

Passenger rail performance

January to March 2023

25 May 2023

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 2023

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Next publication:

14 September 2023

Passenger rail performance in the latest quarter (1 January to 31 March 2023) was worse than the same quarter one year ago for the two main measures of punctuality. The Cancellations score, the main measure of train reliability, had improved.

Figure 1 Performance was better in the latest quarter than the same quarter before the pandemic

On Time, PPM, Cancellations, Great Britain, January to March 2023, and change from same quarter of 2022 and 2020.

Measure	Jan to Mar 2023	Compared with Jan to Mar 2022 (one year ago)	Jan to Mar 2020 (before pandemic)
On Time	68.2%	↓ -4.3pp	↑ 2.5pp
PPM	86.7%	↓ -2.4pp	↑ 0.9pp
Cancellations score	3.4%	↓ -0.5pp	↓ -0.4pp

In the latest quarter, there were **1.7 million trains planned** in Great Britain. This was up 3% compared with the same quarter one year ago, and down 11% compared with the same quarter in 2020.

For the **On Time** punctuality measure, the percentage of recorded station stops arrived at 'on time' in Great Britain was **68.2%** in the latest quarter. Using **PPM**, **86.7%** of trains were punctual at their final destination in the latest quarter.

The **Cancellations score** in the latest quarter was **3.4%**. This industry measure is an indicator of disruption against the timetable operating on the day. The timetable is finalised at 22:00 the previous evening, and trains removed from the timetable before then will not be included. For example, "P*-coded" pre-cancelled trains are not included, and on days with strike action the Cancellations score only reflects trains cancelled from the reduced timetable.

There were **eight severely disrupted days**, when the daily Cancellations score was 5% or higher, in the latest quarter. This was one day less than the same quarter one year ago.

Information about annual performance in the latest year (1 April 2022 to 31 March 2023) can also be found throughout this release.

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.

1. Background

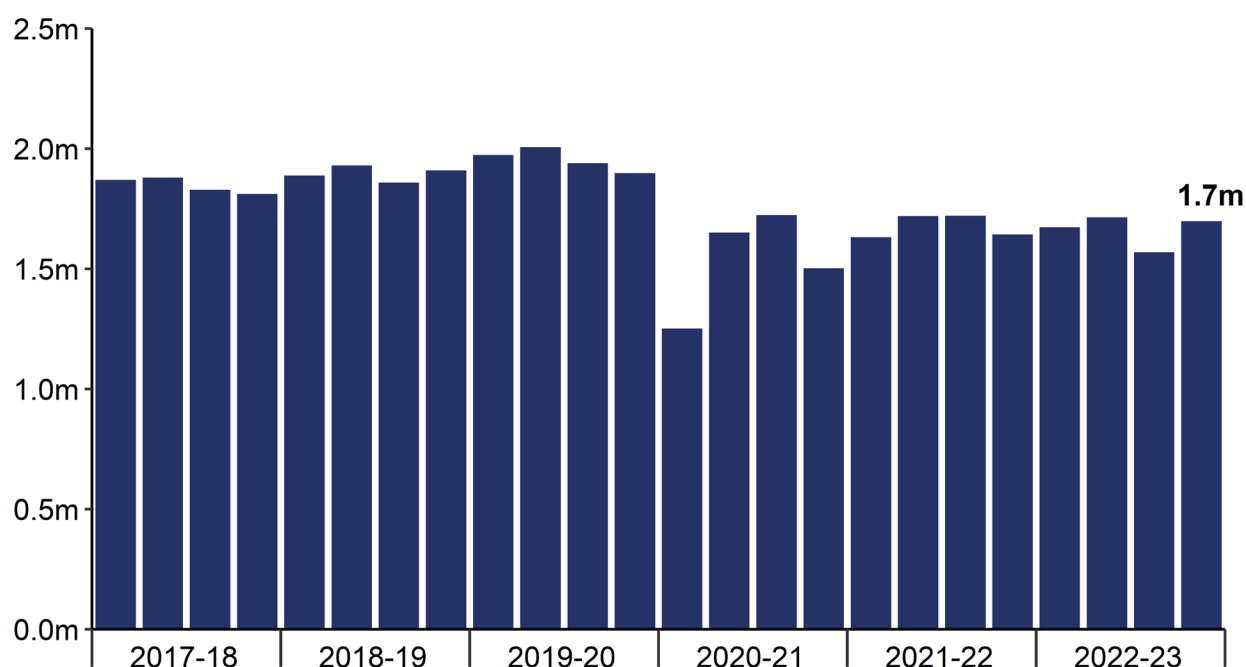
From April 2020 there were reductions in both trains planned and passengers on the railway network due to the coronavirus (COVID-19) pandemic. This led to improvements in punctuality and reliability compared with before the pandemic. However, as passengers returned and more trains ran, both reliability and punctuality deteriorated. To monitor how the recovery of the railway network impacts train performance we focus 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 (2021) and three years ago (2020, before the pandemic).

Trains planned

A train planned in this statistical release refers to a train service confirmed to run by the operator and Network Rail at 22:00 on the previous evening. Planned train services removed from railway systems before this cut-off time are not included.

Figure 1.1 Trains planned consistently remain at lower levels than before the pandemic

Trains planned (millions), Great Britain, quarterly data, April 2017 to March 2023 (Table 3123)



In the **latest quarter**, there were **1.7 million** trains planned in Great Britain. Strike action during the latest quarter had an impact on the number of planned trains, as reduced timetables were put in place for those days. The latest quarter had 55,146 more (up 3%) compared with the same quarter the previous year (1 January to 31 March 2022). The latest quarter had 200,101 fewer trains planned (down 11%) compared with the same quarter in 2020 (1 January to 31 March 2020) that had 1.9 million trains planned.

In the **latest quarter**, 9 national strike action days took place (3, 4, 5, 6 and 7 January, 1 and 3 February, 16 and 18 March). In response a reduced timetable was put in place on the strike days and for some of the days in between and after the strike days. A reduced timetable means fewer trains were planned on the strike days.

Table 1.1 Major events responsible for a reduction in trains planned, Great Britain, January to March 2023

The estimated reductions were calculated by comparing the number of trains planned on the day with the same day the week before. In cases when the same day the week before also had a significant reduction in trains planned, the same day the week after was used.

Date	Event	Estimated daily reduction in trains planned
1 January 2023	Network Rail planned engineering work and RMT members overtime ban	-29%
2 January 2023	Network Rail planned engineering work and RMT members overtime ban	-25%
3 January 2023	Strike action by the RMT union	-80%
4 January 2023	Strike action by the RMT union	-80%
5 January 2023	Strike action by the ASLEF union	-75%
6 January 2023	Strike action by the RMT union	-81%
7 January 2023	Strike action by the RMT union	-80%
8 January 2023	Day after strike action	-9%
1 February 2023	Strike action by the RMT and ASLEF unions	-61%

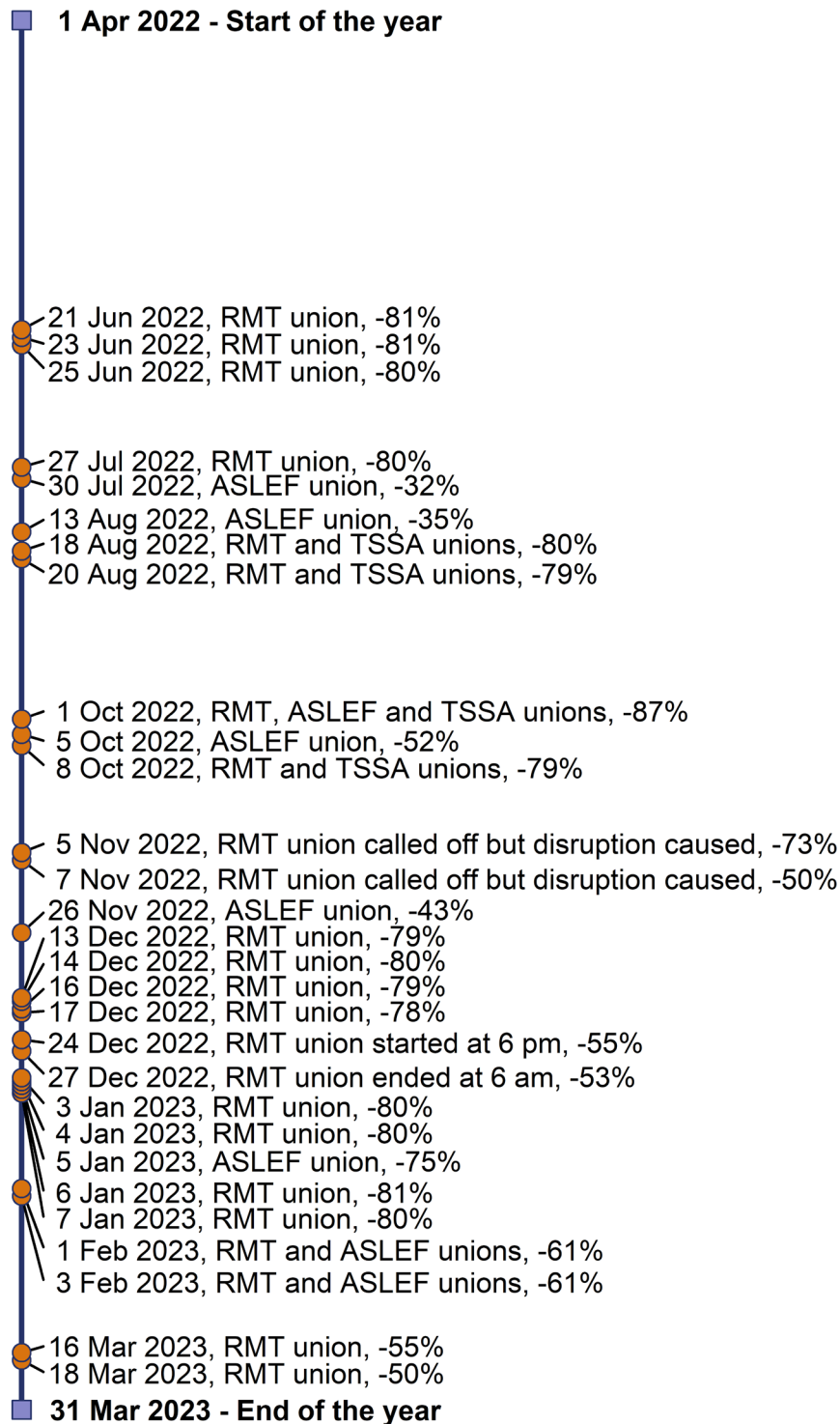
Date	Event	Estimated daily reduction in trains planned
3 February 2023	Strike action by the RMT and ASLEF unions	-61%
4 February 2023	Day after strike action	-6%
16 March 2023	Strike action by the RMT union	-55%
17 March 2023	Day in between strike action	-10%
18 March 2023	Strike action by the RMT union	-50%

There have been 29 days of national strike action by the railway unions in the **latest year** (1 April 2022 to 31 March 2023), beginning with three days by the RMT union from 21 June 2022, see Figure 1.2 below for all the dates.

