Freight rail usage and performance

January to March 2022

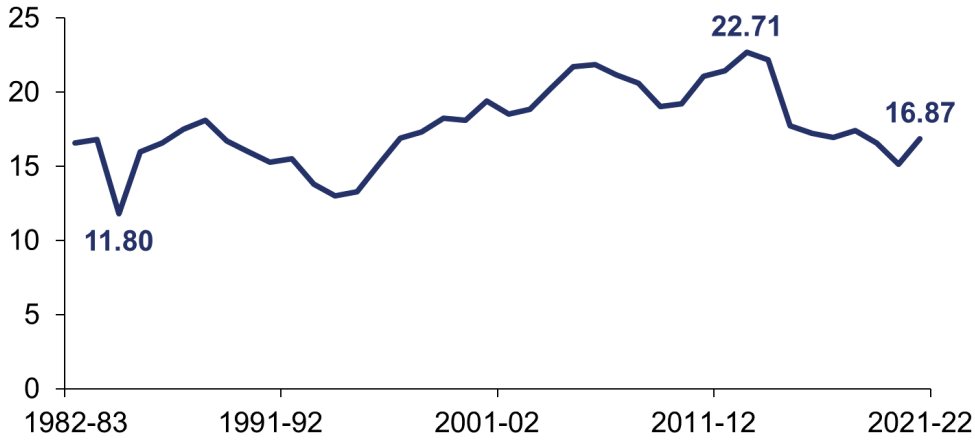
9 June 2022

In this release, freight rail usage and performance levels in the latest year (1 April 2021 to 31 March 2022) are compared with each of the two previous years. Freight rail usage and performance levels in the latest quarter (1 January to 31 March 2022) are also compared with the same quarter in each of the two previous years. This provides wider context given the effects of the coronavirus (COVID-19) pandemic.

Total **freight moved** was 16.87 billion net tonne kilometres in the latest year, a rise of 11.3% compared with last year. It was 1.8% higher than two years ago (April 2019 to March 2020).

Figure 1: Freight moved has increased from the lower levels seen during the pandemic

Freight moved (billion net tonne kms), Great Britain, annual data, April 1982 to March 2022



There were 78.0 million tonnes of **freight lifted** in the latest year. It increased by 13.5% compared with one year ago and by 8.0% compared with two years ago.

The proportion of freight trains arriving within 15 minutes, as measured by the **Freight Delivery Metric**, was 93.6% in the latest year.

All data tables, a quality and methodology report and an interactive dashboard associated with this release are published on the Freight rail usage and performance page on the data portal. Key definitions are in Annex 1 of this release.

Background:

This quarterly statistical release contains information on the usage and performance of rail freight in Great Britain.

The statistics cover **freight moved**, **freight lifted**, **freight delivery metric (FDM)**, **freight delays**, **freight train km** and **freight market indicators (freight trains run, rail freight impact on road haulage, rail freight market share)**.

Sources: Department for Transport, Network Rail, Freight Operators.

Latest quarter:

1 January to 31 March 2022

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Next publication: 22 September 2022

1. Freight moved

April 2021 to March 2022 annual

Figure 1.1: Construction and Oil and petroleum volumes each rose by almost a quarter compared with the previous year

Freight moved (billion net tonne kilometres) by commodity, Great Britain, April 2021 to March 2022 and change compared with April 2020 to March 2021 (Table 1310)

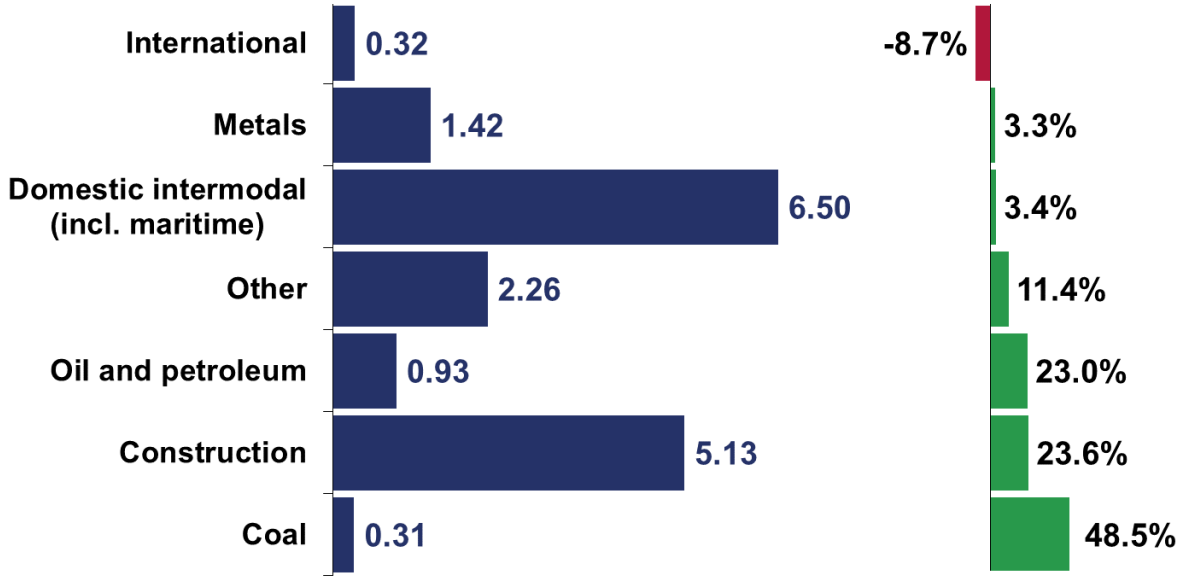
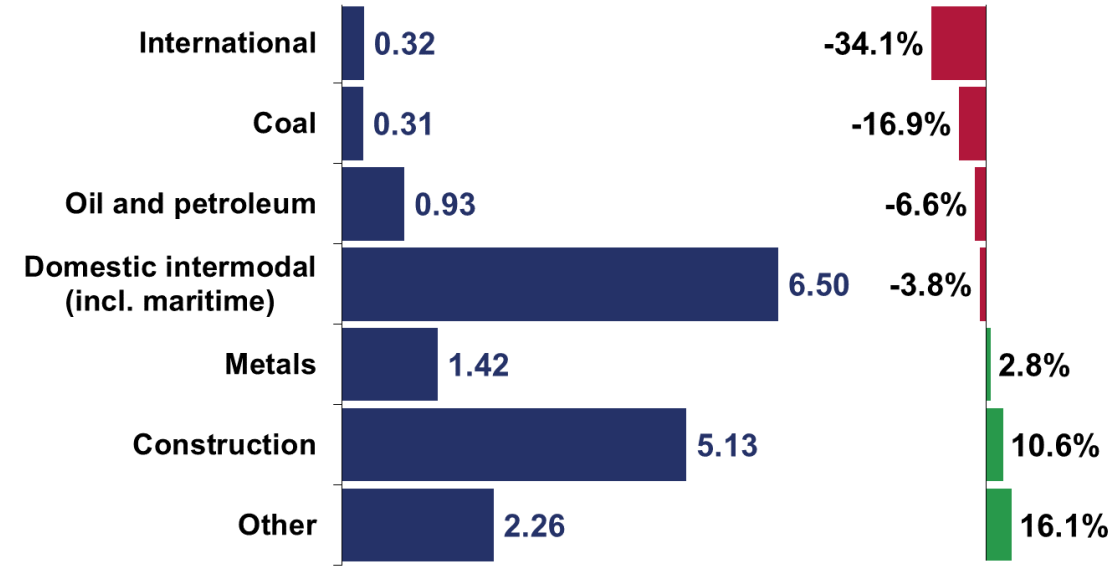


Figure 1.2: International freight volumes decreased by over a third compared with two years ago

Freight moved (billion net tonne kilometres) by commodity, Great Britain, April 2021 to March 2022 and change compared with April 2019 to March 2020 (Table 1310)



Freight moved in Great Britain rose to 16.87 billion net tonne kilometres in April 2021 to March 2022. This was an increase of 11.3% compared with one year ago (April 2020 to March 2021) and an increase of 1.8% compared with two years ago (April 2019 to April 2020).

