



Department for Transport

# Domestic Road Freight Statistics, United Kingdom 2016

## About this release

This statistical release summarises the latest road freight statistics from the Continuing Survey of Road Goods Transport Great Britain (CSRG T GB). The survey measures the activity of **GB-registered** heavy goods vehicles (HGVs) operating **across the UK**.

This release also summarises some economic and environmental measures about HGVs and the road freight industry.

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## Domestic road freight activity increases to record highs in 2016

In 2016, for GB-registered HGVs there were...

1.89 billion tonnes



↑ 15%

170 billion tonne kilometres



↑ 12%

19.2 billion kilometres



↑ 5%

Between 2015 and 2016, the amount of:

- ▶ **goods lifted** by GB-registered heavy goods vehicles (HGVs) operating in the UK increased by 15% to 1.89 billion tonnes; a record high since recording began in 1990.
- ▶ **goods moved** increased by 12% to 170 billion tonne kilometres; a record high since recording began in 1990.
- ▶ **vehicle kilometres** increased by 5% to 19.2 billion vehicle kilometres.

## Definitions

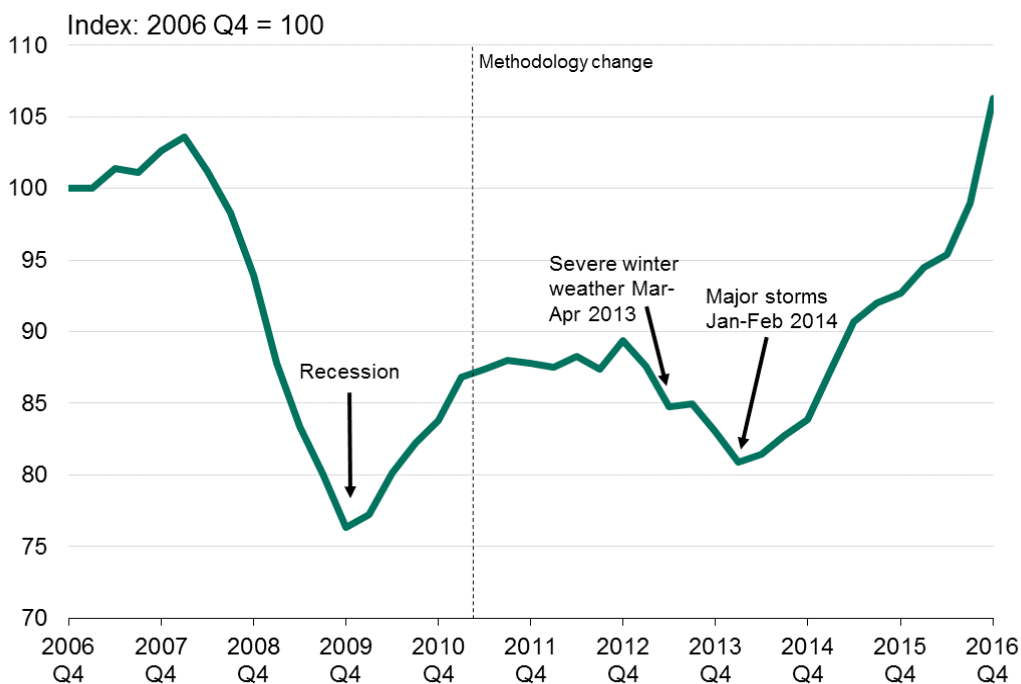
**Goods lifted:** the weight of goods carried, measured in tonnes.

**Goods moved:** the weight of goods carried, multiplied by the distance hauled, measured in tonne kilometres.

## Overall trends in domestic road freight

The amount of **goods lifted** and **goods moved** by GB-registered heavy goods vehicles (HGVs) operating in the UK has shown a broadly upward trend since 1990 - with notable exceptions during recession periods. The amount of **goods lifted** (1.89 billion tonnes) and **goods moved** (170 billion tonne kilometres) in 2016 both reached record highs since recording began in 1990. However over the same period HGV **vehicle kilometres** have shown a declining trend, with the 2016 value (19.2 billion vehicle kilometres) 18% lower than 1998's historic peak of 23.3 billion vehicle kilometres. These opposing trends suggest that the road freight sector has become more efficient over time

**Chart 1: Trend in goods lifted by GB-registered HGVs, rolling 4 quarter totals, 2006 Q4 to 2016 Q4, indexed to 2006 Q4** [[Table RFS0101](#)]

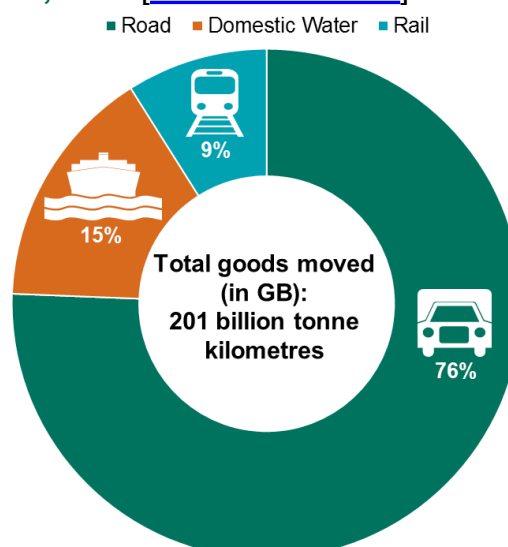


### Note:

Between 2011 quarter 1 and 2, a number of changes were made to how the road freight survey data were processed. Caution should therefore be used when making comparisons over periods denoted by dotted lines in this publication. See the [Road Freight Statistics methodology note](#) for more information.

