



Department
for Transport

Road Traffic Estimates: Great Britain 2017

Methodology change

The Department for Transport has undertaken a review of the methodology used to produce the road traffic estimates. User engagement was sought through published reports. The review has now concluded and the recommended changes have been implemented in this release. More information about the methodology changes can be found on [page 35](#).

About this release

This release presents the latest annual estimates of traffic on Great Britain's roads. It looks at recent and long term trends in traffic broken down by vehicle type, road category and geographic area, in the context of related statistics. Traffic statistics are mostly presented in units of vehicle miles, which combines the number of vehicles on the road and how far they drive.

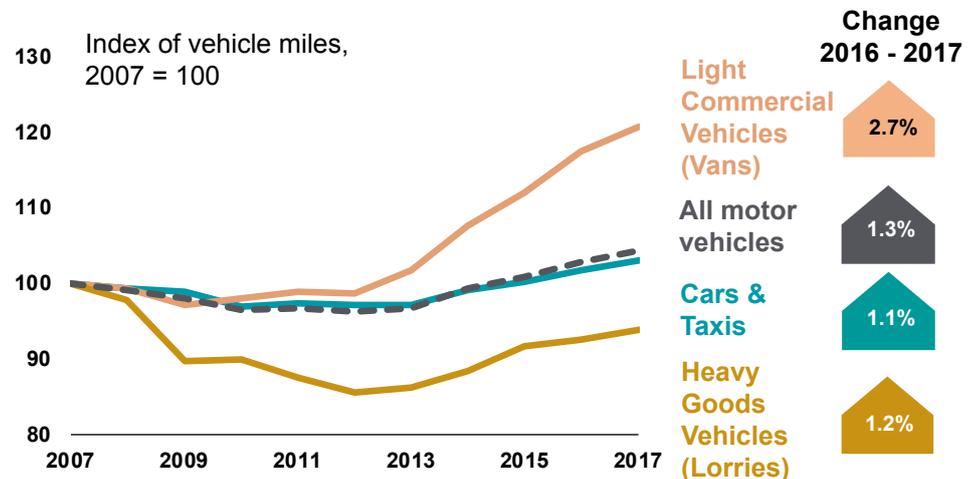
Annual traffic statistics are compiled using data from around 8,000 roadside 12-hour manual counts, continuous data from around 300 automatic traffic counters, and data on road lengths.

Contents

Summary statistics	2
Introduction to road use	3
Long-term traffic trends, drivers and impacts	4
Traffic statistics by:	
- Vehicle Type	8
- Road Type	20
- Strategic Road Network	26
- Geography	29
- Time	31
Foreign Vehicles	33
Further Information	34

327.1 billion miles were driven on Great Britain's roads in 2017, a 1.3% increase from the previous year.

Vehicle miles travelled by selected vehicle types in Great Britain, 2007-2017



In 2017:

- **Car traffic** grew by 1.1% from 2016 to 254.4 billion vehicle miles (bvm); the highest annual car traffic estimate ever (page [9](#)).
- **Van traffic** continued to grow more quickly than any other motor vehicle type, rising 2.7% from 2016 to 50.5 bvm (page [11](#)).
- **Lorry traffic** increased by 1.2% from 2016, continuing a trend of steady growth for the past five years (page [13](#)).
- **Pedal cycle traffic** was 3.3 bvm, 28.2% above the figure ten years before (page [18](#)).
- **Motorways** carried 68.7 bvm of traffic, 1.4% more than in 2016 and 10% more than ten years ago (page [21](#)).
- **The Strategic Road Network** carried 94.1 bvm of traffic; one-third of all motorised traffic in England, a new high (page [26](#)).
- **'A' roads** saw a 1.1% rise in traffic from 2016 (page [22](#)).
- **Minor road traffic** increased 1.4% since 2016 (page [23](#)).



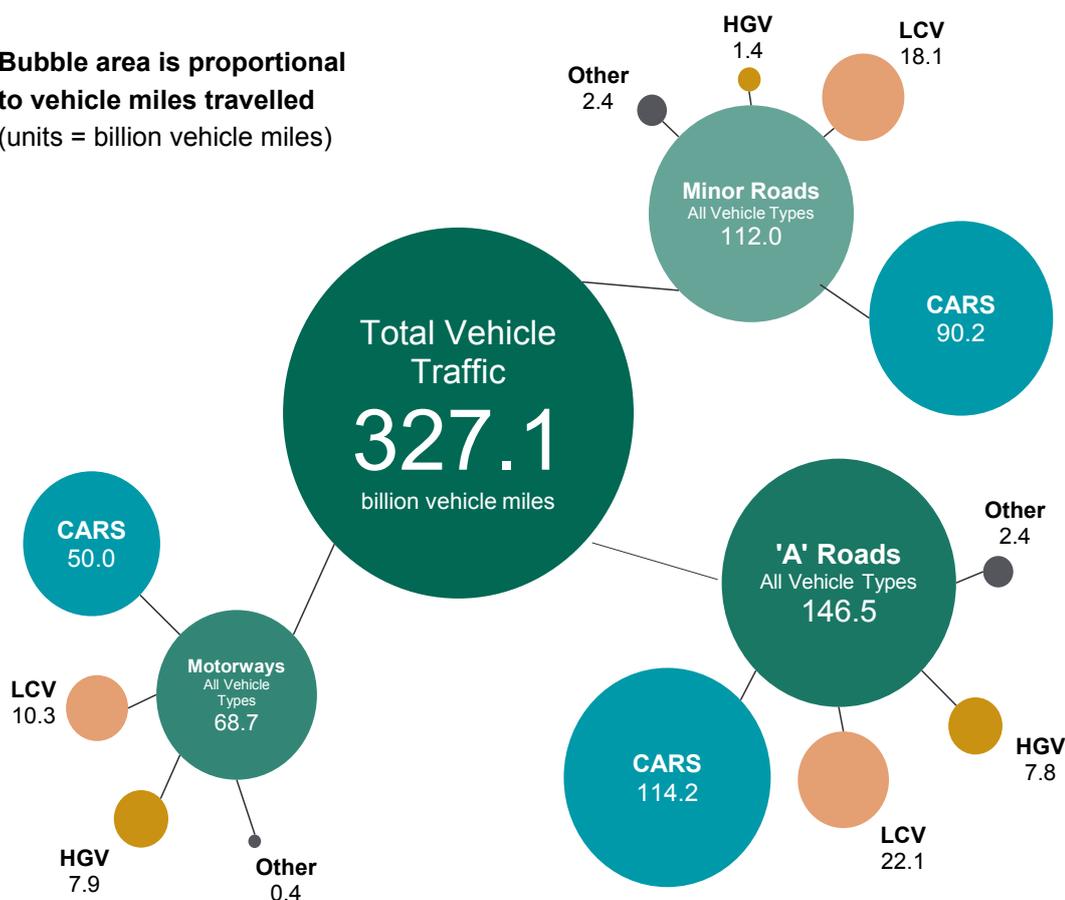
Summary statistics

The summary table below shows patterns in vehicle traffic across a range of years.

	Vehicle Miles 2017	Percentage change from:							
		Last Year		5 Years Ago		10 Years Ago		20 Years Ago	
		2016	2012	2007	1997				
↔ is used for negligible changes (0.5% or less for 0-5 years, 5% or less for 10 years and over)									
All Motor Vehicle Traffic	327.1 billion	↑ 1.3%	↑ 8.1%	↔ 4.2%	↑ 16.9%				
Cars and Taxis	254.4 billion	↑ 1.1%	↑ 5.9%	↔ 2.9%	↑ 11.9%				
Light Commercial Vehicles (LCV)	50.5 billion	↑ 2.7%	↑ 22.4%	↑ 20.7%	↑ 67.4%				
Heavy Goods Vehicles (HGV)	17.0 billion	↑ 1.2%	↑ 9.6%	↓ -6.4%	↔ 2.0%				
Buses	2.4 billion	↓ -3.4%	↓ -11.4%	↓ -28.2%	↓ -24.7%				
Motorcycles	2.8 billion	↔ -0.3%	↓ -2.2%	↓ -18.6%	↑ 12.3%				
Pedal cycles	3.3 billion	↑ 3.1%	↑ 5.2%	↑ 28.2%	↑ 28.9%				
Motorways	68.7 billion	↑ 1.4%	↑ 10.0%	↑ 9.8%	↑ 34.6%				
'A' Roads	146.5 billion	↑ 1.1%	↑ 7.9%	↔ 4.8%	↑ 13.6%				
Minor Roads	112.0 billion	↑ 1.4%	↑ 7.2%	↔ 0.1%	↑ 12.2%				
Strategic Road Network (SRN)	94.1 billion	↑ 2.1%	↑ 11.0%	↑ 10.8%					

Breakdown of traffic in Great Britain 2017, by vehicle type and road type

Bubble area is proportional to vehicle miles travelled (units = billion vehicle miles)



Key definitions:

Traffic

Traffic refers to the total distance travelled by all vehicles over the year, measured in **vehicle miles**. This combines the number of vehicles on the road, and how far they drive.