The total of non-coal freight volumes in the latest year was 16.57 billion net tonne kilometres, the highest non-coal freight volumes recorded in the time series.

With the exception of International volumes, all commodities saw an increase compared with the previous year. In contrast, only Construction, Metals and Other grew compared with two years ago. The strength of growth in Construction and Other ensured the overall increase in freight moved and the full recovery to pre-pandemic levels.

Other freight moved increased by 16.1% compared with two years ago. This was due to the continued demand for biomass and the initial recovery of automotive production. It can also be explained by an increase in the volume of household waste (including packaging waste from home deliveries) and construction waste. Other has more than doubled over the past decade, following its lowest point in the time series of 0.94 billion net tonne kilometres in April 2010 to March 2011.

Construction volumes increased by 10.6% compared with two years ago. This represents the greatest increase in absolute terms of any commodity over two years, with a rise of 0.49 billion net tonne kilometres. Its growth can be attributed to the high demand for aggregates from house building and infrastructure work. Specifically, there are large volumes of aggregates being moved to the terminals along the High Speed 2 construction route. Previously dormant rail facilities at quarries are being re-opened to provide additional output. At 5.13 billion net tonne kilometres, Construction has surpassed 5 billion net tonne kilometres for the first time in the time series. Volumes are approximately 2.5 times larger than when the series began (April 1998 to March 1999). Over the 9 years since April 2012, construction has more than doubled its market share.

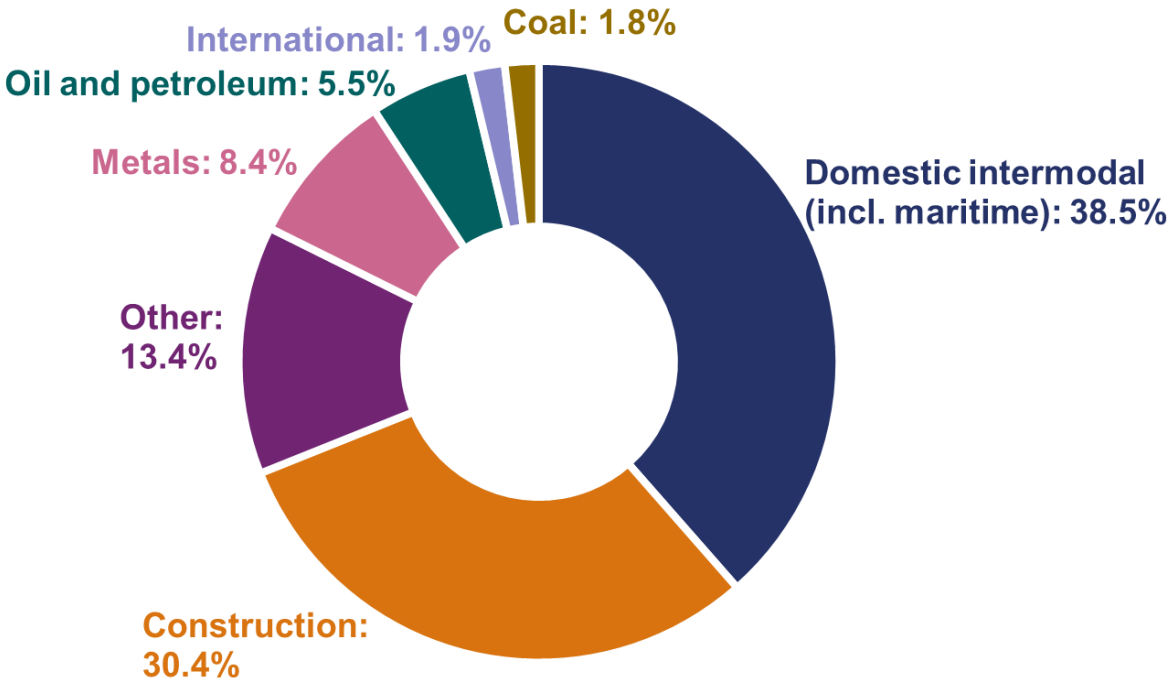
Domestic intermodal (transporting of goods to and from GB ports make up the largest proportion of this category) is the commodity with the largest market share of freight moved, comprising 38.5% in the latest year. However, over the last two years its share has decreased (down from 40.7%) relative to Construction. Market share of Construction in the last year was 30.4%, compared with 28.0% two years ago.

Domestic intermodal has been affected by congestion at inland terminals where there has been a build-up of containers awaiting acceptance by customers. This masked the beneficial impact of new domestic intermodal services that were introduced during the year in response to the HGV driver shortage and customers' decarbonisation strategies.

International volumes have seen the largest percentage reduction with a decrease of 34.1%. A decrease in European automotive is notable in this trend, caused by the pandemic, the lack of available parts and uncertainty in changing export arrangements.

Figure 1.3: Over two thirds of all freight moved was Domestic intermodal or Construction

Proportion of freight moved by commodity, Great Britain, annual data, April 2021 to March 2022 (Table 1310)



January to March 2022 quarter

The total volume of freight moved was 4.21 billion net tonne kilometres in the latest quarter (1 January to 31 March 2022). This was a 4.3% increase on the same quarter in the previous year (1 January to 31 March 2021) and a 3.0% increase compared with the same quarter two years ago (1 January to 31 March 2020).

This quarter, Coal volumes have seen some of the largest percentage increases compared with both one year ago (133.1%) and with two years ago (14.3%). The rise in global energy prices resulted in Coal recording its highest volume (0.11 billion net tonne kilometres) in any quarter since April to June 2019. Coal import levels were up to support electricity production at the last two coal-fired power stations in the UK.

Other freight moved has been growing consistently. It increased by 3.4% compared with one year ago and by 22.3% compared with two years ago, which represented the largest percentage increase of any commodity over the two years. There were 0.60 billion net

tonnes of Other freight moved, a value which was last surpassed in July to September 2005. The growth in biomass, domestic waste and construction waste were contributory factors.

Two further commodities grew this quarter compared with two years ago – Construction volumes increased by 9.9% and Oil and petroleum volumes increased by 5.0%. The trend in Construction volumes can be attributed to the demand for aggregates for building and construction projects. The rise in Oil and petroleum volumes was driven by higher levels of road traffic and the resumption of rail-borne supplies of jet fuel to Heathrow, as the number of flights increased in response to the easing of travel restrictions.

International freight moved volumes have been shrinking. There was a decrease of around a quarter compared with one year ago and of 42.1% compared with two years ago. There were 0.07 billion net tonne kilometres of International freight moved in the latest quarter, which is the lowest value in the time series. There was a large reduction in a key flow following restructuring in the steel industry.

