



Freight Rail Usage

2016-17 Q4 Statistical Release

Publication date: 8 June 2017

Next publication date: 28 September 2017

Background

This release contains information on rail freight usage in Great Britain with the latest quarterly data referring to January, February and March of 2017.

The statistics cover **freight moved** (disaggregated by seven commodities), **freight lifted**, **freight delays per 100 train km**, **freight train kilometres by operator** and **freight market indicators** which show comparisons with other modes of transport. Data are sourced from Network Rail, Freight Operating Companies (FOCs) and Department for Transport (DfT).

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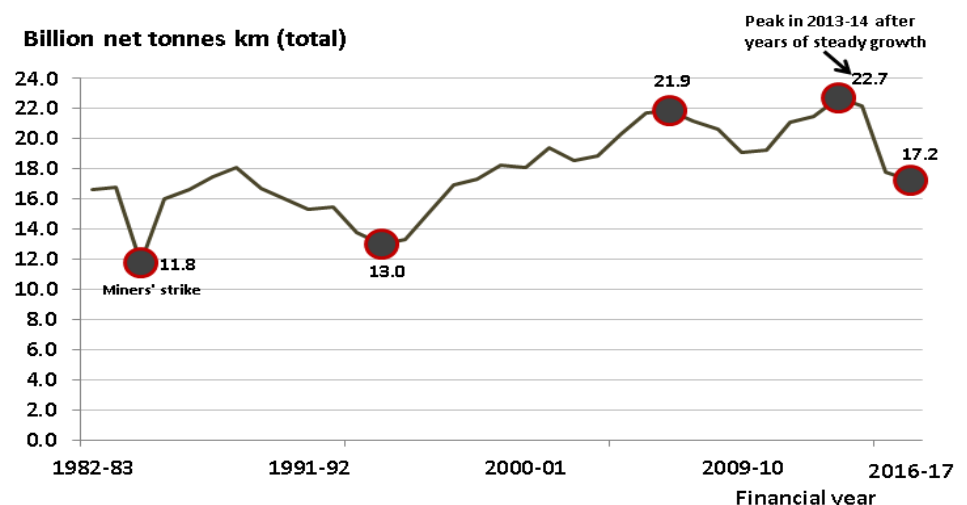
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Rail freight is at a low on several measures in this release, largely attributable to a steep decline in the use of coal.

Freight moved by commodity, Great Britain, 1982-83 to 2016-17

Billion net tonnes km (total)



The total volume of rail **freight moved** fell to 17.2 billion net tonne kilometres in 2016-17, a 3% reduction on 2015-16. This total is the lowest since the late 90s. Of the seven commodities, **coal** fell the most by 39% to 1.4 billion net tonne kilometres.

The total amount of **freight lifted** in 2016-17 recorded a decrease of 8% since last year and is now at 79.4 million tonnes. This is the lowest value recorded since 1984-85. The fall was largely driven by the decline in coal freight.

The downward trend in **Freight train movements** continued with 224,000 in 2016-17, a reduction of 5% on last year. This is the lowest number of movements since the time series began in 2003-04.

Total **freight train kilometres** fell to 34 million kilometres, a decrease of 3% to under 1 million kilometres compared to 2015-16; lowest amount recorded since the time series began in 2010-11.

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1. Freight moved

Annual 2016-17

The total volume of rail freight moved fell to 17.2 billion net tonne kilometres in 2016-17, a 3% reduction on 2015-16. Historically, the largest annual decrease (↓ 30%) in total freight moved was caused by the miners' strike between 1983-84 and 1984-85.

