Freight Rail Usage and Performance

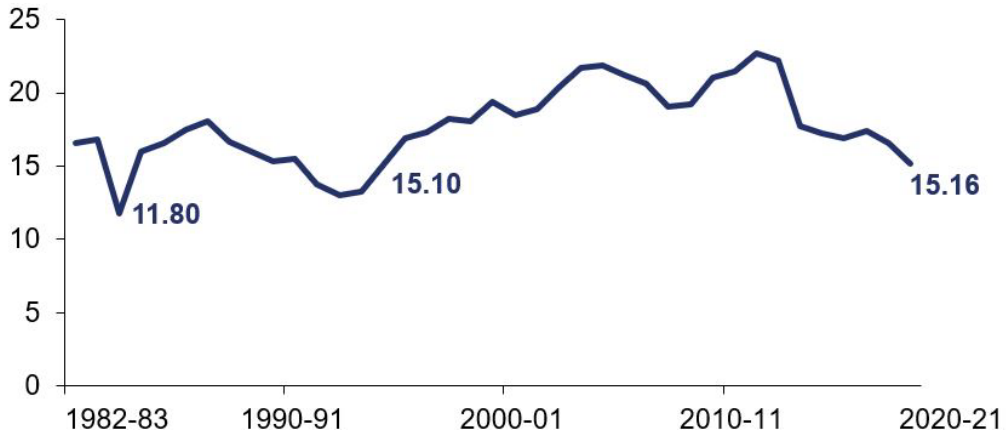
2020-21 Quarter 4

27 May 2021

Freight rail usage and performance during 2020-21 was affected by the coronavirus (Covid-19) pandemic. The lower number of passenger train services in operation contributed to improved freight punctuality whilst freight moved volumes fell to their lowest level since the mid-90s.

Freight moved in 2020-21 fell by 8.6% compared with 2019-20, driven by a 17.2% reduction in volumes during the first six months of 2020-21. The second half of the year (October 2020 to March 2021) saw an increase of 0.5% compared with the same period in 2019-20.

Freight moved (billion net tonne kms), Great Britain, 1982-83 to 2020-21



There were 69.0 million tonnes of **freight lifted** in 2020-21, a fall of 4.4% compared with 2019-20.

The proportion of freight trains arriving within 15 minutes, as measured by the **Freight Delivery Metric**, reached 95.2% in 2020-21; the highest level of punctuality achieved since the time series began in 2012-13.

The number of **freight train movements** across Great Britain in 2020-21 fell by 9.6% compared with the previous year. Similarly, **freight train kilometres** decreased by 9.9% compared with 2019-20.

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 ORR data portal. Key definitions are in Annex 1 of this release.

Background:

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

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

Sources: Department for Transport, Network Rail, Freight Operating Companies.

Latest quarter: 2020-21 Q4 (January to March 2021).

Contents:

Author: Oliver Lowe

Responsible Statistician: Jay Symonds

Public Enquiries: rail.stats@orr.gov.uk

Media Enquiries: Tel: 020 7282 2094

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1. Freight moved

2020-21 Annual

Freight moved in Great Britain fell to 15.16 billion net tonne kilometres in 2020-21. This was a drop of 8.6% compared with 2019-20.