Figure 1.4: Oil and petroleum volumes increased by almost a third compared with the previous year

Freight moved (billion net tonne kilometres) by commodity, Great Britain, January to March 2022 and change compared with January to March 2021 (Table 1310)

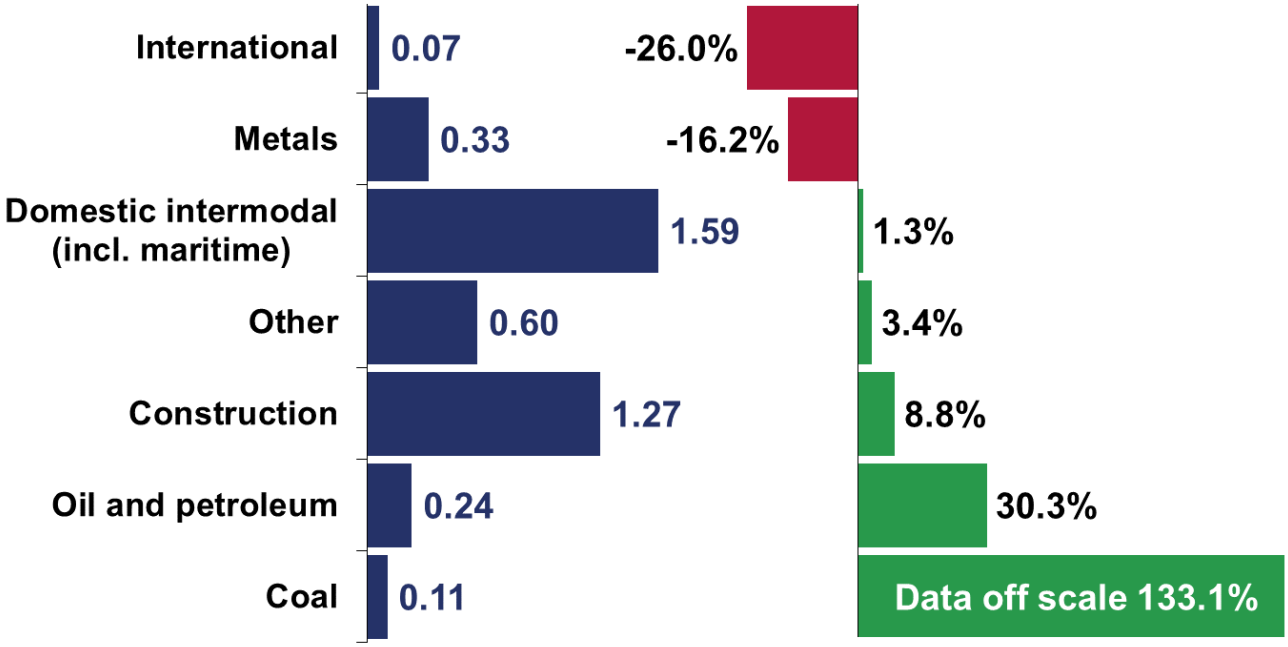
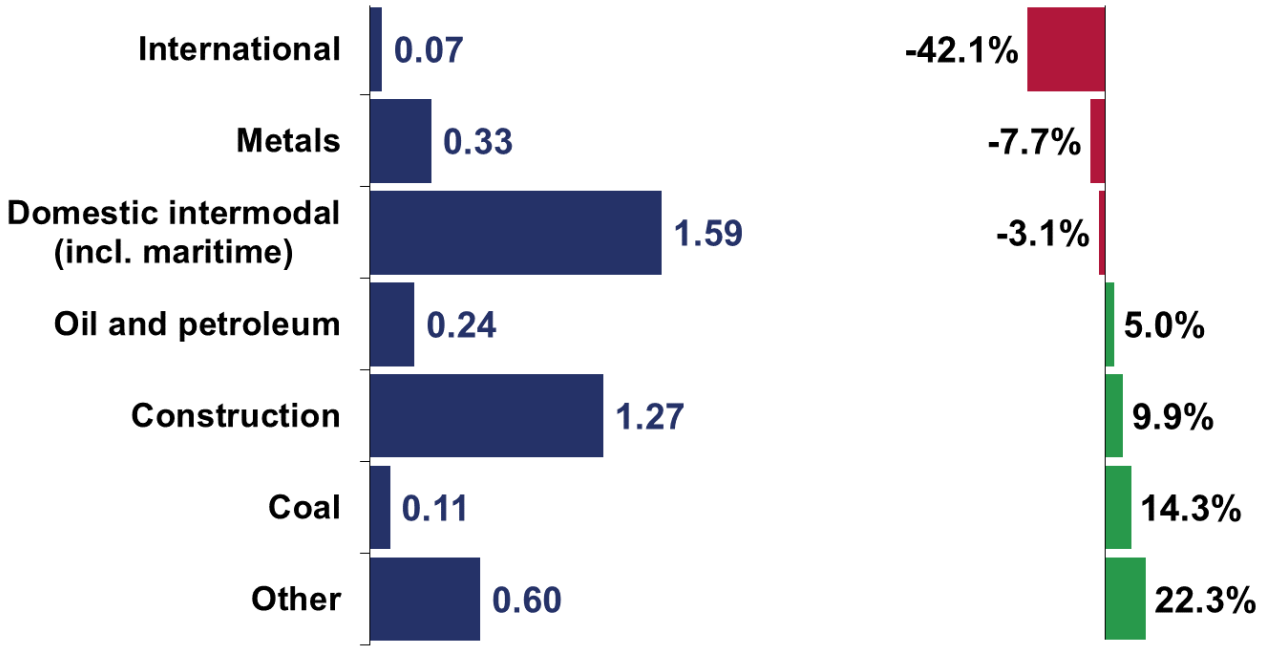


Figure 1.5: International freight moved volumes dropped by 42.1% compared with the same quarter two years ago

Freight moved (billion net tonne kilometres) by commodity, Great Britain, January to March 2022 and change compared January to March 2020 (Table 1310)



2. Freight lifted

April 2021 to March 2022 annual

There were 78.0 million tonnes of freight lifted in April 2021 to March 2022. This was an increase of 13.5% compared with one year ago and an increase of 8.0% compared with two years ago.

