Williams Rail Review
The rail sector in numbers
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 1</strong></td>
<td>Rail in the wider transport system</td>
<td>5</td>
</tr>
<tr>
<td><strong>Section 2</strong></td>
<td>Passengers</td>
<td>10</td>
</tr>
<tr>
<td><strong>Section 3</strong></td>
<td>Freight</td>
<td>15</td>
</tr>
<tr>
<td><strong>Section 4</strong></td>
<td>The GB rail industry structure</td>
<td>16</td>
</tr>
<tr>
<td><strong>Section 5</strong></td>
<td>Rail infrastructure</td>
<td>19</td>
</tr>
<tr>
<td><strong>Section 6</strong></td>
<td>International comparisons</td>
<td>22</td>
</tr>
<tr>
<td><strong>Section 7</strong></td>
<td>Rail workforce</td>
<td>24</td>
</tr>
<tr>
<td><strong>Section 8</strong></td>
<td>Source references</td>
<td>25</td>
</tr>
</tbody>
</table>

Data refers to Great Britain unless otherwise stated.
Demand for rail travel has increased whilst demand for buses and coaches has fallen
But usage of cars, vans and taxis continues to dominate

Modal demand over time
(billion passenger kilometres)

Note that these three graphs have different scales.
Most rail journeys are made on London and South East services

Total journeys (including to/from other region and within region journeys)
Over half of rail journeys are made by people commuting for work and education (England)

- **55%** Commuting for work and education
- **25%** Leisure
- **6%** Shopping
- **6%** Business
- **9%** Other

Rail demand by sector

Franchised passenger journeys (millions)

Year
- 1994–95
- 1995–96
- 1996–97
- 1997–98
- 1998–99
- 1999–00
- 2000–01
- 2001–02
- 2002–03
- 2003–04
- 2004–05
- 2005–06
- 2006–07
- 2007–08
- 2008–09
- 2009–10
- 2010–11
- 2011–12
- 2012–13
- 2013–14
- 2014–15
- 2015–16
- 2016–17
- 2017–18

Regions:
- Regional operators
- London & South East operators
- Long Distance operators
Those who usually commute by rail spend more time travelling than those travelling by other modes.

Average time taken to travel to work:

<table>
<thead>
<tr>
<th>Method of travel</th>
<th>Time taken to travel (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>26</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>25</td>
</tr>
<tr>
<td>Bicycle</td>
<td>22</td>
</tr>
<tr>
<td>Bus/Coach</td>
<td>39</td>
</tr>
<tr>
<td>National rail</td>
<td>66</td>
</tr>
<tr>
<td>Other rail (includes underground, light railway systems and trams)</td>
<td>49</td>
</tr>
<tr>
<td>All rail</td>
<td>59</td>
</tr>
<tr>
<td>Walk</td>
<td>14</td>
</tr>
<tr>
<td>Other modes</td>
<td>38</td>
</tr>
<tr>
<td>All modes</td>
<td>29</td>
</tr>
</tbody>
</table>
Transport costs have more than doubled in 20 years

The cost of buses, coaches and taxis has risen faster than rail travel since 1996
Men made 6 more rail trips on average than women in 2017
However, women now make 65% more rail trips than in 2002

Average trips per person (England)

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2017</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>16</td>
<td>24</td>
<td>49%</td>
</tr>
<tr>
<td>Women</td>
<td>11</td>
<td>18</td>
<td>65%</td>
</tr>
</tbody>
</table>

Most rail trips in 2017 were made by those aged between 21 and 39
People with a mobility difficulty made over three times as many rail trips in 2017 than in 2007

However, people with a mobility difficulty still made two-thirds fewer trips than people without a mobility difficulty.

People in the highest quintile of household income made over three times as many rail trips as people in the lowest income quintile in 2017.
Passenger satisfaction has significantly improved since 1999 but in 2018 was at its lowest in 10 years.

In 2017 only 17% of people were dissatisfied with rail overall (England).

Journeys for commuting are rated least satisfactory overall, with journeys for leisure rated the most satisfactory.

Overall satisfaction with the journey
- Commuters: 71%
- Business: 80%
- Leisure: 88%

Overall satisfaction with the station
- Commuters: 75%
- Business: 79%
- Leisure: 85%

Overall satisfaction with the train
- Commuters: 67%
- Business: 76%
- Leisure: 85%
Punctuality and reliability is the biggest driver of passenger satisfaction (Autumn 2018)

How train companies deal with delays is the biggest driver of passenger dissatisfaction (Autumn 2018)
of journeys were rated satisfactory value for money for the price of the ticket (Autumn 2018)

Distrust of train travel was 3 percentage points higher in January 2019 than January 2018

Weighted to be nationally representative.
Rail freight transported 17 billion tonne kilometres in 2017–18
This is the lowest since the late 1990s
(billion tonne kilometres)

Rail freight accounted for 9% of all domestic freight moved (2017)

9% Rail

13% Water

78% Road

A reduction in coal freight has driven the decline in overall rail freight

Rail freight avoided 8.2m lorry journeys in 2016–17

Rail freight emits 76% less CO₂ than road freight per tonne km
The railway is a large and complex industry with a cost base to match (2017–18)

- **Passenger revenue**: £9.6bn
- **Other income**
  - (including advertising and car parking): £0.9bn
  - **Total**: £10.5bn
- **Passenger train operator profit**: (£0.2bn)

**Costs**
- Rolling stock (including fuel)
- Staff
- Other (including marketing, office costs, maintenance)
- **Total**: £8.2bn

**Income from sources other than train operators**
- (including property and freight access charges)
- (£0.5bn)

**Network Rail**

- **Net public funding through borrowing**: (£4.5bn)
- **Network Grant**: (£4.5bn)

**Government**
- (Department for Transport, Transport Scotland and Welsh Government)

- **Other Government rail expenditure**: (£0.3bn)
- **Net premium/subsidy**: (£0.4bn)

**Network Grant**
- (£4.5bn)

**Track access charges, stations, depots and facilities charges and performance payments for schedules 4 & 8**
- (£1.7bn)

**Costs**
- Operating
- Maintenance
- Renewals
- Enhancements
- Financing (to external)
- Other
- **Total**: £11.2bn

**Network**

- **Operating**: £1.6bn
- **Maintenance**: £1.4bn
- **Renewals**: £2.4bn
- **Enhancements**: £3.3bn
- **Financing (to external)**: £1.3bn
- **Other**: £1.2bn
- **Total**: £11.2bn

**Government**
- (£4.5bn)

**Net public funding through borrowing**
- (£4.5bn)

**Net premium/subsidy**
- (£0.4bn)

**Other Government rail expenditure**
- (£0.3bn)
The GB railway industry is a blend of both private and public sectors

* Includes Transport Scotland, Transport for Wales, Transport for London and Merseytravel
Across the country there are a variety of arrangements for devolved and collaborative decision making for the railway

**Scotland** The Scottish Government has franchising authority for the ScotRail and Caledonian Sleeper services. It also funds and determines the activity of Network Rail in Scotland.

**Transport for the North** is a statutory sub-national transport body, developing and managing the Northern and Trans Pennine Express franchises in partnership with DfT. Transport for the North is also delivering projects such as a smart ticketing programme across the North.

**West Midlands Rail Executive** is made up of the West Midlands Combined Authority and seven surrounding local authorities and has co-produced the West Midlands Railway services of the West Midlands franchise with DfT under a collaboration agreement.

**Liverpool City Region** Merseytravel is the franchising authority for Merseyrail services, a largely discrete section of the national rail network.

**Transport for East Midlands** acts on behalf of East Midlands Councils to work in partnership with DfT on the East Midlands franchise competition.

**Wales** The Welsh Government has recently taken responsibility for the Wales and Borders franchise. As part of this, the assets of the Core Valley Lines around Cardiff will be transferred from Network Rail to Transport for Wales to transform into a metro service.

