

# Freight rail usage and performance

## October to December 2021

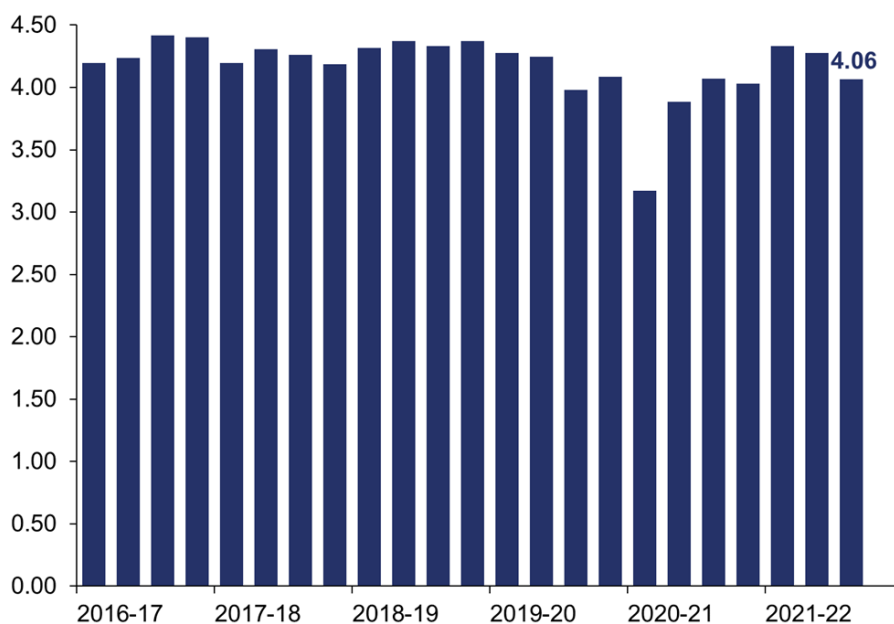
**10 March 2022**

In this release, freight rail usage and performance levels in the latest quarter (1 October to 31 December 2021) are 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 4.06 billion net tonne kilometres in the latest quarter, a fall of 0.2% compared with the same quarter in the previous year. It was 2.1% higher than the same quarter in 2019.

### Figure 1 Freight moved has recovered to pre-pandemic levels

Freight moved (billion net tonne kms), Great Britain, quarterly data, April 2016 to December 2021



Total **freight lifted** was 20.6 million tonnes in the latest quarter. This is the largest amount of freight lifted in any quarter since early 2017.

The proportion of freight trains arriving within 15 minutes, as measured by the **Freight Delivery Metric**, was 92.3%.

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 per 100 train km and freight train km by operator.**

**Sources:** Network Rail, Freight Operators.

#### Latest quarter:

1 October to 31 December 2021

#### Contents:

Freight moved – p2  
 Freight lifted – p5  
 Freight Delivery Metric – p6  
 Freight delay per 100 tkm – p7  
 Freight train kilometres – p8  
 Annexes – p10

**Author:** O. Lowe

**Responsible Statistician:**

J. Symonds

**Public Enquiries:**

[rail.stats@orr.gov.uk](mailto:rail.stats@orr.gov.uk)

