

Railways System in the United Kingdom

Introduction

The railway system in the United Kingdom (UK) is the oldest in the world. The first locomotive-hauled public railway opened in 1825. Whilst the network suffered gradual attrition from about 1900 onwards, and a severe rationalisation in the mid-1960s, the network is again in a position of growth. Presently, there are 2,564 passenger railway stations on the Network Rail network. This does not include the London Underground, nor other systems which are not part of the national network, such as heritage railways.

Most of the railway track is managed by Network Rail, which in 2016 had a network of 15,799 kilometres (9,817 mi) of standard-gauge lines, of which 5,331 kilometres (3,313 mi) were electrified.¹ These lines range from single to quadruple track or more. In addition, some cities have separate rail-based mass transit systems (including the extensive and historic London Underground). There are also several private railways (some of them narrow-gauge), which are primarily short tourist lines. The British railway network is connected with that of continental Europe by an undersea rail link, the Channel Tunnel, opened in 1994.

The UK is a member of the International Union of Railways (UIC). The UK has the 17th largest railway network in the world; despite many lines having closed in the 20th century it remains one of the densest rail networks. It is one of the busiest railways in Europe, with 20% more train services than France, 60% more than Italy, and more than Spain, Switzerland, The Netherlands, Portugal and Norway combined, as well as representing more than 20% of all passenger journeys in Europe.²

In 2016, there were 1.718 billion journeys on the National Rail network,³ making the British network the fifth most used in the world (UK ranks 23rd in world population). Unlike a number of other countries, rail travel in the UK has enjoyed a renaissance in recent years, with passenger numbers reaching their highest ever level. This has coincided with the privatisation of British Rail, but the effect of this is disputed. The growth is partly attributed to a shift away from private motoring due to growing road congestion and increasing petrol prices, but also to the overall increase in travel due to affluence.⁴ However, passenger journeys have grown much more quickly than in comparable countries such as France and Germany.⁵

To cope with increasing passenger numbers, there is a large ongoing programme of upgrades to the network, including Thameslink, Crossrail, electrification of lines, in-cab signalling, new inter-city trains and a new high-speed line. For instance, at the end of September 2003, the first part of High Speed 1, a high-speed link to the Channel Tunnel and onward to France and Belgium, was completed, significantly adding to the rail infrastructure of the country. The rest of the link, from north Kent to St Pancras railway station in London, opened in 2007. A major programme of remedial work on the West Coast Main Line started in 1997 and

¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/568110/rai0101.ods

² "Nine out of ten trains arrive on time during January" (Press release), Network Rail, 18 February 2010.

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/568110/rai0101.ods

⁴ "Petrol price hike boosts rail passenger numbers, says ATOC", Rail Peterborough, 10 August 2011, p. 22.

⁵ <https://www.raildeliverygroup.com/about-us/publications.html?task=file.download&id=275>

finished in 2009. Furthermore, in the 2010s, many upgrades are under way, such as the Thameslink Programme, Crossrail, the Northern Hub and electrification of the Great Western Main Line. Electrification plans for the Midland Main Line and the cross-Pennine line between Manchester and Leeds have been paused with the start of work on these projects postponed to some indefinite date(s) in the 2020s. Planning for High Speed 2 is underway, with a projected completion date of 2026 for Phase 1 (London to Birmingham) and 2033 for Phase 2.

Privatisation

British Rail operations were privatised during 1994–1997. Since privatisation in the mid-1990s, there have been two types of passenger rail service on the UK rail network: open access operators (i.e. those that bid for ‘slots’ – specific parts of the overall National Rail timetable – to operate their own passenger services) and franchisees (i.e. those who operate a contracted service on a particular part of the rail network under licence from the Government and the regulator). By far the majority of services are run by franchises.⁶

The railways in the UK were privatised under the Railways Act 1993. The passenger railway was restructured so that domestic passenger train services could be offered to the private sector to run on a franchised basis. British Rail (BR) reorganised its passenger services into 29 different train operating units. These units were gradually incorporated as subsidiaries of BR and run as separate ‘shadow’ businesses. They paid access charges for the use of track and infrastructure, and rentals for stations and rolling stock, as do the franchisees that have followed them. Each operated under its own licence (granted by the Rail Regulator), its railway safety case (approved by the Health and Safety Executive) and a track access agreement with Railtrack (approved by the Regulator). A wide range of station and depot access agreements (also approved by the Regulator), property leases and other contracts were also required by each train operating business.⁷

