MOD Ashchurch Freight Study

Summary report for AMEC Environment & Infrastructure UK
on behalf of The Defence Infrastructure Organisation

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1 Introduction

1.1 Project scope

1.1.1 AMEC Environment & Infrastructure UK (AMEC), on behalf of The Defence Infrastructure Organisation (DIO), has instructed Intermodality to undertake a review of the scope for rail freight traffic opportunities through the MOD Ashchurch rail-linked facility.

1.1.2 The key tasks within the AMEC brief are set out below:

> A desktop technical review of the physical suitability of the Ashchurch site based on key operational/ commercial parameters for rail freight in bulk products (eg aggregates) and non-bulk products (eg supermarkets).
>
> A review of the National Freight Model to verify whether there is potential demand for a rail freight facility at the Ashchurch location.
>
> Review the commercial viability potential of the site to operate as a single SRFI, or as an intermodal RFI or rail linked warehousing alongside residential development.
>
> Produce a brief report which sets out the findings, namely:
>
> - Technical capability of the site to accommodate commercial freight operations, identifying any particular opportunities and constraints;
> - National/regional context for rail freight potential at the site based on current and likely future trends; and
> - Conclusions on the potential and the viability of the site to operate as a rail freight facility, either as a single SRFI or part of a mixed use scheme.

1.1.3 This report contains the findings of work undertaken to date and emerging conclusions based on these findings.

2 Current and future trends for rail freight

2.1 Market overview

2.1.1 Rail freight traffic within Great Britain has increased significantly since privatisation in the mid-1990's, with growth of over 60% in tonnes moved per annum. Despite the recent economic downturn, total rail freight volumes (excluding Network Rail maintenance traffic) have grown by 1.5% per annum between 2006 and 2012, and over the same period, intermodal (containerised) rail freight grew by 87%, exceeding forecasts[1].

2.1.2 The table below shows the current breakdown of rail freight traffic by commodity:

Table 1 Rail freight traffic (billion tonne-km), source ORR

Year	Coal	Metals	Construction	Oil & Petroleum	Channel Tunnel	Domestic intermodal[2]	Other	Total	Infrastructure[3]
1998-99	4.5	2.1	2.1	1.6	1.1	3.5	2.5	17.3	-
1999-00	4.8	2.2	2.0	1.5	1.0	3.9	2.7	18.2	-
2000-01	4.8	2.1	2.4	1.4	1.0	3.8	2.6	18.1	-
2001-02	6.2	2.4	2.8	1.2	0.6	3.5	2.6	19.4	-
2002-03	5.7	2.6	2.5	1.2	0.5	3.4	2.7	18.5	1.2
2003-04	5.8	2.4	2.7	1.2	0.5	3.5	2.8	18.9	1.2
2004-05	6.7	2.6	2.9	1.2	0.5	4.0	2.5	20.3	1.3
2005-06	8.3	2.2	2.9	1.2	0.5	4.3	2.3	21.7	1.4
2006-07	8.6	2.0	2.7	1.5	0.4	4.7	1.9	21.9	1.4
2007-08	7.7	1.8	2.8	1.6	0.4	5.1	1.7	21.2	1.7
2008-09	7.9	1.5	2.7	1.5	0.4	5.2	1.4	20.6	1.6
2009-10	6.2	1.6	2.8	1.4	0.4	5.5	1.0	19.1	1.4
2010-11	5.5	2.2	3.2	1.3	0.4	5.7	0.9	19.2	1.5
2011-12	6.4	2.2	3.5	1.2	0.4	6.3	1.0	21.1	1.9

2.1.3 Bulk traffic (primarily coal, construction materials, iron and steel, petrochemicals) continues to represent the majority (63%) of freight carried by rail, with new growth sectors including biomass, timber and municipal waste. Yet the main source of new traffic growth has been in the non-bulk sector of the market, particularly in traffic for major supermarkets and third-party logistics companies (3PLs), where rail is increasingly used between ports and inland distribution centres (DC) as well as between inland DCs. In 2010-11, the amount of domestic intermodal traffic exceeded coal traffic for the first time, a sign of the growing importance of the intermodal sector.

[1] Source: Office of Rail Regulation statistics
[2] Includes domestic and deepsea port services
[3] Non-commercial Network Rail internal maintenance traffic

2.1.4 As an example, Tesco now operates multiple daily trainload services from its Midlands hub at the Daventry International Rail Freight Terminal (DIRFT) to Scotland, London and South Wales, as well as an additional service within Scotland. The mix of commodities moved by rail is also expanding, with services now carrying temperature-controlled produce from as far afield as Italy and Spain. The latest industry forecasts suggest volumes are expected to more than double by 2030, most of this in non-bulk traffic[4].

2.2 Rail freight interchange developments

2.2.1 The growth in non-bulk traffic has in part been fostered by, and created further demand for, new Rail Freight Interchanges (RFI) within the UK, a combination of larger "Strategic" (SRFI) developments with rail facilities integrated into large distribution parks, as well as smaller satellite railheads.

2.2.2 The majority of SRFI developments to date have been in the Midlands, sites such as Daventry (DIRFT), Hams Hall and Birch Coppice (BIFT) located close to the "Golden Triangle" concentration of national distribution activity around the M1, M6 and M42 motorways (see Appendix B). The success of these developments reflects:

- The existing concentration of national distribution activity (ie longer-distance, higher-volume traffic where rail is most competitive) in the Midlands
- Strategic locations on road and rail networks (the latter with W10 loading gauge and electrification);
- The ability to create large-scale development on site, as much in the quantum of floorspace as in the size of individual buildings;
- Proximity to major sources of employees and relative distance from major residential areas.

2.2.3 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.

2.2.4 The RFI and SRFI developments in Great Britain over the last 20 years have followed rail privatisation and the opening of the Channel Tunnel, both of which have acted as catalysts to the growth in rail freight, along with rising fuel prices, traffic congestion and concerns about the environment. At present there are around 54 SRFI and RFI in Great Britain with intermodal facilities and/or rail-linked warehousing, accounting for 62 million ft^2 of floorspace, some 3.6% of the national total. In addition, at least 14 other proposals exist for new developments, accounting for a further 45 million ft^2 of floorspace.

2.2.5 The majority of RFI and SRFI built to date have been successful in generating rail freight traffic, introducing new users to rail and increasing competition between sites for traffic. There are, however, a small number of exceptions which demonstrate the potential risk of developing speculative sites, either away from the established centres of distribution activity and/or where the size and accessibility of the site is not sufficient to generate a commercially-sustainable operation, examples being:

- Fratton (Portsmouth Commercial Port / Portsmouth City Council): having worked alongside the Port and the Council over a ten-year period to reinstate a local RFI, since opening in 2007 and despite a trial service operated by the Port in early 2009, the site (with a relatively small single siding of 400m length) has yet to secure sufficient traffic to sustain a commercial operation;

[4] Source: Rail Freight Group & Freight Transport Association forecasts

- Howbury Park (ProLogis): we supported the developer in a lengthy Public Inquiry to secure consent in 2007, for a 64 Ha (158 acre) site on Green Belt land close to the M25 and Dartford Crossing. At the time of writing in 2012, the project has yet to attract any occupiers for the proposed 2 million ft^2 of rail-linked warehousing and intermodal terminal, on a development with significant up-front infrastructure requirements, a consequence of the Section 106 obligations necessary to secure the consent (further information provided later in the report);

- Former MOD site at RAF Alconbury (ProLogis / BAA / MOD): a major SRFI proposal in the East of England, originally for up to 7 million ft^2 of rail-linked warehousing and an intermodal terminal on a 413 Ha (1,000 acre) site with no previous rail access or intermodal facilities. Despite securing consent on Appeal, the site has similarly failed to attract sufficient interest to create a new cluster, in an area otherwise relatively low in manufacturing or distribution activity compared to the Midlands or South East, for a scheme with major up-front investment required as part of the Section 106 obligations. The original proposals were designed to reflect Railtrack's plans at the time for a major upgrade of the East Coast Main Line, which would have necessitated grade-separated access from the main line into site. In the event Network Rail subsequently developed more modest enhancement proposals for the route, but by this time the planning consent had already been determined on the basis of the more expensive rail access proposals. No work has been progressed on either the main line connection or creating on-site rail facilities. The site has since been sold to a third-party developer for mixed-use (primarily residential) redevelopment and it is unknown at present whether rail freight interchange facilities will be included;

- Former MOD storage site at Donnington, Telford (Telford & Wrekin Council, English Partnerships and MOD): the scheme to create a new 18 Ha RFI to serve the local area was promoted by the local authority with support from English Partnerships (now the Homes & Communities Agency), with around £12m believed to have been invested in the scheme. Despite being located close to existing manufacturing and warehousing facilities in Hadley Park and Hortonwood Industrial Estates, and with access to Junction 5 of the M54, and the presence on site of an established rail freight operator (Russell Group), since opening in 2009 the RFI has to date only attracted sporadic MOD traffic. At the time of writing the original operator has since vacated the site, replaced by one of the train operators. The sidings have latterly been used for storing off-lease passenger trains. The lack of commercial success in part reflects a location away from the major concentrations of manufacturing and distribution traffic in the West and East Midlands, as well as significant constraints on the rail access. These include restrictions on permitted train height and width ("loading gauge") and a main line connection permitting access in one direction of travel only, in this case facing away from the primary direction of travel towards the Midlands. This requires most trains reaching the site from the rest of the UK to travel further west to Shrewsbury to change direction ("run round") before returning east to access the site – adding additional mileage (20-mile round trip) time (around 2 hours) and cost to the rail transit.

