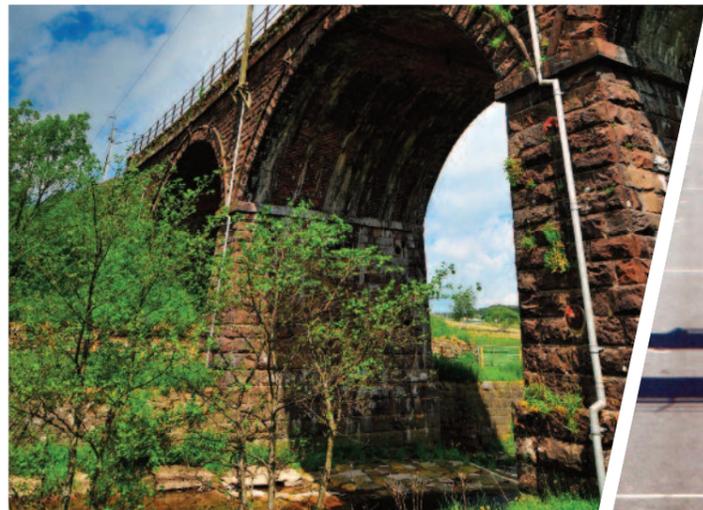


*Value and
importance of
rail freight*

Britain relies on rail freight



Rail freight plays a vital role in Britain's economy. It directly contributes £870 million to the economy but actually supports an output of £5.9 billion, six times its direct turnover.

Whether transporting raw materials for manufacturing, fuel for electricity generation or consumer goods for our shops, businesses in the UK rely on rail freight to provide a faster, greener, safer and more efficient way of transporting goods than roads.

In recent years rail freight has undergone a renaissance, with freight volumes increasing by 50% since 1995.

In 2008/9 alone rail moved 100 million tonnes of freight throughout the country. It has a market share of 11% of all surface freight transport.

Between 1999 and 2007/8 the number of containers passing through Felixstowe – the largest container port in the UK – increased by 118% but the number transported by rail increased by 165% demonstrating the growing market share of rail. Over the same period the number of trains serving the port daily has almost doubled.

The continued growth of rail freight

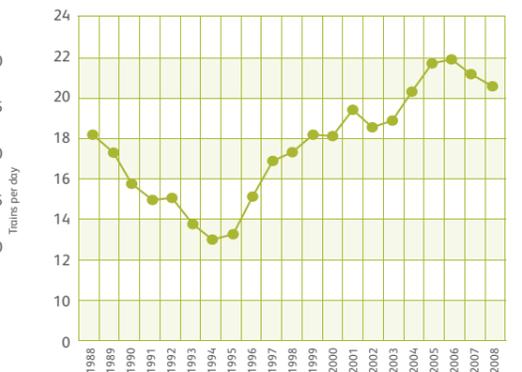
Enabling rail freight to expand and thrive is a key responsibility of the rail industry, especially if rail is to play its part in supporting economic recovery and long term sustainable growth.

Network Rail has forecast in the 2007 Freight Route Utilisation Strategy that freight demand will grow by 30% over the next decade – the equivalent of an additional 240 freight trains per day. Looking further into the future and analysing a range of long term economic scenarios, Network Rail has forecast that rail freight could increase by as much as 140% by 2030. Even the most conservative scenario shows rail freight growing strongly.

FIGURE 2
Growth in rail freight at Felixstowe



FIGURE 1
Rail freight in Britain (1988 – 2008)



The economy relies on rail freight

Rail freight is an indispensable part of the British economy. Every year it transports over a 100 million tonnes of goods worth around £30 billion.

Rail freight has traditionally been associated with the transport of heavy bulky goods and construction materials. It continues to be extremely important for these markets but its role today is much broader.



During the last decade, rail freight has undergone a transformation and has taken an increasingly important role in the transport of consumer goods. Over the past six years alone, consumer goods carried by rail have grown by 46%, the greatest growth of any freight market.

Road congestion

Rail freight also supports the economy by helping to reduce road congestion. Each freight train can typically take around 60 lorry journeys off Britain's roads.

Reliable

The ability to rely on goods and materials being delivered on time is critical to businesses.