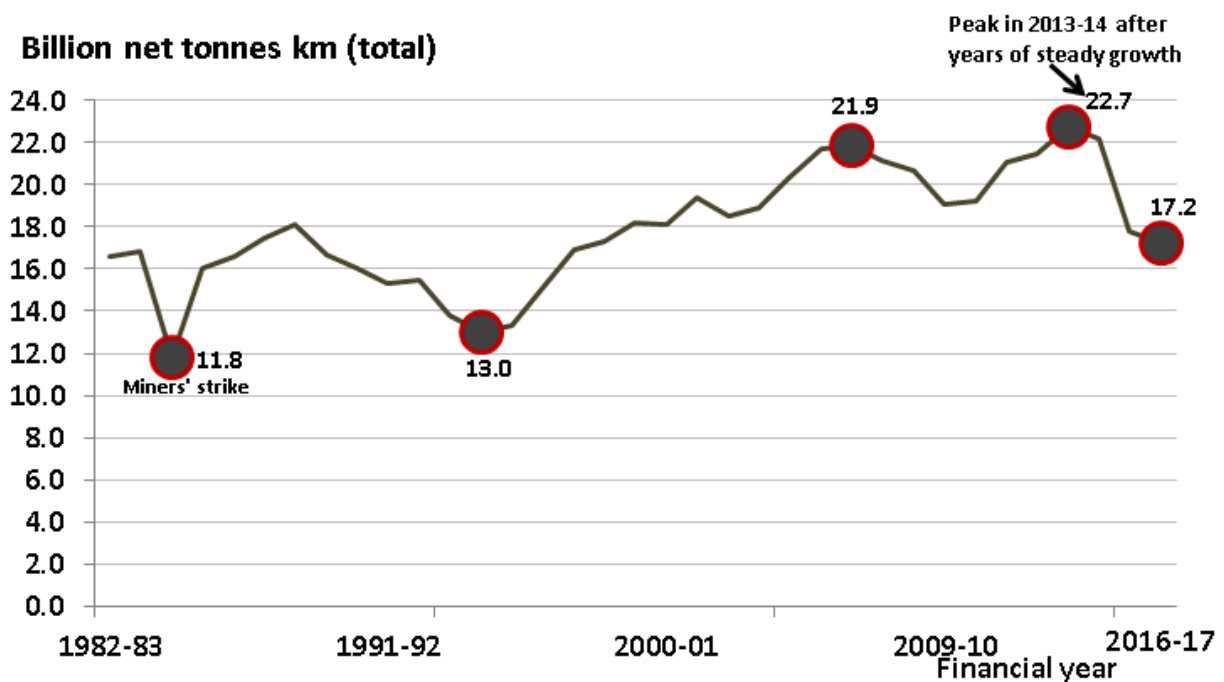
Total freight moved grew steadily, mainly due to coal freight moved, from 1995-96, peaking at 22.7 billion net tonne kilometres in 2013-14.

Freight moved data, measured in net tonne kilometres, shows the amount of freight which is moved on the railway network, taking into account the weight of the load and the distance carried.

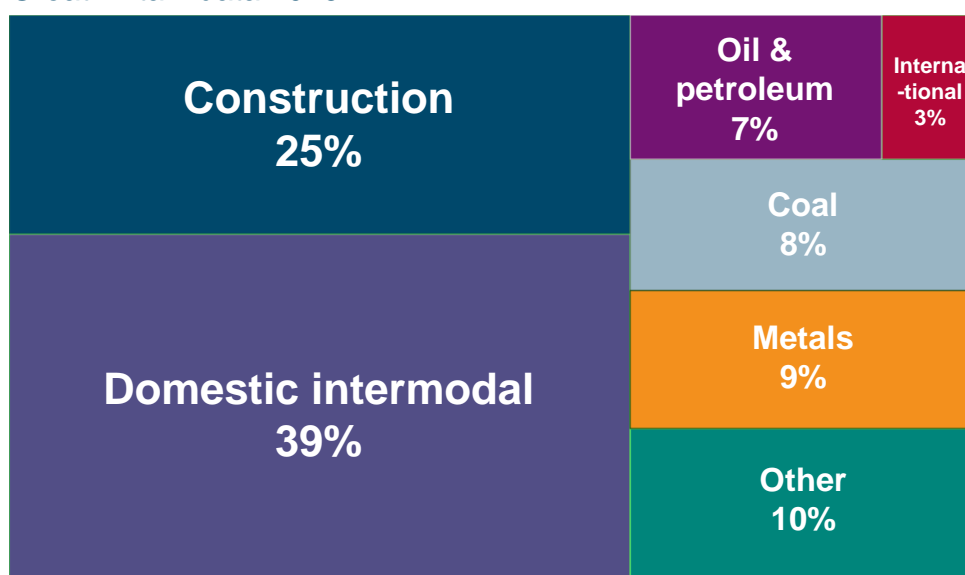
Freight moved is disaggregated by seven commodities which are also summed to provide an overall total freight moved. The seven commodities are coal, metals, construction, oil and petroleum, international, domestic intermodal and other.

In addition to the seven commodities listed above the amount of goods used for railway engineering work is also reported, under the 'infrastructure' category. This is not included in the totals published in the freight moved tables and charts.

The volume of rail **Freight moved (total)** – chart ([Table 13.7](#))
Great Britain data 1982-83 to 2016-17



The proportion of rail **Freight moved (total)** – chart ([Table 13.7](#))
Great Britain data 2016-17



Domestic intermodal recorded the biggest share of freight moved in 2016-17 (39%), is the highest for this commodity since the start of the time series in 1998-99 and the largest for any commodity after 2006-07. International had the lowest share (3%) in 2016-17.

Of all seven commodities, coal experienced the biggest reduction in freight moved in 2016-17 compared to 2015-16, a 39% decrease to 1.4 billion net tonne kilometres. Closure of coal powered stations to meet 2025 emissions target¹ and restricted use by 2023 affected the amount of coal moved by rail to coal powered stations.

Four out of seven commodities recorded a decrease of less than 10% freight moved in 2016-17 compared to 2015-16: international (↓ 9%) to 0.4 billion net tonne kilometres, other (↓ 8%) to 1.7 billion net tonne kilometres, oil and petroleum (↓ 3%) to 1.1 billion net tonne kilometres, metals (↓ 2%) to 1.5 billion net tonne kilometres.