During the recession of 2008-09, the amount of **goods lifted** fell by 26% from the previous high of 1.84 billion tonnes in the year ending 2008 Q1 to 1.36 billion tonnes in the year ending 2009 Q4.

**Chart 2: Goods moved within Great Britain by mode of transportation, 2015** [[Table TSGB0401](#)]








Roads continue to be the primary method of transporting freight within the UK. In 2015, just over three quarters (76%) of all **goods moved** were by road, with the remainder by water (15%) and rail (9%).

## Commodities and dangerous goods

### Commodities

In 2016, the 5 most common commodity divisions lifted by GB-registered HGVs in the UK were: [\[Table RFS0103\]](#)

Rank	Commodity	Goods lifted (million tonnes)	Proportion of all goods lifted
1	 Food products	326	17%
2	 Metal ore and other mining and quarrying	316	17%
3	 Waste related products	263	14%
4	 Groupage	194	10%
5	 Glass, cement and other non-metallic mineral products	156	8%

### Definitions

**Commodity:** goods are classified into commodity divisions and groups by the 'standard goods classification for transport statistics 2007'.

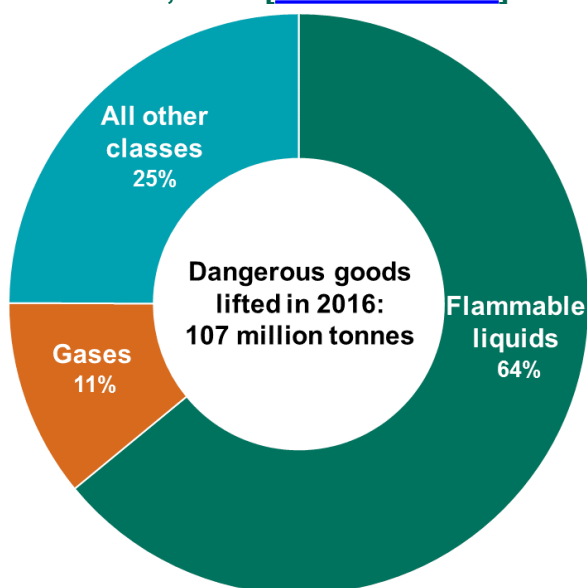
**Groupage:** when, for mixed consignments, no single commodity makes up 75% or more of the consignment weight.

In 2016, the largest commodity group, at 312 million tonnes, was 'Stone, sand, gravel, clay, peat and other mining/quarrying products; which represented 17% of all goods lifted in 2016.

### Dangerous goods

In 2016, 6% of all goods lifted domestically were classified as dangerous (107 million tonnes). Dangerous goods tend to predominantly be flammable liquids. In 2016, almost two-thirds (64%) of all dangerous goods were flammable liquids (68 million tonnes), including alcoholic beverages, crude petroleum, fuel derivative and some chemicals.

**Chart 3: Dangerous goods lifted by GB-registered HGVs by dangerous goods class, 2016** [\[Table RFS0110\]](#)



### The 9 dangerous goods classes

- Explosives
- Gases
- Flammable liquids
- Flammable solids
- Oxidisers & organic peroxides
- Toxic & infectious substances
- Radioactive materials
- Corrosive substances
- Miscellaneous substances

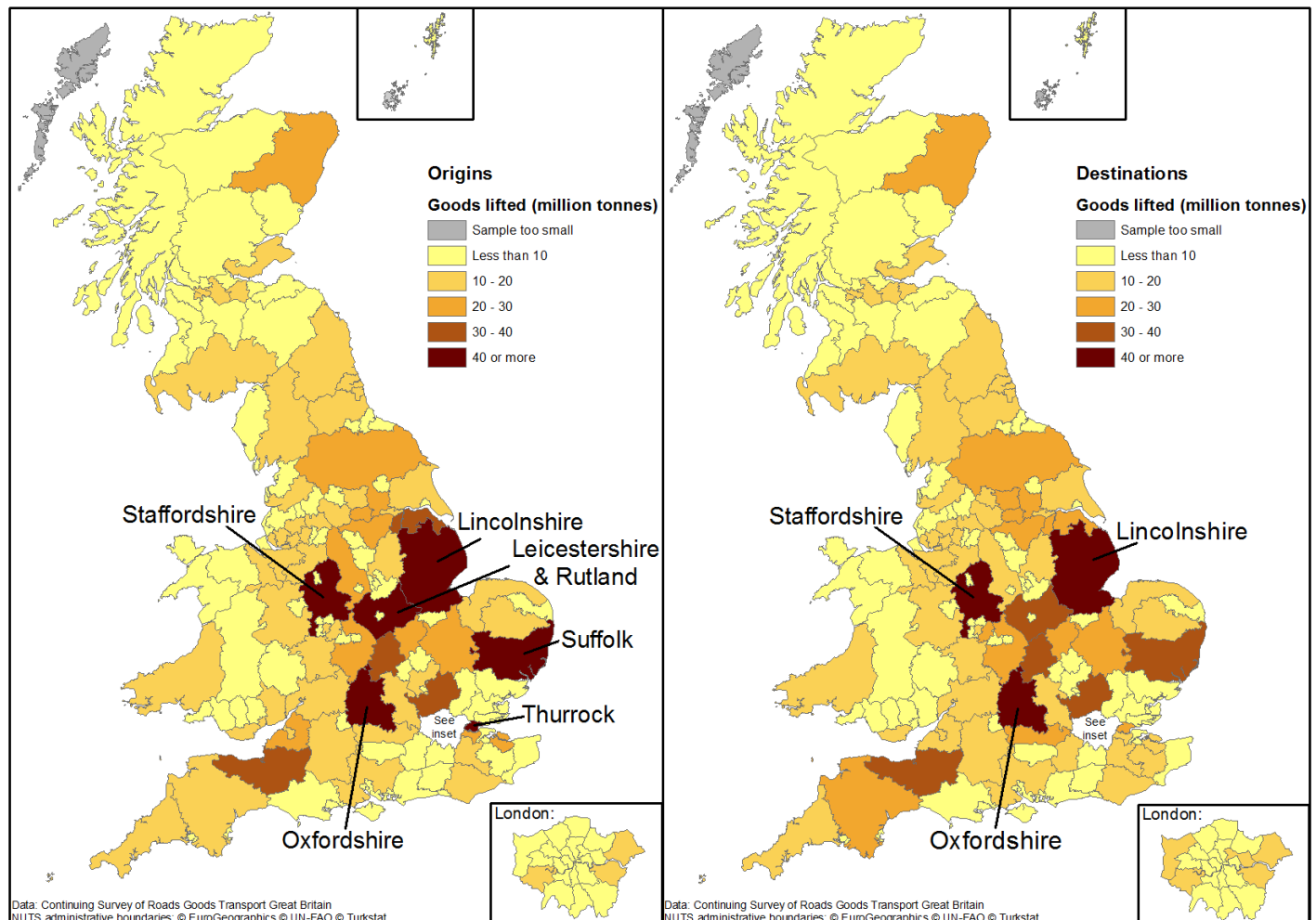
Although CSRGT GB responses are validated, whether goods are deemed dangerous can be open to interpretation, thus these results place a greater degree of trust in the respondents interpretation.

