The Rail Central Rail Freight Interchange and Highway Order 201[x]

Regulation	5(2)(q)
Title of Document	**Rail Operations Report**
Date	6th March 2018
Prepared by/Author	Intermodality

Contents

1 Introduction

1.1 Scope

1.1.1 This report has been prepared by Intermodality on behalf of Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l., regarding the Development Consent Order (DCO) application for a Strategic Rail Freight Interchange (SRFI) known as Rail Central.

1.1.2 The need for the development of SRFI[1] combines shared public policy and industry objectives, namely:

- Satisfying continued and growing demand for provision of warehousing floorspace within GB, in particular for larger warehouse units capable of providing national and regional distribution facilities, in strategic locations relative to the strategic transport network;

- Satisfying continued and growing demand for use of rail transport within international and national supply chains, to provide an alternative and more efficient means of transport to road haulage, in particular for moving large volumes of freight.

1.1.3 These objectives reflect a range of key drivers, summarised as follows:

- Demand for goods, driven by an expanding population and consumer base seeking access to a greater range of products – more warehousing space is required to process these goods;

- Use of ecommerce services in retail – more warehousing space is being sought by retailers offering internet shopping to serve their growing customer base, in addition to the warehousing needs of more traditional established “bricks and mortar” retailers;

- Delivery pressures, responding to the increasing expectations from the ecommerce-driven society for next-day or same-day fulfilment – disproportionately more warehousing space is then required to ensure sufficient stocks are held across the supply chain at both NDC and RDC levels;

- Pressure on retailers and logistics operators to achieve even greater efficiency from the supply chain to counter increased “last-mile” delivery costs to customers, including greater use of larger “big box” warehouses and rail to obtain economies of scale;

- A shrinking pool of HGV drivers, with analysis of the Government’s Labour Force Survey indicating that the national driver shortage has risen to 52,000 in the year to Q2 2017, a dramatic increase of 49%. A further concern relates to the average age of a HGV driver increasing from 47.9 to 48.3 over the same period, a long-term trend of an ageing driver population;[2]

- Similarly, pressure on retailers and logistics operators to reduce the environmental impact of their supply chains, partly through replacing ageing warehousing stock with more modern and efficient warehousing, and partly through greater use of warehousing with access to rail and/or other alternative modes of transport to road haulage.

[1] The need case is addressed in the Rail Central Market Report
[2] Freight & Logistics, Freight Transport Association, October 2017, page 5

1.1.4 Yet this need could not be addressed simply to using the existing small number of SRFI / RFI, as these would be unable by themselves to fulfil the scale of the opportunity. A network of existing and new sites is required, as noted in the National Policy Statement on National Networks (NPSNN).[3]

1.1.5 The scale of need for SRFI expansion is evident in comparison with total distribution floorspace:

- Over the last 14 years, take up of new-build floorspace in the larger units over 9,000 sq m has been in the order of 1 million sq m per annum; [4,5]
- Over the last twenty years, around 2.2 million sq m of new-build floorspace has been supplied on SRFI and RFI, an average of 0.13 million sq m per annum (ie just 14% of the above total); [6]
- Network Rail's long-range freight forecasts to 2043 are derived from an assumed increase in total rail-served warehousing from the current level to some 5.9 million sq m by 2023, 9.6 million sq m by 2033 and 13.3 million sq m by 2043. This suggests a development rate of around 0.4 million sq m per annum – considerably more than achieved over the last 20 years.[7]

1.1.6 Industry has reiterated the need for expansion of interchange capacity, a major logistics operator noting;

> Wincanton actively seeks to switch domestic volume to rail wherever it proves operationally and commercially viable to do so and the continued development of SRFIs is crucial in delivering this. A network of open access terminals providing for minimal stem mileage from distribution centre to SRFI and access to genuine shared user services will lead to the introduction of new rail freight services and encourage modal shift from road to rail.[8]

1.1.7 A joint Freight Transport Association (FTA) / DfT report contained statements from retailers Morrisons, Marks & Spencer and Sainsbury's all citing the need for more rail facilities.[9] More recently, the FTA has indicated a need for a 400% increase in the capacity of strategic rail freight interchanges and rail connected warehousing, as crucial to expanding access to the rail freight network and achieving Network Rail's Freight Market Study forecasts.[10]

1.1.8 This report focuses on the rail-related aspects of the proposed development. The purpose of the report is to describe the following aspects:

- The role of Rail Freight Interchanges (RFI) and the particular role played by SRFI:
- Main line railway access from the site;
- Proposed on-site railway infrastructure and associated interchange facilities;
- Method of working for trains to, from and on site;
- The capability of site to handle rail freight services of varying configurations as required.

[3] Paras 2.42 to 2.58
[4] Leicester and Leicestershire Strategic Distribution Sector Study for the Leicester & Leicestershire Housing Planning & Infrastructure Group, MDS Transmodal Ltd & Savills, November 2014, Table 2.1
[5] Logistics: the Property Perspective UK H1 2016, CBRE 2016
[6] Intermodality database of SRFI and RFI sites
[7] Long Term Planning Process: Freight Market Study, Network Rail ,October 2013, page 27
[8] The Logistics Growth Review - Connecting People with Goods, DfT November 2011
[9] On Track! Retailers using rail to make cost and carbon savings, FTA 2012
[10] The Agenda for More Freight by Rail, FTA August 2016, page 3

1.1.9 As part of this introduction, it is important to note the key stakeholders likely to be involved in the development of rail infrastructure and operations at Rail Central:

- Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l. would develop the rail freight interchange facilities on site;
- The rail freight interchange would be operated by an independent service provider (a logistics company or specialist rail freight terminal operator) on a fully open-access basis to all users and train operators;
- The rail services would be provided by a number of licensed rail freight operating companies (FOCs);
- The users of the rail services would be occupiers and other businesses (and/or their own end customers);
- The timing and routing of the rail services on the main line would ultimately be determined by Network Rail.

1.1.10 Whilst the various service providers have yet to be selected, in order to provide an indication of the potential scale and diversity of rail freight activities on site, reference is made in this report to the experience of existing operational SRFI and other SRFI proposals.

1.1.11 The development of the Rail Central proposals has been undertaken in close co-operation with Network Rail (NR) as system operator, following initial dialogue between 2012 and 2016. The development of the on-site track layout and main line connections has reflected the guidance of the FNPO team, with the technical scope of the GRIP2 workstreams directed by the LNW team. The proposals have been subject to a pre-screening due diligence process by the NR Route Strategy Planning Group (RSPG) and Route Investment Panels (RIP). The Route Directors of the London North Western Route (LNW) and the Freight & National Passenger Operators Route (FNPO) have been engaged throughout this process via a NR-appointed Commercial Scheme Sponsor and Project Manager.

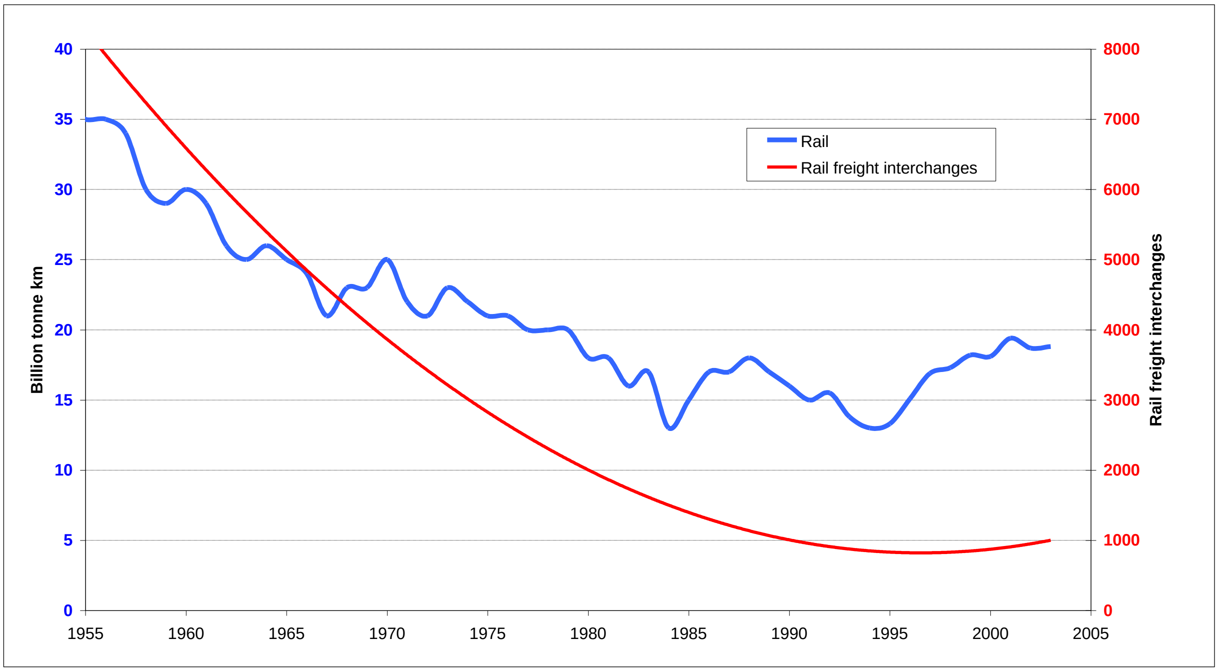
2 Rail freight interchanges

2.1 Overview

2.1.1 Rail freight interchanges (RFI) typically provide facilities for the storage and/or handling of goods between trains and other modes of transport, principally road and sea. Given that the vast majority of movements of goods by rail will involve road haulage at one of both ends of the rail transit, RFI are therefore integral to achieving mode shift of goods to rail for part of the journey, by providing the necessary interfaces with road haulage. RFI will either provide a straight transfer of goods between rail and road (eg lifting of containers between trains and trucks), or will enable goods to be moved by rail to an adjacent warehouse, from where the goods will then be held prior to onward sortation and delivery by road.

2.1.2 Between the 1950's and 1990's, the number of rail freight interchanges (RFI) declined dramatically (Figure 1), reflecting the downward trend in traffic volumes and the changing pattern of rail-based logistics. Where previously a multitude of RFI of various sizes existed to serve industry and wider general merchandise traffic, with most passenger stations having some form of goods facilities, the move away from unprofitable wagon-load business towards block trains meant the end for most RFI. Most of the remaining facilities were geared more for bulk commodities such as aggregates than for general merchandise and logistics traffic. Other sites were gradually sold off for alternative uses, or became increasingly surrounded by other development which then constrained the scale, nature and working hours of such sites.

Figure 1 Post-war decline of rail freight traffic and interchanges (source DfT / British Rail)



2.1.3 In recent years, the unprecedented growth in intermodal traffic moved by rail has been facilitated by expansion of interchange facilities. Around the coast, the major ports of Felixstowe, Southampton and London Gateway have invested in new quayside RFI facilities. In 2017, Felixstowe moved a record-breaking 1 million TEU[11] by rail, and is now working with Network Rail to expand rail traffic throughput further, from 33 trains per day at present to 47 trains per day in and out of the port. The port noted:

> This new milestone for the port reflects the dedication of our workforce and the excellent relationships we have developed with all the rail freight operators at the port. Rail is an increasingly important differentiator for shipping lines as well as importers and exporters and we are able to offer them a greater number of rail services to more destinations, more often, than any other port. Rail is also a key factor in reducing the environmental impact of transport and helps reduce road congestion.
>
> We are continuing to invest heavily in rail infrastructure at Felixstowe and are currently working with Network Rail on capacity enhancements to the Felixstowe Branch Line. This scheme complements the investment we have made in rail capacity at the port and will allow us to offer an even greater range of sustainable distribution option to our customers. Over 100 million HGV miles per year [160 million km] are already saved by using rail freight from Felixstowe and we look forward to that figure increasing significantly in future.[12,13]

2.1.4 In parallel, investment has also been made in a network of existing inland RFI (mainly BR-era inner-city rail terminals), as well as a small number of new, larger facilities (Strategic RFI or SRFI). In order to maintain growth in rail freight traffic, further inland interchange capacity will be required, particularly in those areas with little or no provision at present, such as London and the South East.

2.2 The development of Strategic Rail Freight Interchanges

2.2.1 A Strategic Rail Freight Interchange (SRFI) as defined by the Planning Act 2008 has the following characteristics:

- The land on which the rail freight interchange is situated must be in England, be part of the railway network in England and be at least 60 hectares in area;
- The rail freight interchange must be capable of handling consignments of goods from more than one consignor and to more than one consignee, and at least 4 goods trains per day.
- The rail freight interchange must include warehouses to which goods can be delivered from the railway network in England either directly or by means of another form of transport.

2.2.2 The SRFI concept therefore combines interchange and warehousing activities on the same site.

[11] Twenty-Foot Equivalent Unit, a measure of container traffic throughput
[12] https://www.portoffelixstowe.co.uk/press/news-archive/port-of-felixstowe-handles-1-million-teu-by-rail/
[13] https://www.portoffelixstowe.co.uk/press/news-archive/port-of-felixstowe-rail-improvements-receive-go-ahead/

2.2.3 The development of SRFI-type facilities in continental Europe started almost 40 years prior to the definition of a SRFI being formally introduced into legislation through the Planning Act 2008[14]. As an example, in Italy the Government led the development of a network of "*interporti*", large regional distribution parks providing access to the main road and rail networks, along with interchange and warehousing facilities. These public/private sector schemes reflected a continued desire to make use of all available modes of transport for goods traffic, contrasting with post-war GB which had largely moved away from rail transport to concentrate on road haulage using an expanding road network. This was evident in the development of distribution parks such as Magna Park in Leicestershire, situated alongside the trunk road network but with no interest in, or realistic prospect of, securing rail access.

2.2.4 During the 1990's, the prospect of the Channel Tunnel fixed rail link, combined with renewed interest in rail through the break-up of the former British Rail freight business, saw the emergence of a new generation of interchanges, along the lines of the *interporti*. Sites such as DIRFT (Rugby) and Hams Hall (Coleshill) in the Midlands spearheaded a small number of private-sector and public/private developments (currently 5 in operation in England and 1 in Scotland), primarily intended to create better access to and from mainland Europe via the Channel Tunnel.

2.2.5 Whilst the evolution of rail freight traffic through these sites has tended more towards deepsea and domestic intermodal traffic (notably, over much shorter distances than Channel Tunnel services), the success in securing occupiers, employment and rail freight traffic led Government to enhance planning policy in subsequent years to encourage expansion of the network, culminating in the Planning Act 2008 and the National Policy Statement on National Networks 2014.

2.2.6 It is relevant to cite elements from the evolution of policy, as it provides a useful summary of the role of SRFI:

> Strategic RFI represent the potential for businesses to use rail freight now or in the future and are key features in encouraging a gradual conversion from road to rail. They should be seen not simply as locations for freight to access the railway but also sites for the accommodation of businesses capable now or in the future of supporting their commercial activities by rail. To this end, Strategic RFI will normally accommodate both rail and non-rail served businesses at the outset, with an expectation of increasing the proportion of rail servicing over time.
>
> The mixed nature of Strategic RFI is essential for the longer term development of rail freight. Accommodation only of existing commercial rail users would fail to present the opportunity and encouragement for wider business conversion to rail. It is essential that Strategic RFI are developed in a form to accommodate both rail and non-rail served businesses, in order to promote future rail freight opportunities.
>
> This type of facility provides a focus for general freight activity, not simply rail specific. This allows industry the choice and opportunity to incorporate rail into its supply chain at a time and scale to match the evolution of its operations. A Strategic RFI should be a focus of intermodal handling activity, serving both companies located on the interchange itself and in the wider region. Occupiers are likely to be major logistics service companies and national and multi-national manufacturers or retailers.