Road freight is frequently delayed by congestion. Every year thousands of hours are lost due to congestion on Britain's roads and over a quarter of all road freight journeys are delayed. Analysis by the Department for Transport found that congestion was the biggest external cost imposed by road freight.

The Eddington Study estimated that road congestion reduces gross domestic product (GDP) by around £7-8 billion every year and that it could amount to as much as £25 billion by 2025.

Compared to this, rail provides a disciplined network in terms of planning and management with sophisticated timetabling and signalling systems designed to optimise reliability. More than eight out of every ten freight trains complete their journey on time and, for premium delivery goods trains such as the Stobart services for Tesco, punctuality is at 98%. In many instances rail can match and often beat road freight in terms of reliability.

Rail freight plays an important role in reducing the number of lorries on the nation's roads. Owing to the greater capability of rail each freight train can typically replace around 60 of them. In 2007/08 an additional 6.7 million lorry journeys would have been required if the equivalent of rail's freight business were carried by road. This equates to 1.4 billion lorry km avoided or an additional 13,000 lorries travelling the distance between London and Manchester every day of the year.

The more we can reduce congestion by shifting freight from road to rail, the better in terms of reliability for businesses and cost to the economy.

Cost effective

Moving goods by rail is increasingly the most cost-effective way of transporting freight.

Rail haulage is more fuel efficient than road haulage. Less fuel is needed to transport a tonne of goods by rail than by road, saving both money and greenhouse gas emissions.

On average a gallon of fuel will move a tonne of goods 246 miles on the railway, but only 88 miles by road.

CASE STUDY Supporting the car export market

Rail freight contributes to the British export market delivering cars such as Minis, Land Rovers and Jaguars to ports so that they can be shipped abroad. The use of rail helps enable the secure safe delivery of these prestige goods.

Jaguar operates railheads at both its Halewood and Castle Bromwich plants enabling more than 70% of its production to travel by rail. Jaguar estimates that these railheads save 4.5 million lorry miles a year. Jaguar also credits rail with improving distribution efficiency as it allows Jaguar to avoid the disruption associated with road congestion. Twenty-two cars can be transported in each rail wagon meaning that 176 cars can be carried on a typical eight wagon train. This same load would require 22 lorry transporters.

Cars for export to Europe are carried to Port Dagenham for transfer onto ships. Cars destined for further afield are transported by rail to Southampton from where they continue their journey to markets in Asia, America and the Middle East.

The unique role of rail freight

In a number of instances rail provides solutions not practical by road.

CASE STUDY Corus

Corus is Britain's largest steel producer and generates high volumes of semi-finished products for inter-works movements. An example is the transport of steel slab and coil between Margam and Llanwern. The steel is loaded and moved on rail wagons at temperatures up to 400°C – something that could not be safely contemplated via road transport.

Rail therefore boosts the Corus production line by;

- Moving the hot steel quickly to minimise stock levels
- Delivering the steel whilst still hot which reduces the need to re-heat for further rolling, saving money and carbon emissions.

Rail:

- is competitive on price in many markets
- mitigates the impact of fuel price uncertainty as less fuel is used per tonne transported
- builds resilience into supply chains by increasing the number of delivery options
- reduces operating costs by removing around 60 lorries per freight train
- can help keep goods secure from theft and damage
- reduces carbon emissions and helps companies meet sustainability targets.

COMMODITY	FULLY LOADED TRAIN POTENTIAL	EQUIVALENT NUMBER OF HEAVY GOODS VEHICLES
Coal	1,500 tonnes	52
Metals and ore	1,000 to 2,500 tonnes	60
Construction materials	1,500 to 3,000 tonnes	77
Oil and petroleum	2,000 tonnes	69
Consumer goods	600 to 1,100 tonnes	43
Other traffic	1,000 to 1,500 tonnes	43

FIGURE 3 Potential for a fully loaded freight train to remove lorries



FIGURE 4 Distance a tonne of goods can travel on a gallon of fuel

People & communities rely on rail freight



Rail freight is an essential part of our everyday lives. It plays a pivotal role in supplying food to our supermarkets and delivering goods to our shops.

The wide range of goods moved by rail includes:

- Royal Mail letters and parcels
- mineral water, with some bottles transported all the way from Lake Geneva to the Midlands by rail
- wine and Scottish whisky
- cars such as Minis and Land Rovers for the domestic and export markets
- fresh fruit direct from Spain to London.

