

# ***Rail Delivery Group***

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# Rail's transformation in numbers

Dataset on rail industry finances, performance and investment since 1997-98

December 2016

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## Highlights

- Sustained rise in passenger journeys and freight carried
- Train companies making record contributions to government - industry income covers day-to-day costs and supports investment
- Taxpayers paying smaller share of rail costs and customers a larger share – the result of policy of successive governments
- Safety, satisfaction, number of services and fleet size have improved significantly
- Delay incidents down but more congested network means worse impact on customers
- Government spending funds extra capital expenditure to boost capacity and improve services



# Rail finances today – a snapshot

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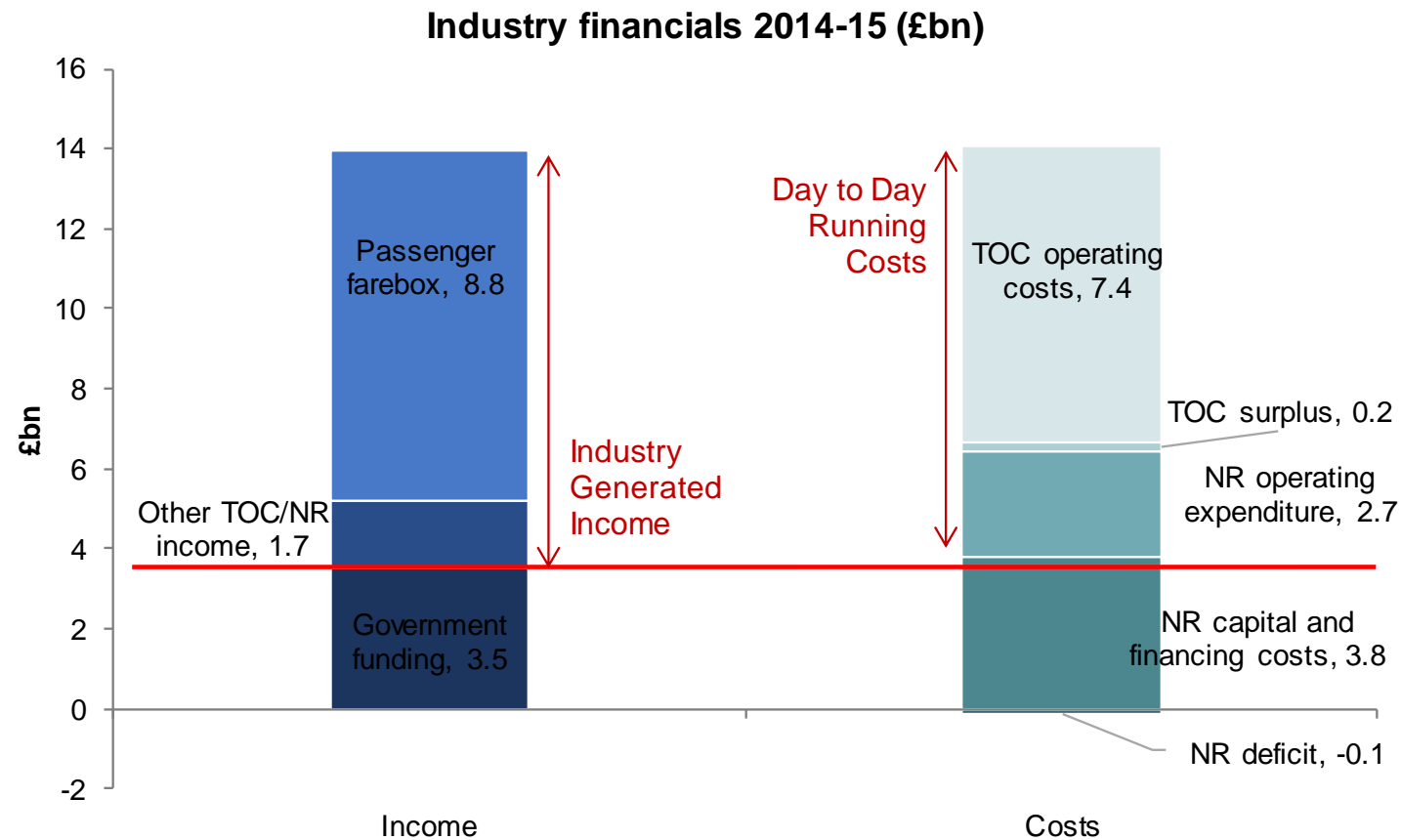


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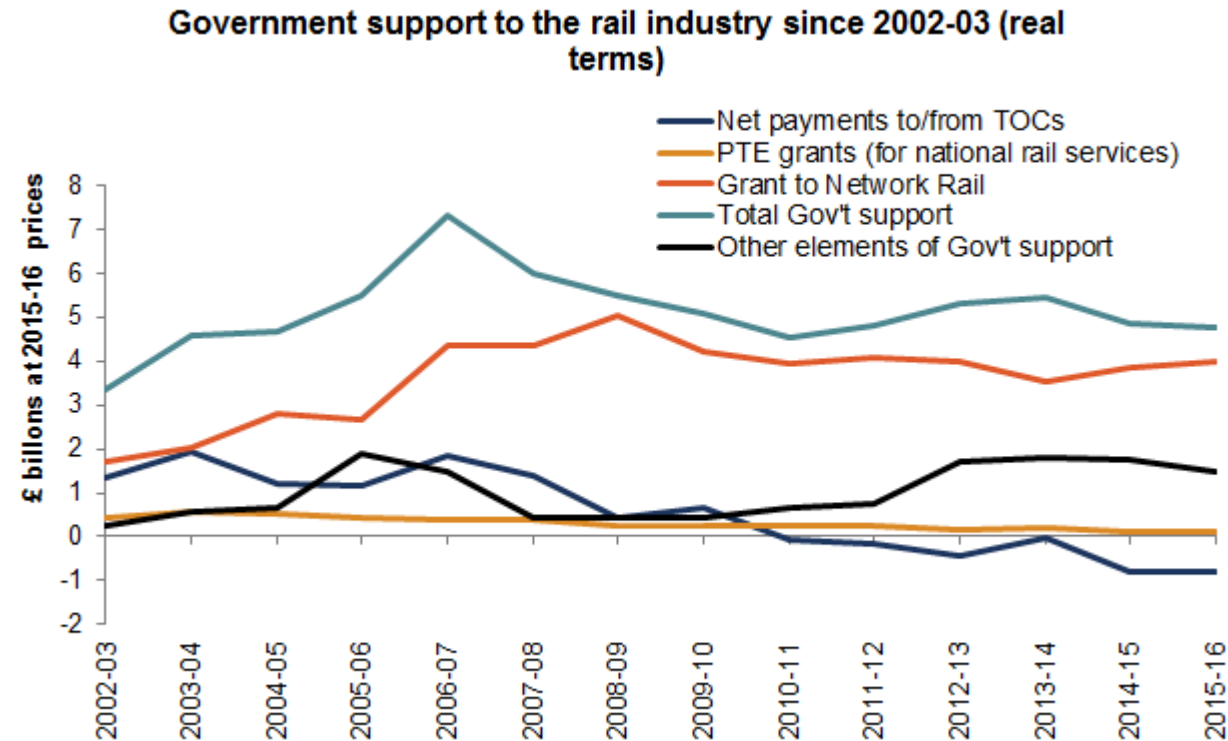
# Analysis of Revenues and Costs

- The £10.5bn of revenue generated by the rail industry now more than covers the day-to-day running costs of the railway (£10.3bn)



# Government Support to the Rail Industry

- Train operating companies in 2015-16 paid central government a net total of £0.8bn, whereas in 2002-03 they received £1.4bn from central government in real terms.
- Grant to Network Rail peaked in 2006-07 (£4.3bn) but in 2015-16 was under £4bn



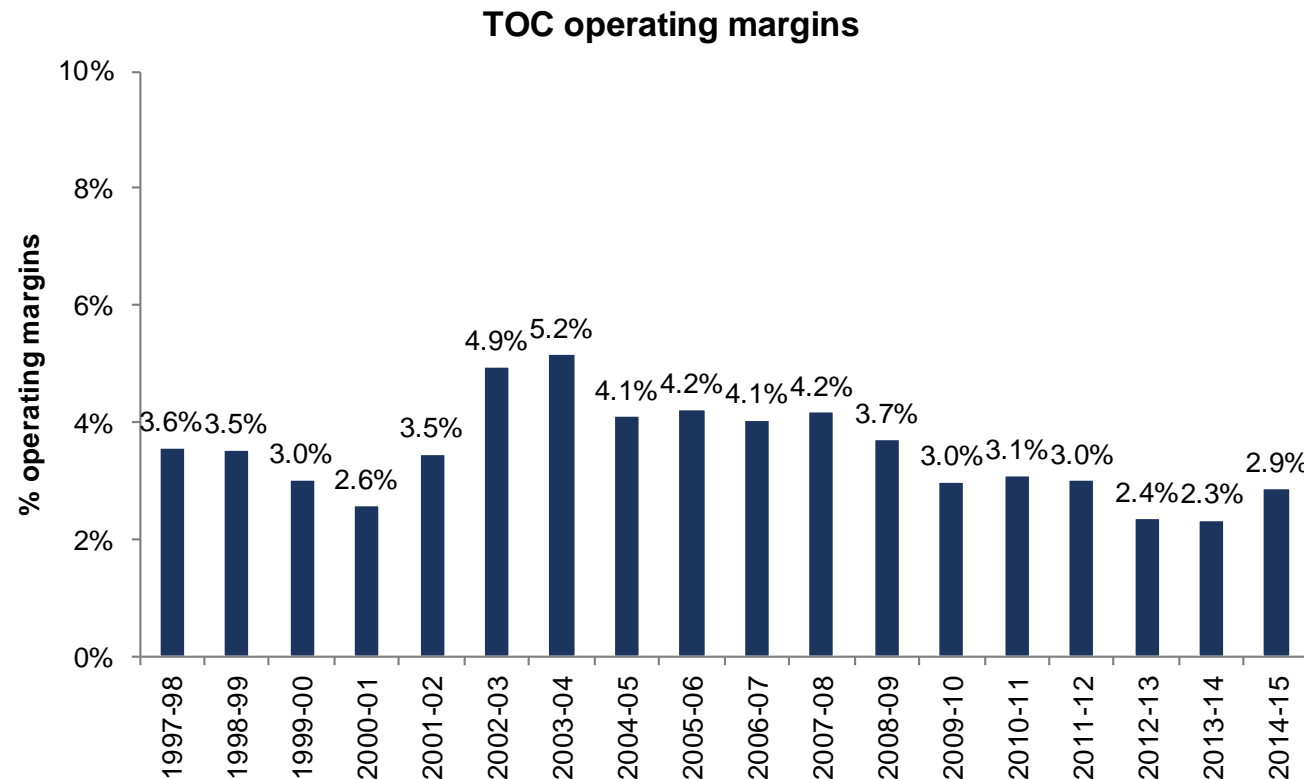
Note: This data is presented from 2002-03 due to a change made to the allocation of funding for infrastructure from that year

Note: 'Other elements of Government support' comprises central government expenditure on major projects, support to arms length bodies including British Transport Police and Transport Focus, a grant to British Rail to finance its residual activities, and other adhoc rail projects.

Source: ORR data portal

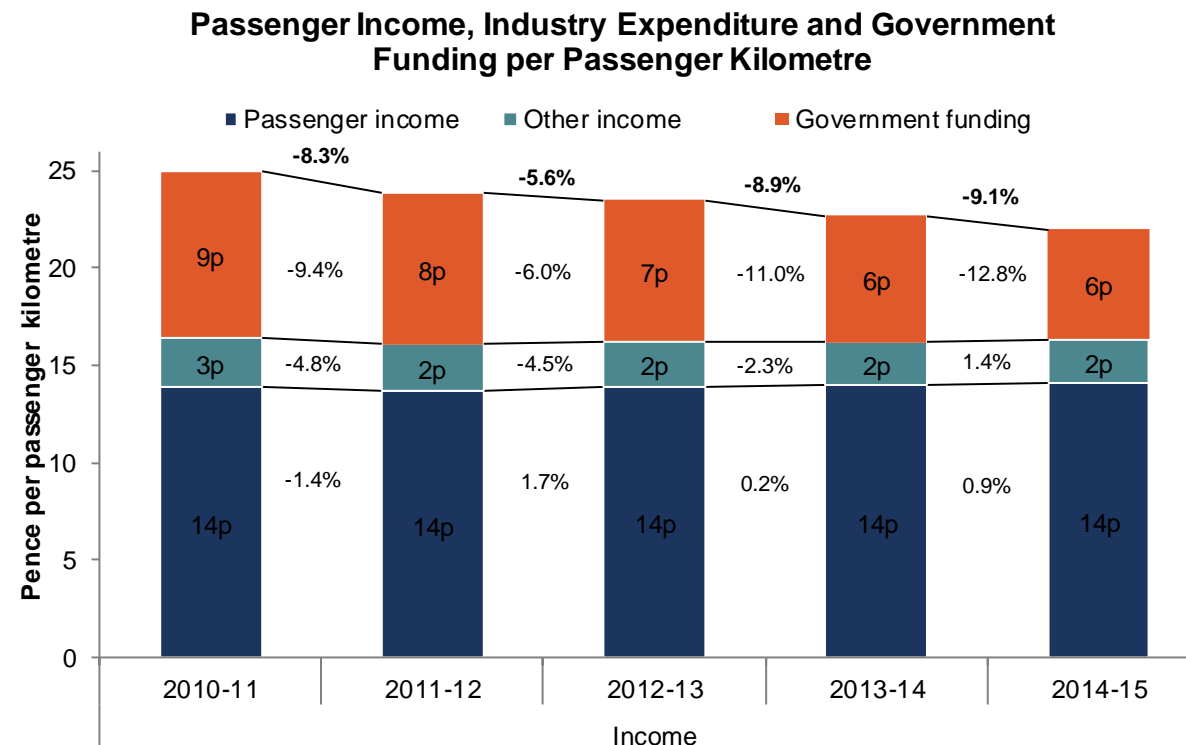
# Train Operating Company Operating Margins

- Operating margins as a proportion of revenue are lower than when franchising began
- In every year since 1997-98, at least 95p from every pound generated by train operators has gone towards running and improving the railway



Note that 'operating margin' (gross of tax) is used as 'profit margin' (net of tax) is not available for the full time series.  
Source: Rail Industry Monitor, Statutory Accounts and ORR "GB rail industry financial information 2014-15"

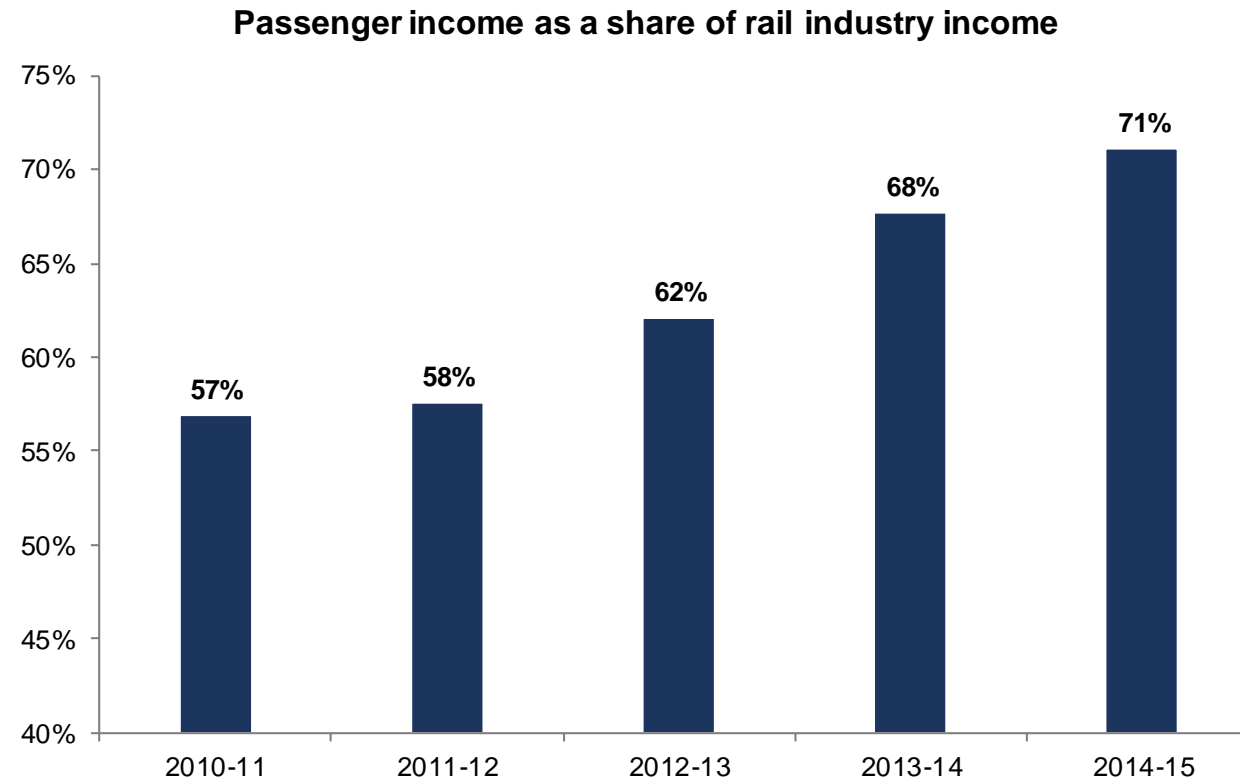
- From 2011 - 2015:
  - Government funding to TOCs decreased by £1.1 bn (24%), equivalent to a 37% drop in government funding per passenger journey;
  - Passenger fare income increased by £1.2 bn (17%), largely due to the 22% increase in passenger journeys (to 1,654 million journeys). Over the period, the average fare per journey fell by 4%.





