Freight rail usage and performance

April to June 2022

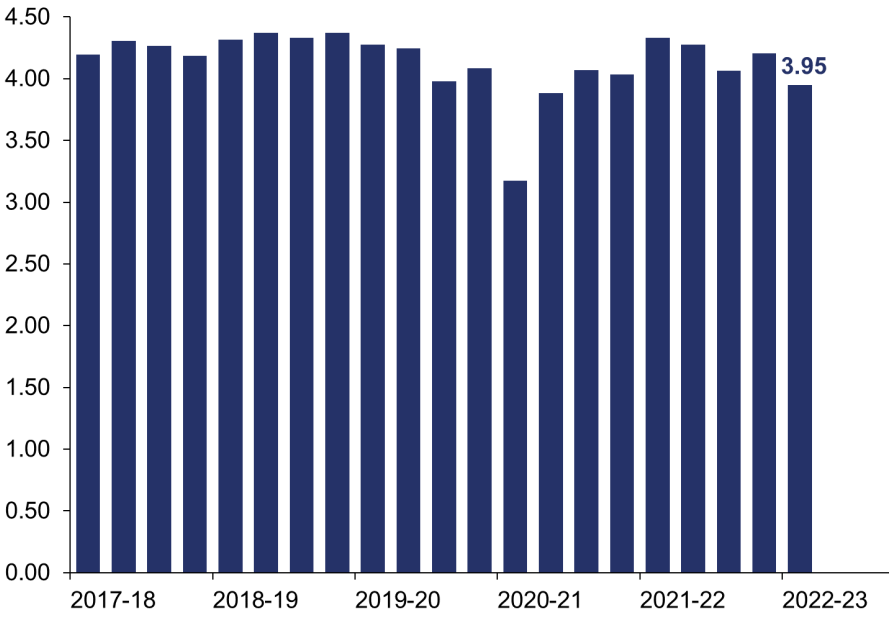
22 September 2022

Freight rail usage and performance levels in the latest quarter (1 April to 30 June 2022) are compared with the same quarter last year (1 April to 30 June 2021).

Total **freight moved** was 3.95 billion net tonne kilometres in the latest quarter. It was 8.8% lower compared with a year ago.

Figure 1: Freight moved in the latest quarter was lower than equivalent quarters in recent years (aside from the same quarter during the coronavirus (COVID-19) pandemic)

Freight moved (billion net tonne kms), Great Britain, quarterly data, April 2017 to June 2022 (Table 1310)



Revisions and new data: The freight train kilometre dataset has been revised back to April 2010 to improve the coverage of the rail network. It also includes a split by traction type (electric or diesel) for the first time. Data for freight vehicle kilometres are published for the first time, also including a split by traction type.

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** and **freight train km**.

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

Latest quarter:

1 April to 30 June 2022

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Next publication: 13 December 2022

