

Passenger rail performance

1 January to 31 March 2022

26 May 2022

Background:

This quarterly statistical release contains information on passenger rail performance measures of punctuality and reliability for Great Britain.

These include: **On Time** at every recorded station stop, **train delays**, **PPM**, **Cancellations** and **Severely disrupted days**.

It also contains more detailed information by train operator.

Source: Network Rail

Latest quarter: 1 January to 31 March 2022

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Next publication:
15 September 2022

Performance in the latest quarter (1 January to 31 March 2022) continued to be affected by the coronavirus (COVID-19) pandemic self-isolation restrictions. From April 2020 to early 2021, train service and passenger levels on the network were at historically low levels. This led to improvements in both punctuality and reliability.

Figure 1 Passenger rail performance worsened again this quarter, but punctuality is still better than before the pandemic

On Time, PPM and Cancellations score, Great Britain, 1 January to 31 March 2022 and change from same quarter of 2021 and 2020

Measure	Jan to Mar 2022	Compared with Jan to Mar 2021	Compared with Jan to Mar 2020
On Time	72.4%	↓ -8.0pp	↑ 6.8pp
PPM	89.1%	↓ -3.9pp	↑ 3.3pp
Cancellations score	3.9%	↑ 1.5pp	↑ 0.1pp

For the **On Time** punctuality measure, the percentage of recorded station stops arrived at 'on time' (early or less than one minute after the scheduled arrival time) in Great Britain was **72.4%** in the latest quarter. On Time moving annual average (MAA) was 73.0%.

Using the **Public Performance Measure (PPM)**, **89.1%** of trains were punctual (early or less than 5/10 minutes after the scheduled arrival time) at their final destination in the latest quarter. PPM MAA was 89.7%.

The proportion of trains classified as **Cancellations** in the latest quarter was **3.9%**. Cancellations MAA was 3.3%. The cancellation measure is a weighted score which counts full cancellations as one and part cancellations as half.

All data tables, a quality and methodology report and an interactive dashboard associated with this release are published on the [Passenger rail performance page](#) of the data portal. Key definitions are in annex 1 of this release.

1. Background

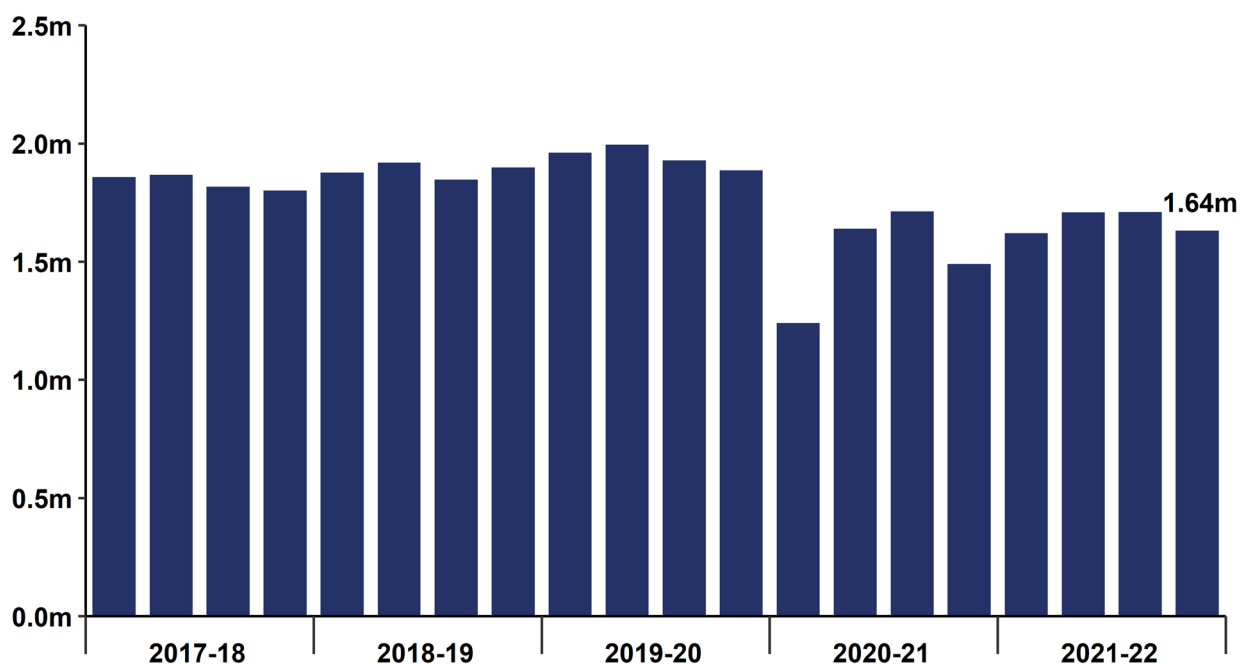
Impact of the pandemic

A reduction in both trains planned and passengers from April 2020 led to improvements in punctuality and reliability relative to the levels seen before the pandemic. However, the recovery in train and passenger numbers this financial year has resulted in a deterioration of punctuality and reliability compared with last year. We have therefore focused the presentation of the latest quarterly statistics in this release compared with the same quarter (1 January to 31 March) of both the previous year and two years ago.

In the **latest quarter**, there were **1.64 million** trains planned in Great Britain. This was up 9.5% compared with the same quarter the previous year (1 January to 31 March 2021) but was down 13.5% compared with the same quarter two years ago.

Figure 1.1 Trains planned remained at lower levels than before the pandemic but have increased since the pandemic began

Trains planned (millions), Great Britain, quarterly data, April 2017 to March 2022 (Table 3123)



For the **year** up to March 2022 (1 April 2021 to 31 March 2022), there were **6.69 million** trains planned in Great Britain. This was up 9.6% compared with the previous year ending March 2021 and down 14.1% compared with the year ending March 2020.

