THE UK RAIL MARKET 2015

Image: Ken Harris
THE UK RAIL MARKET 2015
CONTENTS

1. INTRODUCTION 5

2. GOVERNMENT 6
   The McNulty Report 6
   Rail Delivery Group 6
   Scotland and Wales 7
   Northern Ireland 7
   Regulation 7
   Passenger Transport Executives 9
   Community Rail Partnerships 9
   Passenger Focus 9

3. MAIN LINE RAILWAY INFRASTRUCTURE 10
   Network Rail 10
      Organisation 10
      Annual Report 10
      Alliances 10
      Network Rail Infrastructure Projects 11
      Network Rail Consulting 11
      Route Utilisation Strategies (RUSs) 11
      Long Term Planning Process (LTTP) 11
      Control Period 5 (2014-19) (CP5) 12
      Enhancement projects 13
      Electrification 15
      Network Rail Procurement 17
         High-speed Lines 18
         High Speed 1 18
         High Speed 2 18

4. MAIN LINE TRAIN OPERATING COMPANIES 21
   The passenger franchise structure 21
      Background 21
      Franchised passenger operators: status as at November 2014 22
      Open access passenger operators 26
      Franchise-holding groups/train operating parent companies 27
      Rail freight operators 30

5. RAILWAYS IN NORTHERN IRELAND 32
   Government 32
   NI Railways 32
      Organisation 32
      Developments 32

6. TRANSPORT FOR LONDON (TFL) 34
   Organisation 34
   London Underground 35
      Organisation 35
      Upgrading the network 35
      Tube extension projects 37
      Capital expenditure plans (LUL) 37
   London Overground 38
      Organisation 38
      Future developments 39
   Docklands Light Railway 39
      Organisation 39
CONTENTS

Crossrail
Status
Contracts
Crossrail 2

7. LIGHT RAIL AND LIGHT METROS

Blackpool
Edinburgh Tram
Glasgow Subway
London Tramlink
Manchester Metrolink
Midland Metro (Birmingham/Wolverhampton)
Nottingham Express Transit (NET)
Sheffield: Stagecoach Supertram
Sheffield-Rotherham tram-train pilot project
Tyne & Wear Metro

8. ROLLING STOCK PROCUREMENT

Passenger vehicles
Future rolling stock orders
Refurbishment
Long Term Passenger Rolling Stock Strategy
Freight traction and rolling stock

9. ROLLING STOCK LEASING

10. THE RAILWAY SUPPLY INDUSTRY

Rolling stock, rolling stock components and subsystems
Vehicle maintenance equipment and services/refurbishment
Revenue collection, access control, passenger information systems and station equipment
Track products
Track maintenance and renewals equipment and products
Track maintenance and renewals services
Signalling and communications systems
Traction power supply and electrification systems
Civil engineering and construction/infrastructure maintenance
INTRODUCTION

Continuing increases in passenger numbers on Britain’s railways – the number of journeys made in the year ending in March 2014 was up by 5.7% to 1.587 billion – underlines the urgent need for additional capacity in the network. Volumes of freight handled rose by a similar percentage, presenting further challenges on a mixed use system.

The response from Government and the rail industry has been to implement the biggest round of investment in the rail system in modern times. The national network is to benefit from nearly £13 billion of spending on enhancements in the next five years, many of these aimed specifically at providing more capacity through measures like electrification, track improvements, modernisation of signalling systems and even the restoration of abandoned lines.

Achieving capacity gains on the existing network is also one of the goals of the £50 billion High Speed 2 project. Approval of legislation currently progressing through Parliament will see high-speed lines eventually linking London with the West Midlands and then continuing to cities in northern England.

In London the £14.8 billion Crossrail project is progressing towards first services operating through its tunnels in 2018 and there are major investment plans for the London Underground and London Overground networks.

Scotland’s railways are benefiting from large-scale improvements too, as the government there oversees electrification of Central Belt lines, the procurement of new trains and the imminent opening of the new Borders Railway.

Network-wide, capacity demands and fleet modernisation requirements are also keeping train builders busy, especially where electric traction is to replace diesel rolling stock. A second UK-based volume train builder will soon come on stream, while other suppliers are winning business generated by modernisation projects to give existing vehicles a new lease of life.

The aim of the latest edition of this report is to provide users with a concise but comprehensive overview of a busy, fast-changing market that provides great opportunities for suppliers. It outlines the structure of the industry in the UK, including Northern Ireland, details its main participants, summarises its major projects and programmes and provides numerous links to official websites to assist readers with further detailed research.

December 2014
The Government, via the Rail Executive at the Department for Transport (www.gov.uk/government/organisations/department-for-transport), sets overall strategic policy for the railway network in England and Wales, funding investment in infrastructure through Network Rail, and ensures the cost-effective and timely delivery of major rail projects. It is also responsible for awarding most passenger franchises in England and Wales, although there are some exceptions (see Section 3), and for regulating rail fares. It also continues to develop and lead preparations for a high-speed rail network.

In November 2010, following the General Election in May, the DfT published its first Business Plan for the four-year period from 2011 to 2015. This was updated in 2012 and is accessible at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3367/dft-2012-business-plan.pdf

Reports on progress against the Business Plan are posted on the website of the Prime Minister’s Office: http://transparency.number10.gov.uk/business-plan/11

The next Business Plan will be published in 2015.

THE McNULTY REPORT

May 2011 saw publication of an independent value for money review of the rail network by Sir Roy McNulty, commissioned by the previous government. Entitled Realising the Potential of GB Rail, this identified the potential for annual savings of up to £1 billion in the operation of Britain's rail network without cutting services. Providing opportunities to limit fare rises and reduce the need for government subsidies, the report was expected to inform future rail policy. The summary report can be accessed at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4203/realising-the-potential-of-gb-rail-summary.pdf

RAIL DELIVERY GROUP

An early response to the McNulty report was the establishment of the Rail Delivery Group (RDG) (www.raildeliverygroup.com), composed of senior industry figures including the chief executives of the passenger and freight train operating company owning groups and Network Rail. A company limited by guarantee, the RDG provides leadership by focusing on industry-wide issues, including contributing to a strategy and long-term vision for the railway. It is tasked with informing key choices facing government and the development of plans in response to government output specifications. An obligation is placed on key industry organisations to participate in the RDG by the introduction of a licence condition requiring participation in it.

In October 2013 the RDG assumed responsibility for policy formulation and communications on behalf of the rail industry, including absorbing functions in those areas from the Association of Train Operating Companies (ATOC). As a result, ATOC’s main focus changed from policy to ensuring a co-ordinated approach to business service provision relating to TOCs. In the same month the Rail Freight Alliance was formed within the RDG to provide a co-ordinated voice for freight operating companies. The five founder members are Colas Rail Freight, DB Schenker Rail UK, Direct Rail Services, Freightliner Group and GB Railfreight.
SCOTLAND AND WALES

The Railways Act 2005 vested certain devolved powers in the Scottish Executive, providing it with authority both to promote new projects and to specify and fund passenger-related network and infrastructure enhancements. Implementation of projects is undertaken by Transport Scotland (www.transportscotland.gov.uk), the Scottish Executive’s national transport agency. It also awards and oversees franchises for passenger rail services in Scotland.

Rail policy in Scotland is shaped by the National Transport Strategy. More information can be found at: http://www.transportscotland.gov.uk/strategy/national-transport-strategy

In December 2008 Transport Scotland published its Strategic Transport Projects Review (STPR), which defines 29 transport investment priorities across all modes up to 2032. The STPR and related documents can be found at: http://www.transportscotland.gov.uk/strategy/strategic-transport-projects-review

The Railways Act 2005 also transferred to the Welsh Assembly Government (http://wales.gov.uk/topics/transport/?lang=en) most of the functions pertaining to rail transport in Wales that previously rested with the former Strategic Rail Authority and the Westminster Government. Under the Act the Assembly Government is able to develop and fund infrastructure enhancement schemes and to fund rail freight improvement projects, among other functions. It also works in conjunction with the DfT to award and oversee the franchise for passenger rail services in Wales. In March 2010 the National Transport Plan for Wales was published. This set out the detail of how the Wales Transport Strategy covering all modes would be delivered over the following five years. This document, together with an update to the plan published in December 2011 establishing priorities across all transport sectors, can be found at: http://wales.gov.uk/docs/det/publications/100329ntpen.pdf

A revised National Transport Plan for Wales will be published in 2015.

NORTHERN IRELAND

See Section 4.

REGULATION

Economic regulation of the railway system in Great Britain is undertaken by the Office of Rail Regulation (ORR) (www.rail-reg.gov.uk), established in July 2004 under the Railways and Transport Safety Act 2003. It is an independent statutory body led by a Board appointed by the Secretary of State for Transport.

In the passenger rail transport sector the ORR is responsible for licensing operators of railway assets, setting the terms for access by operators to the network and other railway facilities, and enforcing competition law in the rail sector. The ORR is also health and safety regulator for the rail industry, including London Underground, light rail, heritage railways and trams.
Control Period 5 (2014-19) (CP5)

The ORR regulates Network Rail’s stewardship of the national rail network, ensuring the company is meeting its obligations to its train-operating customers and its stakeholders, including the government. The ORR determines Network Rail’s funding levels and investment and performance targets during five-year periods known as Control Periods (CPs). The current Control Period, CP5, finalised by the 2013 Periodic Review (PR13), covers the period April 2014 to March 2019. The level of expenditure set by the ORR for CP5 was £38.293 billion. This requires a reduction in day-to-day running costs of £1.75 billion on the figure proposed by Network Rail and provides £12.8 billion for improvement projects and £12.1 billion on renewals. More details of investments appear in Section 2.

This determination was influenced by two key government documents: the High Level Output Specification (HLOS), issued by the Westminster Government for England and Wales and by the Scottish Government for Scotland, detailing what government wants to buy from the railway; and a Statement of Funds Available (SoFA), detailing how much money the industry will receive to deliver these services.

PR13 started when Network Rail submitted to the ORR its Initial Industry Plans (IIPs) for England & Wales and for Scotland in September 2011. The development of the IIPs was overseen by the Planning Oversight Group which involved representatives of Network Rail, the Association of Train Operating Companies, the Rail Freight Operators’ Association and the Railway Industry Association. The documents can be accessed at:
http://www.networkrail.co.uk/uploadedFiles/networkrailcouk/Contents/Publications/Initial_Industry_Plan/Documents/FinalIIPEandW.pdf

For its part, the government published its strategic aims for England and Wales during CP5 in its HLOS and SoFA published in July 2012:

DfT documents containing more details of HLOS requirements during CP5 are listed here:

Similarly the Scottish government published its HLOS and SoFA in June 2012:
http://www.transportscotland.gov.uk/report/232012-00.htm

The SoFAs anticipated the following levels of funding for the activities specified in the two HLOSs:

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<tbody>
<tr>
<td>England and Wales</td>
<td>3,506</td>
<td>3,548</td>
<td>3,681</td>
<td>3,770</td>
<td>3,789</td>
<td>18,294</td>
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<td>Scotland</td>
<td>639</td>
<td>664</td>
<td>664</td>
<td>672</td>
<td>684</td>
<td>3,323</td>
</tr>
<tr>
<td>Totals</td>
<td>4,145</td>
<td>4,212</td>
<td>4,345</td>
<td>4,442</td>
<td>4,473</td>
<td>21,617</td>
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Figures include illustrative levels of franchise support for passenger operators.

More information on PR13 can be found at:
PASSENGER TRANSPORT EXECUTIVES

Passenger Transport Executives (PTEs) are in place in five metropolitan conurbations in England, together with the West Yorkshire Combined Authority, playing a key role in specifying, partly funding and developing local rail services in their communities:

- Merseyside (Merseytravel (operating name for the Merseyside Integrated Transport Authority (ITA) and Merseyside Passenger Transport Executive (PTE) – [www.merseytravel.gov.uk](http://www.merseytravel.gov.uk))
- South Yorkshire (South Yorkshire PTE – [www.sypte.co.uk](http://www.sypte.co.uk))
- Transport for Greater Manchester (TfGM – [www.tfgm.com](http://www.tfgm.com))
- Tyne and Wear (Nexus – [www.nexus.org.uk](http://www.nexus.org.uk))
- West Midlands (Centro – [www.centro.org.uk](http://www.centro.org.uk))
- West Yorkshire Combined Authority ([www.westyorks-ca.gov.uk](http://www.westyorks-ca.gov.uk/))

A similar body, Strathclyde Partnership for Transport (SPT) – [www.spt.co.uk](http://www.spt.co.uk), is in place in Scotland.

Responsible to Integrated Transport Authorities (ITAs) (all except TfGM) formed of representatives of local councils in the areas they serve, the PTEs and the SPT provide, plan, procure and promote integrated and accessible public transport networks. Roles include the development of Local Transport Plans, developing strategies for local public transport networks and the management and planning of local rail services in partnership with the DfT or, in the case of SPT, Transport Scotland. The six English bodies have a combined budget of more than £1 billion million per year and serve some 11 million people.

The collective interests of the PTEs and the West Yorkshire Combined Authority are promoted by the Passenger Transport Executive Group (PTEG – [www.pteeg.net](http://www.pteeg.net)).

Nottingham City Council, Strathclyde Partnership for Transport, the West of England Local Enterprise Partnership (Bristol City Council and neighbouring authorities) and Transport for London are Associate Members of the PTEG.

COMMUNITY RAIL PARTNERSHIPS

The interests of many local and regional rail routes are overseen by community rail partnerships and rail promotion groups, more than 50 of which have been established. The government’s Community Rail Development Strategy provides a framework for such partnerships to improve the effectiveness of local railways in meeting social, environmental and economic objectives. These bodies are given voice by the Association of Community Rail Partnerships (ACoRP). Their work includes working with train operating companies and other organisations to achieve improved station facilities, better train services and enhanced integration with other forms of transport. Scotland’s first community rail partnership, AYLSA – the Community Rail Partnership for Carrick & Wigtownshire, was set up in 2014. More details can be found at: [www.acorp.uk.com](http://www.acorp.uk.com).

PASSENGER FOCUS

Passenger Focus ([www.passengerfocus.org.uk](http://www.passengerfocus.org.uk)) is an independent public body set up by the Government to protect the interests of Britain’s rail passengers.
MAINT LINE RAILWAY INFRASTRUCTURE

NETWORK RAIL

**Network length:** 15,753 route-km (9,783 route-miles)

**Electrification:** 3,315 km (2,058 miles) at 25 kV AC 50 Hz overhead; 1,946 km (1,209 miles) at 750 V DC third rail; 19 km (12 miles) at 1.5 kV DC

**Stations:** 2,550

**Website:** [www.networkrail.com](http://www.networkrail.com)

**Organisation**

Responsible for track and other fixed assets and for the day-to-day control and regulation of train running, Network Rail is the dominant force in the railway in Great Britain. It was established following the 2002 collapse of Railtrack, and until September 2014 was a state-owned company limited by guarantee, operating commercially with surpluses re-invested in the business. On 1 September 2014 the company was reclassified from the private sector to the public sector following changes to European statistical guidance. As an arm’s-length body it retains the commercial and operational freedom to manage Britain’s railway infrastructure within effective regulatory and control frameworks. A framework agreement agreed between Network Rail and the DfT sets out how the company will interact in terms of financial management and corporate governance. Its principal sources of income are track access charges paid by passenger and freight operators, grants from the DfT and Transport Scotland and commercial property income.

Network Rail employed 35,141 people in 2014.

The company owns all 2,550 stations on the network. It operates the 17 largest of these; the remainder are managed by train operating companies.

Network Rail’s devolved route management is structured as 10 business units, each with its own managing director. This enables each business to better align itself to the needs of both its train operating customers and passengers. Each has responsibility for: safety; operations; customer services; asset management outputs and spending; maintenance planning and delivery; and delivery of some enhancements and renewals. The 10 business units cover: Anglia; London North Eastern & East Midlands; London North Western; Scotland; South East; Wales; Wessex; Western; and Freight.

As part of a strategy of improving its organisational effectiveness, Network Rail has created a National Control Centre in Milton Keynes known as ‘QuadrantMK’. Its role is to oversee investment, operations, procurement, information management and logistics and to act as the hub for passenger information.

**Annual Report**


**Alliances**

A new initiative in 2012 was the formation of a ‘deep alliance’ with South West Trains, with a governance board composed of representatives of both companies and a unified management structure. The aim was to create a closer integration of infrastructure and train operations. A similar alliance has been discussed for Scotland.
Network Rail Infrastructure Projects

In April 2012 Network Rail implemented plans to separate its delivery of major projects into a commercially focused, regionally based business known as Network Rail Infrastructure Projects, with a managing director and four regional directors (covering Central, Scotland and North East, Southern, and Western and Wales) and three programme directors (FTN-GSM-R, Signalling, and Thameslink) responsible for major renewals and enhancement work in their areas. In some instances this could lead to other organisations competing with Network Rail to deliver projects.

Network Rail Consulting

In July 2012 the company created Network Rail Consulting as a separate business that can draw on the organisation’s expertise to compete globally for work in the rail sector. More information on Network Rail Consulting can be found at: www.networkrailconsulting.co.uk

Route Utilisation Strategies (RUSs)

Route Utilisation Strategies (RUSs) have underpinned the network planning process, setting out long-term strategies for its development in a way that reflects customers' requirements and is consistent with the funds available. The original RUS programme (Generation One) covering 17 strategic routes was completed in July 2011.

Changes in the structure of Network Rail led to a redefinition of RUS boundaries, which now cover the 10 devolved routes to form RUS Generation 2. The first RUSs under this programme were published in 2011, covering London and the South East, Scotland and the North of England.

The most recent document in the series, Network RUS: Alternative Solutions, was published in July 2013 for public consultation. It examines five main areas for development: further use of trams; tram trains; hybrid light rail; innovative ideas for electrification; and further expansion of community rail initiatives.