1. Freight moved

Figure 1.1: Every commodity decreased compared with a year ago, except coal

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

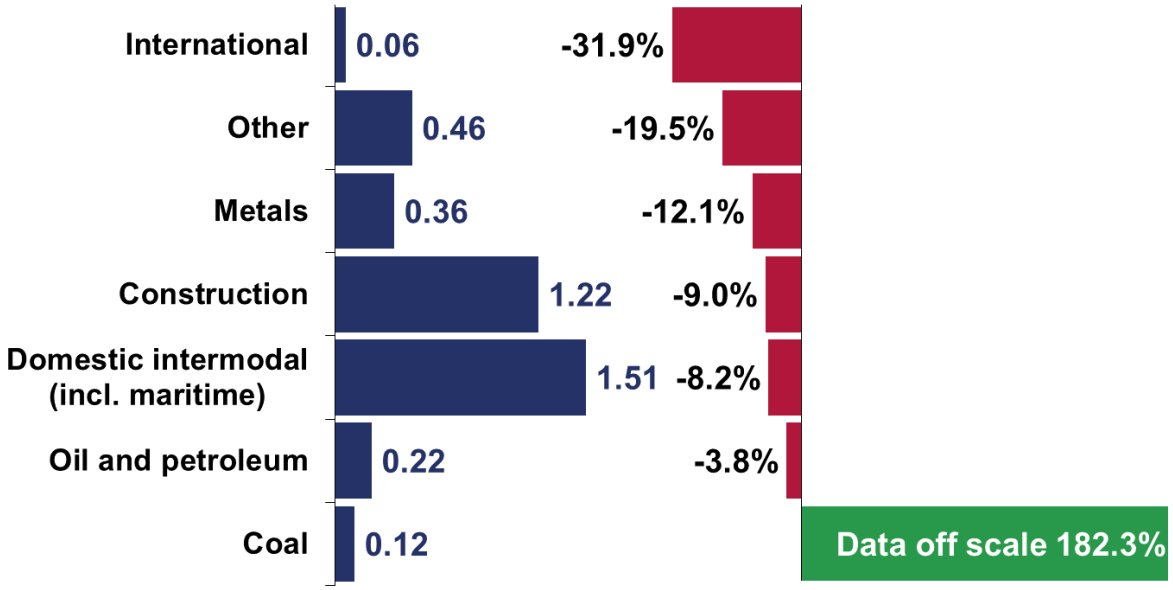
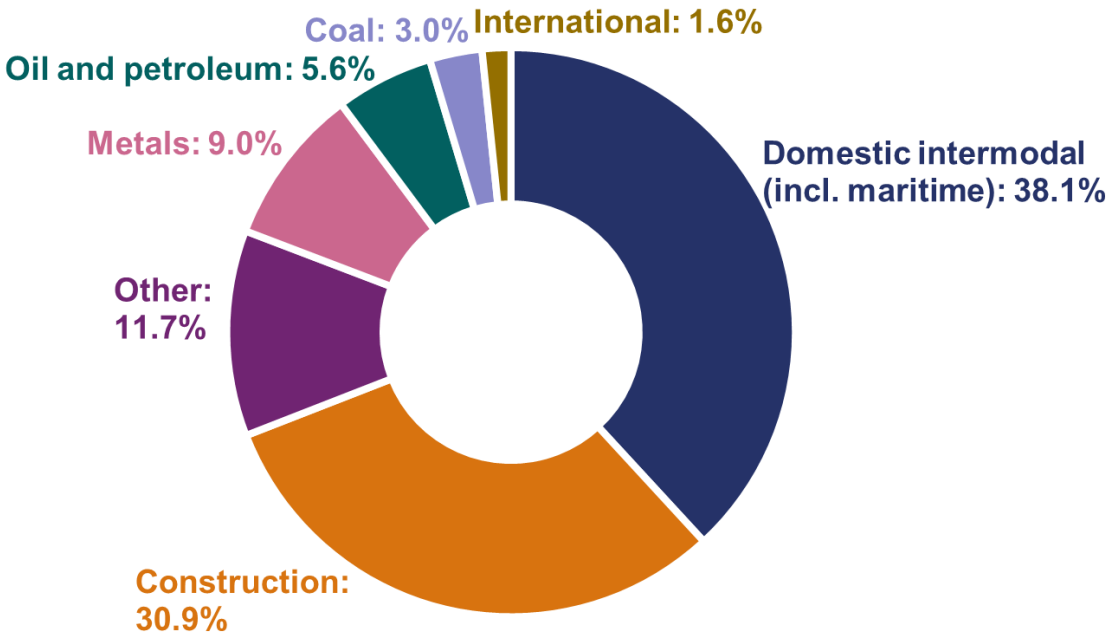


Figure 1.2: Domestic intermodal (including maritime) makes up nearly four tenths of all freight moved

Proportion of freight moved by commodity, Great Britain, April to June 2022 (Table 1310)



The total volume of freight moved was 3.95 billion net tonne kilometres in the latest quarter (1 April to 30 June 2022). This was an 8.8% decrease on the same quarter in the previous year (1 April to 30 June 2021). It was the lowest April to June quarter in the time series, excluding April to June 2020 during the coronavirus pandemic. There were fewer days available for transporting freight in June 2022 due to the railway industry strikes and the additional bank holiday.

With the exception of coal, every commodity saw a fall in freight moved volumes compared with last year. International volumes had the largest percentage decrease, with a reduction of 31.9%. There were 0.06 billion net tonne kilometres of international freight moved, which is the lowest value in the time series. There has been a large reduction in a key flow following restructuring in the steel industry.

Other freight moved was the second largest reduction at 19.5%. A decrease in domestic waste has contributed to this from fewer home deliveries. Online retail sales have gone down. For example, online retail sales fell by 9.9% in June 2022 compared with June 2021.

Volumes of metals fell by 12.1%. The reduction in construction activity has resulted in a lower demand for steel. It has affected demand for structural steel (girders and beams) as well as tubular products (e.g. lighting columns).