**Greater London** Transport for London determines services and has some infrastructure responsibilities for the London Overground and TfL Rail lines on the national rail network.

Sub-national transport bodies without direct responsibilities for the railway nevertheless provide critical input on strategic priorities.
£47.9 billion will be spent by Network Rail on the railways between 2019 and 2024 in England and Wales

- Enhancements Funding £8.6 billion
- Development Funding £1.1 billion
- Accessibility Funding £0.3 billion
- Freight Funding £0.4 billion
- Operations and Maintenance £17.2 billion
- Renewals £20.2 billion

36% of route kilometres are electrified (2016–17)

Great Britain has almost 16,000km of route and serves over 2,500 individual stations – an increase of 74 since privatisation

Over 13,500 carriages have been ordered since 1996. Over 7,800 carriages have been ordered since 2010 with over 4,500 to be delivered between now and the end of 2022

85% of train carriages are fitted with wifi

For franchises tendered by the Department for Transport
Key rail routes and stations in Great Britain
There were 13,900 safety incidents on the railway in 2017–18

<table>
<thead>
<tr>
<th>Incidents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor injuries</td>
<td>87%</td>
</tr>
<tr>
<td>Shock and trauma</td>
<td>7%</td>
</tr>
<tr>
<td>Major injuries</td>
<td>4%</td>
</tr>
<tr>
<td>Fatalities</td>
<td>2%</td>
</tr>
</tbody>
</table>

There were 61,000 crimes recorded on the railway in 2017–18

<table>
<thead>
<tr>
<th>Crime Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theft of Passenger Property</td>
<td>21%</td>
</tr>
<tr>
<td>Violence Against the Person</td>
<td>19%</td>
</tr>
<tr>
<td>Public Order</td>
<td>17%</td>
</tr>
<tr>
<td>Motor Vehicle/Cycle Crime</td>
<td>15%</td>
</tr>
<tr>
<td>Criminal Damage/Malicious Mischief</td>
<td>9%</td>
</tr>
<tr>
<td>Theft &amp; Burglary of Railway/Commercial Property</td>
<td>7%</td>
</tr>
<tr>
<td>Sexual Crime</td>
<td>4%</td>
</tr>
<tr>
<td>Drug Crime</td>
<td>3%</td>
</tr>
<tr>
<td>Line of Route Crime</td>
<td>2%</td>
</tr>
<tr>
<td>Other Notifiable Crime/Offences</td>
<td>2%</td>
</tr>
<tr>
<td>Robbery</td>
<td>1%</td>
</tr>
<tr>
<td>Fraud</td>
<td>1%</td>
</tr>
</tbody>
</table>

Punctuality improved since the early 2000s peaking in 2011–12

% of passenger trains arriving on time (Public Performance Measure)
The UK railway is one of the most heavily congested in Europe
Although freight utilisation is at lower levels

Rail demand has grown faster in the UK than other major rail networks in Europe
Rail demand has grown faster in the UK than other major rail networks
Train performance for long-distance passenger services in the UK is similar to levels seen in other major rail networks in Europe (Note: There are some variations in the calculation methodologies across countries)

However, punctuality of regional and local passenger services performs less well

Rail demand has grown faster in the UK than other major rail networks

Note: countries have been omitted where there is not comparable information
The rail industry employs around 240,000 people

Employees by organisation type

- Infrastructure: 67.8%
- Train operators: 25.4%
- Rolling stock: 0.7%
- Freight operators: 0.5%
- Other: 5.6%

The majority of the workforce is male

- Male: 86.6%
- Female: 13.4%

A majority of the workforce is aged between 31 and 50

- Whole industry
  - 16–30 years: 13.4%
  - 31–50 years: 67.8%
  - 51–65 years: 16.8%
  - 66+ years: 2.0%

- Train operating companies
  - 16–30 years: 13.4%
  - 31–50 years: 67.8%
  - 51–65 years: 16.8%
  - 66+ years: 2.0%

