

# Freight rail usage and performance

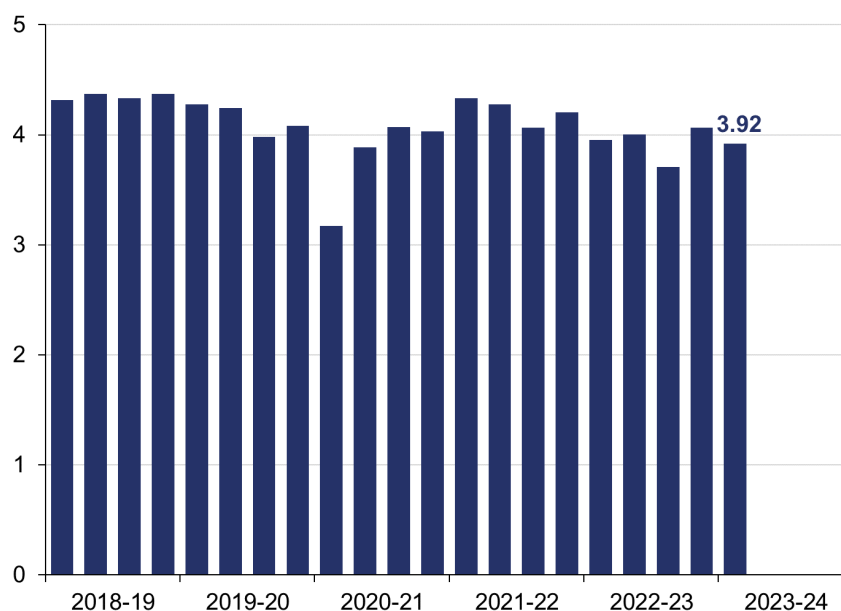
## April to June 2023

**21 September 2023**

Total **freight moved** was **3.92 billion net tonne kilometres** in the latest quarter (1 April to 30 June 2023). It was down by 1% compared with the same quarter the previous year. Most commodity groups saw a fall in freight moved volumes, however Intermodal maritime and Construction increased by 7% and 13% respectively.

**Figure 1 Freight moved was the lowest April to June quarter in the time series (aside from during the pandemic)**

Freight moved (billion net tonne kilometres), Great Britain, quarterly data, April 2018 to June 2023 (Table 1310)



Total **freight lifted** was **17.3 million tonnes** in the latest quarter, a reduction of 6% compared with a year ago.

The proportion of freight trains arriving within 15 minutes, as measured by the **Freight Delivery Metric**, was **90.2%**. This is the second lowest level of April to June freight performance since the time series began in 2013.

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** and **freight lifted (by commodity)**, **Freight Delivery Metric (FDM)**, **freight delays**, **freight train kilometres** and **freight vehicle kilometres (by operator)**, and **freight train movements**.

**Sources:** Network Rail, freight operators.

### Latest quarter:

1 April to 30 June 2023

### Contents:

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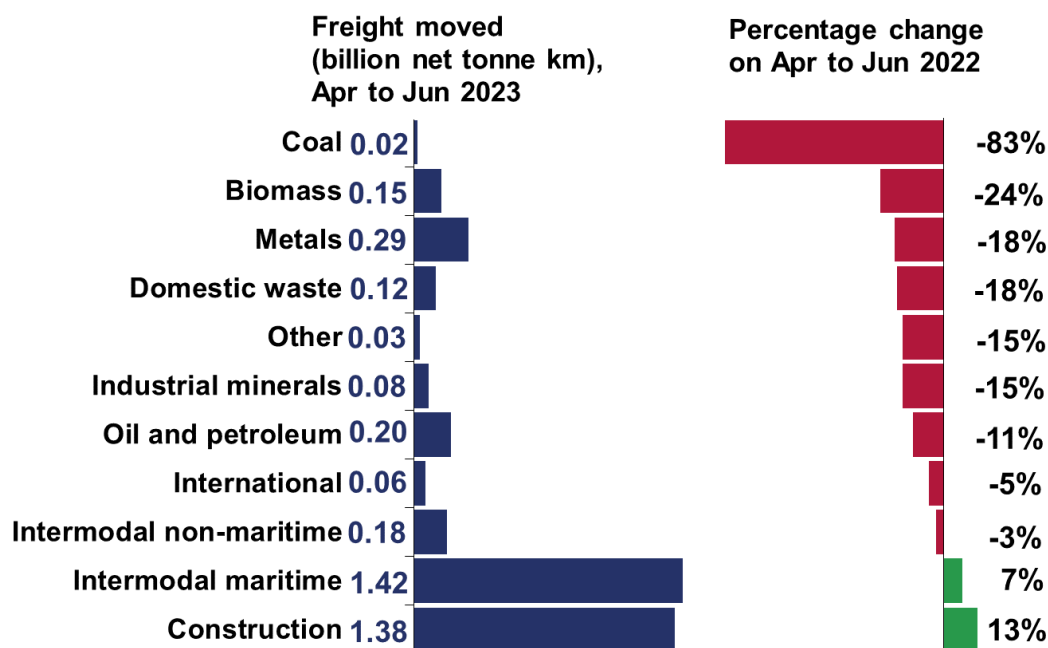
**Next publication:**  
12 December 2023



