
**Network Rail October 2007 Strategic
Business Plan**

Supporting document

Freight Strategy

1 Introduction

Network Rail fully supports the freight industry in its aspiration to develop and expand the use of rail for freight, whether that be in the transport of the traditional rail markets of coal, steel or aggregates; the rising volumes of imported containerised goods or the increasingly active domestic containerised products for fast moving consumer goods. A vibrant successful rail freight market will support, sustain and complement a successful UK economy and Network Rail wishes to play its full part in this.

In October last year HM Treasury published the Stern Review on the Economics of Climate Change which estimated that the dangers of unabated climate change could be equivalent of 20 per cent GDP or more each year. The report was based on an update of the scientific evidence produced for the 2001 Intergovernmental Panel on Climate Change. The evidence on the relationship between transport emissions and climate change has reinforced a Government focus on the causes of greenhouse gases. There has been an increasing focus on the environmental benefits of modes of transport with lower emissions, including the benefits of moving freight by rail. In December 2006 HM Treasury and the Department for Transport published the Eddington Transport Study which highlighted the pivotal role that transport plays in the UK's economic productivity, growth and stability, within the Government's broader commitment to sustainable development. These studies have reinforced the important role that rail transport can play in this arena and for freight on rail in the context of this section.

We include sections on freight performance and freight efficiency. In the former we address the commitment Network Rail has to reduce delay to freight services and how we intend to work with our freight operators to increase the visibility of freight performance so that comparisons between freight and passenger reliability are more readily understood. There are a number of actions we can consider that may improve the level of service efficiency of our freight operators businesses and these are laid out in more detail below.

A further section discusses building better relationships with members of the freight community, where we explore what Network Rail's role could be in supporting the overall aim of increasing the volume of freight on the network.

Following this, we consider the Freight RUS and how we are currently delivering the outputs agreed earlier this year and the longer term aspirations which have yet to be addressed. This section also includes our strategy for the key freight routes on the national rail network.

We conclude with discussion of the Strategic Freight Network examining the process that we are putting in place with the freight industry to establish how this will be developed, using the same principles as we used in establishing the Freight RUS.

2 Improving service performance

The HLOS identifies reliability targets for PPM which are discussed further in Chapter 8 of the Strategic Business Plan. The development of plans to meet those targets cannot be achieved without a similar focus on freight performance and reliability.

We have consulted our freight operators and have jointly agreed that the industry would benefit from a more rigorous approach to freight performance. This will require an improved suite of measures for freight and we have begun a dialogue with the freight operators to agree how those measures are best expressed to meet their specific needs. We believe that improvements in this area will have benefits to freight train operators and freight users, and also to the passenger railway.

We are aiming to improve the level of delay to freight trains by around 25%, with particular focus on the management of time-sensitive traffic, or any other priorities that the freight operators identify as important to them. There is an illustrative trajectory including freight that is based on an assumption that the delay minute plans will deliver performance levels at 8.5 million minutes by the end of CP3. The freight trajectory for CP4 is based on the same trajectory curve as for passenger services, with different delay minute start and end points.

The 25% delay minute reduction is the target that we believe is appropriate to deliver a 92.6% PPM railway, and has been applied equally between passenger and freight services. This needs to be tested further with freight operators.

We already have a number of performance improvement plans with individual freight operators which have in some instances led to a significant improvement in the reduction of minutes delay over the past two years. This work needs to continue in a more structured way to allow the benefits of such plans to be more visible both within Network Rail but also within the wider railway community.

3 Improving service efficiency

Freight Operators have asked us to work more closely with them to improve the efficiency of their operations. This can sometimes be accomplished by facilitating the running of longer and heavier trains or moving high gauge containers. All of these areas are either being addressed through various initiatives or enhancements currently underway, many arising from the established freight RUS.

We are aware that we can affect the efficiency of freight operations in an adverse manner if our maintenance and possession strategies are not planned appropriately. As with all things on a mixed use railway there is a balance that needs to be maintained so that all users are considered. We have agreed to run some trials at various locations to identify the benefits of

single line working and bi-directional signalling when possessions are to be taken. We have also agreed to look again at how our maintenance plans can be adjusted to reduce the number of disruptions caused to the freight operators, using a trial in the Midlands as a test case.