2.2.6 The examples above demonstrate that, despite the growth of railfreight in recent years, the existence of an (S)RFI (and/or a pre-existing rail-linked site) cannot always guarantee commercial viability, particularly in the absence of any "anchor" occupier(s) or customer(s) capable of generating sufficient freight traffic to warrant trainload services and underpin the investment in the site.

2.3 Government policy on rail freight interchanges

2.3.1 Recognising the importance of such developments to promoting modal shift of freight from road to rail, the Government developed a specific policy on rail freight interchanges, recently updated by the Department for Transport in November 2011.

2.3.2 The guidance describes the different types of rail freight interchange and their key characteristics:

Strategic Rail Freight Interchanges (SRFI) (as defined in section 26 of the Planning Act 2008)

An SRFI is a larger RFI facility - in excess of 60 hectares in size and capable of handling over 4 goods trains per day - SRFIs should provide for a number of rail-connected or rail-accessible buildings for initial take up, together with rail infrastructure, to allow more extensive rail connection within the site in the longer term. The initial stages of the development must provide an operational rail network connection and areas for intermodal handling and container storage.

To be efficient, SRFI must be large enough to accommodate longer trains with modern wagons, and provide rapid means of cargo transfer, handling and storage. They may also provide activities such as warehousing, stockholding, order picking, container repair and materials processing, all of which may be regarded as adding value to the process of modal transfer.

As a minimum, a SRFI should be capable of handling four trains per day and, where possible, be capable of increasing the number of trains handled. SRFIs preferably should have the capability to handle 775 metre trains with appropriately configured on-site infrastructure and layout. This should seek to minimise the need for on-site rail shunting and provide for a configuration which, ideally, will allow main line access for trains from either direction.

There are other types of rail freight interchange that are also important. These will also support the Government's rail freight growth and modal shift objectives. The success and growth of rail freight and continued development of the traditional rail markets at, for example, quarries, open cast sites and major manufacturing plants will require new, expanded and replacement interchange facilities if rail freight is to continue to prove both attractive and efficient. In this section the various types of other RFIs and rail terminals are described. Development proposals for the types of RFI and terminal described in this section may well inter-relate with the provision of SRFIs.

Intermodal-only RFI

Some RFIs will focus on a single activity – intermodal handling or rail linked warehousing. Intermodal RFIs will often be located at key points in urban areas, but can also be located in such a way as to act as sub-regional, regional or company-specific hubs where there is sufficient competing terminal capacity. Typically an Intermodal-only RFI will range in size with a site area from 10 to 30 hectares and will include an area for container storage and stacking.

Rail-linked warehousing RFI

These are generally small-scale facilities, and can be a single unit, sometimes serving a single customer, or logistics company. These facilities will have similar locational requirements to other rail interchanges and can be located in urban areas. The site area for a typical rail connected warehouse would be in the range of 10 to 30 hectares.

Bulk material terminals

This type of facility can be used to handle any of a variety of products such as coal, aggregates, cement, and even cars, and can be linked to a specific manufacturing, processing or distribution facility.

Bulk terminals are almost always owned and operated by a single company handling a single type of product. A bulk terminal, depending on the need for on-site manufacturing or processing, will range in site area from 5 to 10 hectares.

Transport links and location

Rail freight interchanges should be located alongside the main trunk rail routes (especially the Strategic Freight Network[5]) and close to the motorway and trunk road network.

Adequate links to the rail network are essential. Rail access will vary between rail lines, both in the number of services that can be accommodated, and the physical characteristics such as the train length and, for intermodal services, the size of intermodal units that can be carried (the 'loading gauge'). As a minimum a SRFI ideally should be located on a route with a gauge capability of at least W8 or capable of enhancement to a suitable gauge.

Because the vast majority of freight in the UK is delivered by road, proposed new rail freight interchanges should have good road access as this will allow rail to effectively compete with, and work alongside, road freight to achieve a modal shift to rail.

In general the location of RFIs has changed little in terms of geographic spread with many remaining in their traditional urban locations with little or no opportunity to expand. As a result of the physical constraints and lack of available warehousing some locations have closed over the last decade or so, which further restricts freight access to the rail network and limits modal switch (from road to rail) and growth.

The majority of existing operational SRFI and other intermodal RFI are situated predominantly in the Midlands and the North. Conversely, in London and the South East, away from the deep-sea ports, most intermodal RFI and rail-connected warehousing are on a small scale and/or poorly located in relation to the main urban areas. To date, only one SRFI has been granted planning consent in the whole of the South East region.

The provision of new SRFI (and other RFI) capacity is entirely commercially driven by the private sector. Clearly, developers of SRFI or proposed extensions to existing RFIs will wish to ensure that they are appropriately located relative to the markets they will serve, which will largely focus on major urban centres, or groups of centres, with links to key supply chain routes.

This means that SRFI capacity needs to be provided at a wide range of locations, particularly but not exclusively serving London and the South East, to provide the flexibility to match the changing demands of the market, possibly with traffic moving from existing RFI to new larger facilities.

[5] See Appendix A of this document for map of the Strategic Freight Network

3 Technical capability of the site for freight operations

3.1 Operational requirements

3.1.1 The basic components for an (S)RFI will include:

- Road and rail access into the site, suitable for the envisaged traffic;
- Reception sidings of sufficient length to hold 1 or more trains clear of the main line – these can vary in length from 450-775m depending on the nature of the traffic;
- A parallel siding to the reception sidings, to enable an inbound locomotive to "run round" from one end of its train to the other;
- Separate handling sidings (if required) through which whole trains or portions can be moved to enable traffic to be loaded and/or unloaded;
- Adjacent handling aprons, transfer facilities and associated buildings, lighting and fencing. Again these can vary from a simple 5m wide strip of hardstanding alongside a siding, through to a container storage yard of up to 10-15Ha in size;
- Warehousing (if required) and parking for HGVs and staff, which may cover up to 10 million ft^2 of floorspace, depending on the site and market demand (see next section).

3.2 Site overview

3.2.1 The MOD Ashchurch site (see picture below), originally developed during World War 2 by the US Army, now covers an area of 80.5 Ha (199 acre), primarily with warehouses for storage of military vehicles and equipment.

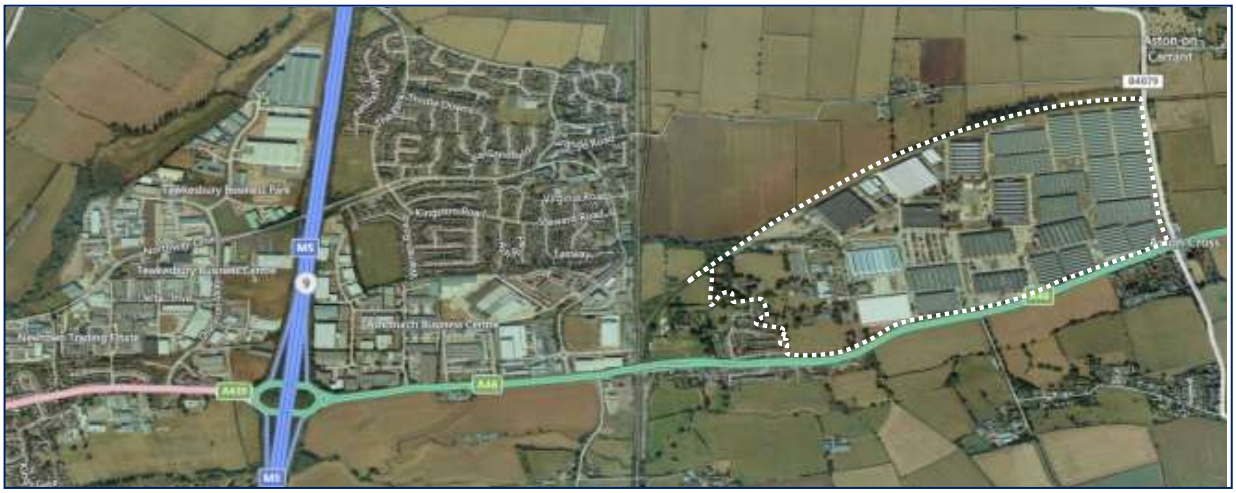
3.2.2 The site is generally level (falling gradient from 27m AOD in the north-east corner to 21m in the south-west corner) and lies above the extent of potential flood risk in the surrounding local area[6]. There are 2 listed buildings in the south-west corner of the site (Yeend Monument and the Rectory)[7].

3.2.3 The site is bounded by the Network Rail main line and passenger station to the west, the A46 trunk road to the south, the B4079 to the east and the former trackbed of the branch line to Evesham (closed in June 1963), the stub of which now forms the sidings and main line access into the site. Significant residential development exists to the west, together with more limited clusters along the southern boundary.