## Origins and Destinations of road freight

Each road freight consignment has an origin and a destination. These are assigned by DfT to NUTS regions, an EU-wide geography system based on existing national administrative boundaries of different geographical levels. At the NUTS3 level, there are 173 regions in the UK, which are broadly equivalent to combining 1-3 local authorities districts and/or unitary authorities.

**Chart 4: Goods lifted by origin and destination, NUTS3 level, 2016**

[\[Table RFS0137\]](#) [\[Table RFS0139\]](#)



NUTS3 regions in Northern Ireland are not shown in this chart as activity solely by GB-registered HGVs is unrepresentative of the full amount of activity there.

In 2016 the NUTS3 regions with the greatest amount of road freight tonnage originating there were:

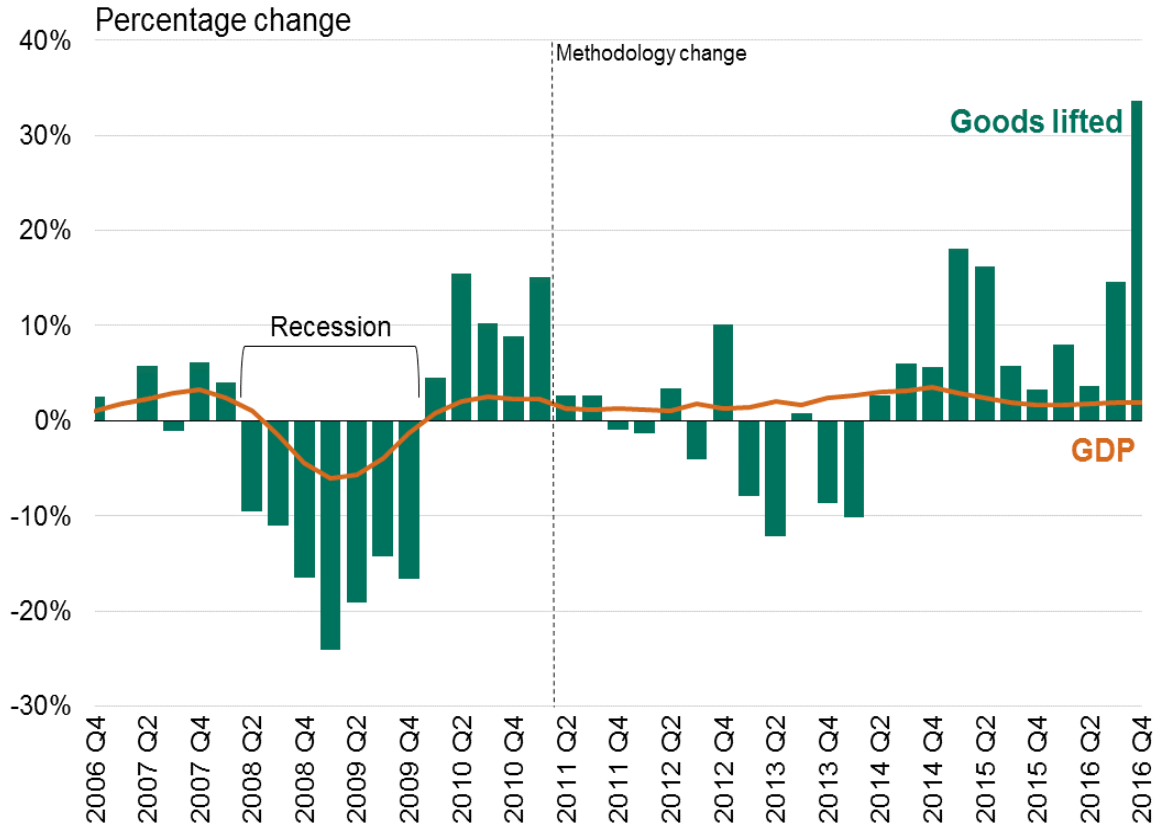
- ▶ **Suffolk**, which contains the UK's largest container port at Felixstowe (45.4 million tonnes)
- ▶ **Oxfordshire**, a biotech and high-end motorsport production area (45.3 million tonnes)
- ▶ **Leicestershire & Rutland**, a farming and food & drink production area (45.2 million tonnes)
- ▶ **Staffordshire**, a large manufacturing area (45.1 million tonnes)
- ▶ **Lincolnshire**, a large agricultural food production area (42.9 million tonnes)
- ▶ **Thurrock**, which contains the primary port route into London at Tilbury (42.3 million tonnes)

Oxfordshire (48.9 million tonnes), Staffordshire (47.0 million tonnes) and Lincolnshire (40.3 million tonnes) were also the most common destinations by tonnage.