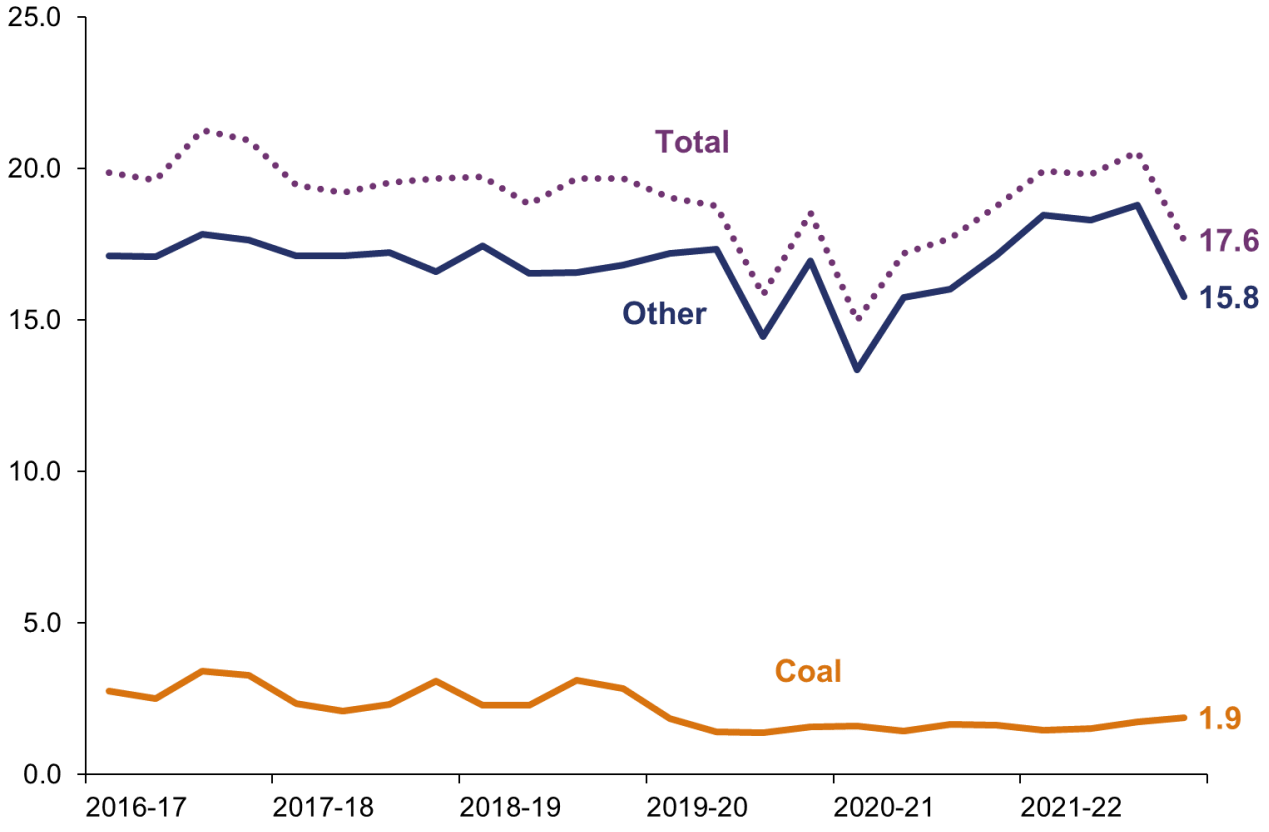
Freight lifted has recovered to pre-pandemic levels. The volumes of freight lifted in the latest year are similar to those seen three and four years ago, which were 77.9 million tonnes each year.

Other freight lifted is 92% of the total and was 71.4 million tonnes in the latest year, which was the highest value since the time series began (April 1982 to March 1983). It increased by 8.2% compared with two years ago. Coal freight lifted was 6.6 million tonnes in the latest year, an increase of 6.0% compared with two years ago.

January to March 2022 quarter

Figure 2.1: In the latest quarter, freight lifted dropped to levels last seen prior to October to December 2020

Freight lifted (million tonnes) by commodity (coal and other), Great Britain, quarterly data, April 2016 to March 2022 (Table 1315)



The total amount of freight lifted in the latest quarter was 17.6 million tonnes, making it the lowest January to March quarter in the time series. It was a decrease of 6.0% compared with the same quarter in the previous year, and 4.8% lower than the same quarter two years ago.

Other freight lifted was 15.8 million tonnes, which was the lowest January to March value for a decade. It decreased by 8.0% compared with the same quarter a year ago and by 7.0% compared with the same quarter two years ago.

The amount of Coal lifted was 1.9 million tonnes. This was a rise of 15.3% compared with this time last year and a rise of 18.4% compared with the same quarter two years ago. Coal import levels were up to support electricity production at the last two coal-fired power stations in the UK. Between April 2021 and March 2022, coal freight lifted increased in each successive quarter.

3. Freight Delivery Metric (FDM)

April 2021 to March 2022 annual

Freight punctuality, as measured by the Freight Delivery Metric, was 93.6% between April 2021 and March 2022. It was 1.6 percentage points lower than the previous year. Freight punctuality has deteriorated since last year when the FDM Moving Annual Average (FDM MAA) peaked at 95.2%. Last year saw a reduction in the number of passenger services during the pandemic, resulting in fewer delays affecting freight traffic.

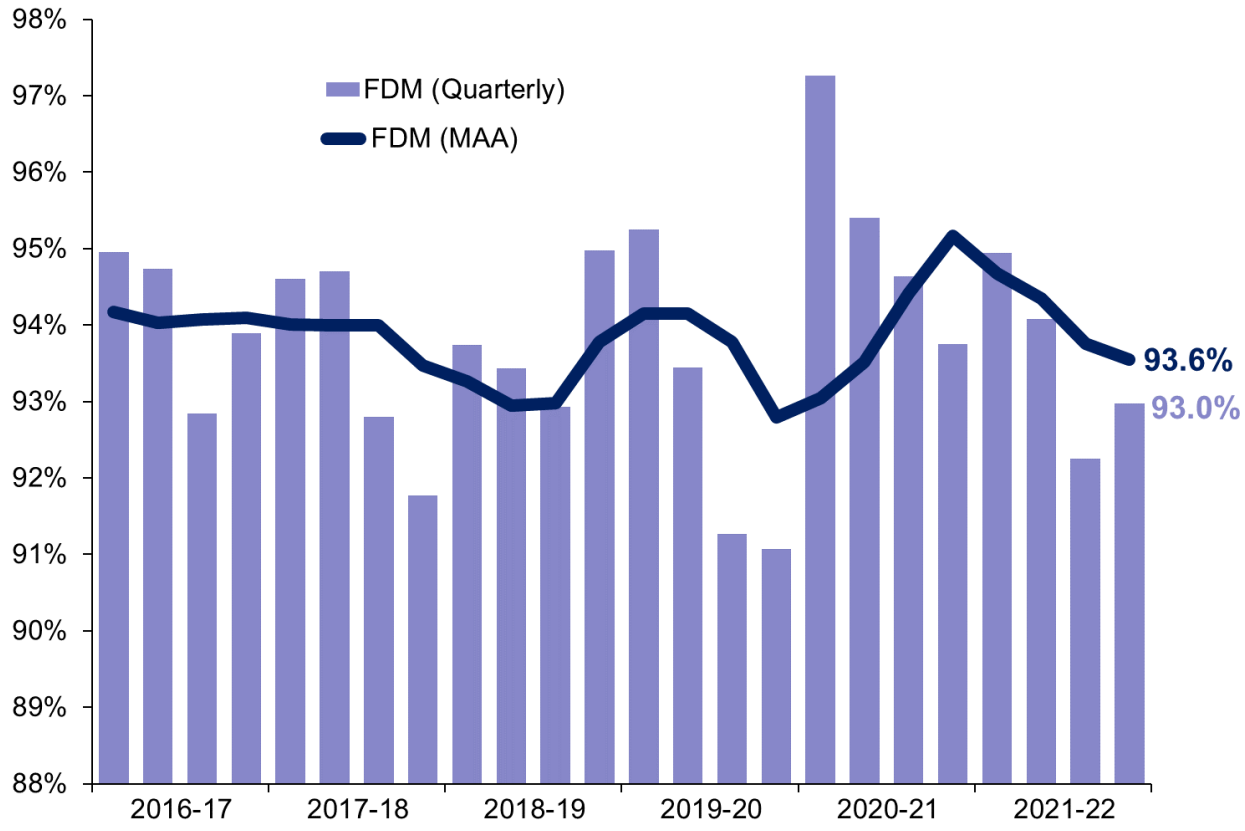
Following the peak, FDM MAA has returned to closer to pre-pandemic levels, but remains 0.8 percentage points higher when compared with two years ago.