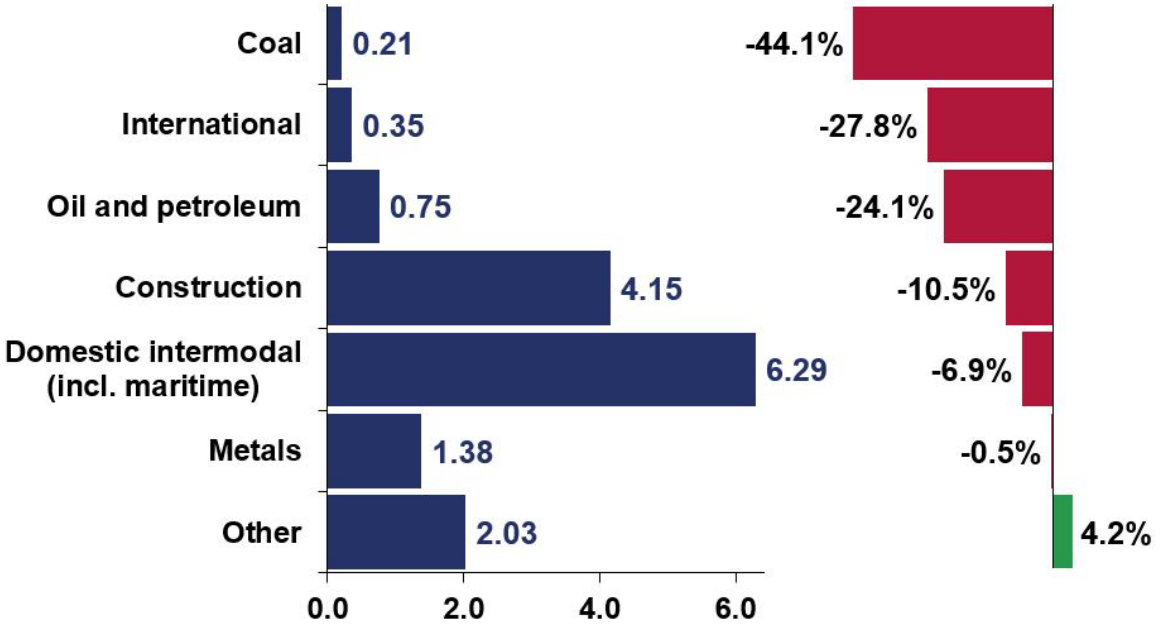
With the exception of the 'Other' category (which includes domestic waste and biomass), all commodities saw volumes fall compared with the previous year.

In absolute terms, Construction experienced the largest reduction of just under 0.5 billion net tonne kilometres. The sector was severely impacted during the first lockdown (Q1) with building work curtailed resulting in less demand for construction materials. From Q2 onwards, volumes have returned to typical levels.

Domestic intermodal volumes (transporting of goods to and from GB ports make up the largest proportion of this category) saw a similar decrease of just under 0.5 billion net tonne kilometres. Provisional port traffic data for the first three months of 2020-21from DfT showed large reductions in tonnages and units at the largest intermodal ports.

'Other' freight moved increased by 4.2% compared with 2019-20 to reach its highest annual volume since 2005-06. This was due to the continued demand for biomass and an increase in the volume of household waste produced during lockdown.

Figure 1.1 Freight moved (billion net tonne kilometres) by commodity, Great Britain, 2020-21 and change compared with 2019-20 (Table 1310)



2020-21 Q4

The volume of freight moved was 4.03 billion net tonne kilometres in 2020-21 Q4. Whilst this was a 1.3% decrease on the same quarter last year, volumes throughout the second half of 2020-21 have broadly returned to pre-pandemic levels.

Domestic intermodal volumes fell by 4.3% compared with 2019-20 Q4. Similarly, International volumes were down by 21.8% over the same period. These reductions could be attributed to companies using existing supplies that had been stockpiled before the end of the Brexit transition period, leading to suppressed demand for stock in Q4.

Oil and petroleum also saw a fall in demand (down 19.4%) compared with the same quarter last year due to the continuing impact of Covid-19 on the aviation sector.