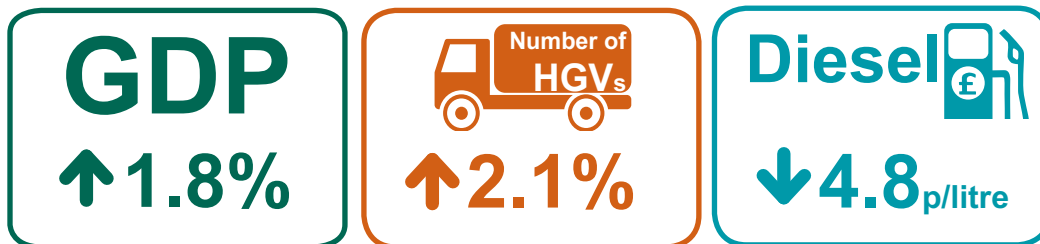
## Economic activity of the road freight sector

Growth in the amount of **goods lifted** (tonnes) by road has generally been in line with wider UK economic growth although some deviation was seen between 2012 and 2014 which could be attributed to a number of factors including extreme UK weather.

**Chart 5: Growth in goods lifted and GDP, quarter on previous year's same quarter, 2006 Q4 to 2016 Q4**

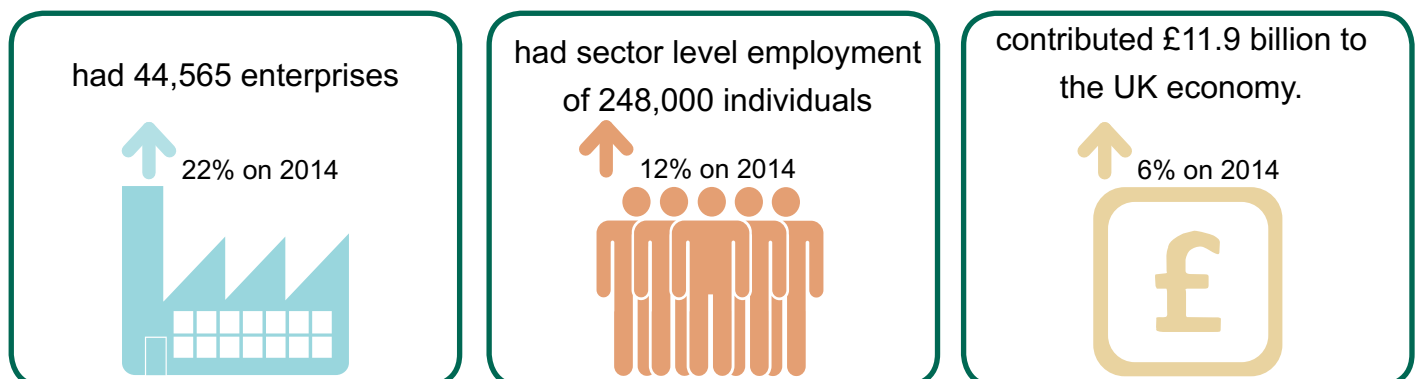


The year 2016 compared to 2015 in context:



### Road freight enterprises

Latest estimates from the [Annual Business Survey](#) show that in 2015 the road freight sector:



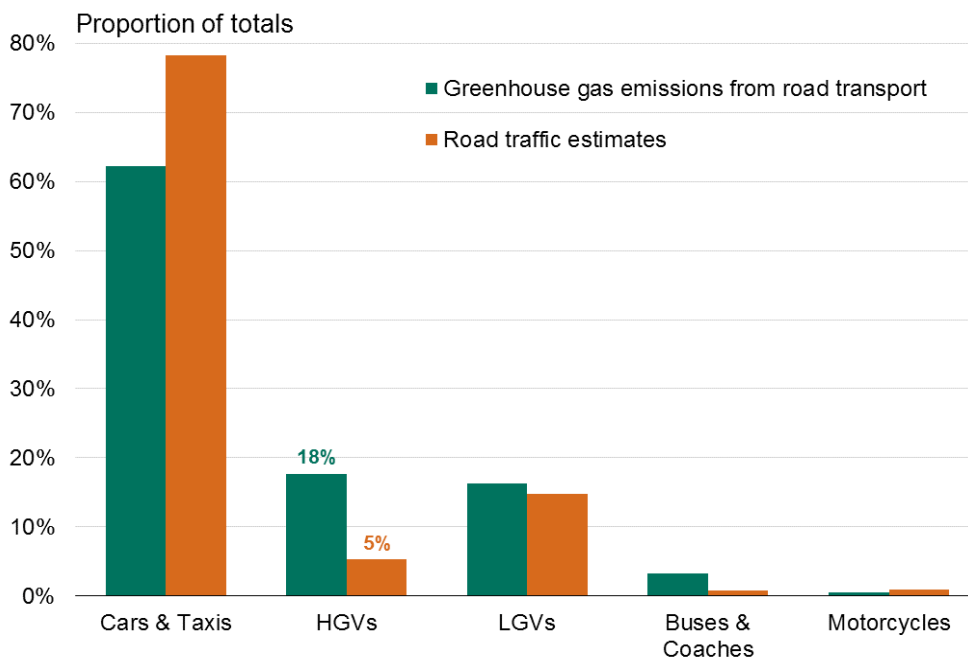
## HGV efficiency and the environment

### HGV traffic and emissions

GB [Road Traffic Statistic](#) and BEIS's [Final UK Greenhouse Gas emissions](#) estimate that:

- ▶ HGV traffic levels were unchanged between 2015 and 2016 at 26.8 billion vehicle kilometre
- ▶ 91% of all HGV traffic was on major roads, with 46% on motorway
- ▶ HGVs produced 19.6 billion tonnes of greenhouse gas emissions in 2015
- ▶ 98% of all HGV greenhouse gas emissions were carbon dioxide emissions
- ▶ HGVs account for 18% of all greenhouse gas emissions from road transport despite only representing 5% of the traffic fl



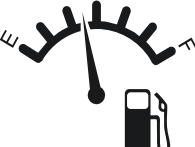
**Chart 6: GB road Traffic estimates vs UK greenhouse gas emissions from road transport, 2015** [[Table TRA0101](#)] [[Greenhouse gas emissions, BEIS](#)]



#### Note:

Road Traffic Statistics estimates are different to those derived from the Department's road freight surveys mainly due to differing coverage; further information on the differences is available in the [methodology note on discrepancies between Road Freight and Road Traffic HGV traffic estimates](#).

### Empty running, loading factor and fuel consumption

	2006	2016
 Empty running <a href="#">[Table RFS0117]</a>	27%	30%
 Loading factor <a href="#">[Table RFS0117]</a>	0.56	0.68
 Fuel consumption of diesel powered HGVs <a href="#">[Table RFS0141]</a>	8.8 MPG	8.5 MPG

#### Definitions

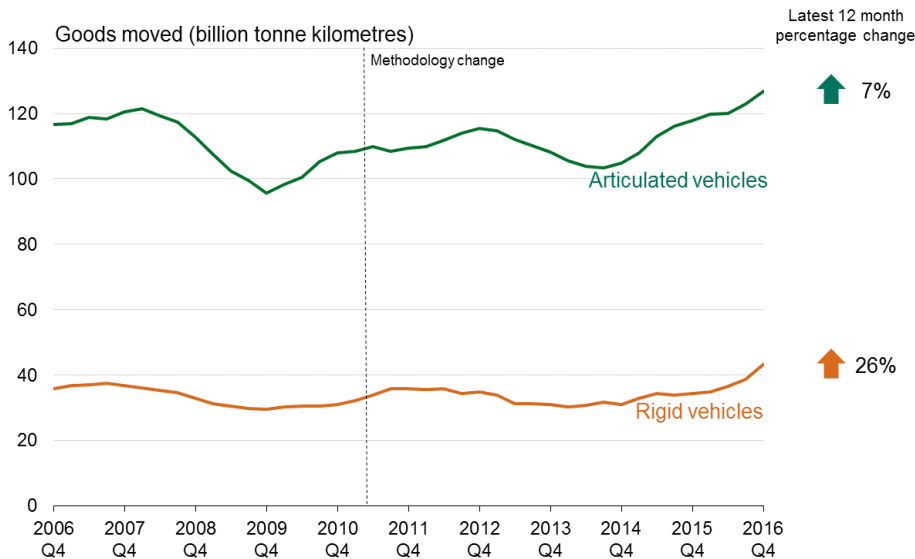
**Empty running:** vehicle kilometres driven empty, defined as carrying zero tonnes.

**Loading factor:** the amount of goods that were moved, as a proportion of the total amount of goods that could have been moved, if when HGVs were loaded they were always fully laden.

## Types of vehicles

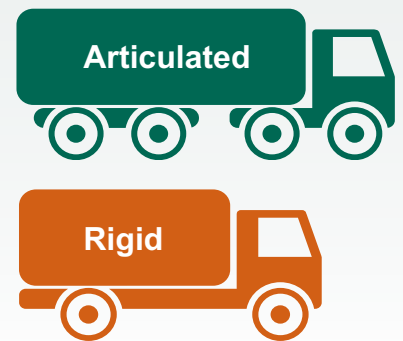
HGVs in the UK range from a gross vehicle weight of 3.5 tonnes to 44 tonnes, with articulated vehicles - which tend to be larger, heavier vehicles - carrying the bulk of road freight. In 2016, 75% of goods moved were carried by articulated vehicles, with this proportion having remained slightly above three quarters since 1996.