We also consider that there are significant benefits to be achieved from improved discipline about when disruptive possessions are taken. We will also need to work with our suppliers to find more innovative ways of doing things.

Other efficiency measures include the smooth running of industry processes, especially where freight users decide that they wish to change their freight operator. In these circumstances Network Rail is required to facilitate the smooth transfer of access rights from one operator to another. We are working with the industry to identify areas of improvement and we will be discussing this with the Office of Rail Regulation.

The development of the seven day railway is believed to have a beneficial impact on the freight market. A recent report by MDS Transmodal for Freightliner and EWS suggested three principal benefits of 7-day operational working:

- Provision of a continuous supply network to the distribution industry saving HGV 'weekend cover' costs;
- A 40% increase in wagon and locomotive productivity thereby reducing unit costs; and
- With cost savings passed on to customers, long-run freight industry earnings could increase significantly.

We are currently working with the freight operators to scope what their financial benefit would be in more detail and will use these inputs from them to develop the right balance for the freight business in our industry plans.

4 Relationships with the Freight Industry

Network Rail cannot deliver this strategic plan alone. We need to work in close partnership with the rest of the rail freight community so that we can all achieve our objectives. Network Rail's role in the freight industry is quite clear. We clearly need to provide excellent service to freight operators. Moreover, it is not our role to stand between the commercial or operational arrangements that exist between a freight operator and their customers. Our licence conditions are quite clear on our responsibilities to be non-discriminatory when dealing with any party, and we have a responsibility to deal efficiently and effectively with all those parties who depend on the rail freight industry to conduct their business.

In the rail freight community Network Rail has relationships with a number of customer groups. Whether they be the primary user of the rail freight service such as port operators, shippers, manufacturers or distribution firms; the freight operating companies; the suppliers of development funds for network enhancements or those companies who supply equipment to the freight industry, with some of whom we have a contractual relationship.

Network Rail already has a working relationship with some of the industry's freight users through the connections of our joint infrastructures; enhancement plans that we may be developing or delivering with them; or through their discussions with us on industry processes. We need to do more to understand their requirements and we plan to develop stronger relationships with these important members of the freight community during CP4.

We have created specific customer relationship teams for each freight operator and have begun to address some of the issues that our customers have identified as requiring resolution. This work will continue.

Funders of freight developments whether they be private or government bodies are served by our route enhancement teams, a relationship which over the past two years has improved significantly but still needs further work in reducing the levels of complexity which currently exist. This is currently being addressed through various workstreams including the ORR's consultation on Third Party Enhancements.

5 The established Freight RUS Strategy

Context

In the mid-1990s, a long term trend of declining levels of freight on the UK rail network was reversed. A prolonged period of economic growth has resulted in increased movement of goods by all modes. Major investment by the freight operators, improved service and reduced costs has enabled rail to maintain its share of this expanding market, carrying approximately five per cent of tonnes lifted. It currently has a 12 per cent share of tonne kilometres (weight of freight multiplied by distance carried) reflecting the increasing distance of rail freight movements whilst the average distance of road hauls has declined.

The growth has not been uniform across commodities. The rail freight market is currently dominated by the bulk commodity markets. Coal, metals and construction constituted 62 per cent of rail freight moved in 2005/6 and an estimated 82 per cent of rail freight lifted (2004/5). There have been considerable increases in the tonnage lifted of coal (20 per cent over five years) and construction products (17 per cent) whilst some commodities have shown little change or have declined. The increases seen in coal are particularly important to an understanding of network utilisation because haul length has increased considerably reflecting a move to the use of imported coal replacing locally deep mined coal in coal fired power stations.

The intermodal market (predominantly deep sea containers at present) is now established as a major market. In 2004/5 it reflected eight per cent of rail freight lifted and 19 per cent of tonne kilometres reflecting the significant distances over which it is transported. By 2005/6 this had increased again to 20 per cent of tonne kilometres.

Over the last two years, Network Rail has worked very closely with its major stakeholders to understand the future demands that a growing freight market will place on the rail network. The result has been the development of an industry-wide consensus. The agreed strategy developed to meet anticipated growth was published as the Freight Route Utilisation Strategy (Freight RUS) in March 2007. The Freight RUS was established by the ORR in May 2007.

