# Freight rail usage and performance

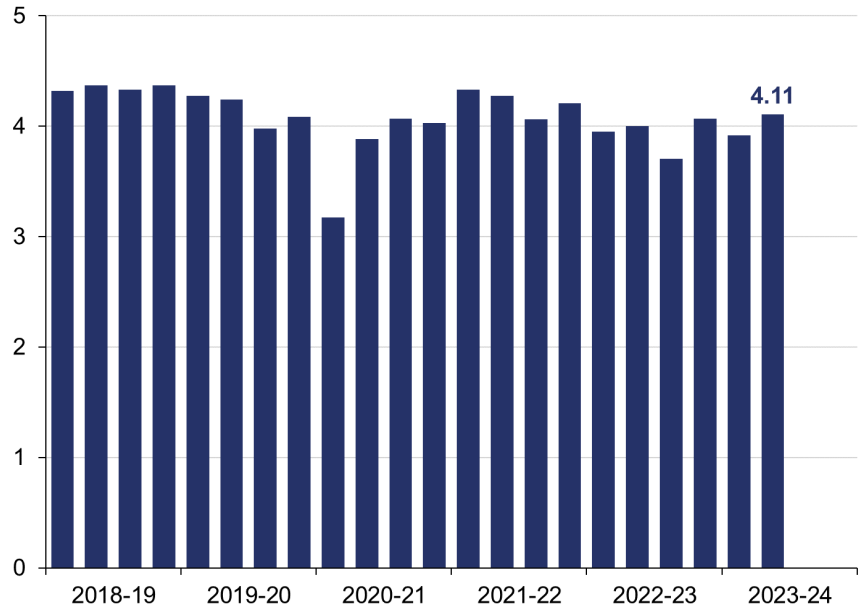
## July to September 2023

**12 December 2023**

Total **freight moved** was **4.11 billion net tonne kilometres** in the latest quarter (1 July to 30 September 2023), up by 3% compared with the same quarter the previous year. Construction saw the largest absolute rise in freight moved volumes and recorded its highest volume since the time series began in April 1998.

**Figure 1 Freight moved was the highest of any of the last six quarters**

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




Total **freight lifted** was **17.5 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 **92.9%**. This is the second worst level of July to September 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).**

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

**Latest quarter:**

1 July to 30 September 2023

**Contents:**



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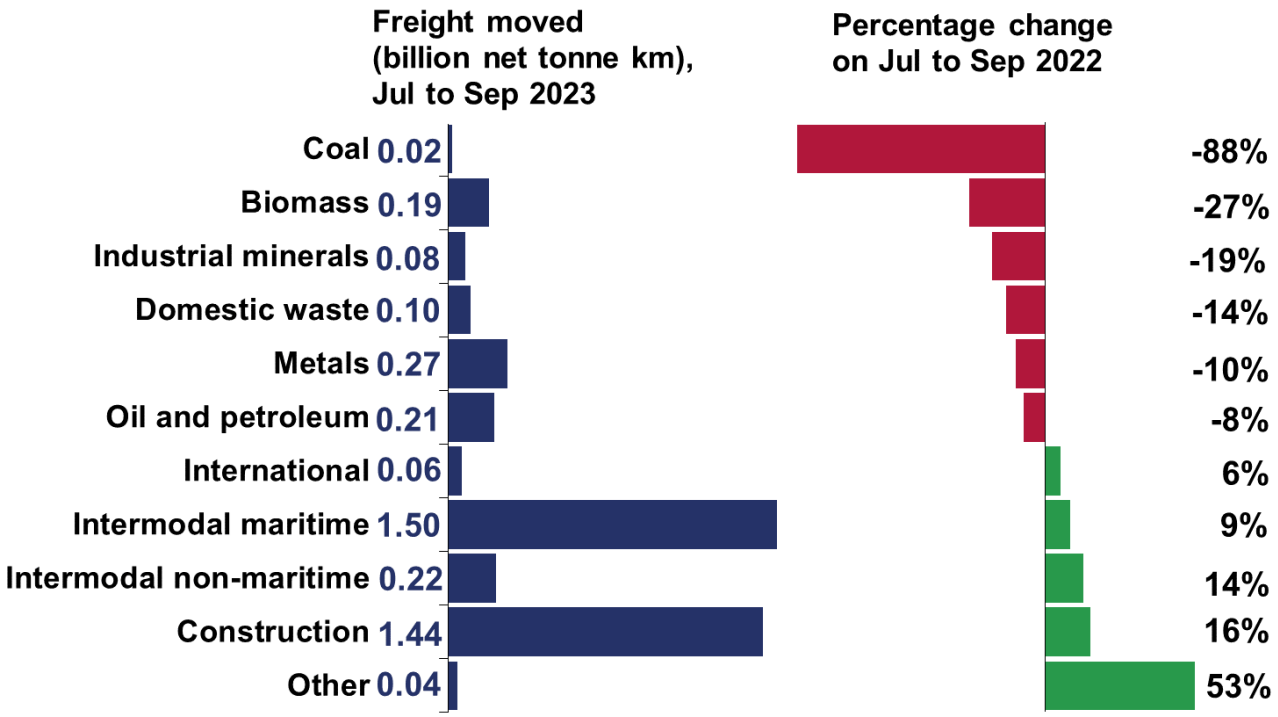
**Next publication:**
14 March 2024