[14] Section 26

> SRFIs operate to serve regional and cross regional catchment areas but are also key components in national and international networks. A SRFI is a large multi-purpose rail freight interchange and distribution centre linked into both the rail and trunk road system. It has rail-served warehousing and container handling facilities and may also include manufacturing and processing activities.[15]

2.2.7 Some of the key features of SRFI are common to road-served distribution parks of a similar scale, which also co-exist in clusters or standalone developments around strategic road interchanges and urban centres to serve national / regional catchments. The key distinguishing feature of SRFI is the integration of additional connectivity into the rail network, along with the provision of rail freight interchange facilities. Figures 2 and 3 show computer visualisations of the SRFI at DIRFTI/II and iPort Doncaster, demonstrating the scale of the development and associated buildings, along with road and rail access and interchange facilities.

Figure 2 DIRFT I and II SRFI (530,000 sq metres of floorspace), source ProLogis

[15] SRFI Policy Guidance, Department for Transport, November 2011, para 4.5, 4.8 and 4.9, sections 2.1 and 2.2

Figure 3 iPort Doncaster SRFI (562,000 sq metres of floorspace), source Verdion

2.2.8 Modern distribution services operate across “hub and spoke” networks, where freight collected by local “trips” from a range of smaller, dispersed sites is consolidated at NDCs or RDCs, which are then linked by long-distance “trunk” hauls, with the process reversed at the other end. Yet most logistics operators or users do not yet have distribution facilities adjacent to SRFI, or do not generate sufficient volumes of freight per day or week to warrant their own dedicated rail freight services. This creates two major challenges for the viability of using rail for freight movement:

- Firstly, road haulage is often still needed to make trips between the rail freight interchange and the origin or destination of the traffic. These extra road trips add cost and time to the shipment, and may serve to constrain the size of the freight market for which rail can provide a competitive alternative to “door-to-door” road haulage;[16]
- Secondly, a critical mass of freight volume is needed to make rail freight services competitive, typically more than 30 articulated lorry loads per train. Without this level of regular business, trains then either cannot be operated commercially, or have to run less frequently (ie weekly rather than daily, to allow volumes to build up to trainload quantities). A less frequent service may then be less desirable to an end user, particularly one relying on daily replenishment of production or stores.

2.2.9 For rail to maximise its competitiveness, these two challenges need to be addressed, by eliminating or minimising the time / distance of road haulage needed at one or both ends of the rail haul, and/or by maximising the volume of freight available every day for movement by rail.

[16] DfT road haulage statistics for 2015 show 69% of tonnage is moved less than 100 km, 26% between 100 and 300 km, and 5% more than 300 km (excludes goods moved in foreign-registered vehicles)

2.2.10 One means of achieving this would be to extend the rail network into the existing network of distribution hubs, but the costs and lead time involved would make this impracticable. Constructing standalone rail freight interchanges closer to the end users could provide an alternative solution, but as interchanges themselves tend to provide relatively small returns over their operating costs, the significant investment needed in new main line connections and the interchanges themselves may not be justified by the interchanges' income stream alone.

2.2.11 The alternative, as endorsed by Government policy, is to create a relatively small number (compared to road-served distribution parks) of larger SRFI, which can then provide a large amount of distribution floorspace within the same site as the rail freight interchange itself. This will firstly increase the level of rail-served floorspace available to business wishing to occupy such facilities in the area. It will then also create multi-user rail freight interchange facilities, which can also be used by other local companies in the hinterland who may not wish to (re)locate to site but who would still wish to have access to the rail network facilitated by the development on site.

2.2.12 The development of SRFI has involved use of brownfield or greenfield sites previously used for other purposes. Rationalisation of rail freight facilities during the last 50 years has meant that many areas either no longer have any interchange facilities, or have "legacy" sites which often suffer from poor location, accessibility, capacity or facilities. Independent research in 1999 noted (my highlighting):

> Finding sites for the larger terminals and freight villages within existing urban areas is very difficult. Where there are existing rail freight facilities, as at Willesden in north London, there is usually insufficient space, and disused facilities will probably have been sold on and developed….
>
> **What is required is large sites on the edge of metropolitan areas at points where the rail network intersects with the trunk road network**: these factors combine to mean that suitable sites can often only be found outside existing urban areas, and such locations may well be subject to green belt policies and/or other restrictive planning policies…
>
> There will only be a limited number of rail accessible sites in a local authority area that have potential for rail freight. The priority for such sites must be to retain/secure rail freight development on them, and this should override other demands such as the need to develop housing on brownfield sites, or to retain low grade farmland for agriculture as part of an urban containment strategy.[17]

2.2.13 Almost 20 years later, the NPSNN shares this view, stating:

> Given the locational requirements and the need for effective connections for both rail and road, the number of locations suitable for SRFIs will be limited, which will restrict the scope for developers to identify viable alternative sites.[18]

2.2.14 The majority of SRFI developments to date have been in the Midlands, sites such as Daventry (DIRFT), Hams Hall and BIFT located close to the "Golden Triangle"[19] concentration of national distribution activity. The success of these developments reflects:

- The existing concentration of national distribution activity (ie longer-distance and/or higher-volume traffic where rail is most competitive) in the Midlands;
- Locations on road and rail networks;

[17] Rail Freight Growth and the Land Use Planning System, Sheffield Hallam University 1999, pages 19,55,56
[18] Para 2.56
[19] The area within the M42, M1 and M6 motorways, from where over 98% of the UK population is accessible within 4 hours drive by lorry

- The ability to create large-scale development on site, as much in the overall quantum of floorspace as in the size of individual buildings (delivering a significant volume of potential rail traffic alongside the rail network);
- Proximity to major sources of employees and relatively distant from major residential areas.

2.2.15 Other SRFI and RFI have also developed along the M1 and M6 corridors, the North West, Yorkshire and the Scottish Central Belt, again reflecting other regional clusters of distribution activity.

2.2.16 The profile of traffic between each SRFI also varies, in terms of maritime intermodal, domestic and European intermodal, conventional and other traffic. SRFIs handle a mixture of intermodal and conventional wagon services, with intermodal accounting for around 95% of traffic[20], in part due to the more specialist nature of conventional wagon operations. Notably, a daily service now also operates between the SRFI at DIRFT and Hams Hall, highlighting the ability for otherwise competing SRFI to network services and traffic between them, the aspiration for the NPSNN against an expanding network.

2.2.17 Whilst most of the SRFI developed in the 1990's were originally created primarily for European intermodal and conventional services, more than 20 years on the pattern of services has evolved in a different way than originally anticipated. Table 1 below shows the relative positions at the operational SRFI for a typical weekday at the time of writing (base data sourced from Network Rail):

Table 1 Trains per day each way through SRFI, 2018

	DIRFT	Hams Hall	BIFT	3MG	Wakefield	Mossend
Maritime intermodal	1.0	4.0	3.0	5.0	3.0	1.0
Domestic intermodal	8.0	1.0				2.0
European intermodal	0.3					
Sub total	**9.3**	**5.0**	**3.0**	**5.0**	**3.0**	**3.0**
European conventional	1.0			1.0		
Total	**10.3**	**5.0**	**3.0**	**6.0**	**3.0**	**3.0**

2.2.18 As the Table above shows, there are considerable differences between SRFI, even for those within the same region. DIRFT's primary traffic is domestic intermodal (75% of daily trains), with other intermodal services accounting for 14% and the balance in conventional wagon services. With the exception of Mossend, the other SRFI primarily or exclusively focus on maritime intermodal traffic.

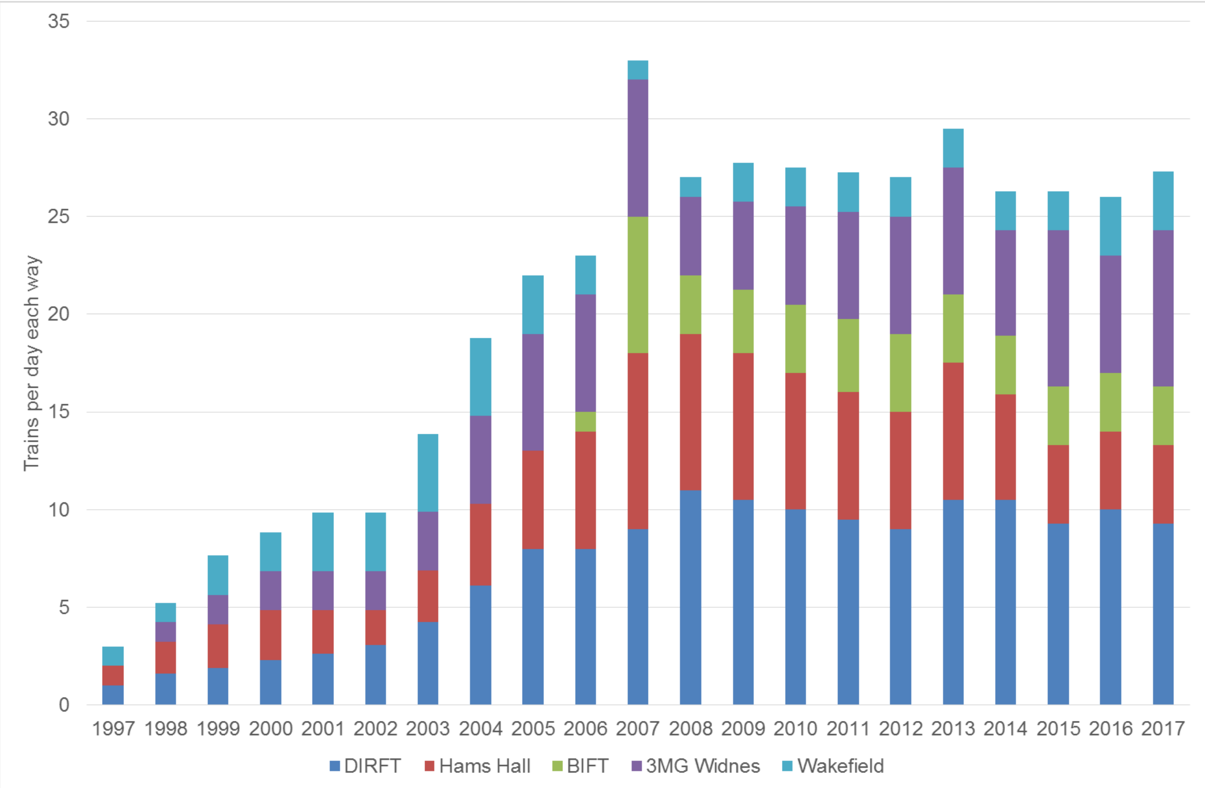
2.2.19 The experience of the existing small number of SRFI reflects the original expectation of Government policy guidance, in terms of attracting non-rail users to locate on site, to then over time become more familiar with using the rail freight facilities and services. Early adoption of rail by a small number of end users gradually raises awareness to other end users on site and in the hinterland, securing an initial baseload volume for pilot rail services to other locations (eg ports and other interchanges).

[20] The 6 operational SRFI handle around 28 trains per day, of which 2 are conventional wagon

2.2.20 The rate of growth in traffic then begins to increase markedly, as a critical mass of end users and traffic volume is secured to enable faster expansion of the service frequency and network coverage, which in turn then attracts more end users and traffic volume. At maturity, traffic reaches an upper threshold beyond which the capacity of the interchange facility and/or the traffic yield from the end users is reached, the service frequency and network coverage then achieving a steady state thereafter (subject to any subsequent enhancement of interchange capacity).

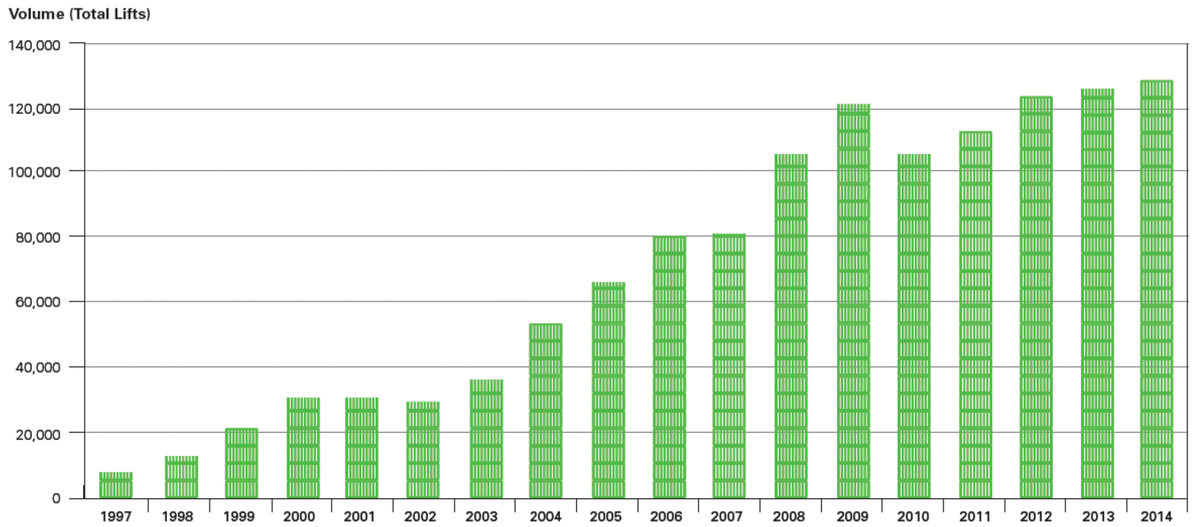
2.2.21 Figure 4 shows collated traffic statistics for all of the first generation of SRFIs in England at DIRFT, Hams Hall, BIFT (Tamworth), Mersey Multimodal Gateway (3MG) and Wakefield. Figure 4 shows the impact of the recent economic recession on rail freight traffic, as well as the effect of a significant increase in train capacity during this time, which has resulted in fewer trains being needed to move the same volume of traffic.[21] Therefore, whilst levels of rail traffic have tended to stabilise, the volume of containers handled have increased, as shown in in Figure 5 for DIRFT I.

Figure 4 Rail freight traffic evolution through existing SRFI



[21] ORR statistics indicate that between 2003-4 and 2016-7, average freight lifted (payload tonnes) per train has increased by 70% and average freight moved per train (tonne km) has increased by 66%

Figure 5 Container handling activity at DIRFT I intermodal terminal (source ProLogis)



2.3 Occupiers at SRFI

2.3.1 Examples of companies making use of SRFI facilities include:

- Tesco / Stobart: the two companies account for a significant proportion of the distribution floorspace at DIRFT I and II, operating up to 7 trains per day between DIRFT and a network of SRFI/RFI in Scotland, South Wales and London. The trains each move up to 38 containers (each the length of an articulated lorry trailer) in each direction, typically moving goods out from NDC at DIRFT to other regional RDC and stores, returning with backloads of products from suppliers to replenish the NDC. Trains mainly operate from Tesco's dedicated rail-served NDC with its own rail freight interchange and, as required, from the multi-user interchange at DIRFT I operated by Malcolm Group. Containers are moved to and from the interchange to other NDC buildings at DIRFT using tugmasters (Figure 11). Stobart now has an additional rail-served warehouse at DIRFT II handling bottled water sent from Danone in France in conventional wagons;
- At DIRFT II, Sainsbury's has now followed Tesco in taking an adjacent plot for a NDC and integrated rail freight interchange, with daily multi-user services operating to and from Scotland;
- Stobart also operates the Mersey MultiModal Gateway (3MG) site, which is equipped with 4 overhead gantry cranes and handles trains of maritime containers from the major ports, as well as regular weekly flows of aluminium products for Novelis to and from mainland Europe, moved in conventional wagons. Tesco has also constructed a RDC within the site;
- WH Malcolm: as noted above, the company has handled intermodal traffic through the DIRFT I interchange, as well as conventional wagon traffic into its rail-served warehousing at DIRFT I. The company now handles a range of commodities for customers including Argos, Asda and the Co-operative, providing storage and distribution services alongside the rail freight interchange. WH Malcolm also operates another interchange at Grangemouth in Scotland, linked by rail to DIRFT and the North of Scotland;
- A number of major retailers, manufacturers and logistics companies now occupy (or are taking up) space on SRFI, including Argos, Asda, BMW, Marks & Spencer, Ocado, Sainsbury's, Tesco, TK Maxx, Warburtons, DHL, Kuehne & Nagel, Malcolm Group, Maritime, Royal Mail, Russell Group, Stobart Group, TNT, UPS and Wincanton.