An estimated 450,000 trains were not planned to run as result of strike action in the latest year (1 April 2022 to 31 March 2023). If these trains had been planned in the latest year, they would have made up 6% of the annual trains planned. The estimate of 450,000 trains not planned was calculated by comparing the number of trains planned on the day affected by strike action with the same day either the week before or after that had a fully planned service. For example, the estimated trains not planned due to strike action on Tuesday 21 June 2022 was calculated from the difference in trains planned between Tuesday 14 June 2022 and Tuesday 21 June 2022. With a high number of strike action days in December 2022, the first full week of December was used for the comparison. The trains not planned estimate was based on the 29 days of national strike action, the days between and after strike action that were also affected and the strike action days by ScotRail staff belonging to the RMT union (10, 29 October 2022).

Figure 1.2 There were 29 days of national strike action in the latest year

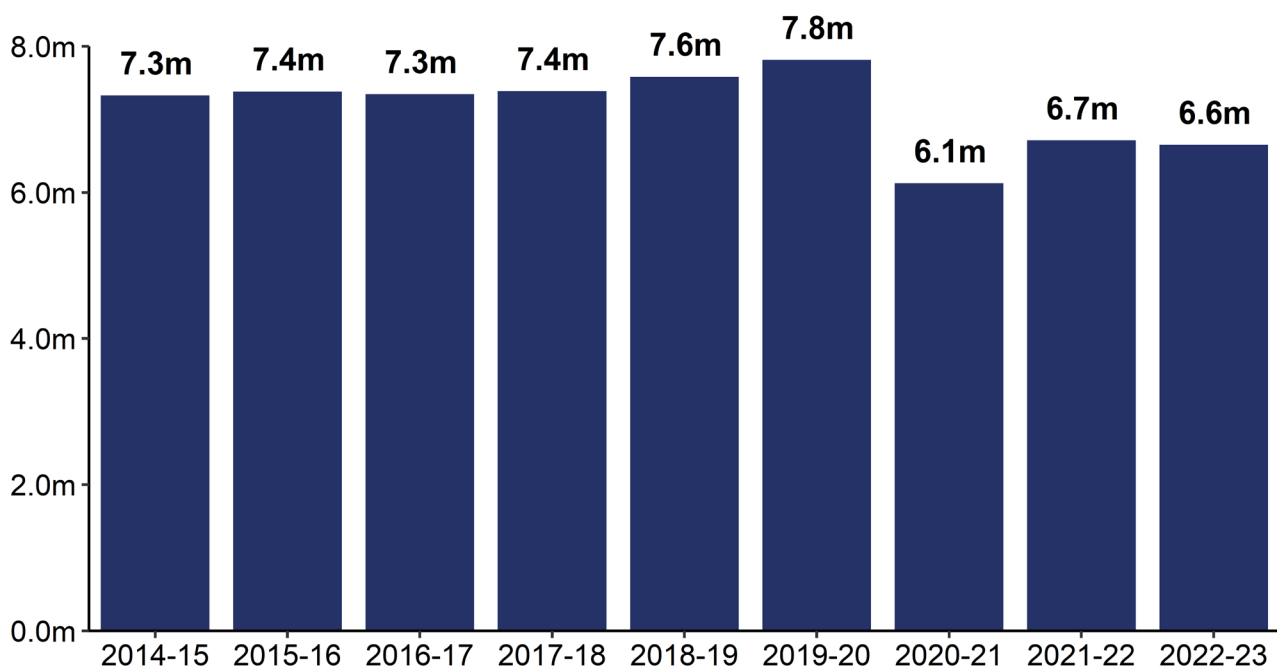
Days of national strike action with the unions involved and the estimated daily reduction in trains planned, Great Britain, 1 April 2022 to 31 March 2023



In the **latest year** (1 April 2022 to 31 March 2023), there were **6.6 million** trains planned in Great Britain. This was down 1% compared with the previous year ending March 2022 and down 15% compared with the year ending March 2020. The low trains planned in the latest year compared to previous years was in part due to the impact of strike action. However, if the strike action had not occurred in the latest year the number of trains planned would still be lower than the levels seen before the pandemic.

Figure 1.3 Fewer trains were planned in the latest year than the previous year

Trains planned (millions), Great Britain, annual data, April 2014 to March 2023 (Table 3123)



Further trains planned data are available in Table 3123 (quarterly) and Table 3124 (periodic). Periodic (4-weekly) operational data in Table 3124 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

2. Train punctuality

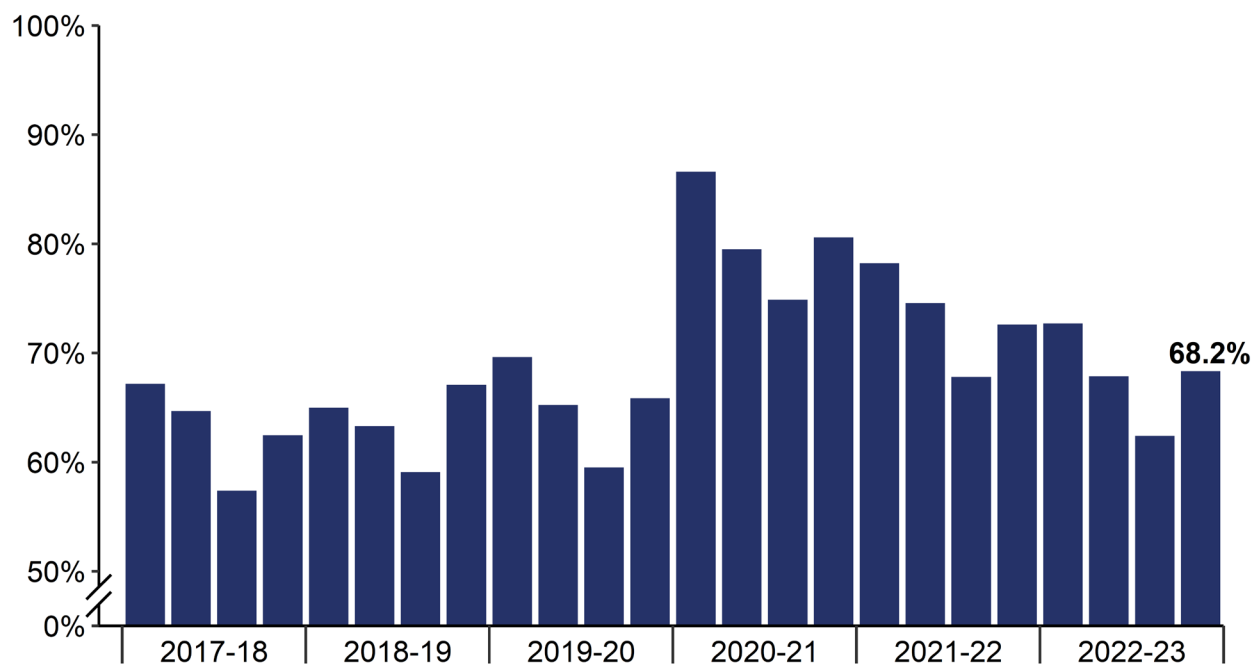
Punctuality at each recorded station stop

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

In the **latest quarter**, **68.2%** of recorded station stops in Great Britain (12.6 million out of 18.5 million) were arrived at On Time. This was 4.3 percentage points (pp) lower (i.e. worse) than the same quarter the previous year. The latest quarter was 2.5pp higher than the same quarter in 2020 (1 January to 31 March 2020).

Figure 2.1 On Time percentages are still higher than before the pandemic

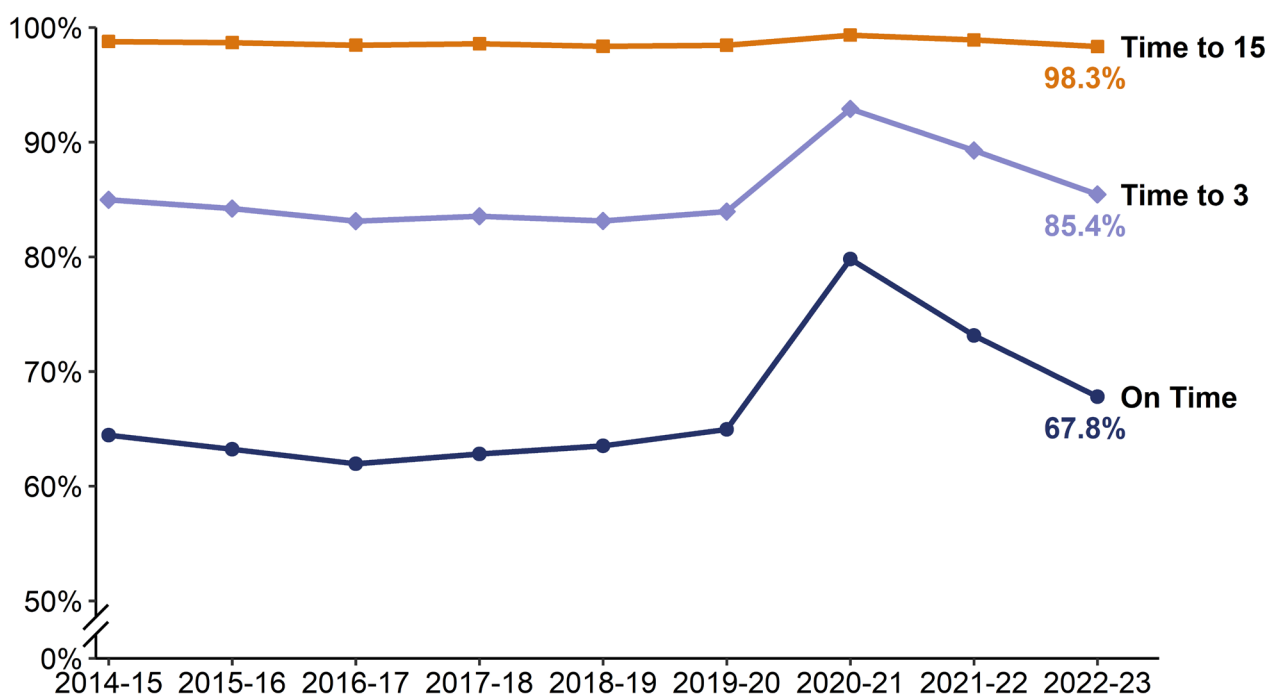
On Time, Great Britain, quarterly data, April 2017 to March 2023 (Table 3133)



In the **latest year** (1 April 2022 to 31 March 2023), **67.8%** of recorded station stops in Great Britain (49.0 million out of 72.3 million) arrived within a minute of the scheduled arrival time (On Time), **85.4%** arrived within 3 minutes (Time to 3) and **98.3%** arrived within 15 minutes (Time to 15) – see Figure 2.2. Both On Time and Time to 3 measures were better in the latest year than in the year before the pandemic (ending March 2020). On Time was down 5.4pp compared with the previous year (ending March 2022), but up 2.8pp compared with the year ending March 2020.