The Department for Transport publishes [daily statistics on transport use by mode](#) compared with the equivalent week in 2019. According to these estimates, between April and May 2020 passenger usage reached as low as 4% of the equivalent weekly levels in 2019. At the start of the **latest quarter** (1 January 2022) passenger usage was at 34% of equivalent weekly levels in 2019, whilst the [government's advice for people to work from home if possible](#) was still in effect. This guidance ended on 19 January 2022 and passenger usage substantially increased. In the latest quarter, passenger usage increased to a high of 80% the equivalent weekly levels in 2019, the highest levels since the pandemic began. However, passenger usage remained lower than before the pandemic.

The Office of Rail and Road (ORR) also publishes [quarterly passenger rail usage statistics](#). Statistics covering the latest quarter (1 January to 31 March 2022) will be published on 16 June 2022.

2. Train punctuality

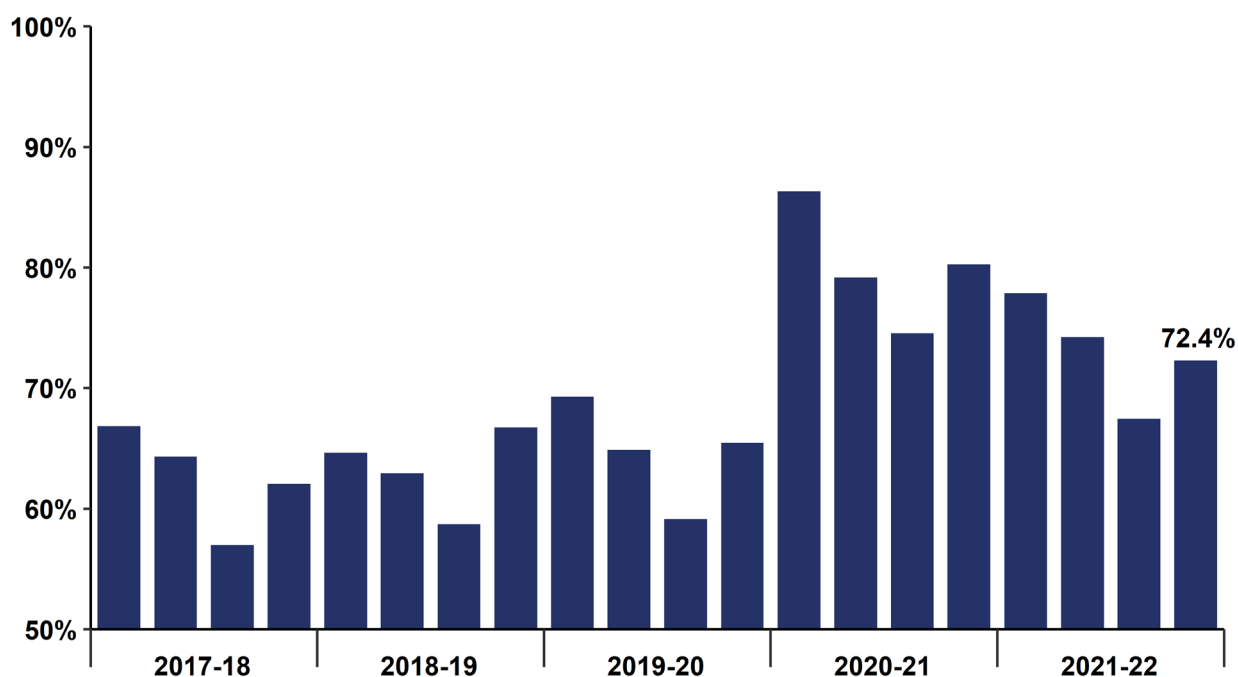
Punctuality at each recorded station stop

On Time is the percentage of recorded station stops that were early or less than one minute after the scheduled arrival time.

In the **latest quarter**, **72.4%** of recorded station stops in Great Britain (12.9 million out of 17.8 million) were arrived at On Time. This was 8.0 percentage points (pp) lower (i.e. worse) than the same quarter last year. Despite the decrease, this quarter was still 6.8pp higher than the same quarter in 2020.

Figure 2.1 On Time percentages continue to decrease but still higher than before the pandemic

On Time, Great Britain, quarterly data, April 2017 to March 2022 (Table 3133)



For the **year** up to March 2022 (1 April 2021 to 31 March 2022), **73.0%** of recorded station stops in Great Britain (53.6 million out of 73.4 million) were arrived at On Time. This was down 6.7pp compared with the previous year ending March 2021 and up 8.2pp compared with the year ending March 2020.

Further train punctuality data is available in Table 3133. This includes the percentage of recorded station stops arrived at within 3 minutes (Time to 3) and within 15 minutes (Time to 15) after the scheduled arrival time.

From the **next quarter** (starting 1 April 2022), historical On Time data (including Time to 3 and Time to 15) from 1 April 2015 presented in this release, Table 3133 and Table 3138 will be revised. This follows improvements made to the way On Time measures are calculated by Network Rail. Whilst revisions are expected to almost all published On Time data, the magnitude of these revisions is expected to be very small (around 0.1 percentage points or less at train operator level) in most cases. Further information will be provided in next quarter's release.

