



Passenger rail usage

Quality and methodology report

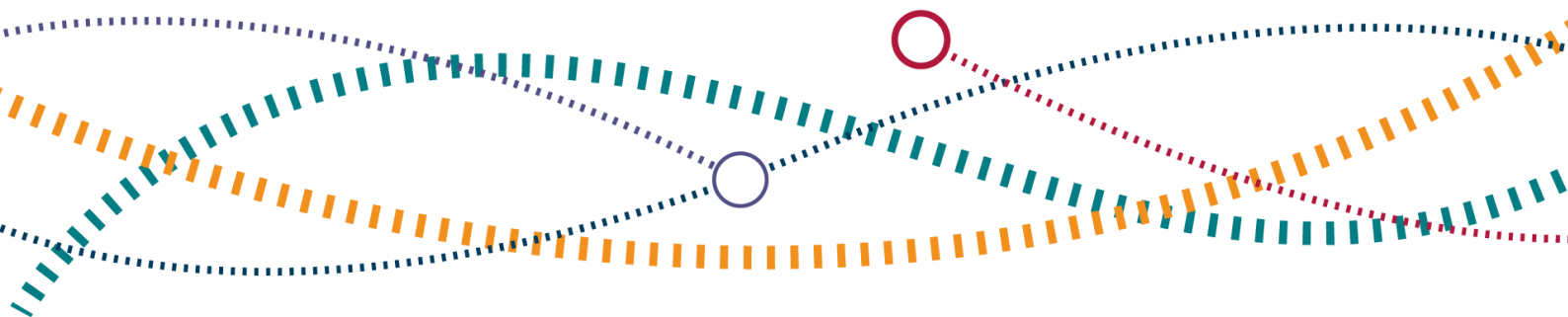
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Introduction

This is a report on the quality of the quarterly Passenger rail usage statistical release and associated data tables. It helps users to understand the quality of our statistics, and also ensures ORR is compliant with the three quality principles in [the Code of Practice for Official Statistics](#) - Q1: Suitable data sources, Q2: Sound methods, and Q3: Assured quality. This report also provides information on the methodology and data sources used to produce the statistics.

This report covers the following areas:

- Data sources, methodology and definitions – detail on the various data sources, methodology used to compile the statistics, and definitions;
- Historic background – a background to rail usage statistics and details of any changes throughout the time series;
- Relevance to users – the users of the statistics, and our engagement;
- Accuracy and reliability – the accuracy, data coverage and quality assurance of the statistics;
- Timeliness and punctuality – our timescales for the production and publication of the statistics;
- Accessibility and clarity – the format of our statistics and where they can be found;
- Coherence and comparability – similar statistics published elsewhere and the degree in which the statistics can be compared over time.

Data sources, definitions and methodology

Data Sources

The data contained within the release and the data tables is sourced from:

- **LENNON system** – most of the data contained within the statistical release is sourced from the rail industry's LENNON (Latest Earnings Networked Nationally Over Night) ticketing and revenue system.
- **Non-LENNON data** – five train operators provide data to ORR detailing the number of passenger journeys and kilometres that are recorded outside of the LENNON system. These include journeys on tickets such as operator specific tickets and Passenger Transport Executive (PTE) multi-modal tickets. These are referred to as non-LENNON data. Most of the revenue associated with such journeys is captured by the LENNON system. This data is provided to the ORR as part of memorandums of understanding between ORR and operators.
- **London Overground train load data** – passenger journey and kilometre estimates for this operator are aligned to data captured by a train load weight system.
- **Transport for London (TfL)** – data from 24 May 2022 onwards for Elizabeth line passenger journeys and kilometres is generated using journey data provided by TfL, due to an overestimation in the data provided by LENNON.
- **Track Access Billing System (TABS)** – passenger train and vehicle kilometres are derived from TABS, which is used to bill train operators. TABS captures the actual distances operated on rail infrastructure in Great Britain. The data is provided by Network Rail.
- **Department for Transport** – data for the years 1938 to 1985-86 in Tables 1220 (annual passenger journeys) and 1230 (annual passenger kilometres) is [sourced from the DfT](#) (see [Table RAI0101](#)).
- **National Infrastructure Commission** – data for the years 1872 to 1937 in Tables 1220 (annual passenger journeys) and 1230 (annual passenger kilometres) is sourced from the [National Infrastructure Commission](#) (sourced from: Mitchell, B.R. British Historical Statistics. Cambridge: Cambridge University Press, 2011. Print. pp. 545-547, 1843-1938 Railway Returns).