**Media Enquiries:**

Tel: 020 7282 2094

**Next publication:**

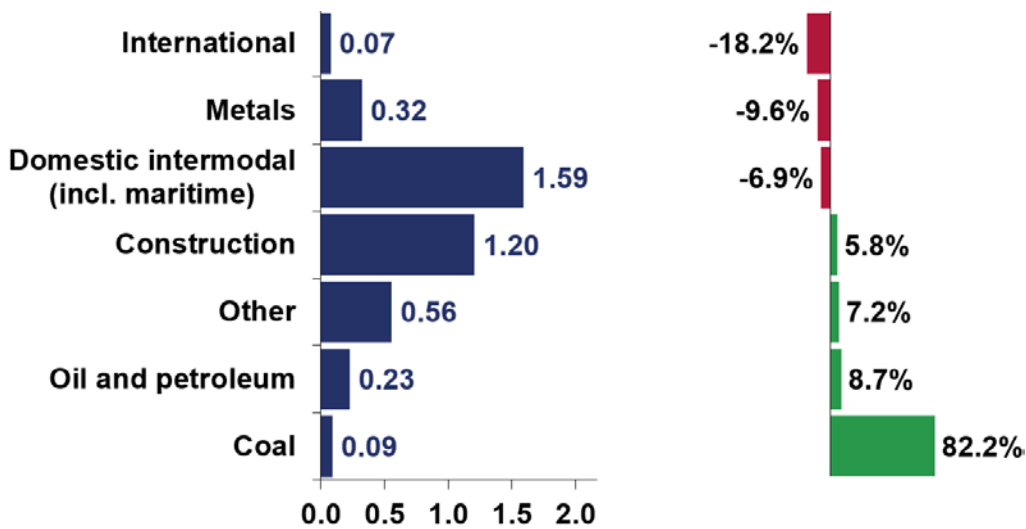
9 June 2022

# 1. Freight moved

The total volume of freight moved was 4.06 billion net tonne kilometres in the latest quarter (1 October to 31 December 2021). This was a 0.2% decrease on the same quarter in the previous year (1 October to 31 December 2020) and a 2.1% increase compared with the same quarter two years ago (1 October to 31 December 2019).

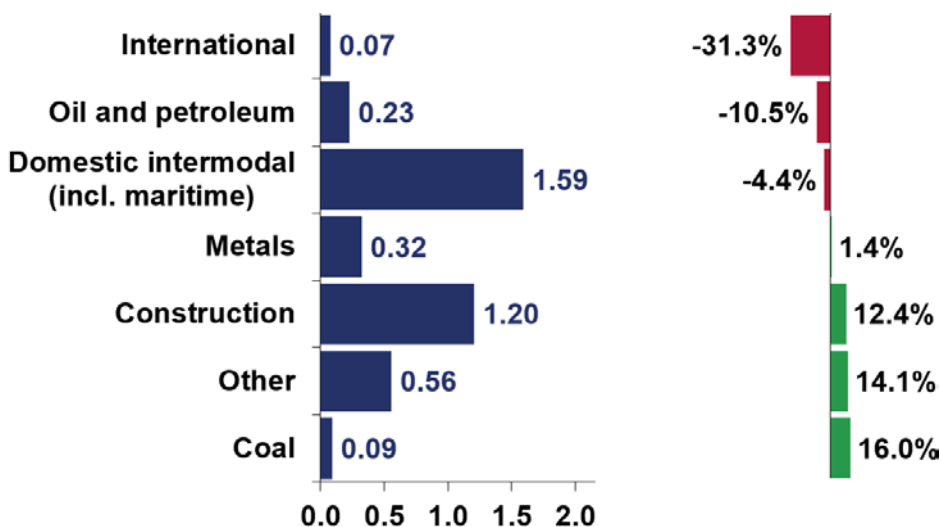
**Figure 1.1: Domestic intermodal volumes fell by 6.9% compared with the previous year**

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



**Figure 1.2: International freight moved volumes dropped by almost a third compared with the same quarter two years ago.**

Freight moved (billion net tonne kilometres) by commodity, Great Britain, October to December 2021 and change compared with October to December 2019 (Table 1310)



Coal volumes saw the biggest percentage increase compared with the same quarter in the previous year, rising by 82.2%. The [rise in global energy prices](#) resulted in Coal recording its highest October to December volumes since 2018. [Coal import levels](#) were up to support [electricity production at the last two coal-fired power stations](#) in the UK.

Construction volumes in the latest quarter were up by 5.8% compared with the same quarter in 2020 and by 12.4% compared with the same quarter in 2019. [HS2 construction work](#) is continuing to drive growth and, with existing quarries at capacity, previously dormant [rail facilities at quarries are being re-opened](#) to provide additional output.

In absolute terms, construction volumes were 1.20 billion net tonne kilometres in the latest quarter, which was the highest October to December value recorded since the time series began in April 1998.