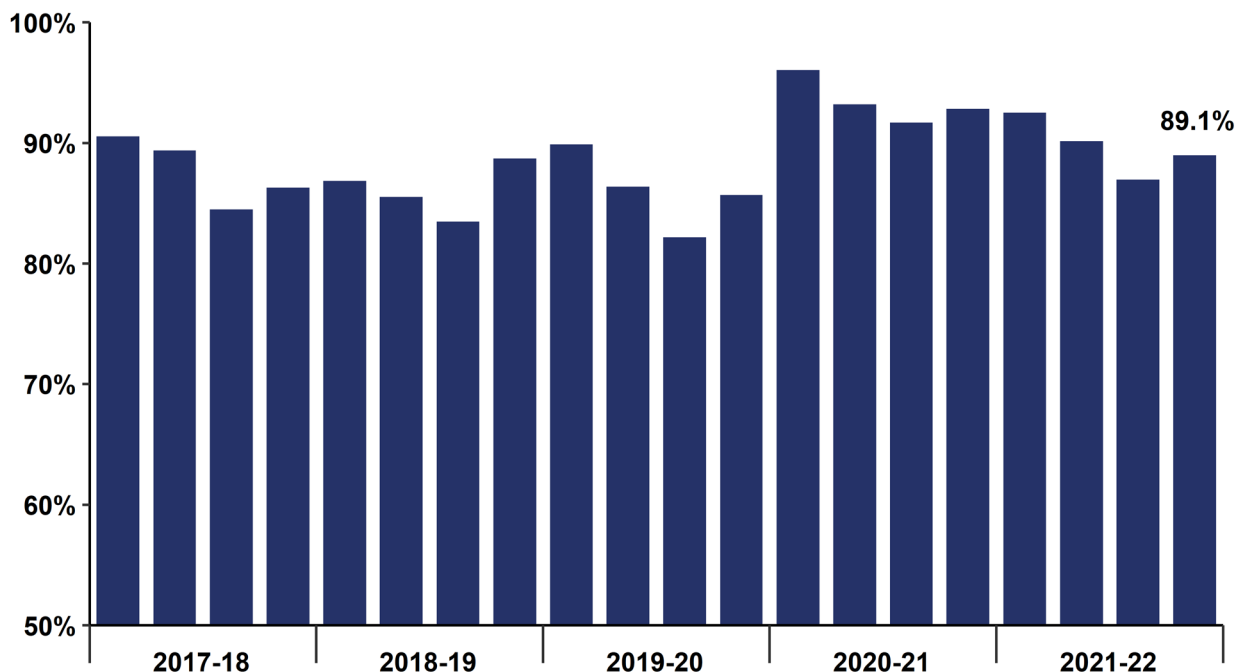
Public Performance Measure (PPM)

The **Public Performance Measure (PPM)** is the percentage of trains arriving at their final destination within either 5 or 10 minutes of the scheduled arrival time depending on the type of train operator providing the service.

In the **latest quarter**, PPM for Great Britain was **89.1%**. This was 3.9pp lower (i.e. worse) than the same quarter last year. However, PPM in the latest quarter was 3.3pp higher than the same quarter two years ago (1 January to 31 March 2020).

Figure 2.2 PPM falling towards pre-pandemic levels

PPM, Great Britain, quarterly data, April 2017 to March 2022 (Table 3113)



PPM for the **year** up to March 2022 (1 April 2021 to 31 March 2022), was **89.7%**. This was down 3.7pp (i.e. lower) compared with the previous year ending March 2021 and up 3.6pp compared with the year ending March 2020.

Other punctuality measures

Delay minutes

Delay minutes measure the time lost between consecutive timing points on the rail network.

In the **latest quarter**, national (GB) train delay minutes attributed to Network Rail increased by 41.8% compared with the same quarter the previous year. Delay minutes attributed to operators increased by 85.1% compared with a year earlier.

For detailed information on Network Rail and operator performance this quarter, please see our [interactive performance dashboard](#) on the data portal.

Consistent Region Measure – (Passenger) Performance

The **Consistent Region Measure – (Passenger) Performance** (CRM-P) measures passenger train delay attributed to Network Rail from incidents occurring in each [Network Rail region](#), per 100 train kilometres.

CRM-P is one of the key measures used by ORR for routine [monitoring and assessment of Network Rail's passenger rail performance](#). ORR monitors delivery against annual CRM-P targets and regulatory floors set for each of the five Network Rail regions. Data for CRM-P can be found in Table 3174.

Average Passenger Lateness

Average Passenger Lateness (APL) measures the average lateness of a passenger as they alight from their train. Data for APL can be found in Table 3144.