# 1. Freight moved

**Figure 1.1 Most commodities saw a reduction compared with a year ago**

Freight moved (billion net tonne kilometres) by commodity, Great Britain, April to June 2023 and change compared with April to June 2022 (Table 1310)



The total volume of freight moved was 3.92 billion net tonne kilometres in the latest quarter (1 April to 30 June 2023). This was a 1% decrease on the same quarter the previous year (1 April to 30 June 2022). Most commodity groups saw a fall in freight moved volumes compared with the same quarter the previous year.

Intermodal maritime increased by 7% on the same quarter the previous year. The [stabilisation of global container shipping](#) may have influenced this trend. As the commodity with the largest share of freight moved, it accounts for over a third of all freight moved between April and June.

Construction made up over a third of all freight moved in the quarter, which is the second largest share of all freight moved. Freight volumes in this sector increased by 13%, reaching 1.38 billion net tonne kilometres, the highest value since the time series began in April 1998. The [continued building of HS2](#) led to high levels of deliveries to HS2 construction sites. The end of the quarter was stronger in terms of other construction projects, with [monthly construction output increasing in June](#).

Intermodal maritime and Construction were the only two commodities that saw a rise in freight moved volumes. This upward trajectory, alongside their combined share of 71% of

all freight moved, highlights the importance of these commodities to rail freight in Great Britain.

Freight moved volumes fell for all of the other commodities, in the context of [economic activity remaining depressed](#).

Volumes of metals fell by 18% compared with the previous year. There were 0.28 billion net tonne kilometres, making it the lowest April to June quarter since the start of the time series. Metals account for 7% of all freight moved.

Oil and petroleum volumes reduced by 11%. Aside from during the pandemic, this was the lowest volume since the time series began, at 0.20 billion net tonne kilometres.

Intermodal non-maritime saw a reduction of 3%.

Biomass volumes fell by 24%, which was the second largest decrease of all the commodities. It accounted for 0.15 billion net tonne kilometres, which was the lowest April to June value seen for ten years. There has been a reduction in biomass required for bio-fuel production as a result of the [growing levels of renewable energy generation](#).

Domestic waste saw a decrease of 18%. [Internet shopping for non-food consumer goods remains down](#) on levels seen a year ago, with a consequent reduction in packaging waste.

Industrial minerals volumes reduced by 15% compared with the previous year. This reflects the impact of [high energy costs](#) on industrial production.

International volumes fell by 5%. 0.06 billion net tonne kilometres were recorded, making it the lowest April to June value since the start of the time series.

Volumes of coal fell by 83%, making it the largest decrease of all the commodities. There was only 0.02 billion net tonne kilometres of coal moved, which is the lowest amount recorded since the time series began in April 1998. Imports of [coal for National Grid security purposes](#) ceased, following the accrual of coal before the winter. The longstanding coking coal movement from Immingham stopped with the [closure of the coke ovens at Scunthorpe steelworks](#).