'Other' freight moved was 7.2% higher than a year ago and increased by 14.1% compared with the same quarter in 2019. A rise in domestic waste has contributed to this due to the continuing [trend of working from home](#) and the [greater quantities of packaging materials](#) associated with home deliveries. There is also a continued demand for biomass.

Oil and petroleum freight moved has increased by 8.7% compared with the same quarter in 2020 as [car use continued to recover](#). However, it has fallen by 10.5% compared with the same quarter in 2019. The [impact of the pandemic on the aviation sector](#) continues to suppress demand for fuel to be transported by rail.

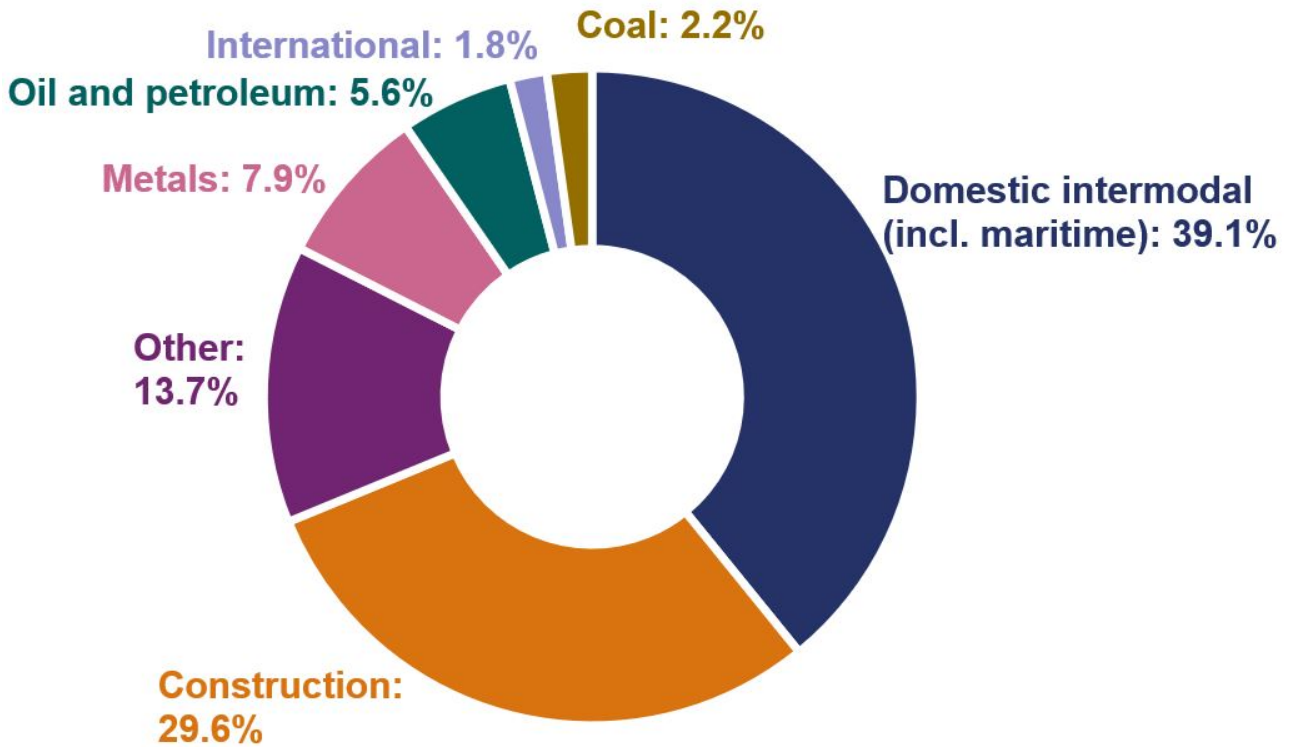
Metals decreased by 9.6% compared with the same quarter in 2020 although it is still 1.4% higher when compared with the same quarter in 2019. [Increased energy prices](#) have affected volumes of steel being moved due to excessive production costs.

Domestic intermodal (transporting of goods to and from GB ports makes up most of this category) had the largest share of freight moved at 39.1%. This commodity fell by 6.9% compared with the same quarter in 2020 and 4.4% compared with the same quarter in 2019. The [HGV driver shortage](#) resulted in congestion at inland terminals where containers could not be moved on by road. The consequence of this congestion was felt at ports, with [containers being left at ports for longer](#), unable to be forwarded by rail.