Construction volumes were 9.0% lower this quarter compared with the same quarter last year. The construction market is being affected by the global economic uncertainty, which has resulted in lower demand for aggregates, particularly for concrete manufacture. Higher prices for construction products has compounded the decrease in construction activity. The extent of the reduction in construction volumes may have been partially offset by the greater volumes of timber for board manufacturing. In particular, the Kronospan processing plant at Chirk has undergone significant modal shift to rail.

Domestic intermodal (transporting of goods to and from GB ports make up the largest proportion of this category) saw a decrease of 8.2%. This can be attributed to the continued disruption to deep sea shipping and supply chains. Ports are experiencing congestion and bottlenecks, which leads to lower maritime intermodal volumes. Domestic intermodal remains the commodity with the largest market share of freight moved, comprising 38.1% in the latest quarter.

Coal volumes have risen sharply, increasing by 182.3%. This equates to a rise of 0.08 billion net tonne kilometres. Rising gas prices have led to large increases in the coal burnt at West Burton and Radcliffe power stations. In April to June 2021 coal had the smallest market share of freight moved at 1.0%. In April to June 2022, coal was the second smallest market share (3.0%) and international was the smallest market share (1.6%).

2. Freight lifted

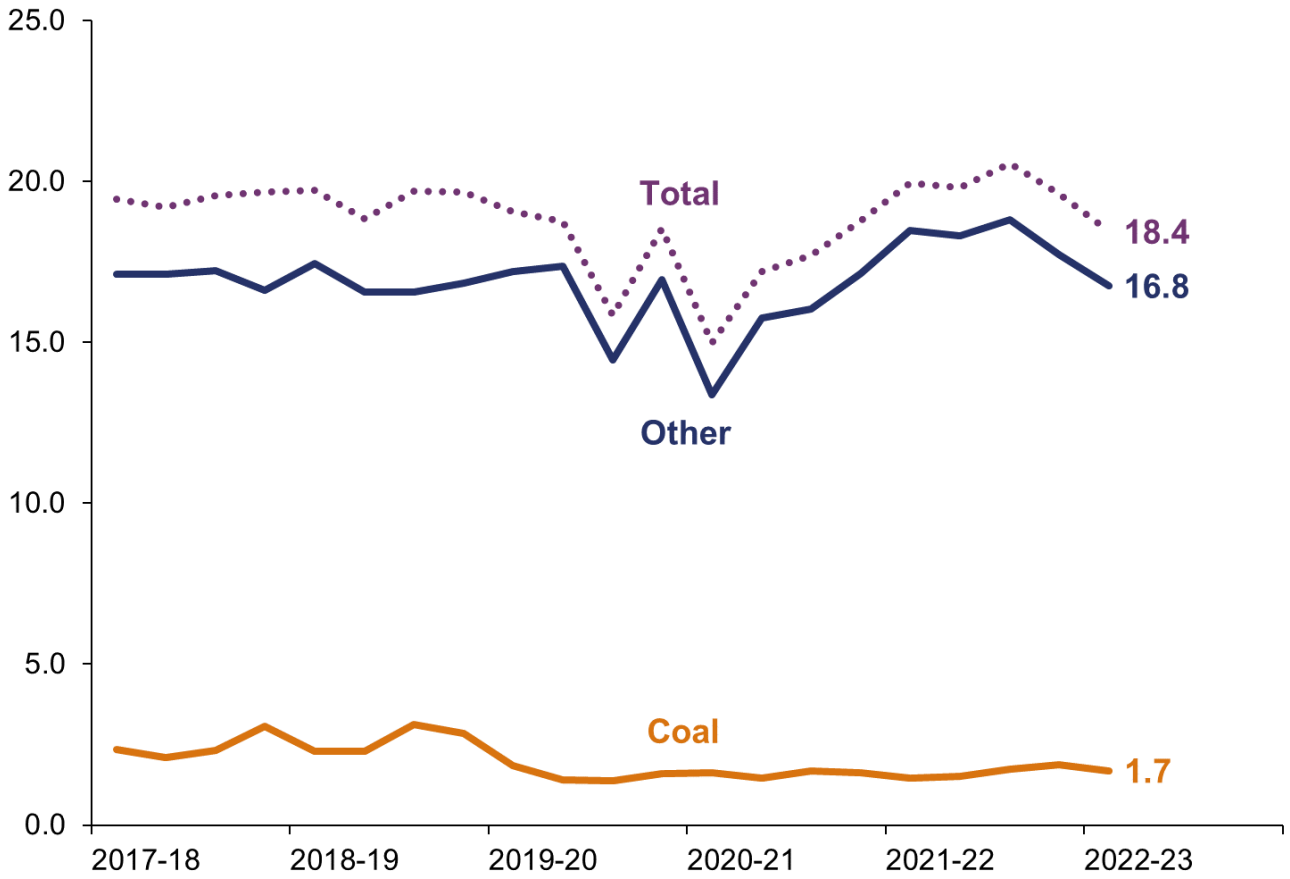
The total amount of freight lifted in the latest quarter was 18.4 million tonnes. It decreased by 7.5% compared with the same quarter in the previous year. The industrial action in June 2022 is one reason for the reduction.