2.3.2 The FTA has highlighted the work of retailers in achieving mode shift to rail, with the majority of this involving use of SRFI at one or both ends of the rail transits. Table 2 below summarises mode shift by retailer. Independent research indicates that use of rail via DIRFT alone has led to 64 million miles of lorry journeys removed from UK roads in the last year.[22]

Table 2 Mode shift to rail by retailers (source FTA 2012)

Retailer	HGV journeys saved per year	Road miles saved	CO_2 saved	Comment
Tesco	110,000	41 million	39,000 tonnes	Rail freight is part of our ongoing commitment to be a zero carbon business by 2050. It is the most sustainable way of transporting goods across the country
Asda	10,300	5.54 million	5,300 tonnes	Any journey over 350 miles, if you have depots close to the railhead at either end, can stack up financially for rail
B&Q	10,000	3 million	4,237	So far the service levels on rail are good. We haven't been let down yet
Sainsbury's	4,200	1.6 million	1,500 tonnes	Rail clearly delivers significant environmental benefits and it has the potential to offer cost savings. We aim to exploit it as much as possible
Marks & Spencer	1,200	655,000	800 tonnes	Rail distribution saves time, costs less and, crucially, as we move towards our ambitious Plan A commitments, cuts carbon emissions from our transport operations
Morrisons	1,560	72,000	58 tonnes	Environmental benefits and cost savings go hand in hand. If we had the right opportunity, we would move more product off road and onto rail without hesitation
Co-operative	520	335,000	318 tonnes	The reliability of service has been excellent
Waitrose	260	156,000	0.15% of total transport CO_2	I can see the environmental benefits of rail and intuitively I want to do more. But what's offered by the rail freight industry needs to fit our requirements better

2.4 Operations at SRFI

2.4.1 The range of activities associated with SRFI typically include:

- Road and rail haulage services;
- Road / rail interchange facilities (transfer of traffic between modes, intermediate storage;
- Receiving of loads into warehousing;
- Breaking down large deliveries for redistribution (known as "break bulk");

[22] Campaign for Better Transport http://bettertransport.org.uk/media/22-May-2017-rail-freight-far-better-at-reducing-congestion

- Storage of goods for later processing / distribution;
- Processing of goods (eg relabelling, repackaging, adding UK instruction manuals or plugs);
- Resorting goods into consolidated outbound deliveries;
- Despatching of loads from warehousing;
- Management and planning of distribution activities up and down the supply chain.

2.4.2 A typical weekday for an SRFI will start with the arrival and departure of the first group of freight trains and associated goods vehicle movements through the interchange facilities and distribution buildings on site. Staff for the relevant shifts will arrive either by car, public transport or shuttle buses organised by the occupiers of the distribution buildings.

2.4.3 Within the intermodal terminal area, outbound trains will be shunted between the handling sidings and reception sidings ready for departure, with inbound trains then shunted out of the reception sidings and into the handling sidings (Figure 6 below left). The first generation of SRFI have tended to operate with half-length (ie around 400m long) handling sidings, with each inbound train then split between two adjacent sidings for handling, being reformed into a single train prior to departure.

Figure 6 Shunting of intermodal train (left) and conventional wagon train (right)

2.4.4 Other types of freight may be moved to and from the SRFI in conventional wagons (Figure 6 above right). Such wagons will be unloaded by fork lift trucks with goods transferred into adjacent warehousing or waiting road vehicles.

2.4.5 Once a train is berthed in the handling area, brakes are applied and the locomotive uncoupled. Groundstaff will then work along the train, unlocking the containers from the wagons ready for lifting (or unlocking doors on conventional wagons), and checking that the wagon brakes and couplings are in good condition – should any faults be detected with an individual wagon, the “crippled” wagon will usually be shunted out from the train and placed in a separate “cripple siding” where it can then receive attention from specialist maintenance contractors without disrupting handling operations on the rest of the train.

2.4.6 HGV drivers using the intermodal terminal facilities will tend to start arriving on site in advance of a train’s scheduled arrival or departure (train and terminal operators increasingly pre-advise end customers and their HGV drivers of any changes to schedules), in order to check their paperwork is in order with the gatehouse staff. Security at rail freight interchanges is maintained to high levels set by Government to protect the movement of exports by rail via the Channel Tunnel, therefore no HGV driver will be allowed into the handling area without documentary proof and a suitably-sealed load.

2.4.7 Some HGV drivers may arrive earlier, in order to take their statutory rest breaks whilst waiting for a train to arrive. Suitable parking facilities and driver amenities are provided to facilitate this (Figure 7 below).

Figure 7 HGV parking area ahead of intermodal terminal gatehouse (DIRFT I)

2.4.8 Once documentation has been checked and approved, HGVs pass through the security gatehouse and are directed to a designated area of the handling apron, where a mobile container handling crane (overhead gantry, Figure 8 below left, or ground-based “reachstacker”, Figure 8 below right) will load or unload containers from the HGV as required, either direct to or from a train, or into a storage area.

Figure 8 Overhead gantry crane with swap body (left), reachstacker with container (right)

2.4.9 The latest developments at SRFI include relatively compact interchange facilities operating alongside the larger established sites. The Tesco interchange at DIRFT II, operated by 2 reachstackers, has an apron some 20m wide x 270m long (Figure 9 below) with 3 x 270m handling sidings and currently handles 3 intermodal trains per day each way (arriving at 2am, 7am and 7pm), taking as little as 4 hours to unload and reload. A recent Tesco promotional video about the company’s rail freight services states that the facility is capable of handling up to 8 trains per day.

2.4.10 The adjacent Sainsbury’s interchange at DIRFT II, operated by 2 overhead gantry cranes, measures 24m wide x 480m long (Figure 10 below, to the same scale as Figure 9) with 2 handling sidings, and has recently commenced operations with domestic intermodal services to Scotland.

2.4.11 Once the transfer is complete (typically around 3 minutes per lift between HGV and train), the HGV driver will be instructed to head for the exit gate, pausing briefly to ensure the container is securely locked to the trailer, before leaving the site. Existing SRFI such as Hams Hall aim to process an HGV in 20 minutes between passing through the in-gate and departing through the out-gate.

Figure 9 Tesco intermodal terminal at DIRFT II

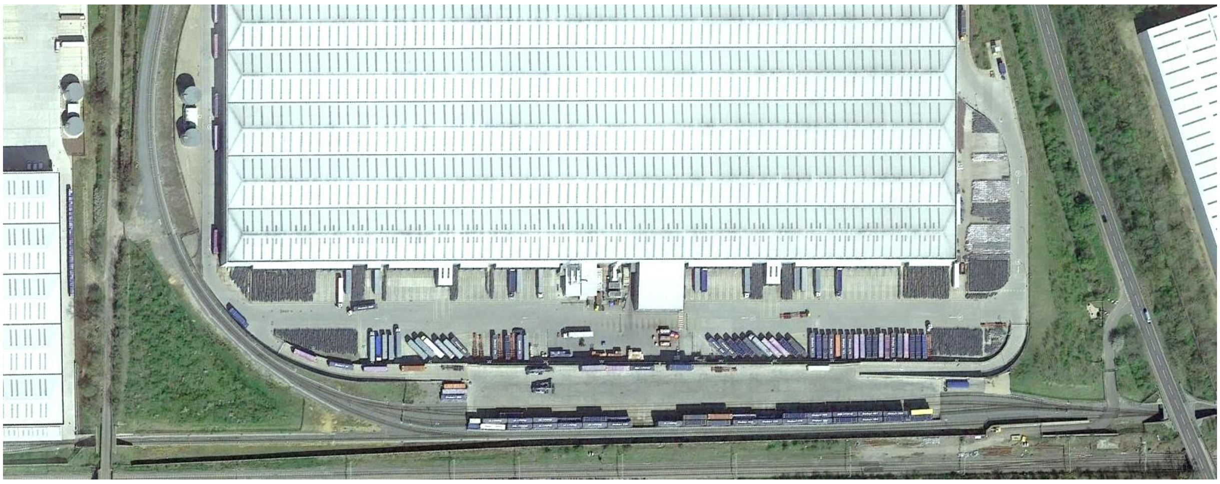
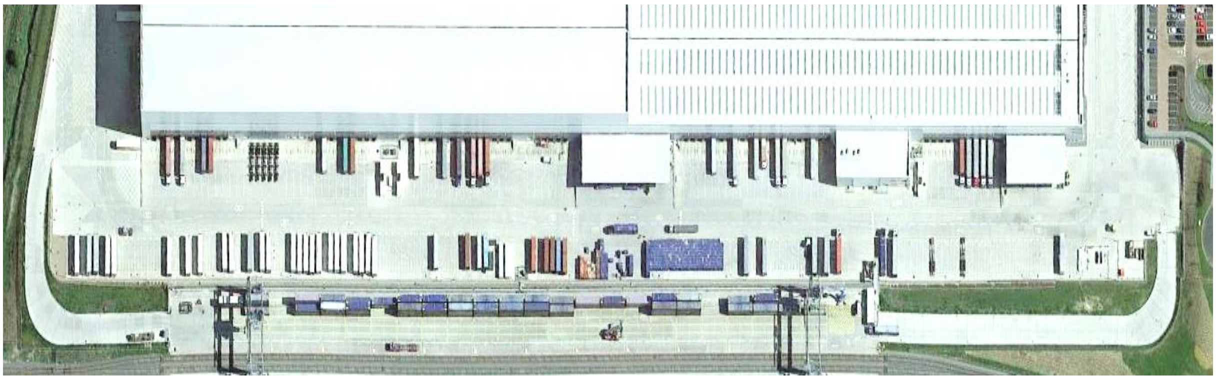


Figure 10 Sainsbury's intermodal terminal at DIRFT II



2.4.12 Containers are then moved by road either to the warehouses on site or to other off-site locations. Some of these on-site movements may be undertaken by "tugmasters" (Figure 11 below, right-hand vehicle), road tractor units purpose-built for moving containers around ports and distribution centres. These vehicles tend to be restricted to internal estate roads within the interchange, providing a more cost-effective solution than standard HGVs, further improving the attractiveness of rail freight services. Those moving containers off site will be exclusively hauled by standard road tractor units (Figure 11 below, left-hand vehicle).

2.4.13 HGVs moving to and from offsite locations will try as far as possible to be scheduled away from peak periods on the surrounding road network, as driver hours are limited by law and therefore this time needs to be spent as productively as possible, ie in transit rather than in stationary or slow-moving traffic. A sample of HGV movements through the rail freight interchange at the Hams Hall SRFI in Birmingham (see Figure 14 below) shows a noticeable drop in traffic between 0600 and 0900 and between 1600 and 1800. HGVs moving to and from the distribution buildings (Figure 12 below) will typically pre-book (or be allocated) a 15-minute arrival slot at the gatehouse.

2.4.14 Between peaks of HGV arrivals at the intermodal terminal, the crane drivers will turn their attention to the container storage area, reworking the order of containers to extract those units which will be due out of the site by road or rail, to minimise dwell times for HGVs and trains.

Figure 11 Swap bodies with road tractor unit (left) and tugmaster (right)

Figure 12 Road vehicles at warehouse docks

2.4.15 The relationship between rail and road traffic at interchanges handling intermodal services can be summarised as follows:

- Containers arrive by road and rail at the on-site interchange facilities;
- Containers are either transferred between road and rail, or held on site within the interchange;
- Containers then depart by road and rail.

2.4.16 For each container that passes through an interchange (loaded or empty), Table 3 below shows the possible combinations of HGV trip which may then result. Each HGV will arrive or depart empty, or loaded with up to 2 x 20’ containers, or 1 x 30’ / 40’ / 45’ container, in either or both directions.[23]

[23] Note for completeness that, as part of the DfT trials of longer semi-trailers, one of the logistics companies (Malcolm Group) has trialled a small number of longer 50’ container on its domestic intermodal services between DIRFT and Scotland

Table 3 HGV trip combinations at rail freight interchanges

Containers carried per HGV trip to/from terminal	20' length container	30' length container	40' length container	45' length container
Inbound trip to terminal	0 – 2	0 – 1	0 – 1	0 – 1
Outbound trip from terminal	0 – 2	0 – 1	0 – 1	0 – 1

2.4.17 The extent and ratio of on-site to off-site use of SRFI facilities will vary according to the location, range of rail services and the individual preferences of SRFI occupiers and third-party users, but as an example, ProLogis noted in the context of DIRFT I that:

> "A survey of HGVs entering and leaving the DIRFT[I] rail facility over a week in February 2010 found that 31% of vehicles were starting from or destined for other locations within the DIRFT estate… Furthermore, all of the [conventional wagon] water train movements are transferred direct to and from a facility in DIRFT, while an estimated 70% of the Tesco train's containers are to or from locations within DIRFT." [24]

2.4.18 Analysis of the ProLogis survey data indicates that a significant proportion of traffic moving by rail to and from DIRFT I has a correspondingly shorter final movement by road to and from its ultimate origin or destination. Figure 13 below shows a distribution curve based on the rail-related HGV traffic out of the DIRFT I intermodal terminal, for those trips where an end destination was identified. The DIRFT I survey data indicates that one third of all rail-related traffic stays within the site, with around two-thirds of all rail-related traffic being concentrated within 15 km of the site.

2.4.19 This suggests that, for the rail-related component of SRFI, the longer-distance nature of the rail services to and from SRFI then results in the majority of the associated HGV traffic to and from the SRFI being destined for on-site and/or regionally-based users. This aligns with the NPSNN which states that the aim of SRFI is "to optimise the use of rail in the freight journey by maximising rail trunk haul and minimising some elements of the secondary distribution leg by road".[25]

2.4.20 This also reflects the economics of intermodal transport which, taking account of road, rail and interchange costs, necessitates that to be viable, the rail journey should form the largest possible component of the end-to-end transit, with road haulage limited to relatively shorter distances at one or both ends of the rail haul.

2.4.21 The pattern of HGV trip arrivals will vary by time of day and week, driven mainly by train arrival and departure times, where peak levels of HGV arrivals will tend to occur. Figure 14 shows the distribution of daily HGV arrivals by hour at Hams Hall in 2010, which like most inland intermodal terminals currently operates from Monday morning through to Saturday lunchtime. It is expected that over time that intermodal terminals at SRFI will gradually extend opening hours to run on a 24/7 basis.