Two commodities experienced an increase in freight moved in 2016-17 compared to 2015-16: construction (↑ 7%) and domestic intermodal (↑ 6%). Increase in house building and construction activity increased the amount of construction materials moved by rail freight while increase in output of consumer focused industries such as retail increased the amount of domestic intermodal commodities to moved by rail. Both construction and domestic intermodal recorded the highest freight moved since the start of their time series in 1998-99 with 4.25 and 6.81 billion net kilometres respectively.

¹ <http://www.bbc.co.uk/news/business-34851718>

2016-17 Quarter 4 Results

The volume of **Freight moved** (billion net tonne km), Great Britain, 1998-99 Q1 to 2016-17 Q4

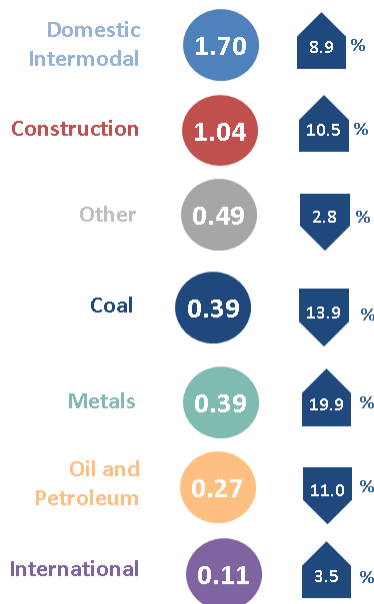
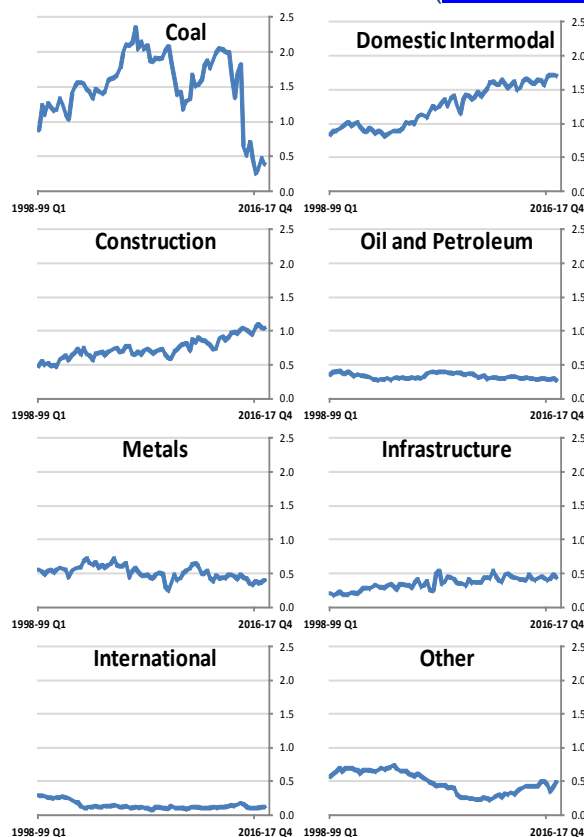
(Table 13.7)

In 2016-17 Q4, total freight moved was 4.4 billion net tonne kilometres, an increase of 0.29 billion net tonne kilometres (↑ 5%) on 2015-16 Q4. This is the second lowest Q4 total since the start of the quarterly time series in 1998-99 Q1.

During 2016-17 Q4, four out of seven commodities recorded an increase compared to same quarter last year. Metals rose to 0.4 billion net tonne kilometres (↑ 20%) as more of these materials were moved by rail to be used for projects such as Crossrail².

Construction increased to 1.0 billion net tonne kilometres (↑ 11%) partly due to an increase³ in the civil engineering sector⁴ with more construction materials moved by rail in the quarter. Domestic intermodal increased to 1.7 billion net tonne kilometres (↑ 9%), international rose to 0.1 billion net tonne kilometres (↑ 3%) due to increased rail freight traffic through Calais ferry terminal⁵.

The commodities recording a decrease in 2016-17 Q4 compared to same quarter last year were: coal to 0.39 billion net tonne kilometres (↓ 14%)



Compared to 2015-16 Q4

² <https://www.theguardian.com/business/2017/jun/01/reborn-british-steel-gives-shares-to-workers-after-return-to-profit>

³ <http://www.bbc.co.uk/news/business-37844837>

⁴ <http://uk.reuters.com/article/uk-britain-economy-pmi-idUJKKBN16911K>

⁵ <http://www.eurotunnelgroup.com/uploadedFiles/assets-uk/Media/Press-Releases/2017-Press-Release/170420-revenue-traffic-Q1-2017.pdf> (page 4, cross channel rail freight, see also fixed link traffic table at top of page)

which was affected by the decision to phase out coal-fired power stations in order to reduce carbon dioxide emissions⁶. Oil and petroleum fell to 0.3 billion net kilometre (↘ 11%), other decreased to 0.5 billion net tonne kilometres (↘ 3%) due to removal of the climate change levy exemption for renewable source electricity⁷ from power stations⁸ that use renewable source electricity. It means that generation of electricity from biomass (part of other commodity) is no longer as financially attractive as it was with fewer orders from power stations for freight operators.