Details of the RUS process and copies of individual RUSs can be found at: http://www.networkrail.co.uk/aspx/4449.aspx

Long Term Planning Process (LTTP)

The LTTP is Network Rail’s method of planning for future demand for rail services, complementing the RUSs and providing a basis for long-term industry planning up to 30 years ahead. The LTTP comprises studies of three types:

- Market studies
- Route studies
- Cross-boundary analyses

Network-wide issues, such as technological change, will be addressed through a series of network studies. The studies are expected to provide the main source of proposals put to funders to secure the long-term capability of the rail network and will also inform franchise specifications and bids. More information on the LTTP process can be found at: http://www.networkrail.co.uk/long-term-planning-process/
Control Period 5 (2014-19) (CP5)

(See also Section 1)

CP5 delivery

Concluding the Periodic Review process (PR13) defining Network Rail’s outputs and funding for CP5, in October 2013 the ORR published its ‘final determination’. Network Rail published its draft delivery plan in December 2013 and its final delivery plan in March 2014. In turn, the final determination responds to Network Rail’s Strategic Business Plan for CP5, which defines how it will deliver the HLOSs (see Section 1). ORR documents relating to PR13/CP5 are accessible at:


Network Rail’s Strategic Business Plans for CP5, together with associated documents, can be accessed at:

http://www.networkrail.co.uk/publications/strategic-business-plan-for-cp5/

In the ORR’s determination, CP5 expenditure is summarised as:

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<tr>
<td>Support (admin, HR, etc)</td>
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<tr>
<td>Operations</td>
</tr>
<tr>
<td>Traction electricity, industry costs and rates (includes British transport Police)</td>
</tr>
<tr>
<td>Maintenance</td>
</tr>
<tr>
<td>Schedule 4 (TOC compensation costs)</td>
</tr>
<tr>
<td><strong>Total operating expenditure</strong></td>
</tr>
<tr>
<td>Renewals</td>
</tr>
<tr>
<td>Enhancements</td>
</tr>
<tr>
<td><strong>Total capital expenditure</strong></td>
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<td><strong>Total expenditure</strong></td>
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The figure of £12.8 billion for enhancements comprises £11.4 billion for England and Wales and £1.4 billion for Scotland. The overall total includes some £3.3 billion for non-PR13 projects including Thameslink, Crossrail and the Borders Railway and £1.3 billion for pre-announced ‘ring-fenced’ schemes.
 Enhancement Projects

Major enhancement projects planned during CP5, some of which are a continuation of CP4 programmes, include:

■ Thameslink – a DfT-specified project costing £6 billion overall. Thameslink is an enhancement scheme intended to increase both the capacity and extent of the existing Thameslink north-south cross-London electrified heavy rail network. This will enable trains from Peterborough and King’s Lynn as well as Bedford to cross the capital to an increased range of destinations in the south that could include Ashford, Dartford, Eastbourne, Horsham, Littlehampton and Guildford. The project will raise the number of peak hour services in each direction from eight to 24 and allow longer (12-car) trains to be run. Strategic responsibility for the project rests with the Department for Transport, with Network Rail responsible for its executive delivery. The project has been divided into two main phases: KO1, completed in 2012 in time for the London Olympics, enabling 12-car trains to be run between Bedford and Brighton and providing 16 paths per hour between St Pancras and Blackfriars; and KO2, providing capacity for up to 24 trains per hour on this core section and entailing major reconstruction of London Bridge station. Work on the last-mentioned continued in 2014. KO2 also provides for a link with the East Coast Main Line via tunnels at St Pancras International. Completion of the programme is scheduled for December 2018. Details of the Thameslink project can be found at: www.thameslinkprogramme.co.uk

■ Crossrail – see Section 5. Although this is a Transport for London project, it involves the use of parts of the existing NR system, for which extensive remodelling is in progress.

■ Reading station capacity enhancement – a DfT-specified scheme developed by Network Rail in collaboration with Reading Borough Council that entails major track remodelling and signalling changes aimed to minimise conflicting moves and increase platform capacity, as well as taking into account electrification of the Great Western Main Line. Redevelopment of the station was completed in July 2014, with completion of the entire programme due in 2015. The project’s cost is estimated at £850 million. Details at: www.networkrail.co.uk/aspx/6339.aspx

■ Birmingham New Street Gateway station improvements – a £600 million redevelopment scheme with completion due in September 2015. The project includes Grand Central, a major new shopping centre. Details at: www.newstreetnewstart.co.uk

■ East West Rail – East West Rail is a major project to establish a strategic railway connecting East Anglia with central, southern and western England. It is promoted by the East West Rail Consortium, a group of local authorities and businesses with an interest in improving access to and from East Anglia and the Milton Keynes/south Midlands growth area. Its Western Section is now included in CP5 enhancements investments, following a commitment in July 2012 by the DfT to reopen and upgrade the line from Oxford to Bedford with links to Aylesbury and Milton Keynes by 2019; together with electrification of the Oxford-Bletchley core section (Bletchley-Bedford electrification likely in CP6). The project includes: upgrading/track doubling Oxford-Bicester Town; upgrading/track doubling Bicester-Claydon Jn; upgrading Aylesbury-Claydon Jn; reconstructing/doubling the disused Claydon Jn-Bletchley section. Initially work has focused on Phase 1 of the scheme, upgrading Oxford-Bicester Town, first initiated under Chiltern Railways’ Evergreen 3 project. In September 2014 Parsons Brinckerhoff was appointed to develop the railway design for Phase 2 covering the Bicester-Bletchley and Aylesbury-Claydon Jn sections. East West Rail forms a key part of the proposed ‘Electric Spine’ route for passenger and freight traffic between the South Coast and the Midland Main Line to the East Midlands and South Yorkshire. In 2014 the Consortium was developing a business case for a Central Section to extend the line east from Bedford to Cambridge to provide connections to East Anglia. More details can be found at: http://www.eastwestrail.org.uk. The Evergreen 3 project was developed by Chiltern Railways to enable it to introduce a London Marylebone-Oxford service via Bicester. It was given powers to build the line under the Transport and Works Act in May 2013. Network Rail subsequently took over the project. Chiltern Railways Services between Oxford Parkway and Marylebone are due to begin in May 2015 and from Oxford in May 2016.
North of England Programmes – the CP5 enhancements programme combines the Northern Hub, North West Electrification and North Trans-Pennine Electrification programme. Northern Hub is a package of network improvements to allow for faster and more frequent trains between Liverpool, Manchester and Leeds, together with service benefits across much of northern England. A key element is the Ordsall Chord, a new line in Manchester connecting Piccadilly and Victoria stations, enabling trans-Pennine services to serve Victoria station and providing capacity for up to six trains per hour between the city and Leeds. As well as the extensive electrification of lines in northwest England and across the Pennines, the programme includes other capacity enhancements and extensive station improvements. There will also be improved access for freight trains to the terminal at Trafford Park, Manchester. The project is due to be completed in 2019. More details at: http://www.networkrail.co.uk/improvements/northern-hub/. See below for more on electrification plans.

Borders Railway project – authorised by the Scottish Parliament in 2006 and under the control of Transport Scotland, this is a project to reinstate 56 km of the former Waverley Route line from Edinburgh to Tweedbank in the Scottish Borders, costed at £294 million (2012 prices). It entails reconstruction of 49 km of railway, mostly on an abandoned alignment, and provision of seven new stations. Three existing stations will also be served. Approximately half of the route will be double track. Completion is due by 2015, with first services running in September of that year. In 2011 Network Rail assumed responsibility for delivery of the project after the withdrawal of two of the three shortlisted bidders for a 30-year concession to design, build, finance and maintain the railway. In 2012 BAM Nuttall was appointed by Network Rail to design the route’s stations and infrastructure. Ownership of the completed line beyond Newcraighall in the Edinburgh suburbs, the present limit of the Network Rail system, will remain with the Scottish government. Details are accessible at: http://www.transportscotland.gov.uk/project/borders-railway.

Strategic Freight Network (SFN) – during CP5 £253 million is budgeted in England and Wales and £31 million in Scotland for the SFN, covering projects such as W10 and W12 gauge enhancement, provision for longer trains and improvements to goods loops.

East Coast Connectivity – the ORR determination provides for £247 million for infrastructure enhancements to improve the performance of the East Coast Main Line.

Regional Operating Centres (ROCs) – during CP5 Network Rail will continue a long-term programme to create 12 ROCs that will eventually manage the entire rail network in Great Britain, replacing more than 800 signalboxes and other operational locations used to control train movements. The 12 locations selected are: Basingstoke; Cardiff; Derby; Didcot; Edinburgh; Glasgow; Gillingham (Kent); Manchester; Romford; Rugby; Three Bridges; and York.

European Train Control System (ETCS) Cab Fitment – CP5 provides £194 million for equipping up to 250 freight locomotives with on-board ETCS equipment in preparation for use on the East Coast Main Line and ahead of subsequent rollout on other routes.

Station improvements – CP5 figure provides £110 million for the National Station Improvements Programme and £132 million for Access for All measures in England and Wales, and £31 million for the Scottish Stations Fund.
Electrification

Electrification projects will consume a significant portion of CP5 enhancement investment funding – expected to be as much as 30%.

England and Wales

In 2009 the DfT announced its intention to electrify the Great Western Main Line from London to Swansea, including the sections from Reading to Newbury and Didcot to Oxford, and also the Liverpool-Manchester route via Newton le Willows. The scheme in northwest England was to enable electric services to operate between Manchester and its airport and Glasgow and Edinburgh.

The announcement followed the findings of a cross-industry working group that resulted in Network Rail’s Route Utilisation Strategy: Electrification. Among factors influencing this were uncertainties over future oil prices and supply and the forthcoming need to replace fleets of diesel-powered trains at the end of their working lives.

Following the Comprehensive Spending Review by the Coalition Government that took office in 2010, the first elements of a revised electrification programme were announced in November of that year. These built on the previously announced programme and confirmed that the following routes were to be electrified:

■ Great Western Main Line beyond the present limit of electrification at Hayes to Didcot/Oxford and Newbury by 2016 at a cost of £600 million.
■ The ‘North West Triangle’ – Liverpool-Manchester via Newton le Willows; Huyton-Wigan; Preston-Blackpool; and Manchester-Preston. These are being electrified between 2013 and 2016 at a cost of £300 million.

In March 2011 further plans were announced by the DfT to electrify the Great Western Main Line beyond Didcot to Bristol via both Bath and Badminton and on to Cardiff. Subsequent announcements, including the HLOS requirements for CP5, have seen the following added to the list of routes to be electrified:

■ A group of lines defined as the ‘Electric Spine’ to create a high-capability 25 kV AC electrified route for passenger and freight traffic between the South Coast via Oxford and the Midlands to South Yorkshire: Southampton-Basingstoke (possible conversion from DC to AC); Basingstoke-Reading; Oxford-Leamington-Coventry; Coventry-Nuneaton; Oxford-Bletchley-Bedford (East West Rail); Bedford-Derby/Nottingham and Derby-Sheffield (Midland Main Line); and Kettering-Corby
■ The North Trans-Pennine line, from Manchester via Huddersfield and Leeds and on to Colton Junction (York), plus Micklefield-Selby
■ The Great Western Main Line from Cardiff to Swansea, together with the Welsh Valleys, Vale of Glamorgan and Cardiff City lines
■ Thames Valley branches off the Great Western Main Line between London Paddington and Reading, plus Acton-Willesden
■ Walsall-Rugeley; Barnt Green-Bromsgrove
■ Gospel Oak-Barking
Network Rail is to examine the benefits of conversion of Southampton-Basingstoke from 750 V DC to the 25 kV AC system. This could act as a pilot scheme to enable the industry to develop a business case for conversion of the entire third rail network in southern England to overhead power supply.


Lines to be electrified in the north of England are shown in more detail on this Network Rail map: http://www.networkrail.co.uk/North_West_electrification.aspx

In 2013 the DfT asked Network Rail to develop a business case for electrifying the 16 km (10 mile) Oxenholme-Windermere branch in Cumbria, with possible completion by 2016.

The government has also tasked the industry with identifying candidate routes for electrification during CP6, specifying that these should include Derby-Birmingham-Bristol and freight lines in South Yorkshire.

**Scotland**

- **Edinburgh-Glasgow Improvement Programme (EGIP)** - In Scotland, the Government’s Strategic Transport Projects Review (STPR) was published in 2009 (http://www.transportscotland.gov.uk/projects стратегический-транспортный-проекты-обзор). This supported the phased electrification of key routes, initially covering: Edinburgh-Glasgow via Falkirk High and Cumbernauld-Stirling-Dunblane/Alloa; and remaining Central Belt routes. Possible subsequent phases extending beyond the period covered by the STPR are: Edinburgh-Perth/-Dundee, including the Fife Circle; Dunblane-Aberdeen; and Perth-Inverness.

  In 2010 first contracts were awarded for the EGIP, which was costed at £1 billion and was to see some 350 single-track km of lines in Scotland’s Central Belt electrified, as well as other network improvements. However, in July 2012, as part of its CP5 HLOS submission, the Scottish government cut £350 million from its rail investment programme, deferring electrification of the Cumbernauld-Stirling-Dunblane, Alloa and Falkirk Grahamstown diversionary routes until 2018, and cutting back planned increases in train frequencies between Edinburgh and Glasgow. Electric services on the 32 mile (50 km) Glasgow-Cumbernauld line began in May 2013. Those between Edinburgh and Glasgow via Falkirk High are to be introduced in December 2016. The EGIP also includes a £120 million restoration of Glasgow Quen Street station. More details of EGIP can be found at: http://www.transportscotland.gov.uk/project/egip
NETWORK RAIL PROCUREMENT

Network Rail procures around £7 billion annually in works, services and bought-in goods. It has around 11,000 listed suppliers, of which it engaged with 4,000 in the last financial year. Some 50% of expenditure is with its top 20 suppliers. A recent radical reform of its contracting strategy saw the company opening up its biggest rail projects and programmes to leading construction and engineering companies at an early stage, enabling them to create value throughout the development process. The reforms are intended to create ‘joint-venturing’ delivery teams which enable Network Rail to capitalise on the expertise and innovation that private enterprise can bring to reduce project delivery costs. Seven projects and work programmes were included in the first phase of the rollout:

- Edinburgh Glasgow Improvement Programme (EGiP)
- London Bridge (part of Thameslink programme)
- High-output delivery of the Great Western Main Line electrification scheme
- National major resignalling projects
- Birmingham Gateway
- Hitchin flyover on the East Coast Main Line (completed in 2013)
- The civils renewals programme

In another significant revision of its procurement processes Network Rail in 2011 reformed its Multi Asset Framework Agreements (MAFAs), which combine track, signalling and civil works, by appointing regional contractors that will be on standby to implement projects. The move is intended to accelerate delivery of MAFA projects and reduce costs.

Would-be suppliers are required to register with Link-up, the UK rail industry supplier qualification scheme. Further information for suppliers seeking to do business with Network Rail can be found on the Working with Us page of the company’s website:
http://www.networkrail.co.uk/industry-partners/working-with-us-index.aspx
and at: http://www.networkrail.co.uk/aspx/1542.aspx
HIGH-SPEED LINES

High Speed 1

Network length: 109 route-km (68 route-miles)

Electrification: 109 km (68 miles) at 25 kV AC 50 Hz overhead

Websites: www.highspeed1.com, www.lcrhq.co.uk

Organisation

Opened throughout in November 2007, High Speed 1 (HS1), formerly the Channel Tunnel Rail Link (CTRL), was built and was initially owned and operated by London & Continental Railways Ltd (LCR), the government’s partner in the public-private partnership that took the project through to completion. In November 2010 the DfT awarded a 30-year concession to operate and maintain the infrastructure of HS1 and its four international stations to HS1 Ltd, a Canadian consortium of Borealis Infrastructure and Ontario Teachers’ Pension Plan, which agreed to pay the government a total concession value of £2.1 billion. After 30 years the infrastructure will revert to government ownership ahead of a new concession.

A limited liability company owned by the DfT, LCR’s principal role now is the development of commercial property along the route of HS1, notably major regeneration at King’s Cross and the International Quarter, both in London. LCR also owns a 40% shareholding in Eurostar International, representing the UK’s share of the Eurostar high-speed train operation. In September 2013 LCR took over properties held and managed by the BRB (Residuary) Ltd (BRBR) prior to it being wound up. Created in 2001, BRBR represented the last elements of the former British Railways Board. In October 2014 the UK government announced plans to sell its 40% stake in LCR with the aim of finalising an agreement in the first quarter of 2015.

St Pancras International is the London terminal for Eurostar services to/from Brussels and Paris. There is a major intermediate station at Ebbsfleet in north Kent, another at Stratford, east London, and a third at Ashford International in east Kent. Eurostar fleet maintenance activities in the UK are undertaken at Stratford.

Domestic high-speed services are operated by Southeastern over HS1. These originate at various points in Kent and join HS1 at Ashford International and Ebbsfleet. A fleet of 29 Hitachi-built Class 395 six-car EMUs is used.

Eurostar is to introduce a London-Amsterdam service in 2016, but plans by German national operator DB to operate its ICE high-speed trainsets to St Pancras International have been put on hold.

The use of the line for overnight freight services commenced in 2011, with DB Schenker Rail UK subsequently running a regular train from Poland to enable continental gauge vehicles to reach London. In 2014 GB Railfreight also launched a service over HS1, transporting containers five times per week from Dourges in France to Barking for sister company Europorte France (EPF) on behalf of logistics firm John G Russell.

Maintenance and operation of HS1, including St Pancras International, Stratford International and Ebbsfleet International stations, is subcontracted to Network Rail (High Speed) Ltd. Ashford International is operated and maintained by Eurostar International Ltd.

Regulation of the operating concession is undertaken by the Office of Rail Regulation.
High Speed 2

In 2009 the DfT formed High Speed Two (HS2) Ltd (www.hs2.org.uk), to become www.gov.uk/hs2, a government-owned company charged with examining the feasibility of and business case for a high-speed railway linking London with the West Midlands – High Speed 2 – and considering the case for extending this beyond to Manchester and West Yorkshire, offering onward links to northeast England and Scotland. The company submitted its proposals for a new line between the capital and the West Midlands at the end of 2009, including route, financing and construction options.

In October 2010 former Transport Secretary Philip Hammond announced that the government favoured a Y-shaped network comprising an alignment via the Chilterns to the West Midlands with separate ‘forks’ providing links to Manchester and Leeds. HS2 Ltd was charged with developing these proposals and taking them forward.

Phase One

In January 2012 the government confirmed it would go ahead with Phase One covering the route from London Euston to the West Midlands, serving a terminus at Birmingham Curzon Street, an intermediate station at Birmingham Interchange and including a spur to the West Coast Main Line north of Lichfield to enable trains to serve Manchester pending completion of Phase Two. Some 56.5 miles (90 km) of the 140 mile (225 km) route will be in tunnel or cuttings. A station at Old Oak Common in the west of the capital will provide onward connections to Heathrow Airport.

A Hybrid Bill providing construction powers for Phase One received its Second Reading in Parliament in April 2014 and passed to the committee stage. Parliamentary approval is expected in 2015, leading to a start of construction in 2017, with a completion date of 2026 quoted by the government. The Bill’s progress through Parliament can be checked at: http://services.parliament.uk/bills/2013-14/highspeedraillondonwestmidlands.html

Phase Two

Consultation on the proposed route for Phase Two of HS2 to Manchester and Leeds began in July 2013 and ended in January 2014. The HS2 Plus report published in March 2014 set out delivery options for the route from the West Midlands to Crewe and recommended that part of the route be fast-tracked, with a target for completion of 2027. The report can be viewed at: http://www.hs2.org.uk/news-resources/chairmans-reports

A second report published in October 2014 entitled Rebalancing Britain: from HS2 towards a national transport strategy maintained the emphasis on improving connectivity in the North and the Midlands. It can be accessed at: http://assets.hs2.org.uk/sites/default/files/Rebalancing%20Britain.pdf

Further announcements and decisions on the route of Phase Two are expected to be made in 2015. The government has stated a desire to achieve completion of Phase Two earlier than the proposed date of 2032.