# Passenger Share of Rail Income

- Passenger share of total rail industry income has increased from 57% in 2010-11 to 71% in 2014-15
- In 2010-11, passengers contributed £6.6bn compared to £9.6bn in 2014-15. Over the same period the average price paid per journey in real terms changed from £5.60 to £5.38



Note: Rail industry income excludes DfT loans to Network Rail  
Source: ORR "GB rail industry financial information 2014-15" and previous releases



# A vital and growing public service

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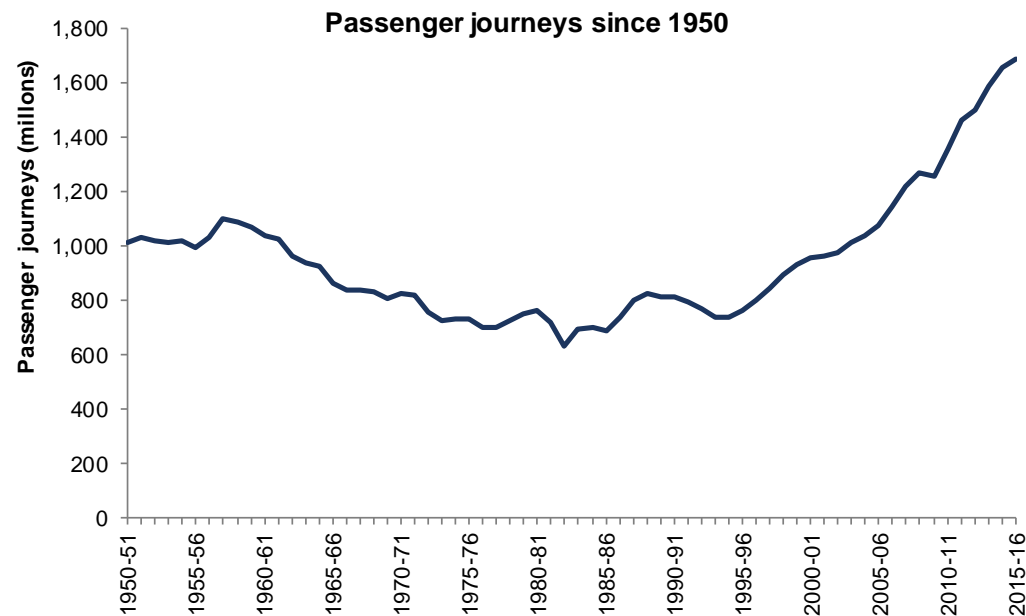
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- Passenger numbers have doubled since 1997-98, the first full year of rail franchising
- Average annual journey growth has been 3.9%, compared to 0.6% in the 18yrs prior
- Rail journeys per head of population have increased by 79%



Source: ORR data portal

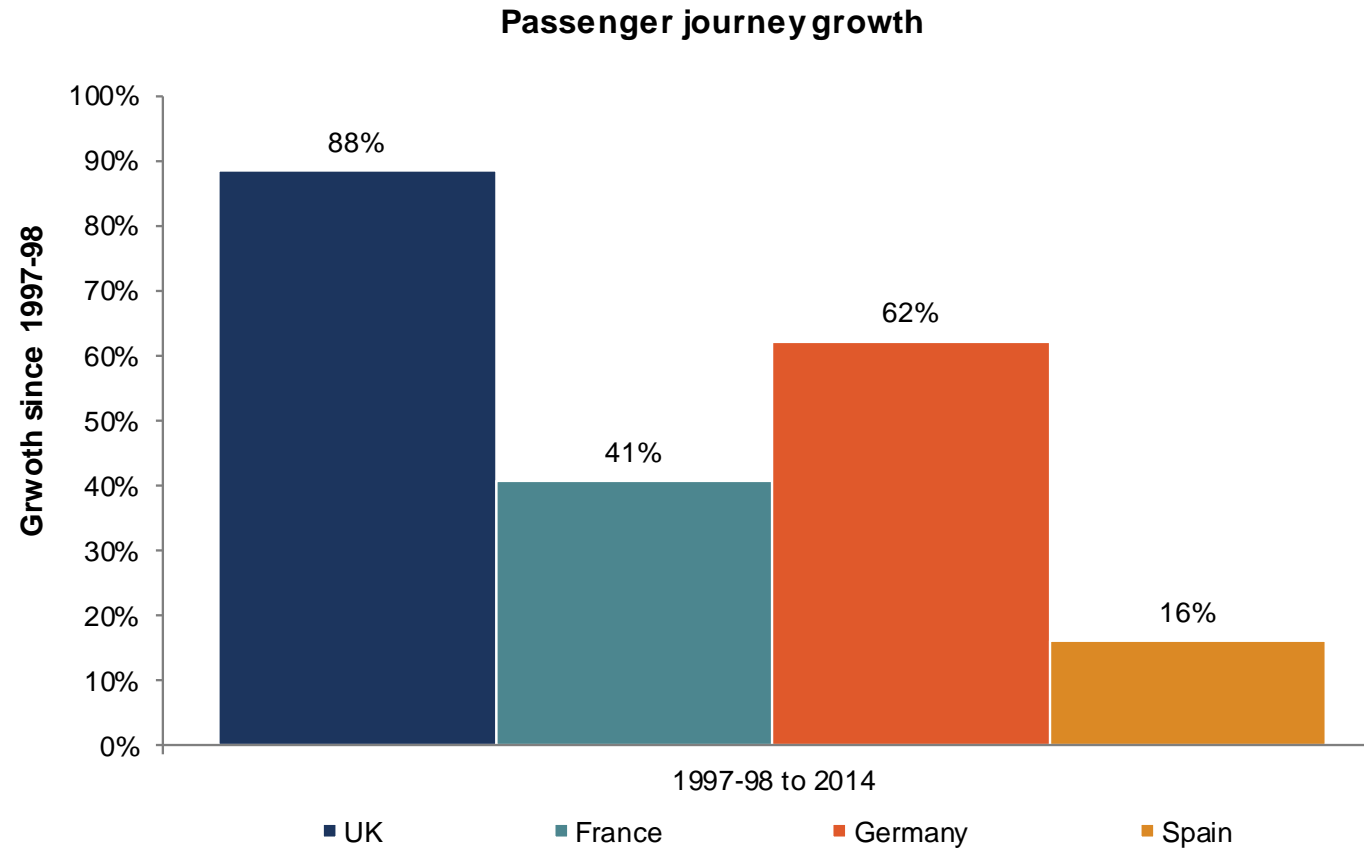
Passenger Journey Growth	
Period	CAGR <sup>1</sup>
64 years to 2015-16	0.78%
1978-79 to 1996-97	0.57%
1997-98 to 2015-16	3.92%

<sup>1</sup> Compound Annual Growth Rate

Rail journeys per head of population	
Year	Annual journeys per capita
1981-82	13.12
1997-98	14.93
2015-16	26.67

# Rail Journey Growth vs European Peers

- UK passenger journey growth since 1997-98 has outstripped France, Germany and Spain

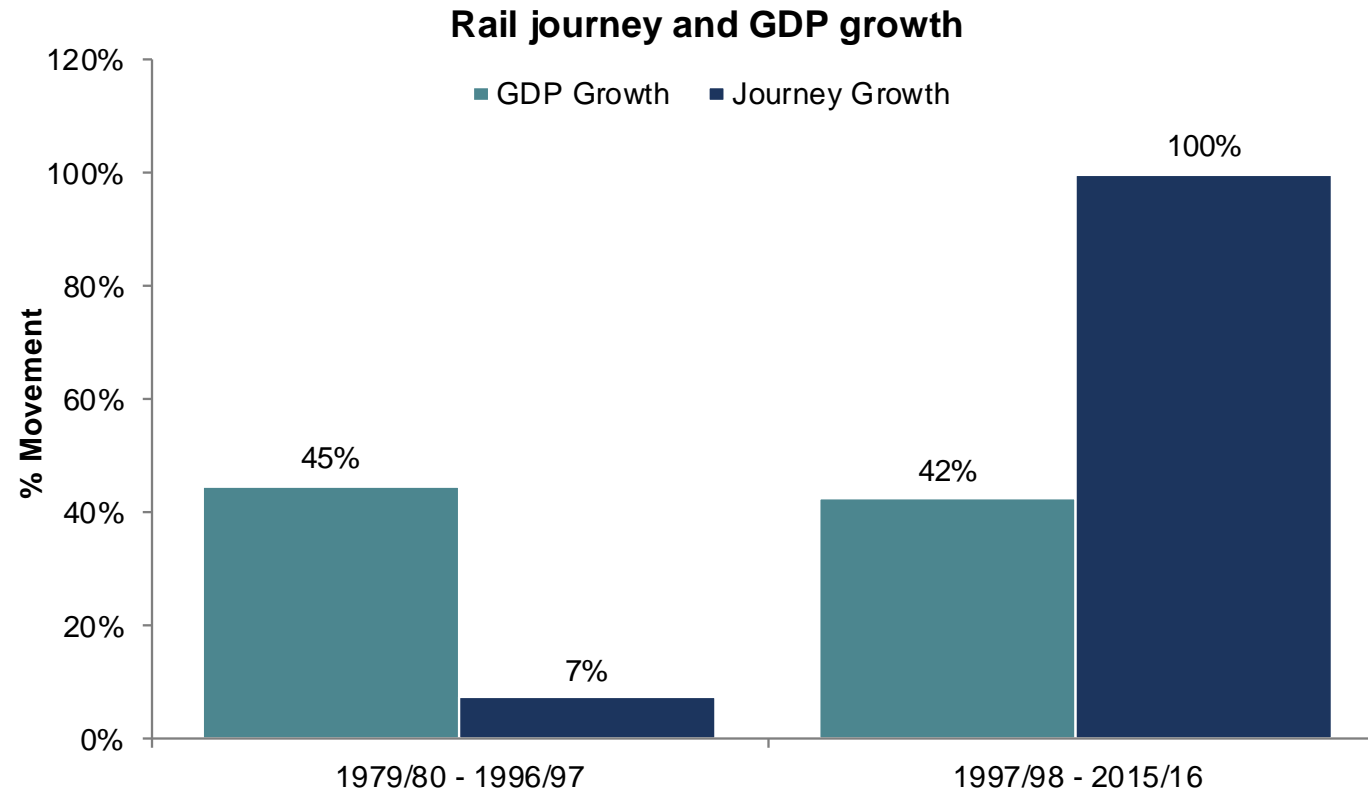


Source: Eurostat database from 2006, UIC Rail ISA pre 2006



# Passenger Journeys vs GDP Growth

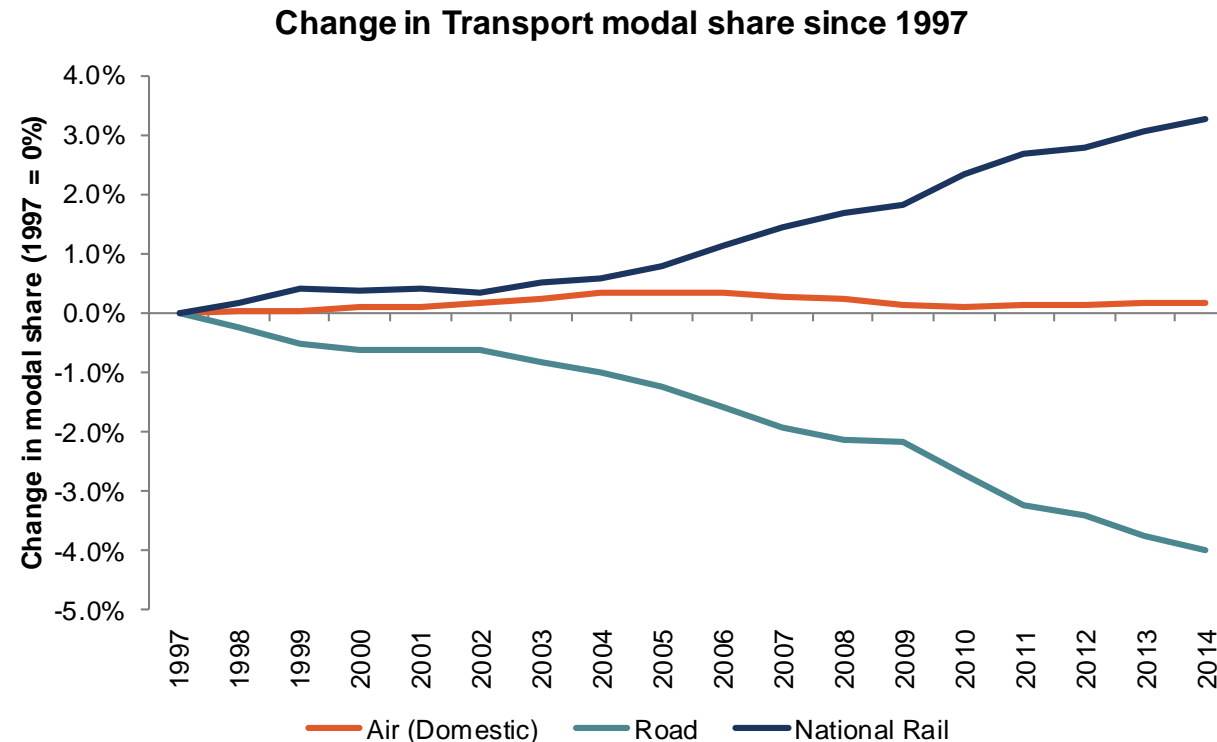
- Since 1997-98, journey growth has been more than double GDP growth



Source: ORR data portal and Cebr Economic Forecast

# Modal Change – Shift to Rail

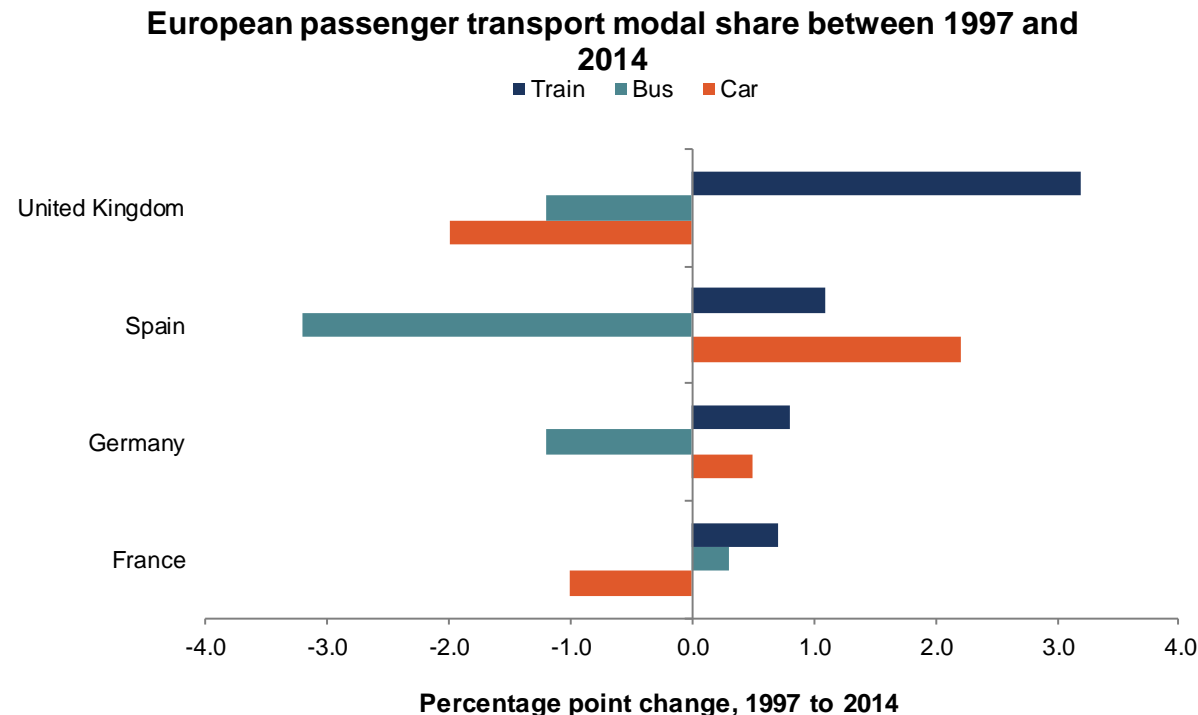
- Since 1997, National Rail has increased its modal share of all travel by 3.3%, while domestic air travel has remained broadly flat and road travel has fallen by 4.0%
- Passenger KMs by road have increased by 19 bn since 1997 to 704 bn passenger KMs with National Rail increasing by 28 bn to 63 bn





