

# Rail freight: Facts and Myths

FREIGHT  
on RAIL

*Tonne for tonne carried rail freight produces 90% less carbon dioxide than road transport<sup>1</sup>*

*An average freight train can remove 50 HGVs from our roads<sup>2</sup>*

**Rail freight offers a win/win solution for the economy and society and has an important role to play in controlling climate change and reducing road congestion.**

Overall, rail produces less than 1% of the total U.K. emissions of carbon dioxide, the principle green house gas, compared with 21% from road transport<sup>3</sup>. People eat and drink, wear, sit on, work with and drive products every day transported by rail without realising. Rail freight has been one of the transport sector's success stories of recent years. Rail's market share has increased by 60% since 1994<sup>4</sup>.

Rail freight moved in 2004-05 was 20.66 billion net tonne kilometres, which saved 1.43 billion lorry kilometres – a level of traffic that has not been seen on the rail network since 1977. Rail now has a 12% share of the U.K. surface freight market (road and rail) compared with 8% in 1994/5.

Freight on Rail, a partnership between the rail freight industry, the transport trades unions and Transport 2000, believes that rail freight opportunities are being missed because of inaccurate and misleading assumptions. This leaflet sets out to dispel the most common myths which distort and damage the case for rail freight.

## Myth One

**Rail freight is only suitable for bulk cargoes and cannot compete for general traffic**

There is a presumption that the rail freight role is limited to bulk freight. In fact rail carries a range of non-bulk cargoes ranging from premium parcels, first and second class mail, high value car components and food stuffs. Rail is often the preferred mode where fragile prestige goods such as cars are in transit and need to be delivered in perfect condition. Rail can also be an integrated part of the production line moving semi-finished goods from one factory to another to demanding time schedules operating on a just-in-time basis.

**"Using rail has brought us real quality benefits that are being felt right down the supply chain".** Ford Premier Automotive Group<sup>5</sup>

For example all Jaguar X-type exports go by rail and BMW's MINI cars go by rail from Oxford to Purfleet. With growing congestion, borne out by a 5% increase in LGVs and 2.9% increase in HGVs in 2004<sup>6</sup>, the greater reliability and speed of



*EWS multi user service from the Midlands to Scotland for Morrisons & Tesco*

rail freight means that rail will continue to compete and win more non-bulk traffic. Firms are faced with the restriction in lorry drivers' hours caused by the adoption of the European Working Time Directive and an acute shortage of HGV drivers.

Rail is playing an increasing role in high street logistics with products ranging from food stuffs, car parts, white goods, furniture and clothing. A quarter of maritime containers imported into southern English container ports are transported by rail in the U.K.

## Myth Two

**Bulk rail freight traffic is in decline and most of it is coal**

It is correct that about two thirds of existing rail freight is bulk commodities<sup>4</sup> – and transport of some bulk commodities, by all modes, has fallen. However it is not accurate to suggest that rail transport of bulk commodities have been in decline in recent years.

Over the ten year period since 1994, coal moved is up 95%, with other bulk products up by 41% in the same period. Construction traffic has experienced a 21% increase in volumes moved since 1998. Metals traffic did decline slightly during the nineties but is now back to 1991/2 levels<sup>4</sup>.

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### Myth Three

#### Rail Freight is limited to long distance movements

The blanket statement that rail freight is not viable for journeys under 200 miles is one of the most commonly propagated myths about rail freight. Break-even distances are market specific. Traffic such as aggregates and waste can be economic over distances as short as 12 miles. Therefore proper sectoral analysis must be undertaken to establish what the addressable market actually is. There are many examples of short viable freight journeys currently operating on our rail network as shown by the 19-mile aggregates flow from Greenwich to Kings Cross, the 27-mile municipal waste removal from Edinburgh to Dunbar, and the 40-mile municipal waste removal from Cricklewood to Bedfordshire.

### Myth Four

#### Rail freight is only viable from siding to siding

In 2004/05 the railways carried 4.04 billion net tonne kilometres of domestic intermodal freight showing that the benefits of rail are not eroded by journeys to and from rail depots. This is more than either bulk oil/petrol, or construction traffic or metals traffic.

***"Rail to and from the UK's major ports is proving more reliable than road. Dedicated K&N rail services from Southampton and Felixstowe are recording 95% reliability levels, compared with 'low-mid 80%' for comparable road haulage".*** Peter Ulber, Chief Exec. Kuenhe & Nagel 2005

Both the existing and potential rail freight distribution centres are private-sector enterprises, which could not exist if rail was unable to provide a competitive service.

