

Rail VfM

Alternative Railway Structure Study



Chiltern Case Study Executive Summary

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Executive Summary

- 1.1 The Secretary of State for Transport announced a study into the Value for Money of the GB rail industry on 9th December 2009, jointly sponsored with the ORR.
- 1.2 The objective of this study is to develop and design a bottom up vertically integrated organisational structure for Chiltern Railways and identify the cost-benefit implications of such a structure. It is recognised that Chiltern is much smaller than other proposals for VI so a cost effective solution for Chiltern should translate to proportionately greater cost efficiency in larger operations/routes.
- 1.3 FCP has deployed four of the most experienced engineers who have spent their entire working lives in the rail industry both in the public and private sectors. Chris Kinchin-Smith an independent consultant who is now employed part-time by Chiltern Railways as a Strategy Adviser, has provided input on all Chiltern Railways operations management, support services, and revenue generation matters.
- 1.4 The study team are grateful for the assistance of Network Rail in providing data and assistance in preparing this report. It should be emphasised that this is an independent report carried out for the rail value for money study. The report should not therefore be seen as representing the views of Network Rail. Indeed Network Rail consider that many of the sustainable efficiencies identified may not be dependent on the development of a vertically integrated business and can be achieved through other means.
- 1.5 The study focuses on the 'Chiltern Routes' comprising strategic route sections M01, M02, M03 and M04 whose boundaries are also co-incident with routes controlled from the Marylebone Area Signalling Centre.
- 1.6 Due to the very limited time available for the study and the pressures on the Network Rail staff the study analyses are indicative only. The analyses rely heavily upon the experience and knowledge of the study team and also acceptance on face value of data provided for the study.
- 1.7 The study group has gathered information from Network Rail and Chiltern Railways, held meetings and telephone conferences with key individuals, and made site visits to some sample locations.
- 1.8 While the focus has been on this limited area of 275 track km some site visits were made beyond these boundaries to the north of Aynho Junction over which Chiltern Railways operates along with other freight and passenger train operating companies. This enabled the team to gather a larger sample of information which helps put the 'Chiltern Routes' south of Aynho Junction into context. Also in meetings with Network Rail discussions inevitably probed the background and rationale to their policies and their application. Findings as a result of such discussions could enable a national and system wide application with the consequent improvements in value for money (VFM) to be explored.

Study findings

General

- 1.9 A viable Regional Infrastructure Unit (RIU) can be created that would provide all of the day to day operational, inspection and maintenance needs for Chiltern Strategic Route Sections (SRS's) MO1 - MO4.

- 1.10 The operational element of this RIU if configured as a Vertically Integrated business would deliver a cost saving of £300k – £360k per year, compared with current estimated Network Rail cost of £1.9 million, as a result of manpower reduction.
- 1.11 The inspection and maintenance element of the RIU if configured as a Vertically Integrated business would have a broadly similar cost to the existing arrangement – ‘The Base Case’ of £10million per annum.
- 1.12 The Chiltern SRS’s in total represent only about 1% of the national network. It is likely therefore that for a much larger route group a cost saving could be achieved as a result of economy of scale. This would be as a result of a more efficient management, technical and supervisory team in terms of their ratio per track km.
- 1.13 Key senior positions of Chief Civil Engineer and Chief Signal and Telecoms Engineer reporting to the Managing Director would be introduced in the RIU to carry the responsibility for operational safety, serviceability, manpower and budget for all assets in their respective disciplines.
- 1.14 Additionally the Chief Engineers would play a key role in the business development and provide critical input on engineering matters to achieve ‘whole–system’ bottom line performance for Chiltern Railways business.
- 1.15 This structure is very much at the heart of the Vertically Integrated business as it provides the MD with control and direct access to the chief engineers responsible for all aspects of output performance of their assets and all of the costs associated with the achievement of those outputs. This arrangement is fundamental to drive and deliver the most cost effective operation. Iterations between MD and Chief Engineers on business imperatives, options to consider and settling on the most cost effective and affordable ‘whole - system’ solutions will be achieved in the most efficient and productive manner with this structure.
- 1.16 It is as a direct result of the above (1.14 – 1.16) that inefficiencies would be driven out, innovation would naturally flow and the most cost effective, whole-system solutions introduced for the business. There is no leaner, more direct relationship between a business, its MD, those generating income and those responsible for cost than in a VI arrangement. It is the most responsive structure to meet both cost control and cost effective revenue generation.
- 1.17 The conclusions at the end of the full report outline a number of recommended steps to more fully quantify the extent to which greater efficiencies can be achieved in the short term. In particular; overheads, support services, timing of renewals and alternative maintenance strategies to deliver increased revenues.

Structures and Earthworks

- 1.18 It is recognised that some earthworks on the Chiltern route sections have been a cause of concern for some years. However, the study revealed that a number of sites are proposed for treatment costing over £2 million at each location. No proper business case evaluation has been carried out. It may be possible to identify more cost effective options including possible deferment and increased maintenance.
- 1.19 It is recommended that Network Rail should undertake a comprehensive business case evaluation for repair options to their major earthworks for all schemes exceeding £1million.
- 1.20 Network Rail high level peer reviews do not usually involve site inspections. They are based upon documentation provided by the Route Engineers. It is recommended that a network wide peer review system based upon site inspections be considered.

