Existing Evidence

A review was carried out of the available strategies and plans for the UK as well as for the North specifically. This includes documents from Network Rail, National Highways, Department for Transport and other partners including Local Authorities. The benefit of closely analysing the available documents are that they show a consulted view of the freight and transport world that TfN can review progress against as well as providing with an initial list of interventions and programmes that either have been delivered or require delivering.

Key rail emerging themes

Several themes emerged from the rail literature review and industry consultation. These range from macroeconomic narrative to issues relating to policy areas (e.g. balance of freight and passenger markets in rail planning and policy development, and the dynamics between freight and the planning system), to identification of specific network locations needing intervention. A summary of themes is provided below:

- Despite the decline of coal traffic in the last decade, there has been strong growth in intermodal and construction (including aggregates) traffic in the last two decades. There is consistently strong future demand growth forecasts across documents from TfN and Network Rail.
- There is strong policy support for rail freight contributing towards decarbonisation and the net zero agenda as well as reducing congestion on the roads especially on the North/South and East/West key freight corridors.
- Rail freight is also recognised as a contributory factor towards overall economic efficiency, as evidenced by documents by DfT, NR, Rail Freight Group and others. Some benefits would be more pronounced with further electrification of the rail network – the current electrified network is too limited for widespread adoption of electric rail freight
- There is no suggestion from the evidence that has been reviewed that the market is inefficient – i.e. no concerns that freight enhancements could disproportionately benefit a single operator due to current market dominance
- The evidence suggests that the largest constraint is rail network capacity congestion and network pinch points over and above lack of electrification for freight. Evidence of capacity constraints tend to be largely anecdotal, but this is usually evidenced by slower than historic / theoretically optimal journey times as is apparent in

Working Train Timetables (WTTs). Research undertaken for this strategy shows that the current freight trains could be 23% faster if the network operated without holding freight trains in certain places either in loops or behind other services. This is making rail less competitive.

Common themes in the north include:

- The dual lack of quality TransPennine freight paths and routes with sufficient gauge clearance for intermodal traffic – this is thought to be the main contributing factor to the lack of penetration of northern ports (Liverpool, Humber, Tyne, Tees). Provision of a gauge cleared TransPennine rail route is the simplest means to take road freight traffic off M62, widely documented from a range of TfN and TfGM documents and onto rail.
- Restricted availability and quality of paths for accessing Trafford Park and other inter-modal termini included in the TfGM Rail Strategy discuss options for additional rail linked terminal capacity on top of Trafford Park as well as options for improving existing rail network to Trafford Park
- Overall lack of data sharing between freight and logistics companies means it is more complex to evidence the benefits investment in infrastructure brings, meaning business cases still rely on passenger information to build in benefits
- Key locations for congestion are on the West Coast and East Coast Main Lines such as Winwick Junction and around Doncaster
- As we previously referenced in the Enhanced Freight and Logistics Analysis, there is continued emphasis of the importance of additional rail-connected warehousing and distribution sites that minimise the distance and impact of onward 'last-mile' distribution by road, and the importance of the planning system to support the development of such facilities.

Recent and Forecast Growth Trends

There are several common themes in terms of recent commodity trends. Documents by Network Rail, TfN, TfGM and the RFG all mention the following three broad trends:

- Decline of coal traffic
- Growth of intermodal container traffic, especially from Felixstowe, Southampton and London Gateway
- Growth of construction traffic, namely aggregates from quarries.

Most freight forecasts have adopted a similar methodology – using the Great Britain Freight Model (GBFM) developed by MDST, with varying input assumptions. While forecasts vary, they all predict ongoing growth in intermodal and construction traffic, and other commodities staying relatively constant.

Rail Network Capacity

Network capacity is also the key issue for rail. It is a challenge in terms of the capacity of the network to accommodate either more trains reliably or flexibility around where the trains travel to or from and in terms of gauge which drives the ability to handle intermodal traffic both on the existing network and for new journeys.

The DfT Rail Freight Strategy[1] from 2016 and current and emerging thinking from both Network Rail and TfN, emphasises the need to use the existing freight paths efficiently. There are existing market incentives for operators to do so, for example to ensure that trains are loaded towards the maximum loading of goods or containers and maximum lengths on the routes they travel on. This is unlikely to create the extra paths that will be required to accommodate the unsuppressed demand that underpins DfT's and Network Rail's own rail freight forecasts.