# Growth in Rail – European Comparisons

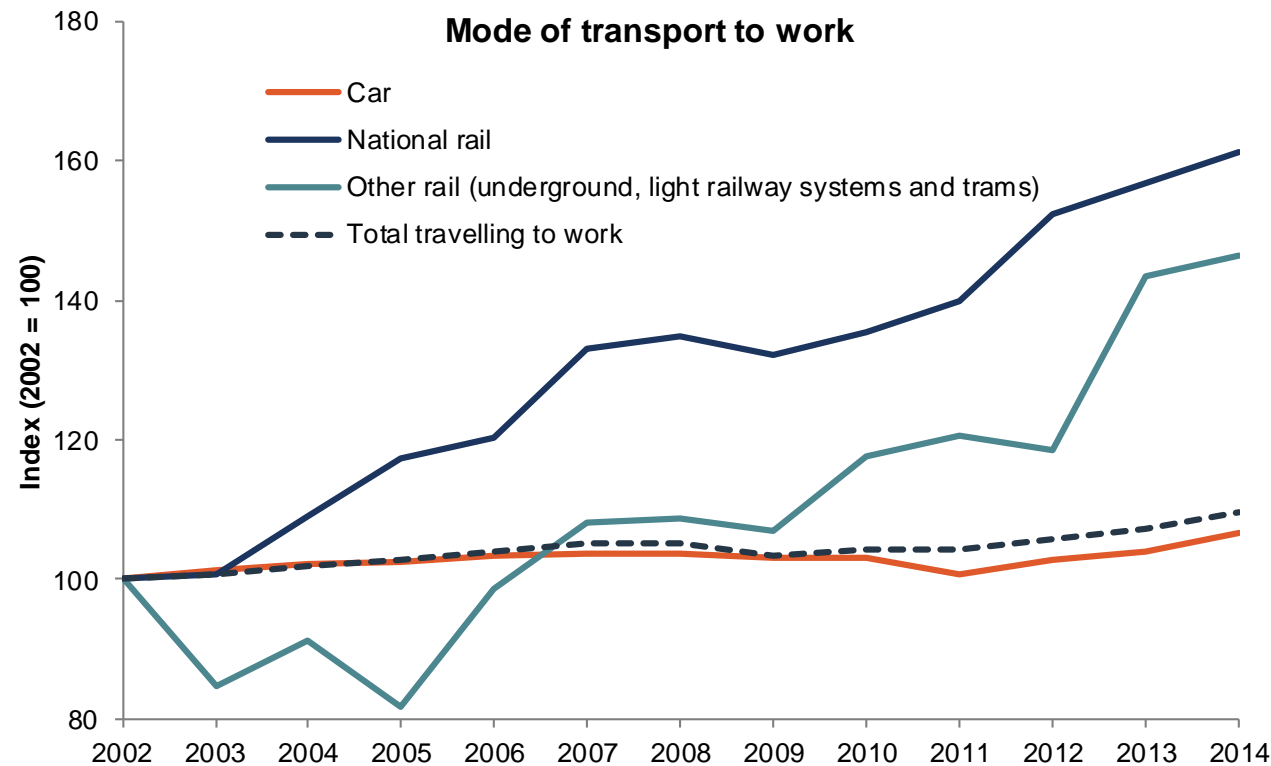
- Growth in UK rail's share of passenger transport has far outstripped other European countries
- Spain, Germany and France have all seen around 1 percentage point increase in rail's modal share since 1997 whereas UK rail's share has increased by 3.6 percentage points



Source: Eurostat database

# Mode of Transport to Work

- National Rail as the chosen mode of transport to work has increased by 61% since 2002, compared to a 7% increase in car commuting a 47% increase in other types of rail and an overall increase of 10%



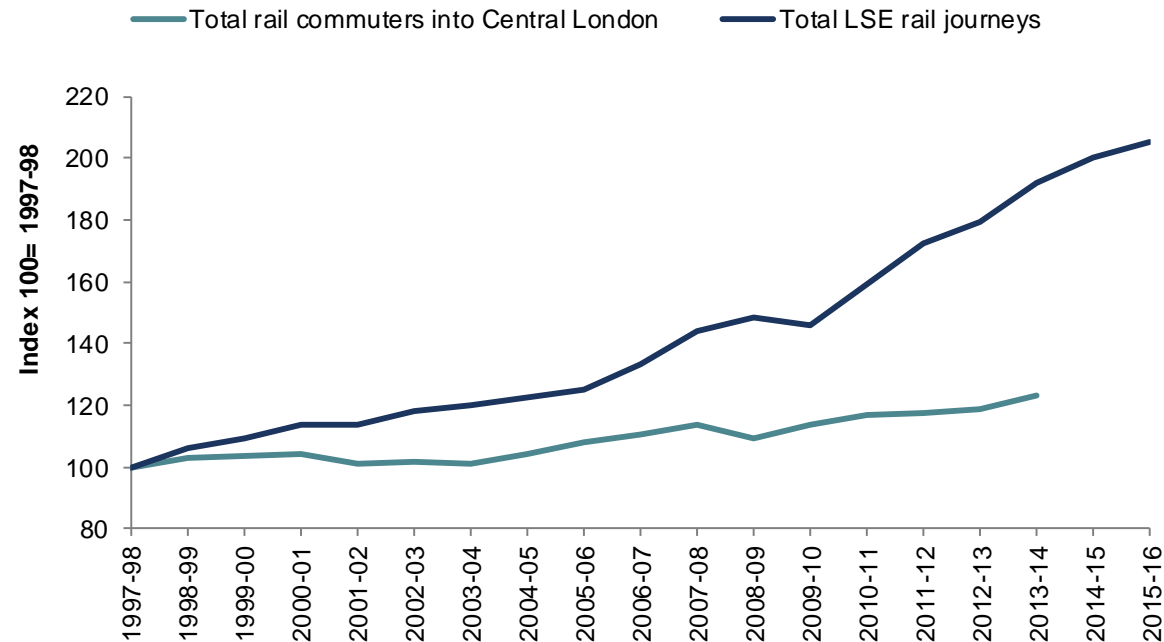
Source: Department for Transport Statistics and ORR data portal. (N.B. Oldest available data is 2002)



# Journey Growth in London & South East

- Journey growth is not just due to increased demand from commuters - since 1997-98 total rail journeys in London and the South East have increased by more than rail commuting into Central London
- Rail journeys have also increased faster than journeys on the London Underground

Growth in rail journeys versus growth in commuter numbers

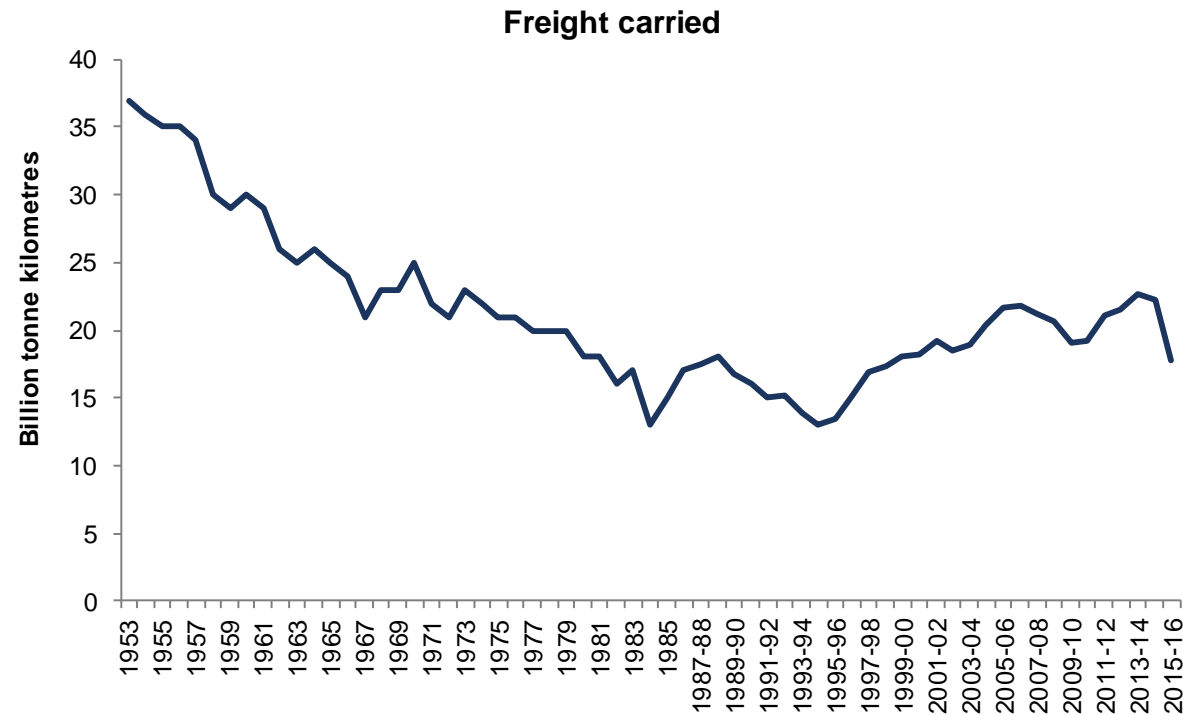


Journey growth - Rail versus London Underground	
1997-98 to 2015-16	Journey growth
London Underground	62.1%
London and South East rail	105.4%

Source: ORR data portal, LUL Statutory Accounts

# Rail Freight – Growth in Goods Carried

- Before 1997-98, rail freight was in steady decline (down 59% between 1953 and 1996-97)
- It has since stabilised with growth in 13 of the 19 years since then
- A sharp fall in coal moved (from 6.5 to 2.3 bn tonne kilometres) almost single-handedly drove the decline between 2014-15 and 2015-16

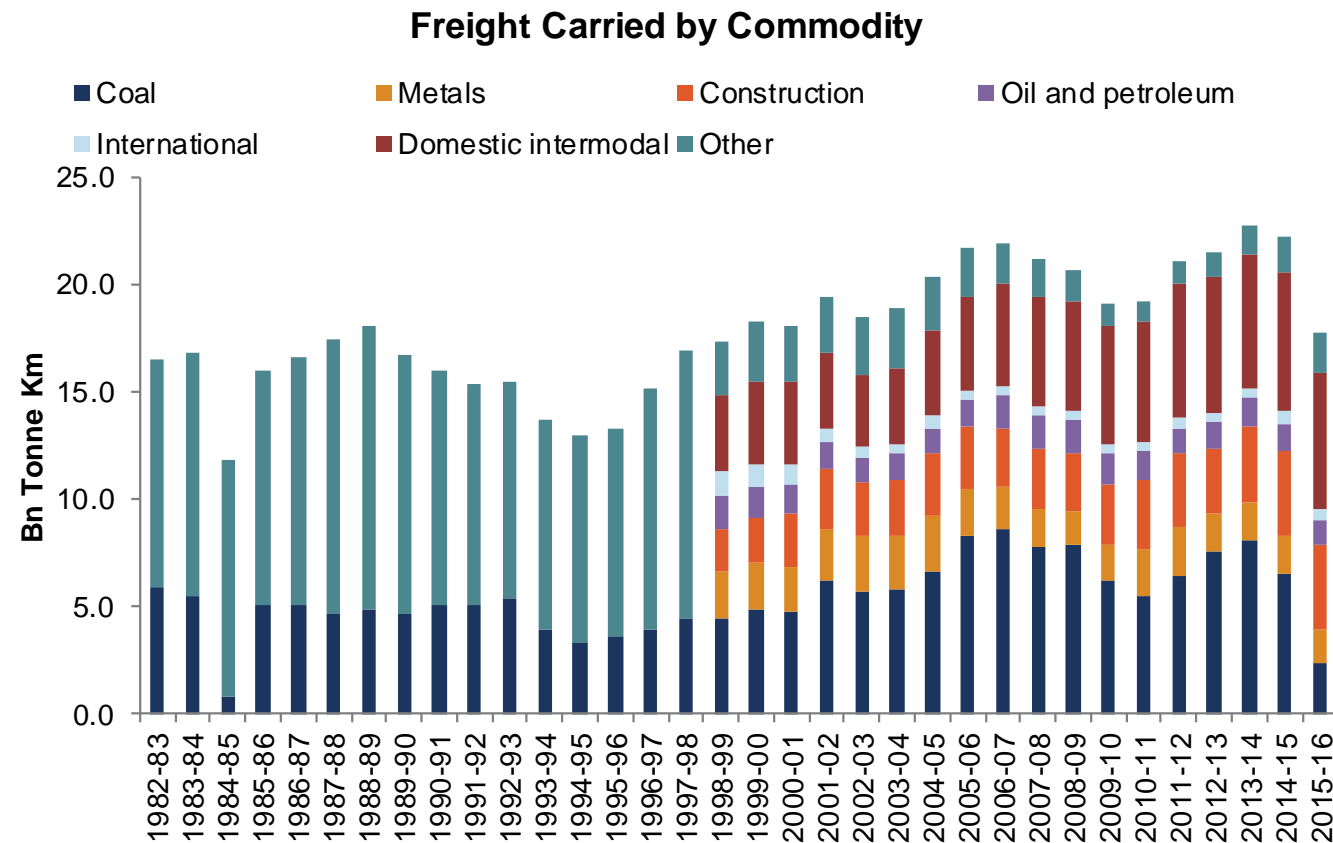


Source: ORR data portal



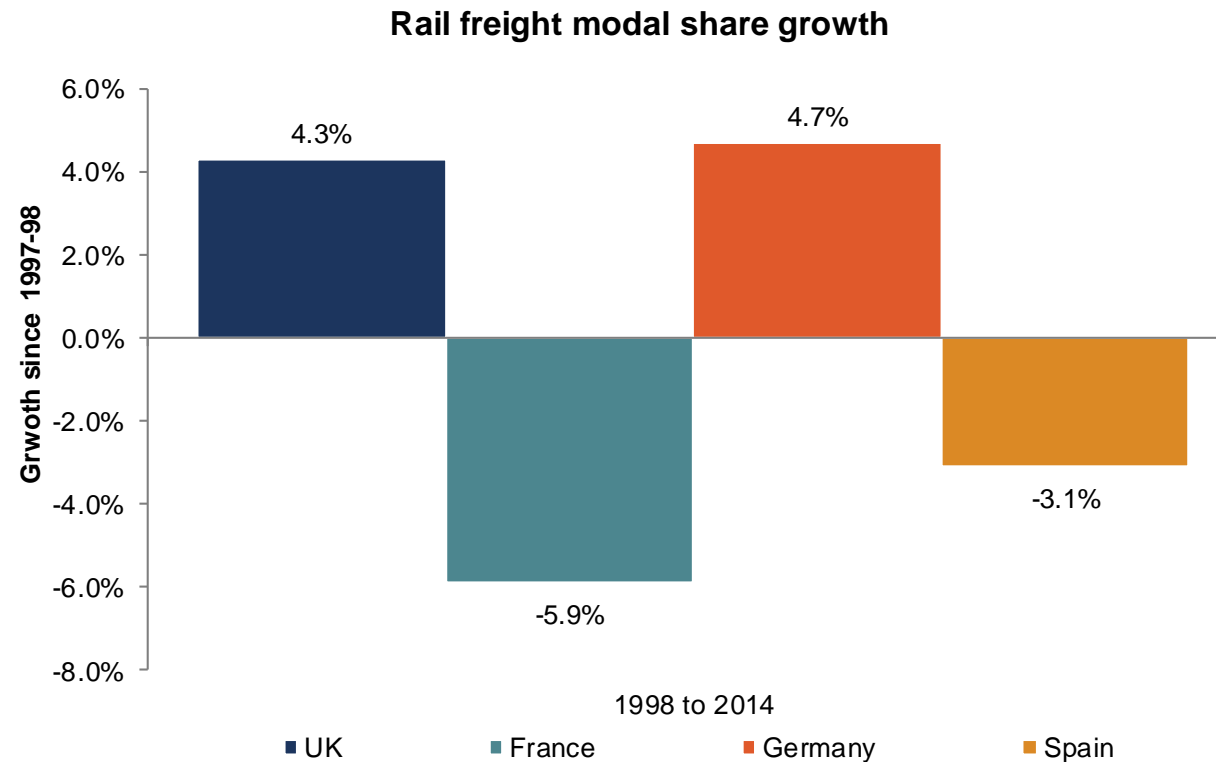
# Rail Freight – Growth in Goods Carried

- Long-term increase in domestic intermodal freight moved by rail
- Domestic intermodal carried has increased by 82% since 1998-99