## 2. Freight lifted

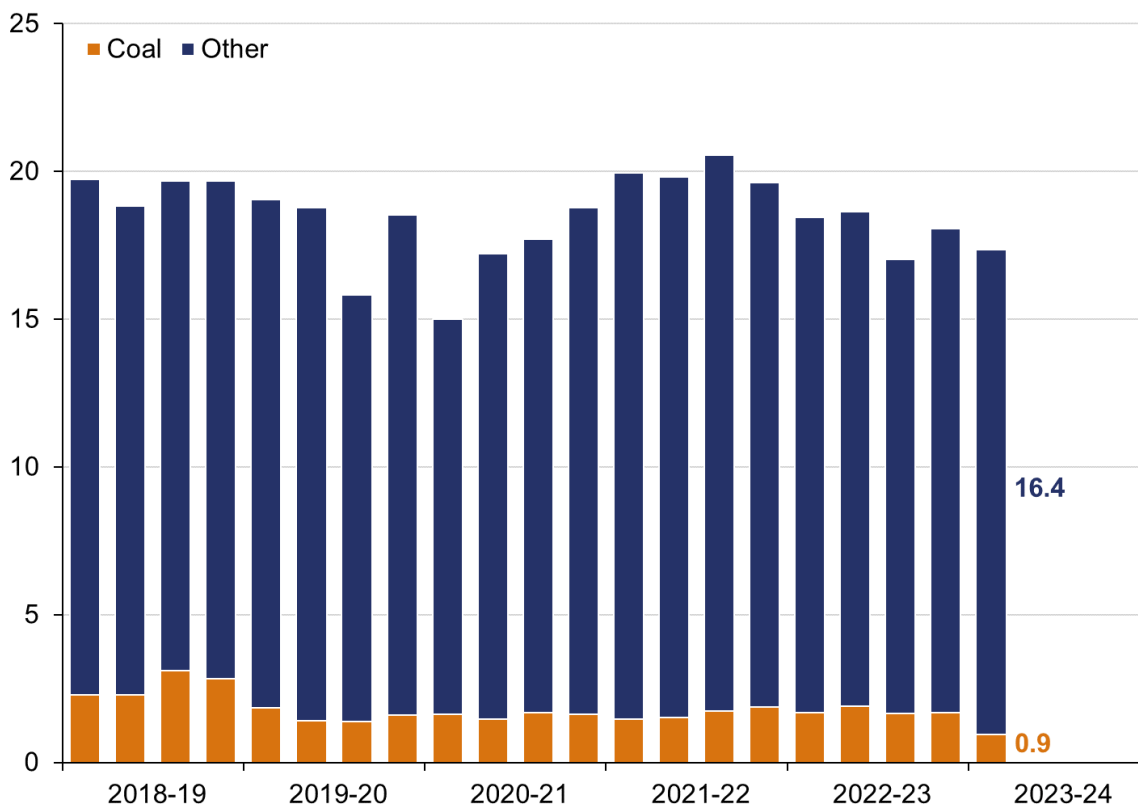
The total amount of freight lifted in the latest quarter was 17.3 million tonnes. It decreased by 6% compared with the same quarter the previous year. Aside from during the pandemic, it was the lowest April to June quarter since the start of the time series in April 1996.

Other freight lifted was 16.4 million tonnes, which was 2% lower compared with the previous year. It was the lowest April to June quarter for eleven years, excluding during the pandemic.

The amount of coal lifted was 0.9 million tonnes. It has fallen by 44% compared with the same quarter the previous year. It is the lowest quarterly coal total in the whole time series. The cessation of stocks of coal being accrued at the Ratcliffe, West Burton and Drax power stations as a [contingency in the event of winter power shortages](#) is a contributing factor to this reduction.

**Figure 2.1 Total freight lifted in the latest quarter was lower than any other April to June quarter (aside from during the pandemic)**

Freight lifted (million tonnes) by commodity (coal and other), Great Britain, quarterly data, April 2018 to June 2023 (Table 1315)