Flow

Flow refers to the average number of vehicles travelling along a given stretch of the road network per day (24 hours).

Billion

In this release 1 billion = 1000 million (10⁹).

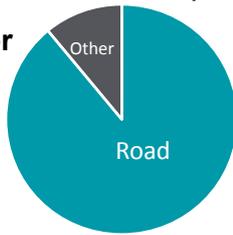
Index Number

Used in this release to compare changes over time (from a selected base year) across multiple indicators where they cannot be directly compared.

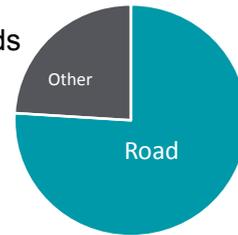
Introduction to Road Use

Road transport is the main transport mode for individuals and businesses.

89% of **passenger** miles are by road (2016)



76% of **freight** goods are moved by road (2016)



According to the 2016 National Travel Survey, in **England**...

- 73%** of adults have a driving licence - 80% of men, and 67% of women
- 77%** of households have access to a car, with 34% having two or more.
- 62%** of all personal trips are made by car
- 78%** of distance travelled per person per year are personal trips by car
- 86%** of people in travel by car at least once or twice a week

In 2016, within the **UK** road freight sector...

... there were 51,334 road freight enterprises ...

15% increase on previous year

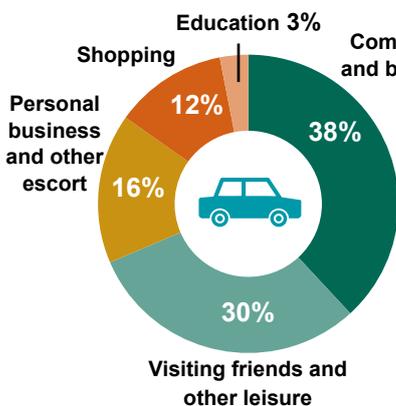
... contributing £12.4 billion to the UK economy.

4% increase on previous year

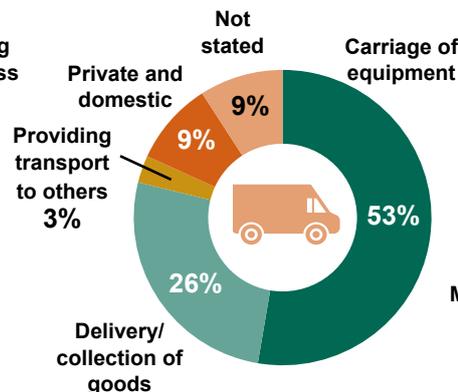
Roads are used for a wide variety of purposes...

- The largest share of personal car mileage in England was for commuting and business trips.
- The last DfT survey of van usage*, showed most van mileage was for carrying tools and equipment.
- One-quarter of the goods moved by British HGVs in the UK comprised food products, beverages and tobacco.

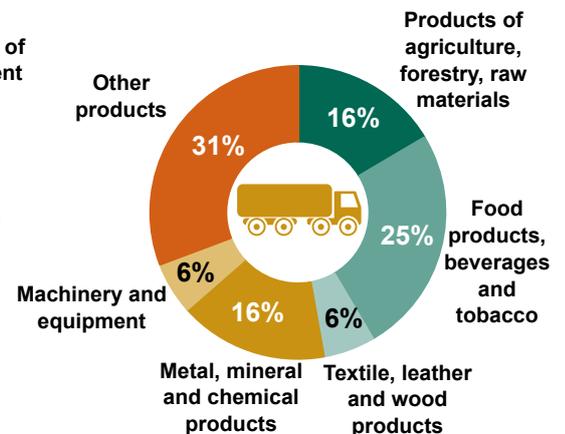
Car driver mileage in England by trip purpose, 2016



Van mileage by primary use, 2008*



Share of goods moved by GB registered lorries, 2016



Source: [National Travel Survey](#)

Source: [DfT Van baseline survey 2008*](#)

Source: [DfT Road Freight Statistics](#)

Further information

An overview of the statistics on roads, and how they are used, can be found in the DfT report '[Road use statistics](#)'.

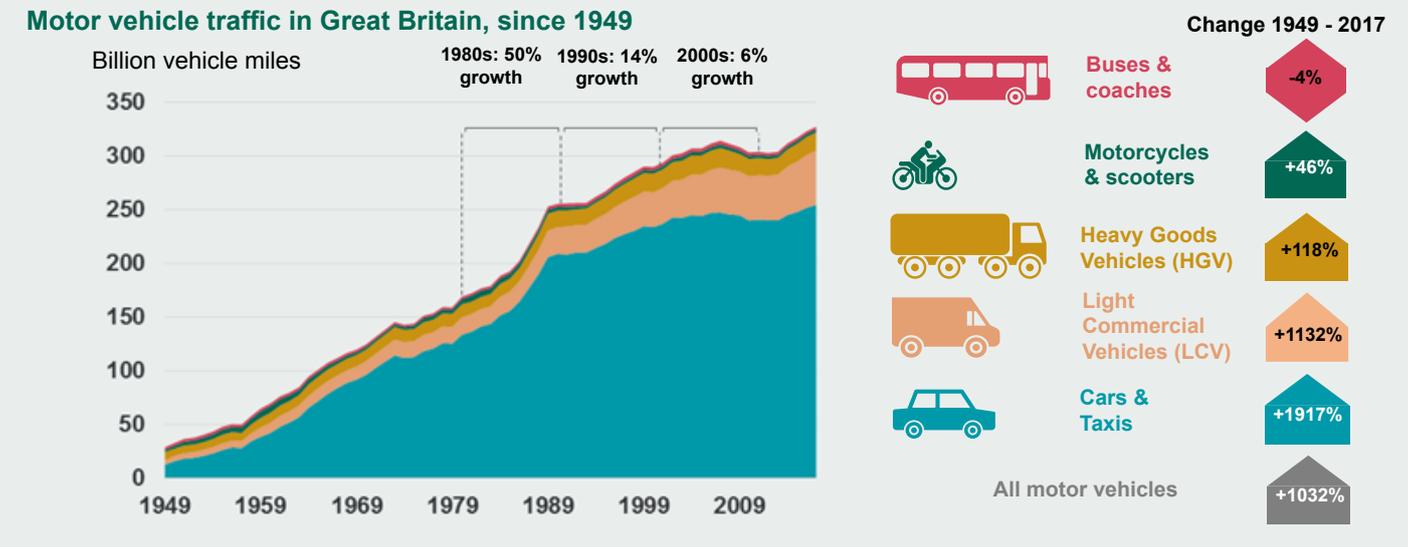
*The department is proposing to conduct a new survey later this year to provide an update on the van sector.

Long-term traffic trends, drivers and impacts

This section provides an overview of long term trends in road traffic, some of the key factors that have influenced these trends, and the wider impacts of road traffic.

Long-term traffic trends

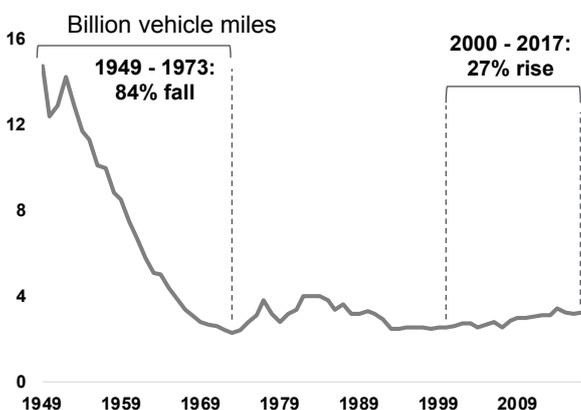
Since 1949 motor vehicle traffic has increased more than ten-fold from 28.9 to 327.1 billion vehicle miles, largely driven by steady growth in car traffic.