In sum, the government said privatisation would see an improvement in passenger services and satisfaction (according to the National Rail Passenger survey) has indeed gone up from 76% in 1999 (when the survey started) to 83% in 2013 and the number of passengers not satisfied with their journey dropped from 10% to 6%.⁸ Since privatisation, passenger levels have more than doubled, and have surpassed their level in the late 1940s. Train fares cost 2.7% more than under British Rail in real terms on average.⁹ However, while the price of anytime and off-peak tickets has increased, the price of Advance tickets has dramatically decreased in real terms: the average Advance ticket in 1995 cost £9.14 (in 2014 prices) compared to £5.17 in 2014.¹⁰

Rail subsidies have increased from £2.5bn in 1992-93 to £3.3bn in 2015-16 (in current prices), although subsidy per journey has fallen from £3.32 per journey to £1.89 per journey.¹¹ However,

⁶<file:///C:/Users/ocinar/Desktop/OZGUR%20-BPP-UPDATED/EU%20PROJECTS/future%20projects/2018/Ahmet%20hoca-eskisehir/passenger%20rail%20services.pdf>

⁷ Ibid.

⁸ <https://www.raildeliverygroup.com/about-us/publications.html?task=file.download&id=275>

⁹ "Have train fares gone up or down since British Rail?", BBC News, 22 January 2013.

¹⁰ "The facts about rail fares - Stagecoach Group", Stage Coach, 2 October 2016.

¹¹ "Have train fares gone up or down since British Rail?", BBC News, 22 January 2013.

this masks great regional variation, as in 2014-15 funding varied from "£1.41 per passenger journey in England to £6.51 per journey in Scotland and £8.34 per journey in Wales."¹²

It should be noted that the public image of rail travel was severely damaged by a series of significant accidents after privatisation. These included the Hatfield accident, caused by a rail fragmenting due to the development of microscopic cracks. Following this, the rail infrastructure company Railtrack imposed over 1,200 emergency speed restrictions across its network and instigated an extremely costly nationwide track replacement programme. The consequent severe operational disruption to the national network and the company's spiralling costs set in motion a series of events which resulted in the collapse of the company and its replacement with Network Rail, a state-owned,¹³ not-for-profit company. According to the European Railway Agency, in 2013 Britain had the safest railways in Europe based on the number of train safety incidents.¹⁴

Overall, since privatisation in the mid-1990s, there are 29 companies in the UK at the time of writing (May 2018):¹⁵

Arriva Trains Wales

Serving the whole of Wales and the Welsh Marches, Arriva Trains Wales operates services to all major train stations in Wales, including Cardiff Central, Cardiff Queen Street, Newport and Swansea, as well as stations in England such as Birmingham and Manchester.

C2C Rail Limited

Connecting London with rail destinations in Essex and Southend-on-Sea, C2C Rail Limited operates services from Fenchurch Street station in London's West End to seaside destinations along the River Thames.

Chiltern Railways

Operating a number of services between the UK's major cities of London and Birmingham, Chiltern Railways carries passengers through historic 'Shakespeare country', making stops at Aylesbury Vale Parkway, High Wycombe, Warwick, Stratford-upon-Avon, Banbury, Leamington Spa and Solihull.

CrossCountry Trains

Covering around 1,400 miles and calling at over 100 stations from Aberdeen to Penzance, CrossCountry Trains is the most extensive rail network in the UK.

Docklands Light Railway

¹² <http://orr.gov.uk/statistics/published-stats/uk-rail-industry-financial-information/uk-rail-industry-financial-information-2015-16>

¹³ "Our Legal and Financial Structure: How are we regulated", Network Rail.

¹⁴ Ami Sedghi, "How safe are Europe's railways?", The Guardian, 25 July 2013.

¹⁵ <http://www.redspottedhanky.com/trains/train-operators/>

The automated Docklands Light Railway is an innovative railway service managed by Transport for London (TfL), which connects many areas of London to the redeveloped Docklands area.

East Coast trains now Virgin Trains East Coast

The new franchise started on March 1st 2015 and is a joint venture between Stagecoach and Virgin Trains.

East Midlands Trains

As well as local trains serving the East Midlands and East England regions, East Midlands Trains also operates fast and frequent trains connecting London to cities such as Liverpool, Nottingham, Corby, Derby, York, Leeds and Sheffield in the north.

First Capital Connect

Connecting 15 stations across London as well as destinations further afield in the south of England, First Capital Connect operates frequent services out of the UK capital along the East Coast Main Line, stopping at Bedford and Brighton, as well as the Great Northern train line, which connects London stations to Cambridge, Peterborough and Kings Lynn.