January to March 2022 quarter

The Freight Delivery Metric was 93.0% in the latest quarter, 0.8 percentage points lower than the same quarter in the previous year. It was 1.9 percentage points higher than the same quarter two years ago.

Figure 3.1: FDM MAA has decreased over four consecutive quarters since the peak

Freight Delivery Metric (quarterly and Moving Annual Average), Great Britain, April 2016 to March 2022 (Table 1320)



Data for the Freight Delivery Metric by Region (FDM-R) by railway period is available on the data portal in Table 1324.

4. Freight delay per 100 train kilometres

April 2021 to March 2022 annual

Freight delay per 100 train kilometres rose to 9.49 minutes in the year to March 2022. This was a deterioration of 24.6% compared with a year ago; and an absolute increase of 1.87 minutes per 100 train kilometres. As with the Freight Delivery Metric, last year saw a reduction in the number of passenger services operating across the network during the year which contributed to lower freight delays. This explains the rise in delays since.

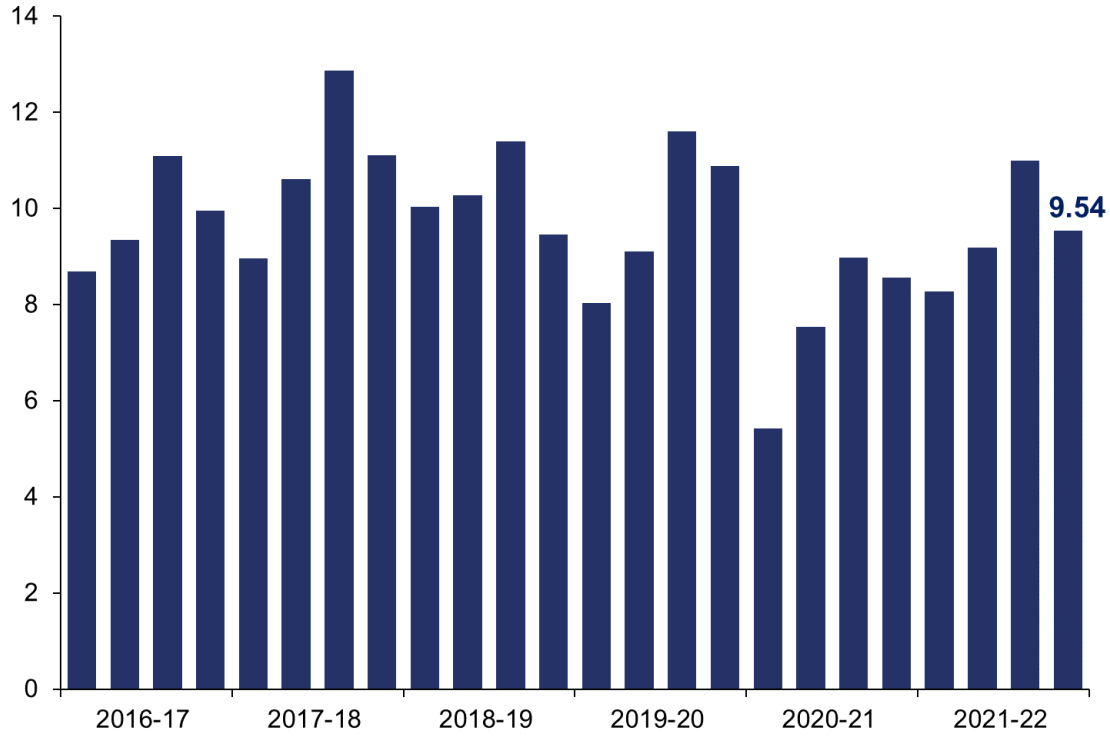
Freight delay improved by 4.1% compared with two years ago – an absolute decrease of 0.41 minutes per 100 train kilometres

January to March 2022 quarter

Freight operators experienced 9.54 minutes of delay per 100 train kilometres in the latest quarter. This was 11.4% higher (i.e. worse) than the same quarter in the previous year but 12.3% lower (i.e. better) than the same quarter two years ago.

Figure 4.1: Freight delay has increased since the low level seen at the start of the pandemic

Freight delay per 100 train kilometres, Great Britain, quarterly data, April 2016 to March 2022 (Table 1325)



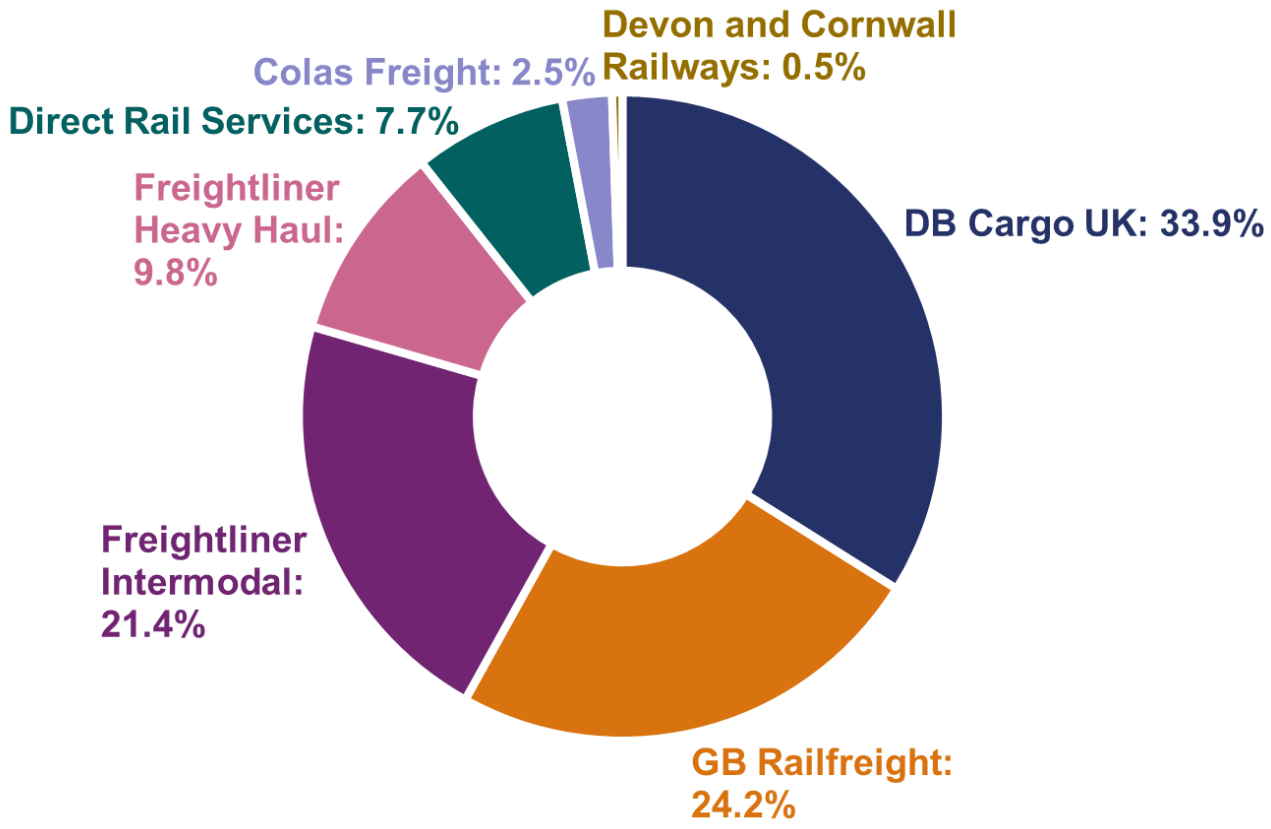
5. Freight train kilometres

April 2021 to March 2022 annual

Freight train kilometres across Great Britain rose by 3.75 million to 33.63 million between April 2021 and March 2022, an increase of 12.5% compared with one year ago. Freight train kilometres increased by 1.5% compared with two years ago.