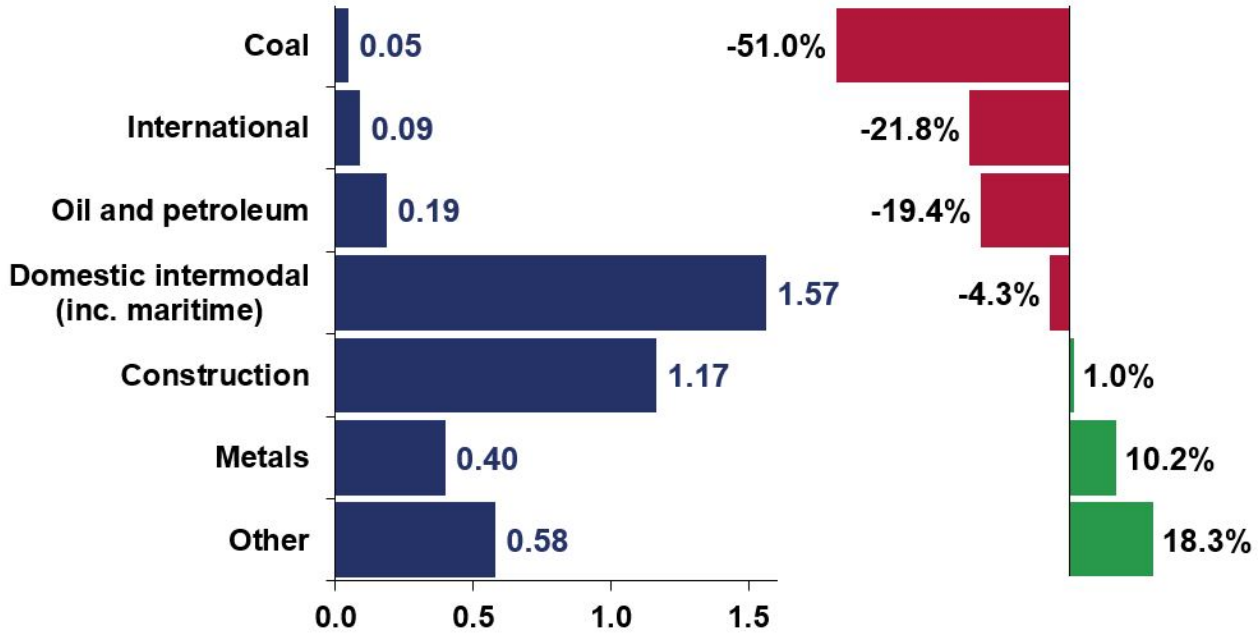
Coal volumes also continued to decline in 2020-21 Q4. With very little coal now being transported to power stations, freight moved fell by over 50% compared with 2019-20 Q4.

These reductions were partially offset by increased freight volumes in the Metals, Construction and 'Other' (includes biomass and waste) sectors.

Metals increased by 10.2% compared with 2019-20 Q4 to reach their highest quarterly level in over five years (2015-16 Q2). This was due to increased demand for iron ore.

'Other' freight moved recorded its highest quarterly volume since 2005-06. As with the annual totals, the increase in Q4 was due to the continued demand for biomass and an increase in the volume of household waste.

Figure 1.2: Freight moved (billion net tonne kilometres) by commodity, Great Britain, 2020-21 Q4 and change compared with 2019-20 Q4 (Table 1310)



2. Freight lifted

2020-21 Annual

There were 69.0 million tonnes of freight lifted in 2020-21. This was a fall of 4.4% compared with 2019-20 and represented the lowest annual total of freight lifted since the miners' strike in 1984-85.