The coal, oil and petroleum commodities recorded the lowest amount of Q4 freight moved, while construction and domestic intermodal recorded the highest amount of Q4 freight moved since the start of the quarterly time series in 1998-99 Q1.

Construction and domestic intermodal combined accounted for just over 60% of total freight moved this quarter.

- Quarterly freight moved data are available on the data portal in: [Table 13.7](#)

⁶ <http://www.bbc.co.uk/news/business-34851718>

⁷ <https://www.gov.uk/government/publications/climate-change-levy-removal-of-exemption-for-electricity-from-renewable-sources/climate-change-levy-removal-of-exemption-for-electricity-from-renewable-sources>

⁸ <https://drax.cdnist.com/wp-content/uploads/2016/09/2016-Half-year-results-for-the-six-months-ended-30-June-20161.pdf> (page 4, Chairman's introduction)

2. Freight lifted



Annual 2016-17

In 2016-17, the total amount of freight lifted in Great Britain fell to 79.4 million tonnes, the lowest since 1984-85, an 8% decrease on 2015-16. The fall was largely driven by the decline in coal freight.

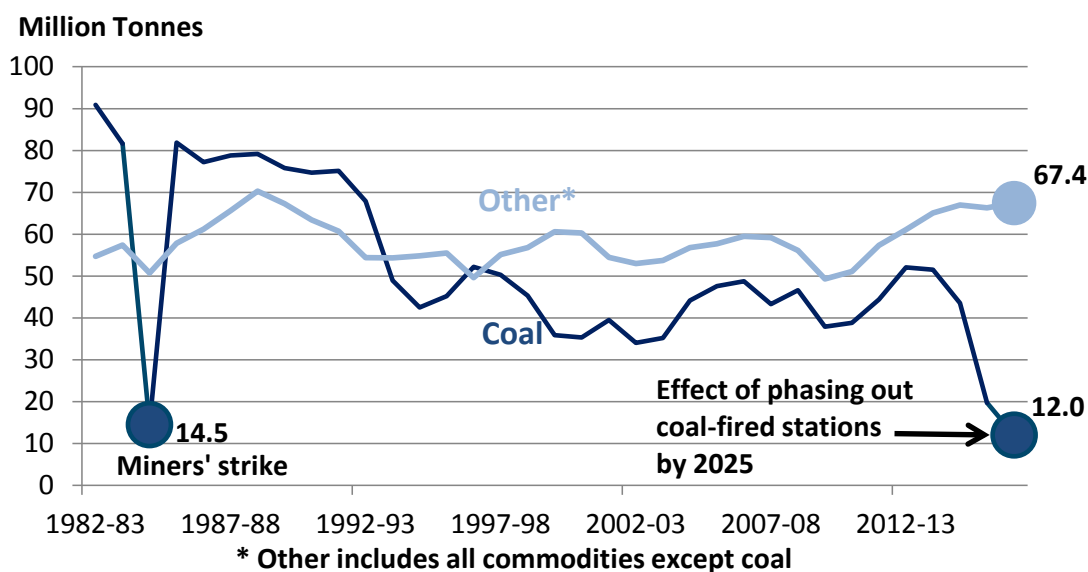
Coal freight lifted recorded 12.0 million tonnes in 2016-17, the lowest since the start of the series in 1982-83, a reduction of 39% on 2015-16. The decision to phase out coal-fired power stations in order to reduce carbon dioxide emissions affected the amount of coal lifted this year. Other recorded 67.4 million tonnes in 2016-17, a rise of 2% on last year.

The highest total amount of freight lifted was in 1988-89 with 149.5 million tonnes. This was due to both an increase in coal and other category.

Freight lifted is the mass of goods carried on the rail network measured in tonnes, excluding the weight of the locomotives and wagons. Unlike freight moved it takes no account of the distance travelled.