Figure 5.1: DB Cargo UK had over a third of the share of freight train kilometres

Proportion of freight train kilometres by operator, Great Britain, annual data, April 2021 to March 2022 (Table 1333)



The operator with the largest share of train kilometres is DB Cargo with 33.9%. This has gone down from 36.9% two years ago.

GB Railfreight now accounts for almost a quarter of all freight train kilometres and has the second largest operator share. GB Railfreight's share of train kilometres has risen from its share of 21.1% two years ago. This could be a result of GB Railfreight's new contract to supply materials to HS2's main construction sites.

January to March 2022 quarter

Figure 5.2: Freight train kilometres decreased for two of the four largest operators

Freight train kilometres (millions) by operator, Great Britain, January to March 2022 and change compared with January to March 2021 (Table 1333)

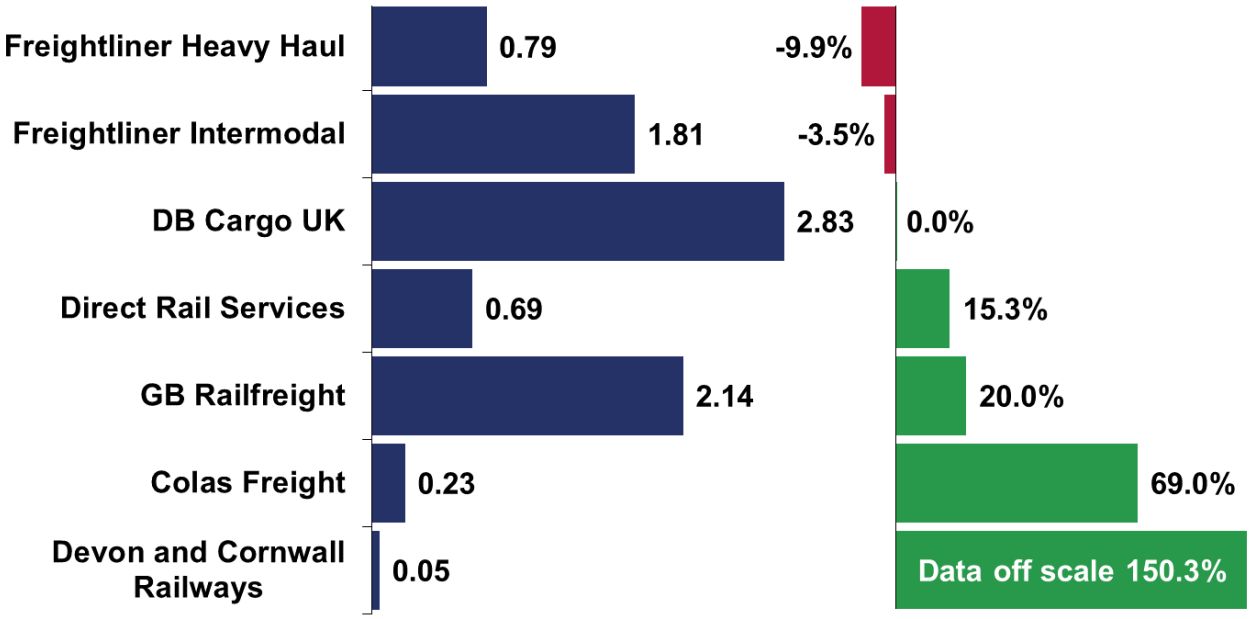
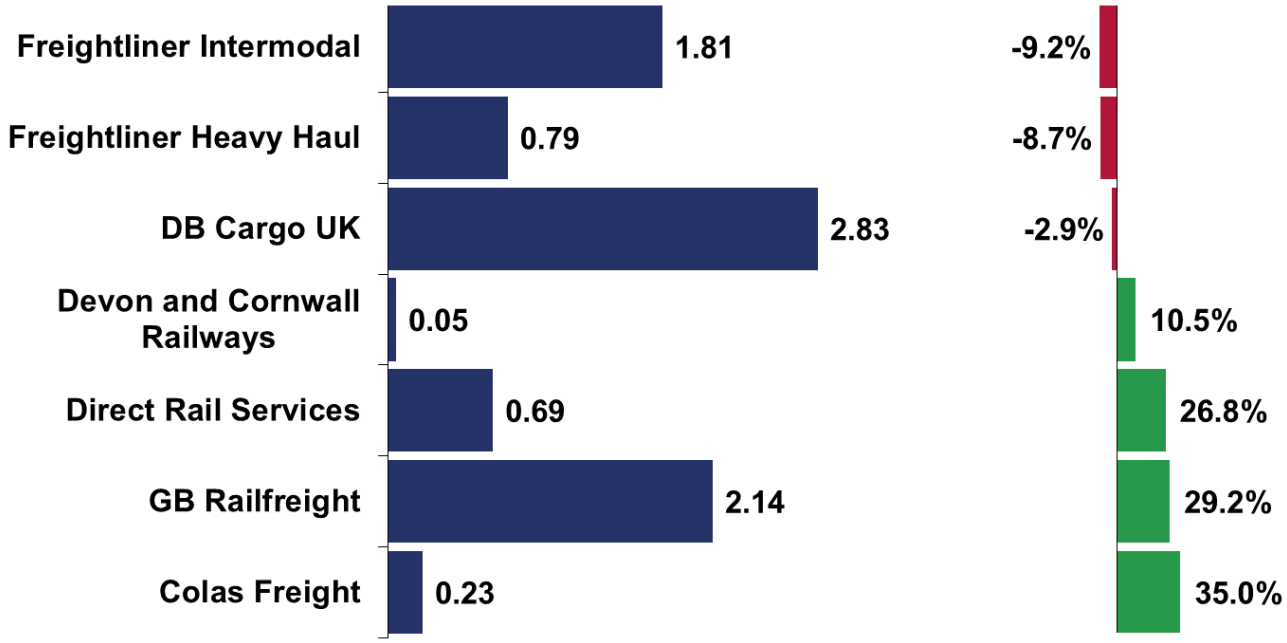


Figure 5.3: Three of the four largest operators have seen a reduction in freight train kilometres compared with two years ago

Freight train kilometres (millions) by operator, Great Britain, January to March 2022 and change compared with January to March 2020 (Table 1333)



In the latest quarter, 8.54 million freight train kilometres were recorded. This was 5.2% higher than the same quarter in the previous year and 4.3% higher than the same quarter two years ago. The quarterly total was the highest of any quarter for over five years.

Four operators had increases in freight train kilometres compared with both one year ago and two years ago; Colas Freight, GB Railfreight, Direct Rail Services and Devon and Cornwall Railways. The increase in freight train kilometres for Colas Freight was 35.0% compared with two years ago, which was the largest percentage increase over this timescale.

Freightliner Intermodal (down 9.2%) and Freightliner Heavy Haul (down 8.7%) were the operators with the largest percentage decrease in freight train kilometres compared with the same quarter two years ago.