### 3. Freight Delivery Metric (FDM)

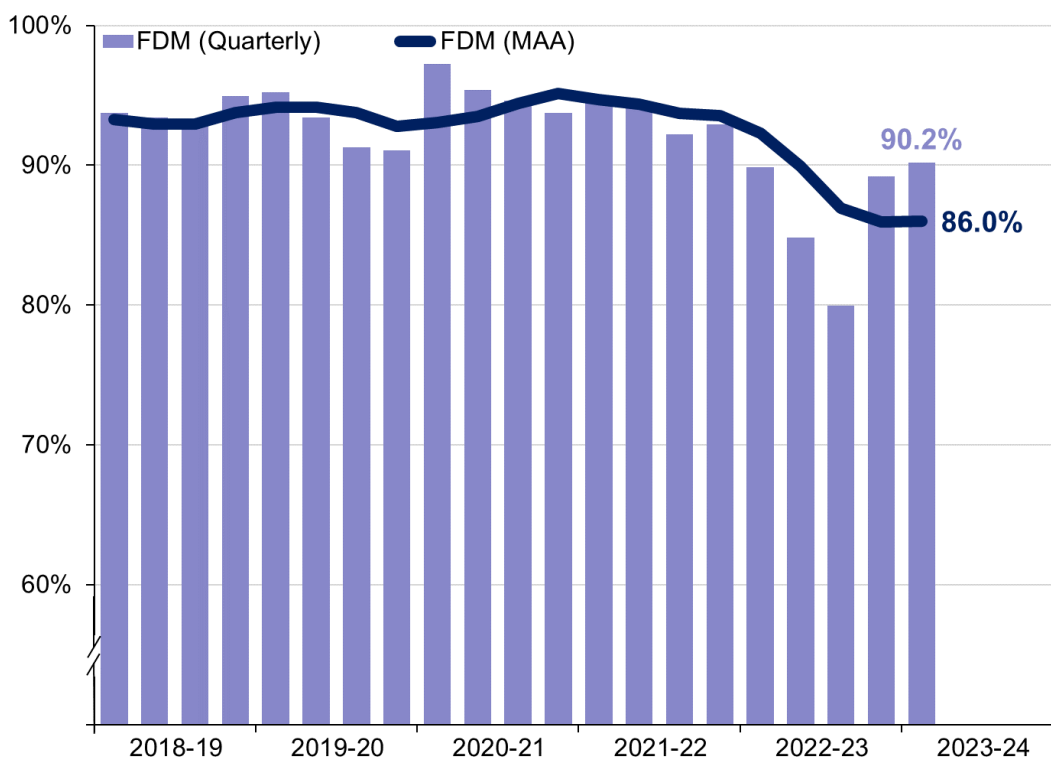
Freight punctuality, as measured by the Freight Delivery Metric, was 90.2% between April and June 2023. This was the second lowest April to June FDM since the time series began in April 2013. It was 0.3 percentage points (pp) higher than the same quarter the previous year.

To calculate FDM during strike action it was necessary for Network Rail to estimate the number of freight trains that should have run on each of the days. This was done by taking the average of trains run on the same day of the week in each of the previous four weeks. Public holidays were excluded from this calculation.

The FDM moving annual average (MAA) was 86.0%. The FDM MAA of the previous quarter (January to March 2023) was also 86.0%, and therefore the adjacent quarters both had the lowest level of freight punctuality since the time series began. FDM MAA has steadily deteriorated since it peaked at 95.2% in January to March 2021.

**Figure 3.1 FDM has increased for two consecutive quarters since the lowest value recorded in October to December 2022**

Freight Delivery Metric (quarterly and moving annual average), Great Britain, quarterly data, April 2018 to June 2023 (Table 1320)