International traffic fell by 18.2% compared with the same quarter in 2020, and by 31.3% compared with the same quarter in 2019. There was a large reduction in a key flow following [restructuring in the steel industry](#). Market share for International traffic fell to 1.8%, the lowest it has been since 2007.

**Figure 1.3: Over two thirds of all freight moved was domestic intermodal or construction**

Proportion of freight moved by commodity, Great Britain, October to December 2021  
(Table 1310)



## 2. Freight lifted

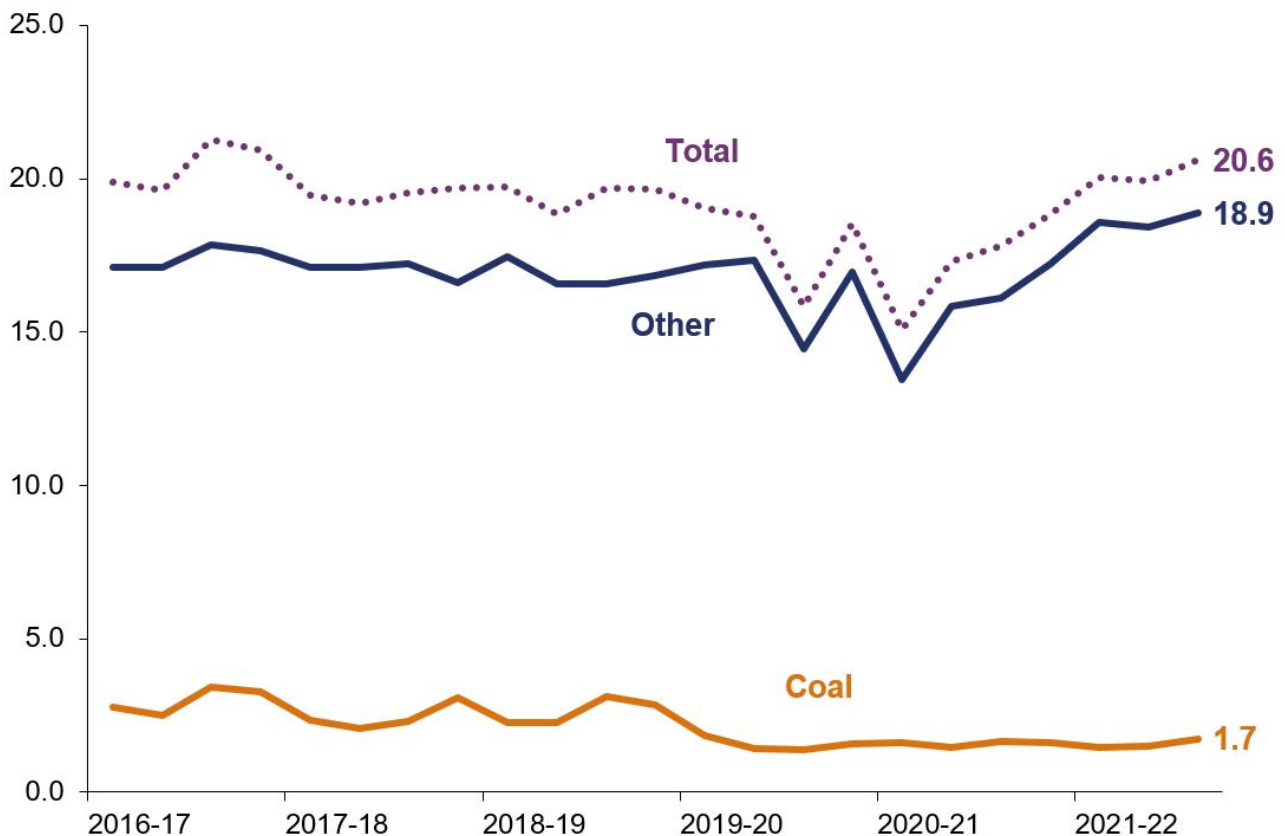
The total amount of freight lifted in the latest quarter was 20.6 million tonnes, an increase of 15.8% compared with the same quarter in the previous year. It was 30.2% higher than the same quarter two years ago.