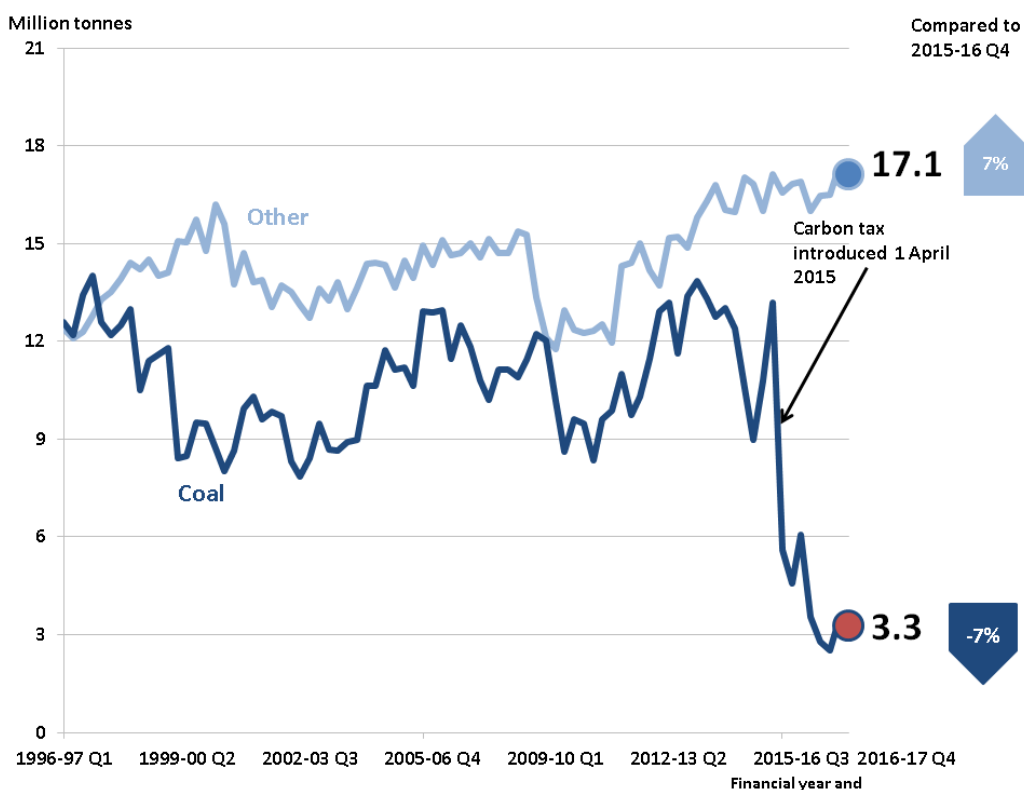
Freight lifted information is sourced from the four major FOCs: DB Schenker Rail (formerly EWS), Freightliner Ltd (formerly the BR container business), Direct Rail Services (DRS) and GB Railfreight.

The mass of rail **Freight lifted** – chart ([Table 13.6](#))
Great Britain data 1982-83 to 2016-17



2016-17 Quarter 4 Results

Freight lifted (million tonnes), Great Britain, 1996-97 Q1 to 2016-17 Q4 ([Table 13.6](#))



The total amount of freight lifted in 2016-17 Q4 was 20.4 million tonnes, an increase of 5% compared to 2015-16 Q4. This total is the second lowest Q4 since the start of the time series in 1996-97 Q1. 2015-16 Q4 total freight lifted was the lowest Q4 with 19.5 million tonnes.

The amount of coal lifted in 2016-17 Q4, 3.3 million tonnes is the lowest amount since the start of the time series in 1996-97 Q1, representing a 7% decrease compared to the same quarter last year.

The amount of other freight lifted in 2016-17 Q4 was 17.1 million tonnes, an increase of 7% compared to 2015-16 Q4.

■ Quarterly freight lifted data are available on the data portal in: [Table 13.6](#)



3. Freight delay per 100 train kilometres

Freight delay per 100 train kilometres tends to peak in Q3 and Q4 each year, coinciding with the expected periods of adverse weather, during autumn and winter.

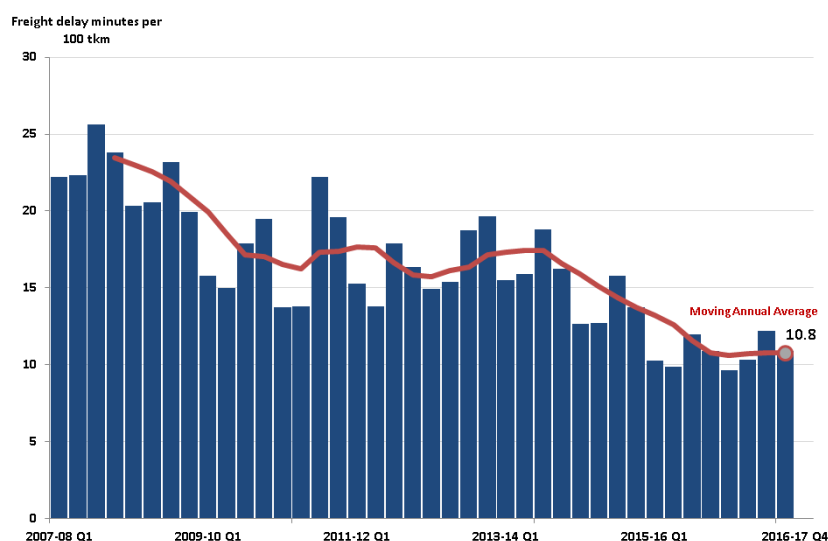
Annual 2016-17

Normalised freight delay increased marginally by 0.1% to 10.8 minutes in 2016-17.