Figure 2.2 Annual On Time and Time to 3 percentages are still higher than before the pandemic

On Time, Time to 3 and Time to 15, Great Britain, annual data, April 2014 to March 2023 (Table 3133)



Further train punctuality data are available in Table 3133 (quarterly) and Table 3138 (periodic). These include 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. Periodic (4-weekly) operational data in Table 3138 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

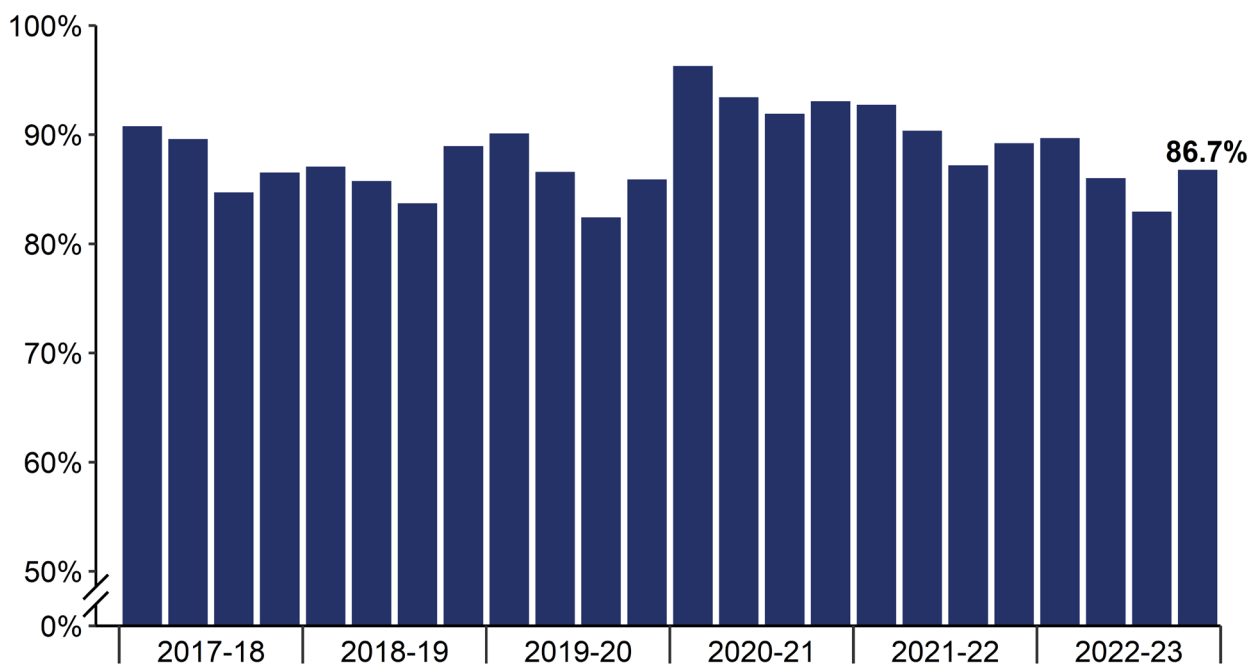
Public Performance Measure (PPM)

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 **86.7%**. This was 2.4pp lower (i.e. worse) than the same quarter the previous year. PPM in the latest quarter was 0.9pp higher than the same quarter in 2020 (1 January to 31 March 2020).

Figure 2.3 PPM percentage was similar to pre-pandemic levels in the latest quarter

PPM, Great Britain, quarterly data, April 2017 to March 2023 (Table 3113)

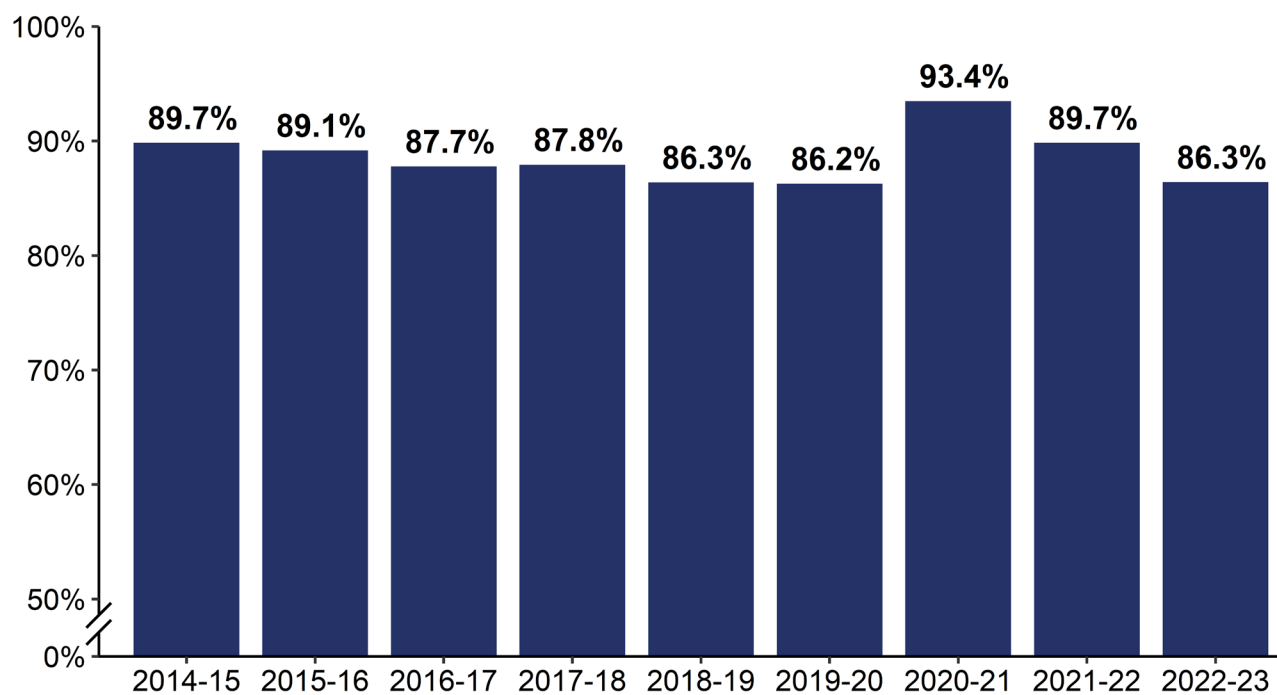


PPM in the **latest year** (1 April 2022 to 31 March 2023), was **86.3%** (Figure 2.4). This was down 3.4pp (i.e. worse) compared with the previous year ending March 2022, but up 0.1pp compared with the year ending March 2020. PPM for the latest year is now at a similar level seen in the years before the pandemic, whereas On Time (Figure 2.2) for the latest year was still higher than the levels seen before the pandemic.

PPM takes into account cancellations on the day as cancelled trains do not reach their scheduled destination within either 5 or 10 minutes of the scheduled arrival time, and thus fail PPM. On Time does not take into account cancellations as it is a measure of running trains reaching their station stops within one minute of the scheduled arrival time only. This difference is one reason the trends of the two punctuality measures are different. For more information about the punctuality measures please see our [quality and methodology report](#).

Figure 2.4 Annual PPM percentage in the latest year is similar to the years before the pandemic

PPM, Great Britain, annual data, April 2014 to March 2023 (Table 3113)



Further PPM train punctuality data are available in Table 3113 (quarterly) and Table 3114 (periodic). Periodic (4-weekly) operational data in Table 3114 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

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) passenger train delay minutes attributed to Network Rail increased by 26% compared with the same quarter the previous year. Delay minutes attributed to operators increased by 35% compared with the same quarter the previous year. In the **latest year**, national (GB) passenger train delay minutes attributed to Network Rail increased by 31% compared with the same quarter the previous year. Delay minutes attributed to operators increased by 30% compared with the previous year.

For detailed information on Network Rail and operator performance this quarter, please see our [interactive performance dashboard](#) on the data portal. Periodic (4-weekly) operational data in Table 3184 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

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.

Periodic (4-weekly) CRM-P data can be found on the ORR data portal (Table 3174). At the date of this release's publication (25 May 2023), the latest periodic data available is up to 31 March 2023. Table 3174 is updated four times a year on the same dates as this release's publication.

Average Passenger Lateness

Average Passenger Lateness (APL) measures the average lateness of a passenger as they alight from their train.

Periodic (4-weekly) operational data in Table 3144 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

3. Train reliability

Cancellations

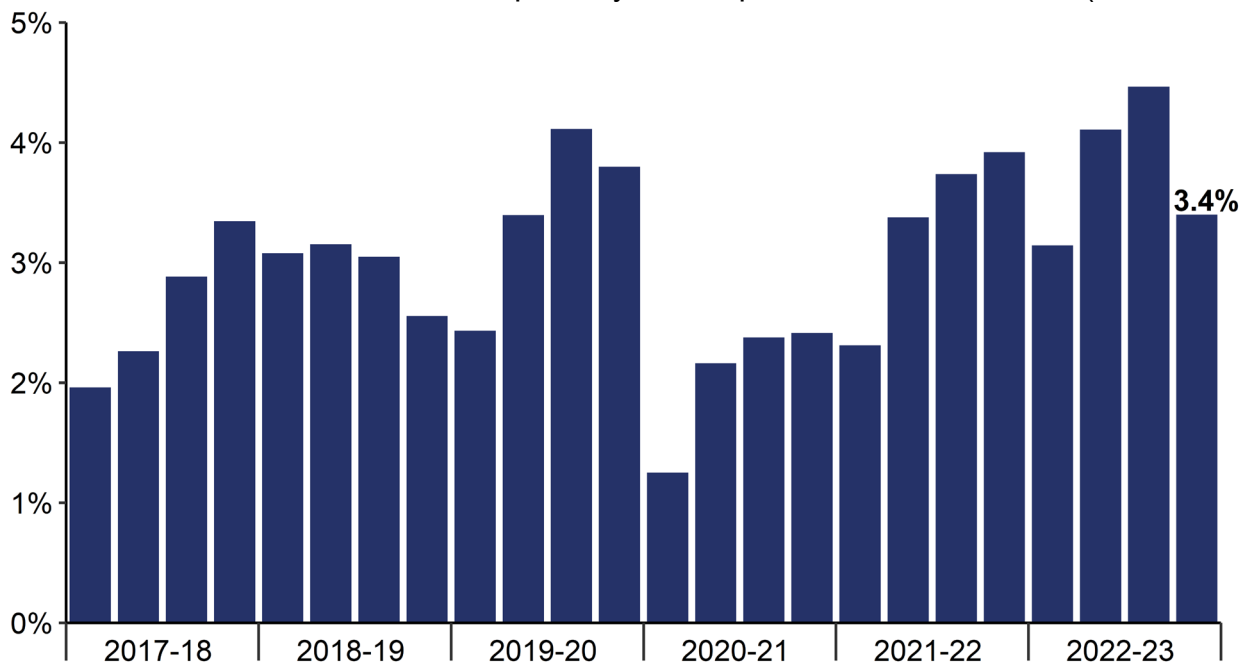
In the **latest quarter**, of the 1.7 million trains planned, 40,797 were full cancellations and 33,124 were part cancellations. The **Cancellations score** is the percentage of trains planned that were cancelled, whereby full cancellations are counted as one and part cancellations as half. This industry measure is an indicator of disruption against the timetable operating on the day. The timetable is finalised at 22:00 the previous evening, and trains removed from the timetable before then will not be included. Strike action by the railway unions took place on 9 days in the latest quarter. In response a reduced timetable was put in place on the strike days and on the some of the days after. The Cancellations score only takes account of trains cancelled from the planned reduced service.

Some operators have reported they use the practice of “**P*-coding**” for resource availability shortage pre-cancellations, i.e. changes to train services caused by non-availability of staff or rolling stock that are included in a revised timetable, and therefore may not be appearing in operators’ Cancellations scores. Operators who use “P*-coding” may therefore have a lower Cancellations score reported in this release than that which a passenger may experience. ORR has collected and [published](#) the number of trains that each operator removed from the timetable due resource availability shortages and an ‘adjusted’ Cancellations score for each period from 8 January 2023 (rail period 11). For more information about “P-coding” see Section 4 – Reliability.

In the **latest quarter**, the Cancellations score was **3.4%** which was 0.5pp lower (i.e. better) than the same quarter the previous year. The latest quarter was 0.4pp lower than the same quarter in 2020 (1 January to 31 March 2020). However, the latest quarter was the third highest Cancellations score for January to March (when compared against the available data from January to March 2015).

Figure 3.1 Cancellations score improved in the latest quarter

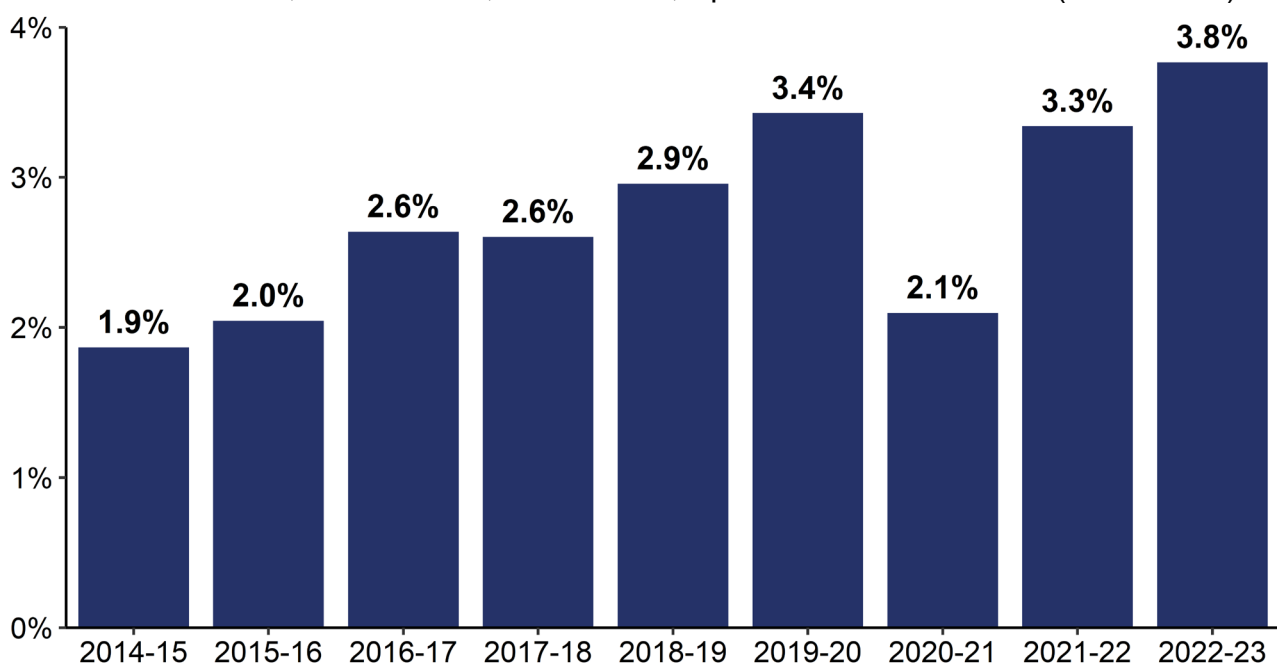
Cancellations score, Great Britain, quarterly data, April 2017 to March 2023 (Table 3123)



From the start of the time series (year ending 31 March 2015) to the year ending 31 March 2020, there was an increasing trend in annual Cancellations scores, increasing from 1.9% to 3.4% (Figure 3.2). The Cancellations score for the **latest year** (1 April 2022 to 31 March 2023) was **3.8%**, the highest since the time series began. This was up 0.4pp (i.e. worse) compared with the previous year ending March 2022 and up 0.3pp (i.e. worse) compared with the year ending March 2020.

Figure 3.2 Annual Cancellations scores have been steadily increasing

Cancellations score, Great Britain, annual data, April 2014 to March 2023 (Table 3123)

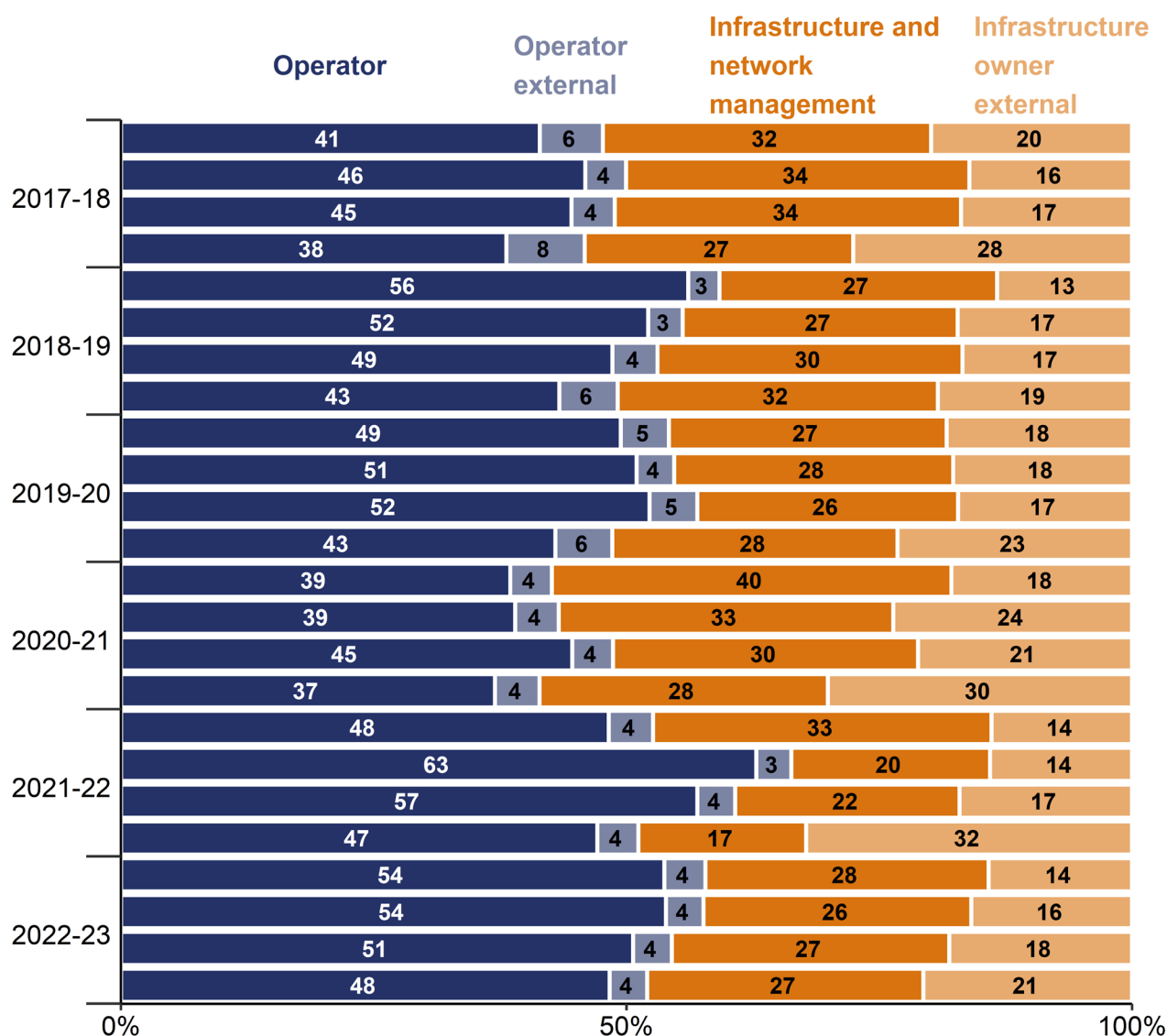


Responsibility for cancellations

Cancellations that are caused by faults on the network (for example track, overhead power lines and signalling faults) are attributed to the infrastructure owners. Cancellations that are caused by management of the train services (for example train crew issues and faults with train fleets) are attributed to the operators. External incidents are attributed to the party considered best placed to mitigate their effects. Infrastructure owners are attributed to external incidents such as severe weather impacting the network or trespassing and the operators are attributed to incidents such as a passenger falling ill on a train.

Figure 3.3 Over half of cancellations were attributed to operators in the latest quarter

Proportion of cancellations by responsibility category, Great Britain, quarterly data, April 2017 to March 2023 (Table 3123)

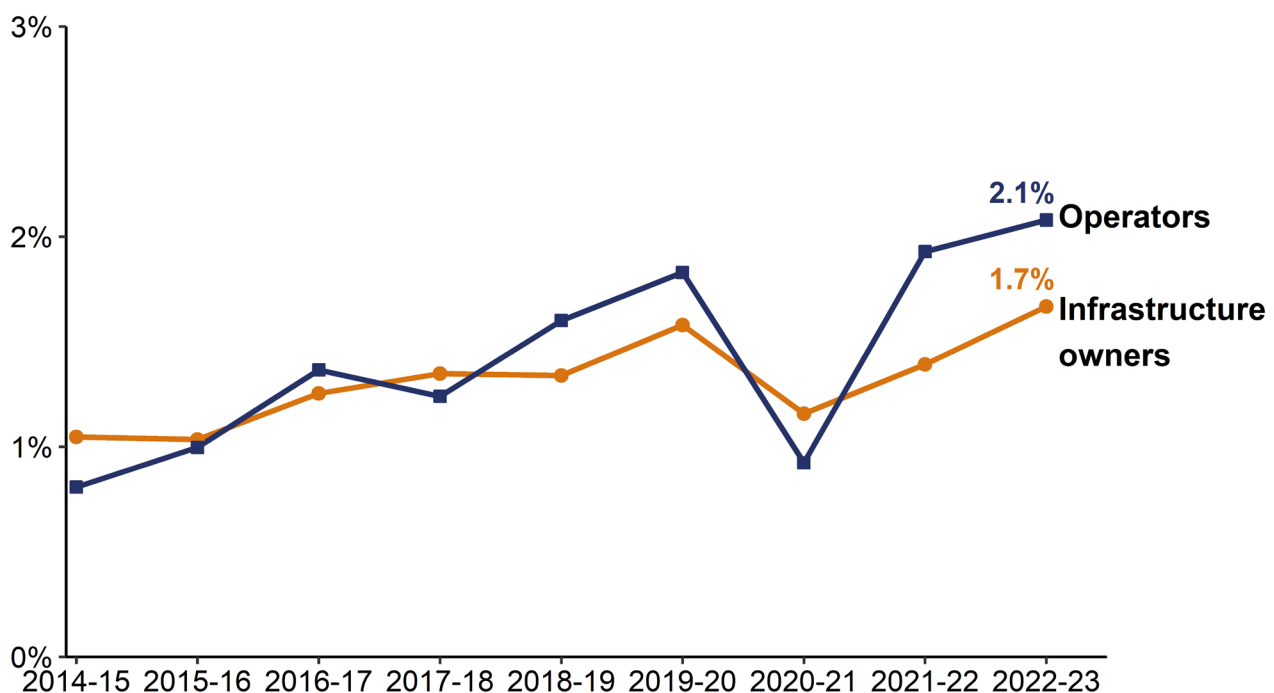


In the **latest quarter**, of all attributed cancellations, operators were attributed with responsibility for 48% of cancellations, with another 4% attributed to external incidents. Infrastructure owners were attributed with responsibility for 27% of cancellations for infrastructure and network management issues, with another 21% attributed to external incidents.

In the **latest year** (1 April 2022 to 31 March 2023), the Cancellations score for Great Britain was 3.8%. Split out by responsibility 1.7% was attributed to the infrastructure owners and 2.1% attributed to the train operators. Except the year ending 31 March 2021 due to the pandemic when there was a dip in annual Cancellations scores (Figure 3.4), cancellations attributed to the train operators have been continuously higher than those attributed to the infrastructure owners since the year ending 31 March 2019.

Figure 3.4 Annual Cancellations scores attributed to infrastructure owners and train operators have both been increasing since April 2014

Cancellations scores by attributed responsibility, Great Britain, annual data, April 2014 to March 2023 (Table 3123)



Train cancellations Table 3123 (quarterly) and Table 3124 (periodic) include data on the number of full and part cancellations by operator. Periodic (4-weekly) operational data in Table 3124 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

Severe disruption

A **Severely disrupted day** at a national (GB) level occurs when the Cancellations score is 5% or more. Nationally, there were eight severely disrupted days in the **latest quarter**, which was one day less than the same quarter in the previous year. On the days strike action took place there was disruption to passengers as reduced timetables were in place (see Trains planned in section 1). However, only three strike days (1, 6 January and 3 February) were classed as a severely disrupted days as on those days cancellations from the reduced timetables were above the 5% threshold.

Table 3.1 Severely disrupted days during January to March 2023 with the daily Cancellation score and major incidents or issues that contributed to the cancellations that day

Date	Cancellations score	Major incidents and issues contributing to cancellations
1 January 2023	5.4%	Strike action and a high proportion of cancellations attributed to train crew issues
6 January 2023	5.4%	Strike action and network infrastructure issues
16 January 2023	6.3%	Incidents including overhead line damage near Birmingham, flooding at Preston Park and a track circuit failure at London Cannon Street
23 January 2023	5.9%	Incidents including a fatality at Balham and signalling failure at Harrow and Wealdstone
3 February 2023	6.2%	Strike action and an external power supply failure in central Liverpool
8 March 2023	5.0%	Incidents involving a power failure near West Hampstead Thameslink and external infrastructure damage near Barking
10 March 2023	6.5%	Network affected by snow from the days before and Storm Larisa
13 March 2023	6.5%	A high proportion of cancellations attributed to an incident involving overhead line damage near West Drayton

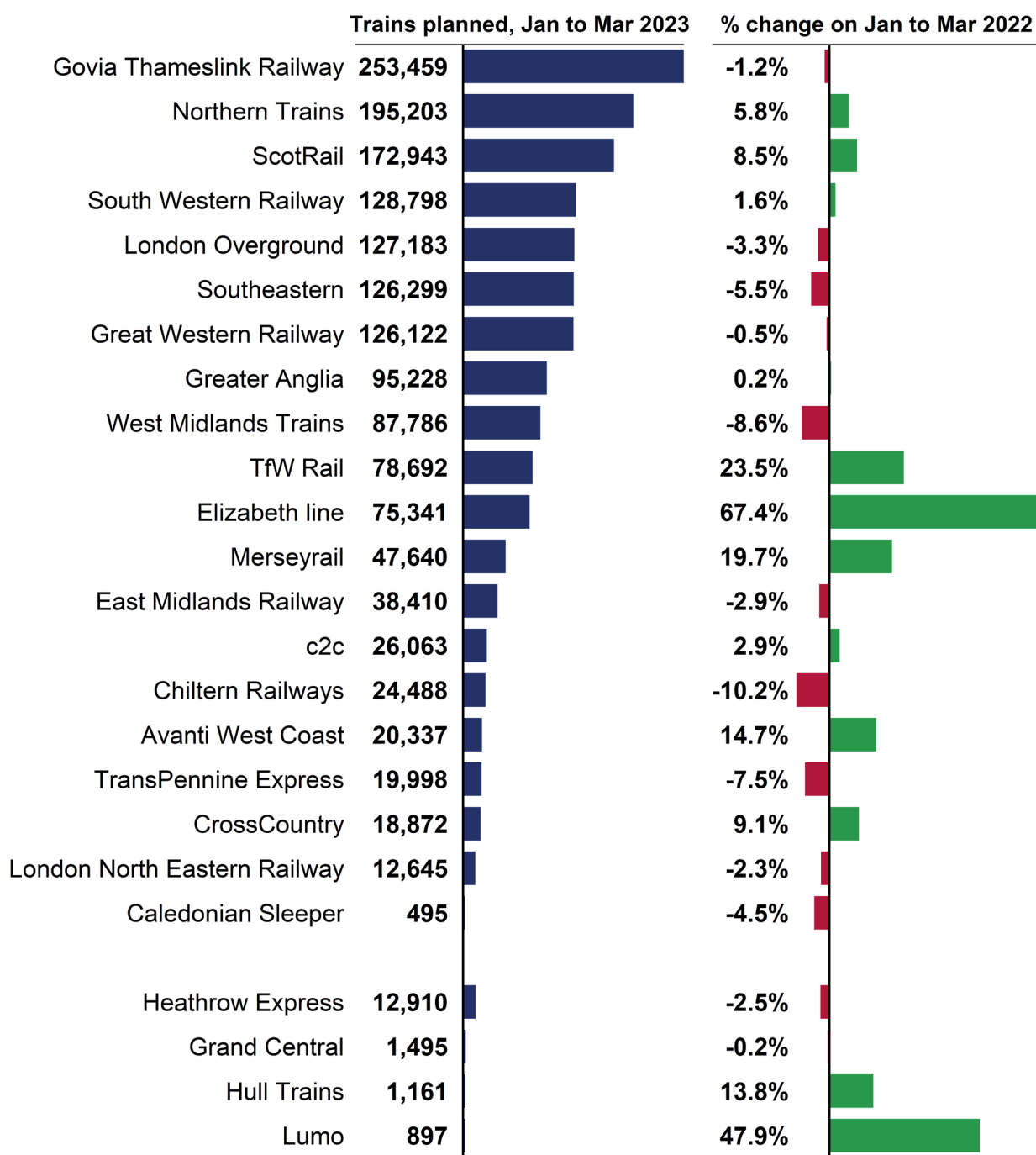
Periodic (4-weekly) operational data in Table 3157 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

4. Train operator analysis

Trains planned

Figure 4.1 Trains planned increased for 12 out of 24 operators compared with the same quarter the previous year

Trains planned by operator, January to March 2023, and percentage change compared with January to March 2022 (Table 3123)



The change in trains planned in the latest quarter compared with the same quarter the previous year (January to March 2022) varied by operator, from an increase of 67.4% for the Elizabeth line to a decrease of 10.2% for Chiltern Railways. This should be taken into account when reviewing the punctuality and reliability data and charts in the sections below.