# 1. Freight moved

**Figure 1.1 Intermodal maritime and construction were the largest freight moved commodity groups and both had increases**

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




The total volume of freight moved was 4.11 billion net tonne kilometres in the latest quarter (1 July to 30 September 2023). This was a 3% increase on the same quarter the previous year (1 July to 30 September 2022). Five of the commodity groups saw a rise in freight moved volumes compared with the same quarter the previous year.

Intermodal maritime increased by 9% on the same quarter the previous year. The 1.50 billion net tonne kilometres of intermodal maritime is the highest of any quarter since July to September 2019. As the commodity with the largest share of freight moved, it accounted for over a third of all freight moved between July and September 2023.

Construction also made up over a third of all freight moved in the quarter, representing the second largest share of all freight moved. Freight volumes in this sector increased by 16%, reaching 1.44 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 in London, Buckinghamshire, Berkshire, Oxfordshire and the Midlands.

Volumes of metals fell by 10% compared with the previous year, in the context of weakness in new commercial construction activity that steel and other products serve. Metals recorded 0.27 billion net tonne kilometres, making it the lowest July to September quarter since the start of the time series. Metals accounted for 7% of all freight moved.

Intermodal non-maritime saw an increase of 14%. It recorded 0.22 billion net tonne kilometres, which is the highest value of any quarter since April to June 2014.

Oil and petroleum volumes reduced by 8%. Excluding quarters affected by the pandemic, this was the lowest July to September volume recorded since the time series began, at 0.21 billion net tonne kilometres.

Biomass volumes fell by 27%, which was the second largest decrease of all commodities. It accounted for 0.19 billion net tonne kilometres, which was the lowest July to September value seen for seven 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 14%. It was the lowest volume of any quarter since October to December 2018.

Industrial minerals volumes reduced by 19% compared with the previous year. This continues to reflect the impact of high energy costs on industrial production.

International volumes rose by 6%, however this is in the context of a general downward trend in international freight moved. All the quarters since April 2022 have recorded the lowest volumes since the time series began, with values of between 0.05 to 0.06 billion net tonne kilometres.

Volumes of coal fell by 88%, making it the largest decrease of all the commodities. There was only 0.02 billion net tonne kilometres of coal moved in both this quarter and the previous quarter, which both represent the lowest amount recorded since the time series began in April 1998. Flows of coal for electricity production were almost non-existent, which contributed towards this trend.