3.2.4 The site has good levels of highway accessibility, with Junction 9 of the M5 within 1,500m of the main entrance offering north-south access, as well as via the A46 on an east-west axis. The site also has an existing rail access from the main line, which is discussed in more detail below.

[6] Source: Environment Agency flood risk map
[7] Source: ProMap

Figure 1 Aerial photo of site (dotted boundary), source Bing Maps



3.3 Rail access to site

3.3.1 The site is located alongside the main line which links the South West and South Wales via Gloucester to the West Midlands via Worcester. The route is cleared for W8 loading gauge, which is capable of accepting standard 8'6" high ISO containers on standard rail wagons, but in order to move the increasingly popular "high-cube" 9'6" high containers, more specialised low-platform rail wagons are required which typically have a 30% lower carrying capacity. The route section has a maximum linespeed of 100mph, albeit most freight services are limited to 60-75mph maximum speeds.

3.3.2 Timetable information for the main line shows around 40 scheduled passenger trains each way per day, together with a further 34 freight train services booked to operate on the main line past the site between 6am and 9pm, not all of which operate every day. These include a freight service linking MOD Ashchurch with the MOD hub yard at Didcot, booked to operate as required every weekday (excluding Thursdays), arriving at Ashchurch in the morning and departing again in the afternoon.

3.3.3 The main line past the site is one of the rail routes identified as part of Government proposals to eventually create a Strategic Freight Network (SFN) of core routes suitable for trains of maximum length (775m) and size (W10 loading gauge), as shown in Appendix A. Note that there are currently no firm plans by Government or Network Rail for upgrading the route past Ashchurch to this enhanced specification.

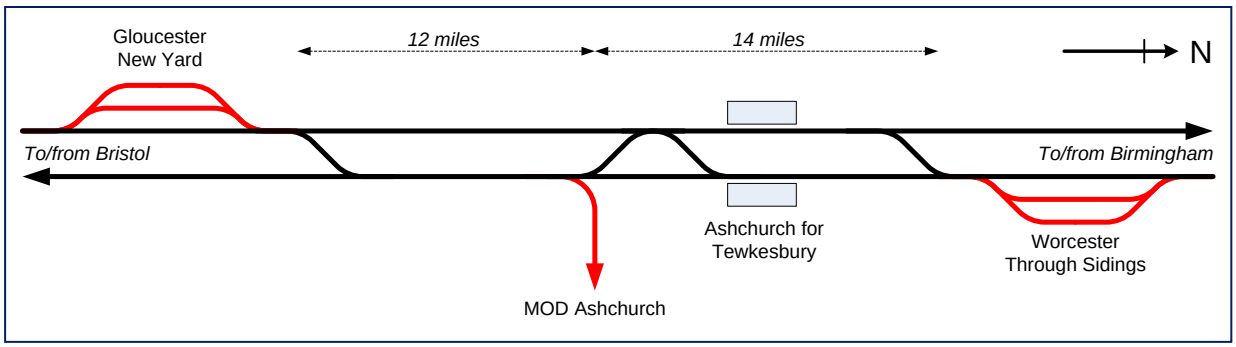
3.3.4 As an indication of the level of investment which might be involved, the route from Southampton to the West Midlands was cleared to W10 gauge over 145 miles of route with 54 structures being upgraded, for a cost of £60m (ie £0.4m per mile and £1.11m per structure). To clear the equivalent route between the Great Western Main Line (at Westerleigh Junction) and the centre of Birmingham would, on this basis, be estimated to cost in the region of £35m. The latest investment proposals for Network Rail's next 5-year Control Period, make no provision for gauge enhancement on this route.

3.3.5 The main line connection from the site, like the former MOD site at Telford, allows access from only one direction of travel (to/from the south towards Bristol). Network Rail has confirmed that the practical implications of this are that trains leaving the site destined for locations north of Ashchurch (eg the main national distribution centres in the Midlands) would first have to travel 12 miles south to Gloucester to reach sidings at New Yard where the locomotive could "run-round" its train, in order to haul the train northbound 12 miles back past Ashchurch and on towards the final destination.

3.3.6 This would add around 1½ hours extra transit time to services to and from the north. The need to use New Yard would also restrict the length of train to 500m, compared to intermodal services of 640m – 775m, impacting on the viability of services.

3.3.7 For trains travelling to the site from destinations south of Ashchurch (eg Southern or South West England), a similar process would be required, with inbound trains having to travel northbound past the site to Worcester in order to run-round before heading south back to Ashchurch (a 28-mile round trip). The existing Didcot to Ashchurch service operates in this way.

Figure 2 Track layout at Ashchurch (schematic)



3.3.8 The lack of a crossover immediately to the south of the main line connection also means that all inbound trains, which have to arrive from the north, then have to be pushed (propelled) back up the main line connection into site. Such reversing manoeuvres are not ideal (and are generally not permitted for trains heading out to the main line), as these have to be undertaken at walking pace, due to the need for a member of the traincrew to walk alongside the rear of the train, using a radio link to the locomotive driver to control the move. The process of propelling a train from the main line up the branch line into site would typically take around 30 minutes to complete, from arriving on the main line south of the main line connection, to propelling back up the branch at 5mph / 8km/h, involving communication between the train Driver, Shunter and Network Rail Signaller. The length of time involved then limits the number of trains which can be moved to and from the main line, as well as the number of trains that can be timetabled on and off the main line itself.

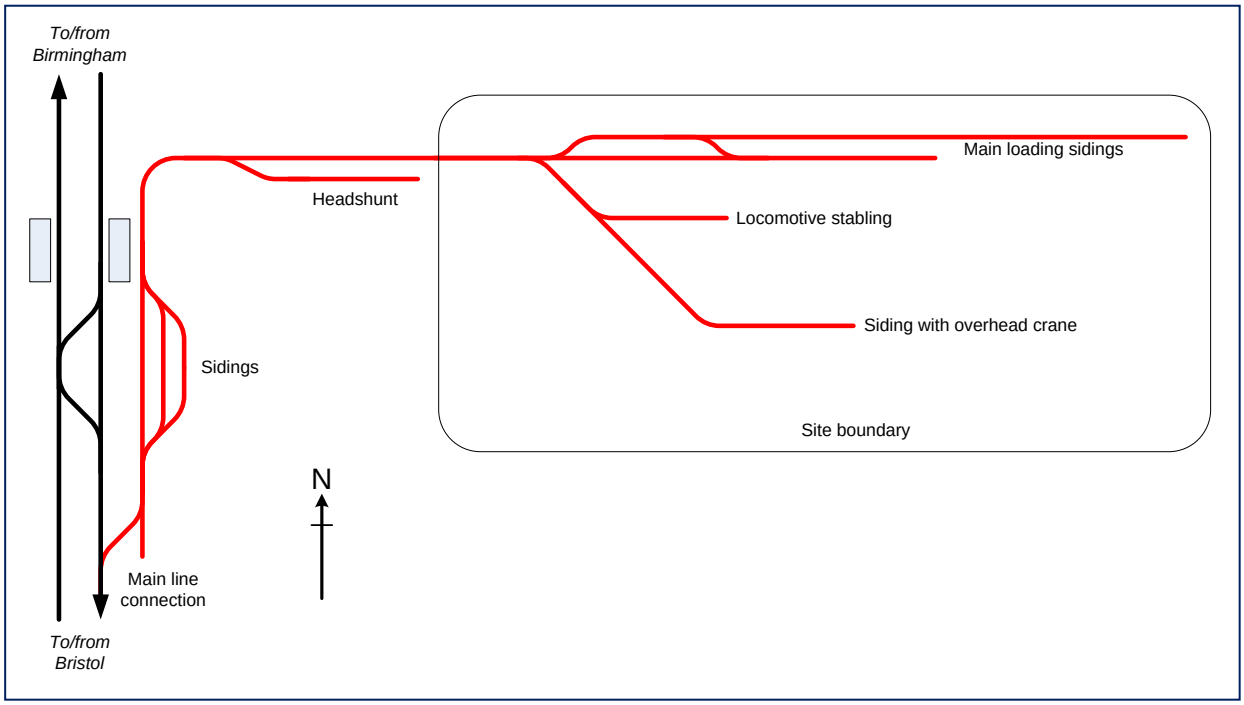
3.3.9 The practical capacity of the site to process trains will involve a complex inter-relationship between a number of factors, including:

- Train consist – the length, weight and maximum speed of a freight train will affect how quickly it can be moved to and from the main line;
- On-site rail infrastructure – the number and length of sidings will affect how many trains can be stabled and/or processed in any given period (see below);
- Main line pathing – the number of paths available on the main line will depend on the quantum of other services already using the line, the speed / time taken for each freight train to enter or leave the main line connection, and the onward route for each freight train (the latter a particular issue given the need for some trains to run-round at Gloucester or Worcester).