The Department Of Transport's July 2007 White Paper 'Delivering a Sustainable Railway' based its long term strategy on the Freight RUS and built upon it by outlining its intention to invest in a 'Strategic Freight Network'. The White Paper envisages a doubling of rail freight in the longer term.

The Freight RUS Process

In common with all RUSs produced by Network Rail, the Freight RUS has an overriding objective to plan for "the effective and efficient use and development of the capacity available, consistent with funding that is, or is reasonably likely to become, available during the period of route utilisation strategy and with the licence holder's performance of the duty" (ORR Guidelines for Route Utilisation Strategies June 2005).

Unlike the individual 'geographical' RUSs which concentrate on resolving the changing demand on fairly self-contained parts of the network, the Freight RUS considers the future of freight across the entire network. This is important because freight movements cross operational and political boundaries. A network wide approach ensures that the freight demand forecasts used within each geographical RUS and Route Strategy are consistent. It also ensures that each RUS and Route Strategy is underpinned by a common agreed freight strategy.

Despite its unique role in the RUS programme, the process followed was consistent with that taken throughout the wider RUS programme. It involved a detailed understanding of the freight network, forecasting the freight network up to 2015, assessing and agreeing the key gaps in with industry stakeholders and optioneering to understand what action could be taken to bridge the gaps. As with all RUSs a range of solutions were considered in a hierarchical manner starting with non-infrastructure solutions (such as amendments to timetables and operating longer trains where existing infrastructure permits) and progressing to consideration of infrastructure solutions if required.

The Freight RUS development was overseen by a Stakeholder Management Group consisting of Network Rail, English Welsh and Scottish Railway, Freightliner, GB Railfreight, the Association of Train Operating Companies, the Department for Transport, Transport Scotland, the Welsh Assembly Government, Transport for London, the Rail Freight Group and the Freight Transport Association. Passenger Focus was consulted at regular intervals during its development. The ORR attended meetings as observers.

The Freight RUS draft for consultation was published in September 2006. The feedback received during the consultation period was incorporated into the development of the final strategy which was published in March 2007. It was established by the ORR in May 2007.

The Freight RUS Strategy

The Freight RUS presents a view of freight growth and alterations in patterns of existing traffic flows that could realistically be expected to occur on the network by 2015 and presents a strategy to address key issues that arise in accommodating these changes.

A growth of just under 30 per cent in freight tonnes lifted is forecast over the study period (the 10 years to 2014/15) which equates to up to 240 additional trains per day on week days

(including some return trips running empty) compared to the base year of 2004/05. Whilst growth is predicted in the volumes of most commodities carried, the greatest overall level of growth is expected in deep sea (intercontinental) intermodal traffic. The greatest levels of change in demand on a route by route basis are driven by changes in the sourcing of electricity supply industry (ESI) coal. Accordingly, the majority of the key capacity and capability issues identified by the study are driven by these two commodities.

Coal routeings

The RUS assumes that the levels of imported coal will continue to grow throughout the period covered by the RUS, replacing some remaining domestic coal supplies. It examines the costs and benefits of accommodating growth along the two main competing corridors that feed the Aire and Trent Valley power stations: the route from the ports on the east coast of England (the 'Base Case') and the 'Anglo-Scottish' coal route from the Port of Hunterston and the Ayrshire opencast coal fields via the Glasgow and South Western and Settle and Carlisle routes (Sensitivity 1). There is a clear business case for developing the east coast ports coal route. This is reinforced by recent increases in the traffic carried which are in line with forecast.

There is also a business case for enhancements on the Anglo-Scottish coal route which provide benefits to passenger services and enhance the route's capacity as a diversionary route for both freight and Anglo-Scottish passenger services whilst providing an alternative coal route. Although demand on the route is not growing in line with Sensitivity 1 projections at present it is recognised that the route will continue to see coal traffic demand throughout the RUS period and if the projected growth did develop in line with Sensitivity 1, additional renewals would also be required (costing up to an estimated £60m).