# 2. Freight lifted

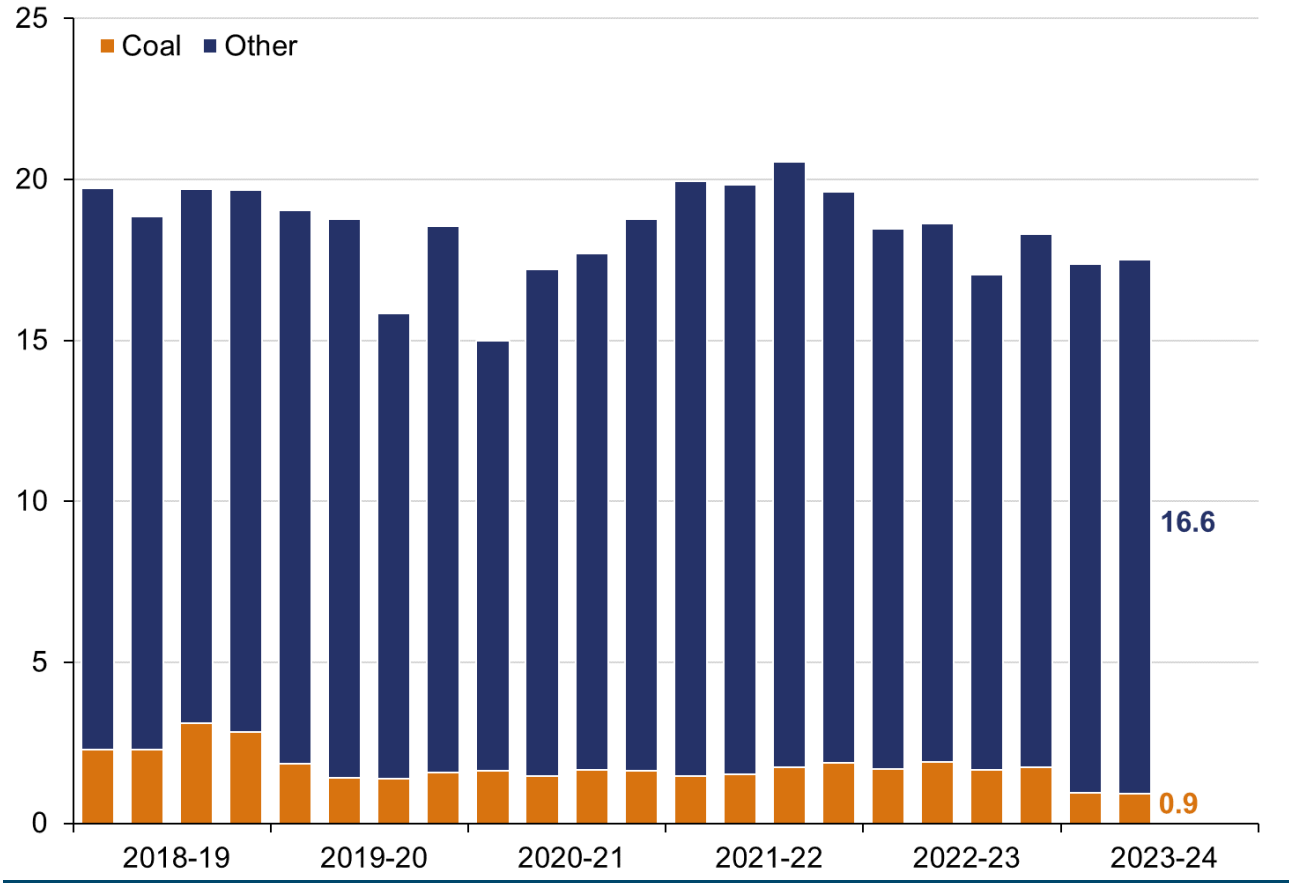
The total amount of freight lifted in the latest quarter was 17.5 million tonnes. It decreased by 6% compared with the same quarter the previous year. Aside from during the pandemic, it was the lowest July to September quarter since the start of the time series in April 1996.

Other freight lifted was 16.6 million tonnes, which was 1% lower compared with the previous year. It was the lowest April to June quarter for five years, excluding quarters affected by the pandemic.

The amount of coal lifted was 0.9 million tonnes. It has fallen by 51% compared with the same quarter the previous year. It is the lowest quarterly coal total since the start of the 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 July to September quarter (aside from during the pandemic)**