3.4 On-site rail infrastructure

3.4.1 The Figure below shows a schematic layout of the existing rail infrastructure on site:

Figure 3 On-site rail layout (schematic, not to scale)



3.4.2 Working in from the main line connection, the rail infrastructure comprises the following components:

- Single-track branch line of around 715m from the main line connection to the site boundary;
- 2 sidings adjacent to the main line connection and branch line, of 90-100m each;
- Headshunt parallel to the Ashchurch branch line of around 200m in length;
- Single-track line of 200m length from the site boundary to the first set of points within the site;
- 2 primary handling sidings along the northern boundary of around 615m and 950m each
- 2 further sidings of around 75m and 350m each, providing access to the central area of the site.

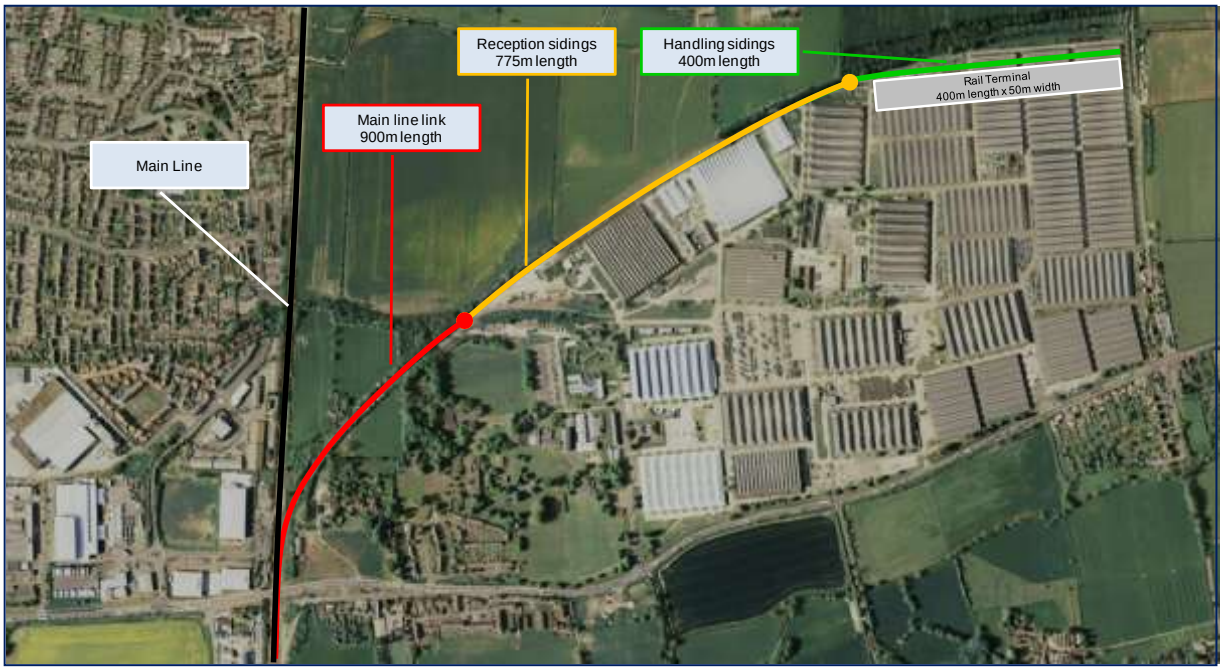
3.4.3 The site therefore offers sufficient length of sidings clear of the main line to accommodate a 775m maximum-length train (750m plus locomotive).

3.4.4 In terms of a rail infrastructure layout on site capable of accommodating and processing multiple 775m-length trains, the following components would be required clear of the main line:

- Minimum of 2 x 775m arrival / departure sidings (also known as reception sidings);
- Handling sidings – each being either single-track and 750m in length, or double-track and 375m in length, with adjacent hardstanding and handling equipment.

3.4.5 A schematic layout is shown in the Figure below, indicating that a basic track layout could be provided along the northern boundary of the site, suitable for providing 3-4 arrival / departure sidings and 2-4 handling sidings and adjacent hardstanding. Further sidings could be provided if required to reach other parts of the site (eg to serve one or more rail-linked warehouses).

Figure 4 Rail layout option (schematic, not to scale)



3.4.6 Assuming the above layout was equipped for intermodal (containerised) traffic, using mobile container handling equipment (reachstackers or gantry cranes), provision of 2 arrival / departure sidings and 2 handling sidings would enable up to 4 trains to be processed per day, dependent on the capacity of the train, handling equipment and main line. It must be reiterated, however, that the current main line access arrangements would limit trains to and from the north to around 500m, due to the need for trains leaving the site to run south to Gloucester to run-round before heading north.

3.5 Highway access

3.5.1 A further potential concern relates to the capacity of the local highway network, particularly the M5 intersection and its approaches. DfT data[8] shows the M5 north of J9 handling 85,000 total vehicles per day in 2010 (up 13% on 2000 levels), the A46 past the site handling around 18,000 total vehicles per day (down 8% on 2000 levels).

3.5.2 Assuming the entire site was developed for rail freight distribution, comparable traffic generation figures from the Howbury Park proposals (based on traffic surveys carried out at the SRFI at DIRFT[9] near Rugby) suggested up to 3,000 goods vehicles per day arriving at the site, of which 150 would occur during the morning and evening peak hours.

[8] http://www.dft.gov.uk/traffic-counts/
[9] Daventry International Rail Freight Interchange

3.5.3 An additional 6,000 goods vehicle movements per day to and from the site (the majority of these being heavy goods vehicles) would represent an increase of one-third in traffic on the A46, as well as representing 7% of the current daily traffic flow on the M5. Note these figures exclude the additional employee and visitor car trips which the site would generate.

3.6 Summary of technical potential

3.6.1 The Ashchurch site compares against Government policy guidance as shown in the Table overleaf.

3.6.2 Whilst the site offers potential in terms of size and overall connectivity (not least the main line connection and motorway access), the location of the site and constraints on the rail access impact on the overall attractiveness of the site for rail freight interchange development, compared to sites closer to major centres, with better accessibility, connectivity and train length / size capability.

Table 2 Comparison of MOD Ashchurch site against policy guidance

Guidance	Assessment
In excess of 60 Ha, capable of providing for a number of rail-connected or rail-accessible buildings and areas for intermodal handling and container storage	The site covers 80.5 Ha and could accommodate both intermodal handling and around 2 million ft^2 of buildings (based on the 64Ha Howbury Park scheme)
Capable of accommodating longer (775m) length trains	Possible on site, however the main line constraints at Gloucester for run-round manoeuvres for trains to and from the north would limit trains to around 500m length
Allow main line access for trains from either direction	The main line as configured will only permit direct access for outbound trains to the south and inbound trains from the north
Located alongside the main trunk rail routes (especially the Strategic Rail Freight Network) and close to the motorway and trunk road network	The site is adjacent to all of these routes. However the capacity of the adjacent A46 and M5 intersection could constrain the overall capacity of the site for freight traffic
Located on a route with a gauge capability of at least W8 or capable of enhancement to a suitable gauge	The main line is already cleared to W8 gauge, and proposed (although not confirmed) for future W10 gauge enhancement
Appropriately located relative to the markets they will serve, which will largely focus on major urban centres, or groups of centres, with links to key supply chain routes	Despite good connectivity, the location is remote from the major centres to the north (West Midlands) and south (Bristol / South Wales)

4 Commercial potential of the site for freight development

4.1 Commercial requirements for rail freight operations

4.1.1 Rail freight services are at their most competitive against road when either volume and/or distance are maximised, ideally on a regular basis (ie multiple round trips per week).

4.1.2 Where the origin or ultimate destination for the traffic is rail-linked (ie no onward road haulage is required), trains can be competitive against road over relatively short distances: a train moving 2-3,000 tonnes of bulk goods, such as coal from colliery or port to power station, may be viable over distances as short as 10-20 miles; an intermodal service moving the equivalent of 28 articulated lorry loads operates between the port of Grangemouth and an RFI in Glasgow, a distance of 40 miles.

4.1.3 Where road haulage is required at one or both ends to reach the origin or final destination for the traffic, so the volume and/or distance moved by rail will tend to be longer to achieve a competitive alternative to the door-to-door road service; taking the Tesco domestic intermodal rail services as a guide, these operate over a range of 90 miles (to/from London) to 315 miles (to/from Glasgow), in both case moving the equivalent of more than 30 articulated lorry loads.

4.2 Commercial requirements for rail freight interchanges

4.2.1 At the basic level, the interchange function between rail and a road vehicle or intermediate storage facility can usually secure income capable of covering its operating costs, with scope for a small (1-3%) margin for the operator. Most of the revenue and profit opportunities will be derived from wider "added value" activities, such as the overall multimodal transport chain or the intermediate storage and (re)processing of goods (eg order picking, labelling and packaging, local delivery and collection).

4.2.2 From a site development perspective, a developer will then be looking to attract multiple occupiers and/or users to the site, with rail access being used as a differentiator rather than as a means to achieve a premium rent or purchase price. Whilst there is no evidence at present of developers being able to obtain significant rental premiums for rail-linked sites, this combination of highway, railway and site-specific criteria will inevitably impose constraints on the number of practicable, viable RFI that can be constructed.