**Chart 7: Goods moved by GB-registered HGVs, by type of vehicle, rolling 4 quarter totals, 2006 Q4 to 2016 Q4** [[Table RFS0107](#)]



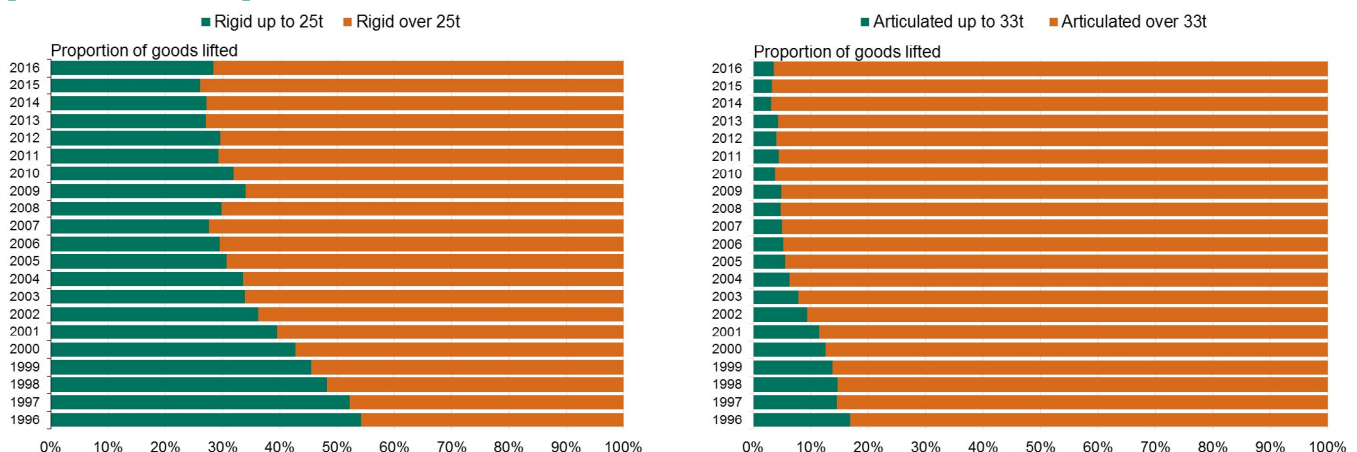
### Definitions

**Gross vehicle weight:** the total weight of the vehicle plus its carrying capacity (3.5 to 44t).



There has been a shift towards using larger HGVs when transporting goods. The proportion of goods lifted by the largest rigid HGVs (over 25 tonnes) increased from 46% in 1996 to 72% to 2016; whilst the proportion lifted by the largest articulated HGVs (over 33 tonnes) increased from 83% in 1996 to 96% in 2016. Over this period loading factors and tonnage lifted have also increased, whilst vehicle kilometres has decreased. This suggests that the sector has looked to consolidate loads into larger vehicles to increase efficiencies and reduce costs

**Chart 8: Goods lifted by GB-registered HGVs, by type and weight of vehicle, 1996-2016** [[Table RFS0106](#)]



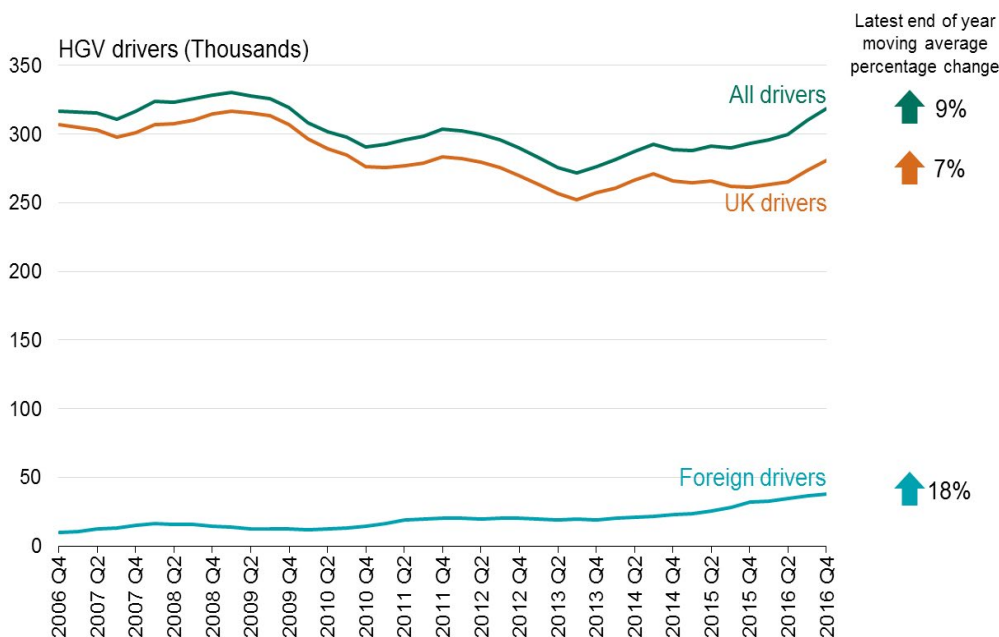
The average length of haul (tonne kilometres, divided by tonnes lifted) for GB-registered HGVs in 2016 was 90 kilometres. Average lengths of haul have fluctuated around 90km for the last 20 years. The average length of haul for articulated HGVs (122 kilometres in 2016) continues to be longer than that of rigid HGVs (51 kilometres) [[Table RFS0105](#)].

## Overview of the road freight sector

### HGV driver numbers

[Labour Force Survey](#) estimates show that there was on average around 318,700 HGV drivers employed across all sectors in 2016, 9% more than the 2015 average of around 293,400 drivers. Since 2006, HGV driver numbers have fluctuated, most notably with falls in employment during the recession period of 2008-09. Post recession, driver numbers have recovered to previous levels, with the 2016 average being 1% higher than the 2006 average of 316,900. During this 10 year period the proportion of HGV drivers that were foreign-nationals increased from 3% in 2006 to 12% in 2016, an increase which is also reflected across the economy (7% in 2006 to 1% in 2016).

**Chart 9: HGV drivers in employment by nationality, United Kingdom, 4 quarter averages, 2006 Q4 to 2016 Q4** [[Labour Force Survey, ONS](#)]



### Gender split

In 2016...



...most of the HGV drivers in employment in the UK were male.