3. Train reliability

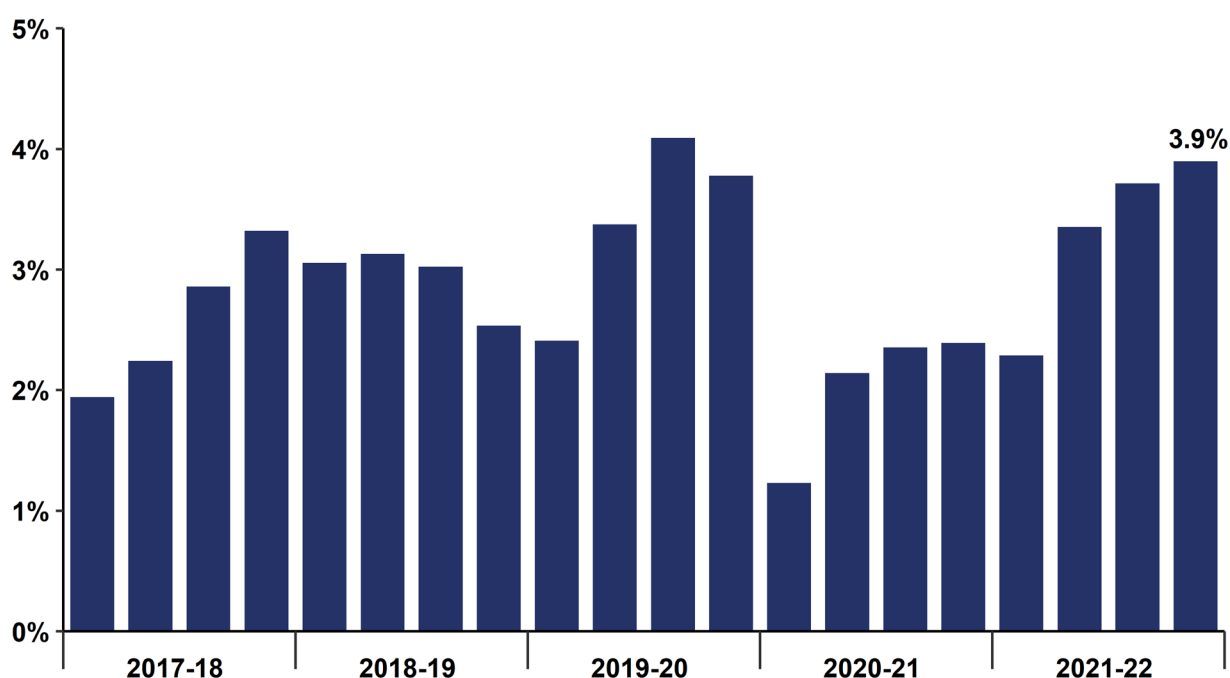
Cancellations

In the **latest quarter**, of the 1.64 million trains planned, 0.05 million were full cancellations and 0.03 million were part cancellations. The **Cancellations score** is the percentage of trains planned that were cancelled, whereby full cancellations are counted as one and part cancellations as half.

In the **latest quarter**, the Cancellations score was **3.9%** which was 1.5pp higher (i.e. worse) than the same quarter the previous year. Also, it was 0.1pp higher than the same quarter two years ago (i.e. worse).

Figure 3.1 Cancellations increased substantially throughout the course of this financial year

Cancellations score, Great Britain, quarterly data, April 2017 to March 2022 (Table 3123)



The Cancellations score for the **year** up to March 2022 (1 April 2021 to 31 March 2022) was 3.3%. This was up 1.2pp (i.e. worse) compared with the previous year ending March 2021 and down 0.1pp (i.e. better) compared with the year ending March 2020.

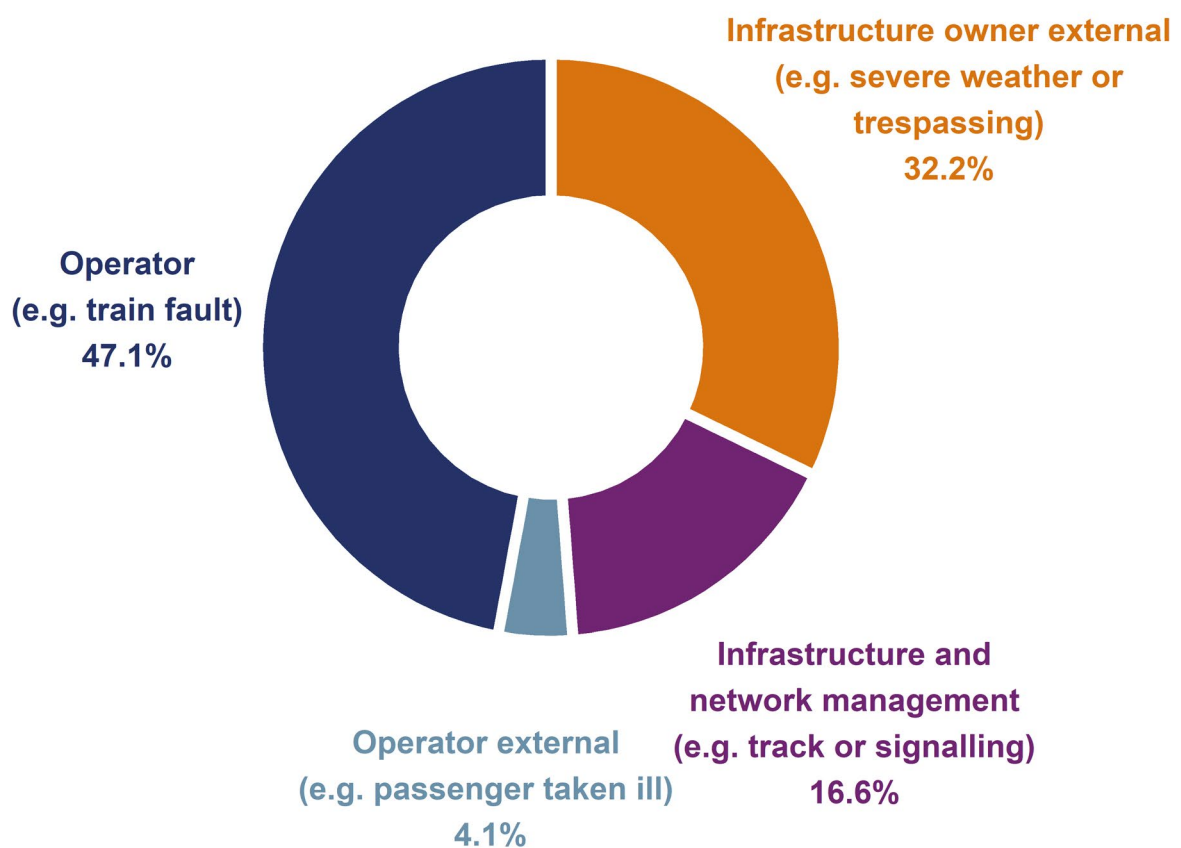
Train cancellations Table 3123 (quarterly) and Table 3124 (periodic) include data on the number of full and part cancellations by operator.

Responsibility for cancellations

In the **latest quarter**, of all attributed cancellations, operators were attributed with responsibility for 51.2% of cancellations that occurred. Infrastructure owners were attributed with responsibility for 16.6% of cancellations for infrastructure and network management issues, with another 32.2% attributed to external incidents such as severe weather or trespassing. (External incidents are attributed to the party considered best placed to mitigate their effects.)