4.2.3 Faced with this scenario, developers are seeking to secure longer-term footholds in the rail interchange market, at sites where there are good prospects for occupancy and/or use of the RFI facilities in the short to medium term (using rail access as a differentiator against competing sites), in the hope that future premiums can be achieved as the forecast demand for interchange capacity increasingly exceeds supply.

4.2.4 In terms of scale and "critical mass", two examples of RFI are shown below to give an indication of the range of developments that could be applied at a site such as Ashchurch.

4.2.5 The Figure below shows a basic facility constructed in Aberdeen. The site is connected to the main line at either end, enabling trains to access the site from either direction of travel. The two main line connections are spaced some 850m apart, enabling a train of up to 720m length to be accommodated within the site, which can then be split between two sidings alongside a central handling apron, 350m in length and 16m in width (25m over the apron and adjacent sidings), with a total footprint of around 1 Ha. Road access is provided at each end of the site, which permits a one-way flow of road vehicles through the site.

Figure 5 Rail freight interchange, Aberdeen (aerial photo source Google Earth)

4.2.6 In this case, handling between road and rail is effected by an overhead gantry crane (towards the centre of the picture) and a mobile 'reachstacker' crane (at the left-hand end of the handling apron), which together transfer entire 'swap body' intermodal units between road and rail vehicles. The terminal typically handles around 30 swap bodies per train, ie 30 offloaded and 30 reloaded, with each swap body representing a single HGV movement on and off the site to the local area. Note also to the north of the intermodal terminal can be seen a separate RFI for discharge of cement from tank wagons.

4.2.7 The experience of the larger, value-added "freight village" concept at sites such as DIRFT demonstrates how these can produce more rail freight traffic opportunities than the same capacity dispersed across numerous smaller sites. The commercial considerations which will tend towards larger sites include:

- The larger the number and size of distribution units and intermodal terminal facilities on site, the greater the opportunities for generating rail freight traffic from those locating on site;
- The on-site rail freight infrastructure and intermodal terminal facilities can involve significant up-front investment, with only marginal contributions to operating costs, which can be better absorbed by larger developments as these will form a decreasing proportion of the overall site development costs, compared to smaller sites.

4.2.8 In terms of determining the "critical mass" for an integrated, strategic rail freight exchange (SRFI), the Government's original policy guidance indicated that in general the size range would be likely to be between 40 and 400 Ha. By comparison, our analysis of all the existing and proposed SRFI in Great Britain indicates an average footprint of 125 Ha and floorspace of 312,000 m^2. The guidance also indicates that a valuable characteristic is the need for expansion potential.

4.2.9 The 40 Ha threshold has subsequently been adopted by developers in undertaking alternative sites assessments where such work is required to justify development in the Green Belt. Developers at Howbury Park (see below) concluded that below this threshold, it would not be possible to achieve a scale of development to accommodate an appropriate rail layout, and both a sufficiently large intermodal area and rail-linked warehouse development without prejudicing viability.

4.2.10 The Howbury Park proposals (consent granted 2007) would see development of 198,000m^2 of rail-linked floorspace, a 3.4 Ha intermodal terminal, and siding space for 775m length trains, within a 63.8 Ha site. Overall, the site would be anticipated to employ up to 2,400 people.

4.2.11 The site, a former quarry and landfill within London's Green Belt, is located adjacent to the North Kent main line and a dual-carriageway highway link to the M25 motorway. The site would be connected to the main line through reinstating a disused spur off an existing train maintenance depot, which has main line connections in both directions of travel. Road access would be provided via a connection into an existing roundabout, thence via a lifting bridge over a navigable waterway into the site's internal estate road layout.

4.2.12 The masterplan for the site (see below) provides for sufficient siding length to accommodate trains of up to 750m in length (albeit trains on the adjacent main line are currently limited to 640m), which would then be split into shorter length sidings for unloading and reloading. The site would have both an intermodal terminal (with 2 gantry cranes supplemented by reachstackers) as well as direct siding access to all of the four warehouses on site, which range from 13,500m^2 to 102,000m^2 (145,000 – 1.1m ft^2), with the largest unit capable of being subdivided into smaller units if required.

Figure 6 Howbury Park proposed 64Ha site plan (photo source ProLogis website)

4.2.13 The site is designed to handle up to 12 trains per day of 512m length (or the equivalent volume of goods), the plans anticipating primarily intermodal trains with the balance consisting of "conventional" rail wagons serving the rail-linked warehouses on site. This level of rail freight traffic is estimated to equate to around 760 HGV loads per day (about 30 per train each way on average) removed from the national road network, whilst the site itself is estimated to generate some 2,000 HGV trips per day to and from the local area. Although there would be overall savings on HGV use on the regional and national network road networks, there would be an intensification of use around the development. This would be accommodated by the construction of a new access road and amendment to a roundabout on the existing dual carriageway.

4.2.14 As noted earlier, the site has yet to commence construction, demonstrating how even at this scale of development, achieving a successful commercial development can still be a challenge.

4.2.15 Elsewhere, higher thresholds have been cited for determining critical mass, for example:

> The critical mass required to provide an economically viable rail freight destination which meets the needs of industry is not precisely defined in [policy] guidance. However, the criteria for providing successful regional freight interchange facilities....point towards the following requirements:
>
> (i) The need to provide a range of major warehousing and manufacturing buildings, directly served by rail, including buildings of between 30,000 -100,000m^2. The ability to provide buildings of at least 30 to 50,000m^2 is regarded as essential;
>
> (ii) A critical mass of rail served warehousing to support infrastructure costs, and to provide economies of scale for occupiers, of between 200,000 to 300,000m^2 of rail served warehousing, the exact level of which will be influenced by the existence of existing major rail freight businesses with existing regular rail services.[10]

4.2.16 Research undertaken for the former East Midlands Regional Development Agency[11] suggested 200,000m^2 of rail-served floorspace would equate to a developable site area of 50 Ha. Similar research undertaken in the West Midlands Region also refers to the 50 Ha threshold for regionally-significant sites:

> In our view, a competitive site is one which is at least 50 Ha in size. Scale is material to competitiveness; achieving a critical mass is crucial. This analysis clearly shows that there is a relationship between the size of a site and the competitiveness of that site. In many ways 'the bigger the better', and 50 Ha should be seen as the absolute minimum, rather than a target average size or a maximum size. It is for this reason that a region is best served by a handful of large sites instead of a larger number of small sites.
>
> There are a number of good reasons for this:
>
> - The accommodation of a series of very large warehouses (up to 100,000m^2);
> - The flexibility to provide expansion opportunities to existing occupiers;
> - Planning efficiency – approximately the same amount of effort, time and expense may be incurred in trying to seek planning permission for a 50 hectare site and a 150 hectare site;
> - Infrastructure costs – economies of scale can be gained from any infrastructure which is required;
> - Infrastructure efficiency – maximising the usage of investment in road, rail and utilities infrastructure;
> - The generation of full length train services;
> - The overall environmental impact may well be less[12].

[10] Trafford Metropolitan Borough Council, Trafford Unitary Development Plan Review, Trafford Interchange Proposed Response to Secretary of State's Direction, October 2004
[11] East Midlands Strategic Distribution Study, MDS Transmodal, Roger Tym, Savills, Final Report, November 2006, Paragraph ES14
[12] West Midlands Regional Logistics Study, MDS Transmodal Limited, Savills, Regeneris Consulting, September 2005, Pages 29-30

4.3 Prospects for rail freight traffic in the local area

4.3.1 Overall, the level of potential demand for rail freight traffic to and from a locality can be determined by the primary market for freight moved by road, which in turn relates to where consumers live (population density) and where things are produced or distributed from (floorspace density).

4.3.2 Based on Government statistics for current population, floorspace and freight traffic, the following estimates can be derived for rail freight traffic potential at national, regional, County and District levels:

Table 3 Rail freight traffic potential (2010 data), source DfT / ORR / VOA[13]

Item	Units	Great Britain	England	South West	Gloucestershire	Tewkesbury
Population	000	60,003	51,809	5,231	589	81
Industrial floorspace	000 ft^2	N/A	3,557,028	317,398	45,370	8,805
Road freight traffic	M tonnes lifted	1,487	1,320	165	N/A	N/A
Rail freight traffic	M tonnes lifted	90	N/A	N/A	N/A	N/A
Population	%		100%	10%	1.1%	0.2%
Industrial floorspace	%		100%	9%	1.3%	0.2%
Road freight traffic	%		100%	13%	N/A	N/A
Average	%		100%	11%	1.2%	0.2%
Road freight traffic	*M tonnes lifted (estimated)*				*16*	*3*
Rail freight traffic	*M tonnes (Market potential based on GB market share)*				*0.9*	*0.15*
of which	*Bulk traffic (based on current rail market split)*				*0.6*	*0.10*
	Non-bulk traffic (based on current rail market split)				*0.3*	*0.06*
	Bulk trains per week (based on 1,000 tonne train payload)				*11*	*1.8*
	Non-bulk trains per week (based on 500 tonne train payload)				*12*	*2.1*

4.3.3 In summary, Tewkesbury District accounts for around 0.2% of population and floorspace in England, therefore it is reasonable to estimate that the area would account for a similar share of national road freight traffic (3 million tonnes per annum). With rail having a national market share of tonnes lifted of 6%, and a bulk / non-bulk split of 63%/37% respectively, the potential rail freight traffic from the local area (as opposed to actual traffic moved by rail) is estimated at 96,000 tonnes / 56,000 tonnes of bulk and non-bulk traffic respectively, the equivalent of 2 trains per week in each sector. Note that as most freight traffic moved by road in the South West (61%) stays within the region itself, operating over relatively short distances where rail may be less competitive, the total market potential for rail freight to and from Ashchurch could be considerably lower than the above figures may imply.