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[24] DIRFT III Need Report, Nathaniel Lichfield & Partners for ProLogis, October 2012, paras 5.76 and 5.77
[25] NPS para 2.44

Figure 13 Distribution of rail-related HGV trips from DIRFT I with known destination

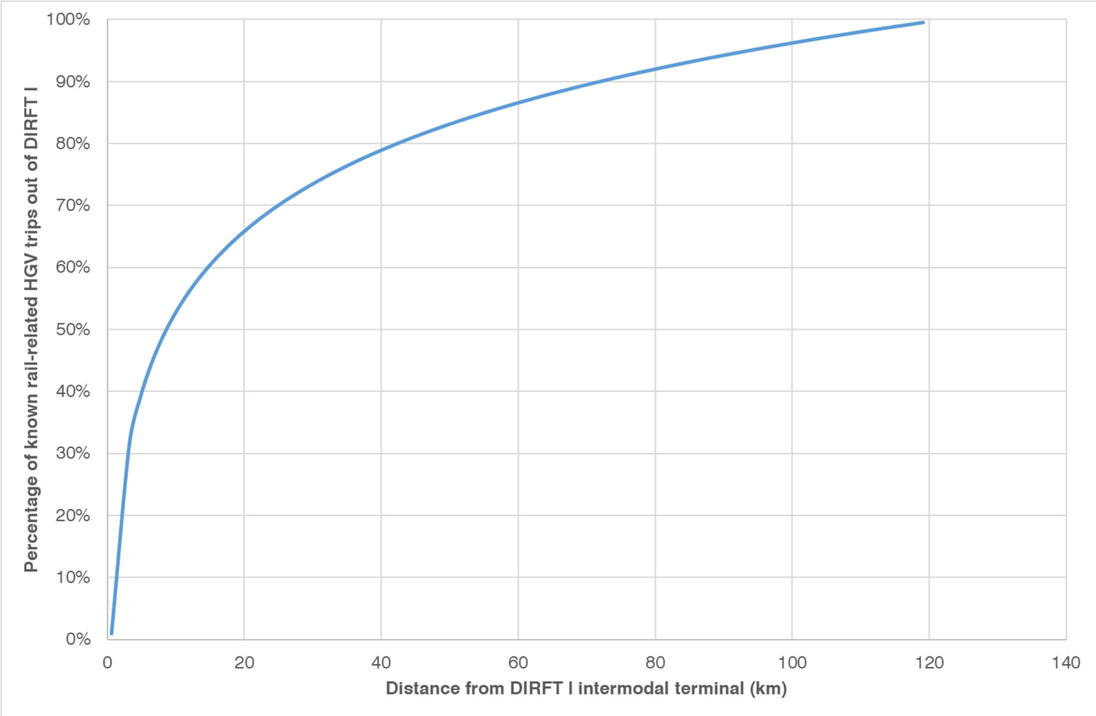
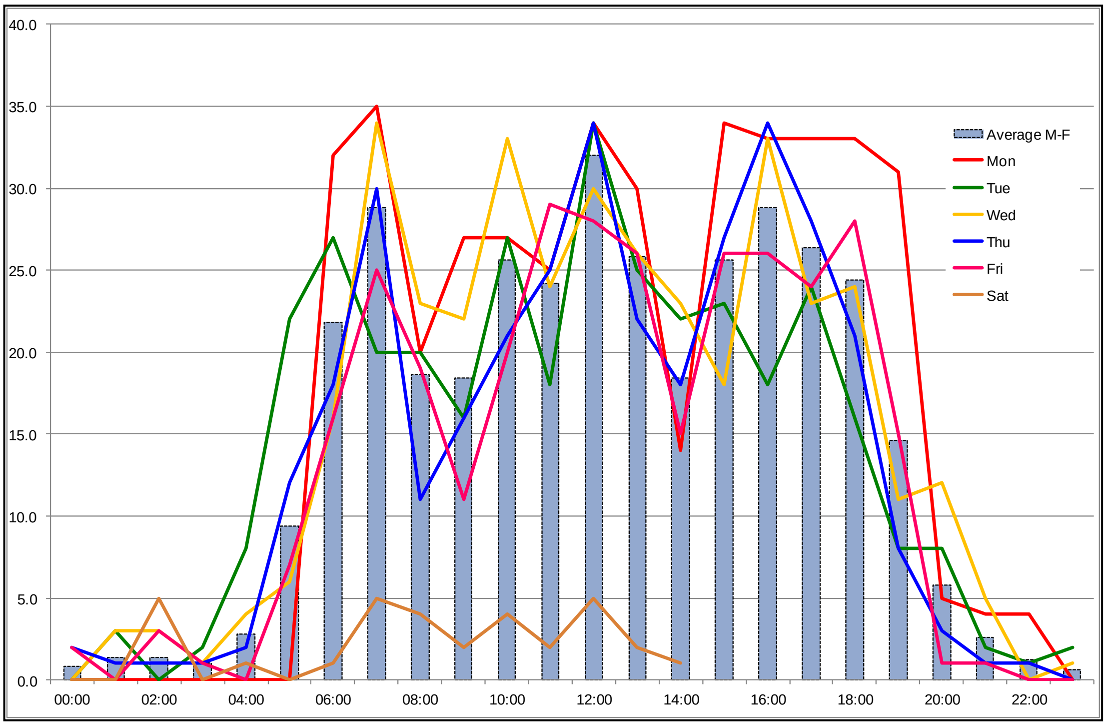


Figure 14 Hams Hall inbound HGV trip distribution by day / time[26]



Hour	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Average M-F	0.8	1.4	1.4	1.0	2.8	9.4	21.8	28.8	18.6	18.4	25.6	24.2	32.0	25.8	18.4	25.6	28.8	26.4	24.4	14.6	5.8	2.6	1.2	0.6	360

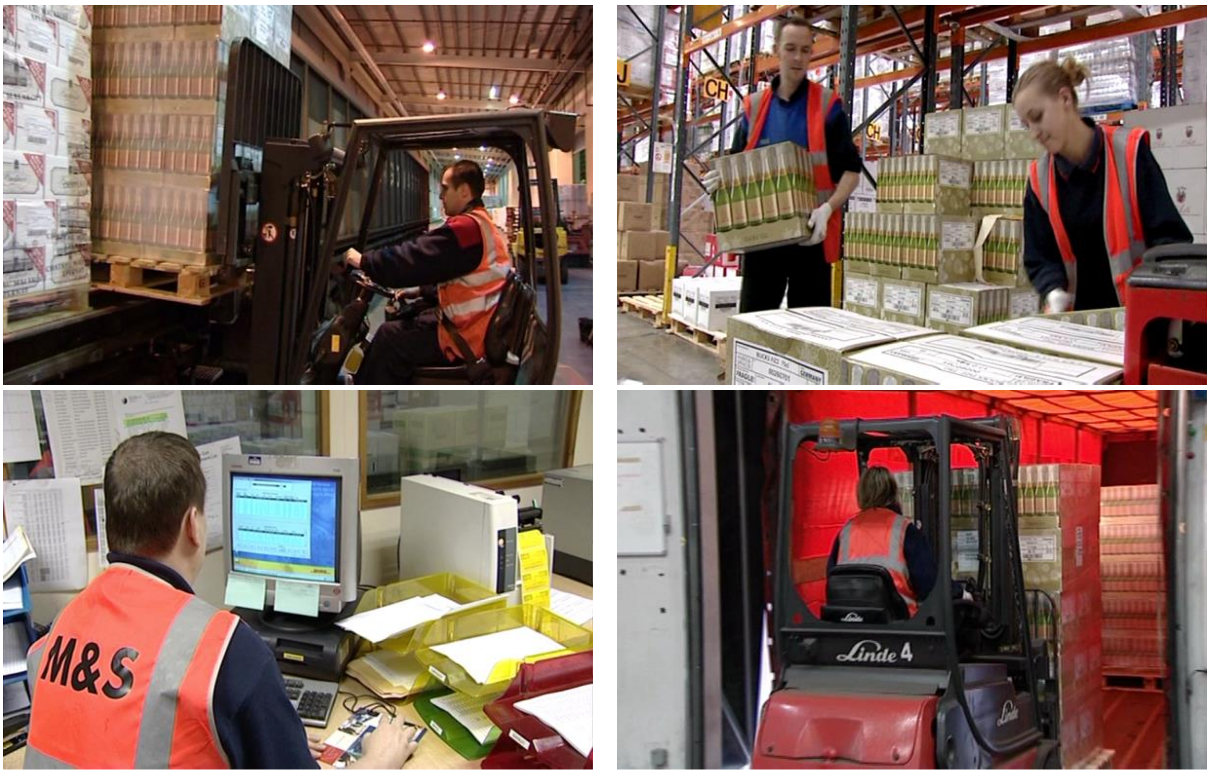
26 Efficient Intermodal Terminals Deliver Supply Chain Benefits: AECOM for Department for Transport December 2010

2.4.22 Inside the buildings, managers and supply chain planners maintain a real-time view of the operations to, from and within the site, continually adjusting the pattern of activities to make best use of resources and plan around any disruption, for example any congestion or incidents elsewhere across the road and rail networks, at ports of the Channel Tunnel. As sales information flows in from customers and stores, planners will use complex IT systems to predict when and how much stock will be needed to be despatched across the rest of the day. They will also look to the weeks and months ahead, taking account of factors such as supplier stocks, sales promotions, major events, global trade, weather forecasts, seasonal variations and historic data, to determine the optimum level of stock needed at the distribution centres and stores as far as possible.

2.4.23 This information is then passed to operations staff, involved in the continuous receipt, storage, picking and despatch of goods throughout the day and night. Considerable skill is required to ensure a safe and accurate operating environment within these fast-moving activities, to minimise errors, damage and accidents.

2.4.24 In the example shown in Figure 15 below, the operation involved palletised boxes of wine delivered to a rail-linked warehouse on the SRFI from mainland Europe in conventional rail wagons, broken down and repackaged inside the warehouse into outbound store deliveries, the entire process overseen by a planner based in the offices within the same building.

Figure 15 Movement of wine through SRFI



2.4.25 All of the above operations are monitored around the clock by site-based security personnel, including those managing the entire SRFI estate, in conjunction with those based at the intermodal terminal and individual warehouses. CCTV is used with infra-red and motion sensors to automatically detect intruders, which can then be dealt with by the appropriate security team.

2.4.26 Where SRFI send freight by rail through the Channel Tunnel, the security arrangements at the intermodal terminal are audited by the DfT to ensure they meet a stringent set of requirements, and are then subject to random inspections to ensure standards are maintained.

2.4.27 The scale of the development facilitates the development of the rail freight interchange facilities, creates a critical mass of freight activity on site, capable of generating enough volume on which to establish an initial network of rail freight services, either for individual unit loads (ie a single 20' length container) or for block trains (ie more than 30 x 45' length containers). Together, the combined on-site and hinterland traffic can then, in turn, attract more traffic onto rail, on which the network and frequency of services can be expanded. In this way, the 6 operational SRFI have together created more than 30 trains per day each way.

2.4.28 SRFI therefore provide key interchanges between various links in the supply chains, where products moved by road and rail will either transfer directly between different modes of transport or individual vehicles, or will involve some form or interim storage and repackaging.

2.4.29 The scale of floorspace and activity on site is important to maximising the take up of rail for the movement of freight, as much in facilitating the initial provision of rail freight facilities (as this is to an extent funded by the wider development and occupation of the site), as to creating the critical mass of freight needed to sustain the initial network of rail freight services. In this way, the benefits of scale are progressive. In other words, the more occupiers there are on a site, the greater the likely demand for trains. Trains to and from different destinations then become increasingly frequent and viable and the attractiveness and advantages of using rail are enhanced.

2.4.30 It is important to stress that SRFI do not operate exclusively for intermodal freight movement, ie not everything that arrives by rail leaves by road and vice versa. SRFI provide the critical opportunity for occupiers and other end users to have access to a choice of both modes of transport on a day-to-day basis, which would not be possible at road-served distribution parks. SRFI provide "incubators" for the development of new rail freight services, attracting occupiers to site who may not initially make use of rail, but who over time would become familiar with the adjacent rail freight facilities and services and in time make their own conversion of some traffic to rail.

2.4.31 This point was foreseen in the early evolution of public policy on SRFI development, and latterly confirmed by the experience of occupiers at SRFI. In the case of Tesco and Eddie Stobart, each having taken a significant level of floorspace at DIRFT in the mid-1990's, gradually developed their respective use of rail from individual containers moved by rail from the ports, through to operating multiple trainloads per day from 2006 onwards (up to 7 per day at present).

3 Rail Central: main line access

3.1 Main line infrastructure and services

3.1.1 In 2007 the Government White Paper on the Railways[27] set out a long-term ambition for a railway capable of handling double the level of passenger and freight traffic. To cater for this growth, the Government committed to create a Strategic Freight Network (SFN), a core network of routes to be enhanced to cater for 775m length trains operating within W10 loading gauge (see next section), linking together a network of inland interchanges, ports and the Channel Tunnel. The SFN consists a number of core and diversionary routes, as shown in Appendix A, which shows the position of Rail Central on one of the core routes in this network:

3.1.2 The Rail Central site is bounded to the west by the West Coast Main Line (WCML) “fast lines” (also referred to as the *London to Rugby Line*, Engineer’s Line Reference LEC1) and to the east by the WCML “slow lines” (also referred to as the *Roade and Rugby New Line* or the *Northampton Loop* with the Engineer’s Line Reference of HNR). All four lines are electrified with overhead 25kV AC catenary and cleared to W10 loading gauge. The four WCML running lines split into two separate routes south of Rail Central at Roade Cutting, and rejoin as a single route at Hillmorton Junction south of Rugby.

3.1.3 The WCML links London and the South East with the Midlands, North West and Scotland, and is the principal route for movement of north-south intermodal (containerised) and conventional wagon rail traffic related in part to the small network of existing SRFI. The WCML forms a core part of the Trans-European Network (TEN-T), and south of Crewe to London is one of the few sections of the national network already cleared for 775m length trains.[28]

3.1.4 Analysis of the Working Timetable (WTT) on 24th January 2018 indicated the following levels of traffic on the two branches of the WCML passing the site:

- Fast Lines (LEC1): 327 train paths in the WTT, the majority of which (317, 97%) were for passenger trains, most of these being Virgin Trains West Coast services (electric Pendolino trains and diesel Voyager trains) with the balance being mainly West Midlands Trains services (electric trains) and 2 sleeper / charter train paths. The remaining 10 paths (3%) were for freight trains using the route during off-peak periods. Of the total paths in the WTT, 311 (95%) were actually used on the day (not all trains may operate at the same time every day; some may only run on certain days / times as required);

- Slow Lines (HNR): 250 train paths in the WTT, the majority of which (138, 55%) were for passenger trains, most of these being West Midlands Trains services, with the balance being Virgin Trains West Coast and 4 sleeper / charter train paths. The remaining 110 paths (44%) were for freight trains using the route. Of the total paths in the WTT, 197 (79%) were actually used on the day.

3.1.5 The Figures below show the pattern of services across the day by hour, indicating peak periods of operation in the morning and late afternoon.