In all, the Phase Two extensions are expected to total 211 miles (338 km). A line from Phase One in the West Midlands will serve a station at Manchester Airport and a terminus in the city adjacent to the existing Piccadilly station. Connecting links to the West Coast Main Line will be provided at Lichfield, Crewe and Golborne.
The line from Phase One in the West Midlands to Leeds will terminate at a new station in the city. Intermediate stations will be located at the site of Toton Yard between Derby and Nottingham (East Midlands Hub) and Sheffield Meadowhall, between Sheffield and Rotherham. At Woodlesford, east of Leeds, a link will be provided to the existing network to gain access to the East Coast Main Line.


**Costs**

In 2013 HS2 Ltd stated the following overall levels of funding for the project (2011 prices), and these figures still applied in 2014:

- Phase One: £21.4 billion, including contingency of around £5.7 billion;
- Phase Two: £21.2 billion, including contingency of £8.7 billion;
- Rolling stock: £7.5 billion, including contingency of £1.7 billion.

HS2 Ltd states that it aims to achieve costs lower than these, and its estimate of the cost of Phase One in late 2013 was £15.6 billion plus a contingency allowance of 10%.

**Greengauge 21**

A key organisation supporting plans to construct high-speed lines in the UK is Greengauge 21 ([www.greengauge21.net](http://www.greengauge21.net)), a not-for-profit company limited by guarantee, which backs development of the technology and has studied the potential for high-speed rail in five UK corridors. In 2012 Greengauge 21 established a HSR Industry Leaders Group ([www.rail-leaders.com](http://www.rail-leaders.com)) to bring together industry expertise to help ensure that Britain’s high-speed rail network is delivered successfully to world class standards.
THE PASSENGER FRANCHISE STRUCTURE

Background

In November 2014 there were 19 franchised or concessioned passenger train operating companies active in Great Britain. Franchise contracts are of varying length and most are awarded by the DfT. Exceptions to this are:

- **Arriva Trains Wales** – this franchise is specified and monitored jointly by the DfT and the Welsh Assembly Government.

- **Crossrail** – Transport for London (Section 5) is responsible for the concession to operate Crossrail services, which from 2015 will begin to absorb some routes managed by existing franchisees.

- **London Overground** – in 2007 responsibility for sections of the national network now forming part of the London Overground system was transferred to Transport for London (Section 5). Other lines in east London are to follow. The business is let as a concession rather than a franchise.

- **Merseyrail** – in 2003 responsibility for the concession contract to run electrified suburban services in the Merseyside area passed to Merseyside Passenger Transport Executive (Merseytravel).

- **ScotRail** – Transport Scotland, an executive arm of the Scottish Government, is responsible for letting and monitoring the ScotRail franchise and for grants to support domestic services in Scotland. In 2014 Transport Scotland separated Anglo-Scottish overnight services from conventional domestic services, creating the new Caledonian Sleeper franchise and awarding a 15-year contract from April 2015.

The structure of the ‘franchise map’ now differs substantially from that put in place when BR privatisation was initiated in 1996. A significant restructuring occurred in 2007 in a DfT initiative to reduce the number of franchises and eliminate operating conflicts at certain London terminals. Further changes followed proposals by the Coalition Government that took office in 2010 to let longer franchises of 10-15 years, compared to the previous period of typically seven years.

In 2012 the DfT commissioned an independent review of the rail franchising programme by Richard Brown, then chairman of Eurostar. This followed the department’s decision to re-tender the competition for the new West Coast Main Line franchise which had been awarded to FirstGroup, a decision which then faced a judicial review at the request of losing bidder Virgin Trains before being found by the DfT to have significant technical flaws. A second independent review (the ‘Sam Laidlaw Inquiry’) explored how those flaws arose. As well as delaying implementation of the new West Coast franchise, which had been due in December 2012, these reviews also led to a suspension of work to award other imminent franchise contracts.

The Brown Review of the Rail Franchising Programme was published in January 2013 and found that while the government’s franchise system was ‘not broken’, a strengthening of the DfT’s capabilities to manage franchises was needed. Among recommendations was that franchise terms should be determined by the circumstances and size of each individual franchise, but should not be less than five years. It also urged an early re-start of the franchise programme. The ‘Brown Review’ can be accessed via this link: [https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49453/cm-8526.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49453/cm-8526.pdf)
Following publication of the Brown Review, the Secretary of State accepted recommendations that tendering should restart for two franchises on which work had been halted during the review: Essex Thameside (incumbent c2c); and the new combined Thameslink, Southern & Great Northern (First Capital Connect/Southern). He also agreed to halt work on the Great Western franchise (incumbent First Great Western) in view of planned electrification of key parts of that network and associated rolling stock implications. This led to interim extensions to those franchise contracts and most other franchises have been extended in a recast of the timetable. Details appear in tables that follow.

Under proposals announced by the Scottish Government in 2012, a separate franchise for 15 years has been created for the Caledonian Sleeper services linking the country with England. Serco was the successful bidder for the contract, with the franchise taking effect in April 2015. The Government is committed to investing £50 million in improvements to the service, including new rolling stock.

Some franchises attract subsidies which support unremunerative services, mostly in the regional sector, while others which generate surpluses make premium payments to the DfT. The levels of these subsidies/premiums form a key element of the bidding that takes place for franchise contracts. Some franchises serving major metropolitan areas other than London include services specified by and receiving additional financial support from passenger transport executives (PTEs – see Section 1).

Many passenger franchises are run by private sector transport operators, some with extensive bus interests, and there has been increased participation by foreign companies, sometimes in joint-venture partnerships with UK-based firms.

Since the commencement of privatisation in 1996-97, rail usage rose continuously until 2009-10, when adverse economic conditions contributed to a 1.3% fall in passenger journeys by franchised operators to 1,258 million. Since then the upward trend has continued, with a record 1,587 million passenger journeys recorded in 2013-14, an increase of 5.7% on the previous year.

| PASSENGER RAIL USAGE, 2009-10 TO 2013-14: FRANCHISED OPERATORS |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                 | 2009-10         | 2010-11         | 2011-12         | 2012-13         | 2013-14         |
| Passenger journeys (million) | 1,257.9 | 1,353.8 | 1,460.0 | 1,501.7 | 1,586.9 |
| Passenger-km (billion) | 51.1 | 54.1 | 56.9 | 58.3 | 59.2 |

Source: Office of Rail Regulation

The interests nationally of passenger operators in Great Britain are represented by the Association of Train Operating Companies (ATOC) (www.atoc.org), which offers a number of publications detailing industry trends and plans.

**Franchised passenger operators: status as at November 2014**

See tables on following pages.
<table>
<thead>
<tr>
<th>Franchise</th>
<th>Operator</th>
<th>Region served</th>
<th>Route - km</th>
<th>Passenger journeys 2013-14 (million)</th>
<th>Franchise period</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arriva Trains</td>
<td>Arriva (DB)</td>
<td>Wales, Manchester, Merseyside, Midlands</td>
<td>1,671</td>
<td>29.9</td>
<td>2003-2018 (15 years)</td>
<td></td>
</tr>
<tr>
<td>Caledonian Sleeper</td>
<td>Serco</td>
<td>London-Glasgow/Edinburgh-Aberdeen/Inverness/Fort William</td>
<td>–</td>
<td>–</td>
<td>To commence 4/2015 for 15 years</td>
<td>Franchising authority is Transport Scotland</td>
</tr>
<tr>
<td>Chiltern</td>
<td>DB</td>
<td>London-Chilterns-Stratford on Avon/ Birmingham/ Midlands</td>
<td>341</td>
<td>22.8</td>
<td>2003-2021 (18 years)</td>
<td></td>
</tr>
<tr>
<td>CrossCountry</td>
<td>Arriva (DB)</td>
<td>Aberdeen-Penzance/Glasgow-Bournemouth/Stansted-Cardiff</td>
<td>2710</td>
<td>34.2</td>
<td>Initially 2007-2016 (8 years 4 months), extended 43 months to 11/2019</td>
<td></td>
</tr>
<tr>
<td>Crossrail</td>
<td>MTR Corporation</td>
<td>Reading-central London-Abbey Wood/Shenfield</td>
<td>118.5</td>
<td>–</td>
<td>From 05/2015 in phases (8 years).</td>
<td>Concession: responsible authority is TfL</td>
</tr>
<tr>
<td>East Midlands</td>
<td>Stagecoach</td>
<td>London-Sheffield/Birmingham-East Anglia</td>
<td>1,550</td>
<td>24.1</td>
<td>Initially 2007-2015 (7 years 4 months), extended 30 months to 10/2017</td>
<td></td>
</tr>
<tr>
<td>First Capital</td>
<td>FirstGroup</td>
<td>Bedford-London-Brighton/Sutton (Thameslink); London-Peterborough/Cambridge-King’s Lynn</td>
<td>494</td>
<td>117.8</td>
<td>Initially 2006-2013 (5 years 10 months), extended 12 months to 09/2014</td>
<td>Franchise ended 09/2014, incorporated into TSGN.</td>
</tr>
<tr>
<td>Franchise</td>
<td>Operator</td>
<td>Region served</td>
<td>Route-km</td>
<td>Passenger journeys 2013-14 (million)</td>
<td>Franchise period</td>
<td>Notes</td>
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</tr>
<tr>
<td>First Great Western</td>
<td>FirstGroup</td>
<td>London-Oxford-Hereford/South Wales/South West England/Thames Valley-Gatwick Airport/Bristol-Cardiff/Worcester/Brighton/Weymouth/Penzance</td>
<td>1,997</td>
<td>99.7</td>
<td>Initially 2006-2013 (7 years), extended 23 months to 09/2015</td>
<td></td>
</tr>
<tr>
<td>First TransPennine Express</td>
<td>FirstGroup</td>
<td>Manchester-Leeds-Hull/Scarborough/Middlesbrough/Newcastle/Manchester-Cumbria-Edinburgh/Glasgow</td>
<td>1,251</td>
<td>26.1</td>
<td>Initially 2004-2015 (11 years), extended 10 months to 02/2016</td>
<td></td>
</tr>
<tr>
<td>Greater Anglia</td>
<td>Abellio</td>
<td>London-East Anglia; includes Stansted Express</td>
<td>1,611</td>
<td>135.2</td>
<td>Initially 2012-2014 (2 years 5 months), extended 27 months to 10/2016</td>
<td></td>
</tr>
<tr>
<td>London Midland</td>
<td>GoVia</td>
<td>London-West Midlands-Northwest England</td>
<td>899</td>
<td>64.0</td>
<td>Initially 2007-2015 (7 years 10 months), extended 21 months to 06/2017</td>
<td></td>
</tr>
<tr>
<td>London Overground</td>
<td>MTR/DB</td>
<td>Greater London</td>
<td>124</td>
<td>136.2</td>
<td>2001-2014 (7 years), extended by 17 months to 11/2016</td>
<td>Concession: responsible authority is TfL</td>
</tr>
<tr>
<td>Merseyrail</td>
<td>Serco-Abellio</td>
<td>Merseyside</td>
<td>124</td>
<td>42.7</td>
<td>2003-2028 (25 years)</td>
<td>Concession: responsible authority is Merseyrail</td>
</tr>
<tr>
<td>Northern Rail</td>
<td>Serco-Abellio</td>
<td>Northern England</td>
<td>2,734</td>
<td>94.0</td>
<td>Initially 2004-2014 (9 years), extended 22 months to 02/2016</td>
<td></td>
</tr>
<tr>
<td>ScotRail</td>
<td>FirstGroup</td>
<td>Scotland/Glasgow-Carlisle</td>
<td>3,066</td>
<td>86.3</td>
<td>Initially 2004-2014 (7 years + 3-year extension), extended 5 months to 03/2015. Switches to Abellio 04/2015 for 7 years + 3-year extension option.</td>
<td>Franchising authority is Transport Scotland</td>
</tr>
</tbody>
</table>
## Franchised Passenger Operators: Status as at November 2014

<table>
<thead>
<tr>
<th>Franchise</th>
<th>Operator</th>
<th>Region served</th>
<th>Route-km</th>
<th>Passenger journeys 2013-14 (million)</th>
<th>Franchise period</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>South West Trains</td>
<td>Stagecoach</td>
<td>London-Surrey/Berkshire-Portsmouth/Southampton/Weymouth/Exeter</td>
<td>945</td>
<td>222.8</td>
<td>Initially 2007-2017 (10 years), extended 26 months to 04/2019</td>
<td>Includes Island Line (Isle of Wight)</td>
</tr>
<tr>
<td>Southeastern</td>
<td>GoVia</td>
<td>London-Kent/Sussex</td>
<td>748</td>
<td>178.6</td>
<td>Initially 2006-2014 (8 years), extended 50 months to 06/2018</td>
<td>Incorporates domestic services on High Speed 1</td>
</tr>
<tr>
<td>Southern</td>
<td>GoVia</td>
<td>London-Surrey/Sussex/Southampton-Brighton-Ashford</td>
<td>666</td>
<td>181.8</td>
<td>2009-2015 (5 years 10 months)</td>
<td>Franchise to be incorporated into TSGN June 2015.</td>
</tr>
<tr>
<td>Virgin West Coast</td>
<td>Virgin-Stagecoach</td>
<td>London-Birmingham-Manchester/Liverpool-Glasgow/Birmingham-Edinburgh/Glasgow</td>
<td>1,191</td>
<td>31.9</td>
<td>Initially 2006-2012 (6 years), extended first to 11/2014 then 29 months to 03/2017</td>
<td></td>
</tr>
</tbody>
</table>
Open access passenger operators

Scheduled operators

Railway privatisation legislation provides for new passenger operators to enter the market, subject to strict ‘moderation of competition’ rules that protect franchised operators. As a result, a small number of companies have commenced services that mainly cover routes and destinations less well served by the franchise structure. In November 2014 operators providing scheduled open access (i.e. non-franchised) passenger services were:

■ First Hull Trains (www.hulltrains.co.uk) operates services without subsidy between Hull and London Kings Cross via the East Coast Main Line. The company is majority-owned by FirstGroup plc with Renaissance Trains as a partner.

■ Grand Central Railway Company Ltd (www.grandcentralrail.com) commenced services between Sunderland and London Kings Cross via the East Coast Main Line in 2008 and a Bradford-London Kings Cross service in 2010. Grand Central was acquired by Arriva plc from private equity interests in 2011. Arriva is now owned by Germany’s national railway company DB. In 2014 Grand Central’s application to extend its Track Access Contract from 2016 until 2026 was approved by the ORR.

■ Heathrow Express (www.heathrowexpress.com) is wholly owned by BAA plc, the operator of London Heathrow Airport, and provides high-frequency electric services from London Paddington for airport passengers and workers. These include the Heathrow Connect stopping service, operated in collaboration with First Great Western. BAA also owns the short section of line from the Great Western Main Line at Airport Junction, Hayes, to Heathrow’s central terminal area. Services currently provided by Heathrow Connect will form part of the Crossrail network once that becomes operational.

Also providing scheduled non-franchised services is:

■ Eurostar International (www.eurostar.com) – until September 2010 a joint venture between UK, French and Belgian interests, Eurostar International is now a standalone business with three shareholders: French and Belgian national railway companies SNCF (55%) and SNCB (5%) and the UK Treasury (40%). Eurostar operates high-speed services between London and Brussels/Paris, plus some seasonal services. In 2013 Eurostar services carried 10.1 million passengers, continuing a pattern of steady growth mainly in leisure travel. Eurostar had been expecting to face competition for some international traffic from German national operator DB, which in 2011 submitted an application to run its ICE trains through the Channel Tunnel. A start date of 2016 was tentatively set but the project remained on hold in late 2014. A year-round Eurostar service to Lyon, Avignon and Aix-en-Provence in the south of France is to be introduced in May 2015. In December 2016 the company is to launch a London-Amsterdam service via Brussels, Antwerp, Rotterdam and Schiphol Airport.

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
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<th>2011</th>
<th>2012</th>
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<tr>
<td>Eurostar passenger</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>journeys (million)</td>
<td>9.2</td>
<td>9.5</td>
<td>9.7</td>
<td>9.9</td>
<td>10.1</td>
</tr>
</tbody>
</table>
Non-scheduled operators

Several operators hold licences to run charter and excursion traffic over the Network Rail system. They include:

- **DB Schenker Rail (UK) Ltd** ([www.rail.dbschenker.co.uk](http://www.rail.dbschenker.co.uk)) – formerly English Welsh & Scottish Railway (EWS), the UK’s principal freight operator uses its nationwide operating licence to provide traction, traincrew and in some instances rolling stock for excursion and charter operations, as well as for operators of scheduled services.
- **Belmond Ltd** ([www.belmond.com](http://www.belmond.com)) – formerly Orient Express Hotels Ltd, the company operates regular excursion and occasional charter services in Great Britain using three luxury trains: The Northern Belle; The British Pullman; and The Royal Scotsman. Traction is provided by other operators.
- **Direct Rail Services** ([www.directrailservices.com](http://www.directrailservices.com)) – a wholly owned subsidiary of the Nuclear Decommissioning Authority and primarily a freight operator, DRS also provides traction, rolling stock and traincrew for passenger charter services and occasionally scheduled services.
- **GB Railfreight** ([www.gbrailfreight.com](http://www.gbrailfreight.com)) – since 2010 a subsidiary of Europorte, the train operating subsidiary of Channel Tunnel operator Eurotunnel, GB Railfreight holds a nationwide operating licence to provide traction and traincrew for excursion and charter operations.
- **Riviera Trains** ([www.riviera-trains.co.uk](http://www.riviera-trains.co.uk)) – provides locomotives and coaching stock for use by charter and scheduled train operating companies.
- **West Coast Railway Co** ([www.westcoastrailways.co.uk](http://www.westcoastrailways.co.uk)) – operates seasonal steam-hauled services. It is also a major provider of traction and rolling stock, traincrew and operational services for other operators.