Figure 3.2 Around a third of cancellations were attributed to infrastructure owner external

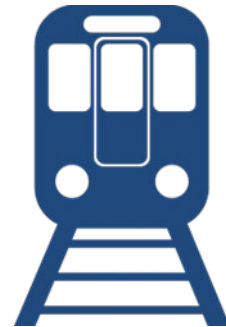
Proportion of cancellations by responsibility category, Great Britain, January to March 2022 (Table 3123)



Severe disruption

A **Severely disrupted day** at a national (GB) level occurs when the Cancellations score is 5% or more.

Nationally, there were **9** severely disrupted days in the latest quarter, which was **6 more days** than the same quarter in the previous year.



The 9 severely disrupted days in the latest quarter were on 29 January, 6, 16, 17, 18, 19, 20, 21 February and 19 March.

During this latest quarter (1 January to 31 March 2022) Great Britain was hit by a succession of storms that caused train cancellations.

On 29 January [Storm Malik](#) hit Scotland and parts of northern England, causing disruption such as fallen trees on the line.

The severely disrupted days between 16 and 21 February were particularly bad when [storms Dudley, Eunice and Franklin](#) struck Great Britain. As stated above, a severely disrupted day is when the cancellations score is 5% or more. On 18 February when Storm Eunice hit, most operators were advising passengers not to travel and cancellations on the network was 44.1%.

On 19 March cancellations were mainly attributed to train crew issues.

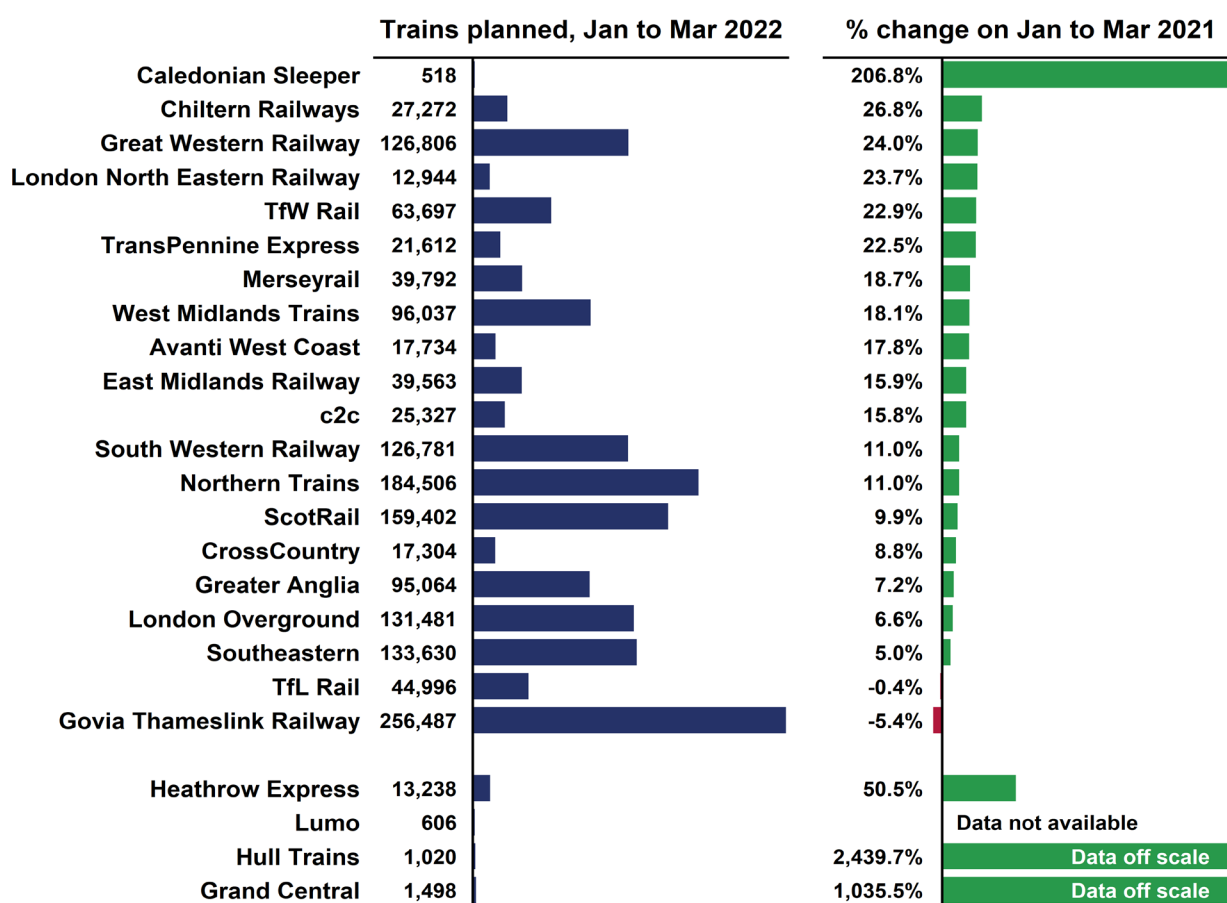
Periodic (four-weekly) data on severe disruption at a national and sub-operator level can be found in Table 3157.