[27] Delivering a Sustainable Railway, Department for Transport, July 2007
[28] Network Rail Freight Network Study 2016

Figure 16 Current rail traffic on WCML Fast Lines / LEC1 (source Network Rail)

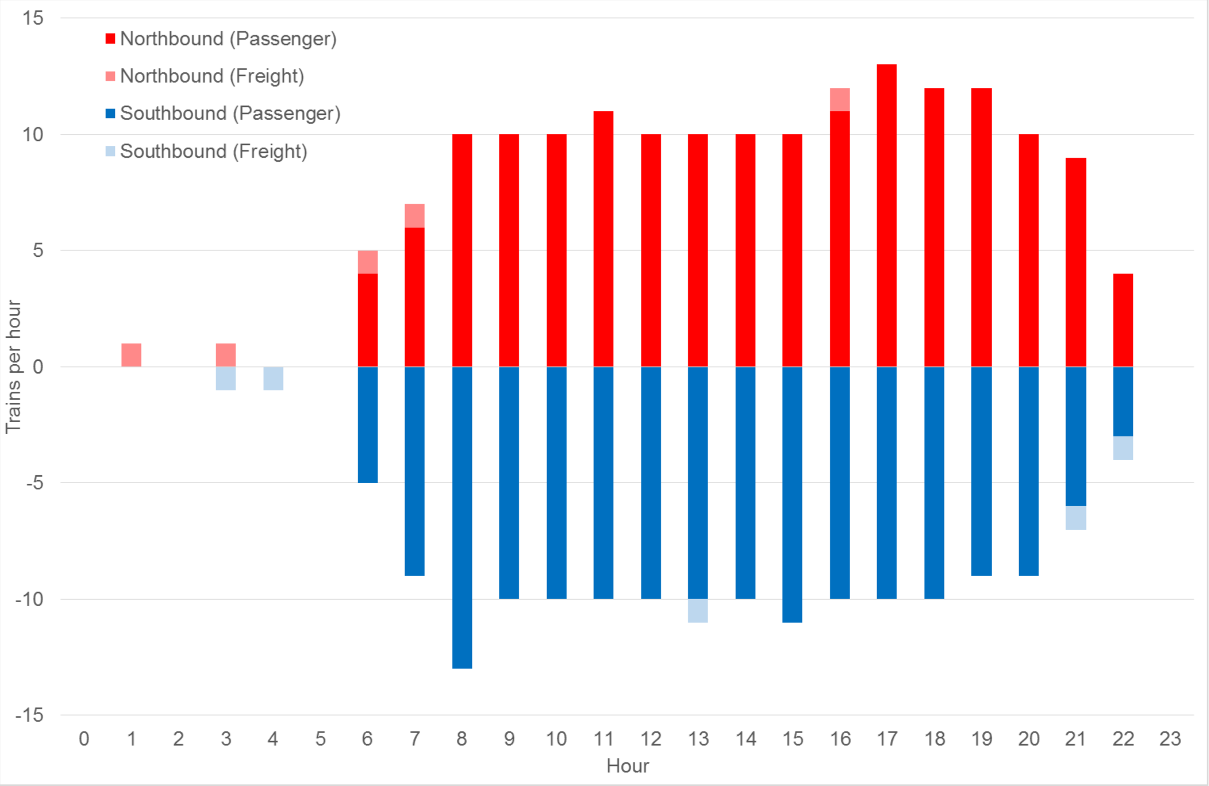
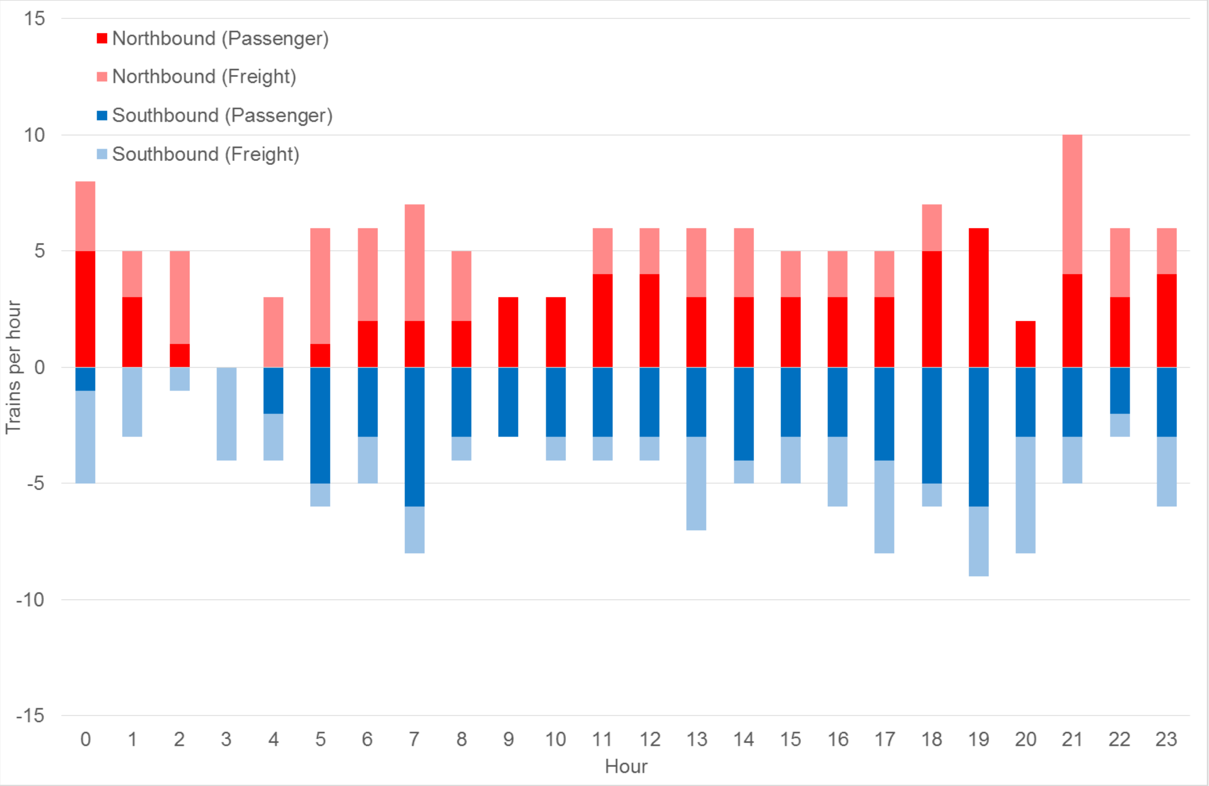


Figure 17 Current rail traffic on WCML Slow Lines / HNR (source Network Rail)



3.1.6 Note that Network Rail can vary the level of traffic on any part of the rail network as required, from closing the line altogether for overnight engineering works, through to rerouting additional trains onto a route when other lines are closed. In terms of the WCML at this point, Network Rail will tend to schedule engineering works such that trains can be routed via the Fast or Slow lines, allowing access throughout. For example, 48 freight paths were shown in the WTT for the Fast Lines on the 17th November 2016.

3.1.7 Comparing the January 2018 WTT analysis with a previous analysis in November 2016, train paths along the WCML past the site (Fast and Slow Lines) are 2% lower for passenger services, and 10% lower for freight services.

3.1.8 The map in Appendix B shows the main routes available for trains to and from Rail Central, primarily using direct routes, but with additional route options available via the national network of "hub" freight yards, where trains can be stabled before onward movement in other directions of travel.

3.2 Loading gauge capability

3.2.1 The loading gauge is the maximum permitted cross-sectional profile of a rail vehicle and its load, which varies across the rail network in Great Britain and mainland Europe due to variances in structural dimensions (eg tunnels, bridges and station platforms). Within Great Britain the standard loading gauge profiles for rail freight vehicles range from W6A (smallest) to W12 (largest). Appendix C shows the various loading gauge profiles which currently apply.

3.2.2 W10 has latterly provided the standard for the SFN enhancement works, being sufficient to allow a 2.44m (8') wide by 2.89m high (9'6") shipping container (2.89m high) to be carried on a notional 1m high rail wagon. Where possible, Network Rail now seeks to clear routes to the slightly wider W12 standard, which can allow carriage of 2.5m wide by 2.89m high containers. In its recent Freight Network Study (FNS), Network Rail has indicated that the WCML passing Rail Central is a future Tier 1 priority for W12 gauge clearance.[29]

3.2.3 As W10 and W12 gauge does not cover all of the main intermodal routes on the national rail network, rail freight operating companies (FOCs) use a mixture of rail wagons of varying heights, in order to carry containers ranging in height from 2.44m (8') to 2.89m (9'6") across the network within the more prevalent W8 gauge.

3.2.4 Rail Central is proposed to have access to all 4 of the WCML running lines, which are all cleared to W10 loading gauge. This would provide onward access at W10 gauge to the principal deepsea ports of Felixstowe, Southampton and London Gateway, as well as other ports and (S)RFI at W10 gauge in London, the Midlands, North West, Yorkshire & Humberside, North East and the Scottish Central Belt.

3.2.5 Note also that all conventional wagon and express freight services are built to operate within the smallest W6A loading gauge, and could therefore operate between Rail Central and virtually the entire national rail network, where axle load and train length restrictions permit.

[29] Figure 7.2

3.3 Network capacity

3.3.1 Network Rail maintains a rolling programme of timetable development, seeking to accommodate a variety of requests from passenger and train operators which may vary from very short term (with only a few hours' notice) through to the longer-term (up to 18 months into the future). As part of this programme, Network Rail monitors usage of booked timetable paths in order to allocate capacity as required. A recent example of this work has been publicised by Network Rail:

> A massive timetable shakeup is being implemented after Britain's rail freight industry collaborated over a two-year, industry-wide review into more efficient freight operations. Together, Network Rail and freight operators identified 50 per cent of the reserved slots on the railway for freight trains were not being used and could potentially be given up for thousands of new passenger and freight services.
>
> Per week, 4,702 allocated 'paths' – the slots a freight train has on the railway and in the timetable – have been relinquished, freeing-up much needed capacity on the rail network. They could become available for all train operators to run additional services on a daily basis or re-time existing services to reduce congestion and improve reliability.
>
> This additional capacity has been created at zero cost and has not led to any reductions in the number of freight trains running on the network. It represents a huge opportunity for both freight and passenger operators to increase traffic on the network without the need for expensive infrastructure enhancement schemes. The spare capacity can be attributed to a number of factors:
>
> - The unprecedented decline in coal traffic over the last two years, and a dip in iron and steel
> - More efficient freight operations including running longer, fuller, heavier trains
> - Savvy timetabling and better freight industry productivity, running fewer part-loaded freight trains, reducing wasted capacity
>
> Meanwhile, construction and intermodal freight traffic is growing on the rail network and additional paths are needed in order to support the economy across Britain. 1,000 of the removed paths have been safeguarded for future strategic freight growth, which is essential to allow for expected increases in key freight markets. The rail freight market can have the confidence that future traffic growth can take place without being hindered by the need to always build additional capacity.[30]

3.3.2 Network Rail's investment programme (in parallel with developments such as HS1, HS2 and HS3) then focuses on seeking to respond to forecast growth in passenger and freight traffic through capacity enhancement. This includes new digital signalling systems for the rail network and freight locomotives.[31]

[30] https://www.networkrail.co.uk/feeds/rail-freight-industry-and-network-rail-collaborate-to-increase-railway-capacity/
[31] https://www.networkrail.co.uk/feeds/freight-trains-in-britain-to-be-upgraded-with-delay-busting-digital-technology-in-multi-million-pound-deal/

3.3.3 Network Rail has developed long-range forecasts of passenger and freight demand out to 2043, which form the basis for a separate route studies being undertaken by Network Rail to consider options for further enhancement of network capacity, alongside the proposed HS2 development. The forecasting process undertaken by Network Rail, as endorsed by the DfT's National Policy Statement on National Networks (NPS), has taken account of the Rail Central proposals as part of the quantum of additional SRFI capacity expected to be developed over the next 30 years.[32] Network Rail's recent Freight Network Study has identified potential capacity enhancements on the WCML in the local area, including on the Northampton Loop and in the Bletchley / Milton Keynes area.[33]

3.3.4 The Rail Central scheme is being developed with capacity to cater for a significant level of traffic at maturity, noting that such levels of traffic would be expected to evolve over a number of years. For example, DIRFT now generates around 10 trains per day each way after more than twenty years of operations. In the short term, the immediate requirements of Rail Central would be to cater for the initial start-up phase, achieving up to 4 trains per day each way.

3.3.5 Analysis of the network capability for additional freight traffic has been undertaken on both the Slow Lines and Fast Lines by Network Rail and specialist timetable planners PRA.

3.3.6 The Slow Lines assessment undertaken by Network Rail has focussed on the daytime period (0600-2000) for Class 4 (intermodal) services, and concluded the following on the current timetable:

- Hanslope Junction (south of site) to Northampton station (north of site):
    - Northbound direction 28 x Class 4 paths between 0600 and 2000;
    - Southbound direction 38 x Class 4 paths between 0600 and 2000;

3.3.7 The Fast Lines assessment undertaken by PRA covered the daytime and night-time period for Class 1 (express) services, and concluded the following on the current timetable:

- London to Rail Central:
    - Northbound direction 14 x Class 1 paths per 24 hours;
    - Southbound direction 19 x Class 1 paths per 24 hours;
- West Midlands / North West to Rail Central:
    - Northbound direction 16 x Class 1 paths per 24 hours;
    - Southbound direction 18 x Class 1 paths per 24 hours.

3.3.8 For Class 4 (intermodal) services, PRA concluded that within the 2100 – 0700 overnight period, some 50 paths could be identified in the current timetable.

[32] See Rail Central Need Report
[33] Figure 8.1

3.3.9 Combining the two sets of results for the Fast Lines and Slow Lines, it should be noted that some of the respective “new” freight paths on each route would effectively combine (or disappear) further north or south on the WCML. Overnight engineering work will typically involve either the Fast or Slow Lines (but not both) being closed as required. The total number of paths available will therefore be considerably lower in consequence. Nonetheless, the overall result of the analysis by Network Rail and PRA sets out the overall capability of the main line to cater for the start-up phase of operations on the site, at 4 trains per day in and 4 trains per day out, comprising mainly Class 1 and Class 4 services, with some additional Class 6 services.

3.3.10 In the longer term, the development of the wider network, including phase 1 of HS2, will create additional capacity. The Department for Transport has noted the following in the context of the WCML:

> Britain’s key strategic rail corridor is the West Coast Main Line (WCML). Inter-city services on the WCML link London to Birmingham, Manchester, Liverpool and Glasgow. Commuter services into London, Birmingham and Manchester also operate on the route and around 40% of all Britain’s rail freight traffic uses the WCML at some point in its journey. Between 1998 and 2008, Britain invested £9 billion in upgrading the WCML. The upgrade increased peak service levels on the Fast Lines into Euston from nine trains per hour (tph) to 13-14tph and reduced journey times, such as those between London and Manchester, by around 20%. However, despite the considerable cost and disruption involved, within seven years of completion of the works:
>
> - Over 60% of the additional peak inter-city seats provided by the upgrade are already being filled
> - More trains are being operated on the WCML’s Fast Lines (“Fast Lines”) in the peak hour (up to 15-16tph) than was envisaged when the upgrade was planned. No significant increase in peak services into London is possible without either compromising performance or requiring major investment
> - In part due to this intensity of operation, reliability of the services on the WCML is poor. Recent London Midland punctuality was 83.2% compared to 88.7% for the wider London commuter network. Virgin West Coast’s punctuality was 85.1% compared to 87.5% for the long distance sector as a whole
>
> As rail demand continues to grow, pressures to run more services on the WCML will inevitably arise. This is because:
>
> - The existing peak trains, some of which are crowded now, will become severely overcrowded – even if they are all run at maximum length
> - Today’s WCML timetable is a compromise. Lack of capacity means that opportunities to improve frequency of commuter services around Birmingham and Manchester are constrained. It also limits the ability to run more long-distance services to link London directly with other cities across the West Midlands, North West, Scotland and Wales
> - As international trade expands, there is an urgent demand for more freight paths on the WCML, which links the nation’s major ports with inland freight terminals. Rail freight brings annual benefits of around £1.5 billion to Britain’s economy
>
> DfT analysis of Network Rail’s estimates suggests that growth in volumes will translate into an increase in demand for rail freight paths on the WCML each day from 42 today to 80 by 2033. Clearly, given the constraints that are in place all along the WCML rail corridor, it will be impossible to accommodate the expected increase in freight demand without further investment in the infrastructure to increase network capacity. The only alternative would be extensive use of the route at night, which would limit the time available for engineering inspection and maintenance work.