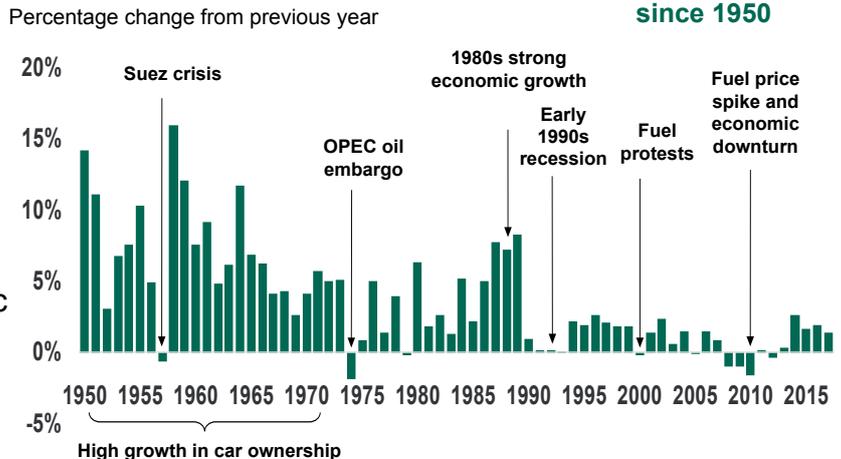
The level of traffic growth since 1949 has varied by vehicle type. Car traffic in 2017 was around 20 times higher than in 1949, whereas HGV traffic was only around twice as high and bus traffic was similar to the 1949 level.

This has altered the share of traffic by vehicle type over time, with the car traffic share rising from 43% in 1949 to 78% in 2017, and the HGV traffic share falling from 27% to 5% over the same period.

Pedal cycle traffic in Great Britain, since 1949



Year-on-year growth in motor vehicle traffic in Great Britain, since 1950



Traffic growth from year to year has not been constant, being punctuated by short periods of stasis or decrease due to various factors (discussed overleaf).

Over the last twenty years there has been a decline in the rate of traffic growth. Between 2007 and 2010, motor vehicle traffic fell for three consecutive years. This was followed by stability, then a resumption of growth to the 2017 record level of 327.1 billion vehicle miles.

In contrast to motor vehicle traffic, pedal cycle traffic fell rapidly during the 1950s and 1960s, followed by a period of relative stability. Since 2000, there has been a steady rise to 3.3 billion cycle miles in 2017.

Factors affecting road traffic

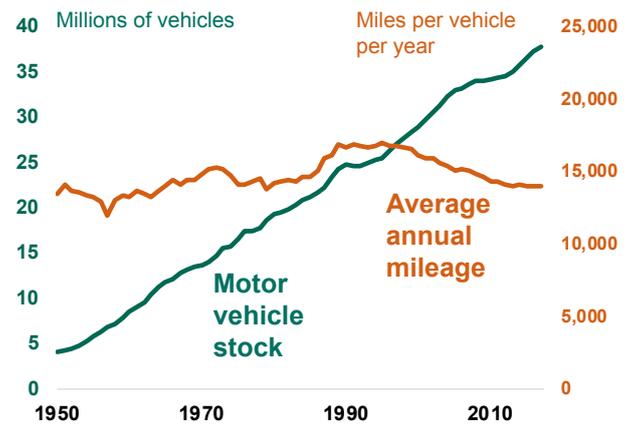
Components of road traffic

Changes in road traffic can result from a change in the number of vehicles, a rise or fall in how intensively each vehicle is used (average annual mileage), or a combination of the two.

The growth in motor vehicle traffic since 1949 has largely been due to an increasing number of licensed vehicles, although there have been fluctuations in average annual mileage.

The rest of this section discusses some of the key socioeconomic and demographic factors that underpin these components.

Licensed motor vehicle stock and average annual mileage in Great Britain, from 1950



Source: DfT Road Traffic and Vehicle Licensing Statistics

Population growth and density

Population changes affect traffic levels. There has been a steady growth in population over the last twenty years, increasing the number of people needing to travel. Car is the main mode of transport for most people, with almost 90% of passenger mileage on roads, and over three-quarters of the goods that people use being transported by road.

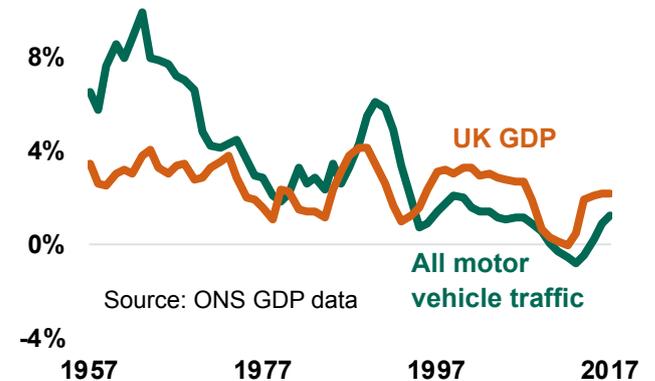
The geographic pattern of population growth is a key factor in how traffic is affected. The more rurally people live, the further they travel. The 2016 National Travel Survey showed that those living in rural hamlets and villages travel 95% further than those in urban areas.

Incomes, the economy, and employment

Fluctuations in road traffic levels tend to coincide with events such as changes in the economy (including GDP, see the chart to the right) and peoples' disposable incomes, which influence car ownership and the trip behaviour of car owners.

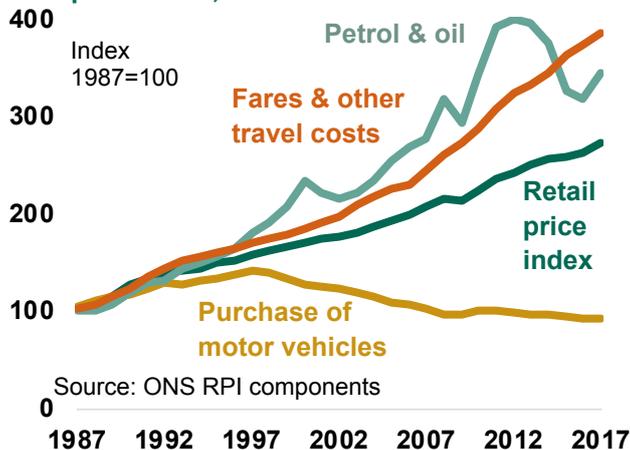
Over the long term, the relative cost of purchasing a motor vehicle has decreased, and this has contributed to increases in car ownership.

Five year rolling average of annual growth in road traffic and GDP



Source: ONS GDP data

Trends in the cost of motoring and retail price index, 1987-2017



Source: ONS RPI components

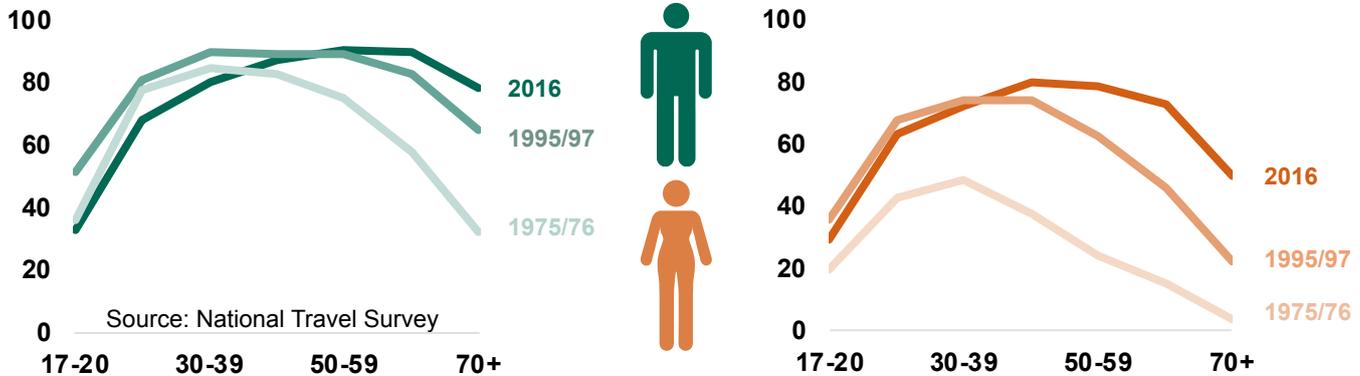
According to the National Travel Survey, only 14% of British households had access to a car in 1951, versus 77% in 2016. Scope for further growth in ownership remains as, in 2016, 44% of households in the lowest income quintile were without access to a car.

How heavily cars are used is influenced by the cost of fuel, as well as associated changes in the cost of alternative modes of transport (i.e. buses and trains).