Franchise-holding groups/train operating parent companies

Groups holding franchises or parent companies of non-franchised operators in Great Britain in November 2014 were:

- **Abellio** ([www.abellio.com](http://www.abellio.com))
  Subsidiary of Netherlands Railways. Operates Greater Anglia and is to take over the ScotRail franchise in April 2015. Jointly with Serco Group plc Abellio also operates Merseyrail and Northern Rail (see below).
- **Arriva plc** ([www.arriva.co.uk](http://www.arriva.co.uk))
  Arriva Trains Wales; CrossCountry; also active in rail operations in mainland Europe. Acquired in 2010 by Deutsche Bahn of Germany. Also owns Grand Central (non-franchised).
- **Deutsche Bahn** ([www.deutschebahn.com](http://www.deutschebahn.com))
  Arriva plc (see above); Chiltern Railways; joint-venture partner with MTR Corporation to operate London Overground Rail Operations (see Section 5); also operates Tyne & Wear Metro (Section 6).
- **Directly Operated Railways Ltd** ([www.directlyoperatedrailways.co.uk](http://www.directlyoperatedrailways.co.uk))
  Government-owned company, manages the East Coast franchise following withdrawal from it by National Express Group; pending new award to private sector (due late 2014).
- **FirstGroup plc** ([www.firstgroup.com](http://www.firstgroup.com))
  First Great Western; First TransPennine Express (joint-venture between FirstGroup and French transport group Keolis; First Hull Trains (non-franchised, majority shareholder with Renaissance Trains); ScotRail (until April 2015).
■ **Govia** *(joint-venture between Go-Ahead Group plc and French transport group Keolis)*
  (www.govia.info)
  London Midland; Southeastern; Thameslink, Southern & Great Northern.

■ **Keolis** *(www.keolis.com)*
  Majority (70%) owned by SNCF Participations, a subsidiary of the French national railway company. Joint-venture partner with FirstGroup plc for First TransPennine Express franchise and with Go-Ahead Group plc for London Midland, Southeastern and Thameslink, Southern & Great Northern franchises.

■ **LHR Airports Ltd** *(www.heathrowairport.com)*
  Heathrow Express; Heathrow Connect (both non-franchised).

■ **London & Continental Railways Ltd** *(www.lcrhq.co.uk)*
  Shareholder in Eurostar International.

■ **MTR Corporation** *(www.mtr.com.hk)*
  Hong Kong-based joint-venture partner with Deutsche Bahn to operate London Overground Rail Operations (see Section 5). On own account appointed future operator of the Crossrail concession (see Section 5).

■ **National Express Group plc** *(www.nationalexpressgroup.com)*
  c2c (Essex Thameside franchise).

■ **Serco-Abellio** *(joint-venture between Serco Group plc (www.serco.com) and Abellio (www.abellio.com) (see above))*
  Merseyrail; Northern Rail. On its own account Serco also won the franchise contract to operate Caledonian Sleeper services.

■ **Stagecoach plc** *(www.stagecoach.com)*
  East Midlands Trains; South West Trains; joint-venture partner with Virgin Rail Group to operate Virgin West Coast; leading joint venture partner (90%) with the Virgin Group to operate East Coast services from March 2015. Also operates the Sheffield Supertram light rail system (Section 6).

■ **Virgin Rail Group** *(www.virginrailgroup.co.uk)*
  Joint-venture partner (51%) with Stagecoach plc (49%); operates Virgin West Coast. The parent Virgin Group holds 10% of the joint venture established with Stagecoach to operate East Coast services from March 2015.
Passenger train operating company website URLs

- Arriva Trains Wales: www.arrivatrainswales.co.uk
- c2c: www.c2c-online.co.uk
- Chiltern Railways: www.chilternrailways.co.uk
- CrossCountry: www.crosscountrytrains.co.uk
- East Coast Main Line Co Ltd: www.eastcoast.co.uk
- East Midlands Trains: www.eastmidlandstrains.co.uk
- Eurostar: www.eurostar.com
- First Great Western: www.firstgreatwestern.co.uk
- First Hull Trains: www.hulltrains.co.uk
- First TransPennine Express: www.tpexpress.co.uk
- Gatwick Express: www.gatwickexpress.com
  (part of the Thameslink, Southern & Great Northern franchise)
- Grand Central Railway Company: www.grandcentralrail.co.uk
- Greater Anglia: www.greateranglia.co.uk
- Heathrow Express: www.heathrowexpress.com www.heathrowconnect.com
- London Midland: www.londonmidland.com
- London Overground Rail Operations Ltd: www.lorol.co.uk
- Merseyrail: www.merseyrail.org
- Northern Rail: www.northernrail.org
- ScotRail: www.scotrail.co.uk
- Southeastern Trains: www.southeasternrailway.co.uk
- Southern/Thameslink/Great Northern: www.southernrailway.com www.thameslinkrailway.com
- South West Trains: www.southwesttrains.co.uk
- Stansted Express: www.stanstedexpress.com
  (part of the Greater Anglia franchise)
- Virgin Trains: www.virgintrains.co.uk
RAIL FREIGHT OPERATORS

Healthy competition exists in the UK rail freight market. Major traffic flows include coal and biomass, mostly for power generation, raw materials for metals manufacture together with finished/semi-finished metals products, construction materials and petroleum products. Maritime intermodal traffic has shown modest growth, assisted by port expansion schemes such as additional facilities at Felixstowe and the Thames Gateway development. In addition, gauge enhancement is making more of the network accessible for 9ft 6 in maritime containers.

‘Revenue’ rail freight volumes continued to grow in 2013-14, when tonnage lifted rose by 3.1% and tonne-km by 5.8%. Coal and biomass accounted for 44% of tonnage lifted, with four operators active in the market. Rail’s market share of freight in Great Britain is around 8-9%. Movements of construction materials saw growth of 16.7% in tonne-km to 3.56 billion 2013-14, accounting for 15.7% of the total. Network Rail also generates substantial volumes of traffic associated with track renewals and maintenance, amounting to 1.72 billion tonne-km in 2013-14.

In 2013-14 the total number of rail freight movements (including infrastructure trains) was 288,371, 4.5% higher than the previous year’s figure of 275,827.

### DOMESTIC RAIL FREIGHT VOLUMES IN GREAT BRITAIN, 2009-10 TO 2013-14 (EXCLUDING RAIL INFRASTRUCTURE TRAFFIC)

<table>
<thead>
<tr>
<th>Year</th>
<th>Freight lifted (million tonnes)</th>
<th>Freight moved (billion tonne-km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>87.2</td>
<td>19.06</td>
</tr>
<tr>
<td>2010-11</td>
<td>89.9</td>
<td>19.23</td>
</tr>
<tr>
<td>2011-12</td>
<td>101.7</td>
<td>21.06</td>
</tr>
<tr>
<td>2012-13</td>
<td>113.1</td>
<td>21.46</td>
</tr>
<tr>
<td>2013-14</td>
<td>116.6</td>
<td>22.71</td>
</tr>
</tbody>
</table>

Source: Office of Rail Regulation

Operators active in November 2014 were:

- **Colas Rail** ([www.colasrail.co.uk](http://www.colasrail.co.uk)) – the UK subsidiary of the French-based Colas Group, itself part of the giant Bouygues organisation, Colas Rail operates flows of timber for paper manufacturing from Southwest and Northwest England and South Wales to North Wales, the UK legs of cross-Channel steel traffic, coal haulage for power generation and petroleum products from Grangemouth in Scotland. It also operates an increasing number of infrastructure trains for Network Rail.

- **DB Schenker Rail (UK) Ltd** (formerly English Welsh and Scottish Railway (EWS)) ([www.rail dbschenker.co.uk](http://www.rail dbschenker.co.uk)) – the largest operator in the market with a share of around 60%, originally formed from the ex-BR Trainload, Railfreight Distribution and Rail Express Systems (parcels/mail) businesses. Activities include bulk products haulage and intermodal services, the operation of infrastructure trains for Network Rail and postal traffic for Royal Mail. The company handles conventional freight traffic through the Channel Tunnel and in 2006 launched operations in France under the Euro Cargo Rail ([www.eurocargorail.com](http://www.eurocargorail.com)) to spearhead rail freight opportunities in Europe created by EU open access legislation. In 2007 EWS was acquired by DB Schenker, the freight arm of the German national railway company. It adopted its current name in January 2009.

- **Devon and Cornwall Railways Ltd** ([www.rmslocotec.com](http://www.rmslocotec.com)) – owned by British American Railway Services Ltd, in turn a subsidiary of Iowa Pacific Holdings, an American shortline railroad holding company. Primarily handles short-term flows of bulk commodities and runs trains supporting infrastructure work, as well as undertaking vehicle movements for other operators.
Direct Rail Services (DRS) (www.directrailservices.com) – owned by the Nuclear Decommissioning Authority, DRS was initially established to transport nuclear fuel for re-processing. It has subsequently diversified into running trains serving intermodal and general logistics markets, and also operates some infrastructure trains for Network Rail.

Freightliner (www.freightliner.co.uk) – developed from the former BR’s container haulage business, the company has expanded its intermodal operations from/to major ports and has also diversified into movement of bulk commodities such as aggregates, cement, coal and household waste. It also provides infrastructure-related rail haulage services to Network Rail. A Polish subsidiary commenced operations in 2007, followed in 2009 by the launch of operations in Australia. In 2008 ownership of Freightliner passed from private equity, venture capitalist and management/staff interests to a Bahrain-based investment firm, Arcapita.

GB Railfreight (www.gbrailfreight.com) – acquired in 2010 from FirstGroup by Eurotunnel subsidiary Europorte, the company handles intermodal and bulk traffic, including movements of power station coal and biomass, construction materials, gypsum, scrap metal and petroleum products. In addition, it carries infrastructure materials traffic for Network Rail and for the modernisation of the London Underground network. As part of Europorte the company is developing traffic between Great Britain and continental Europe. It also operates internal steelworks networks at Cardiff and Redcar.

Mendip Rail – established by quarrying companies Foster Yeoman and Hanson, Mendip Rail owns wagons and locomotives (which are operated by DB Schenker Rail) to move aggregates from Somerset quarries to terminals in southern England. Foster Yeoman is owned by Aggregate Industries, part of the Swiss-based Holcim Group; Hanson is part of the Heidelberg Cement Group.

The interests nationally of UK rail freight operators are represented by the Rail Freight Group (www.rfg.org.uk) and the Rail Freight Operators’ Association, which provides a collective voice for the country’s four largest freight operators.
RAILWAYS IN NORTHERN IRELAND

GOVERNMENT

Responsibility for railways in the devolved Northern Ireland government rests with the Department for Regional Development. Its website is: www.drdni.gov.uk.

The railway is managed and operated by NI Railways, a subsidiary Northern Ireland Transport Holding Company (NITHC). NITHC is a public corporation established under the Transport Act (NI) 1967 to oversee the provision of public transport in Northern Ireland and is also the holding company for Metro (formerly Citybus) and Ulsterbus. Collectively the three operating companies are branded Translink (www.translink.co.uk).

The Department for Regional Development provides capital grants to Translink for Northern Ireland Railways to operate rail services. The funding helps maintain and develop the rail infrastructure and rolling stock. The Public Transport Services Division of the Department with a body called Transport NI approves and monitors the capital grants allocated to Translink.

NI RAILWAYS

Network length: 338 route-km (211 route-miles)
Stations: 22
Website: www.translink.co.uk

Organisation

Unlike the railway in Great Britain, NI Railways is vertically integrated, responsible both for infrastructure and operations. Its track is of the broader 1,600 mm gauge in common with the network of the neighbouring Irish Republic, with which it connects south of Newry. NI Railways is diesel-operated and carries mainly passenger traffic, with just occasional freight services to Belfast from the Republic. NI Railways works closely with its counterpart in the Republic, Iarnród Éireann, notably on the joint operation of the high-frequency ‘Enterprise’ express service linking Belfast and Dublin. Passenger traffic overall has grown steadily, reflecting the economic growth that resulted from an improved political environment and investments in the network.

<table>
<thead>
<tr>
<th>NI RAILWAYS PASSENGER USAGE</th>
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<tr>
<td></td>
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<tr>
<td>Passenger journeys (million)</td>
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</table>

Developments

NI Railways capital spending plans for the three-year period 2013-14 to 2015-16 are set out in the NITHC Corporate Plan:

The most significant recent development was the introduction in 2011-12 of 20 three-car C4K DMUs supplied by the Spanish company CAF against a £105 million contract under Translink’s ‘New Trains 2’ programme. They replaced 13 older units, increasing service frequencies and capacity in the greater Belfast area and on the Belfast-Londonderry line. CAF had earlier supplied 23 similar three-car C3K DMUs. There is an option with CAF, exercisable up to 2018, to procure additional intermediate cars under the ‘New Trains 3’ proposal.
Planned infrastructure projects include renewal of the Coleraine-Londonderry section, provision of a passing loop and resignalling. Work on the £30 million first phase of this scheme, which involved complete closure of the line, was completed in March 2013. Subsequent phases will see completion of the project, costed at around £75 million overall, by 2021.

Rolling stock expenditure is mainly focused on overhauls of the Class 3000 and 4000 CAF-built DMUs.

Other longer term plans and aspirations include upgrading signalling, ongoing work to create a Belfast Transport Hub to raise capacity, more track renewals and reopening the (Lisburn)-Knockmore-Antrim line, which is currently out of use.
TRANSPORT FOR LONDON (TFL)

ORGANISATION

Controlled by the Mayor of London and the Greater London Authority, TfL (www.tfl.gov.uk) owns London’s key transport undertakings via its subsidiary, Transport Trading Ltd, a holding company for operations that include London Underground, London Rail and Crossrail.

London Rail was established in 2003 to focus on wider investment in the capital’s rail systems and to provide a more integrated approach to rail development in London. London Rail is responsible for:

- Overseeing major new rail projects
- Managing the operation and development of the London Overground network.
- Managing the operation of London Tramlink in Croydon.
- Management of the Crossrail project.
- Support for and development of Thameslink.
- Influencing and supporting the contribution of the national rail network to an integrated public transport system for London, including specifying some suburban services beyond the Greater London Authority boundary.

In the wake of the success of the London Overground, the Mayor of London called for TfL to take greater control of the capital’s suburban rail services and identified specific routes currently operated as part of the Greater Anglia and Southeastern franchises as possible candidates for devolution. In 2013 the Department for Transport agreed that TfL should take over some services in east London operating of Liverpool Street (see below), but not any part of the existing Southeastern network.

TfL’s future funding, income and spending plans are outlined in its Business Plan, published every year. The latest of these was released in December 2013. It outlines priorities for period 2013-14 to 2020-21, including timelines for key infrastructure schemes. It also reflects the 2013 Spending Review, which required a 25% cut in operational funding from central Government. Efficiency savings of £16.2 billion are to be made by 2020-21. Of this figure, £12 billion had been secured. The Business Plan is accessible at: https://www.tfl.gov.uk/cdn/static/cms/documents/tfl-business-plan-december-2013.pdf

The Business Plan also reflects the aims set out in the Mayor’s Transport Strategy (MTS), published in May 2010. This gave a vision for transport in London over the next 20 years. It prepares for a population increase of 1.25 million and 0.75 million more jobs in the capital by 2031, and supports sustainable growth across London. The MTS covers all transport modes within London, plus those serving it from outside, and will shape the development of TfL investments. The MTS replaced the 2001 Strategy and was still valid in 2014. More on the MTS is accessible at: https://www.tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/the-mayors-transport-strategy?intcmp=2691


LONDON UNDERGROUND

Network length: 402 route-km (249 route-miles)
Electrification: entire network, at 650 V DC third and fourth rail
Website: www.tfl.gov.uk/corporate/modesoftransport/1574.aspx

Organisation

An agency controlled by the Mayor of London and the Greater London Authority, TfL assumed control of London Underground Ltd (LUL) in 2003. The LUL network is one of the world’s largest metro systems, comprising 11 lines and 270 stations. Some 45% of the network – 181 route-km (113 route-miles) – is in tunnel. There are two types of line: Tube (deep-level); and Underground (sub-surface level). Services are operated with a fleet of more than 4,100 cars, maintained at 16 major depots. LUL employs around 19,000 people.

Patronage continued to grow in 2013-14, with recorded passenger journeys rising 2.9% to 1,265 million.

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<tr>
<td>Passenger journeys (million)</td>
<td>1,065</td>
<td>1,107</td>
<td>1,171</td>
<td>1,229</td>
<td>1,265</td>
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</table>

Upgrading the network

The system suffered from underinvestment for many years and Public Private Partnership (PPP) plans were implemented covering the long-term modernisation and upgrading of the entire network, embracing both infrastructure and rolling stock. PPP contracts covering maintenance and upgrading the system were placed in 2003 with two consortiums, Metronet and Tube Lines, with each responsible for specific groups of lines. Train operations were to remain the responsibility of LUL. Ownership of both consortiums subsequently passed to TfL, Metronet in 2008 and Tube Lines in 2010.

The former Metronet consortium comprising Atkins, Balfour Beatty, Bombardier Transportation, EDF Energy and RWE Thames Water, each with a 20% shareholding, went into administration in July 2007 and in May 2008 the company was transferred to TfL control. In April 2003, via two subsidiaries, Metronet Rail BCV Ltd and Metronet Rail SSL Ltd, Metronet had commenced 30-year PPP contracts to upgrade, replace and maintain LUL’s physical infrastructure and its trains on nine lines. Following absorption of the two subsidiaries into TfL, responsibility for upgrades is now as follows:

- LUL Nominee BCV Ltd
- Bakerloo (Tube)
- Central (Tube)
- Victoria (Tube)
LUL Nominee SSL Ltd

- Circle (Underground)
- District (Underground)
- East London (Underground)
- Hammersmith & City (Underground)
- Metropolitan (Underground)

The two companies continue to fulfill programmes fixed under the former PPP service contracts with LUL, but some changes have been made to the timing of work and some aspects of the contracts were re-tendered.

As well as upgrading signalling systems with Bombardier Cityflo 650 technology and refurbishing 150 stations, the programme included provision of new rolling stock. By 2013 the Metropolitan Line had been re-equipped with 58 Bombardier-built S Stock trains (464 cars) and in 2014 deliveries continued of 53 trains for the Hammersmith & City Line and Circle Line (371 cars), while 80 similar vehicles for the District Line (560 cars) are being delivered from 2014 to 2017. In all Bombardier is building 1,395 cars. However, the resignalling programme did not go ahead: in 2014 tendering was initiated for resignalling the entire sub-surface network by 2018. The completion date for the all other upgrades of the sub-surface lines remains as 2018.

**Croxley Rail Link**

Not included as the upgrade programme is the Croxley Rail Link project, which will divert the Metropolitan Line from its existing Watford terminus via a short link to join the London Overground line near Watford High Street, running from there on shared tracks to terminate at Watford Junction. Following approval of the project by the Secretary of State, a go-ahead was granted in July 2013 by a Transport and Works Act 1992 Order. Taylor Woodrow was selected to design and build the link, with construction due to start in early 2015. It is due to be operational in 2017. Its cost is estimated at £116.8 million. Project details are accessible at: [www.croxleyraillink.com](http://www.croxleyraillink.com).