Track

- 1.21 Three CP4 programmed track renewal sites were inspected north of Aynho Junction. The cost of these items is estimated at £3million. It was not clear why these items were in the current programme as the condition appeared to still be perfectly serviceable. It is recommended that these items are reviewed for deferral to CP5.
- 1.22 Such a deferral would represent a long term saving of approximately 10% net of any additional maintenance that is required in the interim (5 years increase on an approximate 40year life).
- 1.23 Further information obtained from Network Rail revealed that some of the rail is 40 years old and could have carried a cumulative tonnage in excess of 1200 EMGT. This is more than double the planned/expected life of 450 CEMGT used by Network Rail for this type of rail.
- 1.24 The above examples demonstrate the potential for significant cost saving nationally in the range 10% - 50% as track renewals appear to being programmed prematurely.
- 1.25 Network Rail's Track Asset Policy is very much based on achieving statistically desirable norms on a route basis. While there is a cross check with actual conditions on site there appears to be a tendency to lift overall 'route' standards by premature renewals. This is not necessarily a flawed strategy when one considers the 'whole life of asset' requirements to achieve critical outputs of operational safety and serviceability. However it is a very different approach to that taken in the pre-privatisation era when renewals were based almost entirely on a 'bottom up' condition based approach. The optimum VFM strategy probably lies between the two and should be reviewed.
- 1.26 The Chiltern route has over recent years seen an enormous amount of renewal and enhancement work to the infrastructure as a result of the Evergreen Programme. As such it requires little in the way of track renewal over the next few years. The current programme for CP4 amounts to just over £3million much of which has already been completed. About £1million is still programmed south of Aynho Junction and it is recommended that these remaining renewal sites are revisited with a view to possible deferral.
- 1.27 During wide ranging discussions with Network Rail on track asset policy they stated that only 10% - 15% of rail and sleepers removed from a renewal site are cascaded to a lower category route, of which a much smaller % is taken site to site directly. This is extremely low in view of the condition and residual serviceable life left in the material being replaced. This strategy should be reappraised as it represents a significant opportunity to improve VFM and cost reduction.
- 1.28 Consultancy and Network Rail staff undertaking track bed investigations and design work often operate remotely from the local maintenance teams. As such they appear to formulate the specification very much on a theoretical basis without the benefit of local knowledge. There is thus a tendency to over specify formation treatment. This process should be reviewed with a view to ensuring practical, cost effective solutions are specified.

Network Rail Overhead and Support Function Costs

- 1.29 Network Rail has presented an annual cost allocation to Chiltern (SRS's MO1 – MO4) totalling approximately £14 million. This is broken down into three principle headings of Route Attributable, Network Wide and Non-Controllable. These in turn are broken down into sub categories.

- 1.30 As Network Rail do not routinely allocate costs in this manner the figures can only be their best assessment. Nevertheless they reveal very significant costs for a group of Strategic Route Sections that in total represent only 1% of the Network.
- 1.31 The study team has considered each category and has judged that in a VI structure for Chiltern Railways many of these services and/or costs would be avoidable. Those that are needed would either be underwritten and supplied by Network Rail, provided by Chiltern Railways HQ, or competitively sourced from the market.
- 1.32 The total underwritten overhead and support services cost is estimated to be a maximum of £4million.
- 1.33 This assessment must be viewed only as indicative in view of the approximations and judgement used but does demonstrate a potential saving of 70% on overhead and support function costs.
- 1.34 In view of the significance of these numbers and potential cost saving it is recommended that a more thorough cost-value reconciliation is carried out.

Revenue Opportunities

- 1.35 Chiltern Railways has detailed several desirable revenue enhancement proposals requiring journey time improvement and/or increased availability of the infrastructure. They would like to run trains with shorter journey times, later evening trains and earlier morning trains, and to provide a much more comprehensive service throughout Sunday. The projected total annual revenue increase for Chiltern is forecast at between £2.9m and £3.6m, compared with the present base of £105m per year. All of these Chiltern Railways proposals could be deliverable as a result of Network Rail adopting different maintenance and renewal strategies, and/or by applying their existing policies. There will certainly be a cost associated with such changes, and the business case for each proposal should be examined. Implementation would most likely occur in a Vertically Integrated arrangement in which the objectives and incentives of the two present businesses would be fully aligned. Those proposals which proved to have a negative business case would not of course be implemented, so reducing the overall potential revenue benefit of this package of proposals.
- 1.36 Network Rail is developing their track design to make improvements and provide better VFM. However there appears to be insufficient input and direction from operating companies as to what outputs they would ideally want and insufficient invitation from Network Rail to seek ways in which operators (and their markets) could influence their development programme and maintenance strategies more in line with the market. The abandonment of swing nose crossing development (which is routinely used elsewhere in Europe) to enable higher speeds through Switch and Crossings is one such example.