Definitions

- **Passenger journeys** are estimated using ticket sales data. For the purpose of these statistics, where travel requires one or more changes of train, each train used is counted as one journey. For example, a journey from Leicester to Manchester would be classed as two journeys due to the need to change trains. This differs from the definition used in the [Regional rail usage](#) statistical release, which would class this example as one journey. Furthermore, the estimates of passenger journeys in this publication do not account for split ticketing, whereas journey estimates in Regional rail usage include an adjustment. Split ticketing is where two or more tickets are purchased to complete a single journey. In such cases, each ticket is counted individually in the passenger journey statistics, in this publication.
- **Passenger kilometres** are calculated by multiplying the number of passenger journeys on a particular flow by the number of corresponding track kilometres between stations.
- **Passenger revenue** statistics include all ticket revenue and miscellaneous charges associated with passenger travel on national railways.
- **Passenger train kilometres** refers to the number of train kilometres (million) travelled by passenger trains. Empty coaching stock movements are included meaning that data for Lumo go back to May 2021 despite the operator commencing public services from 25 October 2021. Sourced from the Track Access Billing System (TABS) it includes train kilometres operated on Network Rail infrastructure and other railway networks including Core Valley Lines, HS1, and TfL infrastructure.
- **Passenger vehicle kilometres** refer to the number of vehicle kilometres (million) travelled by passenger vehicles. They are calculated on the same basis and using the same database (TABS) as passenger train kilometres. A train with a locomotive and four carriages travelling one kilometre will generate one train kilometre and five vehicle kilometres.
- The data presented in this release is for **mainline operators** in Great Britain. The data does **not** include Eurostar, London Underground, light rail, heritage and charter services. **Franchised operators** run services as part of contracts awarded by government (although no longer franchises we have retained this term for referring to these operators for consistency and until a new term is adopted across the industry). Data for such operators is also presented for three **sectors**:
 - **London and South East** – based on the British Rail Network South East services, this sector includes commuter trains in the London area and inter-urban

services in South East England. It extends as far west as Bristol and Exeter (both South Western Railway) and as far northwest as Kidderminster (Chiltern Railways). The following operators are included (all services unless stated):

- **Greater Anglia**
 - **c2c**
 - **Chiltern Railways**
 - **Great Western Railway** (London and Thames Valley services)
 - **Govia Thameslink Railway**
 - **London Overground**
 - **Southeastern**
 - **South Western Railway**
 - **Elizabeth line (formerly branded as TfL Rail)**
 - **West Midlands Trains** (London Euston to Milton Keynes and Northampton, Watford to St Albans Abbey, and Bletchley to Bedford)
- **Long Distance** – based on the British Rail InterCity services, this sector covers long distance services on the East Coast, West Coast, Midland, and Great Western mainlines. The following operators are included (all services unless stated):
- **Avanti West Coast**
 - **CrossCountry** (services between Plymouth or Bournemouth and Manchester or Scotland)
 - **East Midlands Railway** (services to and from London St Pancras)
 - **Great Western Railway** (London Paddington to Bristol, Devon, Cornwall, South Wales, and The Cotswolds)
 - **London North Eastern Railway**

- **Regional** – based on the British Rail Regional Railways services, this sector covers other services. The following operators are included (all services unless stated):
 - **Caledonian Sleeper**
 - **CrossCountry** (services between Cardiff and Nottingham, and services between Birmingham and Stansted Airport)
 - **East Midlands Railway** (except services to and from London St Pancras; includes the Liverpool to Norwich service as well as local services in and around Derby, Nottingham, Lincoln and Newark)
 - **Great Western Railway** (includes the Cardiff to Portsmouth service as well as local services in the West of England)
 - **Merseyrail**
 - **Northern Trains**
 - **ScotRail**
 - **TransPennine Express**
 - **Transport for Wales (TfW) Rail** (Includes journeys made on TfW Rail services operated on the Core Valley Lines)
 - **West Midlands Trains** (West Coast Main Line services north of Milton Keynes or Northampton as well as services in and around Birmingham)
- **Open access (non-franchised) operators** – licenced by the ORR to run services on specific routes. The datasets that accompany this publication contain data for such operators: **Grand Central**, **Heathrow Express**, **Hull Trains**, **Lumo** (began running services on 25 October 2021, though the train and vehicle kilometre datasets include test services operated since May 2021), and **Wrexham and Shropshire** (ceased trading 28 January 2011).
- **Ticket types:**
 - **Advance** (ordinary ticket) – single one-way tickets for a specific train. They are usually cheaper than other ticket types.
 - **Anytime or peak** (ordinary ticket) – fully flexible tickets that can be used on most trains and at most times. They are usually more expensive.

- **Off-Peak** (ordinary ticket) – cheaper than anytime fares, but cannot be used during busier times of day.
- **Other** (ordinary ticket) – includes usage on regional products, rover tickets, some group tickets, and package products (e.g. includes accommodation or onward travel with other forms of transport). Non-travel income (e.g. car parking) is also included in this category for passenger revenue, as too are **refunds**, which can result in this category showing negative numbers.
- **Season** – allow unlimited travel between two locations for a specified period (from a week up to a year). Such tickets are generally cheaper than daily return tickets for those travelling more than three times a week. The number of journeys estimated for a season ticket varies by the length of the period. Flexi season tickets are also included here, these all 8 days of travel in 28 days, any time between two named stations. The journeys factors used for the main season tickets are as follows:

Season ticket validity	Journey factor
Weekly	10.3
Monthly	45
3 monthly	135
6 monthly	270
Annual	480

The coronavirus (COVID-19) pandemic necessitated the use of an alternative methodology for estimating usage with season tickets between 1 April 2020 and 31 March 2021. This is described below.

Methodology

LENNON system

LENNON holds information on the vast majority of national rail tickets purchased in Great Britain and is used to allocate the revenue from ticket sales between train operators. LENNON contains two datasets: pre-allocation (sales) and post-allocation (earnings). Passenger usage statistics in the [Passenger rail usage statistical release](#) are based on the post-allocation dataset so that kilometres, journeys and revenue data can be assigned to operators.

The pre-allocation dataset does not disaggregate data by operator. The pre-allocation dataset collects total kilometres, journeys and revenue by flow and then, based on pre-

designated allocation factors, apportions the data to the appropriate operators. For example in the pre-allocation dataset, a passenger may purchase a ticket for “ANY PERMITTED” route between London Terminals and Birmingham BR. LENNON then uses the allocation factors to split kilometres, journeys, and revenue between the relevant operators for which the journey could be made.

Allocations are created for each tickets group by ORCATS (Operational Research Computerised Allocation of Tickets to Services), dependent on sales levels. These allocations are principally used to apportion kilometres, journeys and revenue between operators.

ORCATS is a mathematical model which uses a similar logic to journey planning systems and identifies passenger ‘opportunities to travel’ from an origin station to a destination station using timetable information. It is used for real time reservation and revenue sharing on inter-available tickets between operators which divides ticket revenue in instances where a ticket or journey is on a flow that is operated by multiple operators.

Impact of the pandemic

In response to the pandemic, the UK government issued [advice against all unnecessary travel was announced on 16 March 2020](#), with [further guidance on ‘staying at home’ on 23 March 2020 \(‘lockdown’\)](#). This in turn resulted in a large number of refund applications for both ordinary and season tickets. The LENNON system does not remove existing records when a refund is processed. Instead, a negative item of usage is created to offset the original usage. These records are categorised in the “other” ticket category.

When a monthly or annual season ticket is purchased, the estimated usage is distributed in the post-allocation dataset over the period for which the ticket is valid. For example, an annual season ticket purchased on 6 January 2020 will contribute usage through to 5 January 2021. Refunds for such season tickets are distributed in LENNON in the same way as the original season ticket. However, they are only done so from the point at which the refund is issued. Moreover, there will be unused tickets for which refunds were not claimed.

Given that the pandemic affected usage towards only the end of the quarter, no changes were made to the methodology for the Passenger rail usage January to March 2020 release with an acknowledgment that usage was likely to have been slightly overstated due to many expected refunds having not been issued. However, had the regular methodology been used in its entirety between 1 April 2020 and 31 March 2021, a more substantial overestimate of usage for each quarter would have resulted. The estimates for usage with advance, anytime, and off-peak tickets were made in the usual way as such tickets are very likely to have been purchased between 1 April 2020 and 31 March 2021.

These were supplemented with estimates for usage with season and other tickets using alternative methodologies.

For both season tickets and other tickets there is more uncertainty around the estimates between 1 April 2020 and 31 March 2021 compared with previous years. The number of journeys using season tickets was estimated using a combination of pre-allocation (sales) data, which attributes all expected usage to the point of purchase, and weekly season ticket usage in the post-allocation data, which splits usage by train operator. The methodology was refined for the October to December 2020 quarterly release to provide a better estimate of the distribution of journeys made with season tickets between train operators and sectors.

Usage with other ticket types includes an estimate for refunds that were not related to tickets purchased before the start of the pandemic. This was done by assessing refund rates against train service reliability. It should be noted that the refund estimates for the October to December 2020 quarter are likely to underestimate the actual extent to which purchased tickets were **not** used. The increase in the prevalence of the coronavirus during the quarter resulted in more restrictions on movement around Britain. In particular, plans to allow travel during the Christmas holiday were scaled back or abandoned completely. Even where refunds were made available, such as [in England for passengers who had booked rail travel during the Christmas travel window](#), the limitations of the LENNON system mean that it was not possible to quantify the level of refunds due to new travel restrictions.

The methodology used to estimate usage prior 1 April 2020 was reinstated from 1 April 2021 onwards.

Elizabeth line

Since services on the central section of the Elizabeth line started running in May 2022, there has been an uplift in journeys counted in LENNON (the ticketing and revenue system which is the main source of these statistics). Before May 2022, Elizabeth line services which ran between Paddington and Reading or Heathrow Airport, and between Liverpool Street and Shenfield were operated under 'TfL Rail' branding. Journeys associated with these services were direct replacements for previous National Rail services and recorded in LENNON. Following the opening of the central section, when Crossrail services began operating under 'Elizabeth line' branding, these journeys started being recorded in LENNON, replacing some journeys that would have been taken on other modes that are not recorded in LENNON, such as London Underground and Docklands Light Railway (DLR).

With the Elizabeth line excluded, there were 1,390 million journeys in April 2023 to March 2024, which equates to 83% of the 1,680 million journeys in April 2019 to March 2020 (pre-pandemic). With the Elizabeth line included, the relative usage was 93% compared with pre-pandemic.

Elizabeth line and overestimate of journeys and kilometres

A technical issue in LENNON resulted in overestimates for Elizabeth line passenger journeys and passenger kilometres (revenue data is not affected). From analysis using data provided by TfL (which is unaffected), the impact of the issue worsened during the April 2022 to March 2023 financial year, as more services were introduced on the Elizabeth line, with an overestimate of up to 20% for the first half of the year and up to 40% for the second half. This consequently overestimated national usage by 4% for the whole year.

The root cause of the issue is linked to specific methods of payment for journeys. Contactless and Oyster Pay As You Go (PAYG) travel within the London and South East sector is submitted to LENNON at a level which considers the possible routes customers could have made on their journey. Due to system constraints in how the data is ingested into LENNON, this can result in an overstatement of journey count where multiple routes exist for a single customer journey. The launch of the Elizabeth line resulted in a particular increase in routing possibilities, most notably from the launch of Phase 5b in November 2022 and therefore increasing the level of overstatement in journey count outputted from LENNON. This overstatement is seen particularly for the Elizabeth line as an operator, however some residual impact exists for other operators in the London and South East sector, particularly on flows outside of London where contactless is now available.

Elizabeth line correction

In order to more accurately reflect the actual number of journeys and kilometres made on the Elizabeth line, a supplemental dataset provided by TfL was used to generate a replacement for the existing journey and kilometre data from the LENNON extract.

The dataset TfL provided contained the number of Elizabeth line journeys recorded since the opening of the main section on 24 May 2022, based on journeys undertaken on contactless, PAYG and paper tickets. Primarily, this new data is used as a direct replacement for the counts provided by LENNON. However, the TfL dataset is missing journeys on some ticket types including operator-issued smartcards and some mobile or e-tickets. Therefore, data capturing journeys for those missing ticket types is still being generated from LENNON.

TfL do not monitor the number of passenger kilometres travelled. To generate passenger kilometre estimates we used the TfL dataset and multiplied the number of journeys on a particular flow by the distance, in kilometres, that were likely to have been on the Elizabeth line. The LENNON database contains a distance matrix, showing the volume of kilometres apportioned to Elizabeth line for each flow. In a small number of cases (approximately 5%) there were no mileages being apportioned to Elizabeth line. Passenger kilometres on these flows were estimated using the proximity of the origin and destination stations to their nearest Elizabeth line station and calculating the distance between the two Elizabeth line interchange points.

For April to June 2024, we used actual TfL data for April and May. However, in the absence of actual data for June, an alternative methodology was used. We compared the TfL and LENNON journey numbers for April and May and calculated the percentage overstatement for LENNON journeys. We then used the average overstatement over those two months and applied that to the LENNON journey numbers for June. To generate the point-to-point journey data for April to June, we attributed the adjusted Elizabeth line journeys data for April to June based on the distribution of journeys made during April and May 2024. Having calculated the point-to-point journey data, we then used our passenger kilometre matrix to calculate the passenger kilometres associated with those journeys.

For July to September 2024, we used the average percentage overstatement of LENNON journeys used for June 2024 and applied that to the LENNON journey numbers to generate an estimate of Elizabeth line journeys for those months. To generate the point-to-point journey data for July to September, we attributed Elizabeth line journey data based on the distribution of journeys made using actual TfL data from July to September 2023. We did this on the assumption that journey distribution during the summer months was more likely to correspond to the same time last year rather than the most recent three months. Having calculated the point-to-point journey data, we then used our passenger kilometre matrix to calculate the passenger kilometres associated with those journeys..

TfL Freedom Pass

Usage for operators in the London and South East sector includes an estimate for travel with the TfL Freedom Pass, based on data from the previous year. The estimates for usage during the financial year April 2022 to March 2023 were affected by the lower levels of usage seen during the pandemic in the previous year. Consequently, estimates of passenger journeys and kilometres in the London and South East sector are likely to be understated by around 1% during this period.

Non-LENNON data

Since 1 April 2010, non-LENNON data for passenger journeys and kilometres has been provided to ORR each quarter from a number of operators. These include journeys on tickets such as operator specific tickets and PTE multi-modal tickets. Most of the revenue associated with such journeys is captured by the LENNON system.

The non-LENNON component for Merseyrail has not been available since 1 April 2017. Since 1 July 2017, an estimate has been produced each quarter for Merseyrail non-LENNON data. To begin with, this was done using the percentage change in usage indicated by the LENNON data for the regional sector. This was done on a quarterly basis, comparing usage in one quarter with usage in the same quarter a year earlier. Since 1 April 2018, this has been done using only the Merseyrail LENNON data as this is judged to be a better estimate of non-LENNON usage for this operator.

Passenger train kilometres

Passenger train kilometres for Heathrow Express on Network Rail infrastructure were previously estimated between April 2013 and March 2018, as they were not billed through TABS. The TABS data provided now includes non-chargeable train kilometres, so this data is no longer estimated.

Inflation

The [consumer prices index \(CPI\)](#) is used to adjust passenger revenue for the effect of inflation. This allows comparisons with previous quarters and years to be made on a consistent basis. This means that all variances with previous quarters and years are adjusted for the effect of inflation.

For quarterly data, historic revenue is adjusted using the quarterly CPI time series. Data for previous quarters is presented in the prices of the latest quarter.

For annual data, the CPI inflation for the four quarters of each financial year are averaged. The table below shows the index values for the eight quarters to March 2024 and the year-on-year percentage changes. At the end of March 2024, these changes were averaged to give an inflation value of 5.7% for the financial year April 2023 to March 2024. Compared with 5 years ago (April 2018 to March 2019), the CPI increased by 23.8%. Annual data is only adjusted for inflation at the end of each financial year (the January to March publication). The current historic annual data is inflated to April 2023 to March 2024 prices.

Table 1 Consumer prices index, quarterly data, July 2022 to September 2024

Quarter	Index value	Year-on-year change
July to September 2022	123.2	10.1%
October to December 2022	126.7	10.8%
January to March 2023	127.7	10.2%
April to June 2023	131.1	8.4%
July to September 2023	131.4	6.7%
October to December 2023	132.0	4.2%
January to March 2024	132.3	3.6%
April to June 2024	133.8	2.1%
July to September 2024	134.1	2.1%

Historical background

Passenger train kilometres

Network Rail bills train operators (both passenger and freight) for all train movements on their infrastructure. Billing was previously done by separate systems for passenger and freight operators (PABS and BIFS respectively). From 1 April 2009, billing has been done by a single system, known as TABS (Track Access Billing System). The time series was revised on 6 October 2022. Previously, only chargeable train kilometres operated on Network Rail infrastructure were included in the dataset. The data now includes non-chargeable train kilometres as well as those operated on other infrastructure including the branch line to Heathrow Airport, HS1, the Island Line, and TfL infrastructure.

Passenger journeys, passenger kilometres and passenger revenue

Passenger journey and kilometre data before 1986 is sourced from historic transport statistics. [Information on rail usage before 1947 is available from the Rail Delivery Group.](#)

Historically (1 April 1986 to 31 March 2002) passenger usage data was calculated from CAPRI (Computer Analysis of Passenger Revenue Information) which was the rail industry's former central ticketing system. Data for this period is available on the ORR [data portal](#) as well as in the archived Strategic Rail Authority (SRA) National Rail Trends publications available from [Archived National Rail Trends](#). CAPRI was, however, unable to correctly record sales of certain products, including some operator-specific tickets and Passenger Transport Executive (PTE) multi-modal tickets. Following a review by SRA and with significant assistance of train operators robust estimates for these products were included in the passenger kilometres and journey data from 1 April 2001, although they were backdated to 1 April 1999. Passenger revenue data was not included in these estimates and as such the data remained unaffected.

Since 1 April 2003 the rail industry's central ticketing and revenue system, LENNON, has been the basis for passenger journeys, kilometres and revenue data.

Prior to 1 April 2010, non-Lennon data was provided annually to ORR at the end of the financial year and were apportioned out to each financial quarter. The apportionment of the additional kilometres and journeys data to each quarter was based on the split of LENNON data. For example, if 26% of LENNON journeys were between 1 April and 30 June, 26% of the additional non-Lennon journeys would be assigned to that quarter.

Data for non-franchised operators was not collected prior to 1 October 2008. Since this time, LENNON data for non-franchised operators includes Grand Central, Hull Trains, and Lumo but not Heathrow Express whose total revenue (and associated journeys and kilometres) are not included within the LENNON system. Between 1 January 2008 and 31 March 2011, the data also included Wrexham and Shropshire, but they ceased trading on 28 January 2011.

Since 1 July 2012 passenger journeys, kilometres and revenue data by ticket type for ordinary fares have been disaggregated further based on Advance, Anytime (Peak), Off Peak (including Super Off Peak) and Other (non-LENNON tickets and promotional tickets). It is not possible to provide a time series prior to 1 April 2011 for this level of disaggregation because LENNON only maps the data back to that date.

Relevance

The degree to which the statistical product meets the user needs in both coverage and content.

Measures of rail usage are key indicators of the levels of rail use in Great Britain. They provide a clear indication of the number of journeys made on the network, providing an indication of the levels of demand for rail travel. This can help in both short-term and long-term planning for the industry and wider stakeholders, both at a National level and within the rail sectors.

Passenger revenue data provides insight into revenue levels within the industry as well as the levels of revenue generated through each ticket type, which can also provide an indication of changes in ticket purchasing trends.

Rail usage data published on our data portal is used by a range of individuals for planning, analysis, decision making and data validation.

ORR's last [user survey](#) took place from mid-January to mid-April 2020. The aim of the survey was to gather feedback on ORR's new data portal; this includes statistical releases, data tables and other supplementary material. There were 42 responses to the survey. ORR created an [implementation plan](#) following the 2020 user survey.

More detailed information on users of ORR statistics and meeting the needs of users is available on our [user engagement webpage](#).

How these statistics can be used

- Monitoring the number of quarterly passenger journeys and kilometres travelled by mainline rail in Great Britain
- Comparing passenger journeys and kilometres by sector, train operator, and ticket type
- Comparing passenger revenue by sector and ticket type
- Monitoring passenger train and vehicle kilometres by train operator

How these statistics cannot be used

- Monitoring the number of annual journeys within and between Scotland, Wales and Regions of England (refer to [Regional rail usage](#) statistics)
- Monitoring the number of entries and exits or interchanges at individual stations (refer to [Estimates of station usage](#))
- Exploring rail journey flows between origin and destination stations
- Comparing passenger revenue by train operator (refer to [Rail industry finance](#))

Accuracy and reliability

The proximity between an estimate and the unknown true value.

Passenger journeys, kilometres and revenue

Passenger journeys, kilometres, and revenue data is primarily sourced directly from LENNON (LENNON data) and train operators (non-LENNON data) for passenger journeys and kilometres. The LENNON system automatically records the majority of ticket sales, with non-LENNON data capturing the tickets sold through outlets not linked to the LENNON system. Combining the two sets of data provides a best estimate of passenger ticket sales from which passenger journeys and kilometres can be derived. The LENNON system is primarily an accounting tool and therefore faces limitations when being used for statistical reporting. With all large data sources there may be input errors which are more likely to occur in the journeys, rather than revenue data. Due to the size and complexity of the dataset we are unable to validate each and every entry.

Known problems in the data capture include those relating to travelcards, return and single journey tickets, multiple tickets, rail staff passes, ticketless travel and other rail systems. The pandemic also generated further uncertainty around the use of season tickets from March 2021 to March 2022.

The estimates of passenger journeys do not account for split ticketing. This is where two or more tickets are purchased to complete a single journey. In such cases, each ticket is counted individually in the passenger journey statistics. Split ticketing has become more prevalent in recent years, therefore the extent to which it affects rail usage statistics has increased. It may be that the recovery of journeys relative to before the pandemic is overstated. Split ticketing will mean that the average revenue per ticket is lower, as the passenger uses multiple cheaper tickets to complete a journey instead of a single more expensive ticket. Passenger kilometres are not affected by trends in split ticketing, but average journey length is. We are working on incorporating split ticketing adjustments within these statistics. This will include revisions to historic passenger data back to April 2020.

It should also be noted that revenue, in addition to ticket revenue, includes other miscellaneous charges associated with passenger travel on national railways, such as car parking charges. There may be differences between the actual values and published statistics resulting from tickets involving travel on London transport, the receipts for which are apportioned.

The passenger journeys and kilometres statistics, which are based on the LENNON data and non-LENNON data received from operators, may also differ from actual passenger kilometres and passenger journeys because the data does not make adjustments for unused tickets and passengers cutting journeys short (i.e. alighting a train before the destination station stipulated on their ticket).

Whilst LENNON is updated overnight there may be circumstances in which passenger revenue information could be revised and therefore change the revenue data in LENNON. These are likely to occur within the first two weeks after the end of each period. Therefore to minimise the risk using incorrect data, ORR waits at least one month before extracting the data from LENNON.

It should also be noted that rail usage sector data does not align with rail performance sector data in some cases, e.g. for TransPennine Express.

Data coverage

The data presented in this release is for mainline operators in Great Britain. The data does not include Eurostar, London Underground, light rail, heritage or charter services. The data tables that accompany this publication contain data for such operators: Grand Central, Heathrow Express, Hull Trains, Lumo, and Wrexham and Shropshire (ceased trading 28 January 2011).

Passenger kilometres and journeys data is based on a combination of data sources. Primarily a combination of LENNON and data provided directly from train operators (non-LENNON data). The two sources are required to capture the full volume of passenger kilometres and journeys on the rail network as the LENNON system does not include all methods of and types of products sold.

Non-LENNON data is supplied directly by train operators who are coherent in use of the LENNON system and the products which it is able to capture. As a result, operators are fully aware of the types of product which are not captured and the resultant passenger kilometres and journeys which should be reported through the non-LENNON data submission to ORR. This product knowledge minimises the chances of double reporting occurring.

Lennon data is apportioned into financial quarters according to the date the ticket was purchased. This means some rail journeys purchased in advance may be presented in the financial quarter before the journey is made.

Quality assurance

Data extracted from LENNON is converted into a standard format and subject to a series of quality assurance checks. Similarly, all non-LENNON data that is received from operators is subject to a series of quality assurance checks. We check the data is provided in the correct format, there are no inconsistencies in the data and trends over time are similar, to ensure accurate data is published.

Any issues arising from our internal quality assurance processes are queried with Network Rail (for Passenger train kilometres), the Rail Delivery Group (for queries regarding LENNON data), or the relevant operator (for non-LENNON data). Explanations from the data owners/suppliers regarding any anomalies are included within our commentary to explain the data and trends. For example, the Rail Delivery Group provides information on the timing of technical payments for such things as contactless data and TfL sold travelcards. The estimates of usage for each operator extracted from LENNON are also cross-referenced against estimates provided by the operators themselves.

This data is then prepared for publication. The process includes quality assuring the tables and charts produced and providing supporting commentary regarding the key trends, methodology and quality measures. These reports are subject to peer review.

The final stage of the quality assurance process is a sign off by the statistics Head of Profession confirming the data meets the quality standards and is fit for publication.

Revisions policy

ORR's statement on [orderly release and revisions policy](#) outlines ORR's revision policy. Details of any revisions are available in the [revisions log](#). Further information on revisions and data series breaks can also be found in the data tables.

Timeliness and punctuality

Timeliness refers to the time gap between publication and the reference period.
Punctuality refers to the gap between planned and actual publication dates.

ORR aims to publish these statistics as soon as possible after the end of each quarter. Passenger rail usage data is typically available on the ORR data portal approximately three months after the end of the quarter.

The [publication schedule](#) available on the data portal outlines the publication dates for accredited official statistics quarterly and annual statistical releases and other official statistics up to 12 months in advance.

ORR is committed to releasing its statistics in an open and transparent manner that promotes confidence.

Accessibility and clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data is available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

Statistics need to be presented in a clear and understandable form. All our rail statistics data tables can be accessed free of charge on our [data portal](#). Commentary about the statistics and trends are provided in the statistical releases. Interactive dashboards (PowerBI) are also available.

Our data portal and its content meet the accessibility standards of the [Public Sector Bodies Website Accessibility Regulations](#). We support our users by providing the information they need in a way that is clear and accessible. Our statistical releases use plain language, and any technical terms, acronyms and definitions are clearly defined and explained when this is appropriate, to ensure that the statistics can be used effectively. Our data tables are available at the highest level of detail that is practical and in accessible formats. All data tables are available in OpenDocument Spreadsheet (.ods) format. We can also provide data in csv format on request.

Please see our [accessibility statement](#) for further details, including any non-accessible content.

Data tables

All tables associated with this release can be found under the Data tables heading at the bottom of the [Passenger rail usage page](#).

Passenger journeys

- Passenger journeys (franchised only) - annual – Table 1220
- Passenger journeys by sector - quarterly – Table 1221
- Passenger journeys by ticket type - quarterly – Table 1222
- Passenger journeys by train operator - quarterly – Table 1223

Passenger kilometres

- Passenger kilometres (franchised only) - annual – Table 1230
- Passenger kilometres by sector - quarterly – Table 1231
- Passenger kilometres by ticket type - quarterly – Table 1232

- Passenger kilometres by train operator - quarterly – Table 1233

Passenger revenue

- Passenger revenue by sector - quarterly – Table 1211
- Passenger revenue by ticket type - quarterly – Table 1212
- Revenue per passenger kilometre and per passenger journey (franchised only) - quarterly – Table 1210

Passenger train kilometres

- Passenger train kilometres by operator - quarterly – Table 1243
- Passenger vehicle kilometres by operator - quarterly – Table 1253

Passenger rail usage data, particularly passenger revenue data, is viewed as commercially sensitive. Therefore, lower levels of disaggregation are not possible without permission from operators and RDG.

Coherence and comparability

Coherence is the degree to which data that is derived from different sources or methods, but refer to the same topic, is similar. Comparability is the degree to which data can be compared over time and domain.

Other related data

The Department for Transport (DfT) also publishes a range of rail statistics which can be found at [DfT Rail statistics](#). This includes [Rail passenger numbers and crowding statistics](#) which provides information on the number of passengers travelling by rail into and out of major city centres in England and Wales. The statistics represent passengers on National Rail services on a 'typical' weekday. [DfT also publishes statistics on public transport](#) including [statistics on the usage of the Channel Tunnel](#).

The passenger journey totals in this publication should not be compared with those published as part of ORR's Regional rail usage statistical release as they are calculated on a different basis. For example, a journey from Leicester to Manchester would be classed as two journeys here, due to the need to change trains. However, in [Regional rail usage](#), it is treated as one journey reflecting the origin and destination shown on the ticket. Please see [Passenger journeys in Great Britain](#) which explains the differences in more detail.

For more information on comparability of data over time see the Historical background section above, which describes changes to the data over time.

European comparisons

Comparisons with railways in the rest of Europe are available [between January 2004 and September 2020 for passenger journeys](#). More recent data from other European countries is published in the [IRG-Rail twelfth Annual Market Monitoring Report](#).

Length of comparable time series

Measures	Disaggregation	Start of time series
Passenger journeys, kilometres, and revenue	Great Britain	1 January 1872 - journeys 1 January 1938 - kilometres 1 April 1986 - revenue
	Ordinary and season tickets	1 April 1986 - annual 1 April 1994 - quarterly
	Advance, anytime or peak, off-peak, other tickets	1 April 2010 - quarterly
	Sectors	1 April 1994 - quarterly
	Train operators	1 April 2011 - quarterly (revenue figures not available by operator)
Passenger train and vehicle kilometres	Train operators and traction type	1 April 2010 - quarterly

The following series breaks exist in the time series:

- GB journeys and kilometres are shown for calendar years before 1 April 1984 to 31 March 1985.
- Data before 1 January 1938 sourced from the National Infrastructure Commission.
- Data between 1 January 1938 and 31 March 1986 sourced from DfT.
- Data between 1 April 1986 and 31 March 2002 sourced from CAPRI. Additional TOC data included from 1 April 1999.
- Data since 1 April 2003 sourced from LENNON and train operators.
- Alternative methodology used between 1 April 2020 and 31 March 2021 due to the pandemic.



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