**Tube Lines Ltd**

Previously a consortium of Bechtel and Ferrovial, Tube Lines became a wholly owned subsidiary of TfL in June 2010, marking the end of the PPP contracts the previous government had put in place to undertake modernisation of the LUL network. Its website is: [www.tubelines.com](http://www.tubelines.com).

Tube Lines is responsible for upgrading, replacing and maintaining LUL’s physical infrastructure and its trains on the following three lines, all of which are of the deep-level Tube type:

- Jubilee
- Northern
- Piccadilly

Together these account for 41% of the LUL network. The company is working through a £5.4 billion programme that originally covered:

- renewal/upgrading of 200 km (124 miles) of track
- resignalling the Jubilee and Northern lines
- procuring a new fleet of more than 500 cars for the Piccadilly Line
- New signalling for the Piccadilly Line
The contract also covered maintenance of 100 of the 129 stations served by the three lines and refurbishment of many of them.

An early casualty of termination of the PPP contract was cancellation in 2010 of tendering for new rolling stock for the Bakerloo and Piccadilly lines pending a decision on the signalling technology to be used for the upgrade of the latter, which shares some tracks with District and Metropolitan lines. A design concept for new trains for these lines was unveiled by TfL in October 2014. Similar trains will also eventually equip the Central and Waterloo & City lines. In the meantime, life-extension work has been undertaken on the Piccadilly Line rolling stock and is in progress on the Northern Line fleet, with Jubilee Line trains to follow.

In late 2014 TfL was planning the procurement of additional trains to increase capacity on the Jubilee Line. Up to 18 trains are expected be ordered. At the same time up to 50 trains are expected to be ordered for delivery by 2019 for the Northern Line including its extension to Battersea (see below).

Completion of an upgrade of the Northern Line was due to be achieved by December 2014. Work on the Jubilee Line was completed in 2011, and on the Victoria Line in 2013.

**Tube extension projects**

**Northern Line Extension**

A Malaysian consortium was named preferred bidder in 2012 to undertake a £5.5 billion redevelopment of Battersea Power Station. The project entails construction of a £1 billion developer-funded 3.3 km extension at the southern end of the Northern Line from Kennington to Battersea Power Station, with an intermediate station at Nine Elms. A public inquiry into the scheme was concluded at the end of 2013 and in November 2014 the Secretary of State gave the go-ahead to TfL’s application for a Transport & Works Order to obtain powers to build the line. The earliest it could open is thought to be 2020, subject to authorisation and funding. In August 2014 Ferrovial Agroman Laing O’Rourke was selected to undertake the civil works under a contract valued at around £500 million. Work could start in 2015. An extension to Clapham Junction is a possibility, though not part of the initial proposal. Details of the project can be accessed at: https://www.tfl.gov.uk/travel-information/improvements-and-projects/northern-line-extension

**Bakerloo Line Extension**

In 2014 TfL launched a consultation, including potential route options, on extending the Bakerloo Line from Elephant & Castle southeast through Southwark towards Lewisham, Bromley and Hayes. The cost of extending to Hayes is put at £2-3 billion. If funding is identified, construction could start in 2023, subject to obtaining the necessary powers, and the extension could open by 2030. Details are available here: https://consultations.tfl.gov.uk/tube/bakerloo-extension

**CAPITAL EXPENDITURE PLANS (LUL)**

Capital expenditure forecasts published by TfL in 2013 in its Business Plan for 2013/14-2020/21 foresee investments of £10,426 million over the eight-year period.

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<tbody>
<tr>
<td>1,263</td>
<td>1,562</td>
<td>1,371</td>
<td>4,196</td>
<td></td>
</tr>
</tbody>
</table>
LONDON OVERGROUND

Network length: 124 route-km (77 route-miles)
Electrification: 750 V DC third rail or 25 kV AC overhead (Gospel Oak-Barking diesel-operated)
Stations served/operated: 83/57
Website: http://www.tfl.gov.uk/corporate/modesoftransport/londonrail/13707.aspx

Organisation

Created in 2007, London Overground marked an important stage in the development of TfL by bringing heavy rail operations under its direct control for the first time. The current network mainly comprises two previously unconnected systems. A key outcome is the creation of an orbital suburban railway around London under the control of one agency. This comprises:

- The one-time British Rail and former Silverlink Metro lines that were operated over Network Rail tracks as part of the wider Silverlink franchise on the following routes: Richmond-Stratford; Clapham Junction-Willesden Junction; Euston-Watford Junction; and Gospel Oak-Barking. Network Rail retains ownership of the sections of track used by these services.
- The East London Line of the London Underground network, upgraded, with services extended to link Highbury & Islington with Crystal Palace and West Croydon and from Surrey Quays on this section to Clapham Junction.

In 2007 a seven-year concession contract to operate the system from November of that year was awarded to a joint-venture of MTR Corporation, operator of Hong Kong’s metro system, and Laing Rail, which held the Chiltern Railways franchise. In 2008 Laing Rail was acquired by Deutsche Bahn (German Rail). A two-year extension was subsequently taken up, with the existing contract now ending in November 2016. The company established by the joint-venture to manage the concession is London Overground Rail Operations Ltd (LOROL) (www.lorol.co.uk).

To equip most of the London Overground network, TfL employs 57 Class 378 ‘Capitalstar’ four-car EMUs supplied by Bombardier. These comprise a mix of dual-voltage and DC-only units. TfL also undertook extensive modernisation and upgrading of its inherited routes to increase capacity and improve passenger facilities. Eight two-car Class 172 DMUs supplied by Bombardier are used on the Gospel Oak-Barking line.

In May 2013 TfL awarded Bombardier a contract to supply 57 intermediate motor cars to strengthen the entire Class 378 fleet from four cars to five. 20 of these will be DC-only for use on the East London Line, the remainder dual-voltage. Deliveries began in late 2014. Adoption of the longer trains on the North London and West London lines entails platform lengthening, and changes are being undertaken at New Cross Gate and Willesden depots. The entire programme is costing £320 million.

<table>
<thead>
<tr>
<th>LONDON OVERGROUND PASSENGER USAGE</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger journeys (million)</td>
<td>34.3</td>
<td>57.2</td>
<td>102.6</td>
<td>124.6</td>
<td>136.2</td>
</tr>
</tbody>
</table>
Future developments

West Anglia suburban lines
In July 2013 the DfT approved a redistribution of responsibilities for suburban routes east of London and north of the Thames, with TfL taking over management of some services from the franchise currently operated as Greater Anglia and incorporating them into the London Overground system. The lines to be transferred on 31 May 2015 are those from London Liverpool Street to Cheshunt (via Southbury), Chingford and Enfield Town. Also to come under TfL control is the Romford-Upminster shuttle service. The move will entail transfer of 23 stations to TfL control, with those at Liverpool Street and Cheshunt remaining with Network Rail and the incumbent main line train operating company respectively.

TfL is to procure new EMUs for these services. In 2014 it invited expressions of interest to supply 39 four-car EMUs, 30 for West Anglia, one for Romford-Upminster and eight for the Gospel Oak-Barking line.

Gospel Oak-Barking
Electrification of the Gospel Oak-Barking line is due to be completed by Network Rail in 2017. This will see the route served by four-car EMUs ordered at the same time as those for West Anglia suburban routes (see above).

Train lengthening
TfL foresees further strengthening to six cars of the Class 378 EMUs used on the East London, North London and West London lines.

DOCKLANDS LIGHT RAILWAY

Network length: 38 route-km (23.5 route-miles)  
Electrification: 750 V DC third rail  
Stations: 45  
Websites: [https://www.tfl.gov.uk/modes/dlr/](https://www.tfl.gov.uk/modes/dlr/); [www.dlrlondon.co.uk](http://www.dlrlondon.co.uk)

Organisation

Originally opened in 1987 and now a subsidiary of TfL, Docklands Light Railway Ltd (DLRL) is the owner of a fully automated light metro system serving a 45-station network with a fleet of 145 cars. Passenger numbers have grown rapidly, continuously running ahead of expectations to reach 100 million in 2012-13; the 16% growth recorded then was largely due to traffic generated by the London 2012 Olympic Games but that level of patronage has since been sustained. For management purposes DLR is grouped with London Overground as part of London Rail.

DLR also operates a 1.1 km cable car system across the Thames between North Greenwich and Royal Victoria which was commissioned in 2012.

<table>
<thead>
<tr>
<th>DLR NETWORK PASSENGER USAGE</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>2013-14</th>
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<tbody>
<tr>
<td>Passenger journeys (million)</td>
<td>69</td>
<td>78</td>
<td>86</td>
<td>100</td>
<td>101.6</td>
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</tbody>
</table>
Ownership of DLR assets, principally infrastructure and rolling stock, remain with DLR Ltd apart from the infrastructure of the Lewisham Extension. This is owned by City Greenwich Lewisham Rail Link plc (CGLR) which is also responsible for maintaining the extension under a concession agreement until 2021 when ownership reverts to DLRL. Until recently services had been operated under a franchise contract by Serco Docklands Ltd, a subsidiary of Serco Group plc. A seven-year franchise valued at £400 million commenced in May 2006. In 2013 this was extended to September 2014 under a further agreement with TfL worth approximately £100 million. In 2014 Keolis Amey Docklands, a joint venture between Keolis (70%) and Amey (30%), was named as successful bidder for a new DLR operating concession to run from December 2014 to April 2023. The contract is worth more than £700 million.

**Development plans**

DLR has responded well to the continuing development of London's Docklands, since its opening more than doubling both its route length and the number of stations served. Further investments have been made to enlarge the network and raise capacity. These include lengthening trains from two cars to three by reforming the existing 94-car fleet, together with associated station and line upgrades to accommodate these, and the procurement of additional vehicles, with Bombardier supplying 55 more cars by 2010.

The single-track section between Stratford and Bow Church is to be doubled by 2019.

Extension of the DLR system eastwards from Gallions Reach to Dagenham Dock has been proposed in the past. Extensions south from Lewisham to Catford and Forest Hill and west beyond its City terminus at Bank have also been mooted. And a local authority-commissioned study has put at £1 billion the cost of an extension of the DLR system from Silvertown and under the Thames to Kidbrooke, Eltham and Falconwood. None of these schemes is currently active. More details of DLR development plans are accessible at: http://developments.dlr.co.uk/.

**CROSSRAIL**

**Network length:** 138 route-km (103 route-miles) (includes existing Network Rail and BAA lines)

**Electrification:** 25 kV AC 50 Hz overhead

**Stations:** 40 (10 new)

**Website:** www.crossrail.co.uk

**Status**

In October 2010 the Coalition Government confirmed in its Comprehensive Spending Review that Crossrail was to go ahead. Crossrail is a £14.8 billion scheme to provide an electrified heavy rail east-west cross-London urban railway linking Reading with Shenfield, north of the Thames, and Abbey Wood, south of the river. Much of the route within London will be in 21 km of twin-bore tunnels, including a core central section from Paddington to beyond Whitechapel, from where one branch will pass under the Thames to Woolwich and another will join the existing railway near Stratford. The scheme will also serve Heathrow Airport via the existing rail link from Hayes & Harlington. There will be 10 new stations at (west to east): Paddington; Bond Street; Tottenham Court Road; Farringdon; Liverpool Street; Whitechapel; Canary Wharf; Custom House; Woolwich; and Abbey Wood.

In March 2014 TfL and the DfT authorised extension of Crossrail services west of Maidenhead, their initially planned terminating point, to Reading. The DfT has also safeguarded the route from Abbey Wood to Ebbsfleet, site of the intermediate station on High Speed 1, and on to Gravesend and Hoo Junction in north Kent, for a possible future extension of Crossrail services.
Initially developed by Cross London Rail Links Ltd, a company owned jointly by the DfT and TfL, CLRL became a subsidiary of TfL following the Hybrid Bill for Crossrail receiving Royal Assent in July 2008. It is now known as Crossrail Ltd (CRL).

The forecast £14.8 billion cost of Crossrail is being met by Government, business and fares income. Government is contributing over £4.7 billion by means of a grant from the DfT during construction. Additional contributions to the project are coming from airports operator BAA (£230 million), the City of London (£350 million) and the Canary Wharf Group (£150 million), the last-mentioned being towards the estimated £500 million construction cost of Canary Wharf station.

In March 2009 Transcend, a joint venture between Aecom, CH2M Hill and Nichols Group, was named Crossrail Programme Partner and in April 2009 Bechtel Ltd was awarded a £400 million contract to act as Project Delivery Partner. Construction work was formally launched by the Mayor of London, Boris Johnson, in May 2009. Tunnelling was due to be completed in the third quarter of 2014, with fit-out of tunnels and stations set to continue until 2017.

**Contracts**

Significant fit-out contracts include:

- Alstom Transport/Costain/TSO: fit-out of Crossrail tunnels.
- Alstom Transport/Costain joint-venture: high-voltage traction power supply.
- Balfour Beatty: Woolwich station fit-out.
- Knorr-Bremse Rail Systems (UK): platform screen doors.
- Siemens: design, testing, installation and commissioning of communications and control systems within the central section of Crossrail.
- Siemens: CBTC signalling system to control the railway’s central section to support the operation of up to 24 trains per hour between Whitechapel and Paddington at peak periods and capable of enhancement to 30 trains per hour through the central section at a later date.

Network Rail is responsible for sections of the existing network that will carry Crossrail services. In 2013 it awarded Balfour Beatty Rail a contract worth £130 million to construct the 2 mile (3.2 km) section of line from Plumstead to Abbey Wood in southeast London. This covers installation of two new dedicated Crossrail lines alongside the existing North Kent lines between Abbey Wood and the Plumstead portal, works to modify bridges to accommodate overhead power supply equipment as well as the two new lines, and construction of a new station building at Abbey Wood.

In March 2014 Network Rail awarded a £150 million contract to Costain for the majority of Crossrail works on the northeast surface section between Stratford and Shenfield.

Balfour Beatty is also upgrading the 12 mile (19 km) West Drayton-Maidenhead section of the Great Western Main Line for Crossrail services under a 2013 Network Rail contract, and in October 2013 it awarded Vinci Construction UK a contract for the design and upgrade of 13 stations in west London and Berkshire and a separate contract for overhead line equipment to Balfour Beatty.
**Rolling stock**

In February 2014 Bombardier was named winner of a contract to supply 65 Class 345 nine-car ‘Aventra’ EMUs, with an option of 18 additional trains. Bombardier is also to undertake maintenance of the fleet for 32 years. The capital cost of rolling stock and associated depot facilities is in the region of £1 billion. Procurement of the new trains is to be entirely publicly funded. The principal depot for Crossrail rolling stock will be at Old Oak Common in west London.

**Operating concession**

In July 2014 the successful bidder for the Crossrail Train Operating Concession (CTOC) was named as MTR. Worth £1.4 billion, the concession contract is for eight years. Initially the operator will take over Shenfield-Liverpool Street services from Abellio Greater Anglia in May 2015 using existing vehicles, these being replaced by new Class 345s as they become available. Heathrow-Paddington (main line) services are to begin in May 2018, when the new operator will take over Heathrow Connect services. Trains running from Paddington to Abbey Wood and Shenfield via the Crossrail tunnels are to start in December 2018 and May 2019 respectively, with the full service to Reading operating from December 2019.

**CROSSRAIL 2**

A second as yet unfunded Crossrail 2 could see construction of a northeast-southwest line through the capital. The core route option currently being explored runs mostly in tunnel from New Southgate and Alexandra Palace via Euston/St Pancras, Victoria and Clapham Junction to Wimbledon. In the north services could be extended to Cheshunt. Destinations beyond Wimbledon using existing lines could include Epsom, Surbiton and Twickenham.

A consultation conducted in 2013 found strong support for the project overall. Since then TfL has been working on potential route alignments, station locations and branch options.

The estimated cost of Crossrail 2 has been put at between £12 billion and £20 billion at 2012 prices by the London First not-for-profit business organisation, which has been leading the case for the project. A construction period of 2020-30 has been suggested.

LIGHT RAIL, TRAM AND LIGHT METRO SYSTEMS

There are eight light rail and tram systems in operation in England. In Scotland the Glasgow Subway light metro system is operational and the first phase of Edinburgh’s tram system was commissioned in 2014.

The eight systems in England carried 227.1 million passengers in 2013-14, an increase of 2% on the previous year. Of these, 58.5% were on the two systems in the capital (see Section 7).


Systems in operation in 2014 were:

**BLACKPOOL**

*Existing network:* 18 km (11.2 km), electrified 550 V DC  
*Operated by:* Blackpool Transport Services Ltd; infrastructure owned by Blackpool Borough Council  
*Website:* www.blackpooltransport.com

The system carried 4.3 million passengers in 2013-14 (up 17.4% on the previous year).

In 2012 a £101.7 million upgrade of the system was completed, funded by contributions of £68.3 million from the DfT and £33.4 million from Blackpool Borough Council and Lancashire County Council. Work included renewing 8 km (5 miles) of track, rebuilding stops to achieve DDA compliance, junction priority signalling, construction of a new tram depot at Starr Gate and procurement of 16 trams from Bombardier.

An extension to the system from Promenade at North Pier to Blackpool North station has been identified as a priority project by Transport for Lancashire.

**EDINBURGH TRAM**

*Existing network:* 13.8 km (8.7 miles), electrified at 750 V DC  
*Operated by:* Transdev  
*Website:* http://edinburghtrams.com/

Funding and contractual problems hampered construction of what had been intended as an eventual two-line 24 km (15 mile) network. Phase 1a was to have comprised 18 km (11 miles) from Newhaven (Leith) to Edinburgh Airport. Following a fresh crisis in the summer of 2011 precipitated by cost over-runs, it was determined that Phase 1a would be extended only to St Andrew Square and York Place in the city centre without continuing to Leith. The length of this truncated route is 14 km (8.7 miles), on which first trams ran throughout in May 2014. In 2014 the City of Edinburgh Council authorised some works in Leith Walk to prepare for possible future extension of the system.

A further line known as Phase 1b was planned eventually to run from Granton, in the north of the city, to join Phase 1a near Haymarket; in 2009 this portion of the scheme was shelved. A further proposed future short section, Phase 2, would link Newhaven and Granton and a proposed Phase 3 would extend Phase 1a west to Newbridge.
Originally costed at £444 million at 2003 prices (including rolling stock), Phase 1a was priced at £592 million in 2008. As a result of negotiations that followed the summer 2011 funding crisis, its cost rose to £776 million, to which the Scottish Government contributed capped funding of £500 million.

The scheme was initially taken forward by tie Ltd, a wholly owned subsidiary of the City of Edinburgh Council, but in September 2011 the Scottish government agency Transport Scotland assumed responsibility for final delivery of the project.

A contract to design, build and maintain Phase 1a of the network was awarded in 2007 to the BSC consortium comprising Bilfinger Berger, Siemens and vehicle builder CAF. In the same year CAF was selected to supply 27 40-metre low-floor trams for the system. However, the shortened extent of Phase 1a means that not all these vehicles are required for service.