First Great Western Trains

Operated by FirstGroup Plc, First Great Western has come to be associated with scenic journeys through the beautiful English countryside and trips to seaside resorts in the Cotswolds, Devon and Cornwall.

First Hull Trains

First Hull Trains operates long distance train services between London and Hull along the East Coast Main Line, providing a fast and convenient train service between the major cities of North East and South East England.

First ScotRail

Providing services throughout Scotland and reaching across the Scottish border to Newcastle and Carlisle in the north of England, First ScotRail is a popular choice for express services between Scotland's major cities of Edinburgh, Glasgow, Inverness, Dundee and Aberdeen.

First TransPennine Express

First TransPennine Express draws its name from crossing the Pennines, but services much of the North of England, and includes rail services to Edinburgh and Glasgow in Scotland. Operating under the moniker of First TransPennine Express since 2004, this rail service connects destinations such as Manchester, Leeds, Sheffield and Yorkshire.

Gatwick Express

The Gatwick Express service has been connecting London to Gatwick Airport's Southern Terminal for over 25 years, with regular departures from Victoria Station.

Grand Central

Grand Central is an open-access passenger train operator providing services connecting London to Yorkshire and the North East. Grand Central is part of the Arriva Group.

Greater Anglia

Servicing passengers in the East of England out of London Liverpool Street train station, Greater Anglia operates along the Great Anglia Network.

Heathrow Connect

Heathrow Connect offers travellers a quick and easy way to get between London Paddington Station and Heathrow Airport to the west.

Heathrow Express

Heathrow Express operates a direct and quick rail link between London's Paddington Station and Heathrow Airport.

London Midland

London Midland operates express services between London Euston, Milton Keynes and Birmingham New Street (via Northampton).

London Overground Rail Operations Ltd

Just as vital for connecting the UK capital as the iconic London Underground, the London Overground Rail Operations Ltd serves to connect disparate areas of the London region.

London Underground

The London Underground provides travellers with the quickest and easiest form of mass transit in the UK capital city.

Merseyrail

Taking care of travel needs across the Liverpool and Merseyside region, Merseyrail operates electrical train services on both sides of the Mersey River, along the former Northern and Wirral lines.

Northern Rail

Based in the North East and North West of England and the counties of Humberside and Yorkshire, Northern Rail operates local and long distance commuter rail services all across Northern England.

South West Trains

Connecting train stations across the South West, including ferry links to the Isle of Wight, South West Trains operates around 1,700 trains each day, calling at over 200 stations in South West England.

Southeastern Trains

A friend to both the commuter and the long distance train traveller, Southeastern Trains services cover the London, Kent and East Sussex, running around 2000 trains daily.

Southern

Southern operates predominantly commuter services between London, Surrey and Sussex, as well as services to Gatwick and Brighton, and South Coast services.

Stansted Express

Stansted Express provides a quick and easy access route for travellers in London to reach Stansted Airport.

Virgin Trains

Boasting what could be the most distinctive look when it comes to rail transport, Virgin Trains are easily recognised thanks to their red design and familiar brand.

Virgin Trains East Coast

Virgin Trains East Coast operates long distance train services along the East Coast Main Line, linking London King's Cross, the East Midlands, Yorkshire and Humberside, North East England and Scotland.

Wrexham & Shropshire

Trains originate at Wrexham General railway station and run to London Marylebone in the capital city, connecting at 11 total intermediate stations in the West Midlands, including Ruabon, Chirk, Gobowen, Shrewsbury, Wellington, Telford Central, Cosford, Wolverhampton, Tame Bridge Parkway, Leamington Spa and Banbury.

It should be noted that railways in the UK are in the private sector, but they are subject to control by central government, and to economic and safety regulation by arms of government.

In 2006, using powers in the Railways Act 2005, the Department for Transport (DfT) took over most of the functions of the now wound up Strategic Rail Authority. The DfT now itself runs competitions for the award of passenger rail franchises, and, once awarded, monitors and enforces the contracts with the private sector franchisees. Franchises specify the passenger rail services which are to be run and the quality and other conditions (for example, the cleanliness of trains, station facilities and opening hours, the punctuality and reliability of trains) which the operators have to meet. Some franchises receive a subsidy from the DfT for doing so, and some are cash-positive, which means the franchisee pays the DfT for the contract. Some franchises start life as subsidised and, over their life, move to being cash-positive.