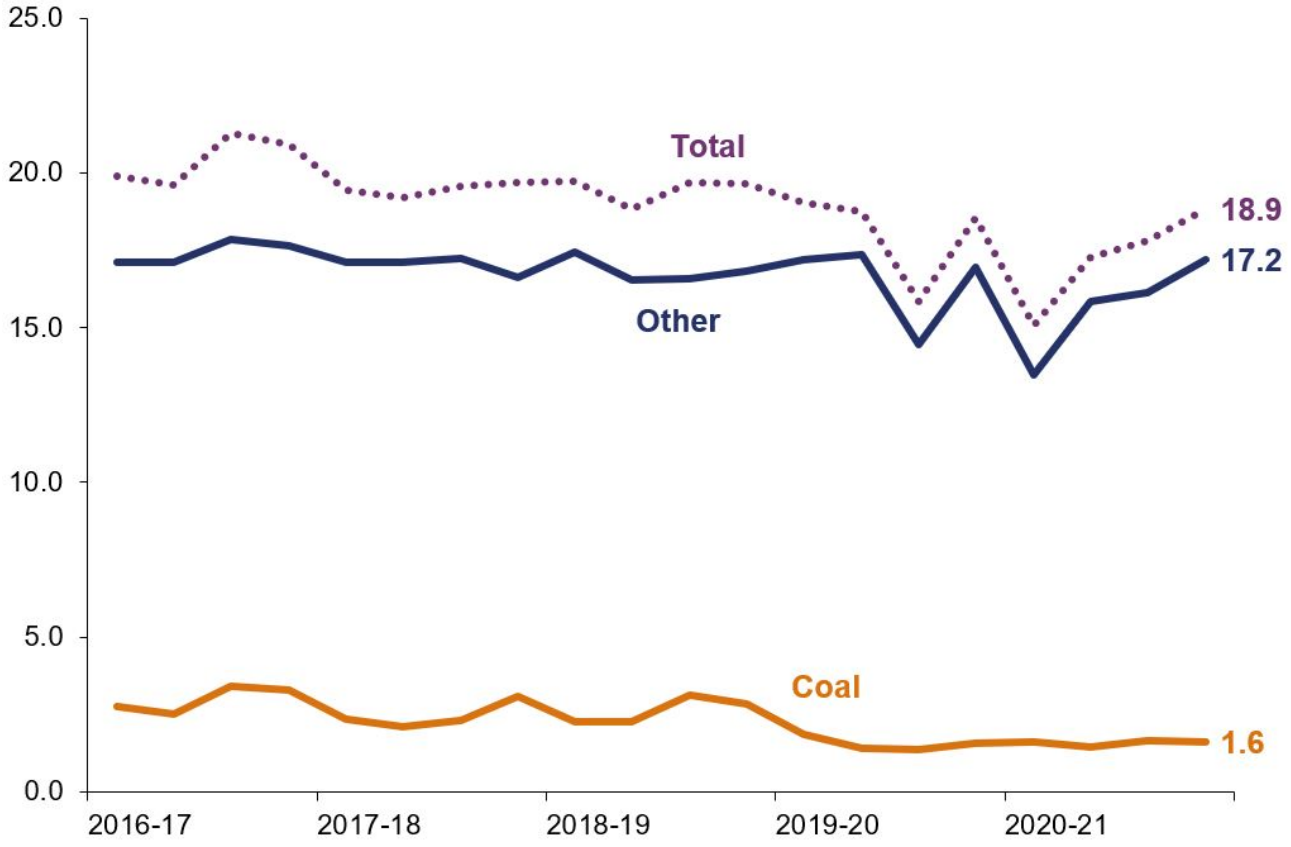
In a similar manner to freight moved, freight lifted had a much stronger second half of the year with volumes up 6.6% compared with the last six months of 2019-20. However, volumes during the first six months (April 2020 to September 2020) were down 14.4% compared with the same period in 2019-20, resulting in the overall annual fall.

2020-21 Q4

The total amount of freight lifted in 2020-21 Q4 was 18.9 million tonnes, an increase of 1.7% compared with the same quarter last year.

The amount of coal lifted increased by 2.7% compared with 2019-20 Q4, whilst other freight increased by 1.6% over the same period.

Figure 2.1: Freight lifted (million tonnes), Great Britain, 2016-17 Q1 to 2020-21 Q4 (Table 1315)