Rail freight also makes towns and villages across the country more pleasant places to live and work by reducing the number of lorries on Britain's roads.

Lorries contribute to a disproportionate number of accidents on our roads per km travelled. Department of Transport figures suggest that between 1999 and 2008 there were 117,000 accidents involving HGVs.

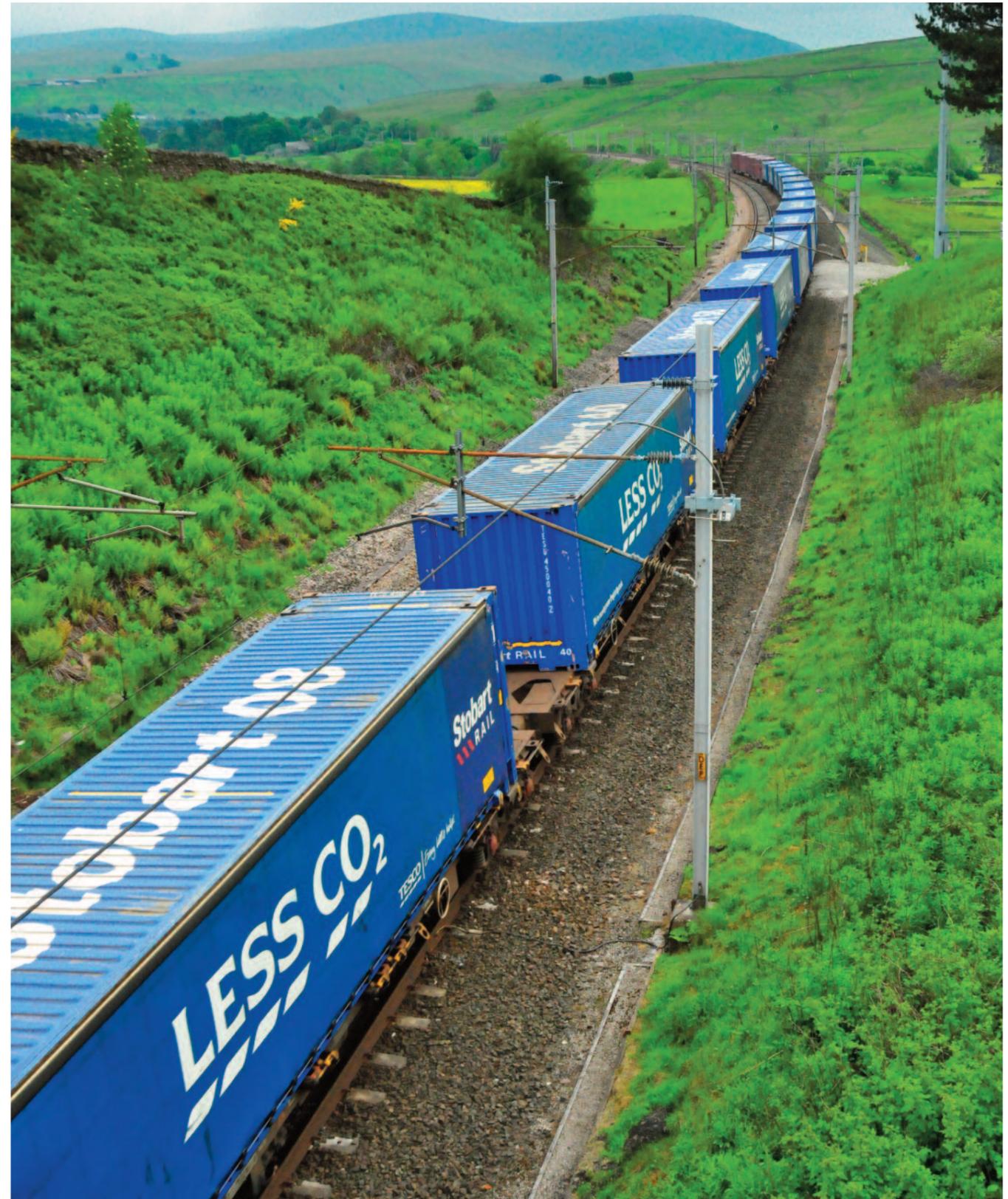
By reducing the number of lorries on our roads and transferring freight to rail, people would benefit not only from improved safety in their local communities but a reduction in noise and pollution.