6. Freight market indicators

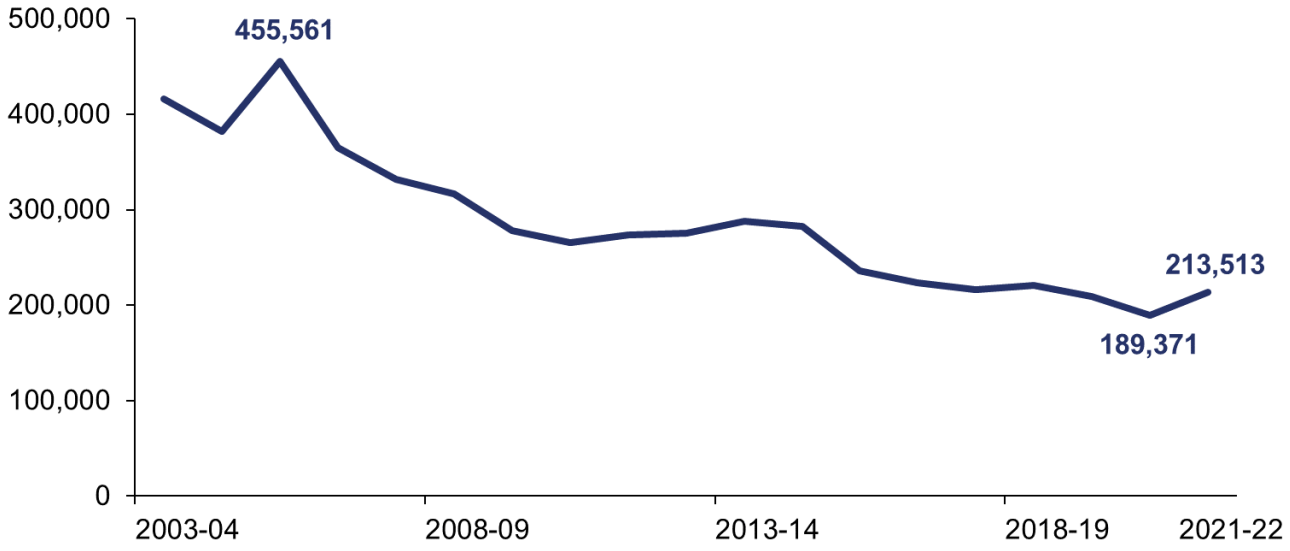
Freight train movements (April 2021 to March 2022 annual)

There were 213,513 freight trains that ran on the mainline network in April 2021 to March 2022. This was up 12.7% compared with one year ago and up 1.9% compared with two years ago.

Until this year, the number of freight trains running on the network had been on a steady, downward trend since the time series began in April 2003.

Figure 6.1: The lowest number of freight trains run was in April 2020 to March 2021 during the pandemic

Freight trains run, Great Britain, annual data, April 2003 to March 2022 (Table 1330)



Rail freight impact on road haulage (April 2020 to March 2021 annual)

There were 5.56 million lorry journeys avoided in April 2020 to March 2021 through transporting freight by rail rather than road. This was the lowest number of avoided lorry journeys since the time series began in April 2004, reflecting the lower volumes of freight moved by rail in the year ending March 2021.

Between April 2020 to March 2021, the number of lorry kilometres required to transport the volumes of freight moved by rail was 1.37 billion kilometres, a 7.3% decrease compared with April 2019 to March 2020.

Rail freight market share (2020)

Figure 6.2: Rail accounted for 4.8% of freight lifted by all transport modes

Rail freight lifted market share, Great Britain, annual data, January 2020 to December 2020 (Table 1350)

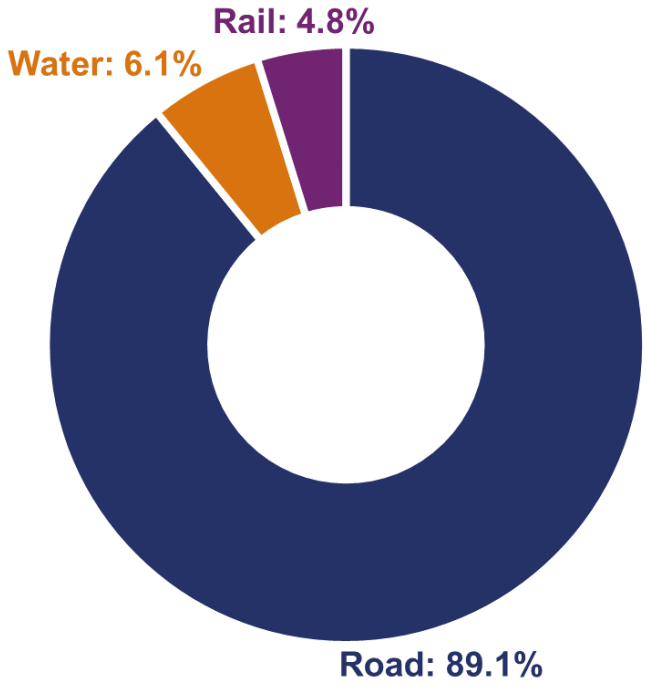
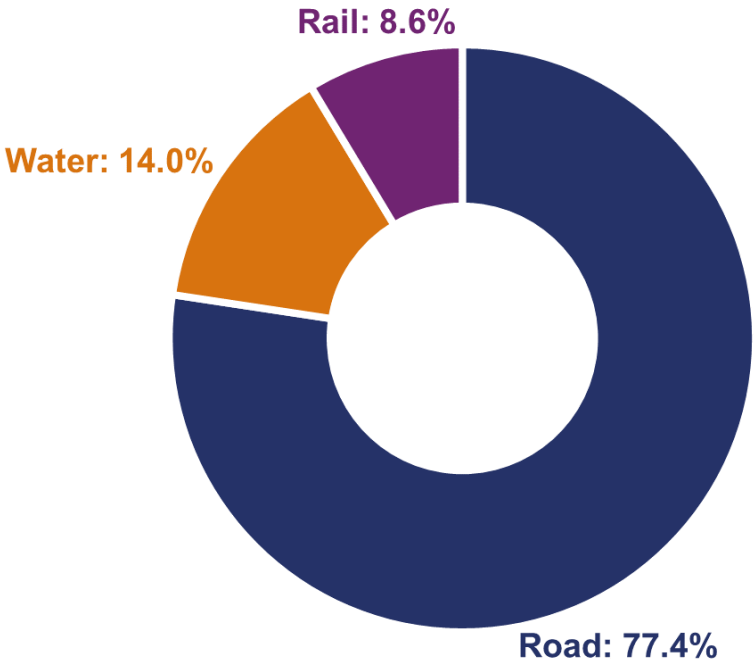


Figure 6.3: Rail accounted for 8.6% of freight moved by all transport modes

Rail freight moved market share, Great Britain, annual data, January 2020 to December 2020 (Table 1350)



During calendar year 2020, 4.8% of all freight lifted in Great Britain was transported by rail. This was 0.2 percentage points higher compared with the equivalent share in 2019. Road freight (HGVs) accounted for 89.1% of the freight lifted market.

The market share for freight moved by rail was 8.6% in 2020. The market share is unchanged from 2019, which remains the lowest proportion recorded since 2003. Road freight (HGVs) had a market share of 77.4%.