Demography

Personal travel behaviour also varies with factors such as age and sex, due to changing needs at different life stages and cohort effects. The demography of the driving population has changed over time. In particular, females and older age groups are much more likely to hold a licence now than thirty years ago. The proportion of young adults (aged 17-20) with a full driving licence has decreased since the 1990s when it was highest for this age group.

Proportion of full driving licence holders by age, in 1975/6, 1995/7 and 2016



Impacts of road traffic

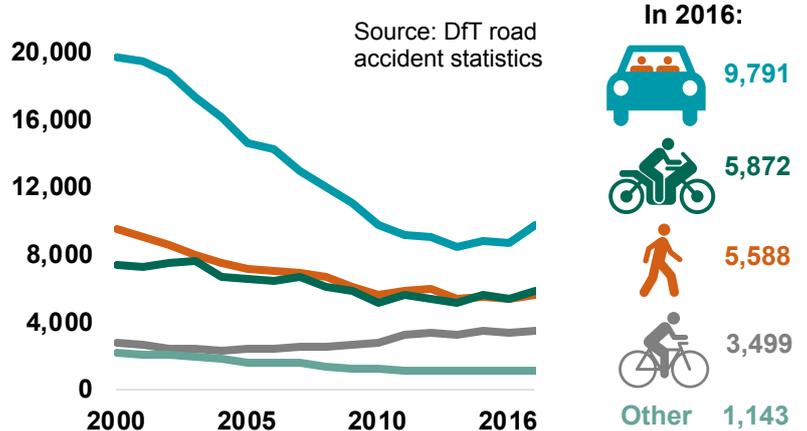
Whilst traffic levels can act as a barometer of trends in the economy and society, traffic itself also has a variety of impacts on human life and the environment.

Road Accidents

Increases in traffic tend to lead to greater numbers of interactions between road users. Therefore, all else being equal, a rise in traffic is expected to increase the total number of accidents. However, per mile travelled, the risk of being killed or seriously injured in a road accident has fallen almost every year from a peak of 165 deaths per billion vehicle miles (bvm) in 1949 to 5.5 deaths per bvm in 2016.

Number killed or seriously injured in Great Britain, 2000 to 2016

There are a range of reasons for the fall in fatality rates, including: improvements in education and training; improvements in vehicle technology and highway engineering; improvements to trauma care; the introduction of road safety policies, such as speed limits; enforcement of legislation; and behavioural change.



Journey times and reliability

It might be expected that an increase in traffic would result in worse congestion, and a decrease in traffic result in lighter congestion. However, the relationship is not that simple. The effect of an increase in traffic on congestion will depend on where and when the extra vehicle miles occur. For example, where congestion is most severe during the morning and evening rush-hour on weekdays, an increase in traffic at these peak times could have a large effect on congestion levels, but at other times of day may have little effect.

Another key factor is changes in the capacity of roads and junctions. For example, improving a junction may ease congestion while at the same time allowing an increase in traffic.

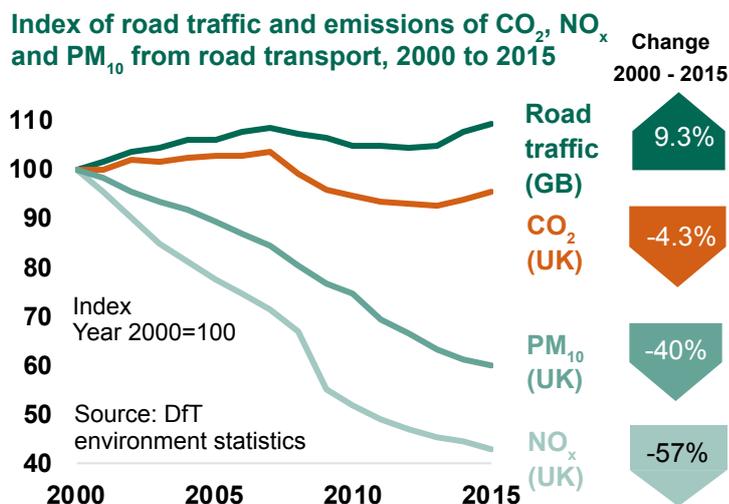
Greenhouse gas emissions and air quality

Road transport accounted for 23% of the UK's CO₂ emissions in 2015.

CO₂ emissions from road transport fell by 4.3% between 2000 and 2015, despite a 9.3% rise in vehicle miles travelled over the same period.

Fuel efficiency has been improving, and sales of ultra-low emissions vehicles have risen rapidly in recent years. The number of newly registered ultra-low emissions vehicles in 2017 was 53,195 (1.7% of all newly registered vehicles) compared to 4,314 in 2013.

Another environmental impact of road traffic is emission of Nitrogen oxides (NO_x) and particulate matter smaller than 10µm in diameter (PM₁₀). Emissions of both of these pollutants from road transport in the UK fell between 2000 and 2015.



Road condition

Over time, road vehicles cause damage to the roads they drive along, with heavier vehicles having a disproportionately large impact.

In 2016/17, 3% of the principal 'A' road network in England should have been considered for maintenance. This is the same as in 2015/16.

In 2016/17, £4.5 billion was spent on the maintenance of roads in England. Of this, £900 million was spent on motorways and 'A' roads managed by Highways England and £3.6 billion on local authority managed roads.

Maintenance expenditure by road class, England 2016/17

£696m	Minor road routine and other
£1,170m	Minor road structural
£629m	Motorway and 'A' road routine and other
£1,696m	Motorway and 'A' road structural

Source: DfT road condition statistics

Links to sources

The data sources used in this section include:

Transport Statistics Great Britain - www.gov.uk/government/collections/transport-statistics-great-britain

The National Travel Survey - www.gov.uk/government/collections/national-travel-survey-statistics

Annual Business Survey - www.ons.gov.uk/businessindustryandtrade/business/businessservices/bulletins/uknonfinancialbusinesseconomy/previousReleases

Office for National Statistics GDP data - www.ons.gov.uk/economy/grossdomesticproductgdp

Office for National Statistics RPI data - www.ons.gov.uk/economy/inflationandpriceindices

DfT road accident statistics - www.gov.uk/government/collections/road-accidents-and-safety-statistics

DfT environment statistics - www.gov.uk/government/collections/energy-and-environment-statistics

DfT road condition statistics - www.gov.uk/government/collections/road-network-size-and-condition

Further information on factors affecting traffic can be found in the [Understanding the Drivers of Road Travel report](#), a review of the evidence on road demand.

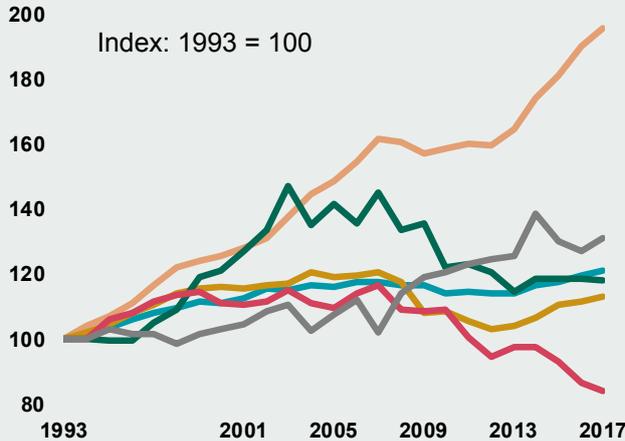
Road Traffic by Vehicle Type

This section breaks down the latest traffic statistics and longer term trends in traffic by vehicle type.

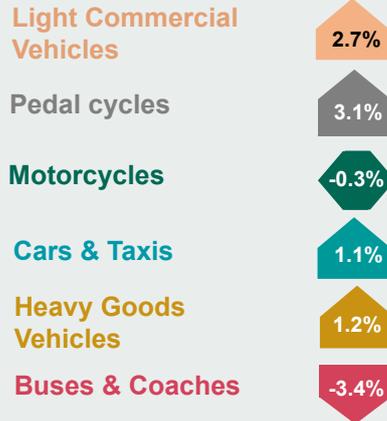
Overview

Compared with 2016, van traffic grew faster than any other motor vehicle (2.7%) in 2017. Cars and taxis remain the dominant vehicle type, accounting for 78% of traffic in 2017.