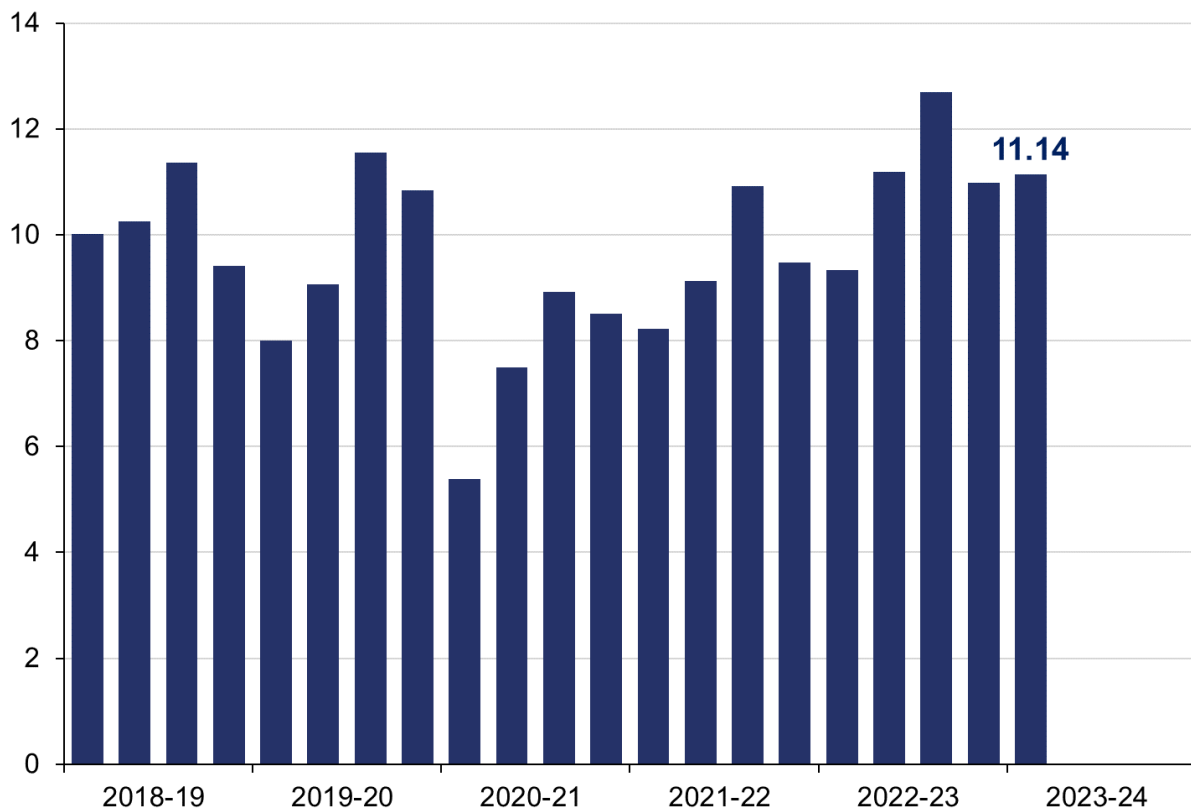
Data for the Freight Delivery Metric by Region (FDM-R) by railway period is available on the data portal in [Table 1324](#).

# 4. Freight delay per 100 train kilometres

Freight operators experienced 11.14 minutes of delay per 100 train kilometres in the latest quarter. This was 19% higher (i.e. worse) than the same quarter the previous year; and an absolute increase of 1.80 minutes per 100 train kilometres. Freight delay in the latest quarter was the worst April to June quarter for nine years.

**Figure 4.1** There has been a steady increase in freight delay over the last three years

Freight delay per 100 train kilometres, Great Britain, quarterly data, April 2018 to June 2023 (Table 1325)