The other regulatory authority for the privatised railway is the Office of Rail and Road (previously the Office of Rail Regulation), which, following the Railways Act 2005, is the combined economic and safety regulator. It replaced the Rail Regulator on 5 July 2004. The Rail Safety and Standards Board still exists, however; established in 2003 on the recommendations of a public inquiry, it leads the industry's progress in health and safety matters.

The principal modern railway statutes are:

- Railways Act 1993
- Competition Act 1998 (insofar as it confers competition powers on the Office of Rail and Road)
- Transport Act 2000
- Railways and Transport Safety Act 2003
- Railways Act 2005

Passenger Services

Passenger services in the UK are divided into regional franchises and run by private (that is, non-state owned) train operating companies. These companies bid for seven- to eight-year contracts to run individual franchises. Most contracts are awarded by the DfT, with the exception of Merseyrail, where the franchise is awarded by Merseyside Passenger Transport Executive, and ScotRail, where the DfT awards on the advice of the Scottish Government. Initially, there were 25 franchises (currently 29), but the number of different operating companies is smaller as some firms, including FirstGroup and Stagecoach Group, run more than one franchise. In addition, some franchises have since been combined. There are also a number of local or specialised rail services operated on an 'open access' basis outside the franchise arrangements. Examples include Heathrow Express and Hull Trains.

In the 2015–16 operating year, franchised services provided 1,718 million journeys totalling (64.7 billion passenger km) of travel, an increase over 1994–5 of 117% in journeys (from 761 million) and just over doubling the passenger miles.¹⁶ The passenger-miles figure, after being flat from 1965 to 1995, surpassed the 1947 figure for the first time in 1998 and continues to rise steeply.

The key index used to assess passenger train performance is the Public Performance Measure, which combines figures for punctuality and reliability. From a base of 90% of trains arriving on time in 1998, the measure dipped to 75% in mid-2001 due to stringent safety restrictions put in place after the Hatfield crash in October 2000. However, in June 2015 the PPM stood at 91.2% after a period of steady increases in the annual moving average since 2003 until around 2012 when the improvements levelled off.¹⁷

Train fares cost 2.7% more than under British Rail in real terms on average.¹⁸ For some years, Britain has been said to have the highest rail fares in Europe, with peak-time and season tickets considerably higher than other countries, partly because rail subsidies in Europe are

¹⁶ http://orr.gov.uk/_data/assets/pdf_file/0005/18095/passenger-rail-usage-2014-15-q4.pdf

¹⁷ <https://www.networkrail.co.uk/who-we-are/how-we-work/performance/public-performance-measure/>

¹⁸ "Have train fares gone up or down since British Rail?", BBC News, 22 January 2013.

higher.¹⁹ However, they are also able to obtain some of the cheapest fares in Europe if they book in advance or travel at off-peak times.²⁰

The UK rail operators point out rail fare increases have been at a substantially lower rate than petrol prices for private motoring.²¹ The difference in price has also been blamed on the fact Britain has the most restrictive loading gauge (maximum width and height of trains that can fit through tunnels, bridges etc.) in the world which means any trains must be significantly narrower and less tall than those used elsewhere. This means British trains cannot be bought "off-the-shelf" and must be specially built to fit British standards.

Average rolling-stock age fell slightly from the third quarter of 2001–2 to the fourth quarter of 2013–4, from 20.7 years old to 19.4 years old.²² Although passengers rarely have cause to refer to either document, all travel is subject to the National Rail Conditions of Carriage and all tickets are valid subject to the rules set out in a number of so-called technical manuals, which are centrally produced for the network.

Future of the Railway System in the UK

In November 2017 the Government published its strategic vision for rail, setting out plans for alliancing or partnerships, where the train operator works in tandem with the infrastructure manager, Network Rail. Had Labour formed a government following the 2017 General Election it had pledged to bring the railways, in particular rail franchises, back under public control. There have been a number of reports looking into this idea over the past five years, suggesting how a future Labour Government could either nationalise the railways or create a publicly run and partly devolved railway. Finally, there is the question of what impact Brexit may have on how the railways are structured and operated. This remains uncertain for the moment.²³

Some have argued that the failures of the current system to deliver cheaper fares and better services are a result of a compromised, 'imperfect' privatisation and that proper 'on the track' competition could rectify these problems.²⁴ Most recently, in March 2016 the Competition and Markets Authority (CMA) published a report on competition in rail passenger services.²⁵ At the moment almost all competition is on a 'for the market' basis (i.e. in the form of competitive franchise bids) rather than 'on-rail' (i.e. by running competing services on the same lines). The CMA's main conclusion was that on-rail competition might deliver more benefits than the