### Myth Five

#### Rail freight is expensive and does not pay its way

If the cost of carrying freight by rail was so high as to be uncompetitive then rail freight would not have expanded its market share (compared with road) by 60%. Nor would rail

freight have attracted more than £1.5 billion of investment in locomotives, wagons and facilities since 1995 from the private sector.<sup>7</sup>

The Regulator's review of track access charges confirms that rail freight does pay its way and meets its marginal costs. The Government confirmed<sup>8</sup> that freight operators should pay charges which reflect the costs that they impose upon the network in line with the charging principles set out in EU Directive 2001/14.

### Myth Six

#### Freight trains are often particularly heavy and impose severe wear and tear costs

The Regulator's regime for track access charges ensures that charges levied on freight trains fully reflect their weight and impacts on the infrastructure. This helps to encourage the use of more modern wagons which have less impact on track work.

### Myth Seven

#### Freight trains are slow and disproportionately reduce the capacity for carrying passengers

The typical freight train matches the speed of semi-fast passenger trains and thus takes a similar amount of capacity.

Replacing freight trains with passenger trains would have enormous negative social, environmental and congestion impacts. For example more than 275,000 containers are carried by rail to and from the Port of Felixstowe by rail every year – this equates to over a thousand lorries a day removed from the congested A14.<sup>9</sup>

Substantial investment in the rail freight industry has led to significant improvements in freight train speeds. Already express trains and mail trains run at 110mph whilst the latest intermodal trains can now do 90mph and new coal wagons are designed for operation at 75mph. The rail freight industry has been steadily increasing average train payload and intends to continue to make better use of the network with heavier and longer trains. For example 102 tonne coal wagons are being introduced. These allow rail to move coal two thirds faster and using a third less trains.

Route Utilisation Strategies (RUS) and the Freight Route Utilisation Studies (FRUS), written by Network Rail, are designed to ensure that the best use is made of network capacity and should both improve the efficiency of passenger operators and ensure that freight and passenger trains co-exist more harmoniously.

### Myth Eight

#### Road Freight transportation is faster than rail

As explained in myth seven freight trains are much faster nowadays and can offer timings and service reliability that cannot be matched by road. (HGVs are allowed to travel at maximum speeds of 60mph on motorways, 50mph on dual carriageways and 40mph on other roads). Road congestion is claimed to cost London business £1.2 billion per year<sup>10</sup>.



A train carrying ASDA goods leaves the Rail Freight Terminal in Daventry bound for Scotland



*Freightliner train leaving Felixstowe on route to Cleveland*

The following organisations use rail freight to avoid congested roads because it is faster:

- DHL sends international and national premium parcels on a daily basis from Walsall in the West Midlands to Glasgow and Aberdeen on a high-speed rail freight service on timings that could not be matched by road. Trains complete the journey to Aberdeen in just over 7 hours; the equivalent road journey takes nearly 13 hours.
- Both Tesco and Morrisons move products from Daventry to Mossend by rail.
- Asda imports goods via Felixstowe by rail for Daventry and also transports general merchandise by rail from Daventry to Granemouth and Coatbridge in Scotland at speeds which lorries cannot match.

### Myth Nine

**Even if rail freight were doubled, freight travelling by road would only drop by a few per cent**

On the contrary, rail freight can make significant in-roads into long-distance HGV trips (which account for the majority of tonne kilometres as well as 50% of total lorry mileage). It is these HGV trips which most affect the trunk road network.

Congestion on key parts of the trunk road network is already high. About 7% of the strategic network currently suffers heavy peak and occasional non-peak congestion, and a further 13% suffers heavy congestion on at least half the days in the year. These congestion levels are expected to worsen causing extended and less predictable journey times. The biggest effect on freight costs can be the need to allow extra time on the journey to ensure that a just-in-time delivery window is not missed. This can be as much as 20 minutes on a 100-mile journey, on top of the actual average driving time; even that leaves a 2% chance of being late<sup>11</sup>.

By substituting for long-distance HGV traffic, rail freight can

make a significant contribution to reducing congestion on key sections of the strategic road network – especially when road capacity is so badly stretched that even a relatively small number of additional lorries can trigger gridlock.

Rail freight also already makes a major contribution to reducing road congestion in parts of the country which generate major flows of bulk traffic – such as the Mendips and the Peak District (for aggregates) and major ports like Immingham where 75 trains depart daily from the port.