4. Train operator analysis

Trains planned

Figure 4.1 Trains planned increased for 21 out of 23 operators compared with the same quarter last year

Trains planned by operator, January to March 2022, and percentage change compared with January to March 2021 (Table 3123)

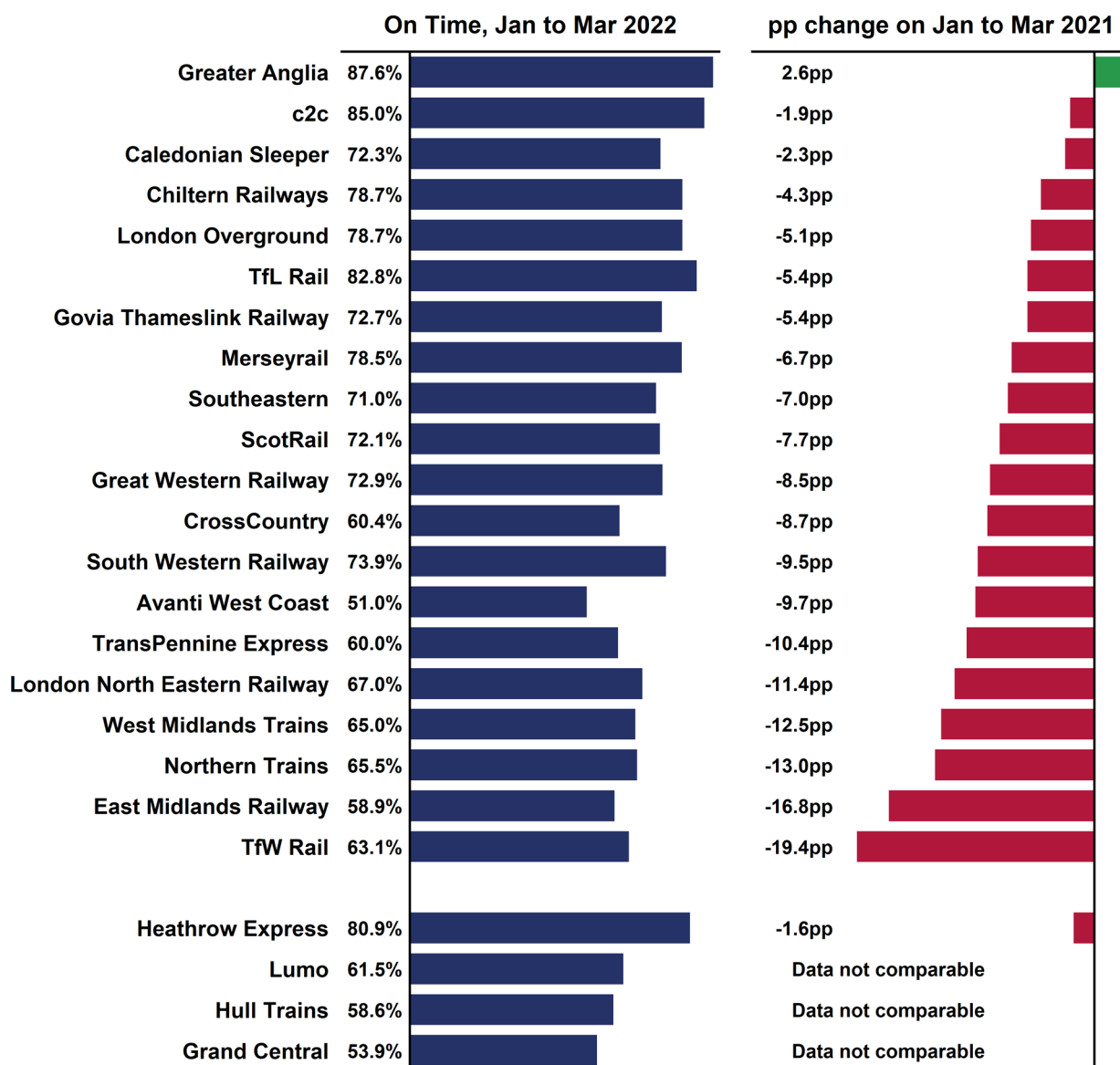


The changes in trains planned varied by operator from an increase of 2,439.7% for Hull Trains to a decrease of 5.4% for Govia Thameslink Railway. Hull Trains ran a reduced service of 40 trains during January to March 2021 compared with 1,020 trains in the latest quarter. Similarly, Grand Central ran a reduced service of 132 trains during January to March 2021. Lumo began running services on 25 October 2021, therefore there is no quarterly comparison. For these reasons, in this release these three operators will not be compared between the latest quarter and the same quarter in the previous year. Also note that Caledonian Sleeper ran 518 trains this quarter, compared with the 169 in the same quarter last year, which was the lowest quarterly number of trains ran since the timeseries began in 2015. This should be taken into consideration when comparing Caledonian Sleeper's change in punctuality and reliability.

Punctuality

Figure 4.2 Punctuality improved for one operator only this quarter compared with the same quarter last year

On Time by operator, January to March 2022 and percentage point (pp) change compared with January to March 2021 (Table 3133)