> A number of other investments are being progressed to relieve some of the freight pressures on the WCML. These include the Felixstowe to Nuneaton scheme which allows some freight traffic to bypass the southern end of the route and investment in gauge clearance on the Midland Main Line. However, without additional WCML paths for freight, rail will not be able to maintain its key role in Britain's distribution chains. As international trade grows, freight traffic will increasingly be diverted onto the roads, leading to worsening road congestion and air quality.
>
> This leaves the Government with a choice. It can either undertake a "patch and mend" style continued upgrade of the WCML – at considerable cost and disruption - or it can make a transformational investment that solves the capacity and reliability issues of Britain's key strategic rail corridor for the long term.
>
> In HS2, Government has chosen a transformational investment. Dedicated high speed lines will allow for faster, more frequent and more reliable inter-city travel whilst at the same time releasing capacity on the existing network to enable radical improvements to commuter and freight services. Once the HS2 network is complete, released capacity could also "de-pressurise" the WCML and allow performance and reliability to improve. Alternatives to HS2 that involve upgrading the existing network simply do not provide the ability to address the wide range of capacity and performance pressures faced by the WCML in one go.[34]

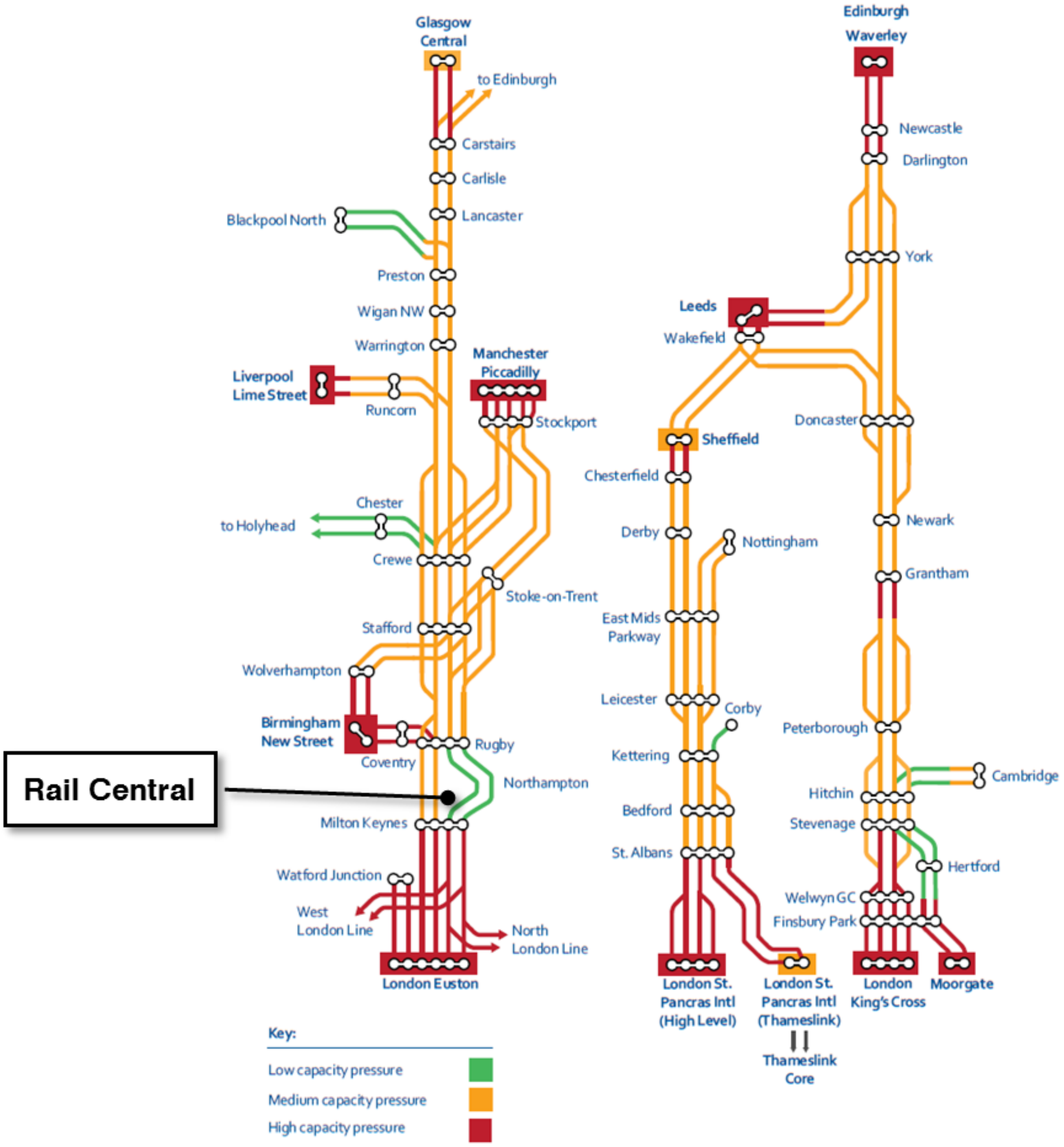
3.3.11 The Figure below produced by HS2 (position of Rail Central overlaid for information) provides a schematic view on capacity issues on the West and East Coast Main Lines. This indicates that the WCML Slow Lines via Northampton have low pressure on capacity and the WCML Fast Lines have medium pressure on capacity.

3.3.12 The Bill to construct phase 1 of HS2 between London and Birmingham received Royal Assent on February 23rd 2017. Construction works have started and the new line is anticipated to be operational by 2026.

3.3.13 In response, Network Rail is currently leading an industry process known as "Capacity Plus" (Phase One WCML) to identify and develop options for the use of capacity released by transferring long distance high speed services onto HS2, including assessment of demand for additional freight paths arising from Rail Central and other developments in the surrounding area.

[34] Supplement to the October 2013 Strategic Case for HS2, DfT November 2015, pages 5-6, 25

Figure 18 Post-2019 capacity pressures on north-south main lines (source HS2)

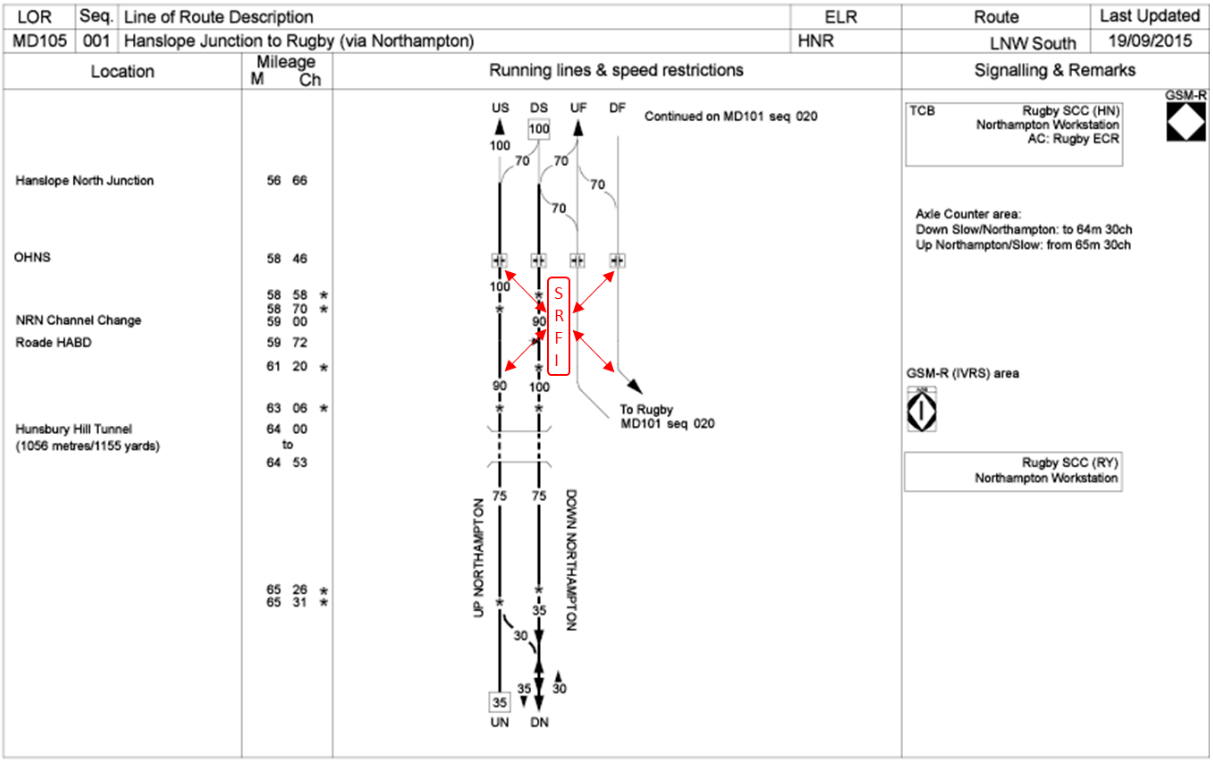


4 Rail Central: on-site rail works

4.1 Physical connection to railway

4.1.1 Drawing on input from Network Rail into the initial design of the proposals, Rail Central provides for direct connection into the WCML Fast and Slow Lines, in both directions of travel. The connections would allow diesel or electric traction to operate trains of up to 775m train length, with internal links between these connections to allow maximum flexibility of routing trains to and from the site. In the event that either side of the WCML is closed for maintenance or due to an incident, scope will then exist for Network Rail to reroute trains via the unaffected side of the WCML as slots become available. The Figure below shows the current schematic track layout and the proposed new connections:

Figure 19 Track diagram and proposed connections (not to scale, source Network Rail)



4.1.2 The design of the main line connections into the Fast and Slow Lines respectively can be used by all the types of freight train anticipated to use the SRFI (intermodal, conventional and express), the nature of the connections designed to reflect the respective emphasis of traffic movements and to best integrate these into the pattern of main line services, ie:

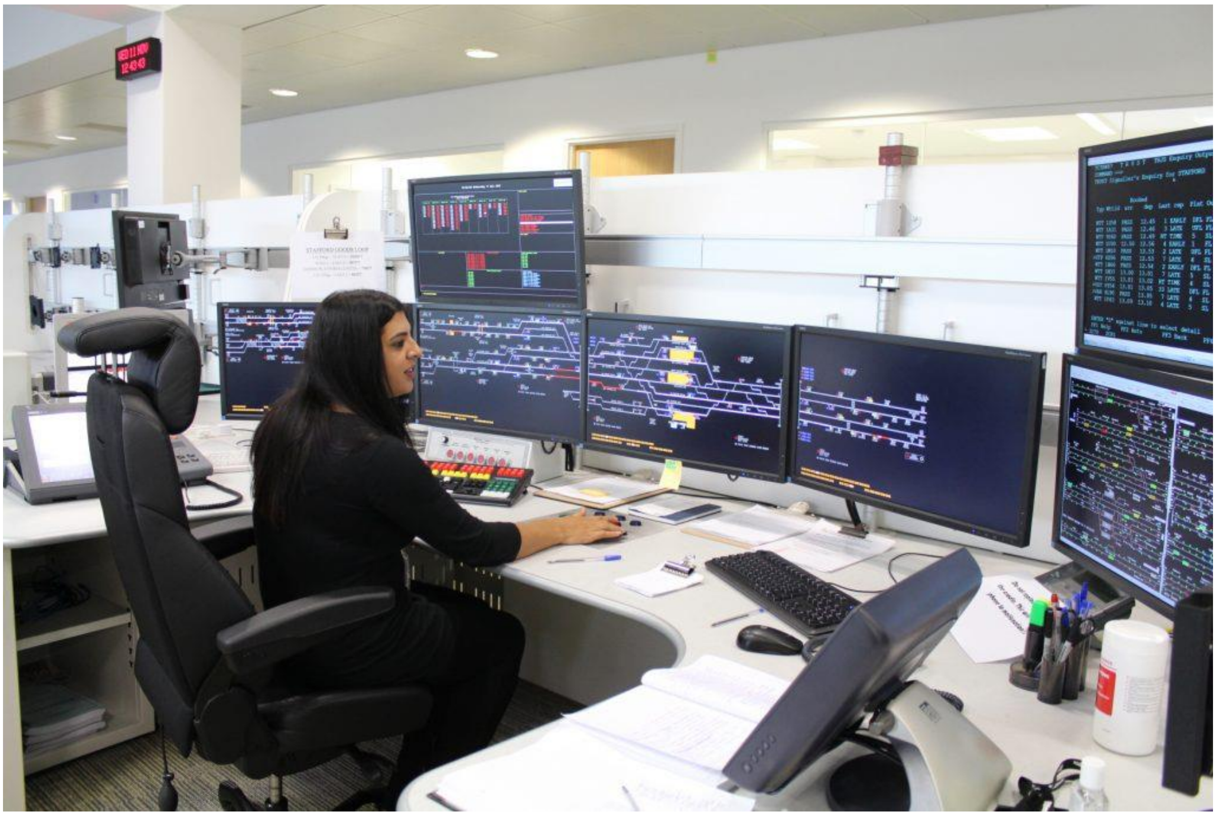
- Fast Line connections tailored for express freight trains arriving and departing at faster speeds to better integrate such trains (Class 1 services capable of operating at up to 110mph on the main line) amongst the express passenger services – with overnight capability for Class 4 services if required;
- Slow Line connections tailored for intermodal (Class 4 services up to 75mph) and conventional wagon (Class 6 services up to 60mph) services to integrate into the local passenger and other freight services – noting that Class 1 services could also use this route if required.

4.1.3 The connections would consist of main line crossovers (allowing trains on the main line to cross between main line tracks as required to reach the connection points) and new connections on and off the main line into site.

4.1.4 This configuration would serve to maximise the potential of Rail Central's connectivity to the SFN. It also demonstrates that Rail Central benefits from a range of routing options in order to ensure that the rail services offered at the SRFI would be both efficient and resilient.

4.1.5 The main line connections would be maintained, operated and signalled by Network Rail, the area of signalling control from Network Rail's Rugby Railway Operations Centre (ROC) interfacing with a separate on-site signalling system operated from a control panel from the Rail Central Railway Control Centre (RCC), similar to the signalling arrangements in place at DIRFT. Network Rail has confirmed that changes would be required to the relevant ROC workstation display screens (see Figure below) used by signallers to monitor train movements, to include additional detail of the connections to and from the Rail Central site as needed to give the ROC signallers suitable visibility of trains moving to and from the main line.

Figure 20 Rugby ROC signaller workstation display panels (source The Rail Engineer)



4.1.6 In advance of an inbound freight train arriving on site, the ROC would contact the Rail Central RCC on site to confirm that one of the reception sidings would be available to receive a train, the RCC then organising any shunting of trains on site as required to achieve this.

4.1.7 Freight trains destined for Rail Central would pass through new signals controlling access to the new crossovers and connections into the site. With suitable signal aspects displayed, trains would cross over the main line tracks as required and into one of the sidings on site. Once clear of the main line, the signals and pointwork would be reset to allow other trains to proceed along the main line.