Other freight lifted was 16.8 million tonnes, which was 9.3% lower than a year ago. It has fallen over two consecutive quarters since the peak of 18.8 million tonnes in October to December 2021.

The amount of coal lifted was 1.7 million tonnes. It has risen by 15.3% compared with the same quarter in the previous year. Coal import levels were up to support electricity production at the last two coal-fired power stations in the UK.

Figure 2.1: Over the last five years total freight lifted peaked in October to December 2021

Freight lifted (million tonnes) by commodity (coal and other), Great Britain, quarterly data, April 2017 to June 2022 (Table 1315)



3. Freight Delivery Metric (FDM)

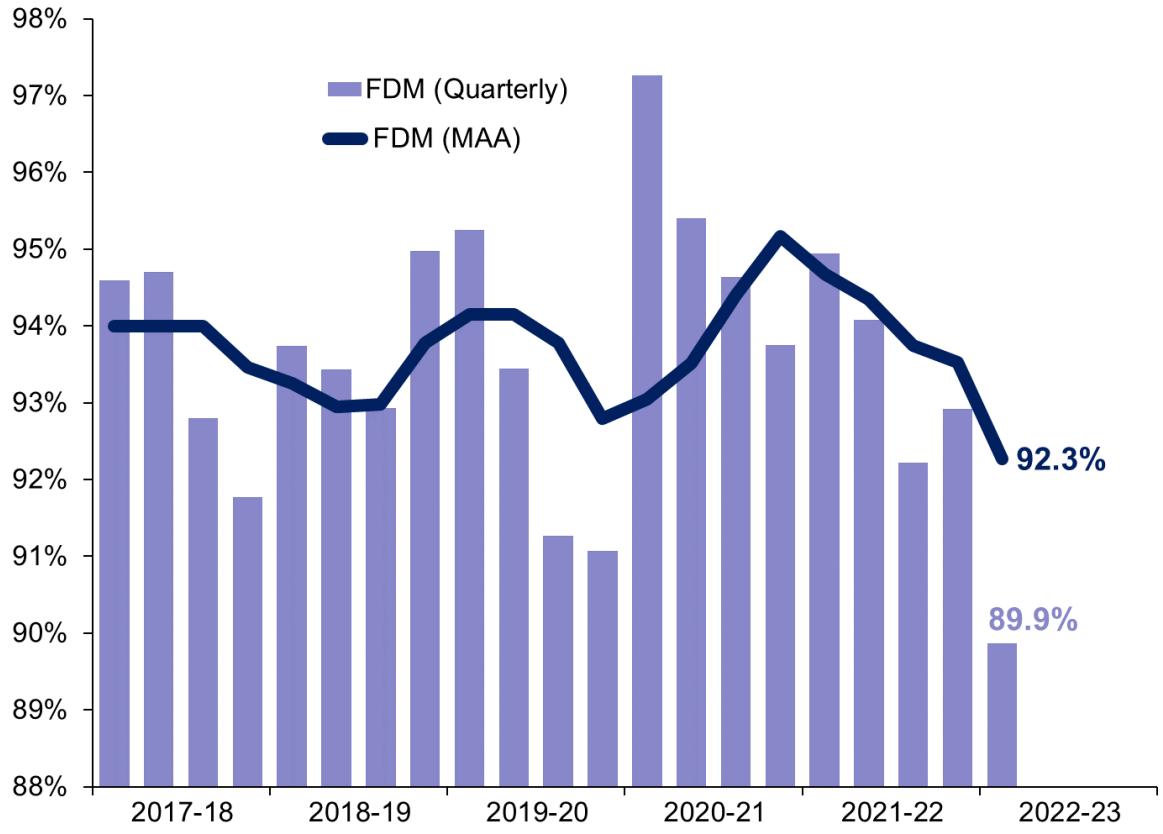
Freight punctuality, as measured by the Freight Delivery Metric, was 89.9% between April and June 2022, which is the lowest in the time series. It was 5.1 percentage points lower than the same quarter in the previous year. Industrial action is a reason behind the deterioration of freight punctuality, with several strike days taking place in June 2022.