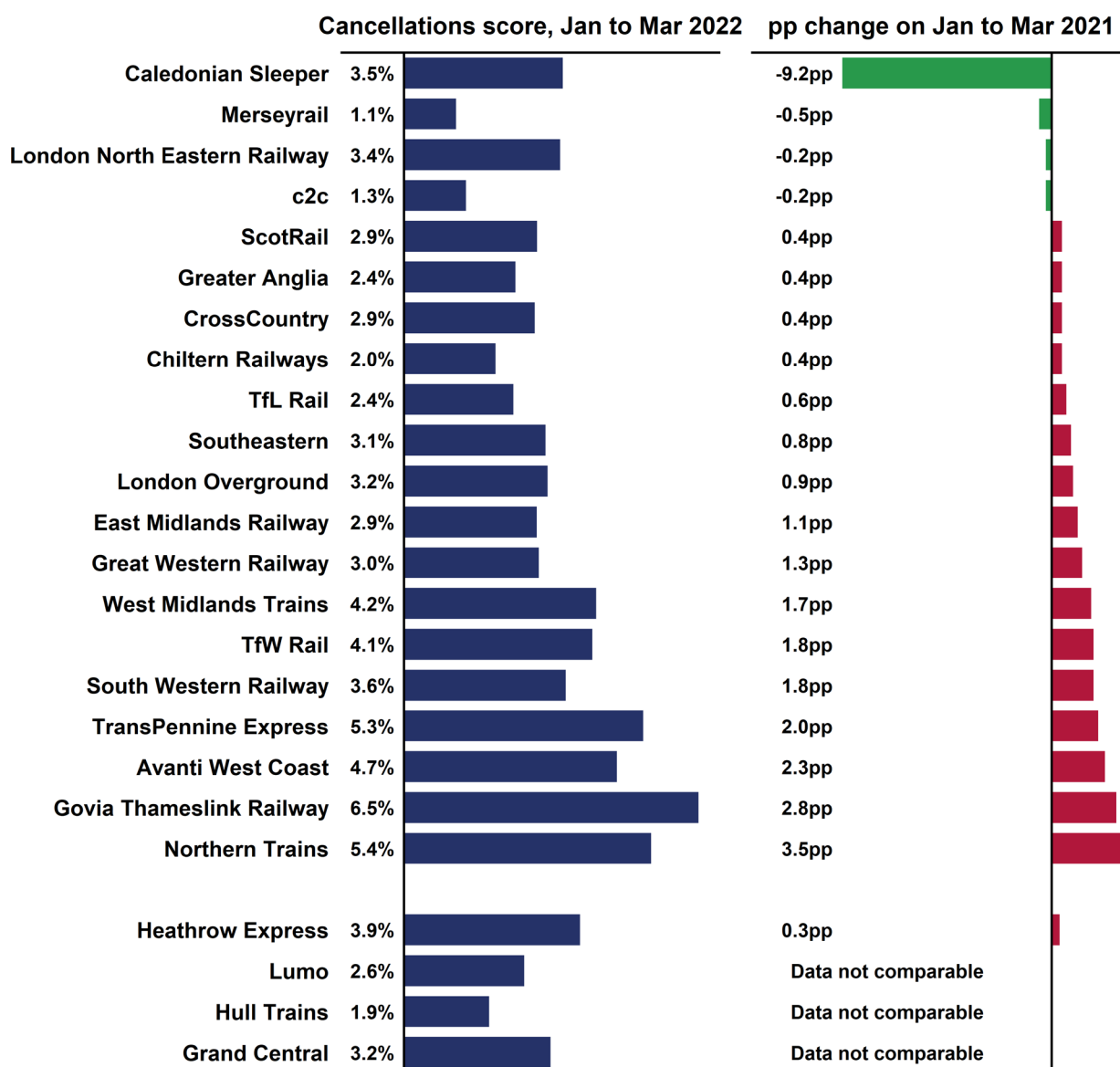


Greater Anglia (up 2.6pp) was the only operator to record an increase in On Time compared with the same quarter last year. TfW Rail had the largest decrease in On Time percentage (down 19.4pp). As stated above, Grand Central and Hull Trains had significantly reduced services during the same quarter last year (1 January to 31 March 2021) so changes in punctuality and reliability in this quarter are not comparable. Lumo started running services on 25 October 2021.

Reliability

Figure 4.3 Reliability of most operators worsened this quarter

Cancellations score by operator, January to March 2022 and percentage point (pp) change compared with January to March 2021 (Table 3123)



Reliability improved for four operators, with lower cancellations scores compared with the same quarter last year. Northern Trains (up 3.5pp) had the largest increase in cancellations.

5. Annexes

Annex 1 – Definitions

- **On Time** measures the percentage of recorded station stops arrived at early or less than one minute after the scheduled time (as per timetable). Early trains are classified as 'on time'. *A higher On Time score indicates better punctuality.*
- **Time to 3 and Time to 15** measure the percentage of recorded station stops arrived at early or less than three and 15 minutes respectively after the scheduled time. The percentages are cumulative.
- **A recorded station stop** is defined as a location with both a planned timetable time and an actual recorded time where a train has stopped. Up to around 90% of all station stops are currently recorded. No estimates have been made for punctuality at the c.10% of station stops not recorded.
- The **moving annual average (MAA)** reflects the proportion of trains On Time (or cancelled if referring to cancellations measure) in the past 12 months.
- **Public Performance Measure (PPM)** is the proportion of trains arriving at their final destination early or less than five minutes after the scheduled time for London and South East, Regional and Scotland operators, or less than ten minutes for Long Distance operators. For three of the open access operators (Hull Trains, Grand Central and Lumo), it is less than ten minutes, while Heathrow Express services it is less than five minutes. Where a train fails to stop at one or more booked calling points on the journey, the train is considered to have failed PPM. *A higher score indicates better punctuality.*
- **Delay minutes** are defined as the time lost between consecutive timing points on the rail network. Delay incidents producing three or more minutes of delay on Britain's railways are attributed to either Network Rail or a train operator. As well as infrastructure and operational delays such as signal failures and overrunning engineering works, delays caused by external factors such as severe weather, vandalism, cable theft and trespass are also attributed to Network Rail. This is because they are considered best placed to mitigate for such incidents.
- **Consistent Region Measure – (Passenger) Performance (CRM-P)** is defined as the delay attributed to Network Rail from incidents occurring in each Network Rail Region, per 100 train kilometres. *A lower score reflects better performance.*

- **Average Passenger Lateness (APL)** measures the average lateness of a passenger as they alight from their train. It is estimated for each train by multiplying the number of passengers expected to alight at main stations by the punctuality to the nearest minute at those stops. The measure also takes into account passenger lateness resulting from cancelled trains.
- **Cancellations** measures the amount of trains that are cancelled as a percentage of trains planned. This would include trains missing stations and/or not reaching their destination. The cancellations measure is a score which weights full cancellations as one and part cancellations as half. *A lower cancellations score indicates better reliability.*
- **Responsibility for cancellations:** A delay attribution process is used to apportion responsibility for cancellations and any one cancellation can be split between multiple causes of delay. **External incidents** are attributed to the party considered best placed to mitigate their effects.
- A **severely disrupted day** at a national (GB) level is defined when the cancellations score is 5% or more. At a sub-operator level, a severely disrupted day is defined when the cancellations score for any sub-operator is 20% or more.