3. Freight Delivery Metric (FDM)

2020-21 Annual

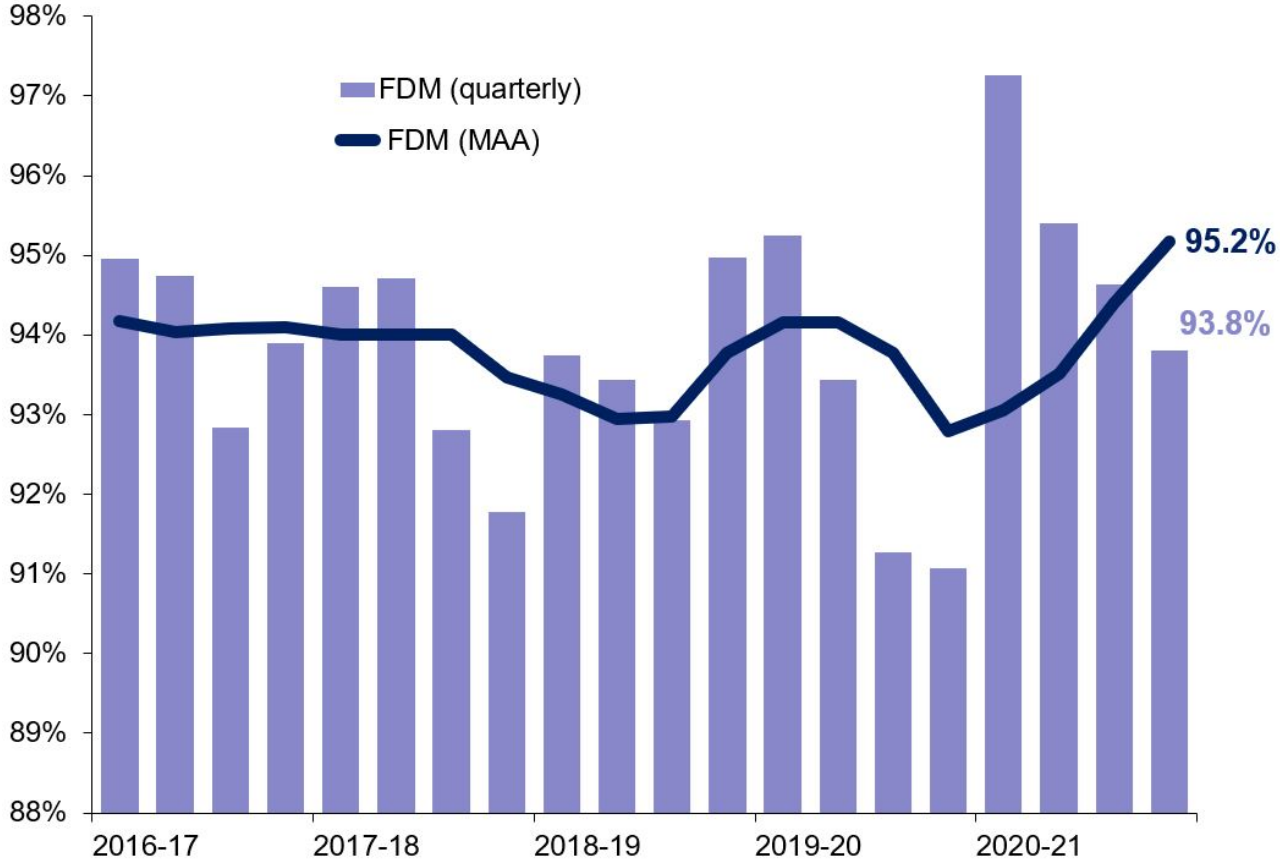
Freight punctuality, as measured by the Freight Delivery Metric, reached 95.2% in 2020-21. This represented the best level of punctuality achieved since the time series began in 2012-13.

Freight punctuality improved because of the reduction in the number of passenger services during the pandemic, resulting in fewer delays affecting freight traffic.

2020-21 Q4

The Freight Delivery Metric was 93.8% in 2020-21 Q4, 2.7 percentage points (pp) higher than the same quarter in 2019-20.

Figure 3.1: Freight Delivery Metric (quarterly and MAA), Great Britain, 2016-17 Q1 to 2020-21 Q4 (Table 1320)



Freight Delivery Metric disaggregated by Network Rail Region (FDM-R) and period is available on the data portal in Table 1324