# 5. Freight train kilometres

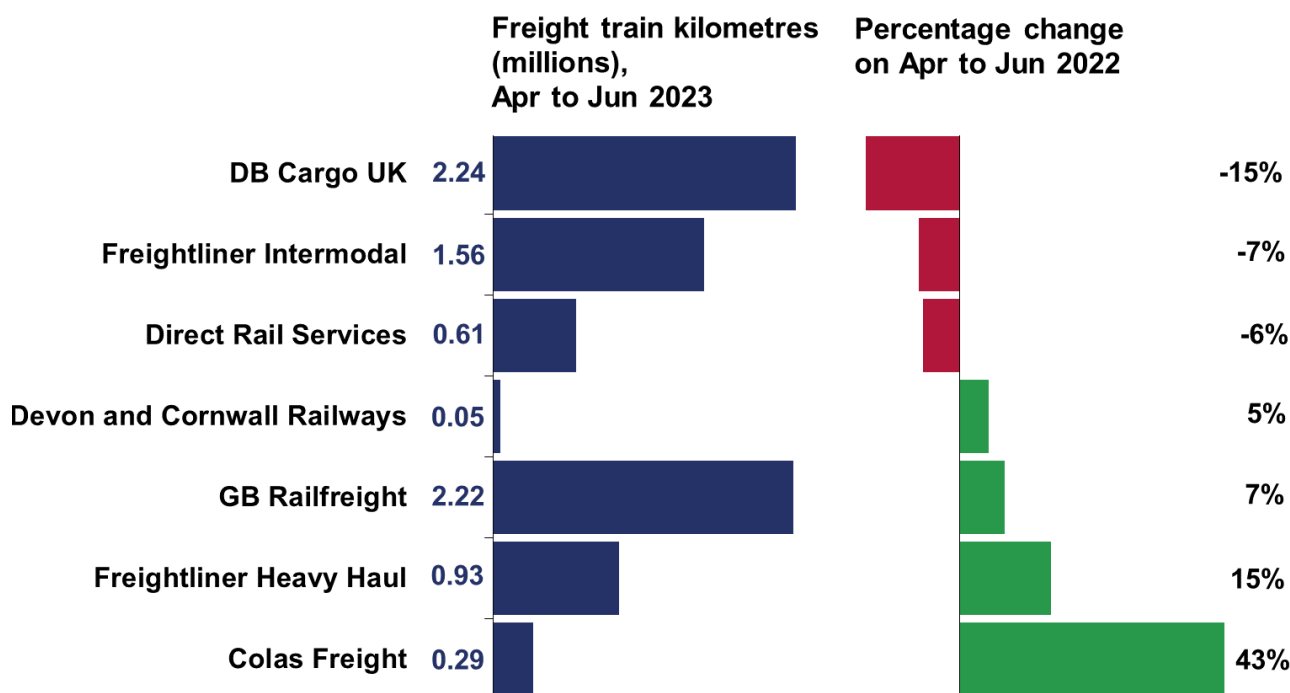
Freight operators recorded 7.90 million freight train kilometres in the latest quarter. It decreased by 2% compared with the same quarter the previous year.

Of the four operators that saw an increase, the largest increase was for Colas Freight, which rose by 43%. Colas Freight recorded their highest value since the time series began in April 2010.

Freight train kilometres fell for three operators. DB Cargo UK is the operator with the largest share of freight train kilometres, however it saw the biggest decrease compared with a year ago – a drop of 15%. Similarly, Freightliner Intermodal holds the third largest share of freight train kilometres, and it saw a reduction of 7%.

**Figure 5.1 Colas Freight had the largest increase in freight train kilometres**

Freight train kilometres (millions) by operator, Great Britain, April to June 2023 and change compared with April to June 2022 (Table 1333)



Data on the breakdown of freight train kilometres by traction type (electric or diesel) is available on the data portal in [Table 1333](#).

## 6. Freight vehicle kilometres

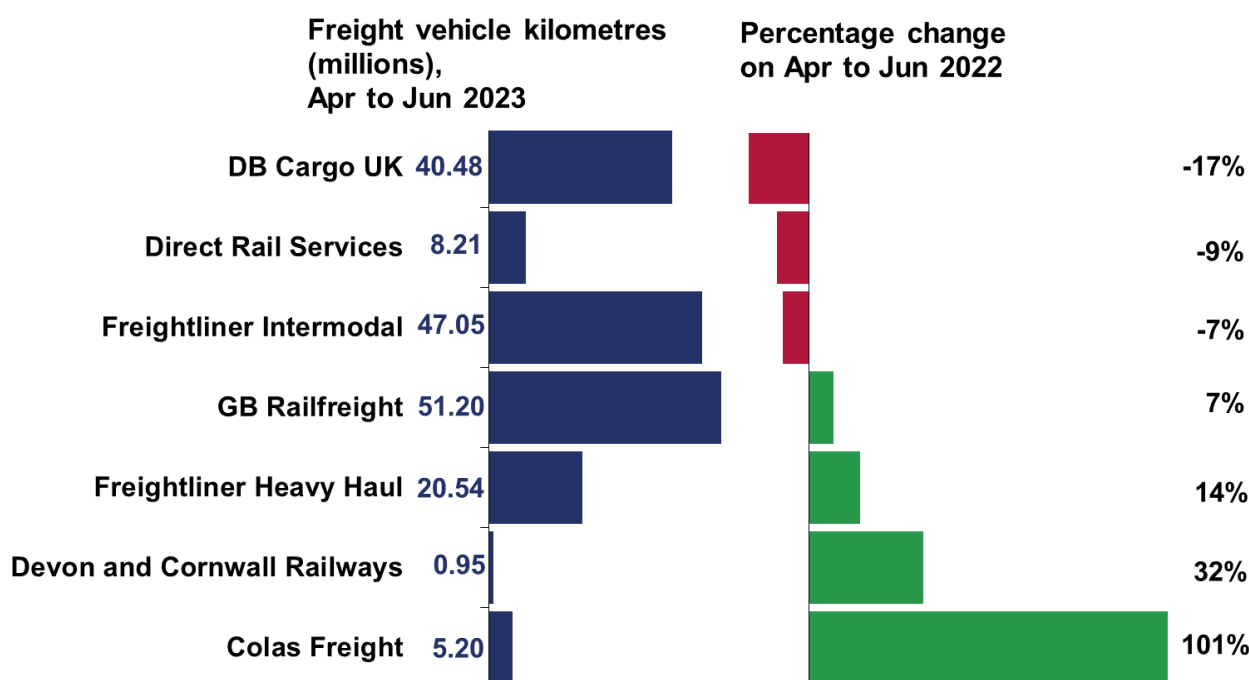
Freight operators recorded 173.62 million freight vehicle kilometres in the latest quarter. It decreased by 2% compared with the same quarter the previous year.