¹⁹<https://fullfact.org/economy/do-uk-commuters-pay-highest-rail-fares-europe/> ;
<https://www.independent.co.uk/travel/uk/why-are-uk-rail-fares-so-expensive-9678640.html>

²⁰ <https://fullfact.org/economy/do-uk-commuters-pay-highest-rail-fares-europe/>

²¹ "Petrol price hike boosts rail passenger numbers, says ATOC", Rail Peterborough, 10 August 2011, p. 22.

²² <https://dataportal.orr.gov.uk/displayreport/html/html/eb76bd71-3fe0-4f1c-8f2a-977de6e833c0>

²³ Louise Butcher, Passenger rail services in England, House of Commons Briefing Paper, Number CBP 6521, 9 January 2018, pp. 18-19.

²⁴ Ibid, p. 21.

²⁵ All relevant documents available on the archived CMA website; the report met with a mixed response, see, e.g. for the pro: "At last, a watchdog that believes in real markets", Daily Telegraph, 10 March 2016 and for the con: RMT press notice, "RMT slams ludicrous Competition and Markets Authority report", 8 March 2016.

current system: “a range of benefits ... could arise from allowing other operators to run competing services against the existing franchise operators”.²⁶

In contrast to the CMA, others, particularly the rail unions and the Labour Party, believe that the key to improving passenger services is not by ‘more privatisation’ in the form of competition, but by bringing rail services back under public control. They argue that the ‘fragmented privatised railway’ has been an expensive, inefficient failure.²⁷

Conclusion

In 2015 the UK had the busiest national passenger railway in Europe with 1.7 billion passenger journeys. This is the highest number of journeys reported of all the countries that have supplied data to Eurostat. Since 2006 the number of passenger journeys on the UK rail network has increased by 48.9%. This is second only to Luxembourg where there has been a 52.1% increase in journeys albeit on what is comparatively a much smaller network.²⁸

According to the latest National Rail Passenger Survey (Autumn 2017), comparing the percentage of journeys rated as satisfactory overall for individual train operating companies with autumn 2016, four significantly improved (Thameslink, Southern, Grand Central, and Southeastern) and four significantly declined (South Western Railway, Merseyrail, Heathrow Express, and London Overground). All other train operating companies (TOCs) had no statistically significant change in their overall satisfaction results compared with autumn 2016. Overall satisfaction by individual routes within TOCs varied between 61 per cent and 96 per cent.²⁹

Nationally the percentage of journeys rated as satisfactory for their journey overall was 81 per cent. This was not significantly different compared to autumn 2016 (when 81 per cent of journeys were also satisfactory). 83 per cent of journeys were rated as satisfactory by passengers overall in spring 2017. At a national level, the proportion of journeys rated as satisfactory by passengers regarding punctuality/ reliability was 74 per cent. This was significantly up compared to autumn 2016 when 73 per cent were satisfactory. Nationally the percentage of journeys rated as satisfactory by passengers for all train and station factors increased for 17 service areas, declined for one, and the rest were unchanged (or were new factors and there was therefore no comparison with previous waves). The biggest improvement in satisfaction was with choice of shops/eating/ drinking facilities available (+5 per cent). ‘The decline in satisfaction was with overall satisfaction with the train (-2 per cent). The proportion of journeys rated as satisfactory by passengers regarding value for money for the price of their ticket nationally was 47 per cent. This was not significantly different compared to autumn 2016 when 47 per cent were also

²⁶ CMA press notice, “CMA signals route for greater rail competition”, 8 March 2016; for full report see op cit., Competition in passenger rail services in Great Britain: A policy document

²⁷ Butcher, p. 24.

²⁸ http://orr.gov.uk/_data/assets/pdf_file/0019/24832/passenger-rail-usage-2016-17-q4.pdf

²⁹ <http://d3cez36w5wymxj.cloudfront.net/wp-content/uploads/2018/01/29201549/National-Rail-Passenger-Survey-%E2%80%93-NRPS-%E2%80%93-Autumn-2017-%E2%80%93-Main-Report.pdf>, p. 5.

satisfactory. 69 per cent of journeys were rated as satisfactory regarding the level of crowding on the train (a new factor in the survey since spring 2017).³⁰

³⁰ Ibid., pp. 5-6.