4. Freight delay per 100 train kilometres

2020-21 Annual

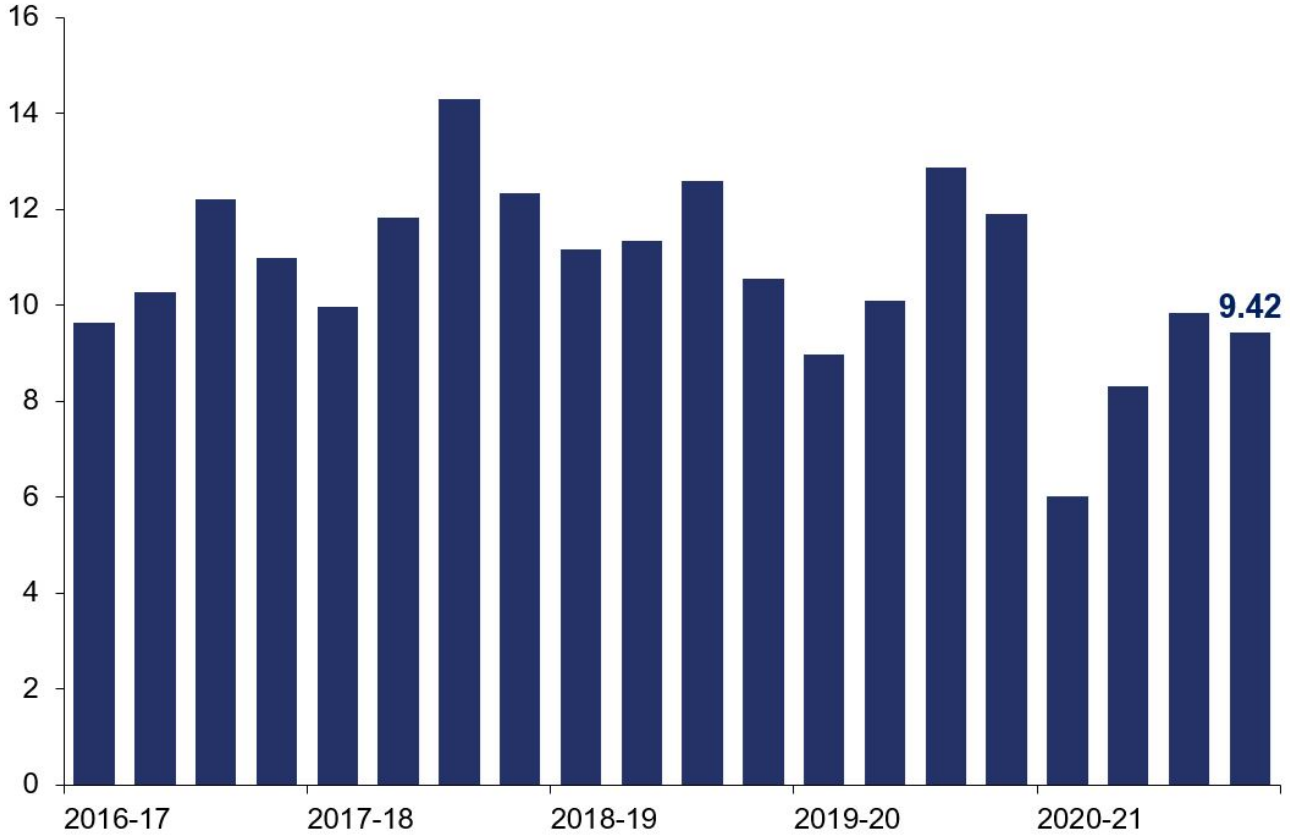
Freight delay per 100 train kilometres fell to 8.40 minutes in 2020-21. This was an improvement of 23.4% compared with 2019-20 and represents a continuation of the long-term improvement in normalised freight delay since the time series began in 2007-08.

As with the Freight Delivery Metric, the reduction in the number of passenger services operating across the network during the year has contributed to lower freight delays.

2020-21 Q4

Freight operators experienced 9.42 minutes of delay per 100 train kilometres in 2020-21 Q4. This was an improvement of 20.8% on the same quarter last year and represented the lowest level of Q4 freight delay since the time series began in 2007-08.

Figure 4.1: Freight delay per 100 train kilometres, Great Britain, 2016-17 Q1 to 2020-21 Q4 (Table 1325)



5. Freight train kilometres

2020-21 Annual

Freight train kilometres across Great Britain fell by 3.3 million to 29.9 million in 2020-21, a reduction of 9.9% compared with 2019-20.