4.1.8 Trains departing from Rail Central would firstly confirm readiness to depart the site between the RCC and ROC, from which point trains would then proceed from the sidings on site up to the signal controlling access to the main line. With a suitable signal aspect displayed, trains would cross the main line connection onto the main line, with signals and pointwork then reset for the next train to proceed.

4.1.9 The proposed siting and design of the main line connections has been reviewed by Network Rail by in-house and independent external advisors to Network Rail, through three separate peer review exercises:

- By Network Rail as part of the response to the initial Scoping Opinion on the proposals;[35]
- By Network Rail and consultants Parsons Brinckerhoff during 2016, as part of their work with High Speed 2 to identify strategic locations for stabling track maintenance plant displaced from London (Willesden) by the HS2 construction works. Rail Central was demonstrated as being able to meet the requirement to stable such equipment. The design input from Parsons Brinckerhoff focussed on the main line connection points on the slow lines, this being incorporated into the Rail Central masterplan;
- By Network Rail and consultants Mott MacDonald and Volker Fitzpatrick, as part of the GRIP2[36] technical workstreams undertaken for Rail Central. The design input from Network Rail and its consultancy team on main line connection points, signalling and method of working has again been incorporated into the Rail Central masterplan.

4.1.10 This work has provided independent confirmation of the engineering and operational feasibility of the Rail Central main line access, with the local signalling and power supply systems having latent capacity to cater for the new connections.

[35] Letter to Planning Inspectorate, 11th January 2016
[36] Governance on Rail Investment Projects, Network Rail's in-house 8-stage project development governance

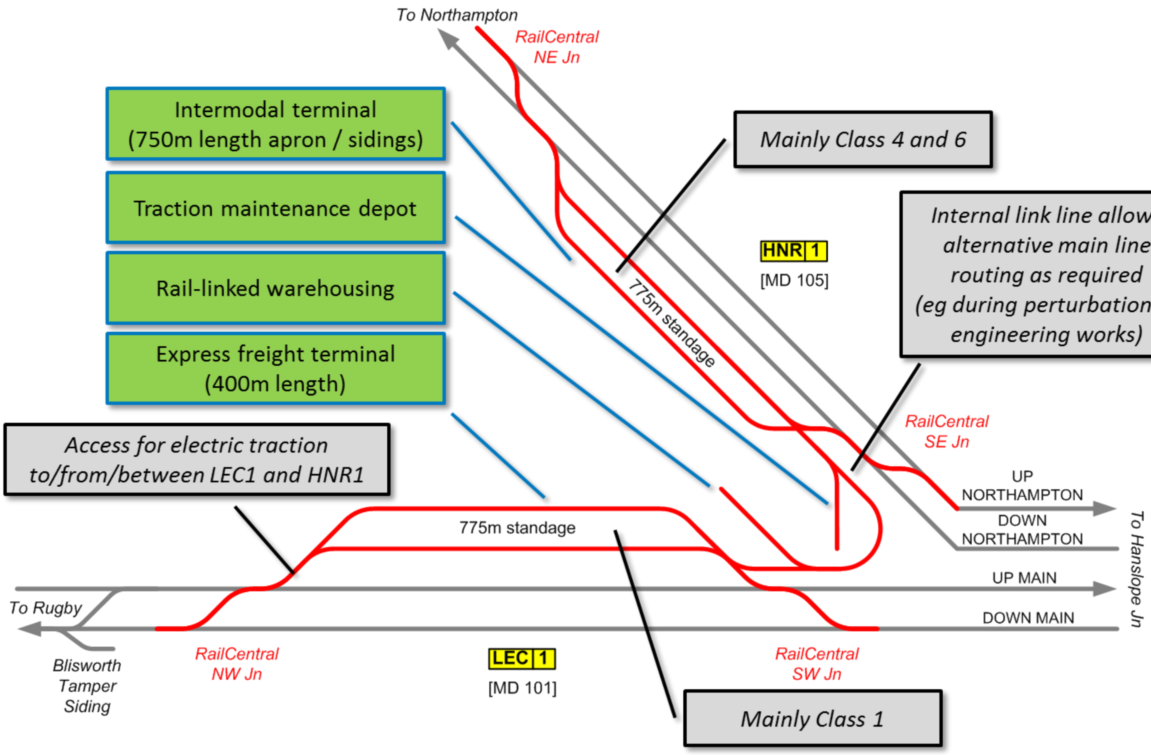
4.2 On-site track layout

4.2.1 A schematic layout of the on-site rail infrastructure (not to scale) is shown in the Figure below.

4.2.2 A train arriving into site via the Slow Lines would be routed into one of six full-length sidings within the Intermodal Terminal, or into one of two parallel reception sidings equipped with overhead electrification. Diesel-hauled trains could access any of these eight sidings, whilst electrically-hauled trains could access the outer reception sidings, from where on-site diesel shunter locomotives would then shunt the train into the Intermodal Terminal. The latest electric freight locomotives being introduced onto the network (Class 88) have built-in diesel engines that could undertake such shunting manoeuvres without requiring a separate diesel shunter.

4.2.3 The method of working via the Slow Lines would be similar for conventional or express freight services, trains being shunted to and from the rail-linked warehousing and Express Freight Terminal as required.

Figure 21 Schematic on-site track layout (simplified, not to scale)



4.2.4 The Fast Line main line connections would be expected to handle a smaller number of freight trains, primarily express freight services during intra-peak daytime and night-time periods, and other freight services at night as handled as present on the Fast Lines. Trains would arrive or depart from two electrified full-length reception sidings, or via a separate dedicated loop line into the Express Freight Terminal. Trains destined for the Intermodal Terminal or rail-linked warehouses would then be moved via the internal connection to the relevant destination on site.

4.2.5 The total bank of 11 sidings facing the main line on both sides of the site would be multi-purpose, capable of being used as required by the terminal operator for train arrival, departure, stabling or handling as appropriate.

4.2.6 The track layout on site has been designed to accommodate overhead electrification, to enable electric locomotives and multiple units to access the site. Interfacing with the existing overhead electrification provided on the WCML Fast Lines and Northampton Loop, any electrification on site would be anticipated to cover the arrival / departure sidings on both sides of the site and the internal interconnecting chords, the Express Freight Terminal siding, and sidings to the Traction Maintenance Depot if required. Based on the current 60m spacing of catenary support structures on the WCML passing the site, it is estimated than around 120 catenary support structures (in single or paired configuration) would be required, most of these running parallel with the existing structures on the main line, at the same height or lower than the existing WCML electrification.

4.2.7 In terms of interchange facilities on site, these would be as follows:

- Intermodal Terminal with up to six full length sidings, capable of being operated by reachstacker cranes (accessing the nearest two sidings facing the Intermodal Terminal apron) or overhead gantry cranes (spanning all six sidings and most of the Intermodal Terminal apron area). Once berthed inside the Intermodal Terminal, trains would be unloaded and reloaded, each train typically processed within a 2-4 hour window depending on the number of containers and handling equipment involved. Once reloaded, trains would then be prepared to await departure. The Intermodal Terminal would also accommodate short-term storage of containers awaiting call-off by trains or HGVs. This would provide a total storage capacity of around 4400 TEU, the equivalent of 70 intermodal trainloads (or around 3 days' throughput by rail). The number and average dwell time for containers on site would be determined by end user requirements and/or the terminal operator. The Intermodal Terminal would be designed to standards necessary to secure DfT security approval for export of freight via the Channel Tunnel, as well as HM Customs clearance for receiving and despatching trains from other countries within and beyond the European Union;

- Rail-linked warehousing, with three of the units on site having direct siding access alongside the buildings, avoiding the need for any intermediate road movements between train and warehouse;

- Express Freight Terminal, allowing high-speed trains to arrive on site, quickly discharge and load roll cages or palletised goods (within windows as short as 20-30 minutes) before departing again in the same or opposite direction of travel.

4.2.8 Train movements within the site (ie excluding movements to and from the main line) would be restricted to slow speeds (5-10mph) for safety reasons.

4.3 Ancillary facilities

4.3.1 Additional rail-related facilities to be provided on site would include:

- A Traction Maintenance Depot, to allow trains to be stabled, maintained and fuelled on site rather than at off-site locations. This would reduce the need for empty positioning movements to and from site, maximising use of available main line capacity and the efficiency of rail freight services. This unique facility for a SRFI would also provide a location where traincrew could sign on and sign off from work each day as required. With the rationalisation of former maintenance depot facilities at Rugby and Wolverton in recent years, this facility would be able to tap into a pool of skilled railway staff which have been (or may be) displaced from other facilities in the surrounding area).

- A gatehouse at the HGV entrance to the Intermodal Terminal – this would accommodate operational processes including checking the documentation of inbound HGVs to ensure that the driver and/or vehicle is authorised to deliver or collect containers from the terminal. This not only protects against container theft from site, but also forms part of the Government's mandatory security regime for terminals sending freight through the Channel Tunnel. Should a vehicle arrive with incomplete documentation (or been misdirected), the design provides for any such HGVs to turn round and leave the site ahead of the main security gates protecting the Intermodal Terminal;

- A Railway Control Centre (RCC) for the Intermodal Terminal and railway operations on site, providing administration and security facilities as well as amenities for staff and visitors;
- Bunded fuelling facilities for reachstackers, internal movement vehicles or locomotives.

4.4 Phasing of specific elements

4.4.1 The experience of the existing SRFI indicates that it will take several years for each site to achieve a mature level of rail freight traffic. The capacity of the interchange facilities on site can therefore be phased to allow this to grow in line with traffic demand.

4.4.2 In terms of phasing of development, DIRFT1, BIFT, Wakefield, Mossend and 3MG were all constructed as one single phase, with multiple reception and handling sidings together with the open-access Intermodal Terminal, in some cases with directly rail-linked warehousing alongside. In the early years the rail facilities operated some way below their design capacity whilst traffic levels rose. In the case of DIRFT, DIRFT2 then followed as a second phase with a major further expansion planned at DIRFT3, which will itself replace the existing facilities at DIRFT1.

4.4.3 By contrast, Hams Hall (see Figure below) developed its open-access Intermodal Terminal as a series of phases, with each phase added in response to traffic growth. Phase 1 opened in 1997 with 2 full-length reception sidings and 2 half-length handling sidings, along with a third 'locomotive release' siding within the interchange area. The handling apron was divided into two halves along the length of the handling sidings, the majority of which was paved for reachstacker operation, the remaining area being laid with compacted fill suitable for container storage. The gatehouse facilities were provided by a pair of stacked Portakabins, together with an adjacent parking area for inbound HGVs.

Figure 22 Hams Hall Phase 1 handling area

4.4.4 Phase 2 was implemented in 2003, introducing a fourth siding (with all 4 capable of being used for handling) and an additional paved area for reachstacker operation and container storage. Two years later Phase 3 opened, adding a further area for container storage and a new brick-built gatehouse. Since 2005, further phases have been constructed, including the addition of a rubber-tyred gantry crane to further enhance storage capacity. A similar approach would be adopted for Rail Central. As rail traffic grows, the design of the masterplan would allow for additional trains to be processed through enhanced infrastructure and/or handling equipment.

5 Rail Central: rail freight traffic movements

5.1 Overview

5.1.1 The rail freight interchange facilities at Rail Central would be operated as an ‘inland port’ facility, the primary purpose being the fast and efficient processing of containers, swap bodies and other intermodal units between trains, road vehicles and intermediate storage areas. Trains would arrive from either direction of travel, depending on the ultimate origin / destination of the trains and the routes used by the train operators to reach the site.

5.1.2 Based on the current patterns of activity at existing SRFI, it is anticipated that rail traffic will reflect a blend of the following sectors:

- Deepsea intermodal services across a network of major port facilities (eg Felixstowe, Southampton, London Gateway, Tilbury, Purfleet, Seaforth, Bristol, Teesport and Grangemouth);
- Domestic intermodal services, the site being well-placed on the main NW to SE national freight corridor within Great Britain;
- European and longer-distance intermodal services (particularly to/from China);
- Domestic and European conventional wagon services;
- Domestic and European express freight services.

5.1.3 The ability of the site to attract a mix of these services reflects the distance from the major ports and other destinations, as shown in the Table below, which compare with the distances over which such services already operate from other SRFI[37].

5.1.4 The development of the masterplan options for Rail Central has therefore aimed to provide rail freight interchange infrastructure of a scale commensurate with the size of the development and other similarly-sized SRFI. The layout seeks to provide as much flexibility as possible for the various types of services, to maximise the rail freight opportunities which can be achieved by the third-party operators, occupiers and other end users in the years following opening.

5.1.5 To provide an indication of the potential scale of rail freight activity to and from the site, various measures are shown below based on existing and proposed SRFI, which can be used to provide an indication of the potential level of rail traffic generation relative to a given level of floorspace on site. It is acknowledged that the relationship between SRFI floorspace and rail traffic generation could vary significantly between sites and individual buildings on site, from a single Tesco distribution centre at DIRFT2 which generates up to 5 domestic intermodal trains per day each way, to other locations (both SRFI and RFI) where off-site users may generate as much demand for rail freight as on-site occupiers.

[37] Need Report, Table 2

Table 4 Distances by rail from Rail Central to ports and (S)RFI[38]

Site	Type	Rail distance (km)
London Gateway	Port	138
3MG (Widnes)	SRFI	205
Southampton	Port	212
Port Salford (Manchester)	SRFI	215
Felixstowe	Port	225
iPort Doncaster	SRFI	225
Seaforth (Liverpool)	Port	228
Wakefield Europort	SRFI	235
Wentloog (Cardiff)	RFI	255
Teesport	Port	346
Mossend	SRFI	535
Coatbridge	RFI	542
Grangemouth	Port / RFI	568
Duisburg (Germany)	(S)RFI	660
Milan (Italy)	(S)RFI	1,410
Warsaw (Poland)	(S)RFI	1,750
Yiwu (China)	(S)RFI	12,100

5.1.6 Network Rail's long-range forecasts of market potential for intermodal services in the 2013 Freight Market Study have been produced using the GB Freight Model (GBFM). The model has been used to determine the quantum of rail freight traffic to and from Rail Central on a similar the basis, indicating the site floorspace could create the equivalent of 13 intermodal trainloads per day. In practice, this quantum of freight traffic would be distributed between intermodal services and other emerging service types (ie conventional wagon and express).

5.1.7 Beyond these working assumptions, the ultimate capacity of the site in terms of rail freight traffic generation will depend on a range of factors, including:

- The requirements of occupiers and other end users;
- The physical extent of the interchange and associated sidings and handling areas;
- The manner in which the interchange operator chooses to equip, staff and operate the facility;
- The capacity of road and rail networks / operators to accommodate the respective traffic flows;
- The capacity of connecting SRFI and RFI at the other end of the rail transit;
- The length of trains and type of wagons employed.

[38] Source Railmiles website / Google Maps, calculating shortest distance between origin and destination

6 Co-location with DIRFT & Northampton Gateway

6.1.1 It is apparent that the Rail Central proposals would be situated some 20 miles south of the established SRFI at DIRFT I and II (now being expanded into a third phase), with an additional SRFI scheme (Northampton Gateway) proposed on the opposite side of the WCML Slow Lines to Rail Central. The three SRFI schemes would draw on the same main line capability of the Slow Lines, Rail Central being distinguished by having direct access into the Fast Lines.