**GLASGOW SUBWAY (LIGHT METRO)**

**Existing network:** 10.4 km (6.5 miles), one circular line, electrified 600 V DC third rail, 41 cars  
**Operated by:** Strathclyde Partnership for Transport  
**Website:** [www.spt.co.uk](http://www.spt.co.uk)

The system carried 12.8 million passengers in 2013-14, up 1.5% on the previous year.

Development plans: A £288 million modernisation of the system was given the go-ahead in March 2012, following agreement by the Scottish government to contribute up to £246 million of funding. In progress in 2014 and to be completed by 2020, this includes procurement of new rolling stock, conversion of the system to automatic driverless operation and a programme of station modernisation.

**LONDON TRAMLINK**

**Existing network:** 28 km (17.5 miles), three lines, 30 trams  
**Operated by:** Transport for London  

Initially known as Croydon Tramlink, the London Tramlink system is operated by FirstGroup on behalf of TfL. The system carried 31.2 million passengers in 2013-14, up 3.7% on 2012-13. The tram fleet was strengthened in 2012 by six Variobahn trams supplied by Swiss manufacturer Stadler under a £16.3 million contract. An option on four more vehicles of the same type was taken up in 2013. The Stadler trams supplement the original fleet of 24 Bombardier-built vehicles.

**Development plans:** In 2014 work continued on a £30 million project began to increase capacity of the Croydon-Wimbledon section to enable a 5-minute service to be operated. Included is double-tracking and provision of an additional platform at Wimbledon.

TfL continues to study route and funding options for extensions to the network. Among possible routes identified are: Harrington Road-Crystal Palace; Wimbledon-Tooting; South Wimbledon-Morden-Sutton; Mitcham Junction-Mitcham-Tooting; and Beckenham-Bromley. The Mayor of London has announced his intention to progress the first of these.

In 2014 TfL sought approval from Croydon Council for construction of a new ¼-mile section of line in the centre of the town to provide an improved turnback facility.
MANCHESTER METROLINK

**Existing network:** 97 km (60 miles), 120 trams (including vehicles on order)

**Operated by:** RATP Dev UK on behalf of Transport for Greater Manchester (TfGM)

**Website:** [www.metrolink.co.uk](http://www.metrolink.co.uk); [www.tfgm.com](http://www.tfgm.com)

The system carried 29.2 million passengers in 2013-14, up 16.7% on the previous year, the increase being partially attributable to network expansion. In 2014 the original fleet of 32 T68 trams had been replaced by M5000 Flexity Swift LRVs vehicles from Bombardier. By late 2014 120 of these had been ordered, with contract options providing the possibility of procurement of 21 more.

In 2011 RATP Dev UK, a subsidiary of the Paris urban transport operator, bought the remaining six years of the Metrolink operating contract from Stagecoach Group.

Government approval was granted in 2008 for the final £244 million of a £520 million funding package agreed in principle in 2004 to help finance extensions to the network. In 2010 a further £120.89 million of Government funding was approved towards the £161.2 million cost of extensions to Ashton-under-Lyne and East Didsbury.

The so-called Phase 3a extensions comprise routes for which powers have been held for some time: a 22.5 km (14 mile) extension from Queen’s Road to Oldham and Rochdale, completed in 2013; a 6.3 km (3.9 mile) line from Piccadilly to Droylsden, completed in 2013, and on by 3.9 km (2.5 miles) to Ashton-under-Lyne, completed in 2013; a 2.7 km (1.7 mile) line from Trafford Bar to St Werburgh’s Road via Chorlton, completed in 2011, and on by 4.5 km (2.8 miles) to East Didsbury, completed in 2013; and a 400 m spur off the existing Eccles line to ‘mediacity:uk’ (Salford Quays), completed in 2010. The M-Pact Thales consortium (Thales UK, Laing O’Rourke and VolkerRail) undertook a £538 million contract to design, build and maintain the extensions.

In 2010 approval was given for construction of three further extensions to the system, known as Phase 3b: a 14.5 km (9 mile) line from St Werburgh’s Road on the East Disbury line to Manchester Airport originally scheduled for completion by mid-2016 but commissioned in November 2014; a 2.4 km (1.5 mile) line to serve the centre of Oldham, replacing the existing temporary line which bypasses the town; and a 1.1 km (0.7 mile) extension into Rochdale town centre. The two last-mentioned were completed in 2014. The M-Pact Thales consortium was appointed to design, build and maintain these extensions.

Development plans: Government approval was given in 2013 for a second cross-city line to provide capacity for additional tram movements generated by planned extensions to the system. The Second City Crossing (2CC) will run from Deansgate-Castlefield through St Peter’s Square and Corporation Street to rejoin the existing line near Victoria station. Work began in 2014 for completion in early 2017.

In 2014 public consultation was completed on a 5.4 km (3.4 mile) extension from the Eccles line at Pomona to the Trafford Centre. Subject to authorisation, the line is expected to be completed in 2019-20 at a cost of £350 million.

TfGM has identified a number of other potential investment corridors, with tram-train operation among technologies that might be considered.
MIDLAND METRO (BIRMINGHAM/WOLVERHAMPTON)

Existing network: 20 km (13 miles), one line, 20 trams (new fleet delivered in 2013-14)
Operated by: Travel Metro, part of the UK Bus Division of National Express Group, on behalf of Centro
Website: www.travelmetro.co.uk; www.centro.org.uk

The system carried 4.7 million passengers in 2013-14, down 2.6% on the previous year. The decrease in patronage was partially due to a planned two-week closure of the system for repair works.

Development plans: in 2012 the government confirmed its support and a contribution of £75.4 million of funding for a £127.1 million project to extend the network by 1.4 km from Birmingham Snow Hill station to Birmingham New Street Gateway station. The project includes provision of 20 new trams to replace the existing fleet and enlargement of the maintenance depot at Wednesbury. The Urbos 3 vehicles supplied by CAF under a £40 million contract entered service in September 2014, while Balfour Beatty Civil Engineering was selected to deliver the infrastructure. Work on the scheme started in 2013 for completion in 2015. An option exists to procure five additional Urbos 3 trams.

A further extension of this line is in progress from Birmingham New Street Gateway station to Centenary Square.

In July 2014 a Local Growth Fund grant of £4.5 million was announced for an £18 million 800 metre single-track extension of the existing system to serve Wolverhampton’s bus station and railway station. Centro applied for a Transport & Work Act Order in 2014 and the extension is expected to open in 2019.

In 2014 a Local Growth Fund contribution of £100 million was committed for two new routes: Birmingham Centenary Square-Five Ways (1.3 km, costed at £68 million, target completion date 2021); and Birmingham-HS2 Curzon Street (2.5 km, £105 million, 2023). An Eastside extension beyond Curzon Street to Adderley Street was the subject of public consultation in 2014, when alternative route options of 1.05km and 1.45 km were offered. An opening date of 2023 has also been proposed for this.

NOTTINGHAM EXPRESS TRANSIT (NET)

Existing network: 14 km (9 miles), one line, 15 trams
Operated by: Tramlink Nottingham
Website: www.thetram.net

NET carried 7.9 million passengers in 2013-14, up 6.1% on the previous year.

Development plans: a Transport and Works Act Order and Government approval has been secured for two extensions to the network known as NET Phase Two: a 7.6 km (5 mile) line from the city centre to Clifton via Wilford; and a 9.8 km (6 mile) line to Chilwell via Queen’s Medical Centre and Beeston. This project is being taken forward as a PFI contract valued at around £570 million by the Tramlink Nottingham consortium (www.tramlinknottingham.co.uk) which comprises: Alstom Transport; Keolis; Wellglade (owner of the trent barton bus company); VINCI Construction UK; OFI Infravia; and Meridian Infrastructure. Under a 23-year concession signed in December 2011, Tramlink Nottingham was also to take over operation of the existing line from Arrow Consortium. Work on construction of Phase Two began in early 2012, with completion of the new lines expected by March/April 2015. In 2013-14 Alstom supplied 22 Citadis trams to strengthen the fleet.
SHEFFIELD: STAGECOACH SUPERTRAM

**Existing network:** 29 km (18 miles), three lines, 25 trams
**Operated by:** Stagecoach on behalf of South Yorkshire PTE
**Website:** [www.supertram.net](http://www.supertram.net); [www.sypte.co.uk](http://www.sypte.co.uk)

Stagecoach Supertram carried 14.4 million passengers in 2013-14, down 12.6% on the previous year. The decrease was largely attributable to closure of parts of the system for track renewals.

**Development plans:** SYPT has been a partner in developing a tram-train pilot scheme that would see new dedicated vehicles running from the Supertram system over Network Rail lines to Rotherham (see below). The procurement of additional vehicles to meet growing traffic levels is being coordinated with the tram-train project.

SHEFFIELD-ROTHERHAM TRAM-TRAIN PILOT PROJECT

In 2012 the government approved a £60 million scheme to link Sheffield and Rotherham with tram-trains using both the Sheffield Supertram system and an existing Network Rail freight line adapted for the purpose. The project is being taken forward by SYPT, Stagecoach Supertram, Network Rail and train operator Northern Rail. It entails electrifying the freight line and building a short link between the two networks. Vossloh was awarded a contract by SYPT worth around £30 million in June 2013 to supply seven dual-voltage (750 V DC/25 kV AC) Citylink tram-trains. These include three vehicles intended to strengthen the Supertram fleet. A two-year trial period had been due to begin in 2016 but in November 2014 a joint statement by SYPT and Network Rail said this would be delayed and a new date set. The Sheffield-Rotherham service is expected to become permanent after having demonstrated the potential of tram-train operations.

TYNE & WEAR METRO (LIGHT METRO)

**Existing network:** 77.5 km (46 miles), including 18.5 km (11.5 miles) owned/operated by Network Rail, 90 trains
**Operated by:** DB Regio Tyne and Wear (DBTW) on behalf of Nexus
**Websites:** [www.nexus.org.uk](http://www.nexus.org.uk)

The system carried 35.7 million passengers in 2013-14, down 3.6% on the previous year, mainly attributable to closure of parts of the system for track renewals.

Since April 2010 DB Regio UK Ltd, a subsidiary of Germany’s national railway company, has held a seven-year operating concession covering delivery of the train service, fleet maintenance and modernisation, plus day-to-day station management. The contract includes a performance-dependent two-year extension option. Fleet refurbishment continued in 2014 under a £30 million contract awarded to Wabtec. Completion of this programme is due in May 2015. The network was previously operated directly by Nexus.

**Development plans:** In 2014 Tyne & Wear Passenger Transport Authority and its executive arm, Nexus, continued with its £385 million ‘Metro: all change’ programme, covering infrastructure improvements, station upgrades, new communications technology, modernising the electrification system, refurbishment of the rolling stock fleet and upgrading fare collection systems. A projected later phase, originally expected to begin in 2019, would see investments of a further £300 million in new signalling and rolling stock. Up to £350 million of funding for the project is being provided by central government.
ROLLING STOCK PROCUREMENT

PASSENGER VEHICLES

Passenger traffic growth continues to lead to a buoyant market for train builders serving the British market. Opportunities have been boosted by developments in London, most recently Crossrail and Thameslink, and by the DfT's Intercity Express Programme (IEP).

Plans to electrify large sections of the British main line network will provide a stimulus for more EMU orders and will directly or indirectly meet the eventual need to replace large numbers of ‘Second Generation’ diesel multiple-units dating from the 1980s and 1990s.

Bombardier remains the only UK-based main line rail passenger vehicle builder, though this is poised to change with completion of Agility Trains’ plant in northeast England. Any orders secured by Alstom and Siemens are fulfilled by plants in Continental Europe, as are contracts secured by CAF or Vossloh in Spain.

Current major passenger train contracts include:

**Intercity Express Programme (IEP)**

In 2009 the Agility Trains consortium formed by Hitachi, John Laing Projects & Developments and Barclays Private Equity was named preferred bidder by the DfT for its Intercity Express Programme (IEP). Valued at £4.5 billion, the contract was finally signed in July 2012 and takes the form of a train service provision deal over a 27.5-year period.

The design selected is known as the Super Express Train (SET) and is intended to modernise the intercity coaching stock fleet. The programme covers construction of five-car and nine-car electric and bi-mode (electric/diesel) versions of the train. These will be assembled at a new £70 million facility at Newton Aycliffe, County Durham. Trains built under an initial phase are expected to enter service on the Great Western Main Line in 2017, followed by deployment on the East Coast Main Line in 2019. In this phase the fleets will comprise:

- Great Western: 21 x 9-car electric; 36 x 5-car bi-mode (57 trains, 369 cars)
- East Coast: 13 x 9-car bi-mode; 12 x 5-car electric; 10 x 5-car bi-mode (35 trains, 227 cars)

In July 2013 the DfT confirmed an option on a further 30 electric nine-car SET trainsets (270 cars) intended to eliminate Class 91 and Mark 4 coaching stock formations from the East Coast Main Line.

**Thameslink stock**

In June 2013 a £1.6 billion contract was finalised with the Cross London Trains consortium of Siemens Project Ventures GmbH, 3i Infrastructure and Innisfree Ltd to supply and maintain 1,140 Desiro City Class 700 dual-voltage EMU cars for the expanded Thameslink network. The vehicles are being built at Siemens’ Krefeld-Uerdingen plant in Germany, with first trains expected to enter service in 2015. The fleet will be formed as 60 eight-car sets and 55 12-car, all designated Class 700. Eversholt Rail is providing project management during construction and delivery of the fleet plus long-term asset management.

Bombardier has a contract to supply 27 four-car EMUs in 2016 for Gatwick Express services, part of the same TSGN franchise that operates Thameslink.
Crossrail stock
In February 2014 Bombardier was named winner of a contract to supply 65 Class 345 nine-car 'Aventra' EMUs for Crossrail services, with an option of 18 additional trains.

ScotRail EMUs
Coinciding with the award of the new ScotRail franchise to Abellio, an order has been placed with Hitachi for 46 three-car and 24 four-car AT200 EMUs for Scotland’s growing electrified network. Most will be built at Newton Aycliffe.

New EMUs for South West Trains
In 2014 Siemens was awarded a contract to supply 30 five-car EMUs in 2017-18 for Waterloo suburban services.

New trains for Eurostar
In October 2010 Eurostar announced plans to procure 10 e320 high-speed trainsets from Siemens based on the company’s Velaro design. Designated Class 374 and intended to supplement the existing fleet, they are due to enter service from 2015. The cost of the new trains was put at £700 million in 2010. In 2014 seven more e320 trainsets were ordered.

Caledonian Sleeper stock
The 15-year Caledonian Sleeper overnight services franchise awarded by Transport Scotland to Serco in 2014 provides for the introduction of 72 new coaches. These are to be built by CAF in Spain and leased to Serco by Beacon Rail. They are due to enter service in 2018.
## PASSENGER ROLLING STOCK FOR UK OPERATORS ON ORDER/UNDER DELIVERY NOVEMBER 2014

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<th>Operator</th>
<th>Class</th>
<th>Type</th>
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<th>No of cars</th>
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<td>– (IEP/SET)</td>
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<td>Agility Trains (Hitachi)</td>
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<td>–</td>
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<td>2014</td>
</tr>
<tr>
<td>Sheffield Supertram/tram-train trial</td>
<td>Citylink</td>
<td>Light rail vehicle</td>
<td>7</td>
<td>–</td>
<td>Vossloh</td>
<td>2015</td>
</tr>
</tbody>
</table>
Future rolling stock orders

Principal rolling stock orders that were imminent or likely at the time this report was prepared were:

- **c2c** – the new 15-year franchise awarded to National Express in 2014 provides for 17 4-car EMUs by 2019.

- **Merseyrail** – in 2011 an initial move was made by Merseytravel to replace its Class 507 and 508 EMU fleets of 59 x 3-car trains. This took the form of a Periodic Indicative Notice in the Official Journal of the European Union ahead of inviting tenders. However, by late 2014 no further progress had been reported.

- **London Overground** – continuing growth in passenger numbers could lead to the procurement of a sixth car for the 57 Class 378 EMUs used on the network following a 2013 order that will see each train lengthened to five cars. In 2014 London Overground also initiated the procurement process for at least 39 x 4-car EMUs for lines it is taking over in West Anglia, the Gospel Oak-Barking line and the Romford-Upminster shuttle service. Delivery is required in 2017.

- **London Underground** – a requirement exists to replace rolling stock on the Bakerloo (40 trains approximately), Piccadilly (100 trains), Central (100 trains) and Waterloo & City (10 trains) lines, a total of around 250 trains, dubbed ‘the New Tube for London’. In 2014 five bidders were shortlisted to supply these: Alstom, Bombardier, CAF, Hitachi and Siemens. A formal Invitation to tender is expected to be issued in early 2015 and a contract awarded in 2016. The first trains are expected to enter service on the Piccadilly line in 2022. A design concept was unveiled by TfL in October 2014. In 2014 London Underground initiated the procurement process for 18 seven-car trains for the Jubilee Line and up to 50 six-car units for the Northern Line, including vehicles to meet the extra fleet capacity needed for the Northern Line Extension. The trains would all be in service by 2021.

- **Thameslink, Southern and Great Northern** - a commitment in the franchise contract awarded to the Govia/Keolis joint venture in 2014 is the replacement of the Class 313 EMUs used on Great Northern suburban services into London with 150 new cars by 2018.

Refurbishment

Rolling stock refurbishment continues to generate useful business for suppliers as vehicles fall due for mid-life modernisation, adaptation to meet current passenger expectations and new technical standards or life-extension work. In progress in 2014 was a project by Wabtec to rebuild eight Class 460 ex-Gatwick Express EMUs into five-car Class 458/5 units for South West Trains, using other cars from the Class 460s to lengthen existing four-car Class 458s. Also for South West Trains, 24 two-car Class 456 EMUs transferred from Southern were undergoing refurbishment by Knorr Bremse in 2014. A future major refurbishment scheme will cover Class 319 EMUs displaced from Thameslink routes by new stock. After modernisation, these will be deployed on regional/suburban services on routes in northwest England and the Great Western Main Line.

In 2014 Vossloh Kiepe was awarded a contract to refurbish 111 Mark 3 coaches used by Greater Anglia. The programme continues until 2016. Work by Wabtec to convert HST Mark 3 trailer coaches from first to standard class continued in 2014.

The Class 357 EMUs operated by c2c are to undergo major refurbishment under the terms of a new franchise award made in 2014. HSTs displaced by the IEP programme will also be refurbished and redeployed, with ScotRail destined to receive some sets.
In a small number of instances there has been a return to locomotive haulage of passenger services by some operators, using refurbished previously withdrawn coaching stock. Arriva Trains Wales, Chiltern Railways and ScotRail have adopted this course to supplement multiple-unit stock capacity on selected routes.