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



# 3. Freight Delivery Metric (FDM)

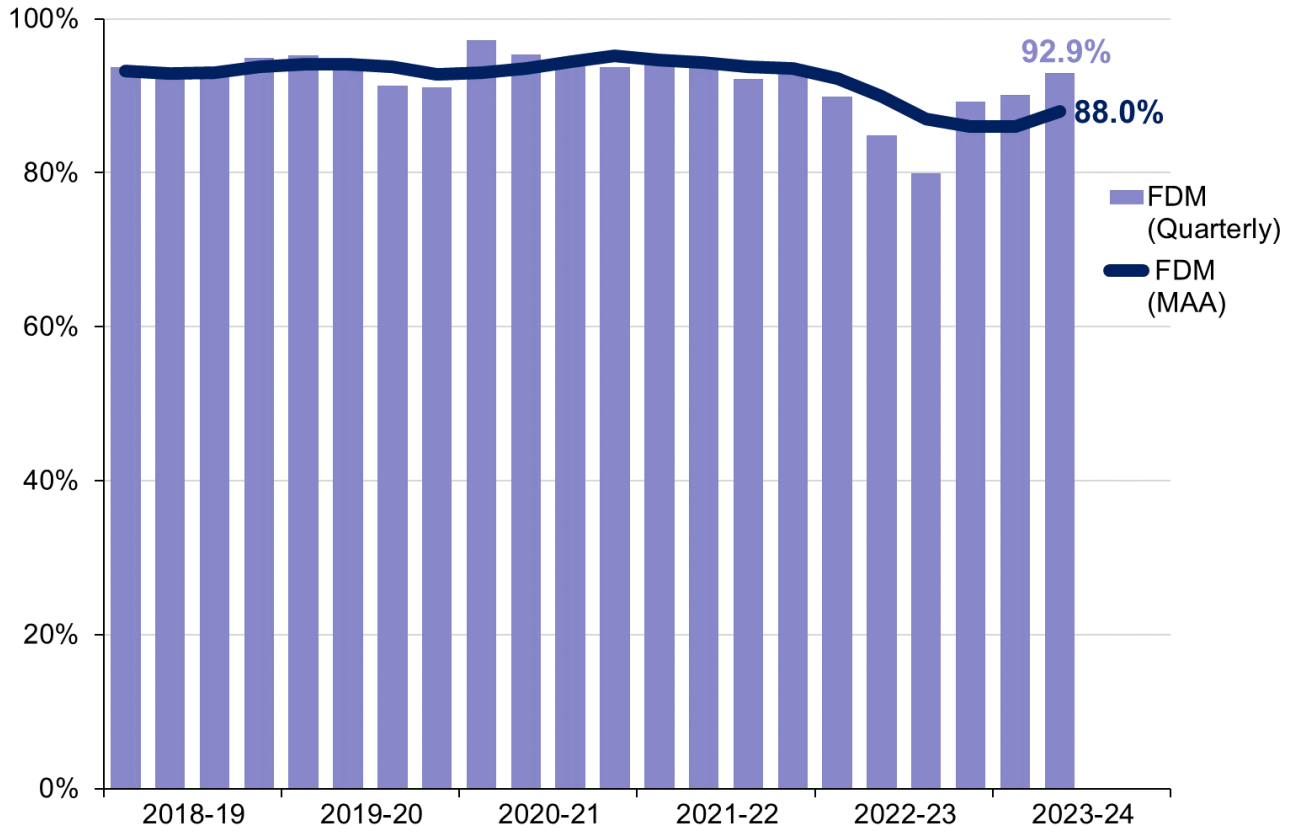
Freight punctuality, as measured by the Freight Delivery Metric, was 92.9% between July and September 2023. It has improved compared with the same quarter the previous year, having increased by 8.1 percentage points (pp).

Strike action over the last twelve months had an impact on the moving annual average (MAA). 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 MAA was 88.0%. The FDM MAA has improved compared with the previous two quarters (January to March 2023 and April to June 2023) when it was 86.0%, which was the lowest level of freight punctuality since the time series began.