Source: ORR data portal

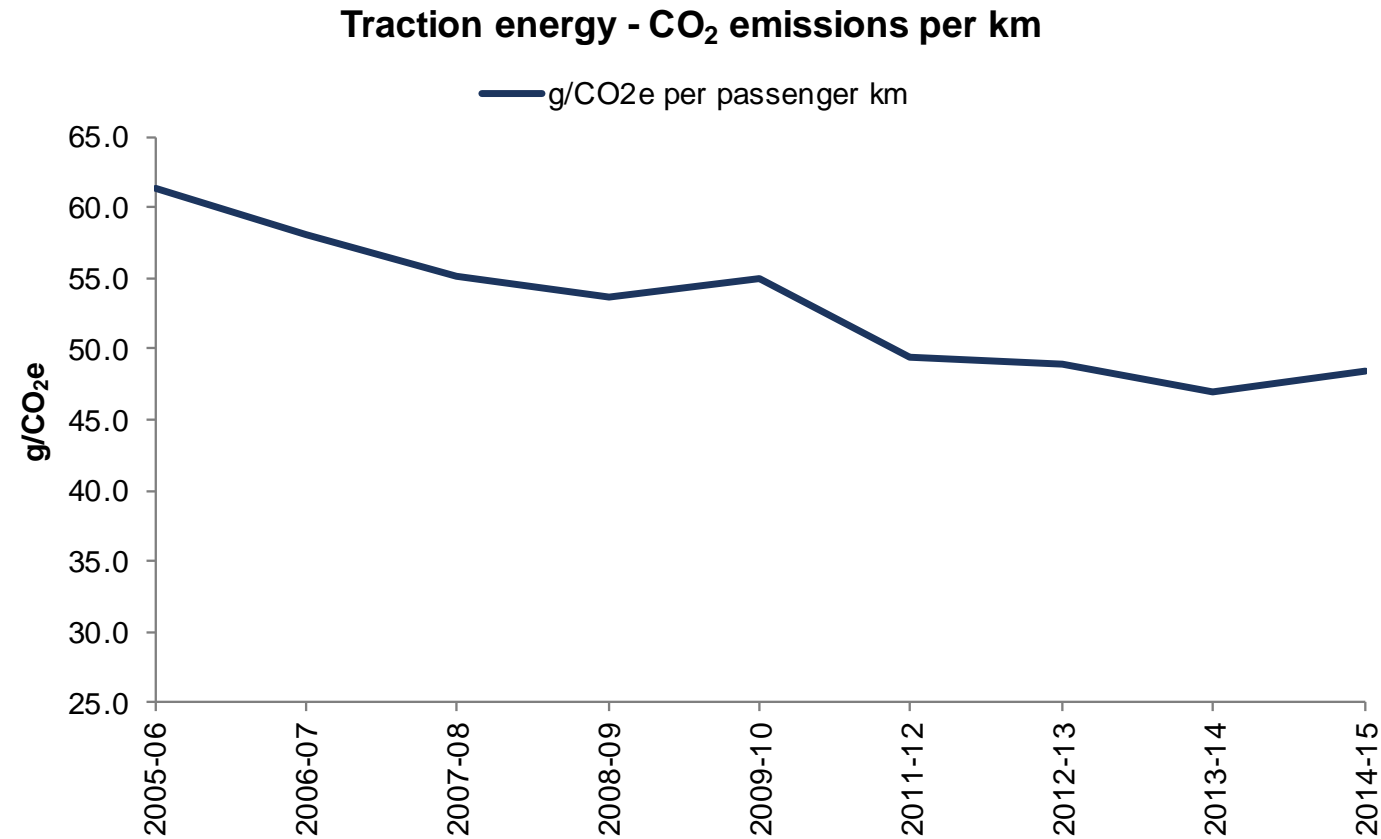
- UK freight mode share growth has exceeded France and Spain, and is comparable to Germany which has a favourable regulatory environment (where lorries are not permitted on roads on Sundays)



Source: Eurostat database from 2006, UIC Rail ISA pre 2006



- Already a relatively green mode of transport, CO<sub>2</sub> emissions generated per kilometre by passenger operators have decreased by 21% since 2005-06.



Source: ORR data portal

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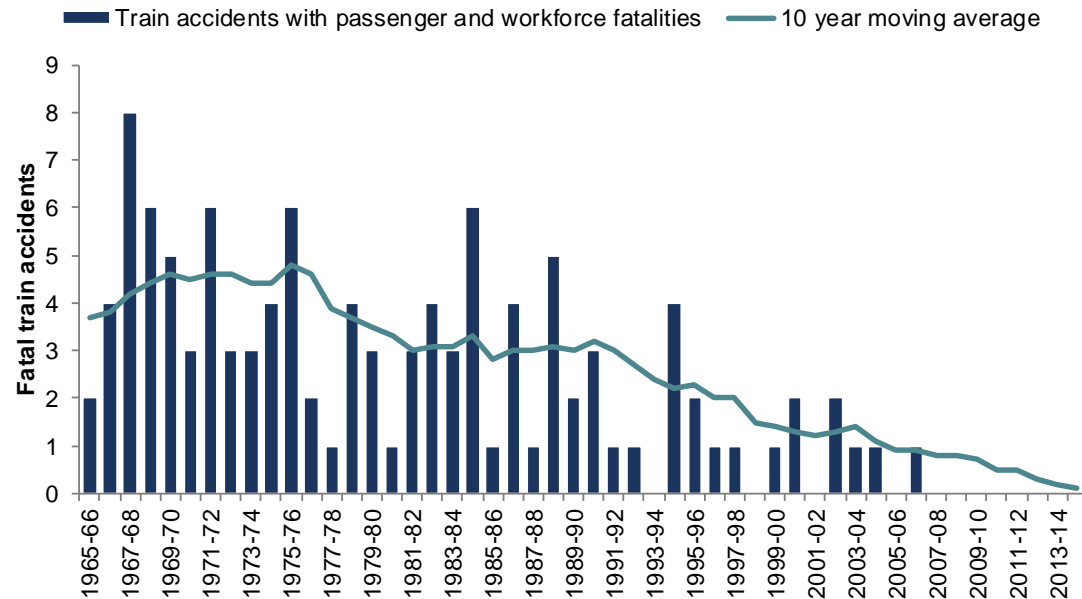


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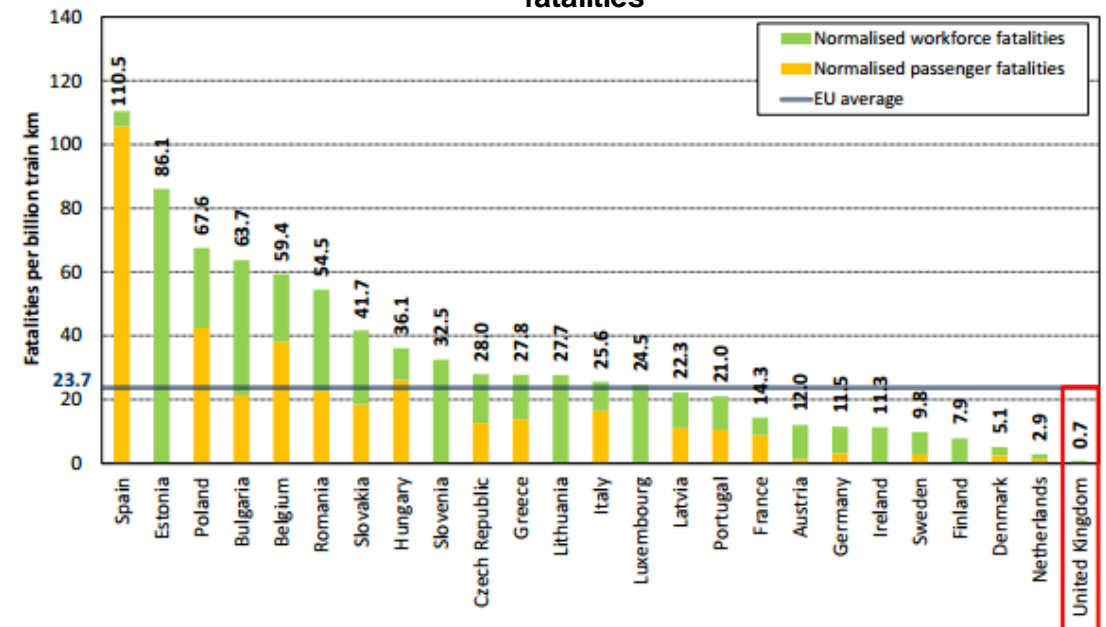
- Safety has continued to improve. The UK continues to have the safest railway in Europe for customers and the fewest train accidents or workforce on-board fatalities

UK train accidents with passenger or workforce on-board fatalities since 1965-66



Source: ORR data portal

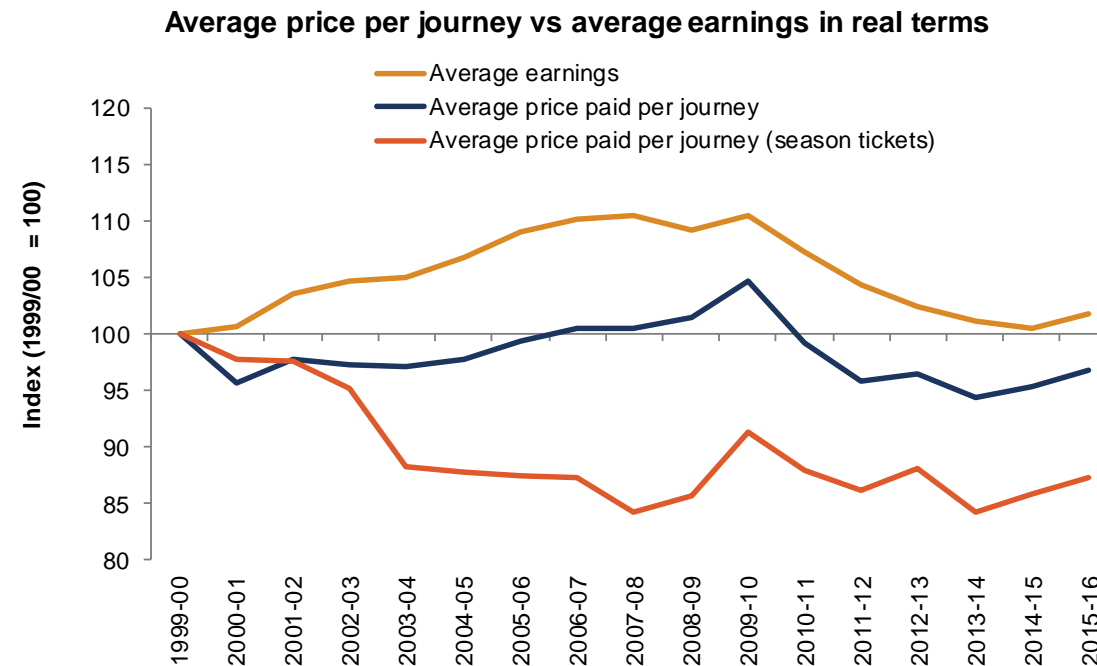
European comparison - workforce and passenger fatalities



Source: RSSB/Eurostat. The data covers the five-year period 2009-2013. Figures are normalised by train kilometres. Only accidents relating to railway vehicles in motion are included. The chart covers 25 members of the EU; the other two member states, Malta and Cyprus, no longer have railways

# Average Journey Price vs Average Earnings

- Average earnings (+1.9%) have grown faster in real terms than the average price paid per journey (-3.2%) since 1999-2000
- The average price paid per journey in real terms was £5.46 in 2015-16
- In contrast, the average price paid per journey on a Season ticket has fallen in real terms by 12.8% since 1999-2000 and has been relatively flat since 2003-04



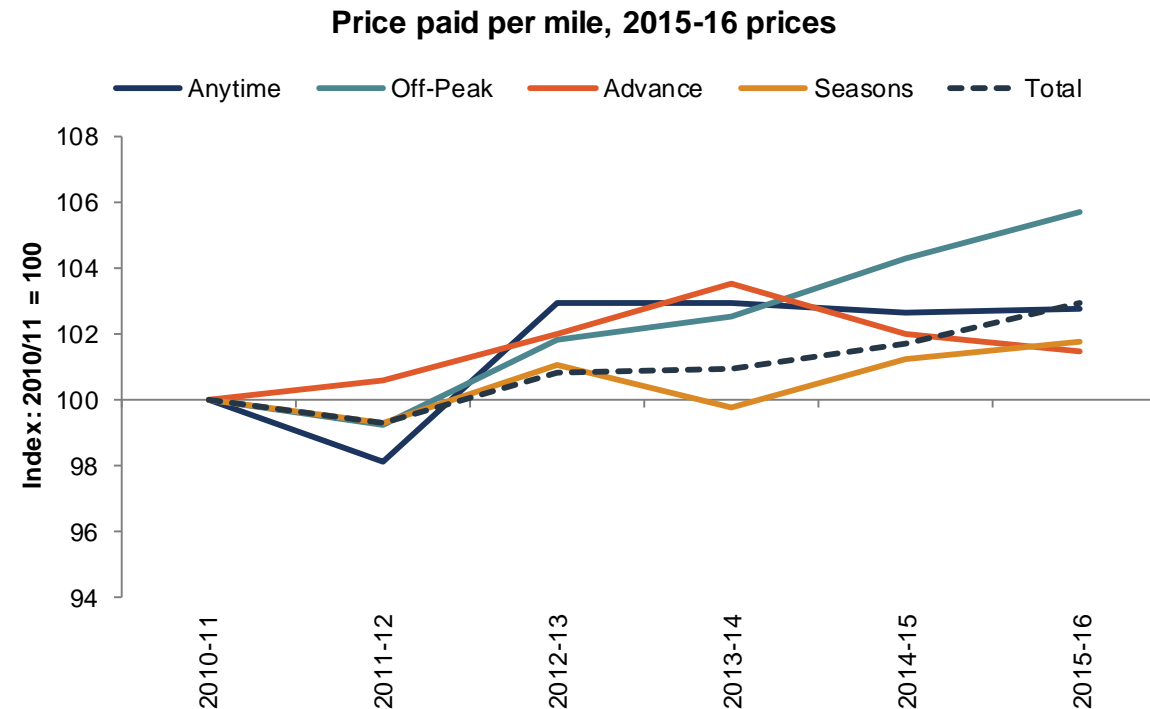
Source: ORR data portal and Cebr Economic forecast

Note 1999-00 is the first available year for Average Earnings within the Cebr Economic Forecast



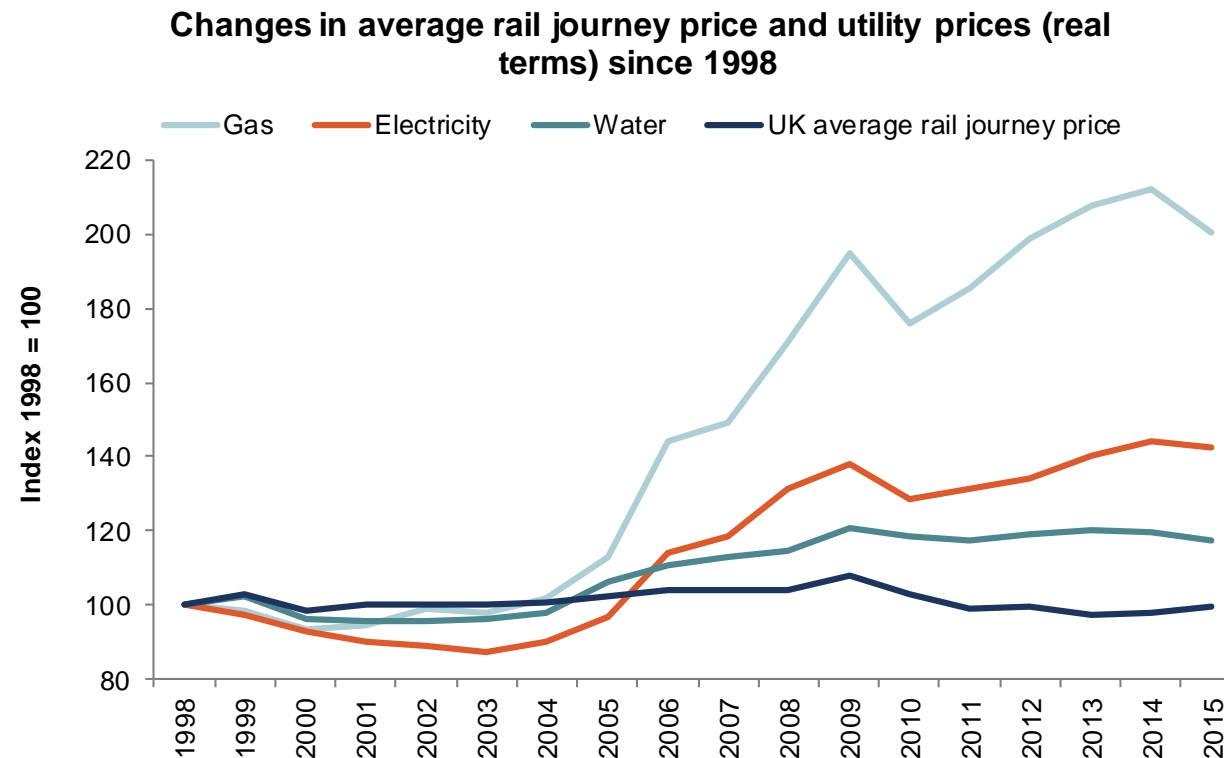
# Average Price Per Passenger Mile

- The average price paid per passenger mile has increased by 3.0% in real terms since 2010-11
- Prices paid for Anytime fares have increased over this period (by 2.7%), compared to 1.8%, 5.7% and 1.5% increases for Seasons, Off-Peak and Advance respectively as operators price tickets to encourage people to travel on cheaper Advance fares