Index of vehicle miles by vehicle type, 1993 - 2017



Change 2016 - 2017



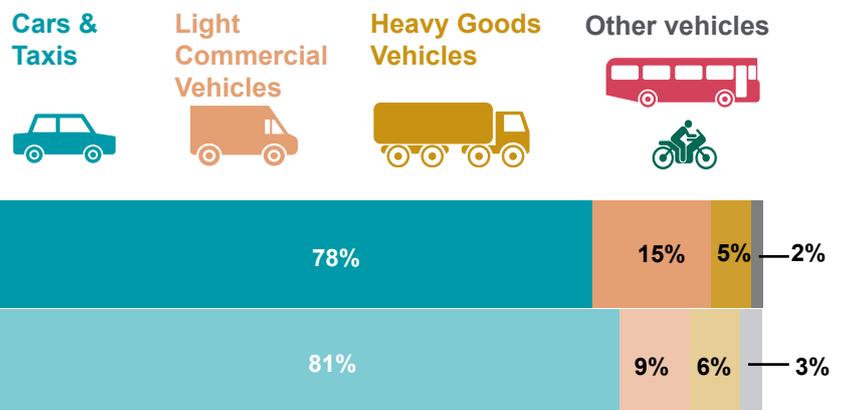
Between 2016 and 2017:

- ▶ **Van traffic** showed the fastest growth (in percentage terms) of any motor vehicle, rising by 2.7% to reach a record high of 50.5 billion vehicle miles in 2017.
- ▶ Distance travelled by **cars and taxis** increased, by 1.1%. The 254.4 billion car and taxi miles travelled in 2017 is a new high, with the last three annual totals being above the previous peak in 2007 before the financial crisis.
- ▶ **Heavy goods vehicle** traffic increased by 1.2%, continuing a trend of steady growth for the previous five years. The 2017 figure of 17.0 billion vehicle miles remains around 6% below the peak level seen in 2007.
- ▶ **Bus and coach traffic** saw the largest decrease of any vehicle type between 2016 and 2017, falling by 3.4% from 2.5 to 2.4 billion vehicle miles, continuing an overall decline seen since 2007. **Motorcycle traffic** remained broadly stable.

Share of traffic by vehicle type:

Since the 1980s, cars have accounted for around four-fifths of all motor vehicle traffic and continue to be the main contributor to changes in overall motor vehicle traffic.

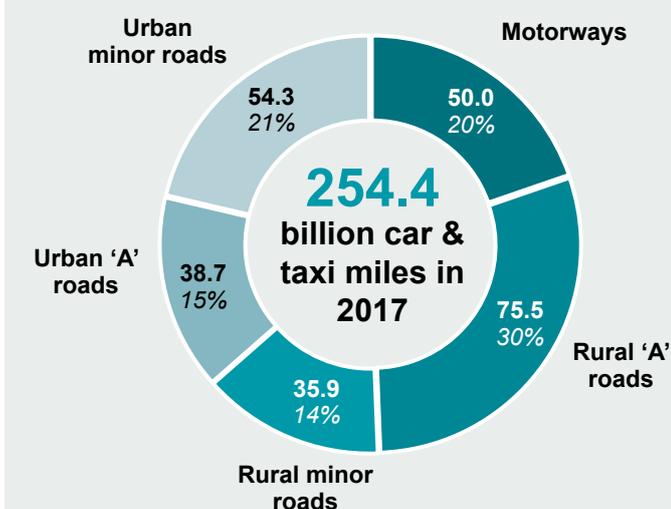
However, vans have become more important over the last decade, accounting for 15% of all motor vehicle traffic in 2017 compared to 9% in 1987.



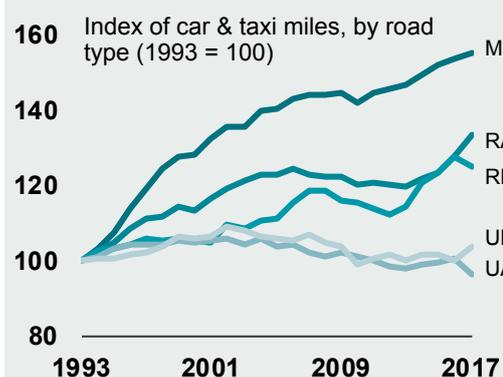
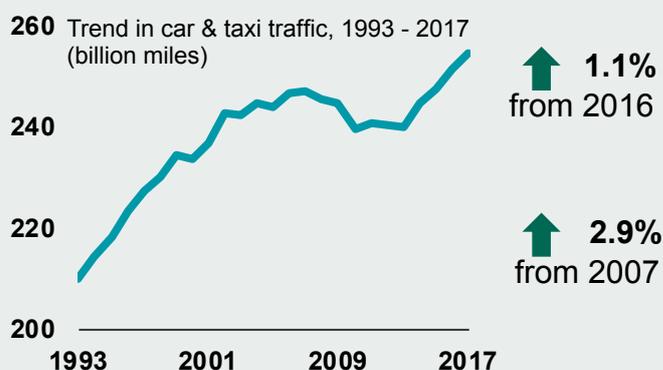


Cars & taxis

Compared with 2016, car and taxi traffic in Great Britain increased by 1.1%, to 254.4 billion vehicle miles in 2017. This is a new high, with the last three years exceeding the previous peak recorded before the 2008 recession.



78% of motor vehicle traffic



Change in car & taxi miles travelled on...

	Motorways (M)	Rural 'A' roads (RA)	Rural minor roads (RM)	Urban 'A' roads (UA)	Urban minor roads (UM)
From 5 years ago	↑ 6.4%	↑ 10.7%	↑ 10.9%	↓ -2.5%	↑ 2.3%
From 10 years ago	↑ 7.5%	↑ 8.4%	↑ 5.3%	↓ -6.2%	↓ -2.7%

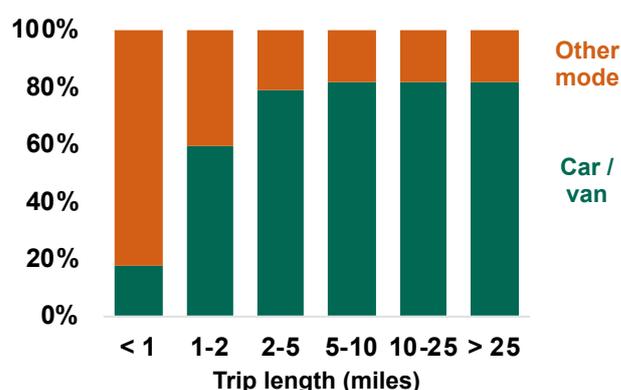
Car traffic increased on all road types except for rural minor and urban 'A' roads between 2016 and 2017, reaching a new high on motorways. Traffic levels on urban roads remain below the peak seen in 2002.

The fastest growth in car traffic (in percentage terms) over the last ten years has occurred on rural 'A' roads, whereas there has been an overall fall in car traffic on urban roads during this period.

Over the longer term car traffic has shown the most marked increase on motorways, rising by 55% between 1993 and 2017, and showing only a small and brief dip during the 2008 recession.

The distribution of car miles travelled in 2017 across the different road types was relatively even compared to the distribution for heavy goods vehicles (see page 13). This reflects the car's versatility, being used for both short and long journeys and for a variety of journey purposes (right).

Percentage of trips by trip length in England, 2016 (NTS0308)



Trends in car use

The NTS suggests that between 2002 and 2013, there was a fairly steady decline in car miles driven per person and per licensed car. However, from 2013 to 2016 car traffic grew more quickly than population and almost as quickly as car stocks, suggesting a slowing or reversal of the previous downward trends.

Long term trends

Between 2002 and 2013, changes in car traffic in England reflected a balance between a rising English population and a falling average personal car/van driver distance, as reported by the National Travel Survey (NTS).

Over the same period, the number of licensed cars in England rose rapidly; more quickly than car traffic. Household car/van ownership rates showed little change, but the number of households grew by 10%, driving the growth in vehicle numbers.

Taken together this suggests that, while personal access to cars remained similar between 2002 and 2013, people drove their cars fewer miles. Dividing car traffic by the number of cars suggests that annual mileage per car fell from around 9,500 miles to 8,300 over this period.