6.1.2 The close or co-location of SRFI is not unique to this area, and elsewhere SRFI and RFI already operate alongside each other, and in some cases collaborate operationally despite being run by separate otherwise competing commercial undertakings. Examples of these include:

- Hams Hall SRFI and Birch Coppice SRFI are located less than 10km apart, but both have attracted occupiers and helped generate new rail freight services. The terminals are run by separate companies (ABP and Maritime respectively) who compete for business, but collaborate operationally, with some trains from Birch Coppice using the rail facilities at Hams Hall to stable and undertake “run round” manoeuvres, avoiding the need for these trains to take otherwise longer circular routes through Birmingham. The two sites use the same main line routes and capacity;

- Hams Hall SRFI is located less than 12km from the established inner-city RFI at Birmingham Lawley Street. The terminals are run by separate companies (ABP and Freightliner respectively) who compete for business, but the RFI has not seen its traffic levels impacted by the development of the SRFI. Freightliner operates trains into both its own Lawley Street RFI and into the Hams Hall SRFI. The two sites use the same main line routes and capacity;

- The SRFI at Hams Hall and DIRFT are now linked by a daily rail freight service which connects the two facilities, despite these being only 50km apart by rail;

- At Manchester’s Trafford Park, two RFI are operated alongside each other by DB Cargo and Freightliner respectively, with the SRFI at Port Salford now being constructed within 5km of both. All three sites will share the same double-track route through Manchester Piccadilly and Merseyside;

- In Liverpool, the 3MG SRFI operates alongside the Freightliner RFI at Garston, 10 km to the west. All but one of the freight trains passing through 3MG are operated by Freightliner. The two sites use the same section of the West Coast Main Line;

- In Glasgow, the Mossend Eurocentral SRFI was developed directly opposite an existing RFI (the sites operated by DB Cargo and PD Stirling respectively), and within 5km of an established RFI at Coatbridge (operated by Freightliner). Planning consent has been granted to construct an entirely new SRFI (Mossend International Rail Freight Park) directly opposite the existing SRFI, with all these SRFI and RFI facilities sharing access to the same section of main line;

- In Doncaster, the recently opened rail facilities on the iPort SRFI (operated by Modus) now operate within 4km of the existing RFI operated by Freightliner.

6.1.3 The NPSNN confirms the compelling need to create an expanded network of SRFI facilities, but does not set out requirements for the proximity or dispersal of these SRFI. The NPSNN notes that, in some cases, the development of SRFI may result in traffic moving from existing RFI as a consequence (para 2.58). The overall objective is to significantly expand the level of rail-served distribution floorspace as a share of total distribution floorspace.

6.1.4 Given that rail-served floorspace in the Midlands is relatively small compared to other non rail-served floorspace, more SRFI capacity will be required - whether dispersed or co-located - on major urban centres, or groups of centres, linked to key supply chain routes, to match the changing demands of the market. In this regard, the research and forecasting which underpinned Network Rail's Freight Market Study 2013 (as referenced in the NPSNN and considered to be robust) made provision for some 2.5 million sq m of rail-served floorspace being provided in the area between Northamptonshire and Milton Keynes by 2043.[39] The three SRFI schemes combined would provide this level of floorspace.

6.1.5 In terms of operational compatibility, the combined results of the work undertaken with Network Rail on main line access and network capability on Rail Central have not identified any design issues which would otherwise prevent all three sites from being able to operate as SRFI in line with the Planning Act 2008 and the NPSNN.

[39] Rail Freight forecasts to 2023/4, 2033/4 and 2043/4, MDS-Transmodal, April 2013, page 24

7 Conclusions

7.1.1 This report demonstrates the following key conclusions with respect to the Rail Central proposals:

- SRFI have a particularly important role in fostering mode shift of freight from road to rail in the target growth sector of intermodal services. Beyond the relatively small number of operational SRFI in comparison to road-served distribution parks, business and government wish to see an expanded number of SRFI facilities in order to achieve an inter-connected network of facilities and services;
- The Rail Central site is situated on the most important strategic corridor for freight transport within Great Britain, between the M1 motorway and the West Coast Main Line (WCML);
- The WCML is the principal route for intermodal and express freight traffic in Great Britain, forms a core part of the Strategic Freight Network (SFN), able to handle the longest freight trains using diesel or electric traction, carrying containers up to the maximum 9'6" height for deepsea traffic;
- Main line access into the WCML would be via 4 separate main line connection points, providing rail access tailored for the respective operational requirements of express and intermodal / conventional services;
- Internal connection of these 4 main line connection points provides maximum flexibility and contingency for routing freight trains to and from site, allowing the SRFI to remain open for rail traffic when either the WCML Fast or Slow Lines are closed for overnight engineering works;
- Trains can arrive and depart in the same or opposite direction of travel without extensive shunting of trains between reception and handling sidings, facilitating fast turnaround of trains as required;
- The unique provision (for SRFI) of a Traction Maintenance Depot on site as an integral part of the rail facilities allows trains to be serviced, maintained and crewed from site, reducing the need for trains to be moved to off-site facilities, maximising the efficient use of available main line capacity;
- Network Rail has informed the design of the rail infrastructure and main line connections, the technical assessment to GRIP2 validating the technical and operational feasibility of the main line connections, the local signalling and power supply systems having the capacity to cater for the development;
- Timetable analysis undertaken with Network Rail on the existing timetable (prior to the additional network capability provided by HS2) would enable Rail Central to function as a SRFI as defined by the NPSNN, within the context of a long-range national forecasting and enhancement strategy (pre- and post-HS2) to cater for future growth emerging from developments such as Rail Central.

7.1.2 In response to the criteria set by the NPSNN for proposed SRFI to qualify as NSIPs, the design and implementation of the rail layout will ensure that, from the outset of the initial stage of development, the site will have an operational rail network connection and areas for intermodal handling and container storage, be able to handle at least 4 trains per day, each up to 775m in length, to and from the main line in either direction, on a route which is already cleared to W10 loading gauge on both slow lines (via Northampton) and fast lines (via Weedon).

7.1.3 Rail Central has sought guidance from the infrastructure manager, in this case from Network Rail as system operator of the national rail network. Drawing on the substantial level engagement and technical input provided by Network Rail and its consultancy team, we are satisfied that the site is capable of being developed as a SRFI, addressing the above requirements of the NPS in accommodating the long-term growth in rail freight, in line with the long-term rail freight growth forecasts to 2043 set out in Network Rail's Freight Market Study.

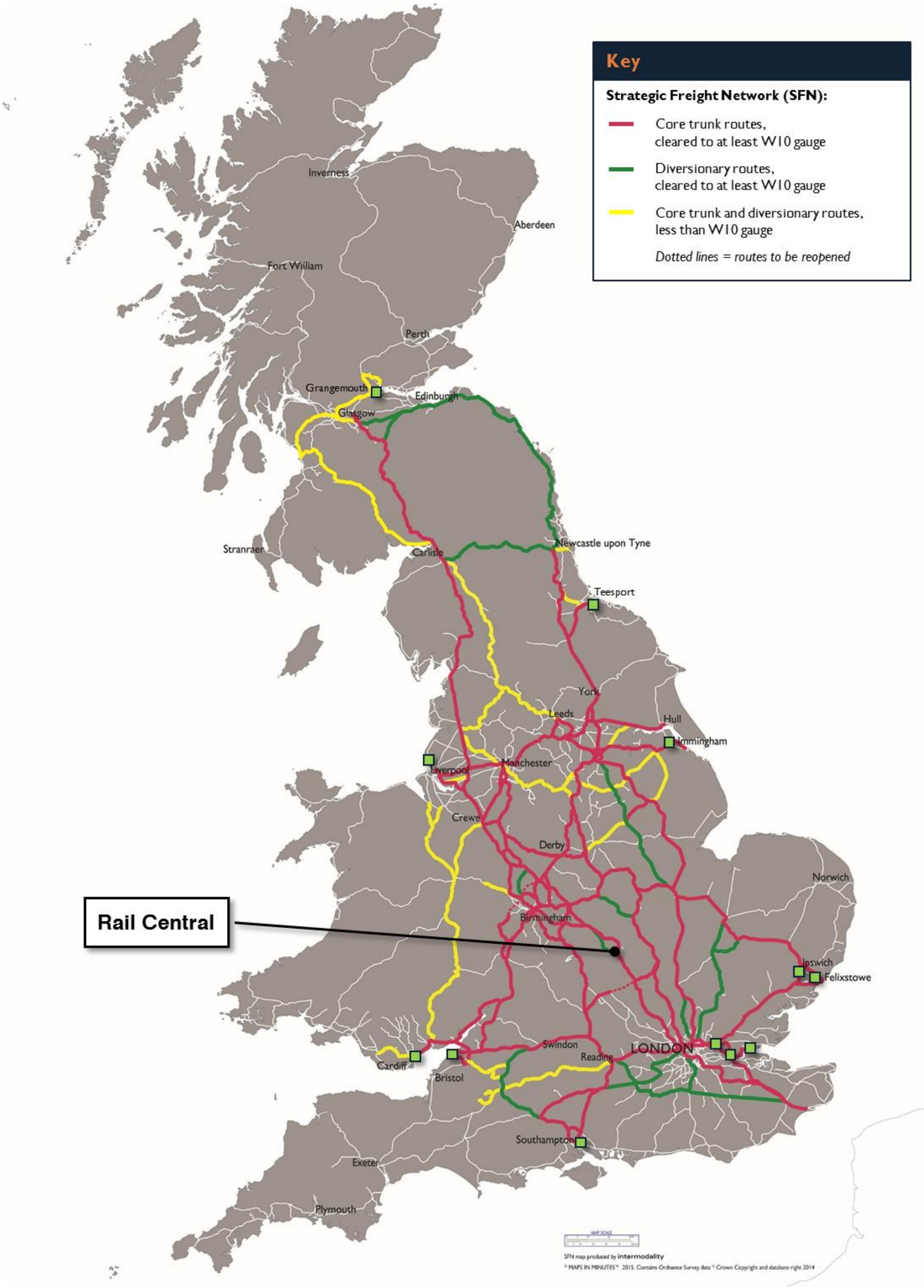
7.1.4 It is not uncommon for new SRFI proposals on the major main line routes radiating from London to attract concerns about the ability of these busy rail arteries to accept new traffic, and in turn the ability of such sites to function as SRFI (ie at least 4 goods trains per day as defined by the NPSNN).[40],[41] In this regard, it is worth noting that every SRFI developed to date has started from a relatively low level of traffic, growing incrementally over several years in line with customer requirements and network capability, drawing on off-peak and overnight capacity. Drawing on this evidence, the opening of Rail Central would not therefore cause a sudden increase in rail freight traffic levels, such that this would then lead to congestion and disruption on the key West Coast Main Line corridor.

7.1.5 The scheduling of trains on the national network will continue to be determined by the system operator in consultation with train operators, the ORR and DfT, to make best use of network capacity and maximise performance. The aim of this process is to enable freight to be carried efficiently on the network, without compromising its passenger carrying capability. The rolling 18-month timetabling process enables negotiations to be conducted between those who would wish to run services, both passenger and freight, and the regulatory authorities, until the timetable becomes firm. There is no guarantee that the currently available paths will be available in the future because a) they are open to all licensed freight operators, and b) the timetable is not fixed but is a continually evolving structure. All paths required for Rail Central, as for all other SRFI and RFI, would need to be bid for, drawing on the industry's commitment to adopt best working practices to regulate freight train access onto busy main lines. Through this process, paths would be sought by train operators to and from Rail Central during the interpeak hours and overnight on an incremental basis, over several years, in line with customer demand and network capability, the latter expanding over time with the construction of HS2.

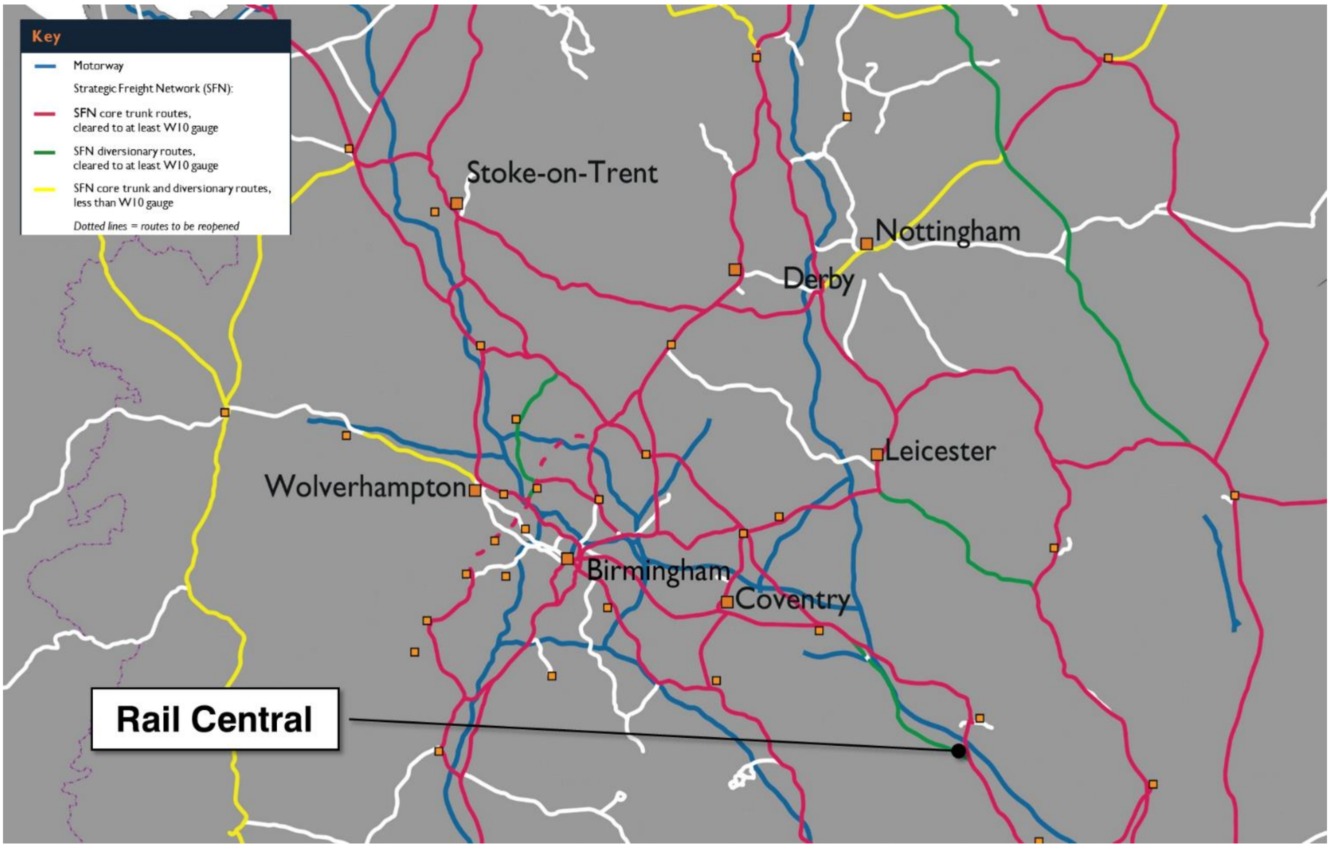
[40] Applications by ProLogis Developments Ltd, Howbury Park Railfreight Interchange: Report to the Secretary of State for Communities and Local Government by Andrew M Phillipson BSc CEng FICE MIHT, The Planning Inspectorate 24 September 2007, para 15.109 – 15.112
[41] Land in and around former aerodrome, North Orbital Road, Upper Colne Valley, St Albans: Report to the Secretary of State for Communities and Local Government by A Mead BSc (Hons) MRTPI MIQ, The Planning Inspectorate 19 March 2010, para 13.76 – 13.80

Appendices

A. Strategic Freight Network showing Rail Central location



B. Regional rail network showing Rail Central location



C. Diagram of loading gauge profiles