# Average Journey Price vs Utility Prices

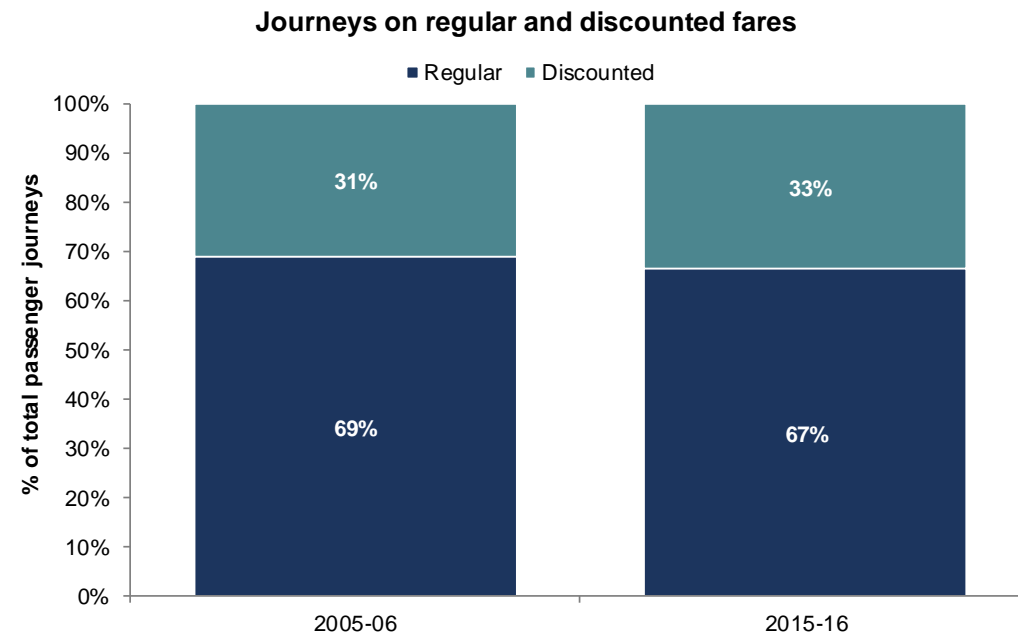
- Since 1998 average rail journey price has fallen marginally in real terms by 0.6%, whereas water prices increased by 17.3%, electricity prices are up 42.5% and gas prices have doubled



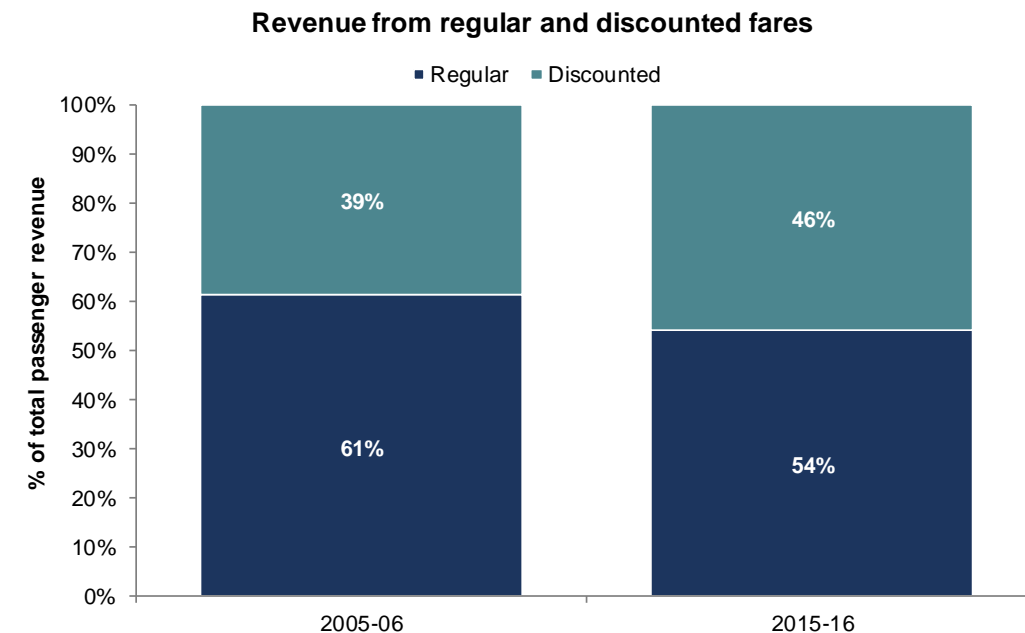
Source: ONS RPI component data, ORR data portal

# Journeys and Revenue by Ticket Type

- Nearly half of all passenger revenue now comes from discounted tickets (Off-Peak, Super Off-Peak and Advance), up from 39% ten years ago, whilst the proportion of journeys on discounted tickets has also increased.



Source: LENNON data

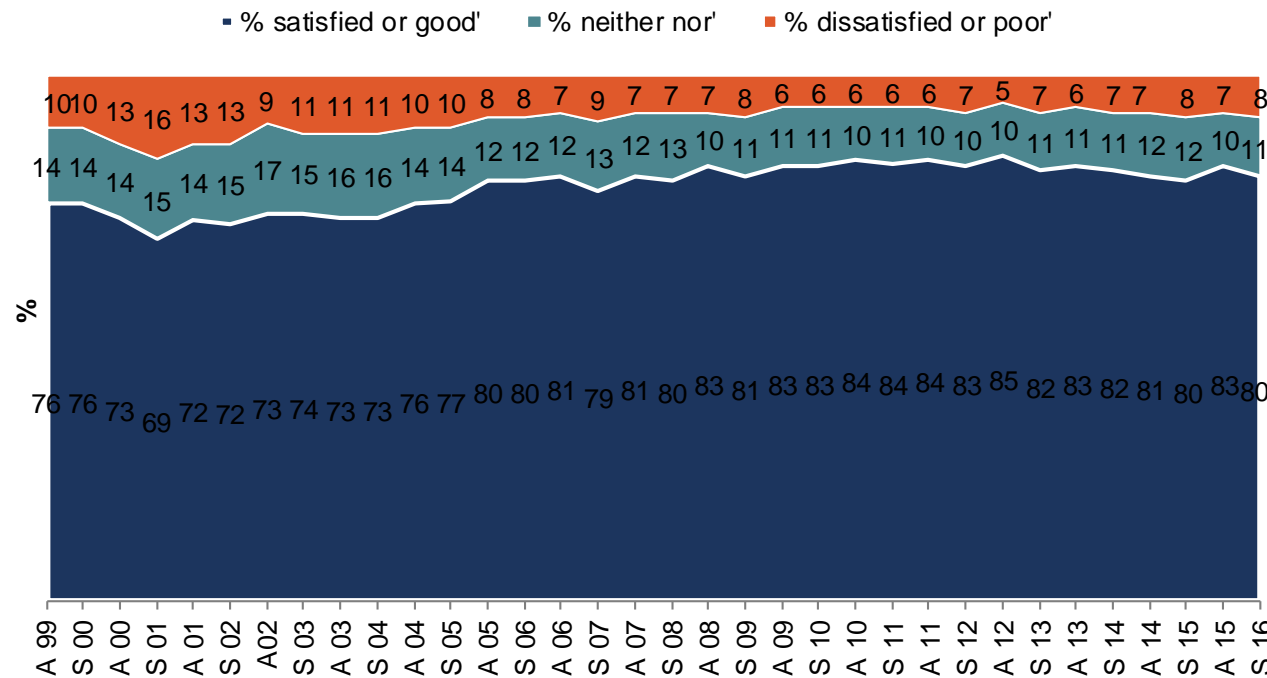


Source: LENNON data



- Since surveys began in 1999 customer satisfaction has increased from 76% to 80%
- The number of customers rating their journey as “satisfied” or “good” is now 1,350 million, up from 708m in 1999, an increase of 91%

## Customers' Overall Satisfaction



## Annual-equivalent journeys in millions rated as "Good" or "Satisfied"

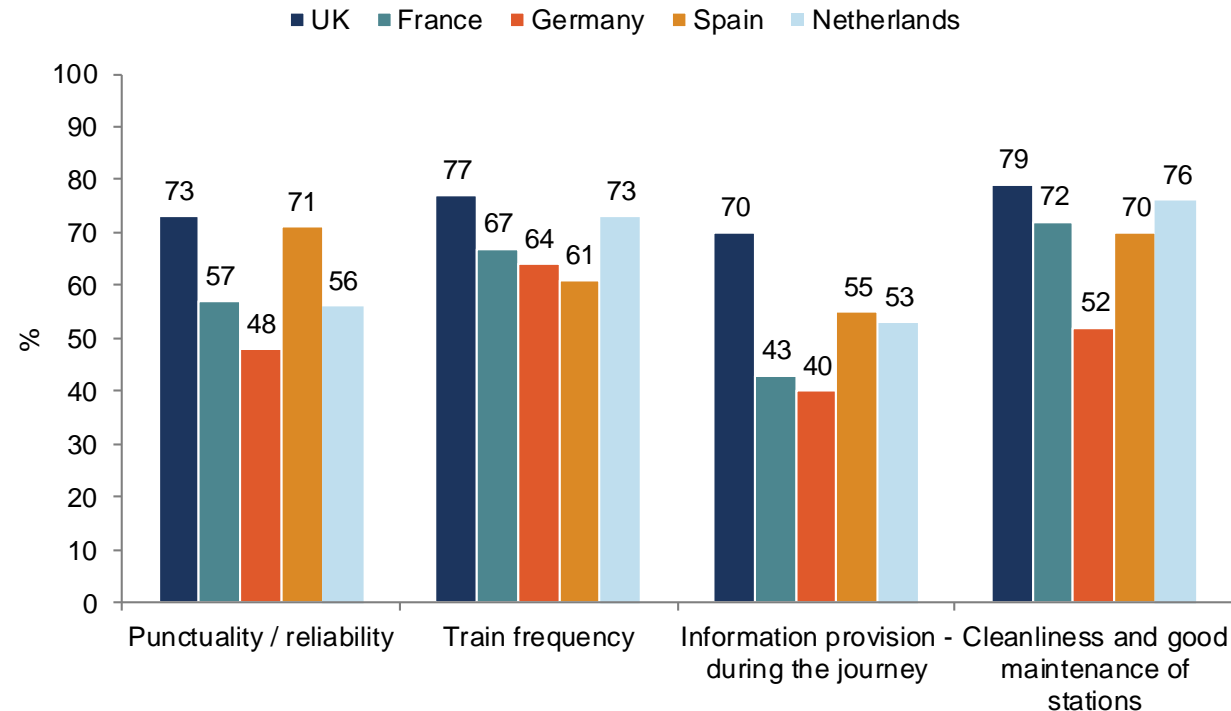
	1999-2000	2015-16	Difference
<b>Journeys (m)</b>	708	1,350	642

Source: ORR data portal and National Rail Passenger Survey

# Customer Satisfaction vs European Peers 2013

- Customers in the UK score rail services higher on a number of measures than do those in France, Germany, Spain and the Netherlands
- Overall, rail customers in the UK were more satisfied than those of any other major European railway

Customers' Satisfaction vs European Peers on Key Metrics





# A railway successful for taxpayers

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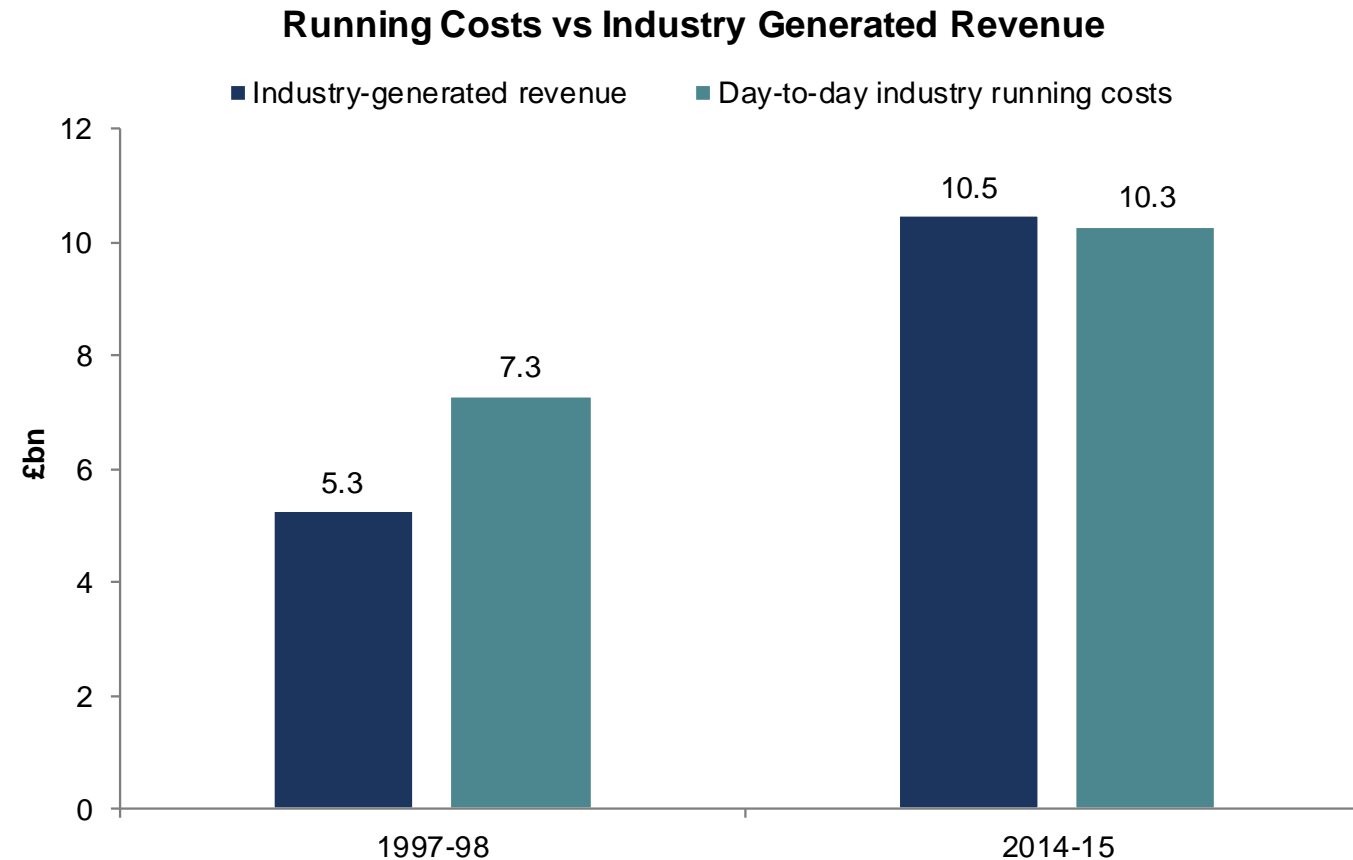


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# Running Costs vs Industry Generated Revenues

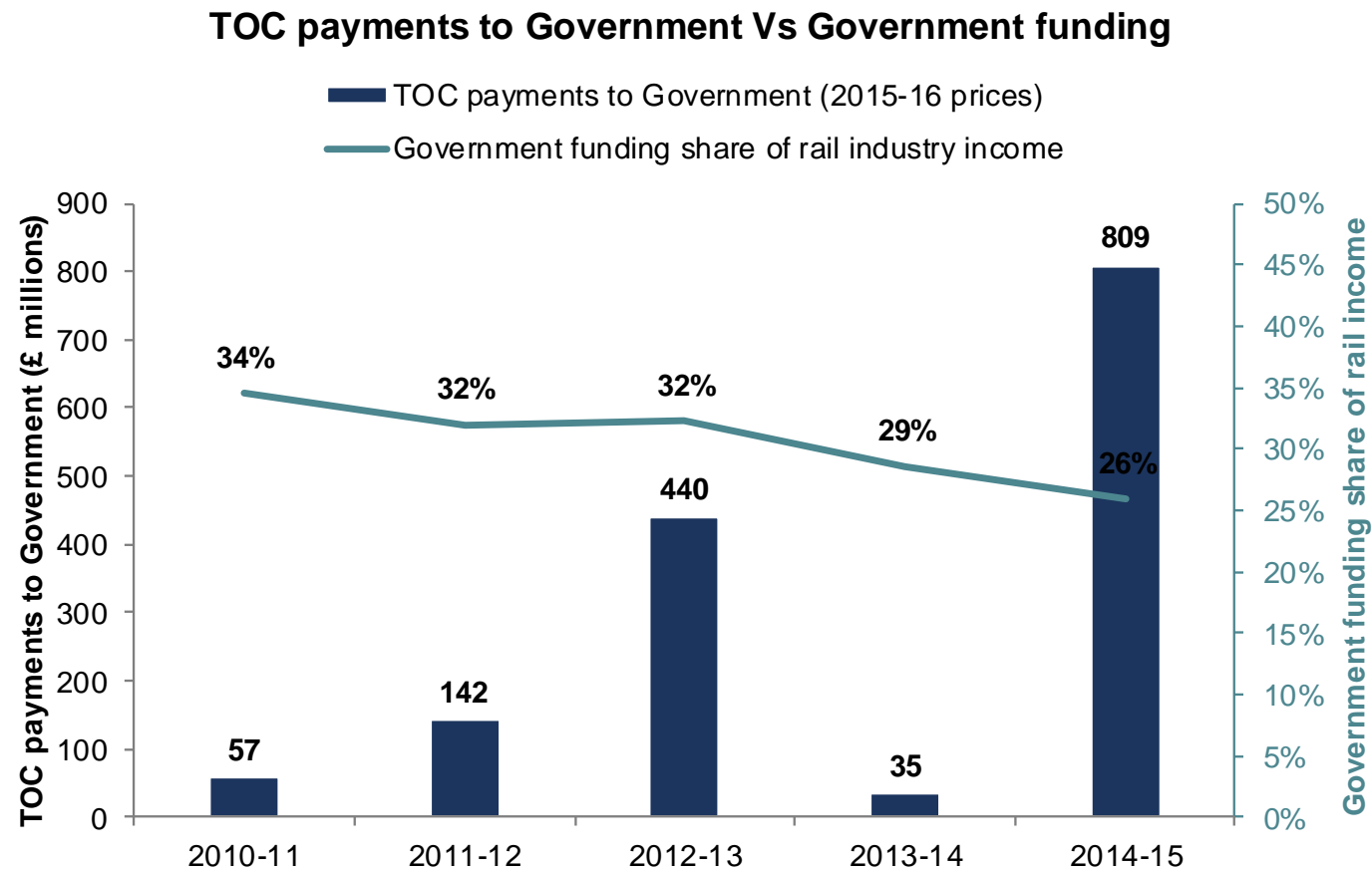
- In 1997-98, the railway ran at a £2bn a year loss in terms of its day-to-day costs, in 2014-15 it more than covered those costs