CASE STUDY Rail Freight and the Olympics

At the Olympic Park in East London the Olympic Delivery Authority (ODA) is commissioning a range of venues and associated infrastructure within a total budget of £9.3 billion on 2.5km² of land. This means that millions of tonnes of materials must be delivered to the site in Stratford. By January 2010 65.7% of construction materials (by weight) had been brought in by rail minimising the impact of lorries on the local community.

Two railheads have been built near the Olympic site to enable the efficient delivery of construction materials. These have seen 3 - 4 trains going into the London Olympic site and adjacent Stratford City development most days carrying approximately 1,350 tonnes of material per train. As the construction ramps up the railheads have the potential to cater for six to eight trains a day. ODA estimates that each train replaces approximately 75 lorries, so in total rail has the potential to remove 450 to 600 lorries a day in each direction.

Removing lorries from local roads has minimised congestion in the area and inconvenience to local residents. A simulation model was used to estimate the benefit of rail freight as an alternative to road. This estimated that rail deliveries to the two railheads would avoid between 250,000 and 380,000 hours of local congestion in a single year.



The environment relies on rail freight

The 2006 Stern Review concluded that climate change is a serious and urgent issue and the British Government subsequently set a target to reduce carbon emissions by 80% from the 1990 level by 2050.



Rail freight has a vital role to play in tackling climate change and helping the Government meet that commitment. With transport in Britain currently contributing 21% of carbon emissions, 7% of this originating from road freight, its vital more freight is transferred to rail. This is all the more apparent given that per tonne of cargo, rail freight produces 76% less carbon dioxide than road freight.

In the extreme case that all freight currently carried by rail was transferred to road, there would be an additional 1.9m tonnes of carbon dioxide produced each year. This is equivalent to the carbon saved by more than 230,000 solar panels.

Rail freight also produces fewer harmful gases than road freight in terms of other emissions that impact upon people's health - less than a tenth of the nitrogen oxide and fine particulates of road haulage per tonne carried when compared to road transport.

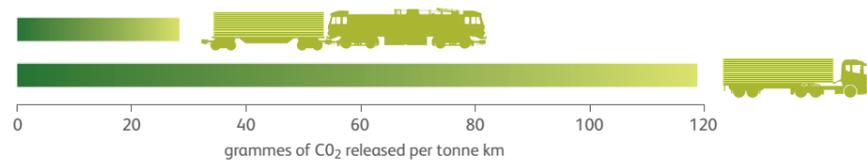


FIGURE 5 Road and rail freight – grammes of CO₂ per tonne km

Source: 2009 Guideline to Defra's GHG Conversion Factors: Methodology Paper for Transport Emission Factors, October 2009, Defra