4.3.4 This suggests that, in the absence of a substantive local source of concentrated freight traffic demand, the background demand for rail freight is at this stage not likely to warrant major RFI facilities.

[13] Note some figures may not total correctly due to rounding

4.4 Potential for RFI facilities for non-bulk traffic

4.4.1 The market for non-bulk traffic (mainly manufactured products and other fast-moving consumer goods) is influenced by the location of, and demand for, industrial floorspace, particularly warehousing. Of the total stock of floorspace, the location is in turn influenced by the accessibility to major trunk roads and motorway junctions and proximity to a large and diverse labour pool, where there is strong demand from distribution occupiers and third party logistics operators. This is demonstrated by the concentration of floorspace and freight traffic in the East and West Midlands, which together account for nearly a third of the national total and nearly 40% of freight traffic moved by road. By comparison, the South West accounts for less than 10% of floorspace (301 million ft^2) and 13% of freight traffic by road.

4.4.2 A recent survey by Jones Lang LaSalle (JLL) has noted that occupier demand for industrial premises weakened in the first quarter of 2012. In Q1/2012, industrial and logistics take-up in mainland UK totalled 17.7 million ft^2, 24% lower than recorded in Q4/2011, while take-up involving units from 1,000 to 99,999 ft^2 (14.3 million ft^2 in total) fell by 23%. The total available supply of industrial and logistics floorspace stood at 333.1 million ft^2, down 0.6% on September 2011. Availability in units from 1,000 to 99,999 ft^2 (243.5 million ft^2 in total) fell 1.9% over the same period. As at May 2012, speculative industrial development under construction stood at around 793,000 ft^2 across Great Britain. JLL predicts that London and the South East will continue to attract the bulk of investor demand.

4.4.3 As far as the South West is concerned, the JLL report notes that in March 2012, there was 20.9 million ft^2 of immediately available industrial and logistics floorspace in the South West (3% down on September 2011), representing 6.3% of total availability nationally. In terms of take-up, some 1.5 million ft^2 of industrial and logistics floorspace was taken up in Q1 2012, 11% lower than recorded in Q4 2011 and 4% higher than a year ago. As at May 2012, there was approximately 40,000 ft^2 of industrial floorspace under construction speculatively in two schemes. Major rail-linked distribution parks already under development in the region include Skypark near Exeter (consent for 700,000 ft^2 of warehousing), along with the 150-Ha Cabot Park and 183-Ha Central Park schemes (together developing in excess of 4 million ft^2 of new warehousing) at the Port of Bristol, which itself has consent to create a major new multimodal container terminal.

4.4.4 To set the Ashchurch site in a regional context, the potential of the site to accommodate up to 2 million ft^2 of floorspace would represent 10% of current available floorspace, 50 times the level of current speculative development, and 33% greater than the entire take up of floorspace during Q1 2012.

4.4.5 To provide an indication of the relationship of the Ashchurch site to the main centres for distribution development and activity, the map in Appendix C shows the current clusters of supermarket distribution centres, a good indicator of wider distribution activity. It is apparent that between the West Midlands and the Bristol area, relatively few facilities are located in or around the Ashchurch area, the closest being a small cluster in the Worcester area around M5 Junction 6 (Sainsburys and Boots at Shire Park). In addition, clusters of industrial and distribution activity can be found to the south around M5 Junction 11 and 11a (Messier-Bugatti-Dowty, Unilever, Invista, G-Tem, GSK and Wincanton).

4.4.6 Locally, Gloucestershire accounts for around 1% of the total stock of industrial floorspace, with Tewkesbury District accounting for 0.2% (8.8 million ft^2). Setting this in a local context, a 2 million ft^2 development at Ashchurch would represent more than one-fifth of the total current stock for the area.

4.4.7 The relative remoteness of the area from main centres of demand, combined with a relatively low population density (194 people per km^2 in Tewkesbury district, compared to 398 nationally, 418 in the West Midlands and 3,951 in Bristol[14]), helps explain the relative lack of industrial floorspace, particularly for distribution. A number of small and medium-sized manufacturing and distribution sites are centred on the Tewkesbury Business Park, Newtown Trading Estate and Ashchurch Business Park, including Cotteswold Dairy Ltd, Wealmoor (fresh produce), Steinhoff UK (furniture), TATA Steel (panels & profiles) and Duraflex (PVC extrusions). These are surrounded by further small and medium-sized office and industrial units, with evidence of further development activity (eg the Ashchurch 9 development).

4.4.8 In terms of the potential to generate traffic from the local fresh produce sector in the nearby Vale of Evesham, in 2004 Wychavon District Council published a report[15] from the Vale of Evesham Agriculture and Food Distribution Policy Development Panel. This panel looked into a range of issues such as use of lorries and the impact of the industry on communities in the Vale of Evesham. The report noted with regard to rail that network rationalisation in the 1960s and 1970s further encouraged the trend towards transporting local produce by road haulage rather than rail. We are not aware of any interest shown in the Ashchurch site for handling this traffic, but there is local authority interest in developing a railhead for fresh produce further north and east at Honeybourne Airfield[16].

4.5 Potential for RFI facilities for bulk traffic

4.5.1 The market for bulk products can be sub-divided into a number of key commodity groups, prospects for each being summarised below:

- Aggregates – the Tewkesbury area geology is a mixture of sandstone, mudstones and various undifferentiated superficial deposits, with clay extraction at Wingmoor Farm Quarry, 6 miles south of Ashchurch. The main focus for export aggregates traffic by rail is further south towards Bristol at Tytherington, from Bristol Port at Portbury, and the major Mendip quarries at Whatley and Merehead. The nearest rail terminal for imported aggregates is at Worcester, which receives no traffic at present. In the absence of any known proposals for major new quarrying activity in the Ashchurch area (the Wingmoor Quarry site is itself bisected by the main railway line, see also section on Waste below), any further requirements for aggregates import terminals are likely to focus on major centres of demand within or on the outskirts of the major population centres, as opposed to areas of low population density such as Tewkesbury. The Minerals Local Plan makes no specific reference to the Ashchurch site as a possible opportunity for minerals traffic[17]. Whilst there are examples of rail terminals receiving aggregates in rural areas such as Ely, this reflects the lack of major aggregates quarries in the area;

[14] Source: Regional Trends Online, ONS 2010 (Table 1.2 Local authority population and vital statistics, United Kingdom)
[15] http://www.wychavon.gov.uk/cms/pdf/wdc-planning-policy-vale-evesham-agr-food.pdf
[16] http://www.stratford.gov.uk/files/seealsodocs/12999/Stratford-upon-Avon%20to%20Honeybourne%20Railway%20Reinstatement%20Business%20Case%20Study%20Brief%202012.pdf
[17] Adopted Gloucestershire Minerals Local Plan

- Biomass – this is an evolving market for rail, with services starting relatively recently into Drax power station in Yorkshire, to receive imported biomass from east coast ports. The Port of Bristol is similarly known to be interested in developing facilities for biomass import and storage. We are not aware of any current interest from the biomass sector for development of rail terminal facilities in the Ashchurch area for export or import of biomass material;
- Coal – the area has no known major coal reserves and there are no known proposals for coal mining or coal-fired power station development in the local area;
- Metals – similarly, there are no major reserves of ores in the area or proposals for iron and steel processing in the area. Finished product distribution from local facilities such TATA Steel at Ashchurch and G-Tem at Gloucester are, in isolation, unlikely to offer major opportunities in trainload quantities;
- Petrochemicals – the nearest major rail-linked import storage facility is further south at Murco's Westerleigh facility (adjacent to the M4), which already services the surrounding area;
- Timber – another relatively new source of traffic for the railways in recent years, with services running from Devon, Cumbria and Scotland to processing plants in North Wales and Cumbria. Such services tend to operate from temporary and/or basic railheads to reflect the transient nature of the sourcing. Again, we are not aware of any interest in use of the Ashchurch site for such traffic;
- Waste – the move away from the "proximity principle", where waste authorities were latterly encouraged to recycle, recover or dispose of waste as close to source as possible, has led to increased interest in using rail to move waste away from urban areas towards remote processing facilities. Services are now moving containerised waste to energy recovery facilities rather than landfill sites, eg SITA UK has consent for a rail-linked energy recovery facility at Severnside near Bristol. The Waste Local Plan making no specific reference to the Ashchurch site for rail transfer of waste traffic, but does note the "opportunity for a potential on site rail connection" into the Wingmoor Quarry waste management site, 6 miles to the south of Ashchurch[18].