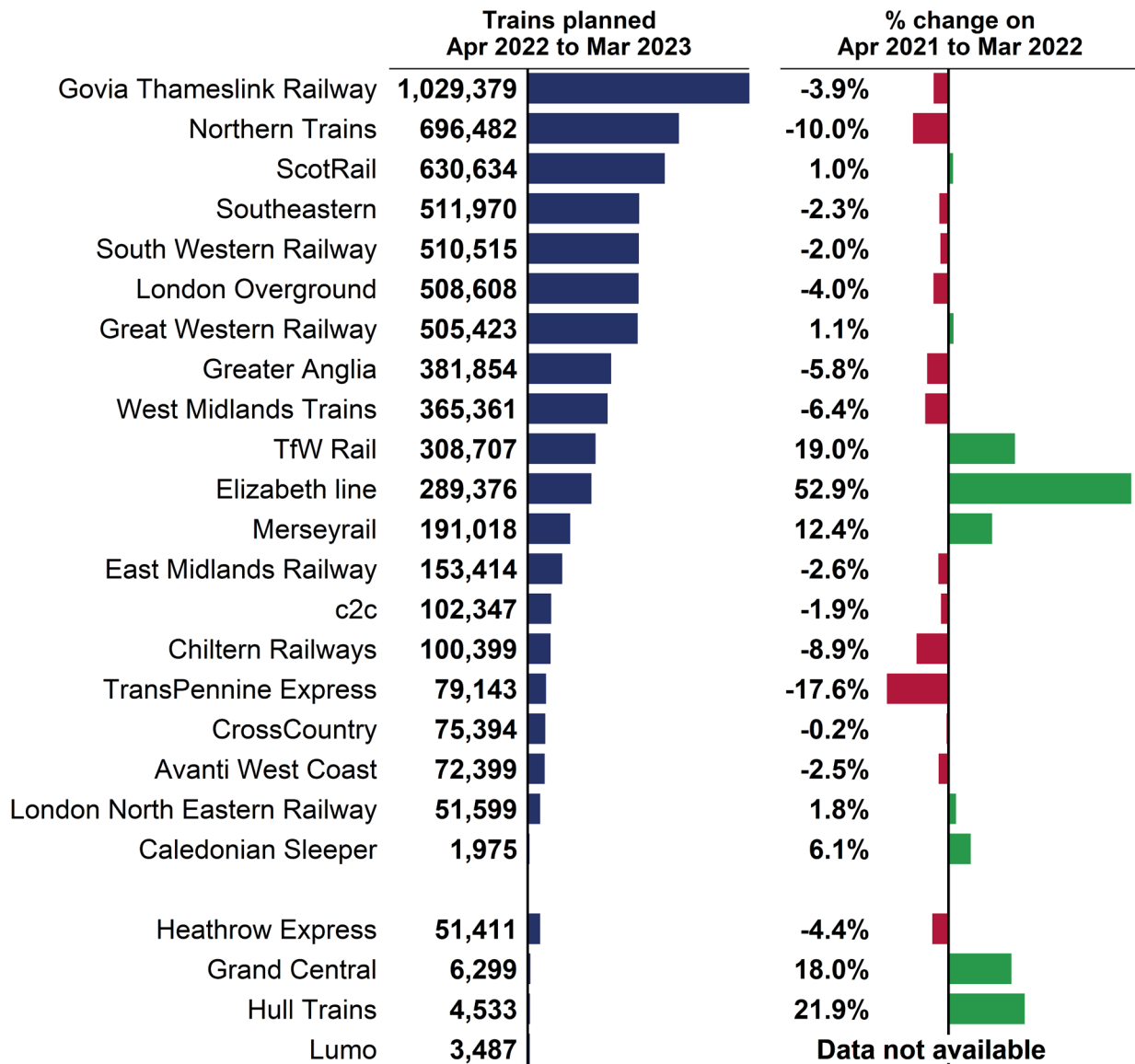
The planned services in the **latest quarter** for all operators were affected by the reduced timetables put in place during strike action. However, half of all operators had more trains planned in the latest quarter compared with the same quarter the previous year. The Elizabeth line opened on 24 May 2022 and all previous TfL Rail services were rebranded as the Elizabeth line. The increase in trains planned seen (up 67.4%) represents the new services running on the Elizabeth line. Lumo (up 47.9%) had steadily been increasing its planned services from when it first began (25 October 2021) to 1 April 2022.

Some operators use the practice of “P*-coding” for resource availability shortage pre-cancellations. Pre-cancelled trains are removed from the timetable before it is finalised at 22:00 the previous evening and are therefore not included in the trains planned data presented in this release. The use of “P*-coded” pre-cancellations may have contributed to the reduction in trains planned seen in the latest quarter. TransPennine Express (down 7.5%) used this practice of “P*-coding” for resource availability shortage pre-cancellations the most out of all operators according to data reported to us and [published](#) for the time period 8 January to 31 March 2023. For more information see Section 4 - Reliability.

Periodic (4-weekly) operational data in Table 3124 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release’s publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

Figure 4.2 Annual trains planned decreased for 12 out of 23 operators compared with the previous year

Trains planned by operator, 1 April 2022 to 31 March 2023, and percentage change compared with 1 April 2021 to 31 March 2022 (Table 3123)

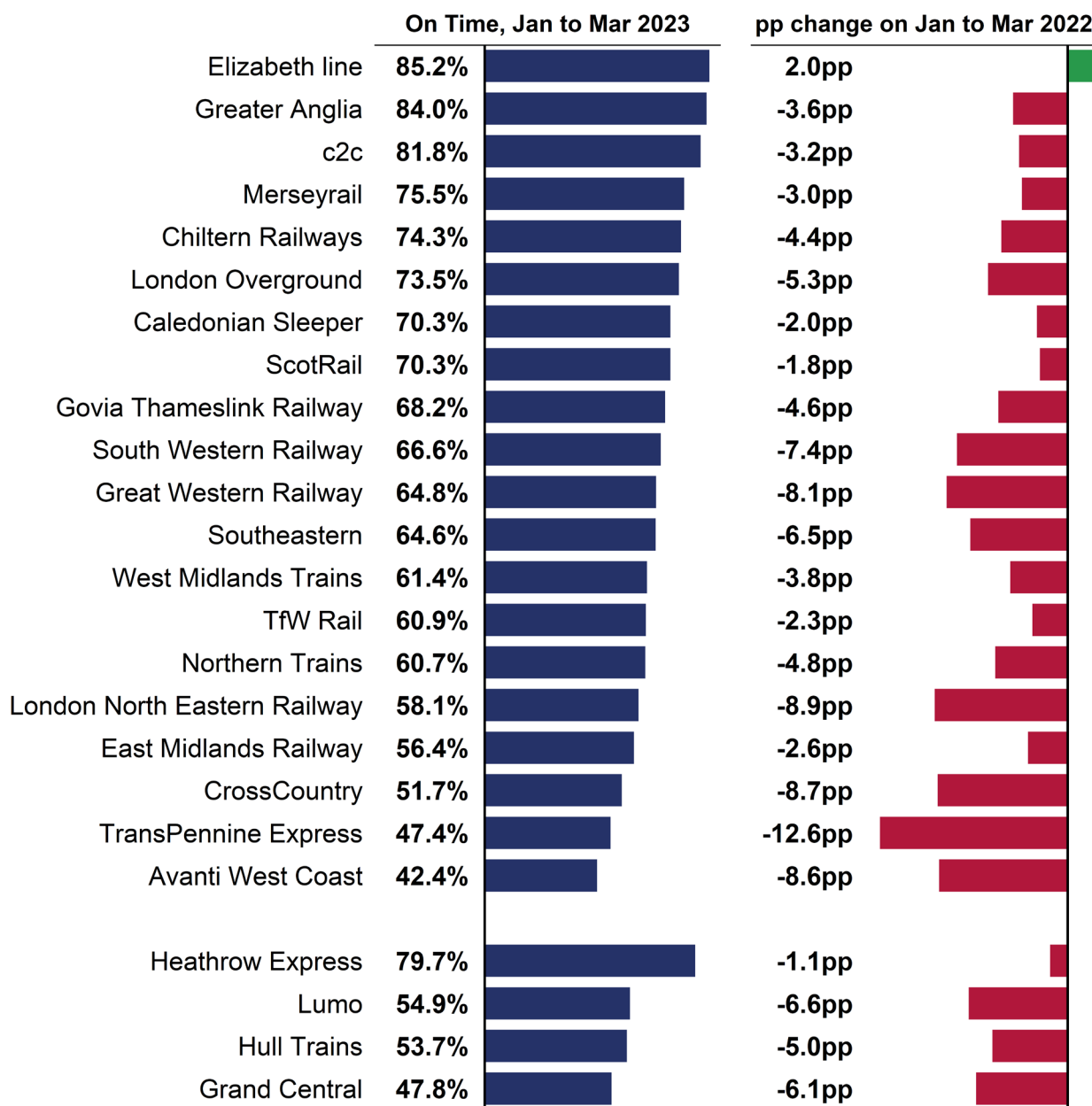


In the **latest year** (1 April 2022 to 31 March 2023), Govia Thameslink Railway planned the most trains (1,029,379) and Caledonian Sleeper planned the fewest trains (1,975). The Elizabeth line (up 52.9%) had the largest increase in trains planned compared with the previous year due to the introduction of the new services detailed above. TransPennine Express (down 17.6%) had the largest decrease in trains planned. Lumo has been running services for less than two years (started in October 2021). Therefore, there is not a complete previous year available for comparison.