**Figure 3.1 FDM has increased for three consecutive quarters**

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



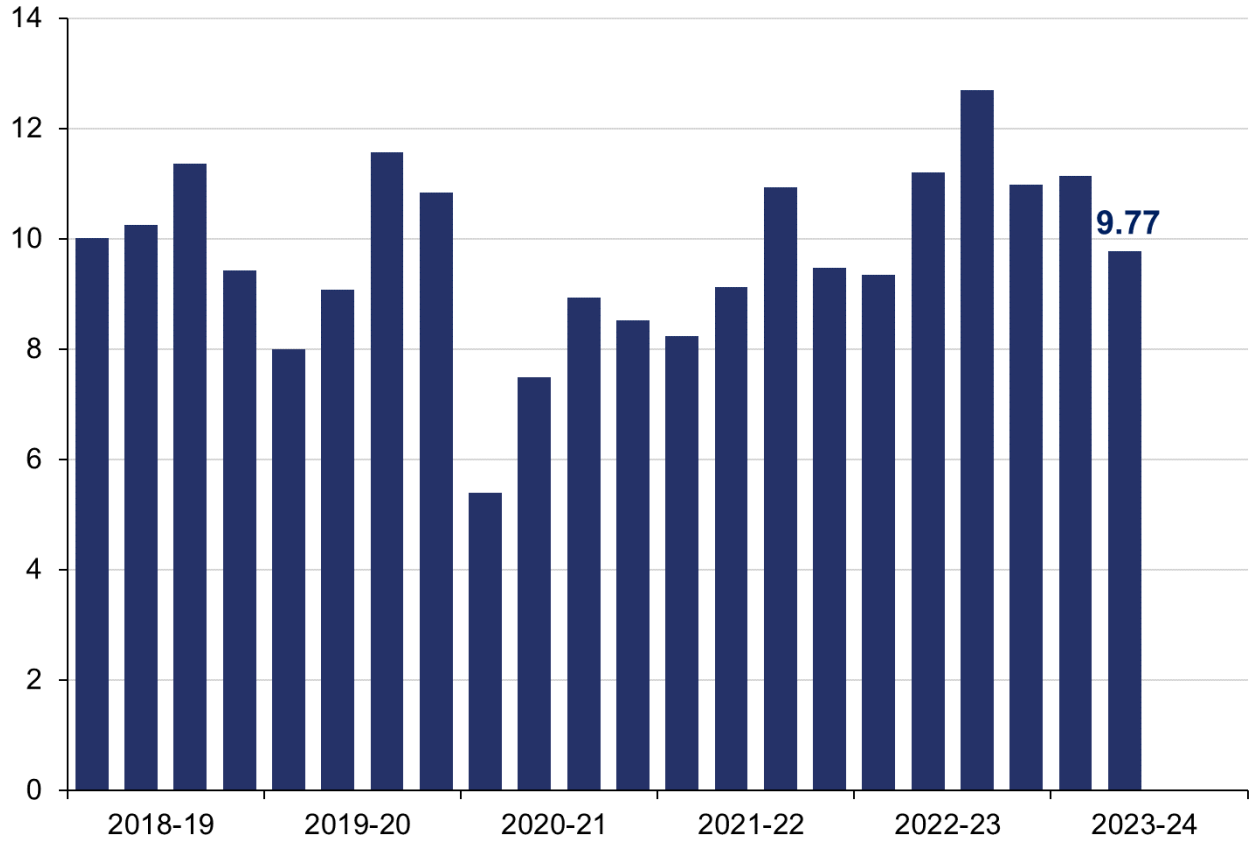

Data for the Freight Delivery Metric by Region (FDM-R) by railway period is available on the data portal in Table 1324.

# 4. Freight delay per 100 train kilometres

Freight operators experienced 9.77 minutes of delay per 100 train kilometres in the latest quarter. This was 13% lower (i.e. better) than the same quarter the previous year; and an absolute decrease of 1.42 minutes per 100 train kilometres.

**Figure 4.1 Freight delay in the latest quarter was lower than in any of the previous four quarters**

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



# 5. Freight train kilometres

Freight operators recorded 8.11 million freight train kilometres in the latest quarter. The value was similar to the same quarter the previous year, decreasing by 0.3%.