### HGV driver working time and pay

The Road Transport (Working Time) Regulations 2005 state that HGV drivers weekly working time must not exceed an average of 48 hours. The [Annual Survey of Hours and Earnings](#) shows that the average (median) number of total paid hours worked per week by HGV drivers, including overtime, has been 48 hours since the regulation came into effect in 2005. In 2016, the average (median) gross hourly pay for HGV drivers was £11.03

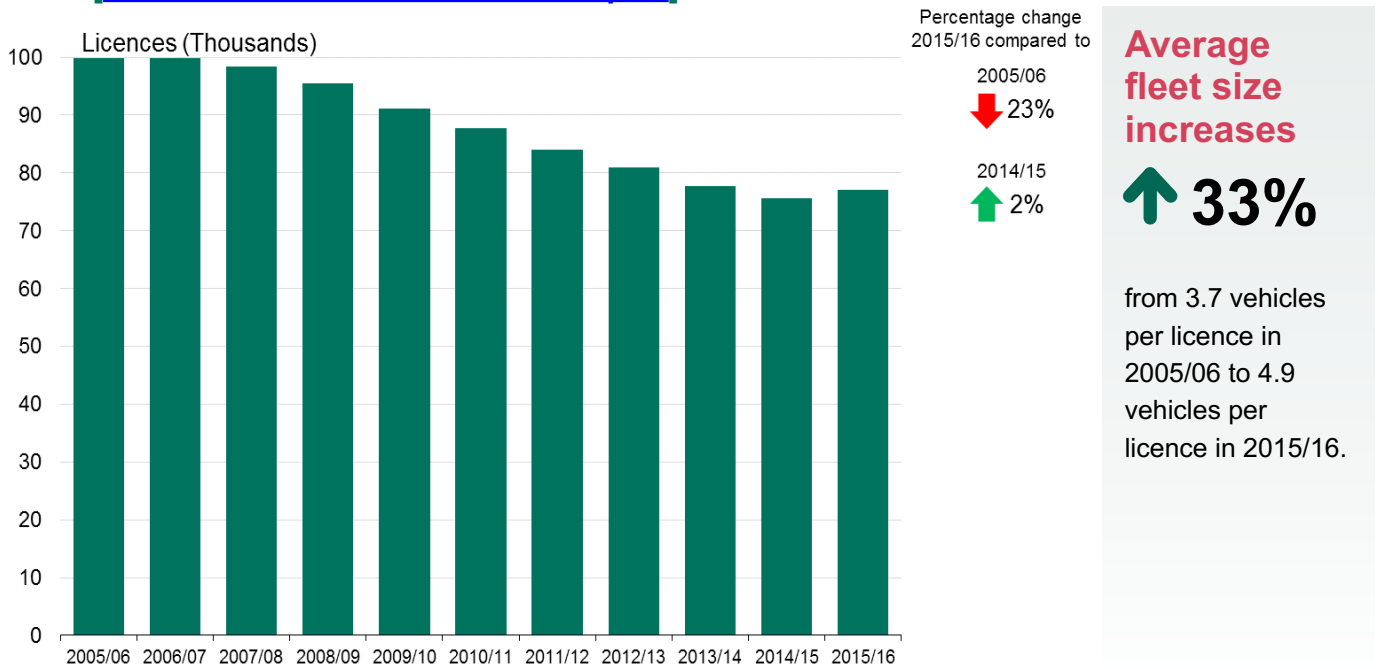
### Fleet size and operator licences

The latest [vehicle licensing statistics](#) show that at the end of 2016 there were around 493,600 HGVs licensed in Great Britain, of which around 404,800 were taxed as 'goods vehicles' (the remaining vehicles would be HGVs exempt from tax and those taxed as private HGVs), 2% more than at the end of 2015.

The number of goods vehicle operator licences in issue in Great Britain declined from just under 100,000 in 2005/06 to 77,000 in 2015/16. However during this same period, the average size of operators' fleets has increased from 3.7 vehicles to 4.9 vehicles. This means fewer licences are in issue but more vehicles are being specified under these licences



**Chart 10: Goods vehicle operator licences in issue, Great Britain, 2005/06 to 2015/16** [[Traffic Commissioners' annual report](#)]

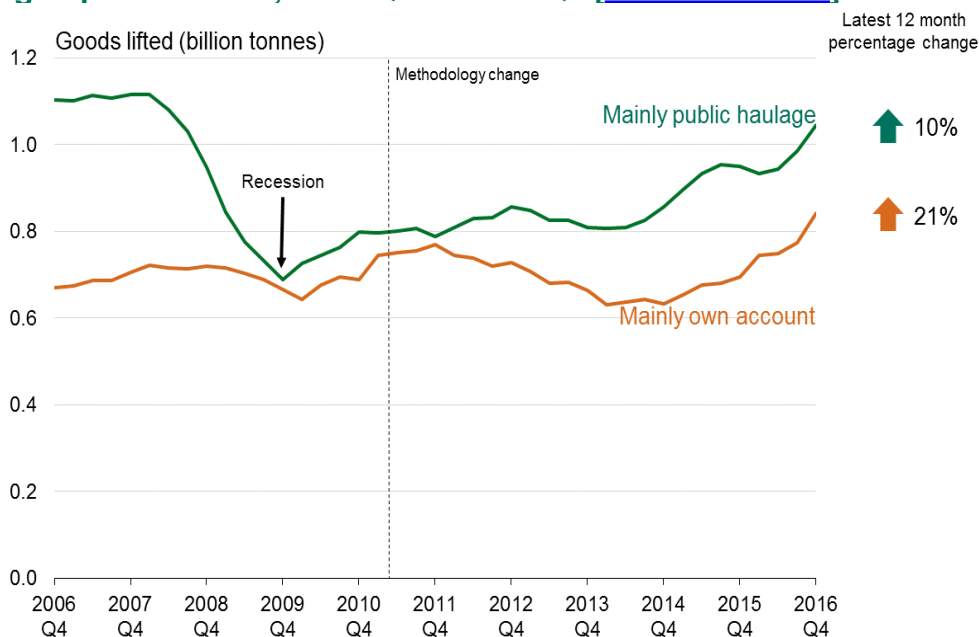


**Mode of operation**

Road freight activity can be split between own account operators and public haulage operators. Public haulage operators usually carry a higher proportion of activity than own account operators, with public haulage operators representing 55% of all goods lifted in 2016.