Punctuality

Figure 4.3 Punctuality improved for only one operator in the latest quarter

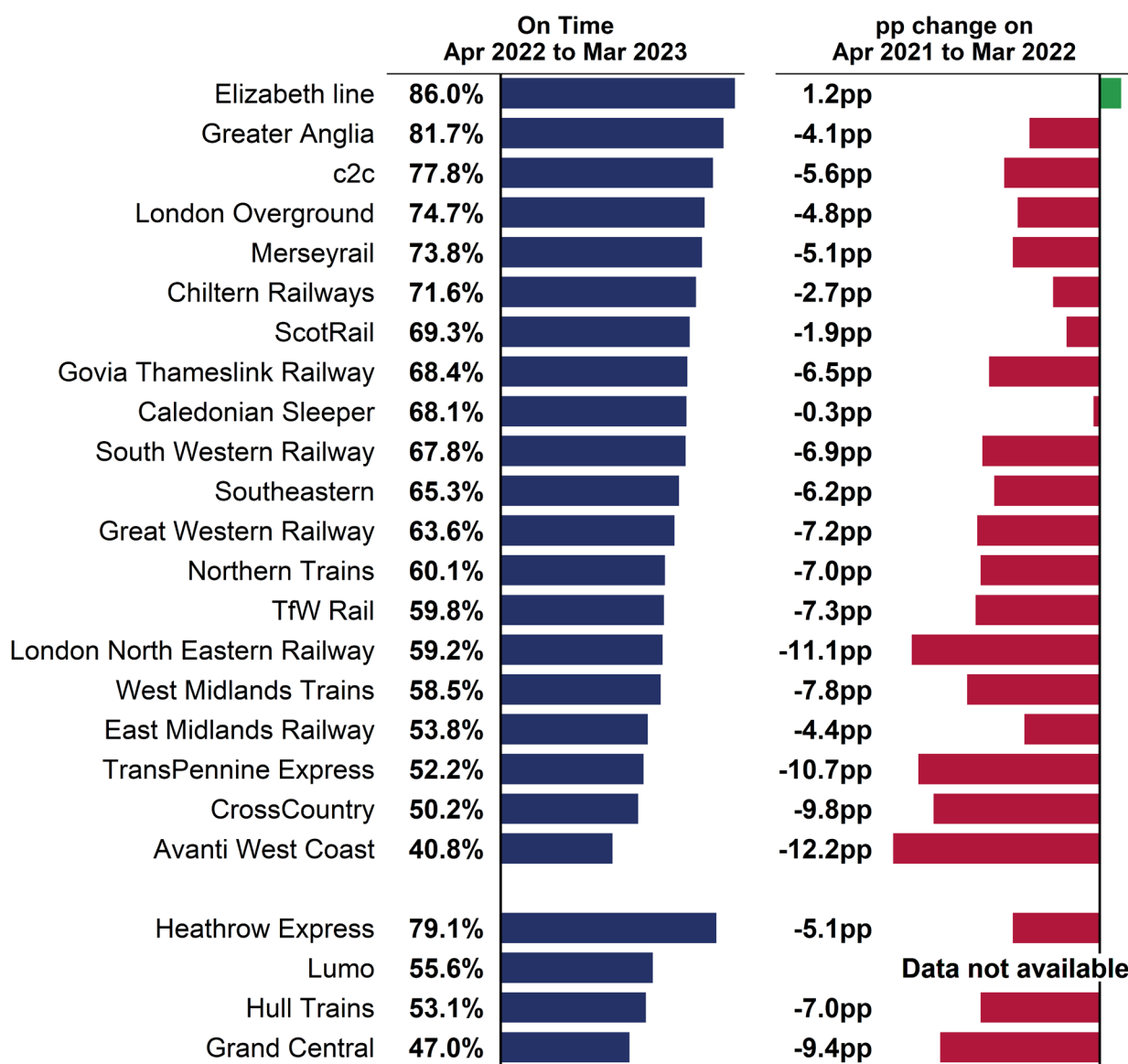
On Time by operator, January to March 2023 and percentage point (pp) change compared with January to March 2022 (Table 3133)



The Elizabeth line was the only operator with improved punctuality (up 2.0pp) compared with the same quarter the previous year. However, the Elizabeth line opened on 24 May 2022 and all previous TfL Rail services were rebranded as the Elizabeth line. Therefore, the improved punctuality comparison is of the new rebranded Elizabeth line against the previous TfL Rail services. TransPennine Express had the largest decrease in On Time percentage (12.6pp).

Figure 4.4 Annual punctuality improved for only one operator in the latest year

On Time by operator, 1 April 2022 to 31 March 2023 and percentage point (pp) change compared with 1 April 2021 to 31 March 2022 (Table 3133)



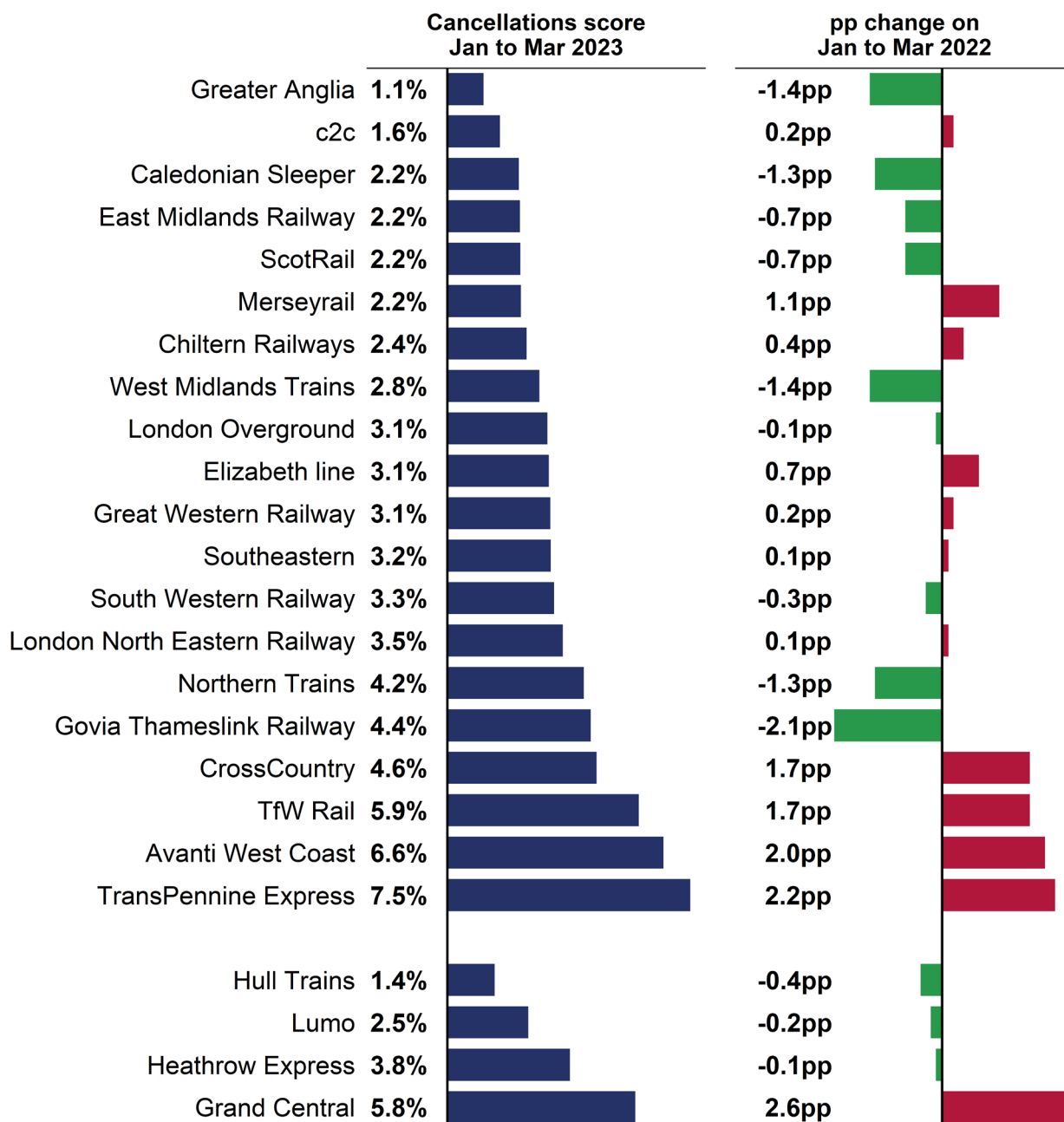
In the **latest year** (1 April 2022 to 31 March 2023), the Elizabeth line had the highest On Time percentage (86.0%) and Avanti West Coast had the lowest (40.8%). The Elizabeth line (up 1.2pp) was the only operator to improve compared to the previous year. Avanti West Coast (down 12.2pp) also had the worst change in On Time percentage compared to the previous year.

Periodic (4-weekly) operational data in Table 3138 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

Reliability

Figure 4.5 Half of operators had improved Cancellations scores in the latest quarter compared with the same quarter the previous year

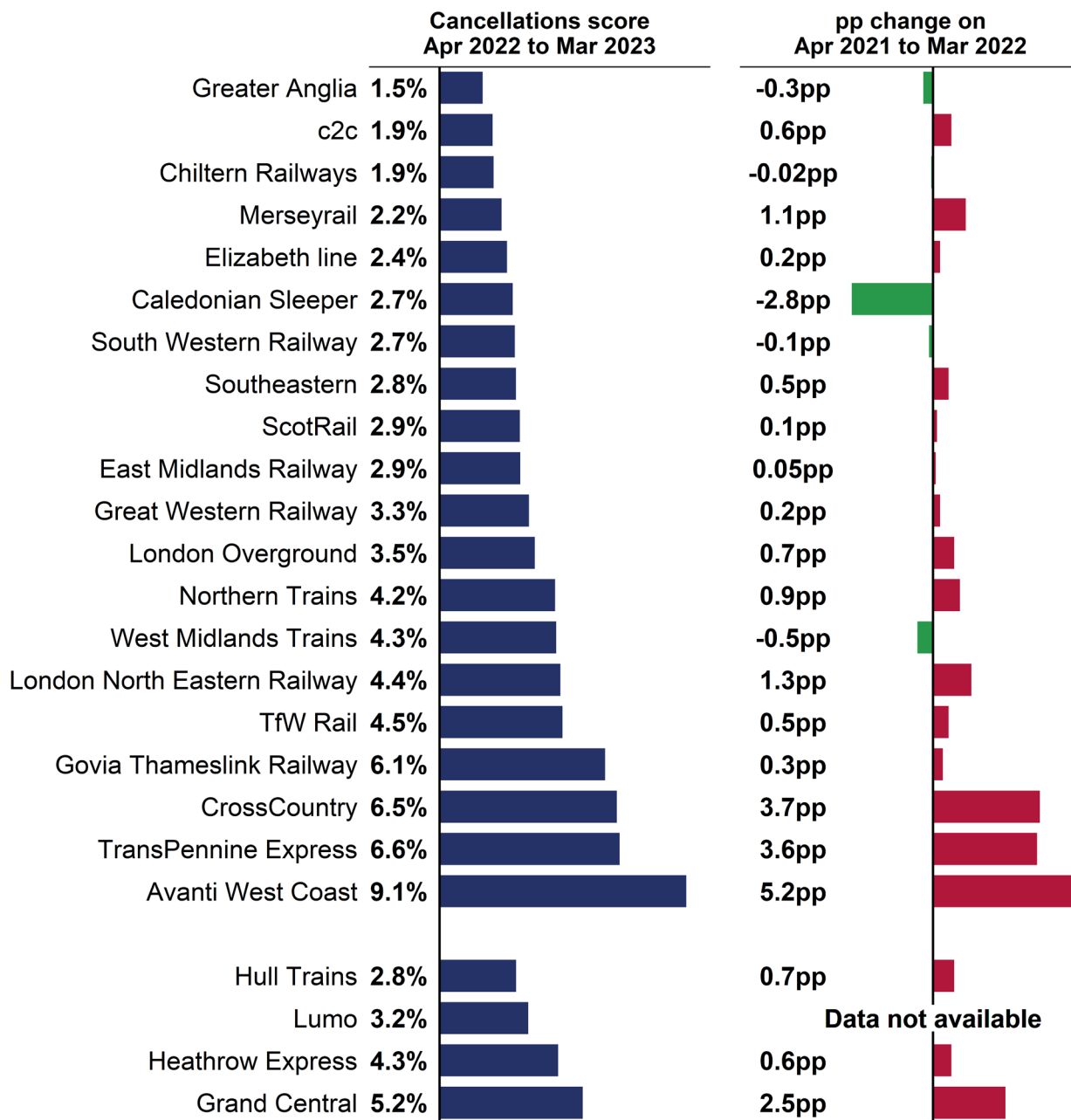
Cancellations score by operator, January to March 2023 and percentage point (pp) change compared with January to March 2022 (Table 3123)