- Network Rail
  - 16–30 years: 13.4%
  - 31–50 years: 67.8%
  - 51–65 years: 16.8%
  - 66+ years: 2.0%
Section 1: Rail in the wider transport system


Most rail journeys are made on London and South East services: http://dataportal.orr.gov.uk/displayreport/report/html/a10e3c7b-7766-40ae-a87a-14c56cf85a63

Journeys, a regional breakdown. Note: the map uses a different methodology to the sector level breakdown for calculating journeys http://dataportal.orr.gov.uk/browse/reports/15


Those who usually commute by rail take travel further to travel to work than those travelling by other modes (Great Britain): table TSGB01 11, https://www.gov.uk/government/statistical-data-sets/tsgb01-modal-comparisons

Transport costs have more than doubled in 20 years. The cost of buses, coaches and taxis has risen faster than rail travel since 1996: table TSGB1308, https://www.gov.uk/government/statistical-data-sets/transport-expenditure-tsgb13

Section 2: Passengers


Passenger satisfaction has significantly improved since 1999 but in 2018 was at its lowest in 10 years: National Rail Passenger Survey, 1999–2018


Disturb of the rail industry was 3% higher in January 2019 than January 2018: Which? Consumer insight tracker – January 2019, https://consumerinsight.which.co.uk/tracker/trust?search%5Bdate_from%5D=1811&search%5Bdate_to%5D=1711&search%5Bsort_by%5D=unsorted

Section 3: Freight


In 2017 only 17% were dissatisfied with rail overall. Note: for cycling and walking the measure of dissatisfaction is with the provision of these modes not the mode itself: Table nts0802, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729527/national-travel-survey-2017.pdf


Distrust of the rail industry was 3% higher in January 2019 than January 2018: Which? Consumer insight tracker – January 2019, https://consumerinsight.which.co.uk/tracker/trust?search%5Bdate_from%5D=1811&search%5Bdate_to%5D=1711&search%5Bsort_by%5D=unsorted
Section 4: The rail industry structure


The GB Railway Industry is a blend of both private and public sectors: Department for Transport

Across the country there are a variety of arrangements for devolved and collaborative decision making for the railway: Department for Transport

Section 5: Rail infrastructure


Great Britain has almost 16,000km of route: https://dataportal.orr.gov.uk/displayreport/report/html/c35e0c28-324d-4168-8169-be1979631251

And serves over 2,500 individual stations — an increase of 74 since privatisation: https://dataportal.orr.gov.uk/displayreport/report/html/640e836d-8863-4243-b794-df1abae05639

36% of route kilometres are electrified (2017–18): https://dataportal.orr.gov.uk/displayreport/report/html/c35e0c28-324d-4168-8169-be1979631251

Over 13,500 carriages have been ordered since 1996. Over 7,800 carriages have been ordered since 2010 with over 4,500 to be delivered between now and the end of 2022: Department for Transport (Unpublished)

85% of train carriages are fitted with wifi: Department for Transport (Unpublished)

Key rail routes and stations in Great Britain: ATOC/Rail Delivery Group

Section 6: International comparisons

The rail network in the UK is intensively used relative to most major European comparators. Although freight utilisation lower: https://www.ira-rai.eu/isr/documents/market-monitoring/186,2018.html

Rail demand has grown faster in the UK than other major rail networks in Europe: https://data.oecd.org/transport/passenger-transport.htm

Train performance for long-distance passenger services in the UK is similar to levels seen in other major rail networks in Europe: https://ec.europa.eu/transport/modes/rail/news/2019-02-06-commission-adopts-report-development-rail-market_en

However, punctuality of regional and local passenger services performs less well: https://ec.europa.eu/transport/modes/rail/news/2019-02-06-commission-adopts-report-development-rail-market_en

Section 7: Workforce

The rail industry directly employs around 240,000 people: National Skills Academy for Rail (unpublished)

Employees by organisation type: National Skills Academy for Rail (unpublished)

Employees by gender: National Skills Academy for Rail (unpublished)

Employee age breakdown: National Skills Academy for Rail (unpublished)