Other freight lifted was 18.9 million tonnes, which was the highest recorded quarterly figure since the time series began in April 1996. It increased by 17.1% compared with the same quarter a year ago and by 30.6% compared with the same quarter in 2019.

The amount of coal lifted was 1.7 million tonnes, the highest amount recorded since early 2019. It increased by 4.3% compared with the same quarter in 2020 and by 26.3% compared with the same quarter in 2019 due to the need to support electricity production.

**Figure 2.1: In the latest quarter, freight lifted reached its highest level since the beginning of 2017**

Freight lifted (million tonnes) by commodity (coal and other), Great Britain, April 2016 to December 2021 (Table 1315)

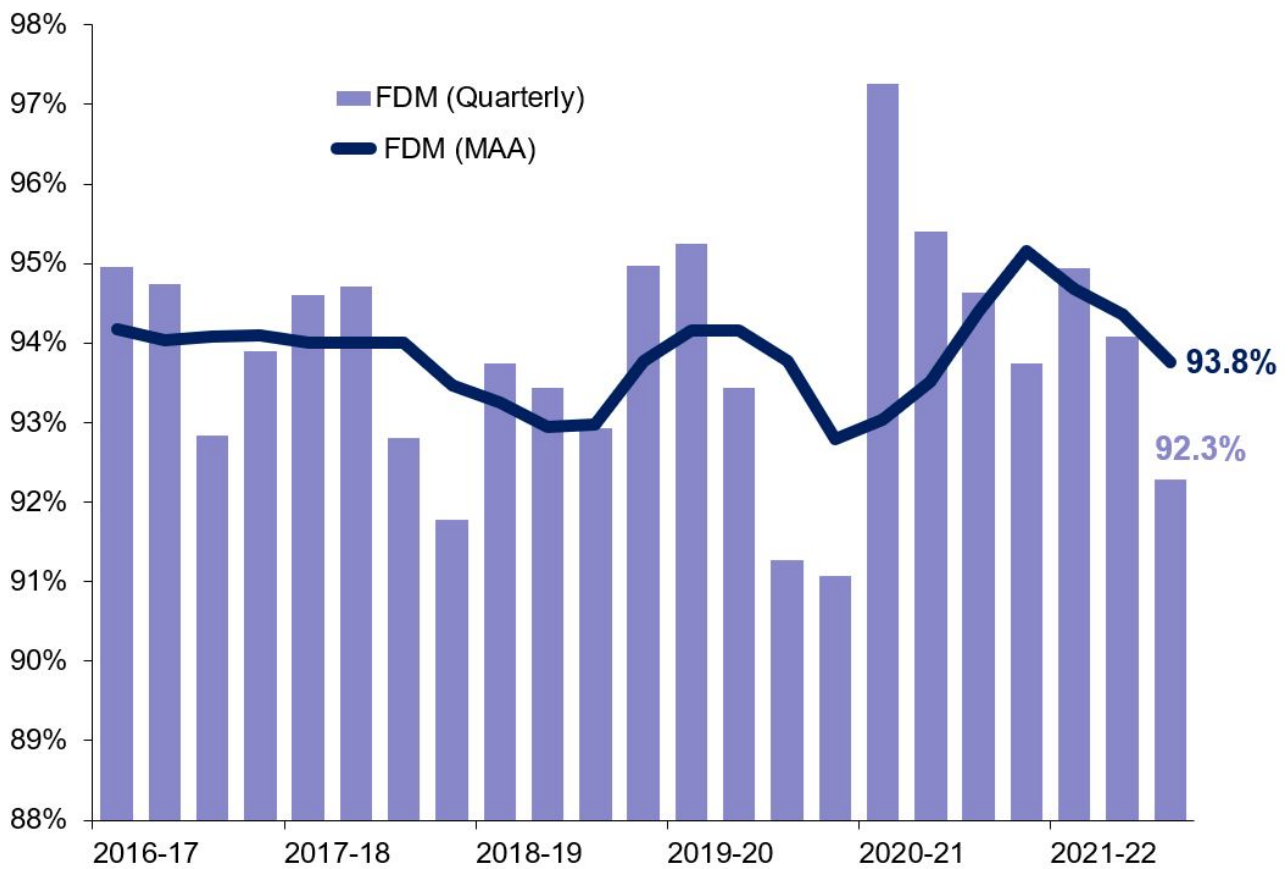


### 3. Freight Delivery Metric (FDM)

The Freight Delivery Metric was 92.3% in the latest quarter, 2.3 percentage points lower than the same quarter in the previous year. It was 1.0 percentage points higher than the same quarter two years ago.

**Figure 3.1: FDM fell to its lowest level since the beginning of the pandemic**

Freight Delivery Metric (quarterly and MAA), Great Britain, April 2016 to December 2021 (Table 1320)



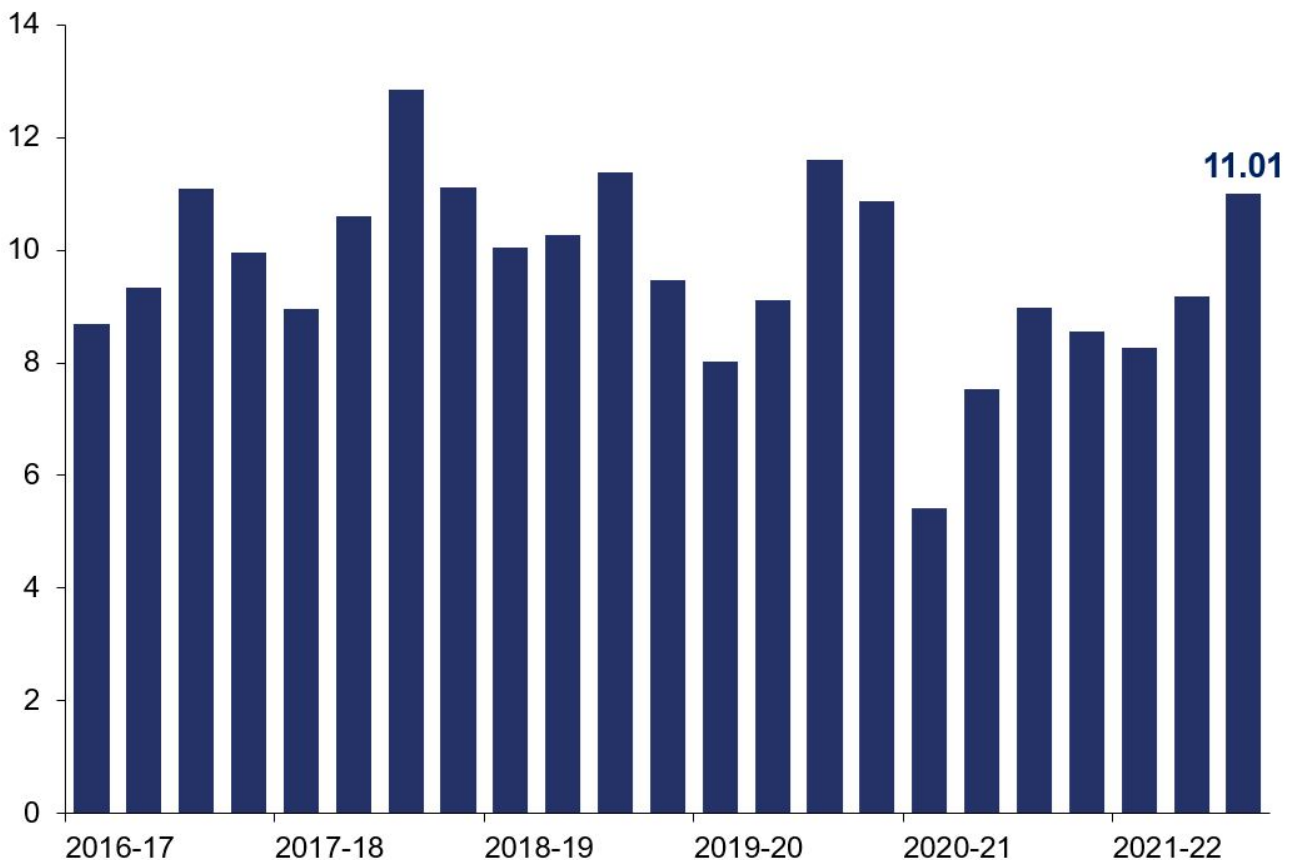
Data for the Freight Delivery Metric by Region (FDM-R) by railway period is available on the data portal in [Table 1324](#).