The recession had a much greater impact on public haulage operators. Between the year ending 2008 Q1 and the year ending 2009 Q4, the amount of goods lifted by public haulage operators decreased by 38%, compared to an 8% decrease for own account operators during the same period. Since the recession, public haulage operators have seen a greater increase in activity.

**Chart 11: Goods lifted by GB-registered HGVs, by mode of working, rolling 4 quarter totals, 2006 Q4 to 2016 Q4** [[Table RFS0108](#)]



**Definitions**

**Own account operators:** those who carry goods only for their own trade or business.

**Public haulage operators:** those who carry goods for other companies or individuals.

## Users and uses of statistics

Road freight statistics are a key source of management information on the use of the country's infrastructure. Its main use occurs across various types of public and private bodies: the statistical office of the European Union (Eurostat); local and central government, such as the Office for National Statistics and Highways England; local town and transport planning bodies; commercial organisations, such as haulage operators and transport consultants; and academics.

Users are mainly interested in information such as the origins and destinations of journeys, length of haul, empty running and the pattern of freight from abroad on UK roads. The statistics also support policies on freight, road safety and reducing congestion and pollution.

## Strengths and weaknesses of data

The figures in this release are mainly derived from the Continuing Survey of Road Goods Transport Great Britain (CSRGT GB) which provides information on the activity of GB-registered HGVs operating across the UK only. As such, the statistics exclude HGVs registered in Northern Ireland, foreign-registered HGVs and vehicles with a gross vehicle weight of 3.5 tonnes or less (Light Goods Vehicles and Vans). Also excluded from CSRGT GB is the activity of HGVs registered in Great Britain when operating outside of the UK.

The CSRGT GB is a continuous survey which collects a range of information on freight movements from a stratified sample of HGVs. Figures are weighted to be representative of the HGV population however, like any statistical source, there are limitations. For example, as a sample survey resulting figures are estimates with associated sampling error.

Guidance on the methods used to compile these statistics and further information can be found in the [Road Freight Statistics notes and definitions](#). Sample sizes that the statistics are based upon and sampling error estimates can be found within [Table RFS0143](#), broken down by type and weight of vehicle.

Between 2011 and 2012, a number of changes were made to how the three Department for Transport road freight surveys were processed. Caution should therefore be used for statistics based on the three freight surveys when making comparisons over time. See the [Road Freight Statistics methodology note](#) for more information.

This release and its contents partly rely on the use of administrative data from DVLA and DVSA. DfT have assessed the impact of this on the quality of these statistics, a report on which can be found in the [Quality assurance of administrative data sources: Driver Vehicle Licensing Agency](#) and [Quality assurance of administrative data sources: Driver Vehicle Standards Agency](#).

## Background notes

Accompanying data tables give further detail on the key results presented in this statistical release and statistics on other road freight topics, including the international activity of UK-registered HGVs. These data tables are available here: <https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics>

This release also collates statistics from a number of published sources that are revised and updated throughout the year. The data for this release were extracted in July 2017, and users can refer to the links below for the most recent or revised data available for each of the sources used, and also caveats relating to these sources.

- ▶ United Kingdom National Accounts; Office for National Statistics: <http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/index.html>
- ▶ Fuel prices, Monthly and annual prices of road fuels and petroleum products; Department for Business, Energy & Industrial Strategy: <https://www.gov.uk/government/statistical-data-sets/oil-and-petroleum-products-monthly-statistics>
- ▶ Annual Business Survey; Office for National Statistics: <http://www.ons.gov.uk/ons/rel/abs/annual-business-survey/index.html>
- ▶ Road traffic statistics; Department for Transport: <https://www.gov.uk/government/collections/road-traffic-statistic>
- ▶ Final UK greenhouse gas emissions; Department for Business, Energy & Industrial Strategy: <https://www.gov.uk/government/collections/final-uk-greenhouse-gas-emissions-national-statistics>
- ▶ Employment of HGV drivers, Labour Force Survey; Office for National Statistics: <http://www.ons.gov.uk/ons/rel/lms/labour-force-survey-employment-status-by-occupation/index.html>
- ▶ Annual Survey of Hours and Earnings; Office for National Statistics: <http://www.ons.gov.uk/ons/rel/ashe/annual-survey-of-hours-and-earnings/index.html>
- ▶ Vehicle licensing statistics for HGVs; Department for Transport: <https://www.gov.uk/government/statistical-data-sets/veh05-licensed-heavy-goods-vehicles>
- ▶ Goods vehicle operator licences; Traffic Commissioners annual reports: <https://www.gov.uk/government/collections/traffic-commissioners-annual-report>

Details of ministers and officials who receive pre-release access to these statistics up to 24 hours before release can be found here: <https://www.gov.uk/government/publications/road-freight-statistics-pre-release-access-list>.



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