**Long Term Passenger Rolling Stock Strategy**

First published in February 2013 by the Association of Train Operating Companies (ATOC), Network Rail and leading ROSCOs, this document studies passenger rolling stock requirements for the British main line network over the next 30 years, as well as in the shorter term. Its conclusions are based on an annual growth rate in passenger numbers of 2.5% between 2009 and 2029. In the light of plans to electrify many parts of the system, it sees the strongest focus on EMUs, with a requirement for 13,000 to 19,000 by 2042, but very low demand for new DMUs – possibly as low as 400 to 800 vehicles. The study also identifies potential shortages in depot and stabling capacity, as well as in maintenance skills. The report is updated annually. The edition published in February 2014 can be accessed at:


**FREIGHT TRACTION AND ROLLING STOCK**

Most freight locomotives recently acquired by UK operators have been supplied by Electro-Motive Diesel (EMD), which acquired General Motors' Electro-Motive Division in 2005 and is now part of the Caterpillar group. The model favoured has been the 2,240 kW JT42CWR (Class 66), manufactured by EMD in Canada and the US. The type is used by all main UK freight operators. DB Schenker Rail UK has a fleet of 250 Class 66s, some 70 of which have been sent to mainland Europe for work with the company's Euro Cargo Rail subsidiary in France and its Polish business. New EU emissions regulations taking effect in January 2015 will preclude future acquisitions of newly built examples of this model.

A significant departure from this purchasing trend occurred in 2007 when Freightliner ordered 20 new-design AC-motored Genesis PH37ACmi 2,750 kW locomotives from GE Transportation. Deliveries of the first 19 of these were completed in 2012, the twentieth machine having been damaged during delivery and returned to the US. Designated Class 70, they are the first GE main line diesel locomotives to operate in the UK. Ten Class 70s were ordered by Colas Rail Freight and delivered in 2013-14.

In 2012 Direct Rail Services ordered 15 Eurolight UK diesel locomotives from Vossloh in Spain. These are four-axle 160 km/h machines powered by a 2,800 kW Caterpillar engine and are for both freight and passenger traffic. Deliveries were completed in 2014. In the same year, DRS took up an option on 10 more locomotives of the same type. Six Class 68s were to go on hire to Chiltern Railways for passenger work, replacing Class 67 machines hired from DB Schenker Rail UK.

In September 2013 DRS placed an order with Vossloh for ten bi-mode Class 88 locomotives, with delivery due in 2015. These will be rated at 5,360 hp when taking power from a 25 kV AC supply and at 900 hp when operating in diesel mode from a Caterpillar 12-cylinder engine. Also Bo-Bo machines with a top speed of 160 km/h, the Class 88s will share many features in common with the Class 68s.
GB Railfreight has continued to strengthen its locomotive fleet. Five Class 66s were procured from continental European sources and adapted for UK conditions and the company ordered a further 21 new machines of the same type from EMD. Delivery of these was in progress in late 2014 and will bring its Class 66 fleet to 71.

DB Schenker, Freightliner and GB Railfreight operate modest fleets of electric locomotives inherited from British Rail, including Class 92 machines which handle DB Schenker and Europorte/GB Railfreight services through the Channel Tunnel as well as on some electrified parts of the national network. GB Railfreight also operates a small fleet of Class 73 electro-diesel locomotives mainly used for infrastructure work on the third rail network of the former Southern Region (see also below).

**Locomotive refurbishment**

Programmes to refurbish older locomotive for further use have been adopted by some railfreight operators to meet future traffic demands. A growth in activity by Colas Rail Freight has seen the company reaching agreement with DB Schenker Rail UK to acquire 10 of its redundant Class 60 locomotives in 2014-15, with the latter firm overhauling these at its Toton workshops. Colas is also refurbishing four Class 37s acquired from heritage railways.

A refurbishment and repowering programme covering 10 Class 73 electro-diesel locomotives for GB Railfreight was under way by Wabtec in 2014. Some of the locomotives being modernised were acquired from heritage railway sources.
Rolling Stock Leasing

Most passenger vehicles and some freight locomotives and vehicles operating on the British main line network are owned by rolling stock leasing companies (ROSCOs). The first three ROSCOs were created when BR privatisation was effected in the 1990s to take ownership of a passenger fleet, most of which had a life-expectancy that was longer than the franchise periods awarded to the train operating companies.

The ROSCOs have been the key stimulus in establishing the British main line rolling stock fleet as one of the most modern in Europe, achieving levels of investment that would have been impossible under state ownership of the network. As well as funding the procurement of new passenger vehicles, some ROSCOs have diversified into the rail freight market; they also finance vehicle refurbishment and technical upgrades on behalf of TOCs.

Now owned by banking and investment groups, the leading ROSCOs are:

- **Angel Trains** ([www.angeltrains.com](http://www.angeltrains.com)) – since 2008 Angel Trains has been owned by a consortium led by Babcock & Brown European Infrastructure Fund. Angel Trains’ investments include Class 444 and 450 Desiro UK EMUs for South West Trains, Class 390 Pendolino trainsets for Virgin West Coast and Class 66 and 67 freight locomotives for DB Schenker. In all, the company owns some 4,600 rail vehicles with a value of around £3 billion, representing 37% of the UK rolling stock fleet.

- **Beacon Rail Leasing Ltd** ([www.beaconrail.com](http://www.beaconrail.com)) was acquired in May 2014 by Pamplona Capital Management from BTMU Capital Corporation (part of Mitsubishi UFJ Financial Group). It leases Class 313 EMUs to Southern, Class 68 locomotives to Direct Rail Services, some Class 66s and wagons to Freightliner and coal hoppers to GB Railfreight. The company is also active in Continental Europe and North America.

- **Eversholt Rail Group** ([www.eversholtrail.co.uk](http://www.eversholtrail.co.uk)) – owned by Eversholt Investment Group, a fund management consortium comprising 3i Infrastructure, Morgan Stanley Infrastructure Partners and STAR Capital Partners. The company’s investments include Class 185 DMUs for First TransPennine Express, Class 222 DMUs for East Midlands Trains, Class 375 Electrostar and Class 395 Javelin EMUs for Southeastern Trains, Class 380 EMUs for ScotRail and Class 66 freight locomotives for Freightliner and GB Railfreight. It also owns freight wagons. Its portfolio includes around 3,500 passenger vehicles.

- **Macquarie European Rail** ([www.macquarie.com/mgl/com/mqrx/europe](http://www.macquarie.com/mgl/com/mqrx/europe)) – in November 2012 Macquarie Group acquired the European rolling stock leasing business of Lloyds Banking Group. Investments include Class 66 and Class 70 freight locomotives for Freightliner and Class 379 Electrostar EMUs for National Express East Anglia. In North America the company is a lessor of freight wagons.

- **Porterbrook Leasing Company** ([www.porterbrook.com](http://www.porterbrook.com)) – Porterbrook investments include Class 377 and Class 387/1 Electrostar EMUs for Southern/TSGN, Class 350 Desiro EMUs for London Midland, Class 170/171 DMUs for various operators and coal hoppers for DB Schenker Rail UK. In 2014 Porterbrook was acquired from its ownership consortium of Antin Infrastructure Partners (the BNP Paribas sponsored infrastructure fund), Deutsche Bank, Lloyds TSB and OP Trust by a consortium comprising of Alberta Investment Management Corporation, Allianz Capital Partners on behalf of certain insurance companies of the Allianz Group, EDF Invest and Hastings Funds Management.

- **QW Rail Leasing Ltd** – a joint venture between National Australia Bank and Sumitomo Mitsui Banking Corporation, lessor of Transport for London’s Class 378 EMU fleet which operates London Overground services under an agreement until 2027.
Also active in the UK leasing market for freight equipment are:

- **Ermewa Group SA** ([www.ermewa.com](http://www.ermewa.com)) – part of the SNCF Geodis group with large fleets in use across Europe, Ermewa opened a UK office in 2012.
- **GE Capital Solutions – Rail Services** ([www.gerailservices.com](http://www.gerailservices.com)) – wagon leasing.
- **Nacco (UK) Ltd** ([www.naccorail.com](http://www.naccorail.com)) – wagon leasing. In February 2014 the Nacco SAS group was acquired by US-based CIT Rail.
- **STVA (UK) Ltd** ([www.stva.com](http://www.stva.com)) – specialising in automotive logistics
- **VTG Rail UK** ([www.vtg-rail.co.uk](http://www.vtg-rail.co.uk)) – wagon leasing, with vehicles for three main sectors: bulk products wagons; tank wagons; and intermodal vehicles. In September 2014 VTG Rail UK’s parent company VTG AG acquired the Swiss-headquartered wagon leasing company AAE Group. The move increased the VTG group fleet from 50,000 to 80,000 wagons.
The needs of the rail market range from highly specialised industry-specific services, products and systems to the requirements of any major national organisation with extensive fixed and mobile assets. Many UK-based companies are members of the Railway Industry Association (www.riagb.org.uk), which represents the industry by giving it a voice in policy making and by providing support for export promotion.

Also representing suppliers to the UK rail market is the Rail Alliance (www.railalliance.co.uk), a networking organisation spanning all aspects of the railway sector and its supporting industries.

The Rail Plant Association (www.cpa.uk.net/rpa) represents the interests of its members working with specialised plant and equipment for the rail market.

Systems, products and services specific to the rail market include:

- Rolling stock, rolling stock components and subsystems
- Vehicle maintenance, equipment and services/refurbishment
- Revenue collection, access control and passenger information systems
- Track products such as rail, switches and crossings, sleepers, fixing systems and ballast
- Track maintenance and renewals equipment, products and services
- Signalling and communications systems
- Traction power supply and electrification systems

The following non-exhaustive lists detail some of the major suppliers in each sector serving or targeting the UK market.

ROLLING STOCK, ROLLING STOCK COMPONENTS AND SUBSYSTEMS

- ABB  
  www.abb.com/railway
- Alstom Transport  
  www.alstom.com/transport
- Axiom Rail  
  www.axiomrail.com
- BMAC  
  www.bmac.ltd.uk
- Bochumer Verein Verkehrstechnik  
  www.rafil-gmbh.de
- Bombardier Transportation  
  www.bombardier.com
- Bosch Rexroth  
  www.boschrexroth.co.uk/rail
- Brecknell Willis  
  www.brecknellwillis.com
- Brush Traction – Part of the Wabtec Rail Group  
  www.brushtraction.com
- CAF  
  www.caf.net
- Caterpillar  
  www.caterpillar.com
- Craig and Derricott  
  www.craigandderricott.com
- Cummins  
  http://cumminsengines.com/
- WH Davis  
  www.whdavis.co.uk
- Deltner  
  www.deltner.com
DePe Gear Company
Deuta-Werke
EAO
EKE Electronics
Electro-Motive Diesel
EnerSys UK
Exide Technologies
Faiveley Transport
Federal-Mogul
Freudenberg Schwab
Garrandale Engineering
GE Transportation Systems
GMT Rubber-Metal-Technik
Grammer Seating Systems
Greenbrier Europe
Hima-Sella
Hitachi Rail Europe
Hubner
Hunslet Engine Company
– Part of the Wabtec Rail Group
Icomera UK
Independent Glass Company
Kiel Seating UK Ltd
Knorr-Bremse Rail Systems (UK)
Liebherr Transportation Systems
Lordgate Engineering
LPA Group
Lucchini UK
MTU UK
Norgren
Oleo International
Parker domnick hunter
Parker Hannifin (UK)
Parry People Movers
Rail Door Solutions
Rowe Hankins
Saft
Santon Switchgear

www.depe.co.uk
www.deuta.com
www.eao.com
www.eke.com
www.emdiesels.com
www.enersys-emea.com
www.exide.com
www.faiveleytransport.com
www.federalmogul.com
www.freudenberg-schwab.net/en/
www.garrandale.co.uk
www.getransportation.com
www.gmt.qb.com
www.grammer.com
www.qbrx.com
www.hima-sella.co.uk
www.hitachirail-eu.com
www.hubner-germany.com
www.hunsletengine.com
www.icomera.com
www.independentglass.co.uk
www.kiel-sitze.de
www.knorr-bremse.co.uk
www.liebherr.com
www.lordgate.com
www.lpa-group.com
www.lucchinirs.it
www.mtu-online.com
www.norgren.com/global/info/24/rail
www.oleo.co.uk
www.parker.com
www.parker.com
www.parrypeoplenmovers.com
www.raildoorsolutions.co.uk
www.rowehankins.com
www.saftbatteries.com
www.santonswitchgear.com
Semvac
Shield Batteries
Siemens
Translec
Treadmaster Flooring – Tiflex
Trelleborg Industrial AVS
Voith Turbo
Vossloh Kiepe
Vossloh Rail Vehicles
Wabtec Rail Group
Webasto
Westcode (UK)
Zephr
ZF Services

www.semvac.dk
www.shieldbatteries.co.uk
w3.siemens.co.uk/mobility/uk/en/rail_solutions/
www.translec.co.uk
www.treadmasterflooring.com
www.trelleborg.com
www.voithturbo.com
www.vossloh-kiepe.co.uk
www.vossloh-rail-vehicles.com
http://wabtecgroup.com/
www.webasto.com
www.westcodeus.com
www.zephr.eu
www.zf.com/uk

VEHICLE MAINTENANCE EQUIPMENT AND SERVICES/REFURBISHMENT

Airquick (Newark)
Alstom Transport
Arlington Fleet Group
Associated Rewinds Ireland
Autoglym PSV
Axiom Rail
Bakerail Services
BBM Officine Meccaniche
Bingham Rail
Bombardier Transportation
Brush Traction
Columbus McKinnon Corporation
WH Davis
DanobatGroup Railways
Delta Rail Group
Eurogamma
Garrandale Rail
Greenwood Engineering
Harmill Systems
Hegenscheidt-MFD

www.airquick.co.uk
www.alstom.com/transport
www.rail-services.net
www.associatedrewinds.com
www.autoglym.com/psv
www.axiomrail.com
www.bakerailservices.co.uk
www.bbm.it
www.trainwash.co.uk
www.bombardier.com
www.brushtraction.com
www.cmco.eu
www.whdavis.co.uk
www.danobatgroup.com
www.deltarail.com
www.eurogamma.com
www.garrandale.co.uk
www.greenwood.dk
www.harmill.co.uk
www.hegenscheidt-mfd.de
Houghton International
Interfleet Technology
Jewers Doors
LH Group
Lloyds Somers Handling
MC Electronics
Mechan
Nencki
Premier Pits
Pullman Rail
Railway Projects Ltd
Railway Vehicle Engineering
RMS Locotec
Sabre Rail Services
Safetykleen UK
Schenk Process UK
Sefac UK
S Emmco
Siemens
Pages/rail_solutions.aspx
Smith Bros & Webb
Unipart Rail
www.unipartrail.com
Voith Industrial Services
Vossloh Kiepe UK
Wabtec Rail Group
Wilcomatic
Windhoff Bahn- und Anlagentechnik
Worlifts Rail Division
Zonegreen
www.houghton-international.com
www.interfleet.co.uk
www.jewersdoors.co.uk
www.lh-group.co.uk
www.lloydsbritish.com/somers.php
www.mcelectronics.co.uk
www.mechan.co.uk
www.nencki.ch/en-leistungen-bahntechnik_.html
www.premierpits.com
www.pullmanrail.co.uk
www.railwayprojects.co.uk
www.rvel.co.uk
www.rmslocotec.com
www.sabre-rail.co.uk
www.safetykleen.co.uk
www.schenckprocess.com/
www.sefac-lift.co.uk
www.semmco.com
w3.siemens.co.uk/mobility/uk/en/rail_solutions/
www.sbw-wash.com
www.uk.voithindustrialservices.com
www.vossloh-kiepe.co.uk/
http://wabtecgroup.com/
www.wilcomatic.co.uk
www.windhoff.com
www.worlifts.co.uk/rail
www.zonegreen.co.uk
REVENUE COLLECTION, ACCESS CONTROL, PASSENGER INFORMATION SYSTEMS AND STATION EQUIPMENT

- Abacus Lighting  
  [website](http://www.abacuslighting.com)
- Acorel  
  [website](http://www.acorel.com)
- Almex UK  
  [website](http://www.hoeft-wessel.com)
- Application Solutions (Safety & Security)  
  [website](http://www.asl-control.co.uk)
- Atos UK  
  [website](http://www.atos.net/en-us/home/your-business/transport.html)
- BMG MIS  
  [website](http://www.bmgmis.de)
- Bosch Security Systems  
  [website](http://uk.boschsecurity.com)
- Commend UK  
  [website](http://www.commend.co.uk)
- Cubic Transportation Systems  
  [website](http://www.cts.cubic.com/)
- Data Display UK  
  [website](http://www.datadisplayuk.com)
- Data Modul  
  [website](http://www.data-modul.com/eu/home.html)
- Digital Barriers  
  [website](http://www.digitalbarriers.com)
- Dilax Systems UK  
  [website](http://www.dilax.co.uk)
- Dorset Woolliscroft  
  [website](http://www.dorsetwoolliscroft.com)
- Erlau  
  [website](http://www.erlau.com)
- Funkwerk ITK Karlsfeld  
  [website](http://www.funkwerk-itk.com)
- Glasdon UK  
  [website](http://www.glasdon.com)
- Harp Visual Communications  
  [website](http://www.passengerinformation.com)
- Hima-Sella  
  [website](http://www.hima-sella.co.uk)
- Infotec  
  [website](http://www.infotec.co.uk)
- Interalia  
  [website](http://www.interalia.com)
- KeTech  
  [website](http://www.ketech.com)
- Macemain + Amstad  
  [website](http://www.macemainamstad.com)
- Magnadata International  
  [website](http://www.magnadata.co.uk)
- Melford Electronics  
  [website](http://www.melford-elec.co.uk)
- NICE Systems  
  [website](http://www.nicecom)
- Petards Joyce-Loebl  
  [website](http://www.petards.com)
- Rail Waiting Structures  
  [website](http://www.shelters.co.uk)
- RE:Systems  
  [website](http://www.re-systems.co.uk)
- Safetell Ltd  
  [website](http://www.safetell.co.uk)
- SAS International  
  [website](http://www.sasintgroup.com)
- Scheidt & Bachmann UK  
  [website](http://www.scheidt-bachmann.de/en/)
- Selectequip  
  [website](http://www.selectequip.co.uk)
- Steel Line  
  [website](http://www.steelline.co.uk)
THE UK RAIL MARKET 2015

Step on Safety  www.steponsafety.co.uk
TEW Engineering  www.tew.co.uk
Towermaster  www.towermaster.co.uk
TrainFX  www.trainfx.com
Treadmaster Flooring – Tiflex  www.treadmasterflooring.com
Trueform Engineering  http://trueform.co.uk/
Variable Message Signs Ltd  www.vmslimited.co.uk
Visul Systems  www.usluk.com/visul-systems/
Viztek  www.viztek ltd.co.uk
Voice Perfect  www.voiceperfect.co.uk
Westinghouse Platform Screen Doors  www.platformscreendoors.com