There is also a concern in the rail freight industry, which has been expressed at recent Network Rail workshops, that efficient paths may become a euphemism for "less" freight paths with freed capacity being reserved for passenger traffic. There is much debate about freight operators having capacity that they do not use. The argument for this from freight operators is that they need the flexibility to enable them to serve different locations on different days and at different times to meet their customer needs, building as much flex as they can. This helps grow the rail market in the longer term so journeys can have a little flex on the rail – a right which haulage companies simply have.

While evidence gathered for this report by counting trains on a sample of running days suggests that less than half freight paths are used, that is not the case on routes where capacity is constrained. For example, the area around Manchester. There is little or no spare capacity over the four key freight bottlenecks identified by the network capacity modelling for this report. These include the West Coast mainline north of Golborne, East Coast mainline two track section through Durham, Midland Mainline through Sheffield and across Manchester. The work has showed that rail freight end to end train times already suffer from significant additional time in order to squeeze onto the network.

For new rail freight journeys, achieving a timetable slot on the network is currently challenging. **19%** of the end-to-end journey time for the average freight train journey is made up of congestion-related delays. If you removed the delays, then journeys would be 23% faster for all the

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1 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/552492/rail-freight-strategy.pdf Accessed June 2021

existing services. Even doing this on the existing network (with no enhancements and investments) decreases average journey cost by nearly 8%. This cost reduction increases the attractiveness and therefore the demand for rail freight by **6.4%** nationally. This does not include the demand for routes where the infrastructure is not capable of carrying intermodal traffic, this is just for the existing market today.

This means that new journey opportunities for rail freight are more expensive and marginalised. The ultimate impact in the current climate is for shipping companies to use road transport over rail freight as it is free at the point of access onto the network and all key routes are provided through the MRN.

Government is investing heavily in rail with High Speed 2 (HS2) and building the case for Northern Powerhouse Rail which is comparatively more than road investment on a cost per tonne/passenger basis. In addition, to help rebalance the British economy, HS2 is often referenced as having freight capacity benefits. HS2 have stated: "By putting direct inter-city passenger services on dedicated high-speed lines, Britain's new high-speed railway, High Speed 2, will create more capacity on the existing railway for Britain's growing rail freight sector. As a result of enabling more freight by rail, HS2 will help deliver more of what Britain needs in a more sustainable way, as it will assist in removing thousands of lorries off our roads, reduce carbon emissions and make our motorways safer." (Freightmas and HS2 | High Speed 2).

HS2 will reduce journey times between the North and London. It will also, once the full network is built, reduce the demand of intercity trains for paths on the West Coast, East Coast and Midland mainlines which will free capacity for freight on parts of those lines.