Note: Day-to-day running costs excludes renewals and enhancements costs  
Source: ORR "GB rail industry financial information 2014-15"

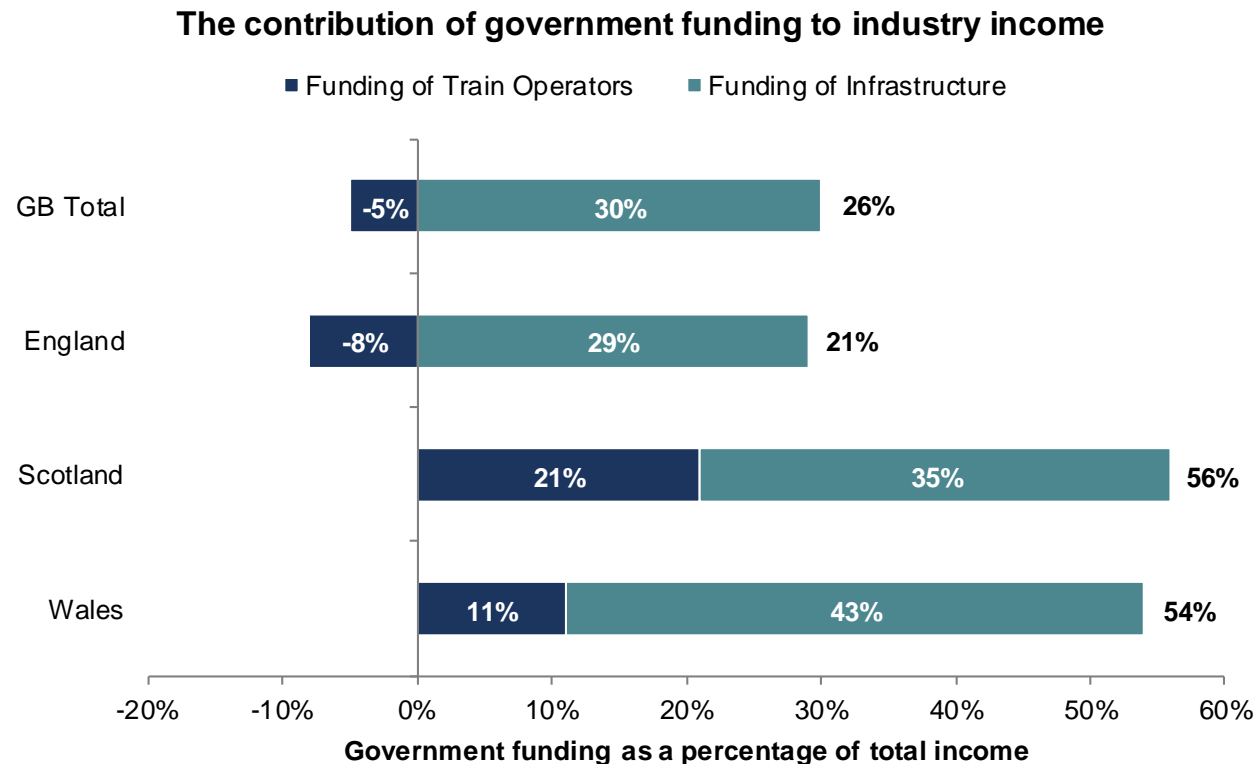
# TOC Payments Vs Government Funding

- Net payments from Train Operating Companies to government increased to £809 million in real terms, while government funding as a share of total rail industry income fell to 26% in 2014-15



Note: As per ORR's GB rail industry financial information 2014-15, government loans to NR are not included  
Source: ORR data portal and ORR "GB rail industry financial information 2014-15" (plus previous releases)

- Government investment in the railway was £3.5bn in 2014-15
- Taken across GB as a whole, train operations make a net contribution to government totalling 5% of industry income

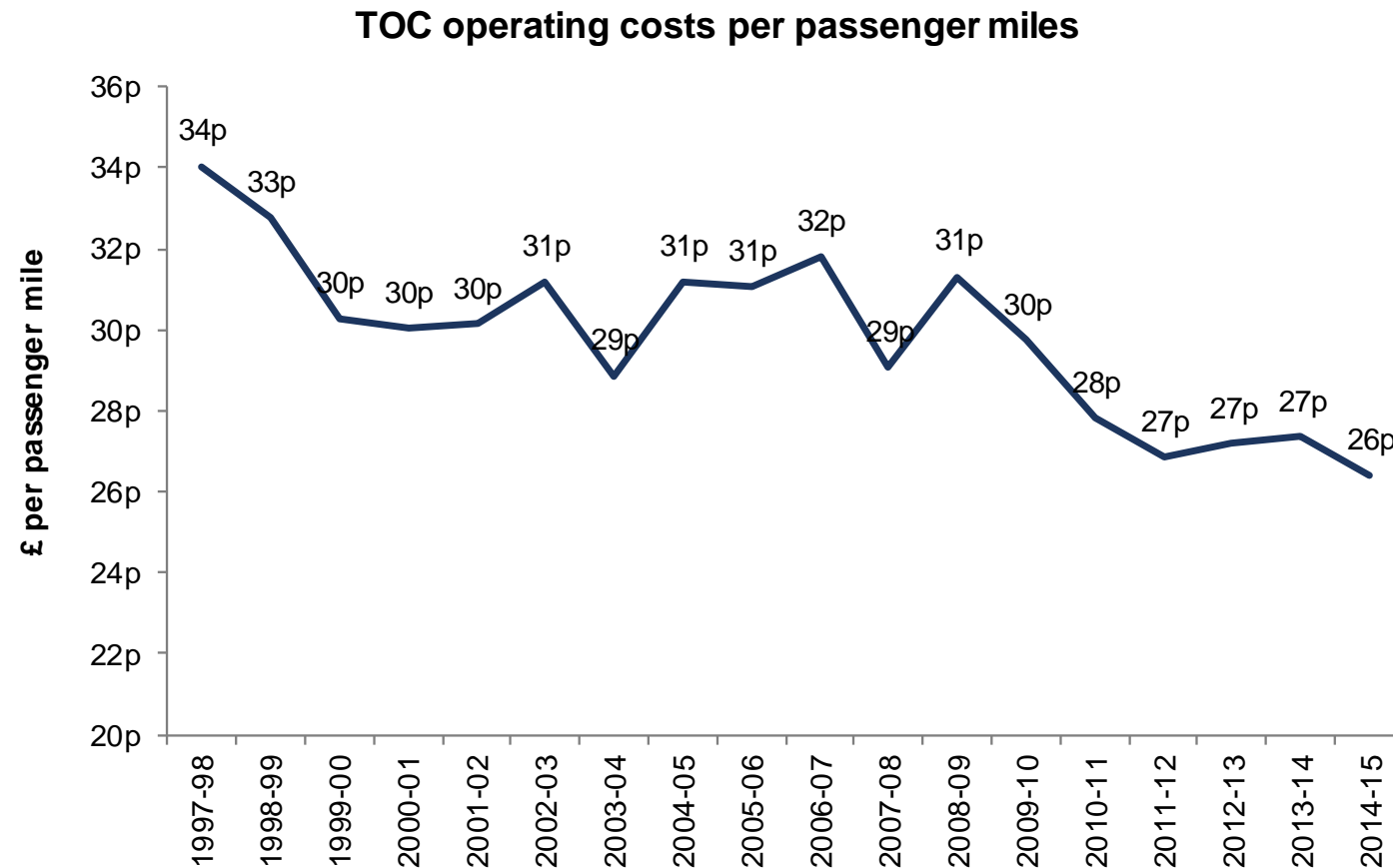


Source: ORR "GB rail industry financial information 2014-15"



# Passenger Train Unit Costs

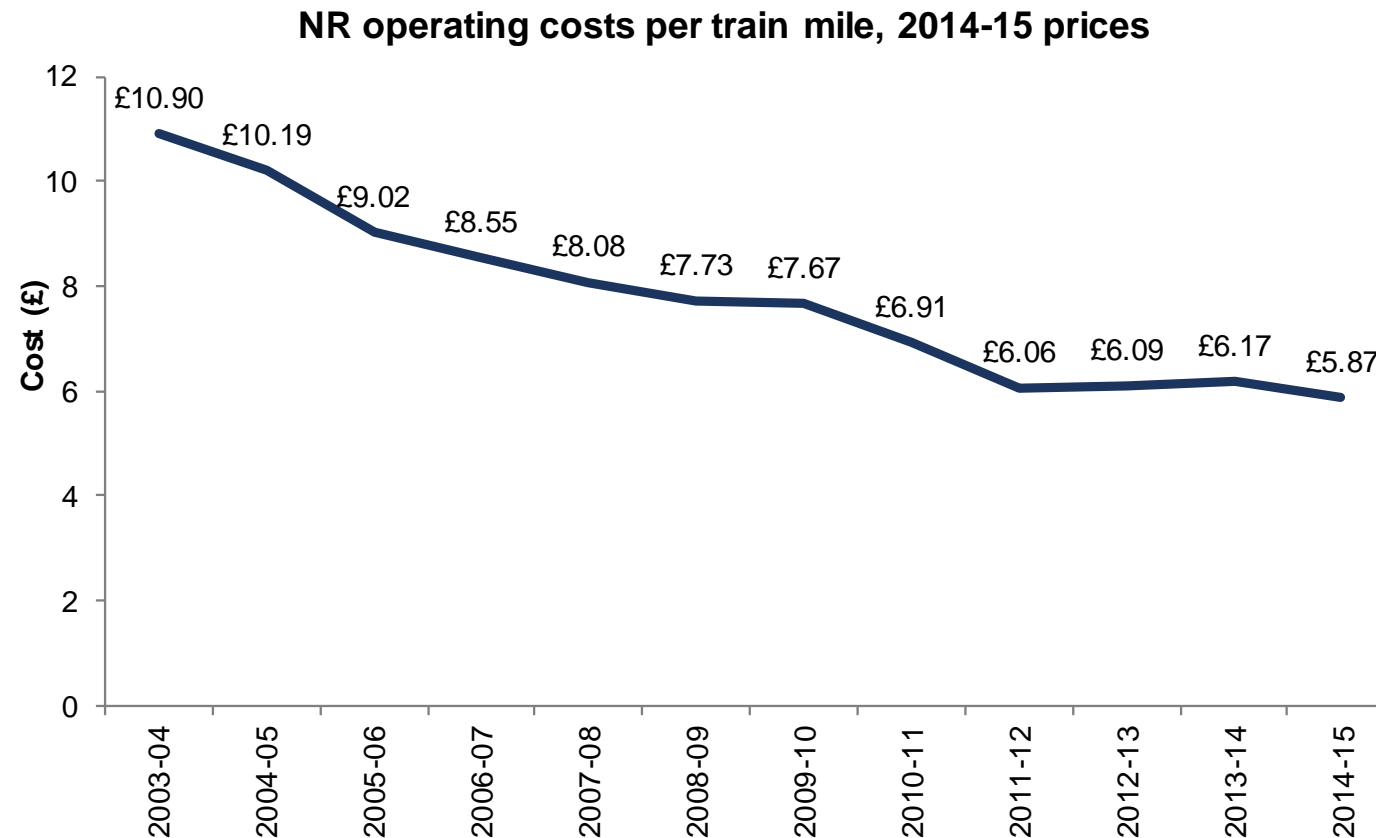
- Since 1997-98, passenger train company costs per passenger mile have declined by 26% in real terms



Note: 'operating margin' (gross of tax) is used as 'profit margin' (net of tax) is not available for the full time series.  
Source: ORR data portal

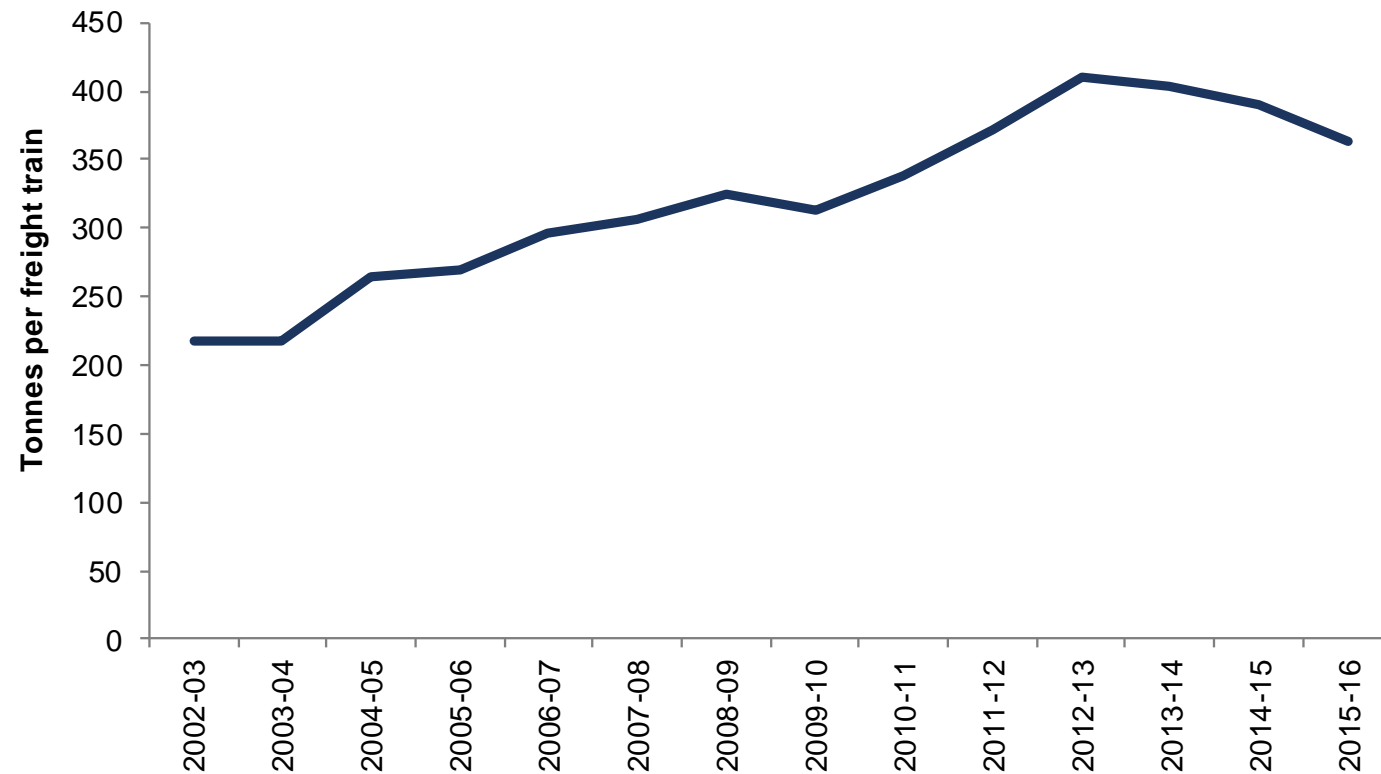
# Infrastructure Costs per Train Mile

- Network Rail operating costs have fallen by 46% since 2003-04
- This reduction is primarily due to the introduction of new technology, innovation and in-sourcing some key activities



- Freight efficiency has improved as longer and heavier freight trains are now in operation. The number of trains has fallen by 41% since 2002-03 but tonnes per freight train have increased by 67%

Productivity of freight services



Source: ORR data portal



# A capacity crunch

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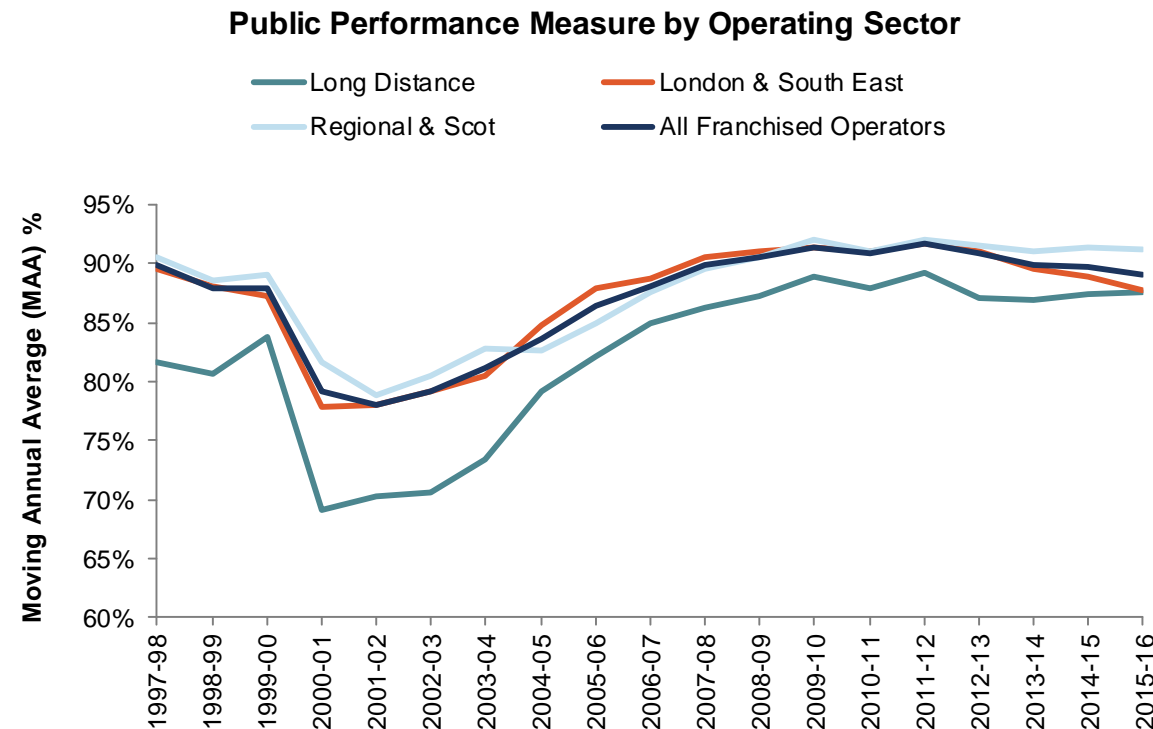