### Myth Ten

**Road transportation is cheaper than rail**

Rail often beats road on price, and can drive down costs through increased speed and reliability – a competitive advantage set to increase as congestion continues to grow. The Working Time Directive, introduced in April 2005, is estimated to cost the industry an extra £1 billion per annum and require an additional 21,000 drivers to add to the existing 47,000 driver vacancies. This problem is likely to worsen with an average HGV driver age of 55 years and tougher emissions regulations coming into force soon.

The real costs of road transport including all the additional external costs which society has to bear are normally not factored into a direct cost comparison between the two modes. International Railway Union research in 2000 showed that rail freight's external costs, i.e. excluding congestion, are eight times less per tonne kilometre than air freight and four times less than road.

Rail freight currently enjoys considerable environmental advantages over road haulage. Technological improvements will slowly improve the environmental performance of lorries, but rail freight's environmental performance is also improving, and overall rail will still be significantly 'greener' than road for the foreseeable future.



Royal Mail daily services between Willesden & Shieldmuir, Scotland

### Rail freight reduces air pollution

Per tonne carried rail produces around 90% less carbon dioxide than road (see Table 1). Although other emissions may fall lorry carbon dioxide performance is unlikely to improve significantly; road freight already accounts for 8% of UK carbon dioxide emissions<sup>12</sup>.

**Table 1: Freight Transport – Average emissions in grams per tonne-kilometre<sup>13</sup>**

Mode	PM10	CO	NOx	CO <sub>2</sub>	VOC
Rail	0.004	0.032	0.31	15	0.021
HGV	0.048	0.33	1.74	180	0.15

Key: PM10 particulate matter of less than 10 microns; CO carbon monoxide; NOx oxides of nitrogen; CO<sub>2</sub> carbon dioxide; VOC volatile organic compounds.

### Rail is safer than roads

The case for moving freight from road to rail doesn't solely rely on the adverse environmental impacts of HGVs. Lorries are involved in 22% of fatal crashes but only account for 7% of road traffic<sup>14</sup>. In 2004, five passengers were killed on the railways<sup>15</sup>, 3,221 people were killed on the roads<sup>6</sup>.

### Roads are expensive to maintain

Lorries also cause significant damage to the roads which has to be paid for by taxpayers. In 1998/9 central and local government spent £2.1 billion on maintaining the road network, of which local authorities spent £1.6 billion<sup>16</sup>. Lorries are almost entirely responsible for road wear and tear. A 40 tonne, five-axle lorry causes tens of thousands of times more damage than an average car<sup>17</sup>.

The high environmental, safety, congestion and road maintenance costs of lorries have led most independent assessments to conclude that lorries impose a net cost on society. For example Oxford Economics Research Associates calculate that heavy goods vehicles only pay for around 59% – 69% of the full (including the social and environmental) costs they impose upon society<sup>18</sup>.

### Where do we go from here

Freight on Rail works with local and regional authorities to promote the economic, social and environmental benefits of rail freight both nationally and locally.

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Go to [www.freightonrail.org.uk](http://www.freightonrail.org.uk) for press releases, case studies and links to members' sites and other Freight on Rail publications:

*Getting goods on track* – a guide for councillors and planners on promoting rail freight.

*Goods without the Bads* – a detailed guide to planning and developing a rail freight strategy.

<sup>1</sup> AEA Technology for Strategic Rail Authority, October 2004

<sup>2</sup> Network Rail, 2004

<sup>3</sup> The Railway Forum 2005

<sup>4</sup> National Rail Trends, Strategic Rail Authority, June 24th 2005

<sup>5</sup> International Freight Week, 15 September 03

<sup>6</sup> Transport Statistics G.B 2004, 2005

<sup>7</sup> Rail Freight Group, 2005

<sup>8</sup> Secretary of State for Transport Alistair Darling 19 July 2005

<sup>9</sup> Freightliner Limited, 2005

<sup>10</sup> Transport for London, Freight Plan 2005

<sup>11</sup> The Economic Costs of Road Traffic Congestion, Professor Goodwin University College London May 2004

<sup>12</sup> Sustainable Development Indicators, Department for Environment Food & Rural Affairs 2005

<sup>13</sup> Strategic Rail Authority, February 2005

<sup>14</sup> Transport Statistics Great Britain 2003, Department for Transport 2004

<sup>15</sup> Health & Safety Executive (rail figure excludes trespassers and suicides) 2005

<sup>16</sup> National Road maintenance Condition survey 1999 Department of the Environment

<sup>17</sup> Design Manual for roads and Bridges, Highways Agency 1994

<sup>18</sup> Environmental & Social Costs of Heavy Goods Vehicles & Options for Reforming the Fiscal System, Oxford Economic Research Associates report for EWS 1999.

### Freight on Rail members:

