
Rail Statistics tables

Notes and Definitions



Department
for Transport

This document provides notes and definitions for the rail statistics tables published by the Department for Transport (DfT). These tables are published in five statistical datasets, which can be found on the following webpage:

<https://www.gov.uk/government/organisations/department-for-transport/series/rail-statistics>

Apart from one table showing passenger usage on London Underground, these statistics cover National Rail only. Statistics on light rail and tram systems can be found at the following link: <https://www.gov.uk/government/organisations/department-for-transport/series/light-rail-and-tram-statistics>

The five rail statistics datasets are listed below.

RAI01 - Rail usage, infrastructure and performance

RAI02 - Rail passenger numbers and crowding on weekdays

RAI03 - Rail finance

RAI04 - Rail freight

RAI05 - Rail accidents and safety

Publishers of rail statistics

The statistics in the tables in dataset RAI02 are produced by the Department for Transport, however the majority of statistics about the rail industry are produced by other organisations. Therefore, more up to date and more detailed statistics than those published by DfT may be available from the organisation that produces them. The statistics in the tables in datasets RAI01, RAI03 and RAI04 are published by the Office of Rail Regulation (ORR), while those in dataset RAI05 are published by the Rail Safety and Standards Board (RSSB). Statistics on their websites can be found at the following links:

ORR - <http://www.rail-reg.gov.uk/server/show/nav.1527>

RSSB - <http://www.rssb.co.uk/spr/reports/pages/default.aspx>

National Rail Travel Survey

In addition to the statistics detailed here, DfT also publishes the National Rail Travel Survey. Details of the survey can be found in the National Rail Travel Survey Overview Report at <https://www.gov.uk/government/publications/national-rail-travel-survey-overview-report>.

RAI01 - Rail usage, infrastructure and performance

National Rail/London Underground passenger traffic: Table RAI0101

The figures shown for national rail passenger traffic during 1919 and 1923 include all journeys on those 'London Railways' subsequently taken over by the London Passenger Transport Board in 1933. Additionally, in 1919 a journey using the services of more than one company was reported by each of them, with consequent duplication in the figures. The figures for journeys on the London Underground from 1948 include those originating on the former British Railways network (approximately 70 million journeys in 1948), and on those lines transferred to the London Transport Passenger Executive on 1 January 1948 (estimated at 62 million journeys in 1947).

Electrified route: Pre-1947 figures refer to track length, not route length, and include electrified sidings. In 1947, there were 3,370 electrified track kilometres.

National Railways passenger journeys and kilometres: Figures from 1986/87 to 2002/03 were based on tickets issued through the All Purpose Ticket Issuing System (APTIS) and are not comparable with earlier years. The rail series for passenger data changes after privatisation in 1994, with possible double counting of journeys. Post-privatisation, a journey involving a change of train would be classed as two journeys. This contrasts with results published prior to privatisation when a through-ticketed journey was counted only once, irrespective of the number of changes made.

Figures from 2003/04 are based on the rail industry's central ticketing system, LENNON. 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 operating companies.

There is some underestimation of passenger journeys and kilometres in 1997/98 and 1998/99. This is because LENNON did not capture the passenger kilometres of certain ticket types, such as operator specific tickets and Passenger Transport Executive (PTE) multi-modal tickets. The figures were reviewed and revised by the Strategic Rail Authority (SRA) to include best estimates for non-Lennon data. This exercise was backdated to the start of 1999/00. Oyster Pay as you go (PAYG) journeys were included within LENNON from January 2010. Journey growth from the final quarter of 2009/10 may be partially driven by PAYG where people have switched from travelcards to point to point travel.

London Underground passenger kilometres: From 1965, passenger kilometres are those actually travelled. Prior to 1965, a different method of estimation was used, leading to slight overestimates of the order of 0.1 billion passenger kilometres per year.

RAI0102 – *The table showing passenger revenue that was previously numbered RAI0102 has been renumbered as RAI0301.*

National Rail passenger traffic and timetabled train kilometres: Table RAI0103

Passenger kilometres: Estimates of passenger kilometres are made from LENNON. To record travel on season tickets appropriate factors are assumed for the number of journeys per season ticket.

For both the passenger kilometres series, new methodologies were applied in 2003/04 and in 2007/08 to improve the categorisation of ticket type. Further details about the methodologies used to calculate revenue and passenger kilometres can be found on the Office of Rail Regulation (ORR) website:

<http://www.rail-reg.gov.uk/server/show/nav.1527>

Timetabled train kilometres: This shows the number of kilometres each train operating company would achieve according to the winter and summer train timetable if they were operating at full capacity.

For this series a new methodology was used from 2002/03 quarter 2. Previously timetabled train kilometres were published using data sourced from DfT. However, ORR has revised the methodology behind these data, and is now using more comprehensive data supplied by the Association of Train Operating Companies (ATOC) to generate these statistics. These data include non-franchised train operators. Further details can be found on the ORR website (<http://www.rail-reg.gov.uk/server/show/nav.1527>).

National Rail route and stations open to traffic: Table RAI0104

The length of route open for rail traffic is that managed by Network Rail. It does not include track managed by private companies or Passenger Transport Executive services operating on separately managed tracks.

Please note that route open is not the same as track open. For example, for a double track section of line, the figure for track will be double the figure for route open.

The break in the route open series between 2003/04 and 2004/05 is due to a change in the methodology for collection of the route length. Up until 2003/04 the data were collected on a semi-manual basis from various systems. From 2004-05 the principal track engineers' database, GEOGIS, has been used. The apparent drop from 2004/05 to 2005/06 does not reflect an actual reduction in route kilometres open for traffic but is due to improvements in data collection and data quality that resulted in a restatement of route length. Data from 2007/08 are not consistent with earlier years as a new methodology has been introduced because of revisions to route classification data.

Public Performance Measure: Table RAI0105

Public Performance Measure (PPM) was introduced in 2000 by the then Shadow Strategic Rail Authority, replacing the Passengers' Charter as the main means of measuring passenger train performance. Unlike the Charter measure that only covered particular services, PPM covers all scheduled services, seven days a week, and combines the previously individual punctuality and reliability results into a single performance measure. PPM is measured against the *planned* timetable, which makes allowance for specific delays (e.g. engineering works) and so may differ from the previously published timetable. PPM is therefore the percentage of trains 'on time' compared to the total number of trains planned.

A train is defined as on time if it arrives within five minutes (i.e. four minutes 59 seconds or less) of the planned destination arrival time for London and South East and regional operators; or ten minutes (i.e. nine minutes 59 seconds or less) for long-distance operators.

When a train fails to run its entire planned route, calling at all timetabled stations, it will either be counted as cancelled (if it runs less than half its planned mileage) or will be added to the trains in the '20 minutes or more' lateness band.

From 2006/07, the rail industry has re-classified TransPennine Express (TPE) to the long distance sector for performance purposes. Hence, TPE services are now considered 'on time' if they arrive within ten minutes of the scheduled arrival time (not within 5 minutes as was the case up to 2005/06).

Average age of national rail rolling stock: Table RAI0106

All rail vehicles (excluding locomotives) leased from rolling stock leasing companies (ROSCOs) by train operators that have a franchise agreement with DfT are included in the calculations of average age.

The age of each rail vehicle is the time between the date of entering into service and the end of each quarter; e.g. a vehicle which entered service in January 2000 would be, at the end of 2001/02 Q1 (30 June 2001), 1.5 years old. The date of entry into service is deemed to be the first day of the quarter in which the rail vehicle came into service; e.g. all rail vehicles which entered service between 1 April 2001 and 30 June 2001 are given a service entry date of 1 April.

Where the date of entry into service is not available (essentially for rail vehicles introduced prior to privatisation) the date used is either:

- 1 January in the year of manufacture of the relevant class of rail vehicle; or

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- the midpoint of the period over which the relevant class of rail vehicle was manufactured, e.g. if a class of rail vehicle was manufactured over the time frame March 1972 to March 1976 then the midpoint would be March 1974.

A vehicle drops out of the calculations when its lease either expires or is terminated.

The average age is calculated by adding up the individual ages and dividing by the number of rail vehicles in service. The refurbishment or other improvement of a rail vehicle is not taken into account in calculating average age.

There is a series break for the all operators average age between 2006/07 and 2007/08. This is because it was found that the average age was being calculated incorrectly, as some long-distance fleet data were being omitted. This has now been rectified back to 2007/08, but it has not been possible to calculate an accurate all operators average age prior to 2007/08 due to electronic records not being available.

RAI0107 – *The table showing passengers in excess of capacity (PiXC) that was previously numbered RAI0107 has been renumbered as RAI0210.*

Channel Tunnel: Table RAI0108

The Channel Tunnel opened for freight traffic in June 1994 and for passenger services in November of that year. Passenger shuttle services opened in December. Four different types of service operate through the Channel Tunnel, as follows:

- Freight shuttles - carrying road freight vehicles between Folkestone and Calais.
- Tourist shuttles - carrying passenger vehicles between Folkestone and Calais.
- Freight trains - through freight trains between Great Britain and Europe.
- Eurostar trains - carrying passengers between London, France and Belgium.

Commercial traffic is fare-paying traffic using the tunnel. Non-commercial traffic is non-fare-paying traffic (e.g. staff and authorised agents).

RAI02 - Rail passenger numbers and crowding on weekdays

These tables are part of the publication *Rail passenger numbers and crowding on weekdays in major cities in England and Wales: 2011*. Notes and definitions for these tables can be found in the separate *Notes and definitions* document for this publication, which can be found on the following webpage:

<https://www.gov.uk/government/publications/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2011>

RAI03 - Rail finance

National Rail passenger revenue: Table RAI0301

Passenger revenue includes all ticket revenue and miscellaneous charges associated with passenger travel on national railways, e.g. car parking charges. For journeys involving some travel on London Transport, receipts have been apportioned appropriately.

Passenger revenue does not include government support or grants.

Government Support to the Rail Industry: Table RAI0302

Government support to the rail industry chiefly consists of DfT support grants paid to Network Rail and Train Operating Companies, and PTE Special Grants. Rail freight grants are also paid by Government to encourage the movement of freight by rail.

Prior to 1994-95, Government support to the rail industry comprised grants to British Rail and the Passenger Transport Executives (PTEs), and borrowing by British Rail from the National Loans Fund. Grants to British Rail consisted of Public Service Obligation (PSO) Grant and Level 1 Crossing Grant.

The privatisation of the rail industry in April 1994 led to changes in the basis of government funding. On 1 April 1994, PSO grants were replaced by Office of Passenger Rail Franchising (OPRAF) support and grants to British Rail and, from the point of franchise, to private sector train operating companies. In 2001 OPRAF support was replaced with Strategic Rail Authority support, which in 2005 was replaced with grants made by the Department for Transport (DfT), the Welsh Assembly Government and Transport Scotland.

Since 1994-95 Central Government grants have involved franchise payments to train operators and performance receipts. Franchise payments are payments to or from train operators contracted in their franchise agreements. Performance receipts are payments that vary depending on the financial performance of the train operator, and can result in payments from an operator to the Government as well as from Government to the operator. Negative values show where the Government was in receipt of payments. From 2010-11, these figures also include contract payments by the Department for Transport to

Merseytravel PTE and Transport for London which are made under funding arrangements for devolved operations.

PTE grants are currently paid to the five Passenger Transport Executives and Transport for Greater Manchester. These figures include grants made to PTEs specifically for rail, so will not include any spending on rail made by PTEs from general grants. All grants to PTEs are currently made by the Department for Transport. Between 1995-96 and 2005-06 PTE rail funding also included loan repayments under Deeds of Assumption (DoA). These were payments to the PTEs relating to their past capital investment in the railway. They were made by British Rail and DoA Ltd until 2001, when the Strategic Rail Authority took over responsibility for the payments until they were paid off.