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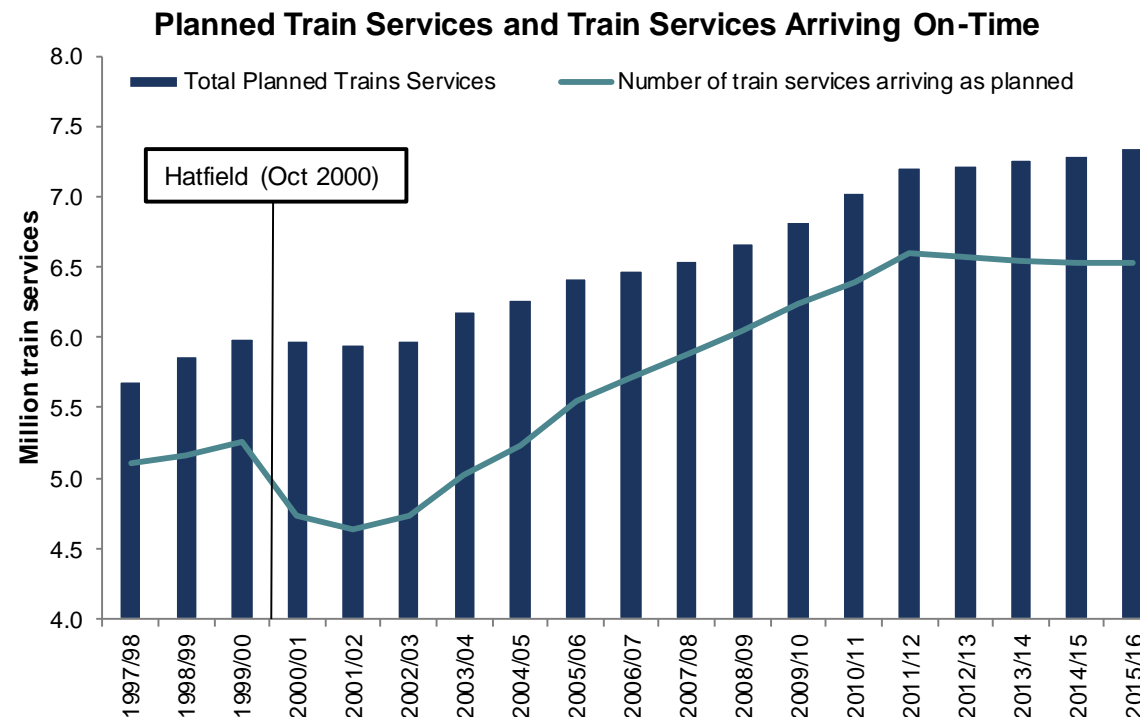


# Punctuality of Passenger Services

- In 2015-16, 89.1% of train services (equivalent to 1.5 bn customers) arrived on time. This equates to 742 million more punctual journeys than in 1997-98
- Punctuality on long distance and regional & Scottish services is static or improving slightly compared to 2012-13 but in London & South East, where the railway is most congested, it is declining



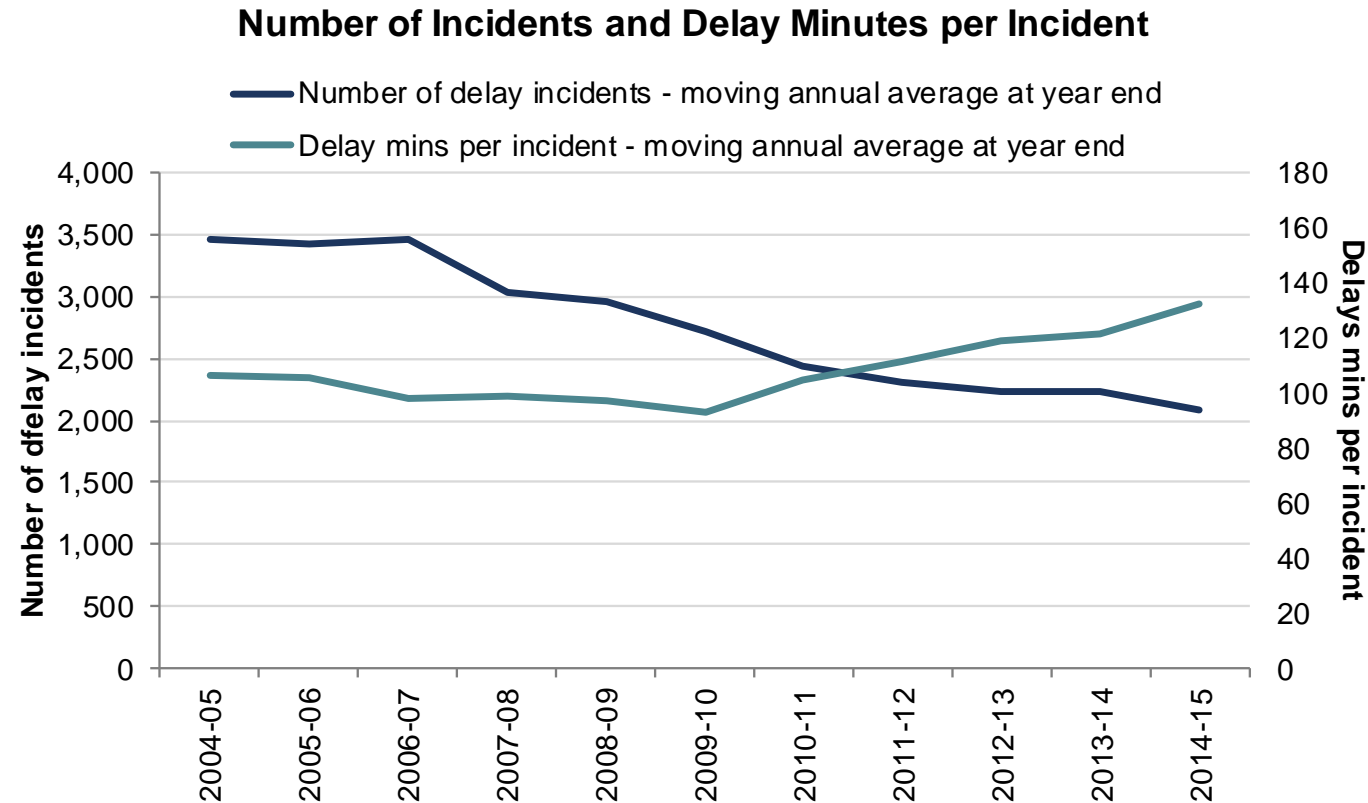
- The number of planned train services has increased by 29% since 1997-98
- 1.4 million more trains ran in 2015-16 compared to 1997-98, over 3,800 extra trains per day
- Until 2011-12 extra services were accommodated on the railway with increasing punctuality





# Number of Incidents and Delay Minutes

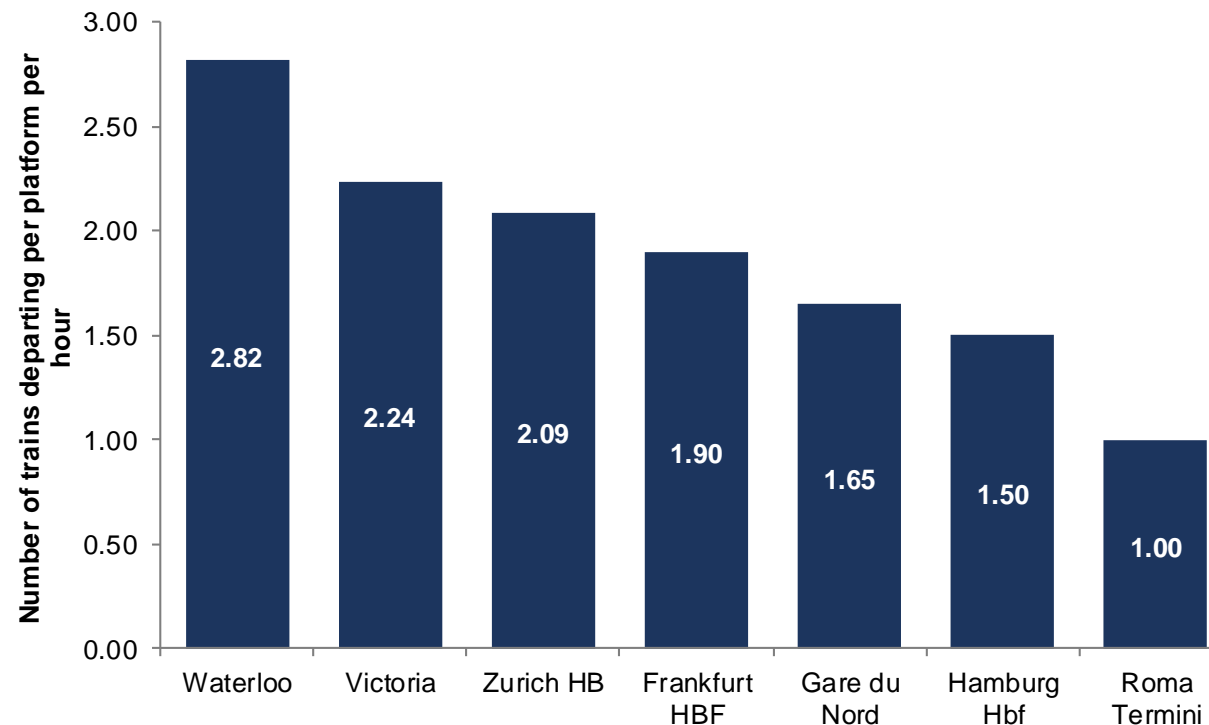
- Individual incidents of delay fell by 40% between 2006-07 and 2014-15
- However, the impact of each delay has grown as the railway is more congested



# Trains at Major Termini vs European Peers

- Compared to key commuter stations in Italy, Germany, France and Switzerland, there are typically more trains departing from key London commuter termini in the peak and the platforms are used more intensively

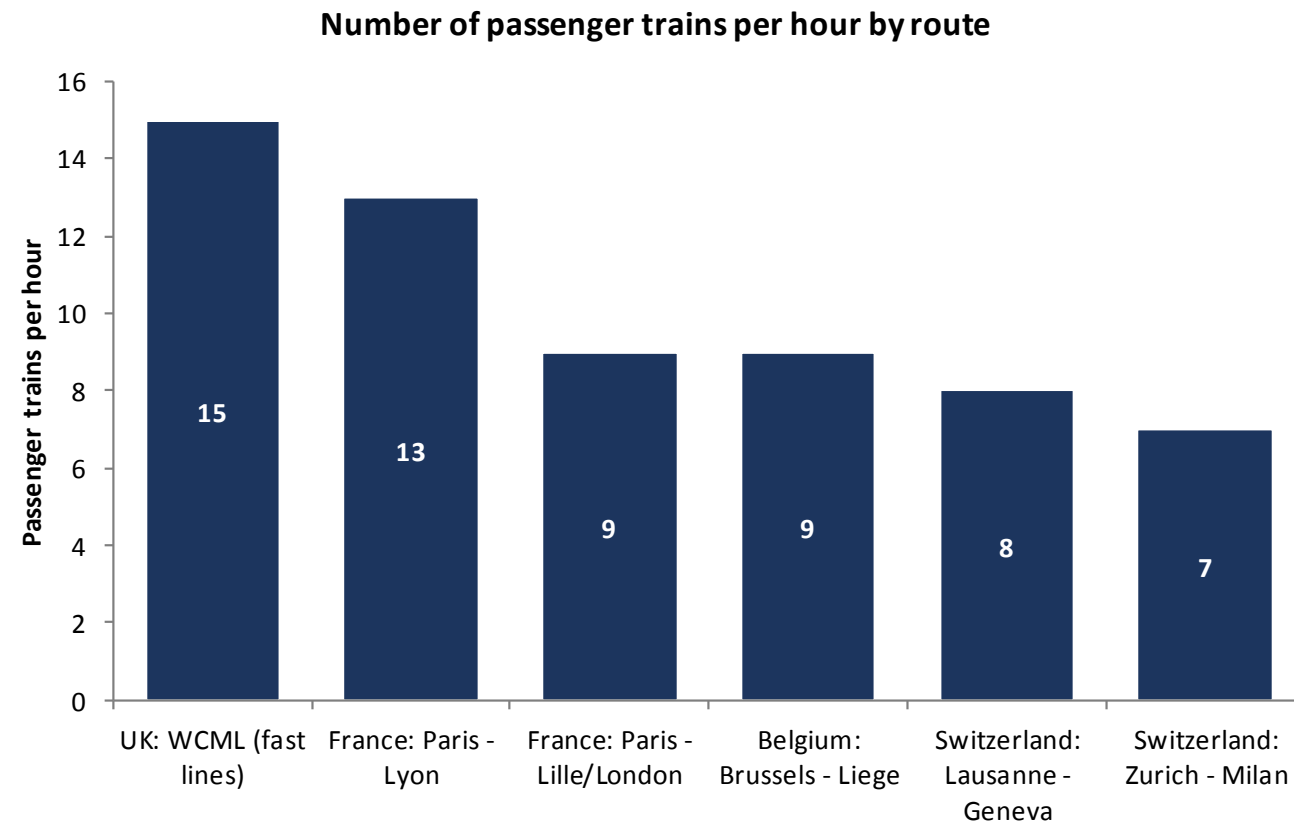
2014/15 network usage efficiency comparison



Source: [www.bahn.de](http://www.bahn.de) and [www.realtimes.com](http://www.realtimes.com)

# Intensity of Use vs European Peers

- Britain's busiest stretch of railway is used more intensively (trains per hour) than comparable European railways, including purpose built high speed railways

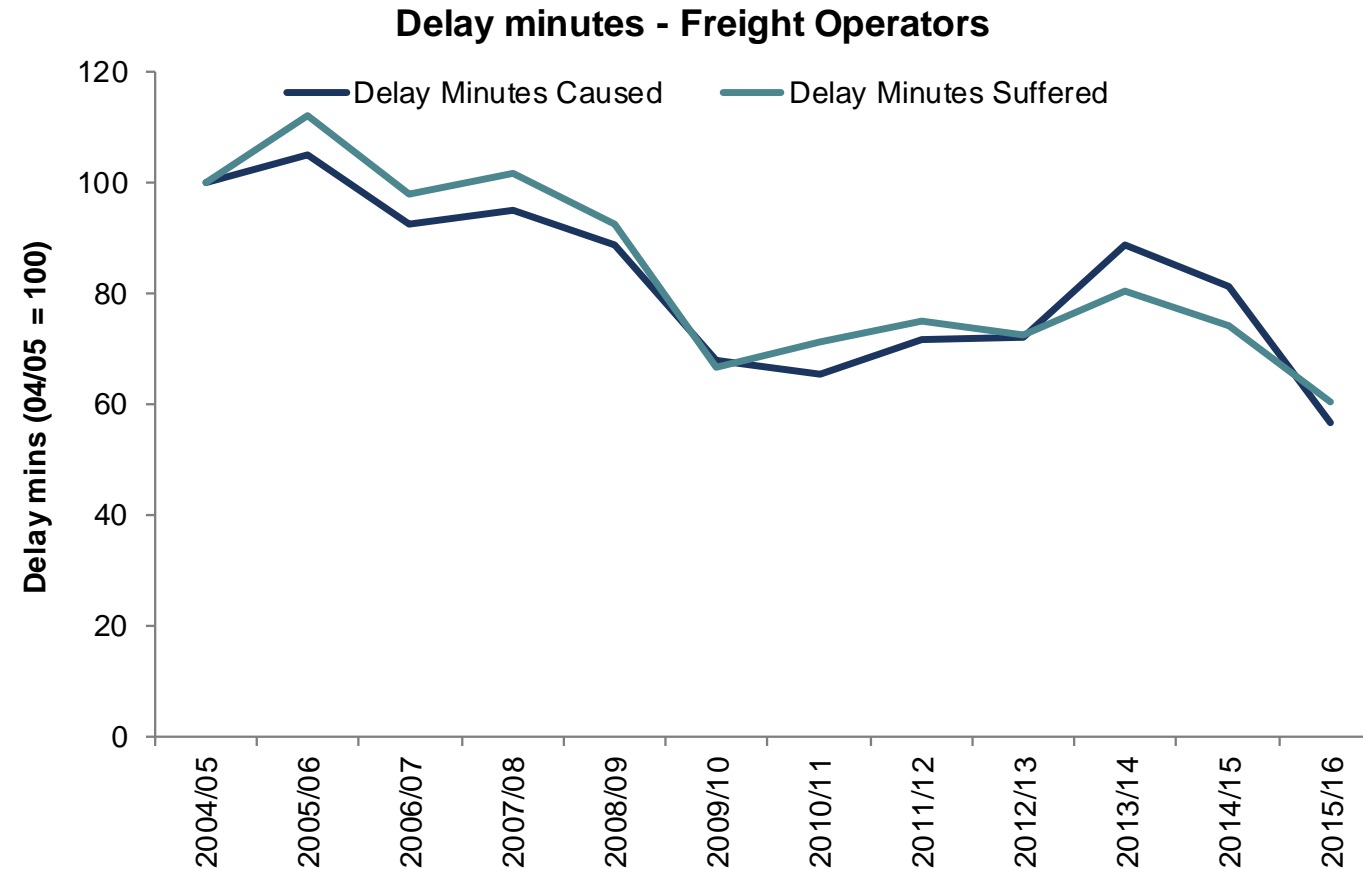


Source: GB working timetable, [www.bahn.de](http://www.bahn.de) and Thomas Cook European timetable, summer 2014. Does not include freight traffic.