2016-17 Quarter 4 Results

Freight delay was unchanged compared to the same quarter last year with 10.9 minutes per 100 train kilometres in 2016-17 Q4.

Normalised **Freight delay per 100 train kilometres**, Great Britain, 2007-08 Q1 to 2016-17 Q4 ([Table 13.5](#))



(P) This dataset is provisional as delay data is often revised as part of the delay attribution process (please see the [Freight Rail Usage quality report](#) for further details).

■ Quarterly freight delays per 100 train km data are available on the data portal: [Table 13.5](#)

Freight delay per 100 train kilometres is a normalised measure of delay experienced by FOCs.

The measure is calculated from the total delay experienced by all GB freight operators divided by their train mileage.

Freight train mileage can fluctuate depending on demand so a normalised measure allows for comparison over time regardless of changing levels of freight traffic on the network.

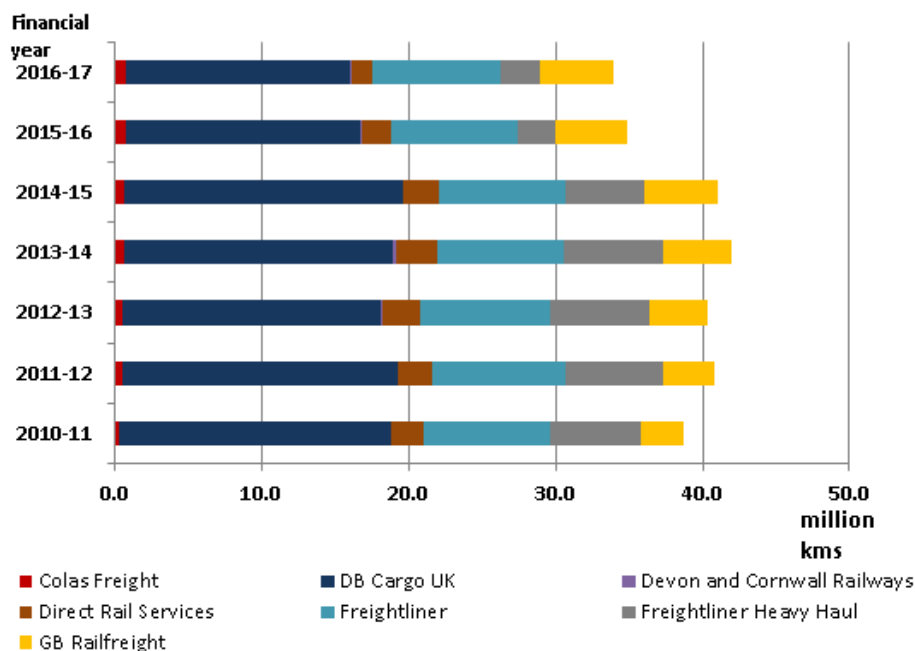
Freight Delivery Metric (FDM) is another measure of freight train delay. It is based on the percentage of freight trains that arrive at their destination within 15 minutes of their scheduled arrival time. Results and more information can be found in the quarterly [Passenger and Freight Rail Performance statistical release](#).

4. Freight train kilometres by operator

Freight train kilometres by operator data cover FOCs on Network Rail infrastructure and were included for the first time in the [2015-16 Q4 statistical release](#).

Annual 2016-17

In 2016-17, total freight train kilometres fell to 34 million kilometres, a reduction of less than 1 million kilometres (↓ 3%) compared to 2015-16. This is the lowest amount recorded since the time series began in 2010-11.



Freight train kilometres is the actual mileage in kilometres operated by FOCs on Network Rail infrastructure

The data is sourced from Network Rail's Track Access Billing System (TABS) and covers only the mileages charged through TABS.

Competition between freight operators means we would expect a greater level of variation in mileage from year to year than in the passenger market.

Not all freight operators have been in operation throughout the time-series, therefore total year on year comparison should be treated with caution.