Gauge clearance for the intermodal market

The Freight RUS recommends a proactive strategy for development of priority core and diversionary / capacity generating routes to W10 gauge. This will facilitate the growth of rail's share of the market for haulage of 9'6" containers, enabling it to carry a significant volume of traffic that would otherwise be carried by road. Routes from the Ports of Southampton and Felixstowe are demonstrated to have a positive business case.

The FOCs have expressed aspirations to expand the coverage of W12 gauge (plus electrification) and European gauge to specific parts of the network. In response to this Network Rail recommends that W12 clearance (which in many cases involves only a small amount of incremental work over W10 clearance) is considered as a starting point when a structure is renewed on the routes identified as priorities within the RUS. This may be achieved by either replacement with higher structures or lowering of the track. There is a longer term aspiration for UIC GB+ gauge, focussed on primary routes between the CTRL and the main freight depot locations near Birmingham, Manchester and Leeds.

Terminal Development

The challenge for freight in CP4 is to continue to develop the network's capacity and capability to carry more freight traffic reflecting anticipated volumes in the different market sectors. The effect of this growth on terminal capacity will need to be assessed especially the effect driven by additional container traffic. Some of this additional traffic will probably be accommodated at existing locations but there may need to be additional capacity created. Traditionally this has been handled by private developers driving and funding rail connected development and it is likely that this will continue to be a substantial element of new terminal capacity. We will continue to support such developments where the funding, planning and capacity prerequisites are met. There may also be a role for us in the use of land which Network Rail owns and we would like to work with the freight industry during CP4 to make sure that we are managing this portfolio of land to its best advantage to support the freight industry in its widest sense.

Strategy for key freight routes

West Coast Main Line

The key flows driving the RUS strategy for the West Coast Main Line are between Carlisle and Preston (the continued operation of Class 6 diesel hauled services over the steep gradients and some projected intermodal growth) and further south between Winsford and Weaver Junction, at Stafford and between Rugby and Wembley (growth in the deep sea intermodal market).

Short term (CP 3: 2007-2009)

- Freight operators' existing needs are expected to be met by the proposed December 2008 timetable.
- New loop at Hartford with higher entrance and exit speeds to be delivered under the West Coast Route modernisation project.
- Diversion of some services via Macclesfield to remove some daytime services from Stafford station and Stafford Trent Valley junction

Medium term (CP4: 2009-2014)

- Electric haulage of new freight traffic between Crewe/Warrington and Carlisle/Glasgow (over Shap) to enable a third Up path in most daytime hours.
- W10 clearance from Peterborough to Nuneaton and some initial additional capacity from Felixstowe to Nuneaton, allowing eight additional paths from Felixstowe to be routed cross-country away from the southern section of the

WCML

Long term (beyond CP4)

The following schemes are beyond the timescales of the RUS but will be needed as the projected growth continues:

- Lengthening of intermodal services to/from the Haven ports
- Major enhancements in the Stafford area (passenger demand could drive this scheme in the medium term)
- Major capacity enhancements on the Felixstowe to Nuneaton route¹

Haven ports² to the West Coast Main Line

Short term (CP 3: 2007-2009)

- The base case assumes that the capacity upgrades which Hutchison Ports UK are required to deliver as part of the planning permission for Bathside Bay and the expansion of the Port of Felixstowe (capacity upgrade of the Felixstowe branch, alterations to Ipswich yard and W10 clearance of the route from Ipswich via Peterborough to Selby and Wakefield) are completed within the RUS period.
- The established Cross London RUS states that ten additional trains can be accommodated on existing routeings via the Great Eastern and North London Line. This should be sufficient until at least 2010/11³
- Implementation of gauge clearance to W10 of the Tottenham and Hampstead Line and associated capacity enhancements will enable some services from North Thameside (including those from Shell Haven if it is developed) to avoid the North London Line.

1 The optimum time to deliver capacity enhancements at Leicester (the key constraint on the 'F2N' route) may fall inside the medium term (CP4) depending on the timing of resignalling of Leicester control area

2 Felixstowe and Harwich/ Bathside Bay

3 The precise point at which remaining capacity on the GE is taken up is dependent on the rate of portside development at Felixstowe South and Bathside Bay and the timing of delivery of HPUK enhancements to the Felixstowe branch and Ipswich yard

Medium term (CP4: 2009-2014)

- There will be a medium term requirement to route some trains to and from the Midlands and West Coast Main Line via Ely, Peterborough, Leicester and Nuneaton (the 'cross-country' route). The RUS recommends that it is cleared to W10 and that signalling headways are shortened in the Kennett area and a northern facing chord is added at Nuneaton, subject to further development through the GRIP process.
- The above will accommodate growth of eight trains per day on the cross country route and provide a valuable diversionary route. The specification of long term capacity enhancements will depend on the timing of new portside capacity at Bathside Bay, and any future decision to route some existing services away from the Great Eastern and North London Line to facilitate improvements in the passenger timetable.