There was an increase for four operators. Colas Freight’s vehicle kilometres more than doubled. Devon and Cornwall Railways had a large rise too, increasing by nearly a third. Both Colas Freight and Devon and Cornwall Railways recorded their respective highest value since the time series began in April 2010.

Two of the three biggest operators, with the largest share of freight vehicle kilometres, saw decreases. DB Cargo UK had a reduction of 17% and Freightliner Intermodal had a reduction of 7%.

**Figure 6.1 The freight vehicle kilometres for Colas Freight more than doubled**

Freight vehicle kilometres (millions) by operator, Great Britain, April to June 2023 and change compared with April to June 2022 (Table 1343)



Data on the breakdown of freight vehicle kilometres by traction type (electric or diesel) is available on the data portal in [Table 1343](#).



# 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 their 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 all mainline infrastructure, terminals and yards. The data is sourced from Network Rail's Track Access Billing System (TABS). The data in the table covers electric, diesel and all traction. 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 vehicle kilometres** is the actual vehicle kilometres travelled by freight operators on all mainline infrastructure, terminals and yards. This is calculated by multiplying the number of rail vehicles (e.g. coaches) by the distance travelled. A train with a locomotive and four carriages travelling one kilometre will generate one **train kilometre** and five **vehicle kilometres**. The data is sourced from Network Rail's Track Access Billing System (TABS). The data in the table covers electric, diesel and all traction. 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).

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. These have not been updated in this release due to the data not being available

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, freight vehicle 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: An error was identified in the calculation of the estimates for Devon and Cornwall Railways. This has been corrected resulting in small revisions to the quarterly and annual figures for April 2022 to March 2023, affecting 'Other' and 'Total'. Due to late reporting, one operator supplied revised data for March 2023. Consequently, the quarterly figure for January to March 2023 and the annual figure for April 2022 to March 2023 have been revised, affecting 'Other' and 'Total'.
- Table 1320: Network Rail has supplied historic refreshed data. Additionally, there has been an improvement in the data processing to increase its precision. These have resulted in small revisions to the FDM and to the FDM moving annual average between January 2015 and March 2023.
- Table 1324: Network Rail has supplied historic refreshed data. This has resulted in small revisions to the FDM and to the FDM moving annual average for specific periods throughout the time series as marked on the data table.
- Table 1333: Data from DB Cargo has been revised due to a previous calculations error in the Core Valley Lines data. This has resulted in revisions for the time periods shown between April 2019 and March 2022 across annual and quarterly data, impacting all traction and diesel traction.

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

## 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
- Freight vehicle kilometres by operator (quarterly) – Table 1343

## 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 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 five annual publications: **Common Safety Indicators; Passenger satisfaction with complaints handling; Train operating company key statistics; Occupational health; Rail statistics compendium;** 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).



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