Gauge enhancements

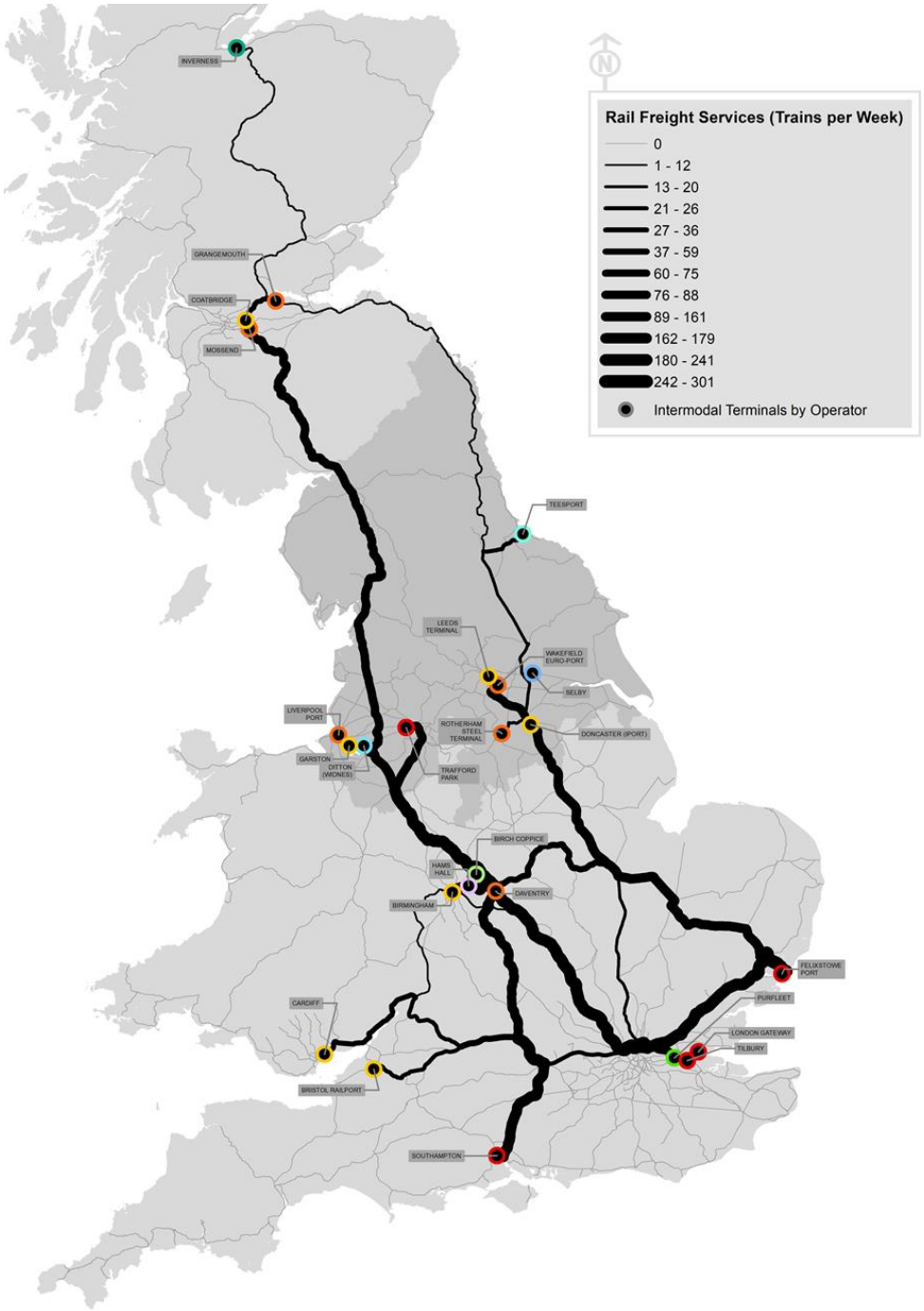
Capacity for rail is usually expressed in terms of train frequency but for freight gauge clearance is also an issue. This means how tall and wide the bridges and tunnels are and whether certain containers can safely travel under and through them. The North suffers from the fact that intermodal container services cannot physically fit across the Pennines on an east-west basis because the tunnels are too small. This means that ports and industries in the east cannot use rail for container traffic needing to move to/from the west and visa-versa.

The ports in the West and in the East face different markets Liverpool is strong in the North America market and Hull and Immingham in the Shortsea European market and are served by different shipping services. These Northern ports are less able to serve their natural hinterland.

Teesport has developed a regular container service to Doncaster by rail despite fierce road competition. This service benefits TeesPort, Doncaster and the communities on the A1. An additional service from TeesPort to the North-West should be economic to operate by rail because of the longer distance and the opportunity to spread TeesPort's rail investment costs over more traffic. However, no such service operates over this route because the trains would have to run via Litchfield. The extra distance makes rail uncompetitive. Container traffic flow on this route is likely therefore to be road based or enter/leave Britain via another east coast port. This impacts on the efficiency of the economy of the North as well its environment.

Network Rail is testing two technical solutions – one requires a smaller level of investment in infrastructure but the use of "low liner" wagons. Some stakeholders oppose the use of "low liner" wagons (1) because of their lower carrying capacity both per wagon and over a given length because of the extra space required to accommodate the shape of the wagon and (2) because such wagons would need to be built and are thought by some stakeholders to be more expensive to maintain.

The balance of approach needs to be carefully considered. Given the levelling up agenda our position is clear – that we seek assurance that we will have a fully gauge cleared route to allow freight to move on an East West basis connecting our major Freeport complexes. Understanding the alternatives is necessary but given that Southern routes have had the investment, and growth has then been seen, it is critical that the North receives the same opportunity.



UK Intermodal Rail Services per week (2 way)