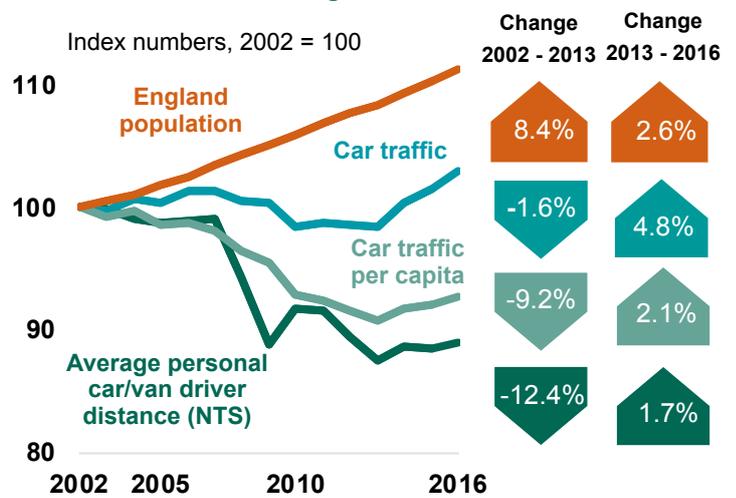
See pages [5-6](#) and further information for possible drivers of these trends.

Recent trends

Between 2013 and 2016, growth in car traffic in England outstripped population growth, indicating an increase in average car driver distance. Recent estimates from the NTS show a similar pattern. Whether or not this continued into 2017 will be seen when population and NTS statistics for 2017 are published later in 2018.

Between 2013 and 2017, car traffic and car stock in England grew at similar rates, suggesting a stabilising of average mileage per car. This period saw a marked fall in fuel retail prices (of 17 and 20 pence per litre for petrol and diesel respectively), which may have influenced how often or how far car owners travelled by car.

Personal car travel in England, 2002-2016



Car stock and car traffic in England, 2002-2017



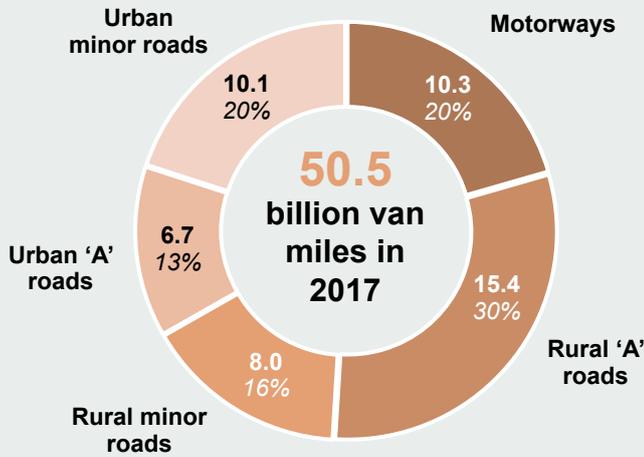
Sources and further information

Figures on car stocks are sourced from [Vehicles Statistics](#), personal travel from the [National Travel Survey](#), population from the [Office for National Statistics](#), fuel price data from the [Department for Energy and Climate Change](#) and household numbers from the [Department for Communities and Local Government](#). Further discussion of factors influencing trends in travel can be found in the DfT reports '[Understanding the drivers of road travel](#)' and '[Road use statistics](#)'.



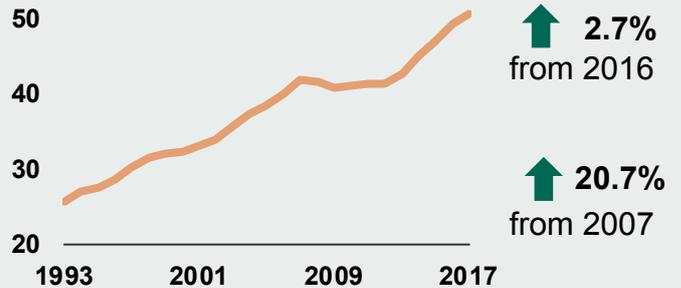
Light Commercial Vehicles (Vans)

Van traffic grew 2.7% between 2016 and 2017 to reach a record high of 50.5 billion vehicle miles; the fastest growth in percentage terms of any motor vehicle type. Total van mileage in 2017 was 67% higher than 20 years ago.

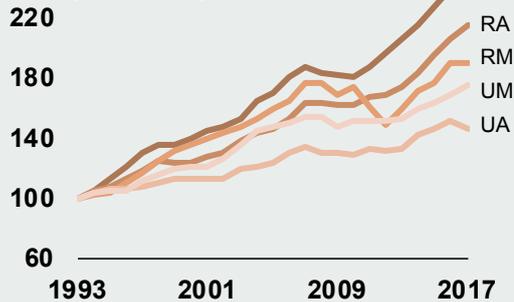


15% of motor vehicle traffic

Trend in van traffic, 1993 - 2017 (billion miles)



Index of van miles, by road type (1993 = 100)



Change in van miles travelled on...

	Motorways (M)	Rural 'A' roads (RA)	Rural minor roads (RM)	Urban 'A' roads (UA)	Urban minor roads (UM)
From 5 years ago	↑ 27.3%	↑ 26.9%	↑ 27.5%	↑ 10.6%	↑ 15.9%
From 10 years ago	↑ 33.3%	↑ 31.8%	↑ 7.4%	↑ 8.4%	↑ 14.6%

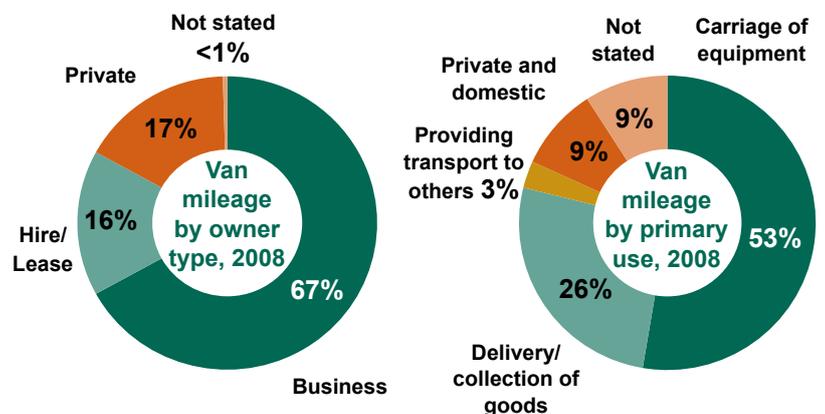
Van traffic rose to new record highs on all road types except urban 'A' roads between 2016 and 2017. Motorways and rural 'A' roads carried over half of all van traffic in 2017.

The rapid rise in van traffic over the last twenty years means that van traffic now makes up around 15% of total traffic, compared to 9% in 1997.

Who uses vans?

DfT carried out its most recent detailed survey of van owners and activity in 2008*.

In 2008, almost three-quarters of vans were commercially owned. Commercially owned vehicles travelled twice as far as privately owned vans, and accounted for over 80% of the distance travelled by vans. Over half of van mileage in 2008 was to carry equipment.

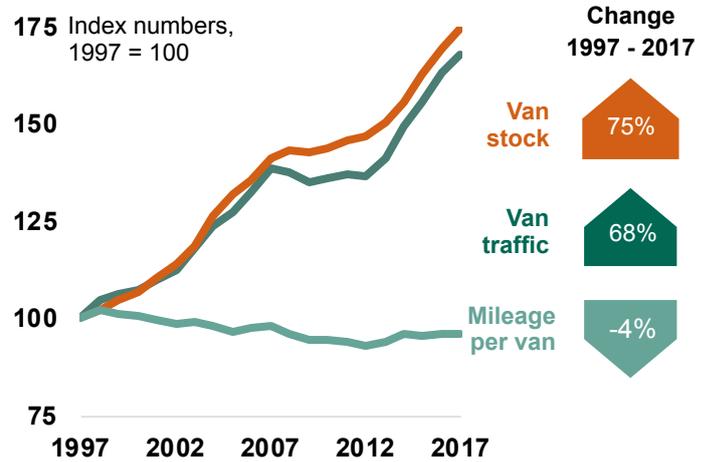


Source: [DfT Van baseline survey 2008](#)

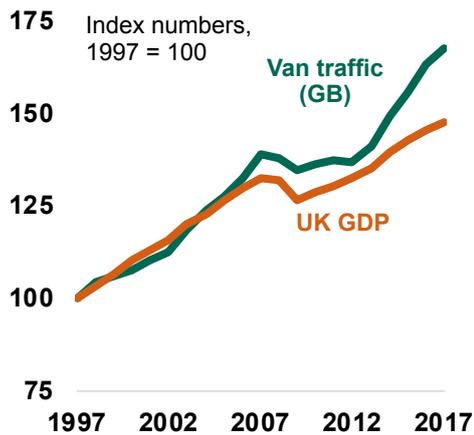
Why is van traffic rising so quickly?

Alongside the 67% increase in van miles between 1997 and 2017, the number of licensed vans rose 75% over the same period, from 2.2 to 3.9 million.