To be able to calculate the Freight Delivery Metric during the strike action (21st to 25th June) it was necessary 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 (FDM MAA) was 92.3%, which is similarly the lowest value in the time series. It has decreased over five consecutive quarters.

Figure 3.1: Freight Delivery Metric is at the lowest for the last five years

Freight Delivery Metric (quarterly and Moving Annual Average), Great Britain, April 2017 to June 2022 (Table 1320)



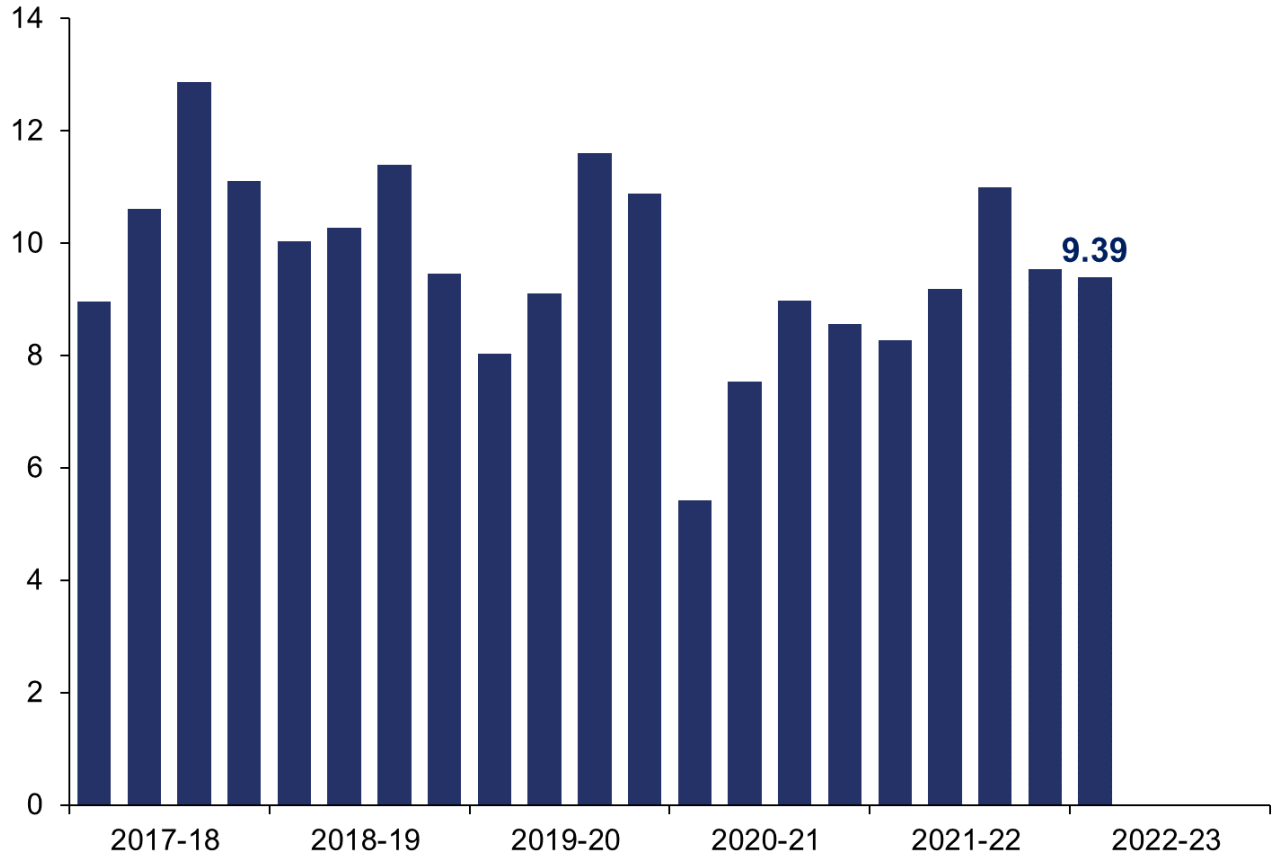
Data for the Freight Delivery Metric by Region (FDM-R) by railway period is available on the data portal in Table 1324.