Further information on each of these measures and other definitions can be found in the quality and methodology report on the [Passenger rail performance page](#) of the data portal.

Annex 2 – Quality and methodology

Data source

Most of the data contained within this statistical release are collected automatically from Network Rail's TRUST System (Train Running System on TOPs (Total Operation Processing System)). The latest data should be treated as provisional, as train operators provide Network Rail with information e.g. on cancellations, which can be updated over time. These updates are only provided at operator level. As such, aggregations of sub-operator data can provide slightly different figures to those published at the operator level.

All of these measures are judged against what is known as the plan of the day. The train operator and Network Rail confirm this at 22:00 on the previous evening. Trains removed from the railway systems before this time are excluded from the measures presented in this statistical release and associated data tables.

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). Where possible, Network Rail remaps historical data to match the railway franchises that exist today. The quarterly data in this release are derived by splitting the periodic data according to the number of days of the period that falls within each quarter.

Punctuality and reliability by operator

The data provided in Table 3133 (Train punctuality at recorded station stops) and Table 3123 (Train cancellations) show the railway as it exists today. Historical data are shown for the existing operators as far back as data are available. For some operators, data are available quarterly as far back as April 1997. While comparisons can be made with historical data, it should be noted that the service provided by many operators has changed substantially.

As an example, during the year April 1997 to March 1998 Virgin Trains West Coast (VTWC) planned to run 55,600 trains. During the year April 2012 to March 2013 this figure had almost doubled to reach 110,400. In December 2013, however, the operator reconfigured their timetable to extend Scotland to Birmingham services to London in place of some Birmingham to London services. A change in service composition such as this would have had an effect on the overall level of performance of the operator.

Trains planned, PPM and CaSL performance of the operators that existed at the time is available in Table 3103.

Sub-operator level data

Train punctuality and reliability performance data by sub-operator can be found in Table 3167 (Disaggregated train punctuality and reliability performance on the rail network).

In some cases, individual operators are broken down into different sub-operators under different brand names e.g. Govia Thameslink Railway operates as Gatwick Express, Great Northern, Southern, and Thameslink.

Four operators provide services in more than one sector: East Midlands Trains, Great Western Railway, Greater Anglia, and West Midlands Trains. Each of these operators is broken down into different sub-operators corresponding to each sectoral component.

Recent changes to train operators

Lumo is a new open access operator which began running services on 25 October 2021 between end stations London King's Cross and Edinburgh Waverley on the East Coast Main Line.

Further information on individual operators, including route maps, can be found via the [Rail Delivery Group website](#).

Revisions

There have been no revisions to historic data in this release. Details of previous revisions can be found in the [Revisions log](#).

As noted in section 2 above, from the next quarter (starting 1 April 2022), historical On Time data (including Time to 3 and Time to 15) from 1 April 2015 presented in this release, Table 3133 and Table 3138 will be revised. Further information will be provided in next quarter's release.

How these statistics can and cannot be used



- Monitoring the punctuality and reliability performance of passenger rail services in Great Britain
- Supporting high level understanding of why performance has changed on the rail network
- Comparing rail performance by passenger operator (noting that performance across the rail network will have different challenges e.g. busier sections)
- Monitoring performance over time, broadly based on the railway as it exists today



- Monitoring passenger rail usage (refer to [Passenger rail usage statistics](#))
- Monitoring freight rail performance (refer to [Freight rail usage and performance statistics](#))
- Monitoring the impact of franchise changes on performance (historical data is generally presented based on the railway as it exists today)

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 [Passenger rail performance page](#).

Train punctuality

- Train punctuality at recorded station stops by operator – Table 3133
- Train punctuality at recorded station stops by operator (periodic) – Table 3138
- Public Performance Measure by operator and sector – Table 3113
- Public Performance Measure by operator and sector (periodic) – Table 3114

Train reliability

- Trains planned and cancellations by operator and cause – Table 3123
- Trains planned and cancellations by operator and cause (periodic) – Table 3124
- Days of severe disruption by sub-operator (periodic) – Table 3157
- Cancelled and Significantly Late by operator and sector (periodic) – Table 3194

Other tables

- Disaggregated train punctuality and reliability performance by sub-operator (periodic) – Table 3167
- Average passenger lateness by operator and sector (periodic) – Table 3144
- Delay minutes by operator and cause (periodic) – Table 3184
- Historic passenger trains planned, PPM, and CaSL - quarterly by operator – Table 3103
- Consistent Region Measure (Passenger) Performance by Region (periodic) – Table 3174

Changes to data tables

There will be no further updates to the following data tables:

- Passenger trains planned by operator (periodic) – Table 3104
- Trains cancelled by operator (periodic) – Table 3128

These tables continue to be available on our [Passenger rail performance page](#). Periodic trains planned and cancellations data will continue to be updated in Table 3124.

Other related statistics

Freight rail performance data tables are published on the [Freight rail usage and performance page](#) on the data portal.

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 passenger rail performance 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](#).

[Historic comparisons with railways in the rest of Europe](#) are available for 2014 to 2016. For trains in Scotland and the Regional and London and South East sectors, 87.8% of services in 2016 arrived less than five minutes after their scheduled arrival time at their final destination. This ranks Britain 19th out of 25 countries. For long distance services, 77.5% arrived less than five minutes after their scheduled arrival time at their final destination. This ranks Britain 15th out of 23 countries.

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.



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