In contrast to the trend seen in average car mileage, the average annual mileage per van in Great Britain (estimated from van vehicle miles divided by van stock) has remained stable over the last 20 years, at around 13,000 miles per year.



Indices of Gross Domestic Product (GDP) and van traffic, 1997-2017



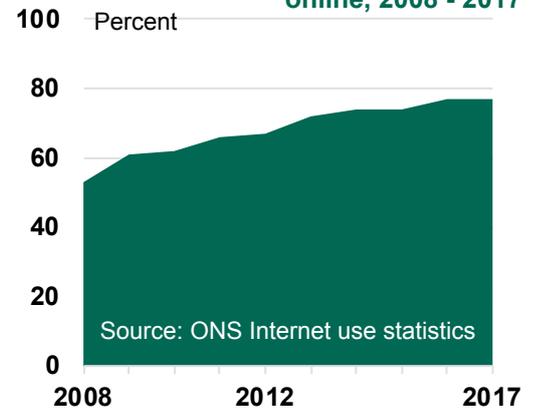
Over the last twenty years, trends in van traffic have followed changes in the economy closely. This is perhaps to be expected given the mainly commercial use of vans, and the variety of uses to which they are put, as recorded by the 2008 van survey. As businesses were established or expanded, the van fleet grew at the same rate.

Gross domestic product (GDP) resumed growth after the 2008 recession, but van traffic grew even faster than GDP between 2012 and 2017. This additional growth may be linked to a shift in the way consumers and businesses operate.

Drivers of this rapid growth could include:

- Growth in internet shopping and home deliveries. In 2017, 77% of adults shopped online at least once during 2017, compared to 53% in 2008.
- Changes to company car taxation rules and vehicle excise duty in the early-to-mid 2000s, which may have made vans a cheaper alternative and so caused people to switch to vans from cars.
- Less strict regulation on driver training, driver's hours restrictions and roadworthiness testing for vans than for lorries, making it easier to find drivers for vans. This may encourage businesses to substitute vans for small lorries.

Percentage of people aged 16+ shopping online, 2008 - 2017



Vehicle Definition



Light Commercial Vehicle (LCV; a.k.a. van) Goods vehicles not exceeding 3.5 tonnes gross vehicle weight

Sources and further information

2008 van baseline survey: In 2008, DfT undertook a postal survey of UK registered vans, to find out who owned vans, what they were used for, and how far they were driven. The DfT report can be found [here](#).

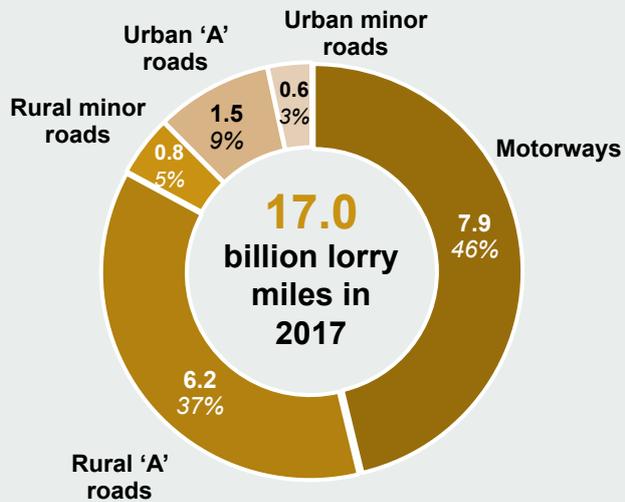
*The department is proposing to conduct a new survey later this year to provide an update on the van sector.

Gross Domestic Product and Internet usage data are sourced from the [Office for National Statistics](#).

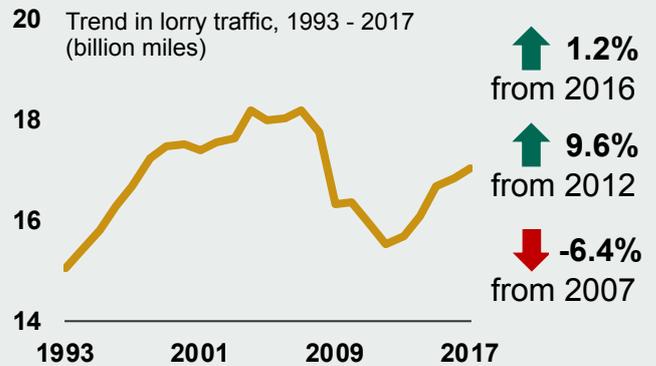


Heavy Goods Vehicles (HGVs, Lorries)

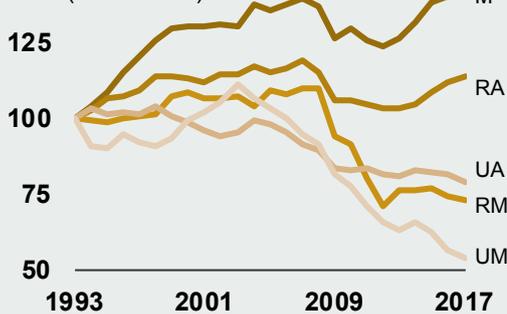
In 2017 lorries travelled 17.0 billion vehicle miles, 1.2% more than in 2016. However, the 2017 figure remains around 6% below the highest level recorded in 2007.



5% of motor vehicle traffic



Index of lorry miles, by road type (1993 = 100)



Change in lorry miles travelled on...

	Motorways (M)	Rural 'A' roads (RA)	Rural minor roads (RM)	Urban 'A' roads (UA)	Urban minor roads (UM)
From 5 years ago	↑ 15.5%	↑ 10.2%	↑ 2.9%	↓ -3.1%	↓ -17.5%
From 10 years ago	↑ 2.7%	↓ -4.4%	↓ -33.3%	↓ -13.5%	↓ -43.1%

Lorry traffic increased by 1.2% between 2016 and 2017, continuing a trend of steady growth since 2012.

The increase in the last year was due to lorry traffic on motorways and rural 'A' roads, with decreases seen on all other road types, continuing the general trend in recent years.

Lorry traffic on motorways reached a new peak in 2017, of 7.9 billion vehicle miles. Motorways carry 46% of all lorry traffic in Great Britain; together, motorways and rural 'A' roads carry 83% of lorry traffic.

Factors affecting trends in HGV traffic

In recent years, lorry traffic appears to be closely correlated with changes in the economy.

This can be seen in general terms by comparing the index of Gross Domestic Product (GDP) with lorry traffic (right). Both GDP and lorry traffic fell sharply during the 2008 recession, and have grown sharply since 2012.

	UK GDP	GB Lorry traffic
Change 2007-2009	↓ -4.6%	↓ -10.3%
Change 2012-2017	↑ 11.7%	↑ 9.6%

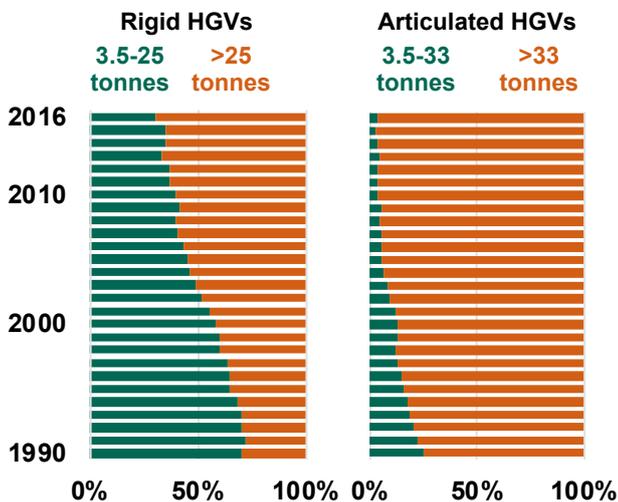
Longer term trends

A key factor in understanding trends in lorry traffic over the longer term is that lorries comprise of a wide range of differently sized vehicles, able to carry differing quantities of goods.

Between 1997 and 2017, total lorry vehicle mileage grew more slowly than UK GDP, but trends in lorry traffic differed markedly between different vehicle sizes. Traffic of lorries with four or more axles was 44% higher in 2017 than in 1997, whereas for lorries with less than four axles it had fallen by 27%.

The statistics from DfT's annual freight survey show a similar trend, presenting freight transport by gross vehicle weight.