4. Freight delay per 100 train kilometres

Freight operators experienced 9.39 minutes of delay per 100 train kilometres in the latest quarter. This was 13.5% higher (i.e. worse) than the same quarter in the previous year, an increase of 1.12 minutes.

Figure 4.1: Freight delay in the latest quarter is the highest April to June quarter since 2018

Freight delay per 100 train kilometres, Great Britain, quarterly data, April 2017 to June 2022 (Table 1325)



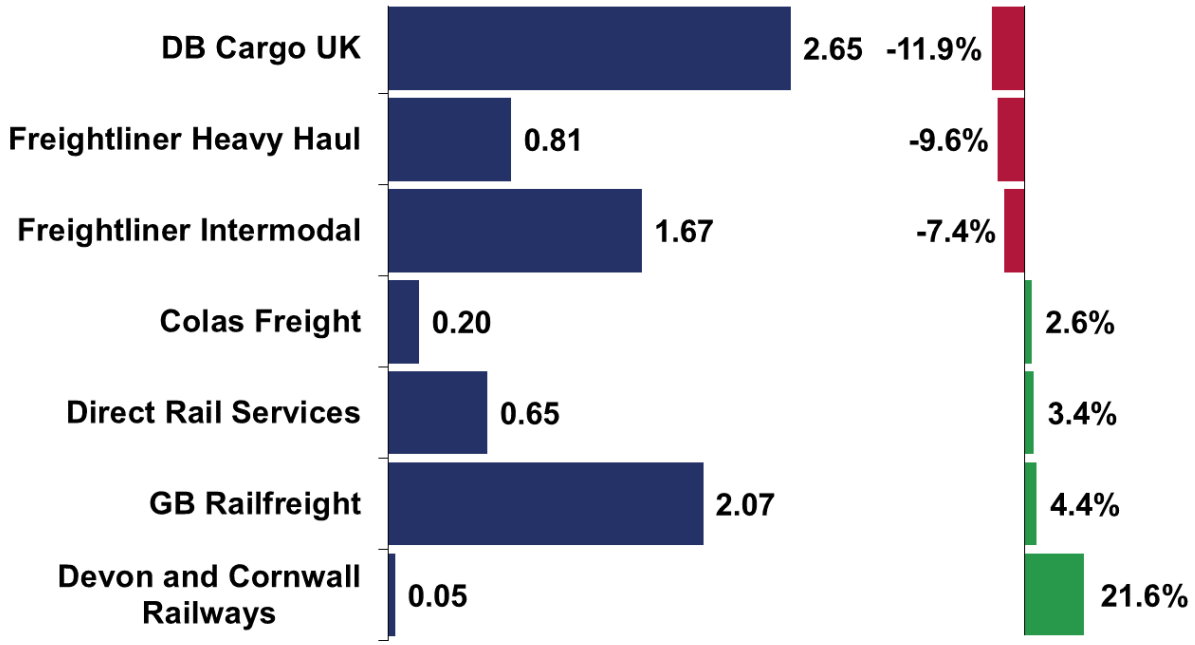
5. Freight train kilometres

In the latest quarter, 8.10 million freight train kilometres were recorded. This was 5.3% lower than the same quarter in the previous year. The railway industry strikes in June 2022 are likely to have impacted this trend.

DB Cargo UK had the largest reduction in freight train kilometres at 11.9%. Three of the four largest operators saw decreases in freight train kilometres.

Figure 5.1: The largest operator DB Cargo UK saw the greatest decrease in freight train kilometres

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



We are publishing a breakdown of freight train kilometres by traction type (electric or diesel) for the first time this quarter.

In addition, we are also publishing a new dataset on freight vehicle kilometres in Table 1343, containing data back to April 2010. As with freight train kilometres, this will be broken down by traction type.

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 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).

- **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, 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

This is the first quarter we have collected and published the data for freight vehicle kilometres by operator (quarterly) in Table 1343. The data is provided by Network Rail. It will be published quarterly.

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 2022 from one operator. Consequently, the quarterly figure for January to March 2022 and the annual figure for April 2021 to March 2022 have been revised.
- Table 1320 – The full time series has been revised due to a calculation error in the conversion from periodic (four weeks) to quarterly data and refreshed data for some of the underlying measures. These revisions have resulted in adjustments of 0.01 percentage points, on average.
- Table 1333 – The full time series of data for all traction freight train kilometres has been revised. This is due to a change in the methodology which now captures train kilometres on High Speed 1, other non-Network Rail networks and freight terminals.

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
- 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_2e) 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 at dataportal.orr.gov.uk

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