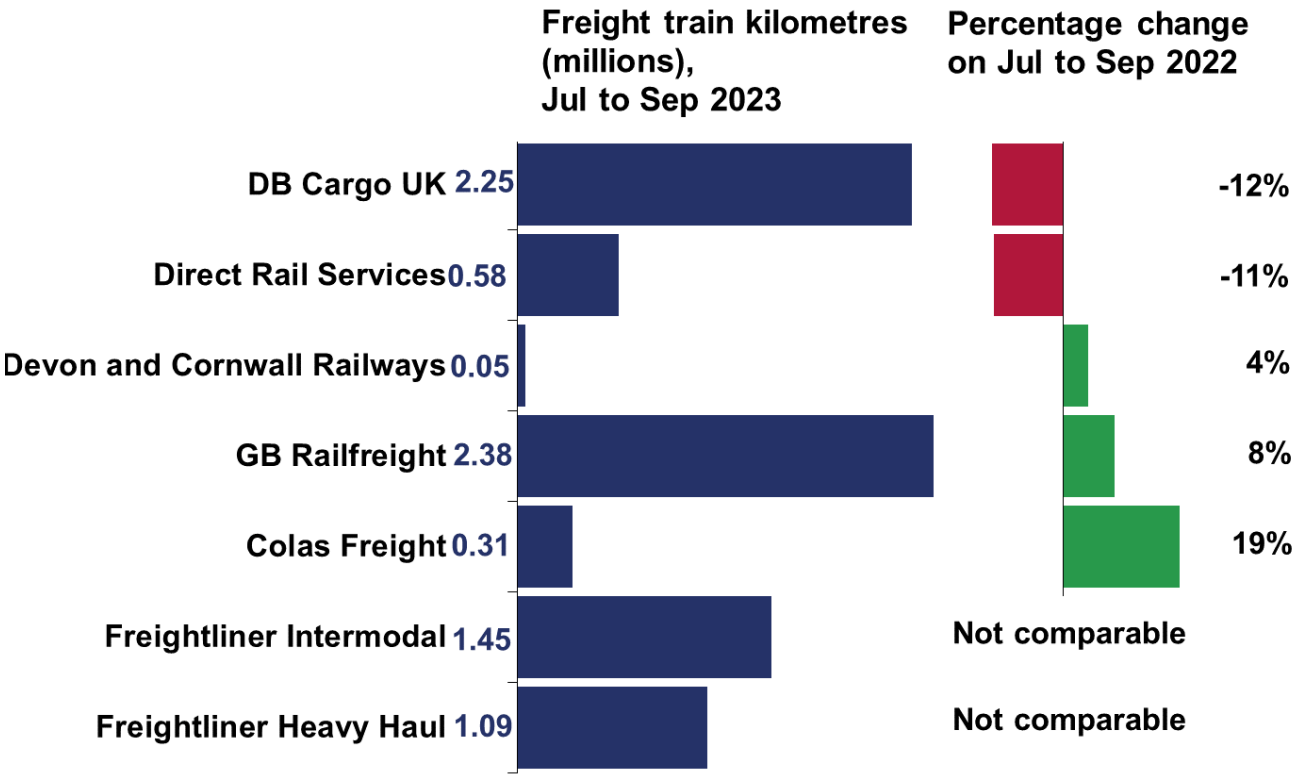
From September 2023 Freightliner have moved some services from 'Freightliner Intermodal' to 'Freightliner Heavy Haul'. Therefore, data for the latest quarter is not comparable with the same quarter the previous year.

Three operators saw an increase in freight train kilometres. Colas Freight and GB Railfreight both recorded their highest value since the time series began in April 2010.

Freight train kilometres fell for two operators. DB Cargo UK has the second largest share of freight train kilometres, however it saw the biggest decrease compared with a year ago – a drop of 12%.

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

Freight train kilometres (millions) by operator, Great Britain, July to September 2023 and change compared with July to September 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 181.54 million freight vehicle kilometres in the latest quarter. It increased by 2% compared with the same quarter the previous year.