Long term (beyond CP4).

- Lengthening of some container trains to 30 wagons (from the present 24) could be facilitated by further alterations to Ipswich Yard, and loop enhancements on the cross country route. Higher powered traction would also probably be required if trains are to maintain Class 4 timings. This option should be considered in conjunction with Ipswich area re-signalling which is due to occur post-2015.

We are working closely with freight customers to understand how we can meet their requirements in light of the Crossrail project.

Southampton to the West Coast Main Line

Short term (CP 3: 2007-2009)

- Minor signaling enhancements on the Sutton Park Line implemented with Saltley signalling renewals to increase capacity on the alternative route to the WCML from Leamington
- Movement of a signal on Reading West curve to create a lengthened regulating point for container trains

Medium term (CP4: 2009-2014)

- W10 gauge clearance of the core route via Eastleigh, Reading West Junction, Leamington, Coventry and Nuneaton
- W10 gauge clearance of Leamington - Tyseley and Landor Street – Sutton Park line - Darlaston Junction to complete a second W10 cleared route between Leamington and the WCML offering access to the WCML at times of blockade on the core route

Long term (beyond CP4)

The RUS recommends that if the demand continues to grow as predicted further schemes may be necessary beyond the life of the RUS. If development of an additional one million TEU handling capacity takes place at the Port of Southampton, the following schemes will be required in the medium term

- Grade separation at Reading West: Construction of a flyover to allow container trains traveling to and from the Basingstoke lines to reach the Up and Down goods and relief lines on the Great Western without crossing the fast lines
- Development of a W10 gauge and capacity capability for diversion routes via Melksham or Laverstock / Andover

East coast ports to the Aire and Trent Valley power stations

Short term (CP 3: 2007-2009)

- Brigg Line enhancement to provide a significant number of additional paths per day between Immingham and the Trent Valley power stations / Doncaster and a diversionary option to the South Humberside Main Line
- Wrawby Junction linespeed improvements
- Reinstatement of the Boldon East curve to generate additional paths to and from the Port of Tyne and provide an alternative to the ECML routeing via Durham

- Partial double tracking of the Hull Docks branch

Medium term (CP4: 2009-2014)

- Additional freight loops between Wrawby and Brocklesbury to improve regulation of trains in and out of the Port of Immingham
- Cottam Chord, allowing direct access from Port of Immingham to the Cottam power station, thereby relieving congestion on the Doncaster-Worksop route and the South Humberside mainline
- Killingholme Loop to provide improved rail access to the port of Immingham, particularly HIT2 and the Killingholme branch
- Selby station bi-directional signaling and extension of Barlby loops

Anglo-Scottish coal route

The Scotland RUS (published in March 2007) recommends enhancements on the Glasgow and South Western route. The Freight RUS recommends the following additional enhancements:

Short term (CP 3: 2007-2009)

- Enable loaded Up freight services to join and depart WCML at greater speed by relaying part of Mossband up arrival line to 50 mph and providing a starter signal on Gretna station platform
- Provision of 6 additional intermediate block signals on the up line and 2 additional intermediate block signals on the down line on the Settle and Carlisle route to generate additional paths and improve passenger and freight performance
- *Medium term (CP4: 2009-2014)*
- If the maximum tonnage (Sensitivity test 1) forecast occurs, there would be a requirement for up to approximately £60 million worth of additional track renewals and structures work

A number of these recommendations are being funded from the Network Rail Discretionary Fund or the Network Rail Outperformance Fund.

Five larger schemes were put forward to Government for funding by the Transport Innovation Fund in recognition of their role in improving national productivity. To date, the funding for one of these schemes (Gospel Oak to Barking gauge and capacity enhancement) has been confirmed and a decision on the remainder is expected in the autumn.