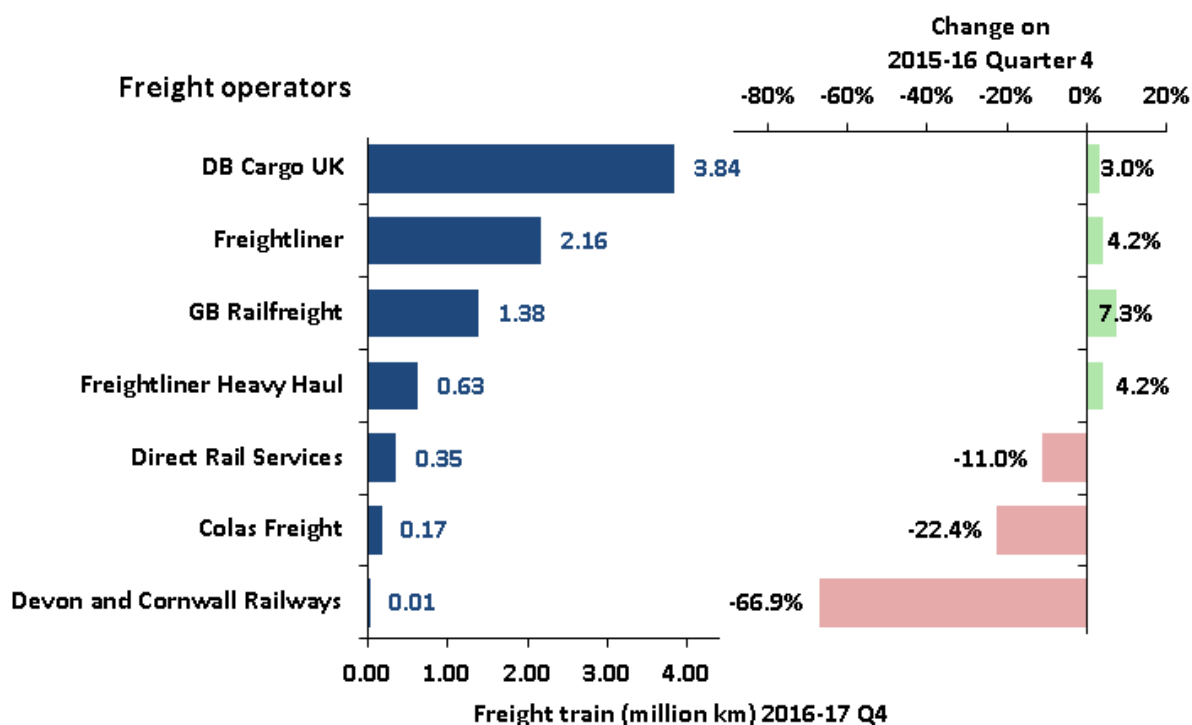
Please see the accompanying [quality report](#) for more information.

2016-17 Quarter 4 Results

In 2016-17 Q4, total freight train kilometres recorded 9 million kilometres, a rise of 0.2 million kilometres (↑ 3%) compared to the same quarter last year. The increase in total freight train kilometres is driven by DB Cargo UK which accounts for more than half of the rise on Q4 last year (54%). The freight derailment at Lewisham (Angerstein Wharf)⁹ resulted in some freight operators moving on longer diversionary routes, part explaining the increase in freight train kilometres. The diversion affected DB Cargo UK the most.

DB Cargo UK and Freightliner Intermodal accounted for 70% of the freight train kilometres in 2016-17 Q4.

Freight train kilometres by FOC, Great Britain, 2016-17 Q4 ([Table 13.25](#))



■ Quarterly freight kilometres by operator data are available on the data portal in: [Table 13.25](#)

⁹ <http://www.bbc.co.uk/news/uk-england-london-38891194>

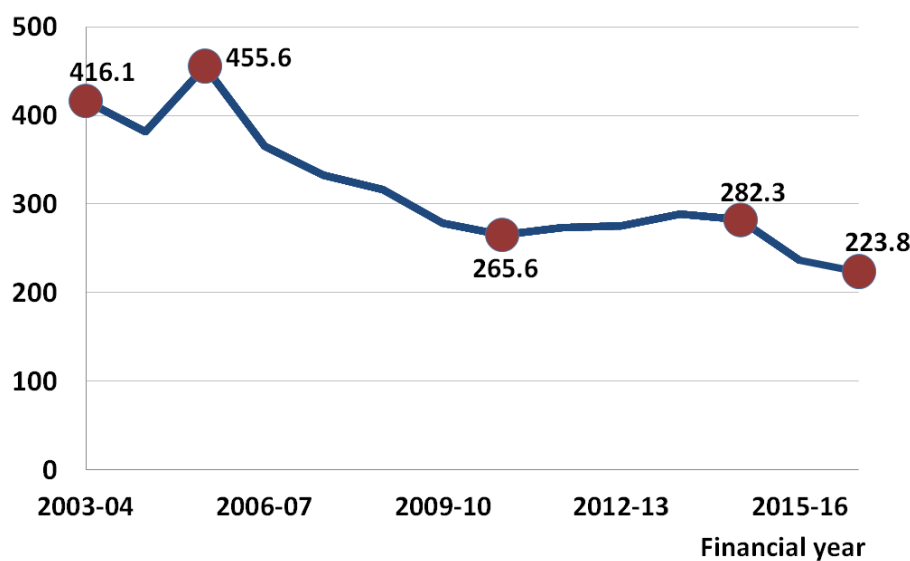
5. Freight market indicators

Freight market indicators comprise three measures: number of freight train movements on the network (data available up to 2016-17), impact on road haulage (2015-16), and rail market share (calendar year 2015).

