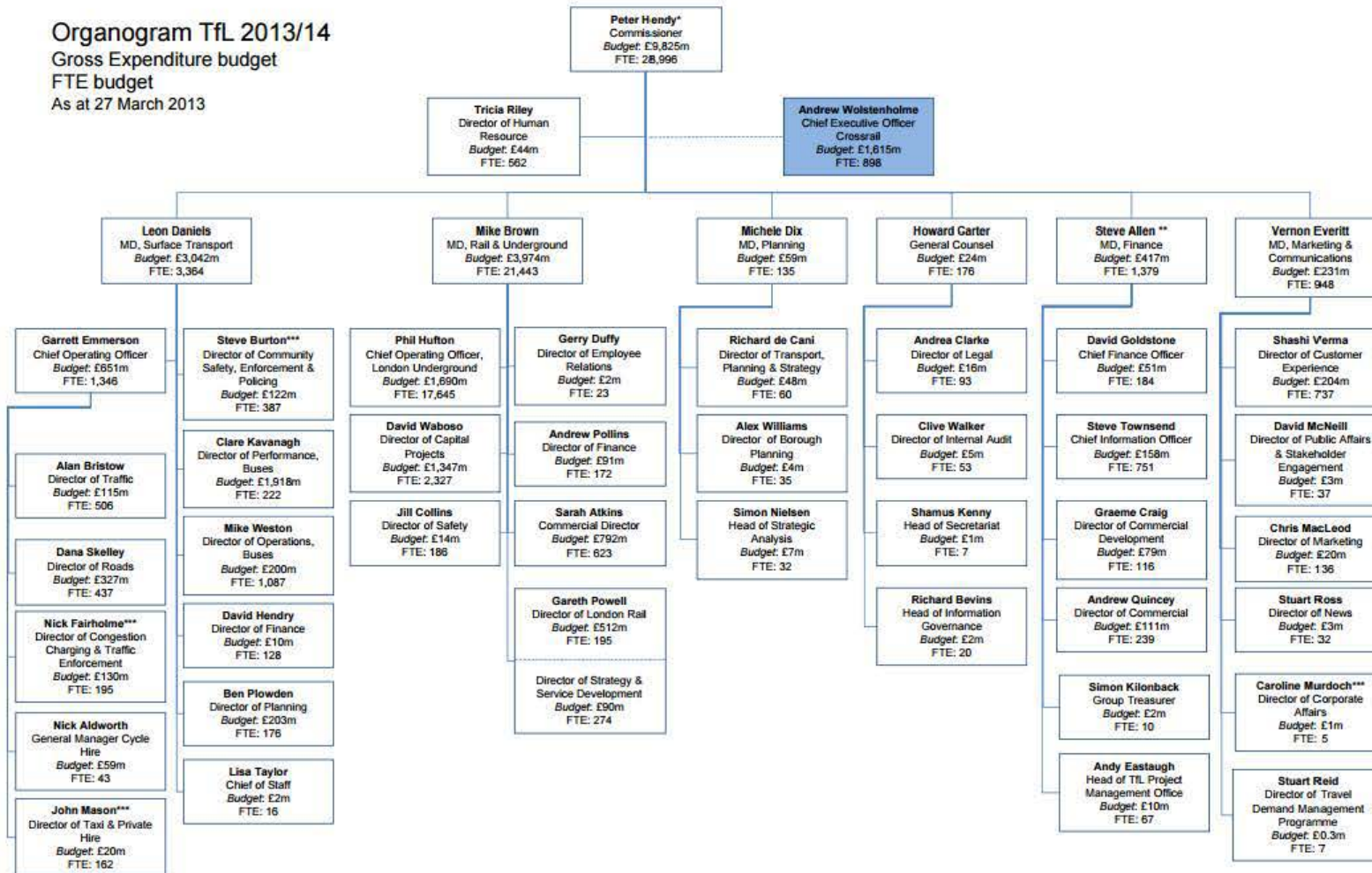
Although the initial need to rationalise standards arose through the external stimulus of the formation of the PPP contracts, the subsequent maintenance and indeed expansion of the LU standards rationalisation programme has been driven by a clear view that there are process and indeed financial benefits. It is widely agreed a streamlined, coherent suite of standards provides the best platform for improvement.

In addition to the examples in other sections of this report in the last year alone LU has authorised 250 individual changes to standards.

Organisational diagram

Transport for London's (TfL) organogram for 2013/14 is presented below.

Figure G.2 - TfL Organisation 2013



Notes
 *Commissioner: Expenditure and FTE includes Crossrail
 ** MD, Finance: Expenditure and FTE excludes Crossrail
 *** Between 27 March and 1 August a number of changes of personnel and responsibilities have taken place at Director level. These are: Nick Fairholme is now Director of Projects & Programmes, Surface; Steve Burton is Director of Surface Integration Programme; John Mason is Director of CC&T; Helen Chapman is Acting Director of T&PH and Siwan Hayward is Acting Director of CSEP. Simon Burton is Director of Corporate Affairs.

All Budgets are Gross Operating & Capital expenditure excluding 3rd party contributions budgets
 Budgets and FTE numbers are subject to rounding