6 The Strategic Freight Network

In July 2007 DfT published a White Paper 'Delivering a Sustainable Railway'. The White Paper restates the Government's confidence that rail freight will grow over the next ten years. It outlines a high level strategy to address growing demands on the network – both for moving passengers and freight – in the light of increasing competition for network capacity.

The White Paper reinforces the findings of the Freight RUS. It welcomes the long term charges regime established by the ORR and supports the long term stability of freight access contracts. It suggests that such long term rights should be accompanied by responsibilities, specifically that railway capacity should be used as efficiently as possible, and that the principle of 'use it or lose it' for space held in the timetable should be rigorously applied. It also acknowledges the aspirations prioritised by the Rail Freight Operators Association to meet present and future operational and logistical requirements, some of which were included as part of the Freight RUS recommendations.

The Government sees these developments as the first steps towards the development of a Strategic Freight Network (SFN). £200 million of investment has been identified within the SoFA for CP4 towards the development of the network.

The White Paper does not specify which parts of the network would be designated as SFN or which schemes should be progressed. It does, however, say that its aim is to provide an enhanced core freight trunk network, optimised to freight requirements and providing greater capability, reliability and availability. It identifies the following key characteristics which it would wish the SFN to embody. The white paper says that it should:

- complement and integrate with the passenger network
- provide an enhanced core trunk network capable of accommodating longer and additional freight trains with both higher axle loads and enhanced loading gauge
- provide appropriate diversionary routes and a seven day railway capable of dealing with disruption
- incorporate 'acceptable freight routing' to help freight avoid congested parts of the network and where possible exploits or develops capacity and capability of alternative routes
- minimise conflicts with passenger movements wherever possible
- improve the performance of passenger services
- give freight operators, customers, port owners and developers a more stable environment for planning freight
- be developed within the wider framework set out in the Government's Technical Strategy, which accompanies the White Paper, and in the context of the on-going Network RUS.

- In addition, work on the SFN could:
- identify further gauge enhancement for wider European containers and with time, possible European gauge rolling stock direct from the Continent to areas beyond London
- identify, and selectively safeguard, disused alignments

The White Paper suggests that the investments could vary from small scale incremental enhancements to major infrastructure projects. The majority of the issues listed above have been addressed within the Freight RUS which outlined the programme of enhancements to the network to meet the growth expected by the industry outlined in Section 2 above. The SFN group will be able to take this work a step further, taking into account the opportunities which could be created by the move towards greater network availability afforded by the seven day railway and in light of the wider network enhancement strategy (including, if appropriate, an understanding of the industry business case for strategic electrification).

Network Rail has agreed with its stakeholders that it will consult with them to prioritise potential candidate schemes for SFN funding. To this end, it has established an SFN Steering Group consisting of:

- Network Rail
- Freight Operators
- Department for Transport
- Welsh Assembly Government
- Transport Scotland
- Transport for London
- Association of Train Operating Companies
- Rail Freight Group
- Freight Transport Association
- Office of Rail Regulation

The SFN Steering Group will take the discussion of the SFN in the White Paper and develop further to identify of key criteria for identifying schemes that meet the agreed definition.

Schemes which fulfil the criteria agreed for the development will be eligible for consideration by the SFN Steering Group. It is expected that the majority of the schemes would arise from the recently completed Freight RUS which outlines the industry's agreed growth strategy. Nonetheless schemes can be put forward if they fulfil the criteria. Schemes which already have an agreed funding source will not be eligible for consideration. Prioritisation will be achieved by ranking of the appraisal results and fit with the agreed criteria of the SFN.

The SFN Steering Group will take a view of whether the optimal strategy is to concentrate the funds on a small number of large schemes or a combination of smaller enhancements.

Network Rail will provide further details of our plans for the SFN in our April update of the Strategic Business Plan.

Summary

In summary Network Rail believes that the rail freight industry has a robust future which it wishes to support. We have been able to take account of the greatly improved understanding of freight requirements which was gained through the Freight RUS. We are now looking forward to building on that experience working with our freight industry partners so that we can together understand the most effective and affordable way of delivering the overall requirements of rail freight users, operators and funders.