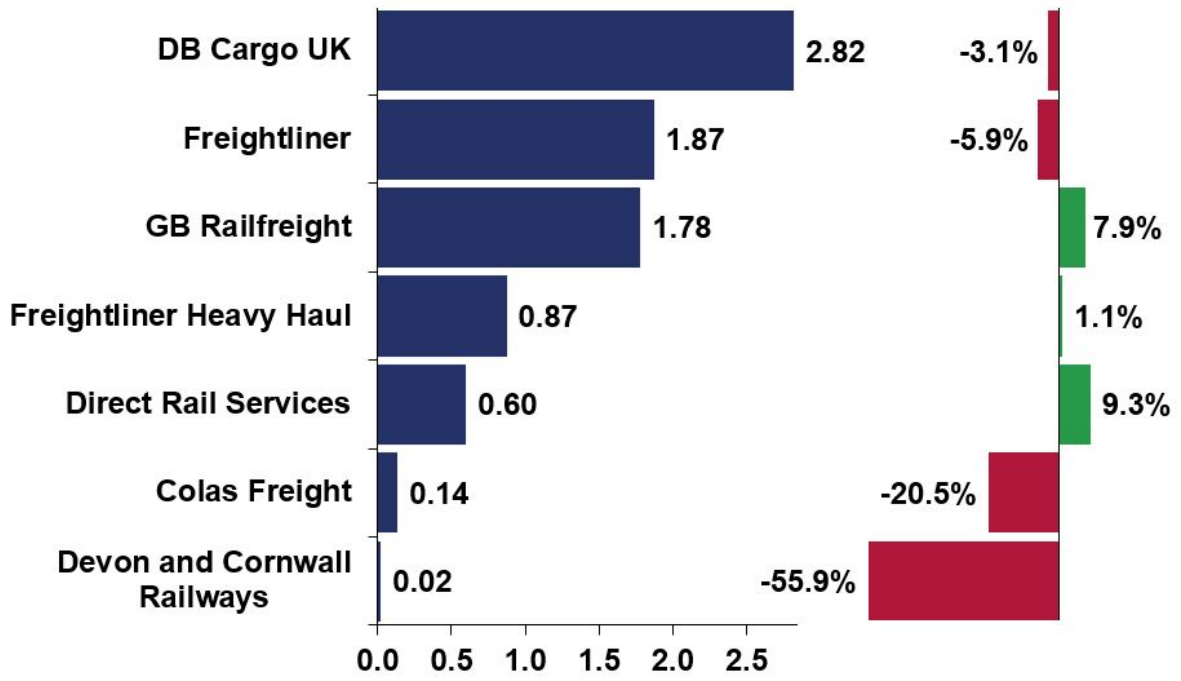
The two operators with the largest share of train kilometres, DB Cargo and Freightliner, saw drops of 15.3% and 15.6% respectively. Only Freightliner Heavy Haul (up 19.4%) and Direct Rail Services (up 13.5%) saw an increase compared with the previous year.

2020-21 Q4

Freight train kilometres between January and March were 1.0% down on the same quarter in 2019-20. DB Cargo and Freightliner fell by almost 90,000 and 120,000 kilometres respectively.

These reductions were partially offset by increases for three operators. GB Railfreight had the largest absolute increase with just over 130,000 additional train kilometres compared with 2019-20 Q4. This could be a result of GB Railfreight's new contract to supply materials to HS2's main construction sites. Direct Rail Services rose by over 50,000 kilometres whilst there was a smaller increase of just under 10,000 kilometres for Freightliner Heavy Haul.

Figure 5.1: Freight train kilometres (millions) by operator, Great Britain, 2020-21 Q4 and change compared with 2019-20 Q4 (Table 1333)