Reliability improved for twelve operators, with lower Cancellations scores compared with the same quarter the previous year (January to March 2022). Of these, Govia Thameslink Railway (down 2.1pp) showed the most improvement. Grand Central (up 2.6pp) had the largest pp increase in Cancellations score.

Figure 4.6 Only five operators had improved annual Cancellations scores in the latest year compared with the previous year

Cancellations score by operator, January to March 2023 and percentage point (pp) change compared with January to March 2022 (Table 3123)



In the **latest year** (1 April 2022 to 31 March 2023), Greater Anglia had the lowest Cancellations score (1.5%), and Avanti West Coast had the highest (9.1%). Caledonian Sleeper (down 2.8pp) improved the most compared with the previous year. Avanti West Coast (up 5.2pp) had the worst change in Cancellations score compared with the previous year.

Periodic (4-weekly) operational data in Table 3124 are made available on the ORR data portal as soon as the data are loaded and validated into our systems. At the date of this release's publication (25 May 2023), the latest periodic data available is up to 29 April 2023.

P*-coded pre-cancellations

Some operators have reported they use the practice of “P*-coding” for resource availability shortage pre-cancellations. Pre-cancelled trains are removed from the timetable before it is finalised at 22:00 the previous evening and therefore may not be appearing in operators’ Cancellations scores. Operators who use “P*-coding” may therefore have a lower Cancellations score reported in this release than that which a passenger may experience. From rail period 11 (8 January to 4 February 2023), ORR has collected and published the number of trains that each operator removed from the timetable due resource availability shortages every rail period.

These data published also include an ‘adjusted Cancellations score’ to include the trains removed from the timetable due resource availability shortages. The ‘adjusted Cancellations score’ was calculated by combining the official Cancellations score data with the resource availability shortage pre-cancellations data. More information about how the adjusted Cancellations scores are calculated and the limitations of the measure can be found in the Passenger rail performance: cancellations data factsheet on the [ORR data portal](#).

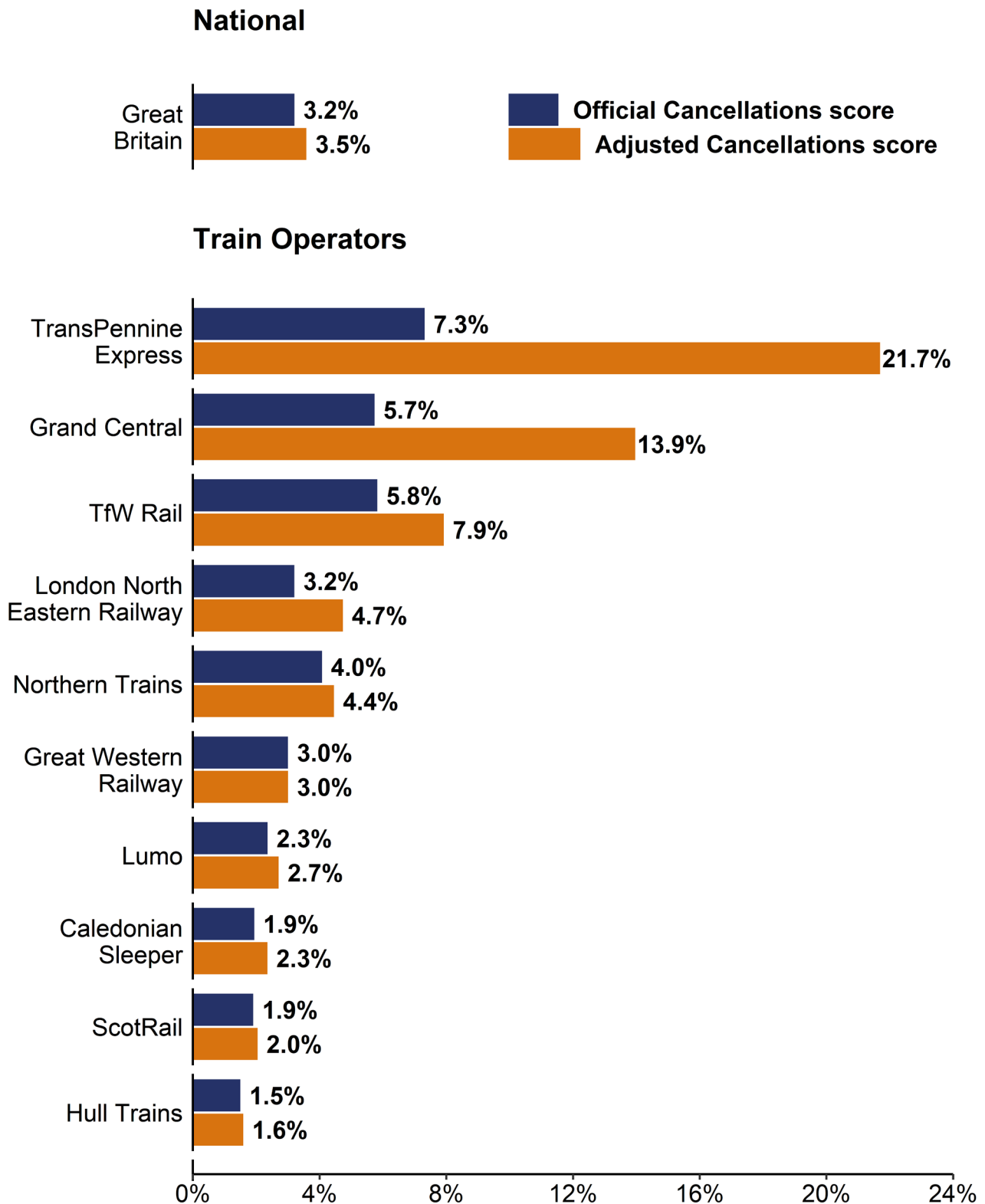
Please note, the start of rail period 11 (8 January 2023) is after the start of the latest quarter (1 January 2023) presented in this release. Therefore, the Cancellations scores in this section (Figure 4.6) will be different to elsewhere in this release. This section reports **8 January to 31 March 2023** and the rest of this release reports 1 January to 31 March 2023.

Based on the data we collected from 8 January to 31 March 2023, the adjusted Cancellations score to include the trains removed from the timetable due resource availability shortages in Great Britain was 3.5% (Figure 4.6). This was 0.4pp higher compared to the official Cancellations Score. Ten operators had reported the use of “P*-coding” for resource availability shortage pre-cancellations. Of which, TransPennine Express had the largest adjusted Cancellations score of 21.7%.

More information and data about resource availability shortage “P- coded” pre-cancellations can be found in the Passenger rail performance: cancellations data factsheet and Table 3128 on the [ORR data portal](#). At the date of this release’s publication (25 May 2023), the latest periodic data available is up to 29 April 2023.*

Figure 4.7 Ten operators have reported the use of “P*- coded” pre-cancellations from 8 January to 31 March 2023

Official Cancellations score and “P*- coded” adjusted Cancellations score, Great Britain and by operator, 8 January to 31 March 2023 (Table 3128)



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 score** 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. This industry measure is an indicator of disruption against the timetable operating on the day. The timetable is finalised at 22:00 the previous evening, and trains removed from the timetable before then will not be included. *A lower cancellations score indicates better reliability.*
- **Resource availability shortage “P*-coded” pre-cancellations** is the practice by some operators of removing planned services from the timetable before it is finalised at 22:00 the previous evening due resource availability.
- **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

On 24 May 2022 the Elizabeth line opened to passengers. Also, on this date the service running under TfL Rail were rebranded as the Elizabeth 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 previously published data.

Details of previous revisions can be found in the [Revisions log](#).

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
- Pre-cancellations and adjusted cancellations score by operator (periodic) – Table 3128

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

Other related statistics

The Passenger rail Performance: cancellations data factsheet and data table are published on the [Passenger rail performance page](#) on the data portal.

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

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

DfT has published estimates for the reduction in train services during strike action for each train operator as part of a [consultation on implementing minimum service levels for passenger rail](#).

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 Eleventh Annual Market Monitoring Report](#).

Annex 4 – ORR’s statistical publications

Statistical Releases

This publication is part of ORR’s [National Statistics](#) accredited releases, which consist of seven annual publications: **Estimates of station usage; Rail industry finance (UK); Rail fares index; Rail safety statistics; Rail infrastructure and assets; Rail emissions; Regional rail usage;** and four quarterly publications: **Passenger rail performance; Freight rail usage and performance; Passenger rail usage; Passenger rail service complaints.**

In addition, ORR also publishes a number of Official Statistics, which consist of five annual publications: **Common Safety Indicators; Passenger satisfaction with complaints handling; Train operating company key statistics; Occupational health; Rail statistics compendium;** and four quarterly publications: **Signals passed at danger (SPADS); Delay compensation claims; Disabled Persons Railcards (DPRC); Passenger assistance.**

All the above publications are available on the [data portal](#) along with a list of [publication dates](#) for the next 12 months.

National Statistics

The United Kingdom Statistics Authority designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. National Statistics status means that official statistics meet the highest standards of **trustworthiness, quality** and public **value**.

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

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



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