Since the creation of Network Rail in 2001 to replace Railtrack, Network Grant has been paid to Network Rail. Prior to this, Railtrack was funded by network access charges paid by train operators. These 'Direct rail support' figures also include payments to London and Continental Railways during the construction of the High Speed 1 route. In 2010-11 the direct rail support figure is net of a £100m rebate that was received from Network Rail during the year.

The year by year profile of Government support to the rail industry was affected by the decision in the Access Charges Review 2003 to reprofile Network Rail's income. This led to Government support being lower than it otherwise would have been in 2004-05 and 2005-06, with the shortfall being made up in later years.

Private investment in the railway industry: Table RAI0303

The data for this table are collected by the Office for National Statistics (ONS) every quarter on behalf of the Office of Rail Regulation (ORR). ORR select up to 40 companies to take part in the survey every quarter.

The survey asks for investment in the following categories:

- track and signalling including new routes and new electrification
- rolling stock including eligible refurbishment work;
- stations including retail outlet buildings; and
- all other expenditure associated with the rail business, such as non-rail vehicles and business related costs such as IT and web related costs.

Negative numbers can occur due to a company's disposal of rail assets.

RAI04 - Rail freight

National Railways Freight Traffic: Tables RAI0401 and RAI0402

These tables summarise the performance of the freight business in terms of freight 'lifted' (measured in tonnes) and freight 'moved' (measured in tonne kilometres).

In February 1996, British Rail's (BR) bulk freight operations were sold to North and South Railways, subsequently called English, Welsh and Scottish Railway (EWS). In 2007, EWS was bought by Deutsche Bahn (DB) and in January 2009 was re-named DB Schenker. The other major companies in the rail freight sector are Freightliner Ltd (formerly the BR container business), Direct Rail Services (DRS) and First GB Railfreight.

Freight moved is measured in net tonne kilometres (NTKm). This takes into account the net weight (excluding the weight of the locomotive and wagons) of the goods carried (the freight lifted, measured in tonnes) and the distance carried. Although it is not included in the total NTKm, we have included a separate series on infrastructure traffic (goods used for railway engineering work). International comprises trains travelling through the Channel Tunnel; Domestic intermodal includes goods that have arrived by sea at ports.

Following the move of BR's bulk freight operations to the private sector there have been some changes in the way estimates of freight traffic have been compiled. In particular, the method of estimating tonne kilometres is different, with the result that recent estimates are not consistent with those for earlier periods.

Freight lifted is the mass of goods carried on the network. It excludes the weight of the locomotives and wagons. Unlike freight moved it takes no account of the distance travelled. Data pre and post-privatisation are not directly comparable. These data are updated on a quarterly basis and can be found via the Office of Rail Regulation's Data Portal: <http://dataportal.orr.gov.uk>.

National Railways freight train movements, impacts on road haulage and Freight Performance Measure: Table RAI0403

This table shows the total number of train movements (including infrastructure trains) on the network and the equivalent distance that road vehicles would need to have travelled to move the amounts of freight carried on rail. It also shows the equivalent number of road vehicle trips necessary to move this freight. These measures provide an alternative to the traditional deadweight-based approach. These data are only available up to the 2010/11 financial year, due to the unavailability of more up-to-date road freight data.

Freight Performance Measure is the percentage of freight trains arriving at their final destination on time, each train being 'on time' if it arrives within 10 minutes of its scheduled arrival time. Further details can be found on ORR's Data Portal: <http://dataportal.orr.gov.uk>

[RAI05](#) - Rail accidents and safety

Railway accidents: Tables RAI0501, RAI0502 and RAI0503

These tables give the number of train accidents and casualties in incidents that occurred in stations, on trains, or elsewhere on Network Rail managed infrastructure in Great Britain, such as the track and trackside. Workforce fatalities that occur away from these locations, but during working time, are also included.