[18] Adopted Gloucestershire Waste Local Plan

5 The overall potential for RFI development at Ashchurch

5.1 Conclusions

5.1.1 Rail freight continues to grow in response to growing concerns on fuel prices, traffic congestion and sustainability. Subject to any significant change in the relative economics of road and rail transport, industry forecasts suggest further growth can be expected in the short to medium term.

5.1.2 This growth is in turn creating further demand for RFI across Great Britain, with sites already connected to the main road and rail networks being of particular interest to the market.

5.1.3 Whilst there has been considerable growth in the number and geographic spread of RFI and rail-linked floorspace, much of this (like the wider industrial market) has been concentrated in the Midlands, the M1 / M6 corridor, and other major population centres.

5.1.4 Whilst most of the latest developments such as DIRFT and Hams Hall, together with a network of smaller RFI, have attracted users and/or occupiers and created significant modal shift of freight to rail, a small number of SRFI and RFI have stalled, either due to failure in securing consent (noting the local community concerns that often surround such developments), or due to locational, size or other planning / commercial constraints. Unless sites are well-located and connected, with sufficient scale and demonstrable customer demand, they may suffer the same fate as projects such as Telford and Alconbury, both ex-MOD sites.

5.1.5 The need for successful (S)RFI sites to meet certain key criteria is also reiterated in Government policy, which whilst being generally supportive of further development of RFIs, notes a number of critical success factors in terms of location, connectivity and scale.

5.1.6 In comparison, the scope of RFI facilities which could be created at Ashchurch is constrained by the scale of general freight-generating activity and traffic, which at best might generate 2 trains a week of bulk or non-bulk traffic, in part the result of a relatively remote location from the main centres of industrial activity to the north and south. Whilst the site benefits from existing connections to the national rail, motorway and trunk road networks, on a brownfield site with a long history of military activity and related road and rail vehicle movements, the current main line access arrangements are constrained (access from one direction only), with potential concerns about the capacity of the local road network to cater for any intensification of HGV and car traffic associated with any (S)RFI development.

5.1.7 The Network Rail local contact for rail freight development has confirmed as part of this study that no enquiries have ever been received about use of the site for third-party rail freight traffic; the only occasion that could be recalled for the site handling non-military traffic was a one-off movement of bottled water by rail to assist with recovery operations following the extensive local flooding in 2007.

5.1.8 As an example of the commercial challenge facing the site, in 2011 we discussed with a supermarket client the scope for Ashchurch to address the client's requirement for a rail-linked distribution centre to service the South West region, linking to an existing facility in the East Midlands; the site was considered too far north and the search has since focussed in on the Bristol area.

5.1.9 The relative distance of Ashchurch to key communication nodes and regional urban centres, highlights the access issues that deter any significant distribution development. In identifying demand for a new large-scale RFI / distribution park, the requirements are invariably dominated by manufacturers / suppliers, and to a lesser extent by distribution operators. Such operators are then driven by an identified sustainable need, large enough to make a dedicated logistics function viable. Research into the local market suggests there would be insufficient existing business from which to generate trainload opportunities from the site.

5.1.10 The lack of defined customer demand / need in the local catchment area then raises uncertainties as to how a speculative commercial RFI development (or safeguarding) could be justified on the site. It is important to reiterate that the basic interchange activity, ie transferring goods or intermodal units between road and rail vehicles, is at best a marginal economic activity; the typical market rates for freight handling will at best cover the operating costs of the handling equipment, staff and associated overheads.

5.1.11 The investment in RFI facilities at Ashchurch could range from several hundred thousand pounds (the RFI at Fratton cost around £400K) to as much as £200m for clearance and redevelopment of the site as an SRFI. The current main line connection constraints could be addressed with further investment in a new crossover and signalling, although again it is difficult to see based on current evidence how the additional £2-3m investment would be secured. From a local authority perspective, the risk is that, as with the former MOD site at Telford (which involved £12m of investment), a rail-linked site such as Ashchurch is promoted for rail-served development, but then either attracts no commercial interest at all (as at Telford), or only secures road-based industrial development.

5.1.12 There have been limited investment transactions in the current market that would be comparable to a development at Ashchurch. Yield levels would be particularly sensitive to and dependant on the length of lease and tenant covenant because of the investment market's perception of Ashchurch as a secondary location for industrial development. Current market conditions have depressed the level of yield which can be obtained.

5.1.13 Comparing the Ashchurch site against all of the above factors, in particular the current rail access constraints, possible highway constraints (particularly for larger SRFI-type schemes) lack of demonstrable scale of / demand from local industry for rail freight access, and competition from other more established development clusters and regional (S)RFI, it would be difficult to conclude that the site, despite being rail-linked, should be promoted for any major scale of rail freight interchange development.

5.1.14 Alternative existing rail-linked sites for RFI exist in the surrounding regional catchment area which could provide better opportunities for connectivity and/or proximity to market in the short to medium term, despite most of these being located outside of Gloucestershire. Examples include:

- Long Marston (Warwickshire) – another major ex-MOD rail-linked storage site located south of Stratford on Avon, which with suitable road access could address a regional requirement as a stand-alone or mixed-use development;
- Bicester (Oxfordshire) – another MOD rail-linked site in proximity to the M40 corridor;
- Swindon Keypoint (Wiltshire) – a rail-linked distribution park with plans for expansion;
- Avonmouth (Bristol) – major expansion of the port and surrounding hinterland for multimodal distribution and industrial activity;
- Sharpness Docks – limited potential for expansion of activity around the existing port and rail access;

- Gloucester Yard – scope to redevelop the area within the "railway triangle" formed by the junction of 3 major routes in the centre of the City, as already identified within the Waste Local Plan as a possible site for a transfer station;

- Worcester Yard – extensive railway lands around the station could offer opportunities for local RFI facilities.

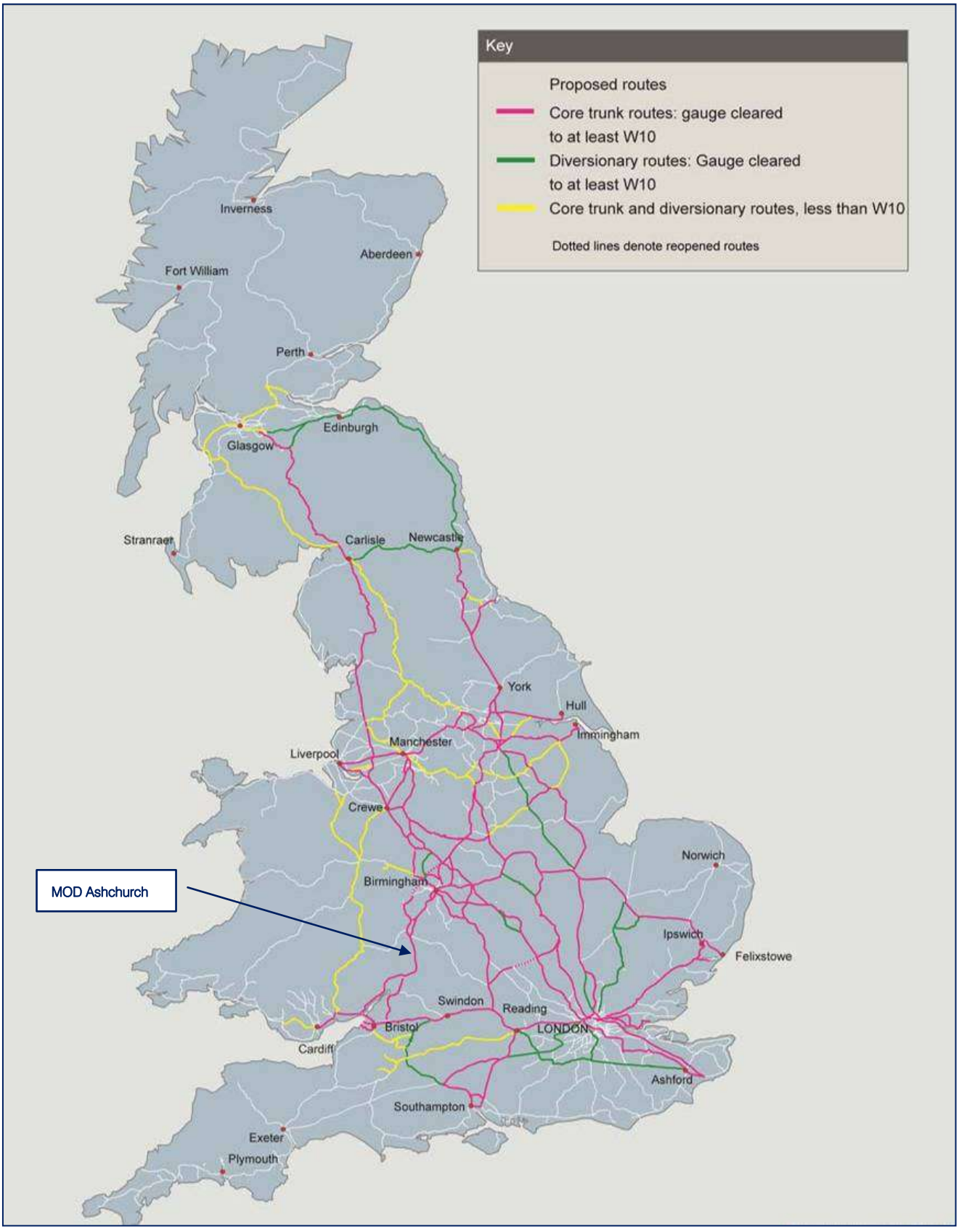
5.2 Recommendations

5.2.1 Given the interest from the local authority in considering the longer-term strategic opportunities for the site, to support the policy aspirations for promoting further modal shift of freight from road to rail, scope may exist if required to safeguard the rail access corridor from the main line up to the Ashchurch site boundary. This would preserve the opportunity to either develop rail-linked employment uses in the adjacent land to the north (which could also then facilitate an additional main line access facing north) as well as any distant prospect for reinstatement of the branch line through to Evesham.