7. Annexes

Annex 1 – Definitions

- **Freight moved** measures the amount of freight moved on the railway network, taking into account the weight of the load and the distance carried. It is measured in net tonne kilometres.
- **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 Delivery Metric (FDM)** measures the percentage of commercial freight services that arrive at planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of delay caused by Network Rail or another operator that is not a commercial freight operator. *A higher score indicates better performance.*
- **Freight Delivery Metric by Region (FDM-R)** is derived from FDM for each Network Rail Region.
- **Moving annual average (MAA)** reflects the proportion of trains that met FDM in the past 12 months. In the final quarter of the year (January to March), the MAA also represents the FDM for the financial year.
- **Freight delay per 100 train kilometres** is a normalised measure of delay experienced by freight operators. It 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. *A lower score indicates better performance.*
- **Freight train kilometres** is the actual kilometres travelled by freight operators 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.
- **Freight train movements** measures the number of freight trains run on the mainline rail network. The data is sourced from Network Rail annually and covers only trains that are chargeable. Each freight train is designated into a chargeable or non-chargeable category. Non-chargeable categories include empty trains to/from depots,

operators moving equipment to/from site for Network Rail engineering work and unplanned train schedules (i.e. last minute).

- **Rail freight impact on road haulage** is measured using two metrics:
  - **Rail freight lorry kilometres equivalent** measures the distance that road vehicles (HGVs) would need to travel to move the volumes of freight carried on rail.
  - **Avoided lorry journeys** measures the number of road vehicle trips that would need to be made to move freight carried on rail.
- **Rail freight market share** compares the volumes of freight lifted (tonnes) and freight moved (net tonne kilometres) on road (HGVs), waterways and rail. These shares are calculated using Department for Transport's annual figures published in Transport Statistics Great Britain

Further information on each of these measures and other definitions can be found in the Freight quality and methodology report.

Annex 2 – Quality and methodology

Data sources and methodology

Most of the quarterly data, and annual data on freight train movements, is sourced from Network Rail, with the exception of freight lifted data. This data is sourced directly from the seven largest freight operators (DB Cargo UK, Freightliner Intermodal, Freightliner Heavy Haul, GB Railfreight, Direct Rail Services, Colas Freight, and Devon and Cornwall Railways).

Annual data used to calculate rail freight impact on road haulage and rail freight market share is sourced from Department for Transport. This is included in the final quarter of the financial year (January to March) releases only.

To provide more comprehensive coverage of the freight market, estimates of freight lifted have been calculated for Devon and Cornwall Railways (April 2011 onwards) and Colas Freight (April 2010 to March 2020). From April 2020, Colas Freight are providing actual freight lifted data, but Devon and Cornwall Railways will continue to be estimated in future releases. These estimates are based on calculating the number of freight train movements in a quarter for each operator (estimated from their actual train mileage data) and multiplying that by the average tonnes lifted per train for the latest full year, at a national level.

Network Rail provides data to ORR within 21 days of the end of each of the 13 railway reporting periods (each period lasts four weeks). The quarterly data in this release sourced from Network Rail are derived by splitting the periodic data according to the number of days of the period that fall within each quarter.

The latest freight train kilometres data and freight delay per 100 train kilometres data should be treated as provisional. Freight operators can provide Network Rail with additional data (e.g. cancellations) and Network Rail may re-attribute delays over time.

Further development of these statistics

Our freight lifted statistics are currently disaggregated between Coal and Other. Following the slowdown in Coal traffic, this split has limited value. We are investigating the possibility of providing a more disaggregated set of commodities in future.

Revisions

There have been revisions to previously published data:

- Table 1315 – Data between April 2020 and December 2021 have been revised due to a commodity being double counted in one operator's data. Consequently, the annual figure for April 2020 to March 2021 has been revised too.

Details of previous revisions can be found in the Revisions log.

Further information on data sources, quality, and the methodology used to calculate the data within the release can be found in the Freight quality and methodology report.

How these statistics can and cannot be used

- Measuring rail freight volumes and market share by commodity over time
- Comparing distances run by freight operators and over time
- Monitoring the impact of Network Rail and passenger operator caused delay on freight punctuality
- Comparing the size of the rail freight market relative to other modes

- Using freight trains ran as an indication of freight volumes due to train lengthening schemes and more efficient use of the network
- Using freight train kilometres by operator as a proxy for market share of volumes due to the variation in freight train distances
- Identifying origin and destination of freight flows
- Estimating freight revenues (refer to rail industry finance)
- Estimating freight emissions (refer to rail emissions)

Annex 3 – List of data tables associated with this release and other related statistics

Data tables

All data tables can be accessed on the data portal free of charge in OpenDocument Spreadsheet (.ods) format. We can also provide data in csv format on request.

All tables associated with this release can be found under the Data tables heading at the bottom of the Freight rail usage and performance page.

Freight usage

- Freight moved by commodity (quarterly) – Table 1310
- Freight moved by commodity (periodic) – Table 1314
- Freight lifted (quarterly) – Table 1315
- Rail freight impact on road haulage (annual) – Table 1340
- Rail freight market share (annual) – Table 1350

Freight performance

- Freight Delivery Metric (FDM) (quarterly) – Table 1320
- Freight Delivery Metric by Network Rail Region (FDM-R) (periodic) – Table 1324
- Freight delays per 100 train kilometres (quarterly) – Table 1325

Freight traffic

- Freight trains run (annual) – Table 1330
- Freight train kilometres by operator (quarterly) – Table 1333

Other related statistics

Passenger rail usage statistics are published on the Passenger rail usage page on the data portal.

Passenger rail performance statistics are published on the Passenger rail performance page on the data portal.

Estimates of passenger and freight energy consumption and carbon dioxide equivalent (CO2e) emissions are published on the Rail emissions page on the data portal.

The Department for Transport (DfT) also publishes some multimodal freight statistics as part of the Transport Statistics Great Britain publication.

European comparisons

Due to differences in how freight punctuality is measured in other countries, opportunities to make direct comparisons with statistics in this release are limited.

Data from other European countries is published in the IRG-Rail Tenth Annual Market Monitoring Report, including comparable traffic volume data based on freight train kilometres.

Annex 4 – ORR's statistical publications

Statistical Releases

This publication is part of ORR's National Statistics accredited releases, which consist of seven annual publications: **Estimates of station usage; Rail industry finance (UK); Rail fares index; Rail safety statistics; Rail infrastructure and assets; Rail emissions; Regional rail usage**; and four quarterly publications: **Passenger rail performance; Freight rail usage and performance; Passenger rail usage; Passenger rail service complaints.**

In addition, ORR also publishes a number of Official Statistics, which consist of three annual publications: **Train operating company key statistics; Rail statistics compendium; Occupational health**; and four quarterly publications: **Signals passed at danger (SPADS); Delay compensation claims; Disabled Persons Railcards (DPRC); Passenger assistance.**

All the above publications are available on the data portal along with a list of publication dates for the next 12 months.

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**.

The majority of our statistical releases were assessed in 2012 and hold National Statistics status. Since this assessment we have improved the content, presentation and quality of our statistical releases. In addition, in July 2019 we launched our new data portal. Therefore, in late 2019 we worked with the Office for Statistics Regulation (OSR) to conduct a compliance check to ensure we are still meeting the standards of the Code. On 4 November 2019, OSR published a letter confirming that ORR's statistics should continue to be designated as National Statistics. OSR found many positive aspects in the way that we produce and present our statistics and welcomed the range of improvements made since the statistics were last assessed. Estimates of Station Usage statistics were assessed in 2020.

For more information on how we adhere to the Code please see our compliance statements. For more details or to provide feedback, please contact the Statistics Head of Profession (Lyndsey Melbourne) at rail.stats@orr.gov.uk.

This publication is available on the data portal

Any media enquiries regarding this publication should be sent to us at orr.gov.uk/contact-us.