Note that routes selected are only high speed services with speed above 140kph.



- Delay minutes suffered by freight companies have reduced by 39.5% since 2004-05. Similarly, delay caused by freight companies has reduced by 43.4%



Source: Network Rail



# Investing for the future

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- Investment has already enabled a 29% increase in services since 1997-98
- Frequency of services on many key long distance routes has doubled

	1997-98	2015-16	% change
Number of planned services per year (m)	5.69	7.34	29%

Source: Network Rail

	Trains per day			Off-peak hourly frequency		
Year	1994	2014	% Change	1994	2014	% Change
Manchester to London	17	47	176%	1	3	200%
Leeds to Edinburgh	2	15	650%	0	1	n/a
London to Norwich	19	36	89%	1	2	100%
Leeds to London (1)	17	32	88%	1	2	100%
London to Sheffield	15	31	107%	1	2	100%
Bristol to London (2)	23	33	43%	1	2	100%
Glasgow Queen Street to Edinburgh (3)	37	62	68%	2	4	100%
Leeds to Huddersfield to Manchester (4)	48	80	67%	3	5	67%
Cardiff to London	22	29	32%	1	2	100%

Source: Network Rail

(1) Virgin East Coast only; excludes East Midlands Trains

(2) Bristol Temple Meads only ; excludes Bristol Parkway

(3) Express services via Falkirk only; excludes other routes

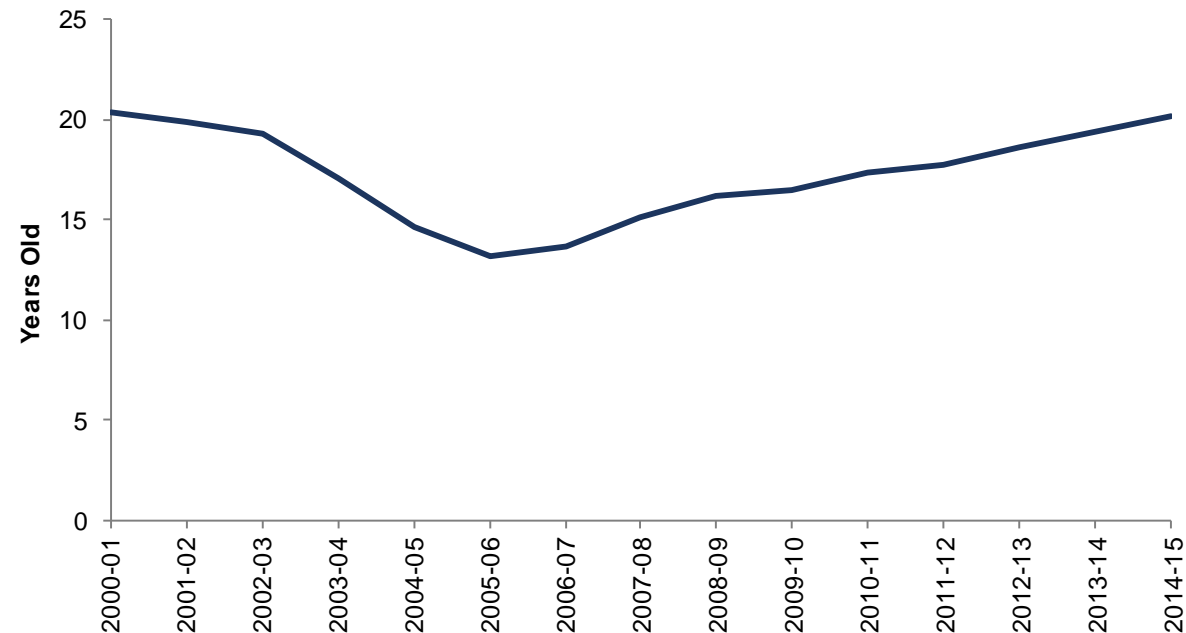
(4) Includes services to Manchester Victoria



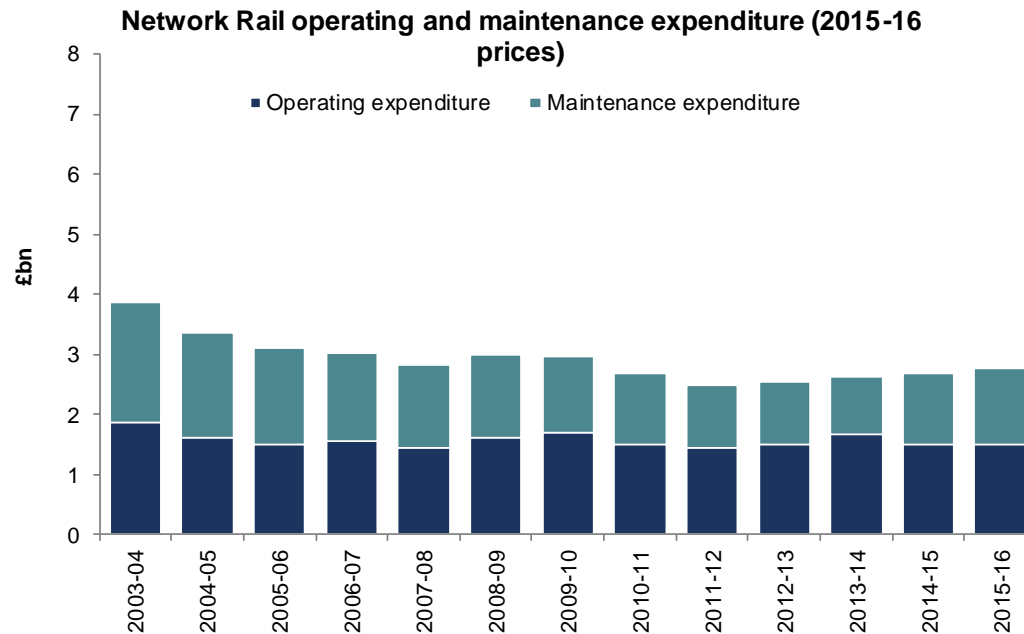
- Compared to 1996-97 there are 2,500 more carriages on the railway, a 25% rise
- The average age of rolling stock will decrease, and the fleet size will increase, with over 5,500 new vehicles due to be delivered by 2020

Change in total fleet size	1996-97	2015-16	Growth
Total vehicles in passenger use	10,400	12,968	25%

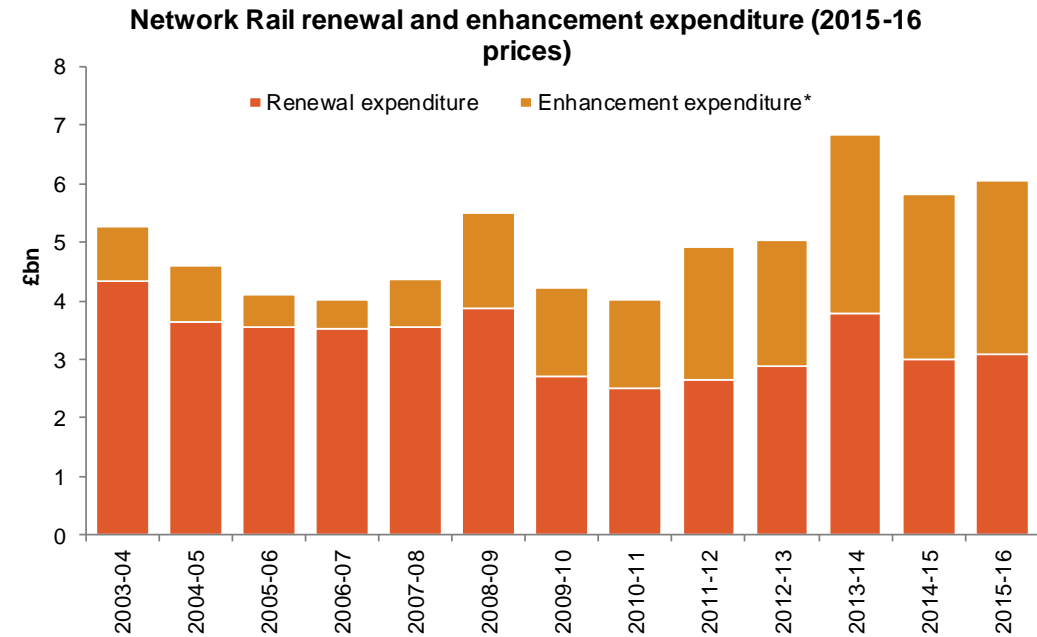
Average Rolling Stock Age



- The cost of running the railway has fallen by 29% since 2003-04
- This has supported a 225% increase in investment by governments on enhancements over the same period



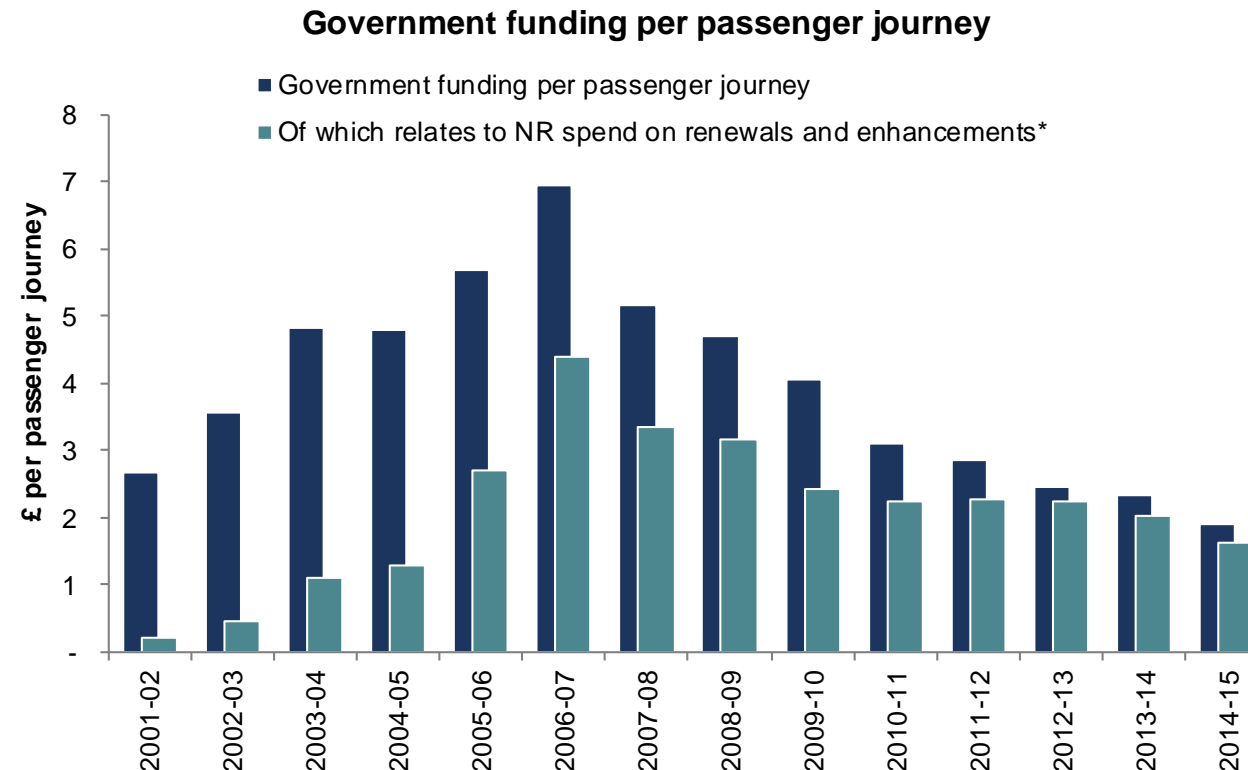
Source: Network Rail Regulatory Accounts



Note: \* Network Rail funded enhancements only  
Source: Network Rail Regulatory Accounts

# Government Funding per Passenger Journey

- In the early 2000s, most of government's funding was to address the maintenance backlog
- Since 2006-07, the majority of government funding has been used to renew and enhance the network

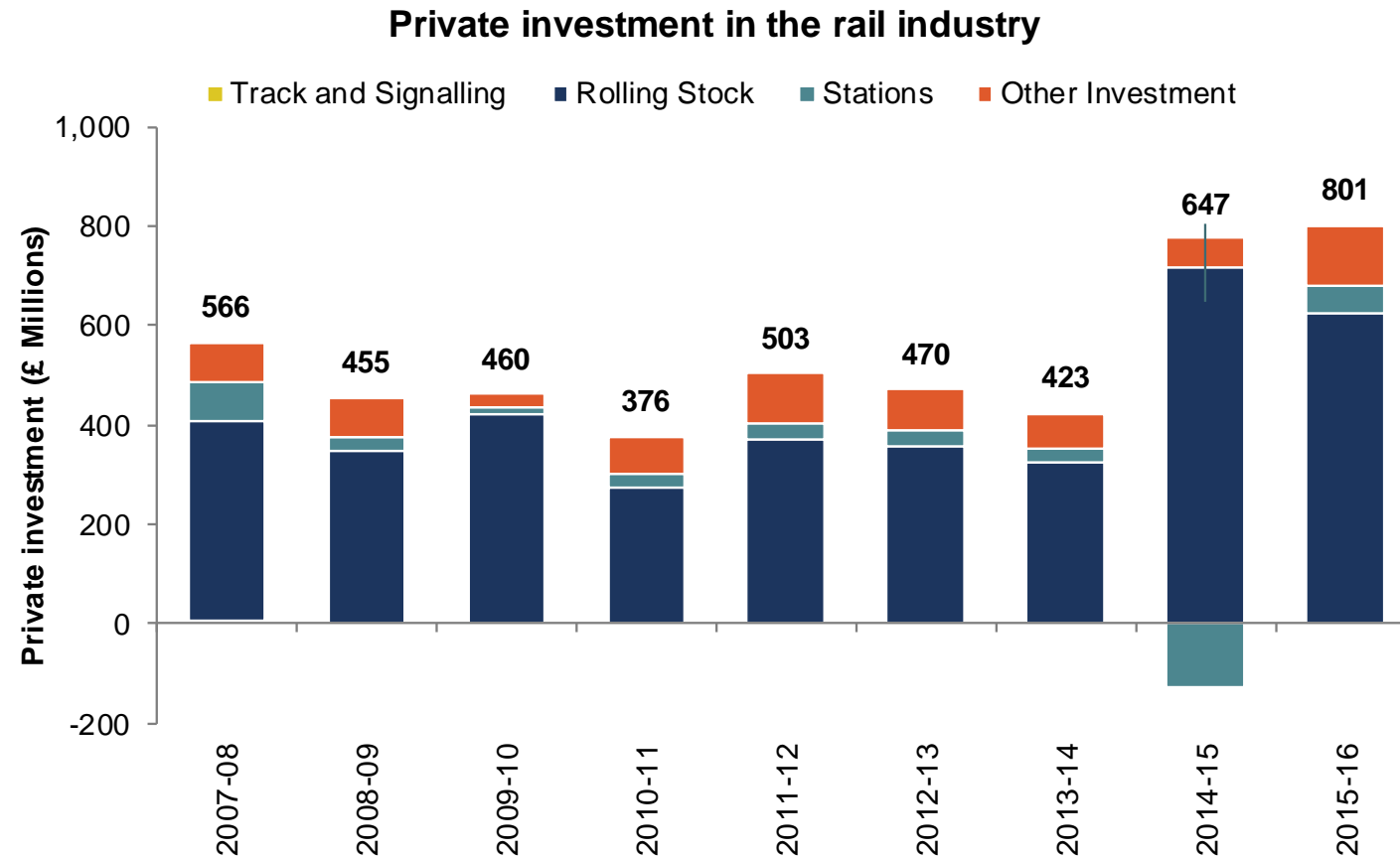


Source: Network Rail Regulatory Accounts and ORR data portal

Note NR spend on renewals and enhancements calculated as NR Income minus NR operations and maintenance costs



- Private investment in rail has increased 41.6% since 2007-08 driven by the increased investment in rolling stock, up 55.3% to £622m in 2015-16



Note: In 2014-15 there were a large number of rail yards sold to Network Rail which is included in the 'Stations' category.  
Source: ORR data portal



# Methodology

- All data is the most recent data available at the time of compiling
- Where possible, data is from 1997-98 as this was the first full financial year after all franchises had been let
- Earliest data available from the most reliable data sources presented whenever data from 1997-98 is not available
- RPI has been used where figures are adjusted for inflation and set at 2015-16 prices

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