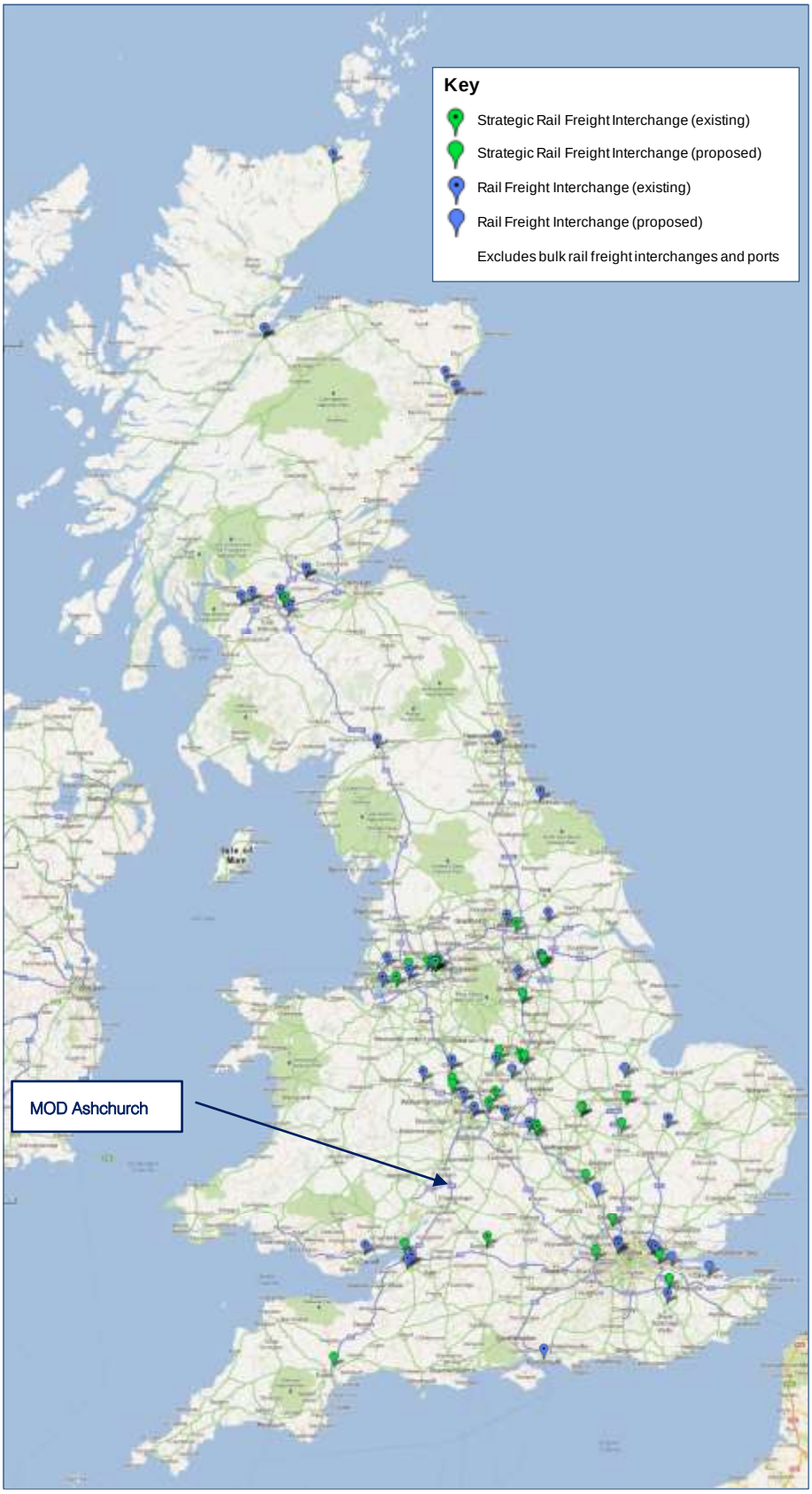
5.2.2 If required to provide retention and/or reinstatement of rail access from the main line, the existing 915m length rail corridor from the main line connection to the Ashchurch site boundary should be retained, with a minimum of 6.5 metres width for a single-track formation and associated clearances, or 10 metres width for a double-track formation.

Appendices

Appendix A Strategic Freight Network Map (source Network Rail)

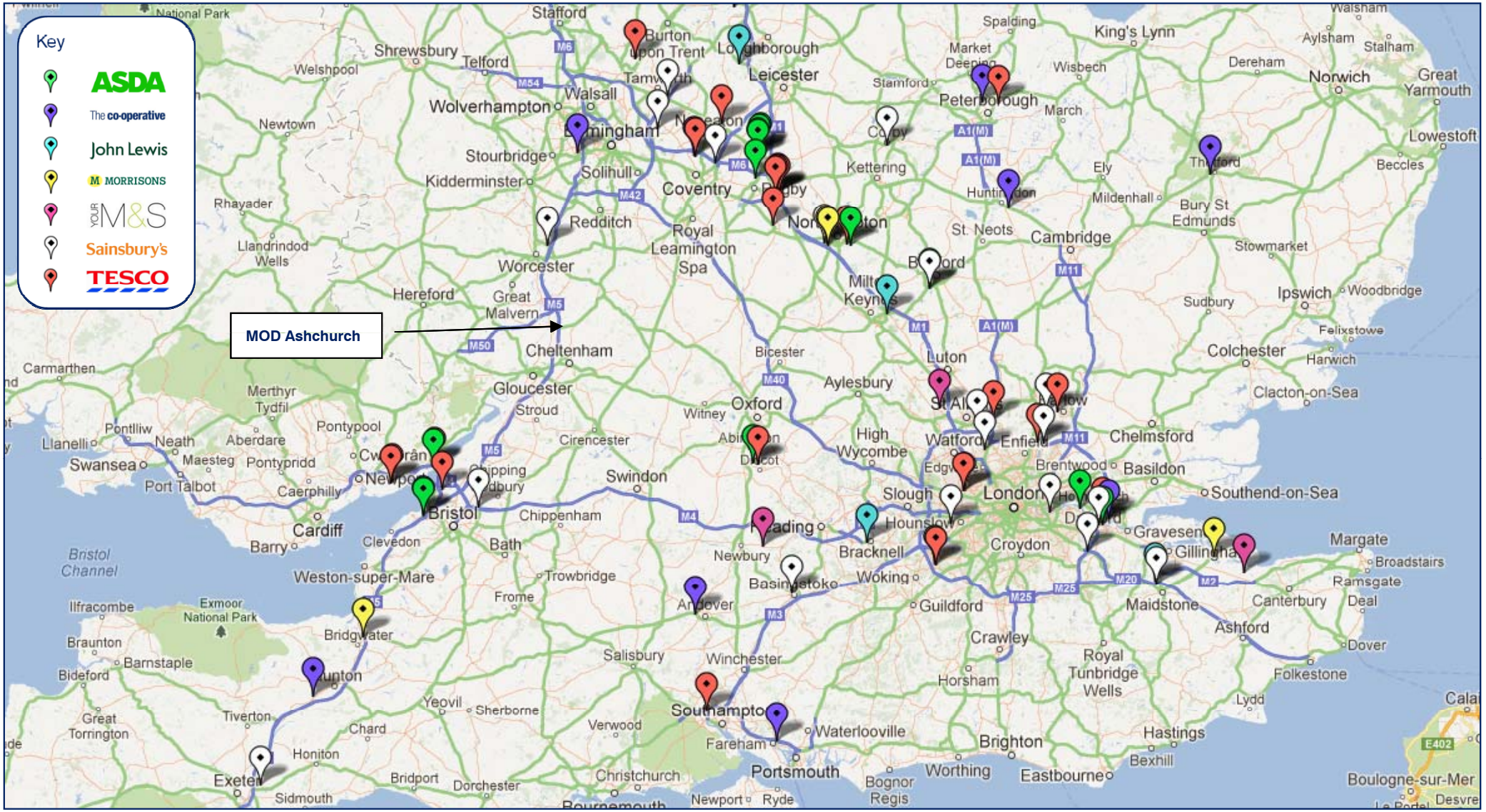


Appendix B Map of Inland Rail Freight Interchanges (non-bulk traffic)



Appendix C Map of supermarket distribution centre clusters

Map of major supermarket distribution centre clusters in England and Wales



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