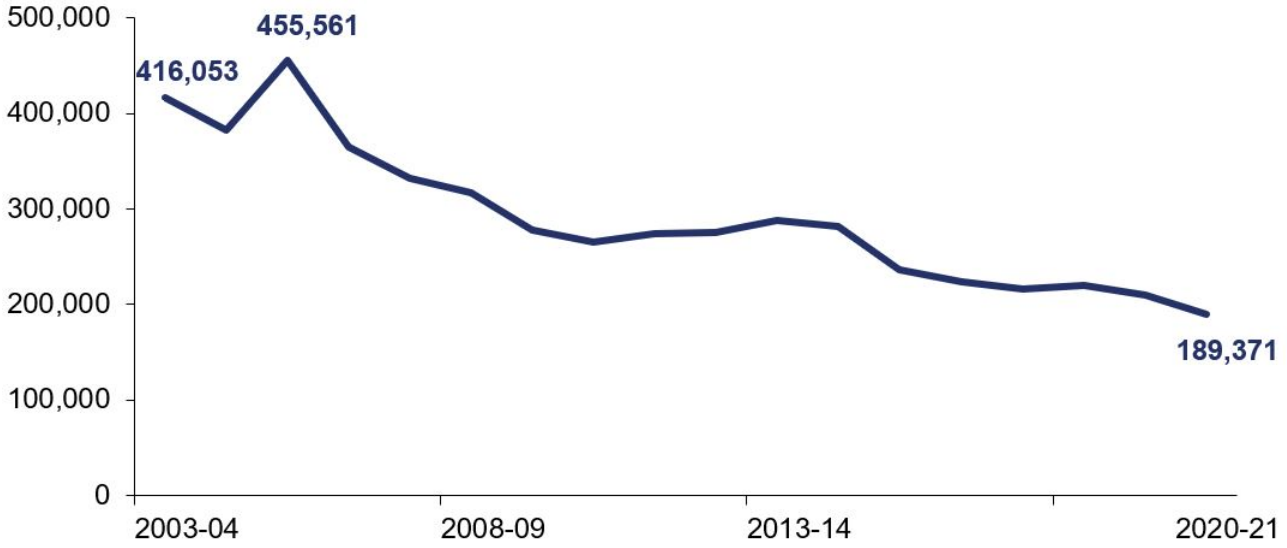
6. Freight market indicators

Freight train movements (2020-21)

There were 189,371 freight trains that ran on the mainline network in 2020-21. This was down 9.6% compared with 2019-20 and corresponds with a similar fall in total freight train kilometres.

The number of freight trains running on the network has been on a steady, downward trend since the time series began in 2003-04.

Figure 6.1 Freight trains run, Great Britain, 2003-04 to 2020-21 (Table 1330)



Rail freight impact on road haulage (2019-20)

There were 6.4 million lorry journeys avoided in 2019-20 through transporting freight by rail rather than road. This was the lowest number of avoided lorry journeys since the time series began in 2004-05, reflecting the lower volumes of freight moved by rail in 2019-20.

In 2019-20, the number of lorry kilometres required to transport the volumes of freight moved by rail was 1.5 billion kilometres, a 9.7% decrease compared with 2018-19.

Rail freight market share (2019)

During 2019, 4.6% of all freight lifted in Great Britain was transported by rail. This represented the lowest share of the freight lifted market since the start of the time series in 1998. Road freight (HGVs) accounted for 89.4% of the freight lifted market.

The market share for freight moved by rail was 8.6% in 2019, the lowest proportion recorded since 2003. Road freight (HGVs) had a market share of 78.5%.

7. Annexes

Annex 1 – Definitions

- **Freight moved** measures the amount of freight moved on the railway network, taking into account the weight of the load and the distance carried. It is measured in net tonne kilometres.

- **Freight lifted** is the mass of goods carried on the rail network measured in tonnes, excluding the weight of the locomotives and wagons. Unlike freight moved it takes no account of the distance travelled.

- **Freight Delivery Metric (FDM)** measures the percentage of commercial freight services that arrive at planned destination within 15 minutes of their booked arrival time or with less than 15 minutes of Network Rail or passenger operator delay. *A higher score indicates better performance.*

- **Moving annual average (MAA)** reflects the proportion of trains that met FDM in the past 12 months. In Q4, 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 six largest Freight Operating Companies (DB Cargo UK, Freightliner, GB Railfreight, Direct Rail Services, Colas Freight, and Devon & Cornwall Railways).

Annual data used to calculate rail freight impact on road haulage and rail freight market share is sourced from Department for Transport.

To provide more comprehensive coverage of the freight market, estimates of freight lifted have been calculated for Devon & Cornwall Railways (2011-12 Q1 onwards) and Colas Freight (2010-11 Q1 to 2019-20 Q4). From 2020-21 Q1, Colas Freight are providing actual freight lifted data but Devon & 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 since they were last published.

- Table 1310 – Freight moved and Table 1320 – Freight Delivery Metric have had minor revisions due to new data being supplied.
- Table 1315 – Freight lifted has been revised for 2013-14 Q1 due to an error in the calculation that apportions periodic (4-weekly) data to the relevant quarter.

- Table 1330 – Freight trains run has been revised for 2019-20 to include some additional freight operators that had previously been excluded in error.
- Table 1340 - Rail freight impact on road haulage and Table 1350 - Rail freight market share have been revised due to the inclusion of historic freight lifted data for Colas Freight and Devon and Cornwall Railways.

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

Freight performance

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

Freight traffic

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

Other related statistics

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

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

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

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

The Department for Transport (DfT) also publishes rail statistics. For example, Rail passenger numbers and overcrowding on weekdays in major cities.

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

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

This publication is available on the ORR data portal

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