TRACK PRODUCTS

Aggregate Industries  www.aggregate.com
Anderton Concrete Products  www.andertonconcrete.co.uk
Aqua Fabrications  www.aquafab.co.uk
Balfour Beatty Rail UK  www.bbrail.com
BCM GRC  www bcmgrc.com
buntmetall amstetten (Austroroll)  www.bunmetal.at
Cemex Rail Products  www.cemex.co.uk
Cooper & Turner  www.cooperandturner.com
Cubis Industries  www.cubisindustries.com
Direct Track Solutions  www.directtracksolutions.co.uk
Dura Composites  www.duracomposites.com
DWG  www.dwguk.com
Edilon)(Sedra  www.edilonsedra.com
Excalibur Screwbolts  http://excalibursscrewbolts.com/
Findlay Irvine  www.findlayirvine.com
FP McCann  www.fpmccann.co.uk
Friedrich Hippe  www.friedrich-hippe.de
Gerb Vibration Control Systems  www.gerb.com
Getzner Werkstoffe  www.getzner.com
GMT Manufacturing  www.gmt.co.uk
Graybar  www.graybar.co.uk
Henry Williams  www.hwilliams.co.uk
Holdfast Level Crossings  www.holdfastlevelcrossings.co.uk
Kilfrost  www.kilfrost.com
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<td>REHAU</td>
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<td>Tata Steel</td>
<td><a href="http://www.tatasteelrail.com">www.tatasteelrail.com</a></td>
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<td>Tenconi SA</td>
<td><a href="http://www.tenconi.ch">www.tenconi.ch</a></td>
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<tr>
<td>Terram (Fiberweb Geosynthetics)</td>
<td><a href="http://www.terram.com">www.terram.com</a></td>
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<td>Thyssenkrupp GFT Gleistechnik</td>
<td><a href="http://www.tkgftgleistechnik.de">www.tkgftgleistechnik.de</a></td>
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<tr>
<td>Tracksure (WS Group)</td>
<td><a href="http://wheelsure.co.uk/">http://wheelsure.co.uk/</a></td>
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<tr>
<td>Trackwork</td>
<td><a href="http://www.trackwork.co.uk">www.trackwork.co.uk</a></td>
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<tr>
<td>Trojan Services</td>
<td><a href="http://www.trojan-services.com">www.trojan-services.com</a></td>
</tr>
<tr>
<td>VAE UK Ltd</td>
<td><a href="http://www.voestalpine.com/vae">www.voestalpine.com/vae</a></td>
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<tr>
<td>Voestalpine Schienen</td>
<td><a href="http://www.voestalpine.com/schienen">www.voestalpine.com/schienen</a></td>
</tr>
<tr>
<td>Vossloh Fastening Systems</td>
<td><a href="http://www.vossloh-fastening-systems.com">www.vossloh-fastening-systems.com</a></td>
</tr>
<tr>
<td>WVCO Railroad Division</td>
<td><a href="http://www.wvcorailroad.com">www.wvcorailroad.com</a></td>
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### TRACK MAINTENANCE AND RENEWALS EQUIPMENT AND PRODUCTS

<table>
<thead>
<tr>
<th>Company</th>
<th>Website</th>
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<tbody>
<tr>
<td>A-Plant Rail</td>
<td><a href="http://www.aplant.com">www.aplant.com</a></td>
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<tr>
<td>Airtec International</td>
<td><a href="http://www.airtecinternational.com">www.airtecinternational.com</a></td>
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<tr>
<td>Aquarius Railroad Tech Ltd</td>
<td><a href="http://www.railrover.com">www.railrover.com</a></td>
</tr>
<tr>
<td>Aspin Group</td>
<td><a href="http://www.aspingroup.com">www.aspingroup.com</a></td>
</tr>
<tr>
<td>Ballast Tools UK</td>
<td><a href="http://www.btukltd.com">www.btukltd.com</a></td>
</tr>
<tr>
<td>R Bance &amp; Co</td>
<td><a href="http://www.bance.com">www.bance.com</a></td>
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<tr>
<td>Bomag (GB)</td>
<td><a href="http://www.bomag.com">www.bomag.com</a></td>
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<tr>
<td>Buck &amp; Hickman</td>
<td><a href="http://www.buckandhickman.com">www.buckandhickman.com</a></td>
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<tr>
<td>Cembre</td>
<td><a href="http://www.cembre.co.uk">www.cembre.co.uk</a></td>
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<tr>
<td>Clarke Chapman Group</td>
<td><a href="http://www.clarkechapman.co.uk">www.clarkechapman.co.uk</a></td>
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<tr>
<td>Colmar UK</td>
<td><a href="http://www.colmarspa.com">www.colmarspa.com</a></td>
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<tr>
<td>Eurailscout GB</td>
<td><a href="http://www.eurailscout.com">www.eurailscout.com</a></td>
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<tr>
<td>Factair Ltd</td>
<td><a href="http://www.factair.co.uk">www.factair.co.uk</a></td>
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<tr>
<td>Gatwick Plant</td>
<td><a href="http://www.gatwickgroup.com">www.gatwickgroup.com</a></td>
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<tr>
<td>Geatech SpA</td>
<td><a href="http://www.geatech.it">www.geatech.it</a></td>
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<tr>
<td>Geismar</td>
<td><a href="http://www.geismar.com">www.geismar.com</a></td>
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<tr>
<td>GGR Rail</td>
<td><a href="http://www.ggrrail.com">www.ggrrail.com</a></td>
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<tr>
<td>Husqvarna Construction Products</td>
<td><a href="http://www.husqvarna.com">www.husqvarna.com</a></td>
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<td>Innovative Rail &amp; Roof Safety</td>
<td><a href="http://inrailsafe.co.uk">http://inrailsafe.co.uk</a></td>
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<td>Jafco Tools</td>
<td><a href="http://www.jafcotools.com">www.jafcotools.com</a></td>
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<td>Kilfrost</td>
<td><a href="http://www.kilfrost.com">www.kilfrost.com</a></td>
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<td>Kirow</td>
<td><a href="http://www.kranunion.de/kirow">www.kranunion.de/kirow</a></td>
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<td>LH Access Technology</td>
<td><a href="http://www.lh-group.co.uk">www.lh-group.co.uk</a></td>
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<td>Linsinger</td>
<td><a href="http://www.linsinger.com">www.linsinger.com</a></td>
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<td>Loram</td>
<td><a href="http://www.loram.com">www.loram.com</a></td>
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<td>Matisa</td>
<td><a href="http://www.matisa.ch">www.matisa.ch</a></td>
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<td>Maxim Power Tools</td>
<td><a href="http://www.maxim-power.com">www.maxim-power.com</a></td>
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<td>Morris Site Machinery</td>
<td><a href="http://www.morrismachinery.co.uk">www.morrismachinery.co.uk</a></td>
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<td>Nencki</td>
<td><a href="http://www.nencki.ch/en-leistungen-bahntechnik_html">www.nencki.ch/en-leistungen-bahntechnik_html</a></td>
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<tr>
<td>Nightsearcher</td>
<td><a href="http://www.nightsearcher.co.uk">www.nightsearcher.co.uk</a></td>
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<td>Peli Products (UK) Ltd</td>
<td><a href="http://www.peliproducts.co.uk">www.peliproducts.co.uk</a></td>
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<td>Permaquip</td>
<td><a href="http://permaquip.co.uk/">http://permaquip.co.uk/</a></td>
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<td>Plasser UK</td>
<td><a href="http://www.plasser.co.uk">www.plasser.co.uk</a></td>
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<td>Rail-Ability</td>
<td><a href="http://www.railability.co.uk">www.railability.co.uk</a></td>
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<td>Rexquote</td>
<td><a href="http://www.rexquote.co.uk">www.rexquote.co.uk</a></td>
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Rhomberg Sersa UK
Ritelite Systems
Rosenqvist Rail AB
Rotabroach
Safetrack
Sandhurst
Schweizer Electronic
SES Rail
Sheerspeed Shelters Ltd
SMP Electronics
Speedy Asset Services
Speno International
SRS Rail Systems
SRT
Total Rail Solutions
Unipart Rail
Vortok International
Windhoff Bahn- und Anlagentechnik
Zöllner UK

www.rhombergrail.com
www.ritelite.co.uk
www.rosenqvist.se
www.rotabroach.co.uk
www.safetrack.se
www.sandhurst-rent.com/rail
www.schweizer-electronic.com
www.ses-holdings.com
www.sheerspeed.com
www.samalite.com
www.speedyservices.com
www.speno.ch
www.srsrailuk.co.uk
www.zagro.de
www.totalrailsolutions.co.uk
www.unipartrail.com
www.vortok.com
www.windhoff.com
www.zollner-uk.co.uk

TRACK MAINTENANCE AND RENEWALS SERVICES

Amey Rail
Babcock
Balfour Beatty Rail UK
BAM Nuttall
Carillion
Colas Rail
Delta Rail
Lundy Projects
Murphy
Renown Rail Welding Services
Sonic Rail Services
Stobart Rail
Strukton
Trackwork
VolkerRail

www.amey.co.uk/our-services/rail/
www.babcockinternational.com/markets/rail
www.bbrail.co.uk
www.bamnuttall.co.uk/Sect_Rail.html
www.carillionplc.com/markets/rail
www.colasrail.co.uk
www.deltarail.com
www.lundy-projects.co.uk
www.murphygroup.co.uk
www.renownrailwelding.co.uk
www.sonicrail.co.uk
www.stobartrail.com
www.struktonrail.com
www.trackwork.co.uk
www.volkerrail.co.uk
### SIGNALLING AND COMMUNICATIONS SYSTEMS

- ACKSYS Communications & Systems  
  [www.acksys.com](http://www.acksys.com)
- AEG Power Solutions  
  [www.aegps.com](http://www.aegps.com)
- Alan Dick UK  
  [http://alandick.com/](http://alandick.com/)
- Alcatel-Lucent Telecom  
  [www.alcatel-lucent.com](http://www.alcatel-lucent.com)
- Alstom Transport  
  [www.alstom.com/transport](http://www.alstom.com/transport)
- Ansaldo STS UK  
  [www.ansaldo-sts.com](http://www.ansaldo-sts.com)
- Aspin Group  
  [www.aspingroup.com](http://www.aspingroup.com)
- Atkins  
  [www.atkinsglobal.com](http://www.atkinsglobal.com)
- ATL Transformers  
  [www.atltransformers.co.uk](http://www.atltransformers.co.uk)
- Axis Communications  
  [www.axis.com](http://www.axis.com)
- Babcock  
  [www.babcockinternational.com](http://www.babcockinternational.com)
- Balfour Beatty Rail UK  
  [www.bbrail.co.uk](http://www.bbrail.co.uk)
- BAM Nuttall  
  [www.bannuttall.co.uk/Sect_Rail.html](http://www.bannuttall.co.uk/Sect_Rail.html)
- Bombardier Transportation  
  [www.bombardier.com](http://www.bombardier.com)
- Camlin Rail  
  [www.camlinrail.com](http://www.camlinrail.com)
- Cannon Technologies  
  [www.cannontech.co.uk](http://www.cannontech.co.uk)
- Collis Engineering Ltd  
  [www.collis.co.uk](http://www.collis.co.uk)
- Commend UK  
  [www.commend.co.uk](http://www.commend.co.uk)
- DAC  
  [www.daclimited.co.uk](http://www.daclimited.co.uk)
- dBD Communications  
  [www.dbdcommunications.co.uk](http://www.dbdcommunications.co.uk)
- Delta Rail  
  [www.deltarail.com](http://www.deltarail.com)
- Eldapoint  
  [www.eldapoint.co.uk](http://www.eldapoint.co.uk)
- Emerson Network Power  
  [www.emersonnetworkpower.eu](http://www.emersonnetworkpower.eu)
- Ericsson  
  [www.ericsson.com](http://www.ericsson.com)
- Eurocom  
  [www.eurocomltd.co.uk](http://www.eurocomltd.co.uk)
- Frauscher GmbH  
  [www.frauscher.com](http://www.frauscher.com)
- Frequentis UK  
  [www.frequentis.com](http://www.frequentis.com)
- GAI-Tronics  
  [www.gai-tronics.org.uk](http://www.gai-tronics.org.uk)
- GarrettCom Europe Ltd  
  [www.garrettcom.co.uk](http://www.garrettcom.co.uk)
- GE Transportation Systems  
  [www.getransportation.com](http://www.getransportation.com)
- Gioconda  
  [www.gioconda.co.uk](http://www.gioconda.co.uk)
- Henry Williams Ltd  
  [www.hwilliams.co.uk](http://www.hwilliams.co.uk)
- Hima-Sella  
  [www.hima-sella.co.uk](http://www.hima-sella.co.uk)
- Howells Railway Products  
  [www.howells-railway.co.uk](http://www.howells-railway.co.uk)
- iLECSYS Rail  
  [www.ilecsysrail.co.uk](http://www.ilecsysrail.co.uk)
Kapsch CarrierCom
Kelvatek
Kent Modular Electronics
KeTech Systems
Lionverge Civils
Mainframe Communications
MGB Engineering
Mors Smitt UK
Moxa Europe
NG Bailey
Nomad Digital
Optilan UK
Park Signalling
Pilz Automation Technology
Plettac Security
Prysmian Group
Rail & Road Protec
Screwfast Foundations
Siemens
Signal House Group
Signalling Solutions
Socomec
STS Rail Ltd
Telent
TEW Plus
Thales
TRE
Unipart Dorman
Variable Message Signs
Vialis
VolkerRail
Vortok International
WEC Rail
Wireless CCTV
Zonegreen

www.kapsch.net/kcc/portfolio/portfolio_railways
www.kelvatek.com
www.kme.co.uk
www.ketech.com
www.lionverge.co.uk
www.mainframecomms.co.uk
www.mobil.co.uk
www.morssmitt.com
www.moxa.com
www.ngbailey.com
http://nomad-digital.com
www.optilan.com
www.park-signalling.co.uk
www.pilz.co.uk
www.plettac.co.uk
www.prysmiangroup.co.uk
www.r2protec.de
www.screwfast.com
w3.siemens.co.uk/mobility/uk/en/rail_solutions/
www.collis.co.uk
www.signallingsolutions.com
www.socomec.co.uk
www.sts-rail.com
www.telent.com
www.tewplus.co.uk
www.thalesgroup.com
www.vortexrail.co.uk
www.unipartdorman.co.uk
www.vmslimited.co.uk
http://en.vialis.nl
www.volkerrail.co.uk
www.vortok.co.uk
www.wec-group.com
www.wcctv.co.uk
www.zonegreen.co.uk
TRACTION POWER SUPPLY AND ELECTRIFICATION SYSTEMS

- ABB  www.abb.com/uk
- Alstom Transport  www.alstom.com/transport
- Amey  www.amey.co.uk
- Anord Control Systems  www.anord.ie
- Arthur Flury  www.aflury.ch
- Aspin Group  www.aspingroup.com
- Atkins  www.atkinsglobal.com
- Atlas Rail Components  www.atlasrail.co.uk
- Babcock  www.babcockinternational.com
- Balfour Beatty Rail UK  www.bbrail.co.uk
- Brecknell Willis  www.brecknellwillis.com
- Carillion  www.carillionplc.com/markets/rail
- Ensto Group  www.ensto.com
- FT Transformers  www.ft-transformers.co.uk
- Furrer+Frey GB  www.furrerfrey.ch
- Hawker Siddeley Switchgear  www.hss-ltd.com
- High Voltage Maintenance Services  www hvms.co.uk
- Keltbray  www.keltbray.com
- Morris Line  www.morrisline.co.uk
- Morrison Utility Services  www.morrisonus.com
- Pfisterer  www.pfisterer.co.uk
- Powerlines Group  www.powerlines-group.com
- Prysmian Group  www.prysmiangroup.com
- Schneider Electric  www.schneider-electric.com
- Siemens  w3.siemens.co.uk/mobility/uk/en/rail_solutions.aspx
- UK Power Networks Services  www.ukpowernetworksservices.co.uk
- Ultra Electronics PMES  www.ultra-pmes.com
- Unipart Rail  www.unipartrail.com
- VolkerRail  www.volkerrail.co.uk
CIVIL ENGINEERING AND CONSTRUCTION/INFRASTRUCTURE MAINTENANCE

The UK railway market is also served by many leading companies in the fields of civil engineering and construction and infrastructure maintenance. There are also significant participants in consultancy, design and project management. Many of these have subsidiaries, divisions or departments dedicated to rail.

- Aqua Group  
  www.aquafab.co.uk
- Arup  
  www.arup.com/rail
- Atkins Rail  
  www.atkinsglobal.com
- NG Bailey Rail  
  www.baileyrail.co.uk
- Balfour Beatty Rail UK  
  www.bbrail.co.uk
- BAM Nuttall  
  www.bamnuttall.co.uk/Sect_Rail.html
- Banagher Precast Concrete  
  www.bancrete.com
- Bechtel  
  www.bechtel.com
- Burdens Rail  
  www.burdens.co.uk
- Carillion  
  www.carillionplc.com/markets/rail
- Cleshar Contract Services  
  www.cleshar.co.uk
- Colas Rail  
  www.colasrail.co.uk
- Costain  
  www.costain.com
- Dyer & Butler  
  www.dyerandbutler.co.uk
- Hochtief (UK) Construction  
  www.hochtief-construction.co.uk
- Instarmac Group  
  www.instarmac.co.uk
- John Laing  
  www.laing.com
- Keyline Rail  
  www.keyline.co.uk
- Kier  
  www.kier.co.uk
- Kwik-Step  
  www.kwik-step.com
- Laing O’Rourke  
  www.laingprourke.com
- Mabey Bridge  
  www.mabeybridge.com
- Mace Group  
  www.macegroup.com
- McNicholas  
  www.mcniclouis.co.uk
- Millar Fabrications  
  www.millerfabrications.com
- Mitchell Bridges  
  www.temorarybridges.com
- Moore Concrete Products  
  www.moore-concrete.com
- Mouchel  
  www.mouchel.com
- Murphy  
  www.murphygroup.co.uk
- Osborne Rail  
  www.osborne.co.uk
- Shay Murtagh Precast  
  www.shaymurtagh.co.uk
- Skanska Construction Group
- Specialist Engineering Services
- Story Contracting
- Taylor Woodrow
- Tony Gee
- Vinci Construction UK Ltd
- VolkerFitzpatrick

www.skanska.co.uk
www.ses-holdings.com
www.storycontracting.com
www.taylorwoodrow.com/
www.tonygee.com
www.vinciconstruction.co.uk
www.volkerfitzpatrick.co.uk