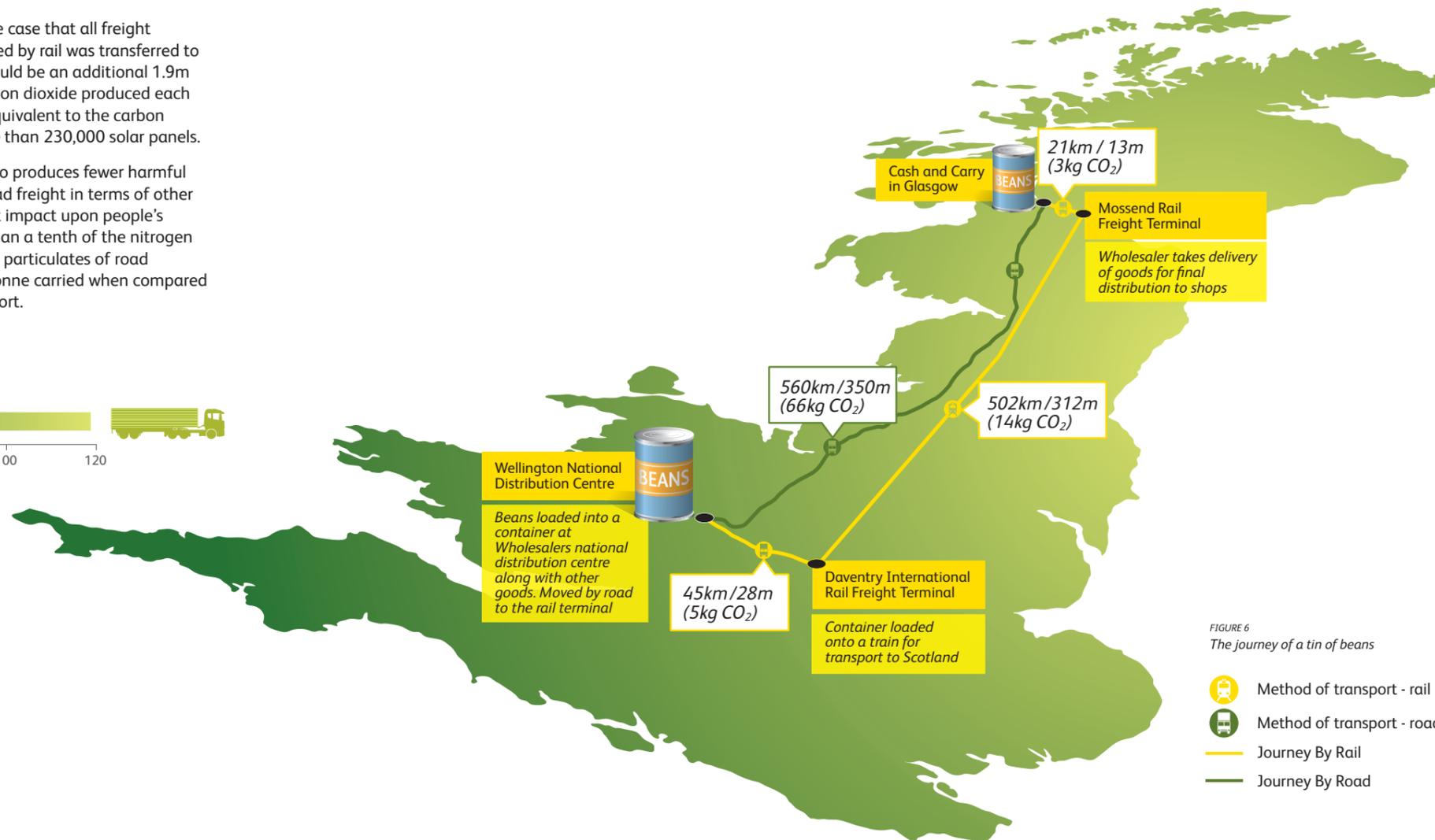


FIGURE 6 The journey of a tin of beans

- Method of transport - rail
- Method of transport - road
- Journey By Rail
- Journey By Road

FIGURE 6 The journey of a tin of beans

The figure shows the journey of a typical consumer item transported by rail. A tin of beans starts off its journey being loaded onto a container at the national distribution centre of a major supermarket chain. A number of other goods such as cleaning products, toiletries and other food stuffs will also travel with the beans. This container is then transported by road to a rail freight terminal. The container is transferred to rail for the trunk leg of its journey before completing the final miles by road.

It also shows the CO₂ emissions at each stage of the journey comparing rail or a road alternative. Even after the carbon cost of the road legs at either end has been included, the rail option produces a third of the CO₂ of the road route.

The future of rail freight



For Network Rail and the freight operating companies this is an exciting time. To cater for anticipated future demand and challenge the dominance of road haulage it is important that together with government, we continue to put in place the right plans to allow freight to be a successful part of a vibrant, growing railway. It is important that we grow and develop the railway to make this possible.

Over the coming years, the rail industry will continue to work with passengers, business and government to prioritise those freight schemes that deliver the greatest benefit to the economy. Whether this is increasing capacity for more trains or improving the efficiency of the network by rebuilding our infrastructure to enable trains to carry larger containers, all must provide value for money.

Our vision is to increase the modal share of rail and to take freight off Britain's roads, improving the economy, our quality of life and substantially reducing carbon emissions.

Whether it is taking lorries off the roads and drastically reducing road congestion or transporting goods that we consume every day, rail freight is vital to our economy and helps Britain run better.