Number of freight train movements

Number of freight train movements, Great Britain, 2003-04 to 2016-17 ([Table 13.10](#))

Number of freight trains movement
(Thousands)



Number of freight train movements

shows the volume of freight trains on the railway network each year.

The data is sourced from Network Rail and is based on chargeable train movements.

During 2016-17, the number of freight movements recorded 224,000, the lowest since the start of the time series in 2003-04, a decrease of 5% compared to 2015-16. The fall in coal traffic over the year part explains the reduction in freight movement by rail.

■ Annual freight train movement data are available on the data portal in: [Table 13.10](#)

Impact on road haulage

In 2015-16, the number of lorry kilometres required to transport the amount of freight moved by rail was 1.7 billion kilometres, a 19% decrease on 2014-15. This is the lowest recorded since the start of the time series in 2004-05

There were 7.8 million lorry journeys avoided in 2015-16 through the use of rail freight, 21% lower than the previous year. 2015-16 is the lowest number of avoided lorry journeys recorded since 2004-05.

- Annual impact on road haulage data are available on the data portal in: [Table 13.8](#)

Rail market share

In 2015, 5% of all freight lifted¹⁰ was on rail, with 97 million tonnes. The proportion of freight lifted on the rail network fell by 1.2 percentage points compared to 2014. Between 2014 and 2015, road freight (HGV) increased by 1.4 percentage points.

In 2015, 10% of all freight moved was on the railway network, with 19 billion net tonne kilometres. The proportion of freight moved by rail decreased by 2.4 percentage points compared to the previous year. Between 2014 and 2015, road freight (HGV) increased by 1.6 percentage points.

- Annual rail market share data are available on the data portal in: [Table 13.12](#)

Impact on road haulage

consists of two measures; **rail freight lorry kilometres equivalent** and **avoided lorry journeys**.

Rail freight lorry kilometres equivalent

measures an equivalent distance that road vehicles (HGVs) would need to have travelled to move the amounts of freight carried on rail.

Avoided lorry journeys is

the equivalent number of road vehicle trips necessary to move the freight.

Rail market share

statistics show the volumes of freight moved and freight lifted on different modes of transport; rail, road, pipeline and water.

Road data is now calculated based on HGVs only as data for other vehicle types no longer available.

Pipeline data is not available after 2011 therefore it has been excluded from the annual totals and the calculations of market share.

¹⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/546346/domestic-road-freight-statistics-2015.pdf

Annex 1 – List of pre-created reports available on the Data Portal

All data tables can be accessed on the [data portal](#) free of charge. The data portal provides on screen data reports, as well as the facility to download data in Excel format and print the report. We can provide data in csv format on request.

Freight moved

- Freight moved, 1982-83 to 2016-17 (annual), 1998-99 Q1 to 2016-17 Q4 (quarterly) – [Table 13.7](#)

Freight lifted

- Freight lifted, 1982-83 to 2016-17 (annual), 1996-97 Q1 to 2016-17 Q4 (quarterly) – [Table 13.6](#)

Freight delay minutes per 100 train kilometres

- Normalised freight delay, 2007-08 to 2016-17 (annual), 2007-08 Q1 to 2016-17 Q4 (quarterly) – [Table 13.5](#)

Freight train kilometres by operator

- Freight train kilometre, 2010-11 to 2016-17 (annual), 2010-11 Q1 to 2016-17 Q4 (quarterly) – [Table 13.25](#)

Freight market indicators (Q4/annual publications only)

- Number of freight train movements, 2003-04 to 2016-17 – [Table 13.10](#)
- Impact on rail haulage, 2004-05 to 2015-16 – [Table 13.8](#)
- Rail market share, 1998 to 2015 – [Table 13.12](#)

Revisions: There have been some minor revisions to the previously published dataset. Further details can be found at: [Revisions Log](#).

Methodology: For more information on data collection and the methodology used to calculate the statistics in this release please see the accompanying [Quality Report](#).

Annex 2

Statistical Releases

This publication is part of the statistical releases which cover the majority of reports that were previously released through the [Data Portal](#). The statistical releases consist of four annual and four quarterly themed releases:

Annual:

- Rail Finance & Rail Fares Index;
- Rail Safety Statistics;
- Rail Infrastructure, Assets and Environmental;
- Regional Rail Usage.

Quarterly:

- Passenger and Freight Rail Performance;
- Freight Rail Usage;
- Passenger Rail Usage;
- Passenger Rail Service Complaints.

A full list of publication dates for the next twelve months can be found in the [release schedule](#) on the ORR website.

National Statistics

The United Kingdom Statistics Authority designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is ORR's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

For more details please contact the Statistics Head of Profession Lyndsey Melbourne on 020 7282 3978 or contact rail.stats@orr.gsi.gov.uk.

The Department for Transport (DfT) also publishes a range of rail statistics which can be found at [DfT Rail Statistics](#). They also publish road freight statistics which can be found at [Road freight: domestic and international statistics](#).



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