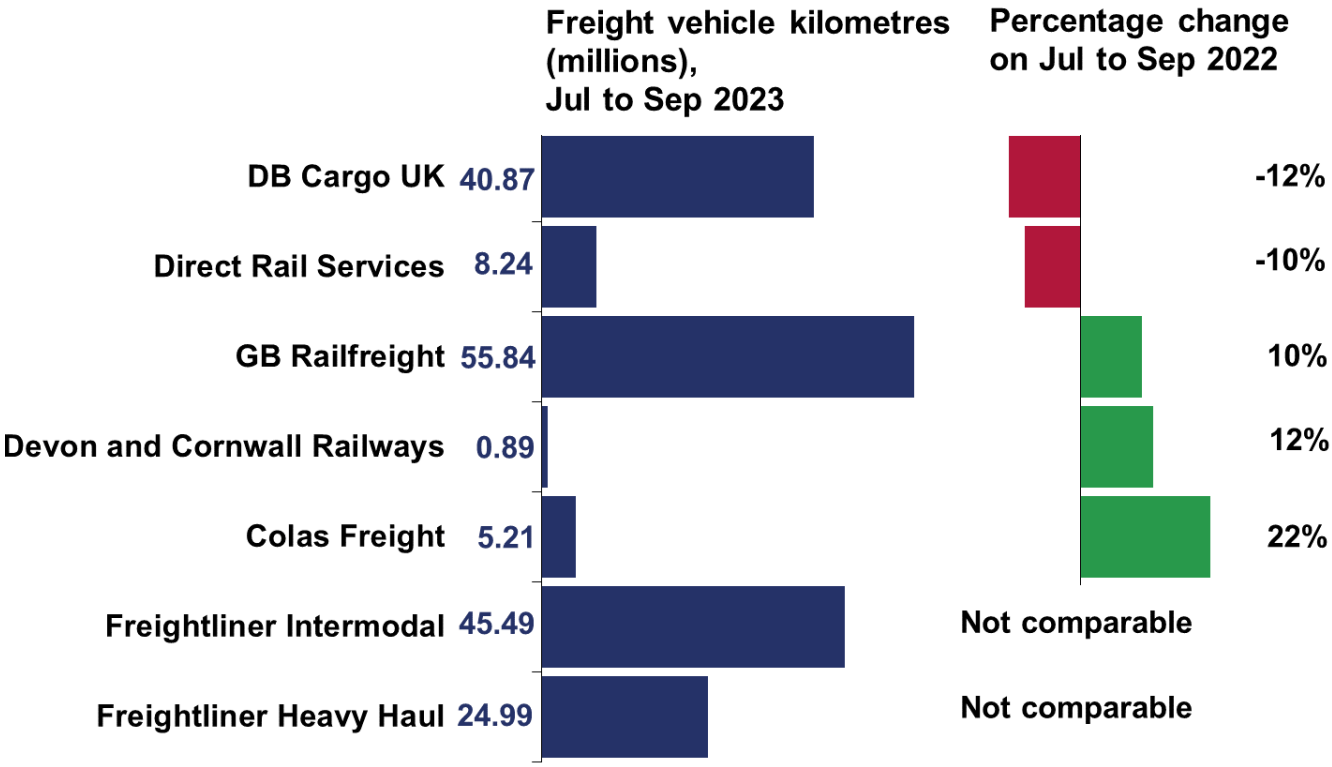
From September 2023 Freightliner have moved some services from 'Freightliner Intermodal' to 'Freightliner Heavy Haul'. Therefore, data for the latest quarter is not comparable with the same quarter the previous year.

There was an increase in freight vehicle kilometres for three operators. Both Colas Freight and GB Railfreight recorded their respective highest value since the time series began in April 2010.

Two operators saw a fall in freight vehicle kilometres. DB Cargo UK had a reduction of 12%, despite being the operator with the third largest share of freight vehicle kilometres.

**Figure 6.1 Colas Freight had the largest increase in freight vehicle kilometres**

Freight vehicle kilometres (millions) by operator, Great Britain, July to September 2023 and change compared with July to September 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: We received revised data for January to March 2023 from one operator. Consequently, the quarterly figure for January to March 2023 and the annual figure for April 2022 to March 2023 have been revised.
- Table 1320: Network Rail has supplied historic refreshed data. This has resulted in small revisions to the FDM and to the FDM moving annual average between April 2015 and June 2016, and between January 2018 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.

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 (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 Eleventh Annual Market Monitoring Report, including comparable traffic volume data based on freight train kilometres.

# Annex 4 – ORR's statistical publications

Our statistical practice is regulated by the Office for Statistics Regulation (OSR). OSR sets the standards of trustworthiness, quality and value in the Code of Practice for Statistics that all producers of official statistics should adhere to. You are welcome to contact us directly with any comments about how we meet these standards by emailing rail.stats@orr.gov.uk. Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

## Statistical Releases

This publication is part of ORR's 'accredited official statistics', 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.**

ORR also publishes a number of other 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.

## Accredited official statistics

Accredited official statistics are called National Statistics in the Statistics and Registration Service Act 2007. They are official statistics that have been independently reviewed by the Office for Statistics Regulation and found to comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics.

The majority of our statistical releases were independently reviewed by the OSR in June 2012. They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics and are labelled accredited official statistics.

Since our review 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 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 accredited official 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 independently reviewed by OSR in November 2020 and their accreditation was confirmed on 1 December 2020.

For more information on how we adhere to the Code please see our compliance statements.

If you have any feedback or questions please email rail.stats@orr.gov.uk.

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