## 4. Freight delay per 100 train kilometres

Freight operators experienced 11.01 minutes of delay per 100 train kilometres in the latest quarter. This was 22.6% higher (i.e. worse) than the same quarter in the previous year but 5.1% lower (i.e. better) than the same quarter two years ago.

**Figure 4.1: Freight delay per 100 train kilometres increased to its highest level since the beginning of the pandemic**

Freight delay per 100 train kilometres, Great Britain, April 2016 to December 2021 (Table 1325)



# 5. Freight train kilometres

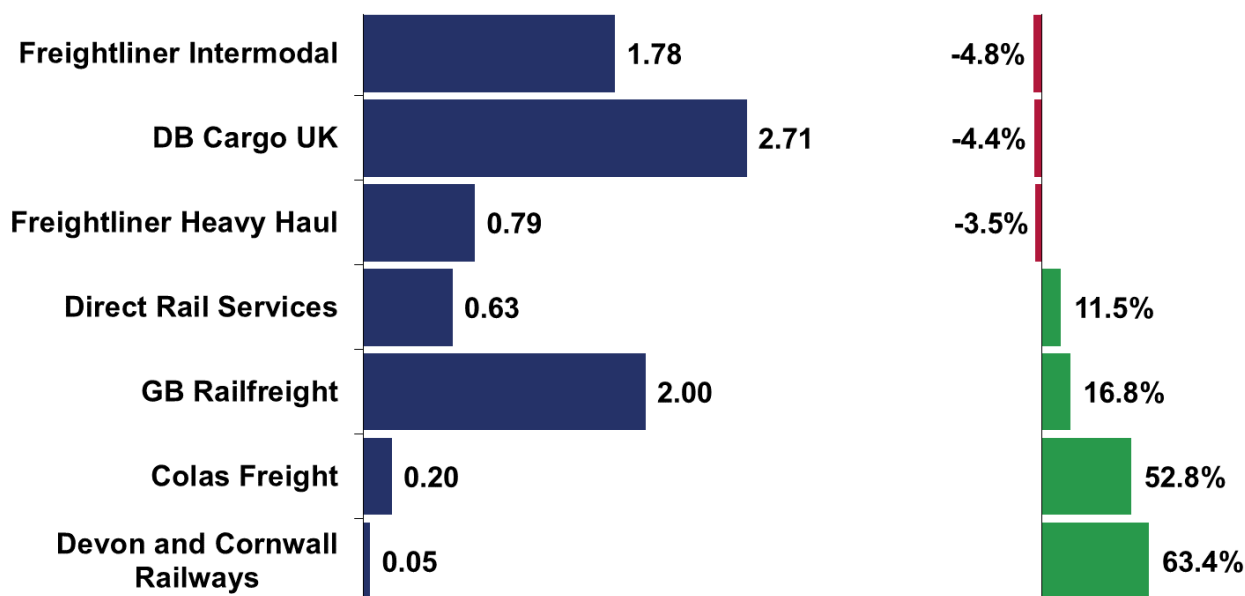
In the latest quarter, 8.16 million freight train kilometres were recorded. This was 2.5% higher than the same quarter in the previous year and 1.2% higher than the same quarter two years ago.

The largest percentage increase compared with the previous year was for operators with relatively low market share. Colas Freight and Devon Cornwall Railways recorded increases of 52.8% and 63.4% respectively, compared with the same quarter in 2020. GB Railfreight continued its growth, more than doubling its freight train kilometres compared with a decade ago. Direct Rail Services also saw an increase of 11.5% whilst all other operators saw reductions of between 3.5% and 4.8%.