These data are subject to revision. Numbers may change as a result of late reporting or as more information, such as coroners' verdicts, becomes available.

The data methodology changed in 2011, the current figures collected by RRSB, only cover National Rail, and do not cover accidents on Eurotunnel, London Underground, trams, other rail guided systems and trolley vehicle systems, which were all included in the previous figures from SIGNAL. The data from previous years have been revised to provide a consistent time series.

Most RSSB data are derived from the industry's Safety Management Information System (SMIS). SMIS records a wide range of incidents, including all injuries and all safety events that are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995. The most serious incidents tend to be well reported so the statistics for these should be robust, but it is likely that there is some underreporting of minor injuries, and this may differ depending on the injured party and the cause. For further detail on how RSSB quality assure SMIS data, please refer to Chapter 10 of the RSSB Annual Safety Performance Report (ASPR) 2011/12.

Table RAI0501 shows casualties occurring in rail accidents. In this table a **passenger** is defined as a person on railway infrastructure who intends to travel, is in the process of travelling, or has travelled. This is regardless of whether he or she has a valid ticket. The exceptions are travellers who trespass or who commit, or attempt to commit suicide. People who are injured this way are classified as members of the public. A person is classified as a member of the **workforce** if he or she is working for the industry on railway activities, either as a direct employee or under contract. A person is considered a **member of the public** if they are neither a passenger nor a member of the workforce.

Trespassers are people deliberately going where they are never permitted to go, including those who deliberately jump from trains or platforms, or are climbing on the outside of overbridges, etc. People on level crossings are not classified as trespassers, even if they are misusing the crossing. **Suicides** include suicides, suspected suicides, and non-fatal injuries sustained by people attempting to commit suicide. Third party shock and trauma from witnessing suicides is included elsewhere, in the statistics for the person type affected (workforce, passenger or public). Where a coroner's verdict is not available, or a coroner returns an open verdict, intent is determined by applying the Ovenstone criteria (see Appendix 5 of the ASPR 2011/12).

A **fatality** is someone who dies as a result of a rail accident, within a year of the accident occurring. **Major injuries** include injuries to passengers, staff or members of the public as defined in schedule 1 to RIDDOR 1995. This includes losing consciousness, most fractures, major dislocations and loss of sight (temporary or permanent) and other injuries that resulted in hospital attendance for more than 24 hours. **Minor injuries** include all other physical injuries. **Shock or trauma** includes cases resulting from being involved in or witnessing events that have serious potential of a fatal outcome, such as collisions and derailments, as well as cases resulting from other causes, such as verbal abuse and near misses.

Table RAI0502 is based on passenger casualties owing to train accidents and movement accidents involving people on board trains or in the act of boarding or alighting from them. Specifically, it covers passengers injured as a result of: (i) train accidents, (ii) falling or leaning from moving trains, (iii) sudden train movement, such as braking or lurching, and (iv) accidents while boarding or alighting from trains, whether they are stationary or moving. This is the basis for comparisons with other modes of transport.

Table RAI0503 shows the total number of RIDDOR reportable train accidents irrespective of whether personal injury was involved.

Further details about the definitions used in these tables can be found in the RSSB Annual Safety Performance Report (ASPR): <http://www.rssb.co.uk/spr/reports/pages/default.aspx>

Railway signals passed at danger: Table RAI0504

Table RAI0504 shows signals passed at danger (SPADs). The rail industry uses the SPAD risk ranking tool to assign a numeric score to each incident. For each SPAD, the score reflects its accident potential (for example, how close it came to the conflict point) and the potential consequences if an accident had occurred (in the case of a collision, it takes into account speed, crashworthiness and passenger loadings). To assist with reporting, SPADs are grouped into severity bands: (i) not a significant risk; (ii) potentially significant; and (iii) potentially severe.

These notes and definitions relate to the rail statistics tables published by the Department for Transport at <https://www.gov.uk/government/organisations/department-for-transport/series/rail-statistics>.

Any enquiries can be addressed to the Rail Statistics branch at the Department for Transport:

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