When compared with the same quarter in 2019, two of the largest operators, Freightliner and DB Cargo UK, fell by 13.8% and 5.7% respectively. These decreases partially offset increases of between 8.9% and 28.6% for all other operators.

**Figure 5.1: Overall freight train kilometres increased despite falls for three of the four largest operators**

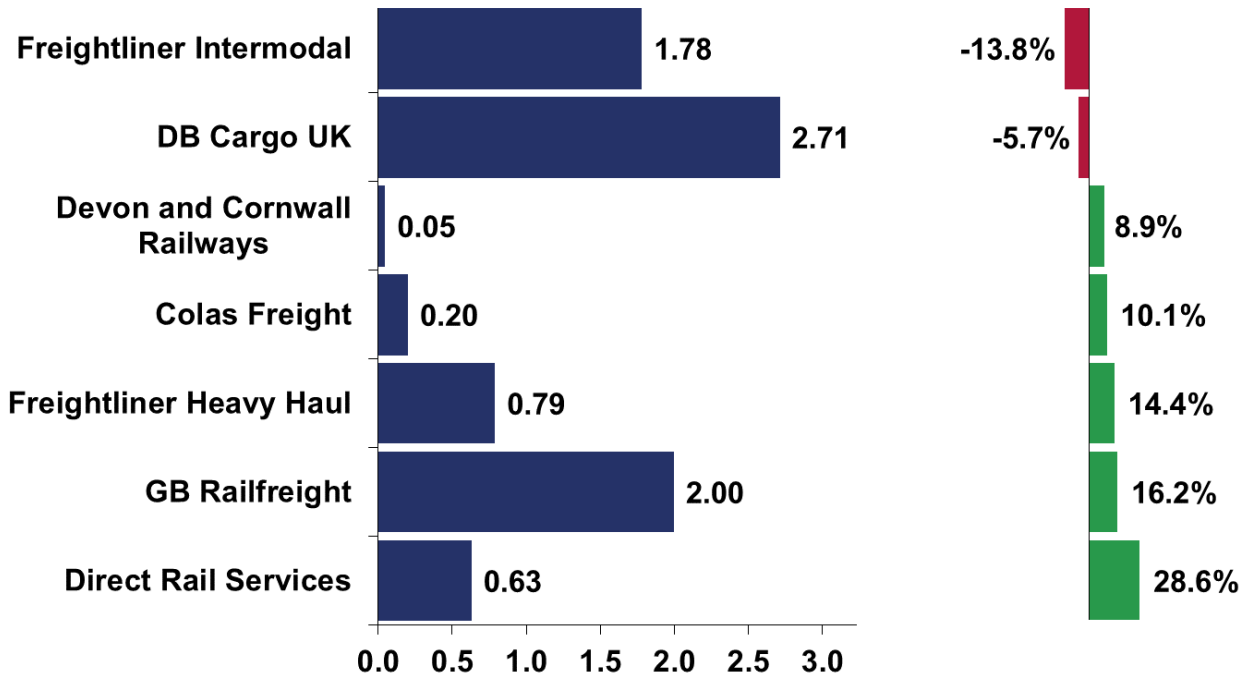
Freight train kilometres (millions) by operator, Great Britain, October to December 2021 and change compared with October to December 2020 (Table 1333)





**Figure 5.2: Five operators reported growth of between 8.9% and 28.6% compared with two years ago**

Freight train kilometres (millions) by operator, Great Britain, October to December 2021 and change compared with October to December 2019 (Table 1333)



# 6. 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 – The quarterly figure for January to March 2021 has been revised due to updated data submitted by a freight operator. Consequently, the annual figure for April 2020 to March 2021 has also been revised.

Further details on 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 (CO<sub>2</sub>e) 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 Ninth 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, the Office of Rail and Road 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](mailto:rail.stats@orr.gov.uk).





© Crown copyright 2022

This publication is licensed under the terms of the [Open Government Licence v3.0](#) except where otherwise stated.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

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](http://orr.gov.uk/contact-us).