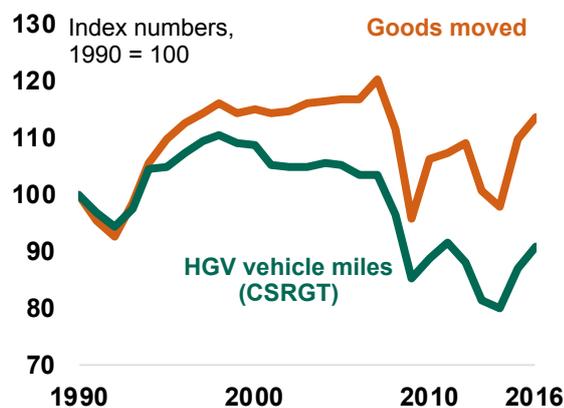
Percentage of goods moved by GB registered HGVs in the UK, by HGV weight, 1990 - 2016



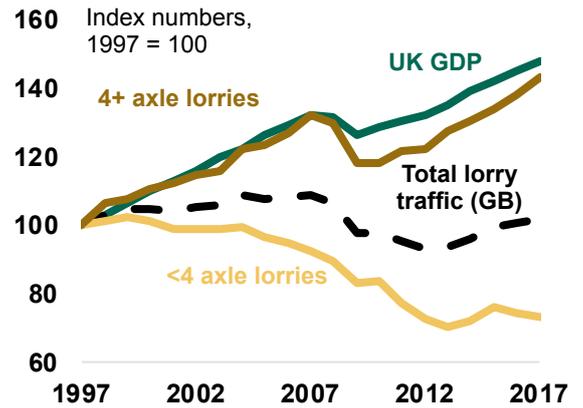
This gradual shift towards larger HGVs carrying a higher proportion of goods means that, over the long term, the trends in volume of goods moved (see box below right) and distance travelled by HGVs have diverged.

It could also partly explain the different trends in HGV traffic by road types. Freight is likely moved more efficiently by larger HGVs on major roads, than on narrow or busy minor and urban roads. It is also possible that vans are being used to perform work previously carried out by smaller HGVs.

Goods moved and vehicle miles travelled by GB registered HGVs in the UK, 1990 - 2016



Indices of Gross Domestic Product (GDP) and lorry traffic, 1997-2017



Vehicle Definition

Heavy Goods Vehicle (HGV; a.k.a. lorry)
Goods vehicles over 3.5 tonnes gross vehicle weight, including both articulated and rigid body types.



Data Source

The figures for HGV activity on this page come from DfT's [Continuing Survey of Road Goods Transport \(CSRGT\)](#) for British registered HGVs. It provides information on weight of goods lifted and moved by vehicle type and commodity type.

Goods lifted and goods moved

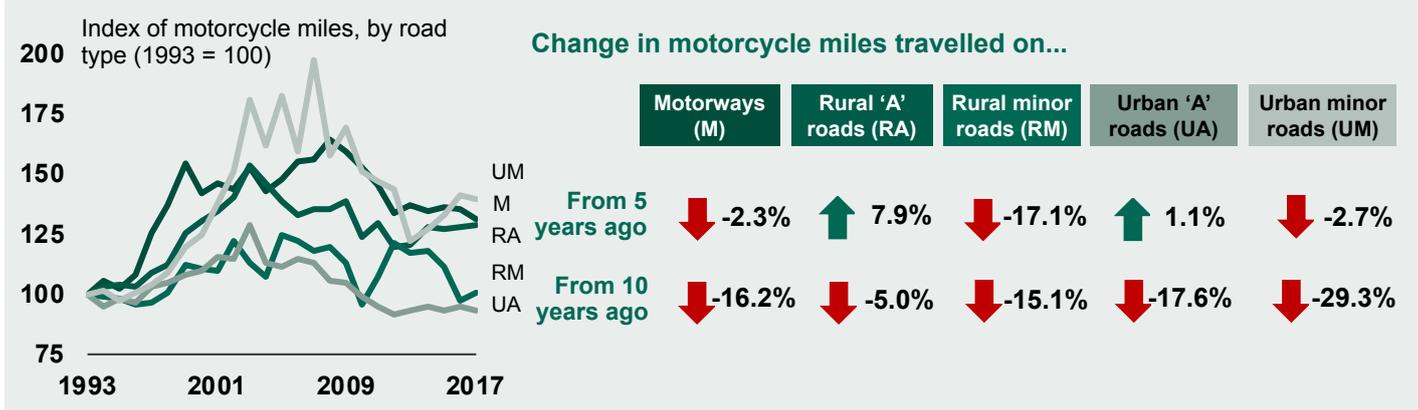
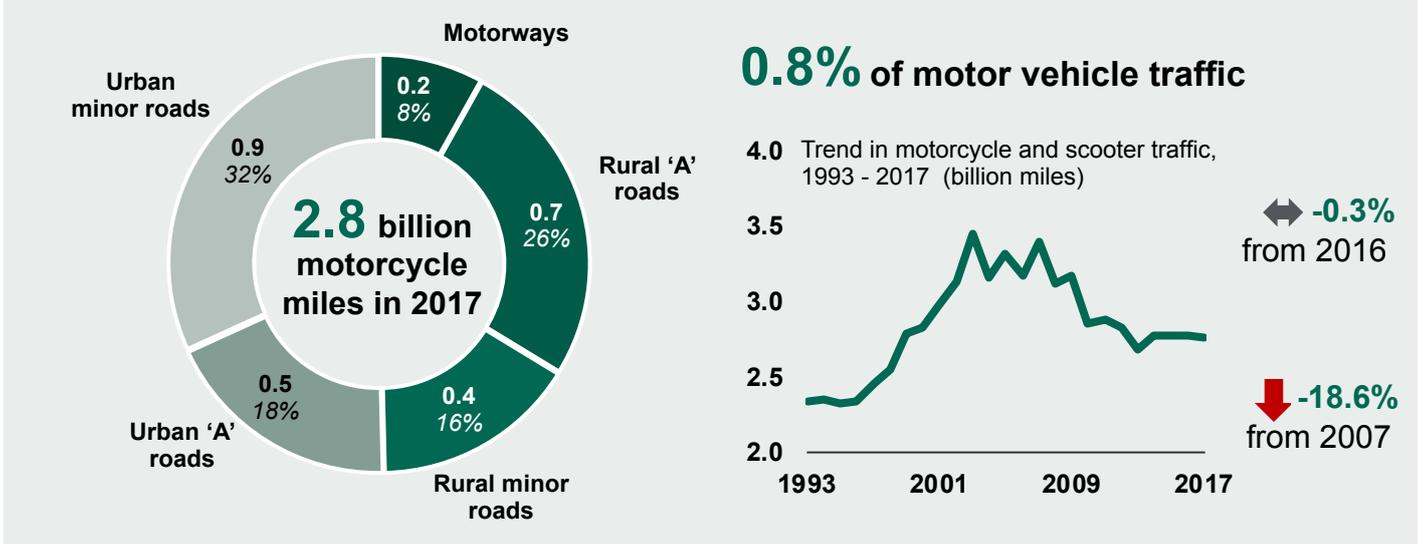
Goods lifted refers to the total weight of freight transported in a load, measured in **tonnes**.

Goods moved is defined as the weight of goods in each load multiplied by the distance the load is transported, measured in **tonne miles** or **tonne kilometres**.



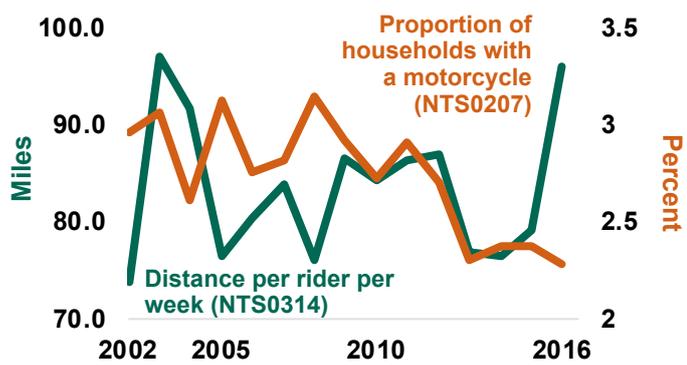
Motorcycles & scooters

Motorcycles and scooters travelled a similar distance in 2017 compared to the previous year. Motorcycle traffic has declined over the last ten years, from a peak in the mid-2000s.



Although motorcycle and scooter traffic has remained stable over the last few years, this was not the case across all road types. 'A' roads have seen a 5% increase over the last five years, in contrast to decreases on other road types.

Results from the National Travel Survey (NTS) indicate that average distance per motorcyclist in England (average distance ridden per motorcycle rider per week) has not had a downward trend over the last decade, although it has had year-to-year variability.



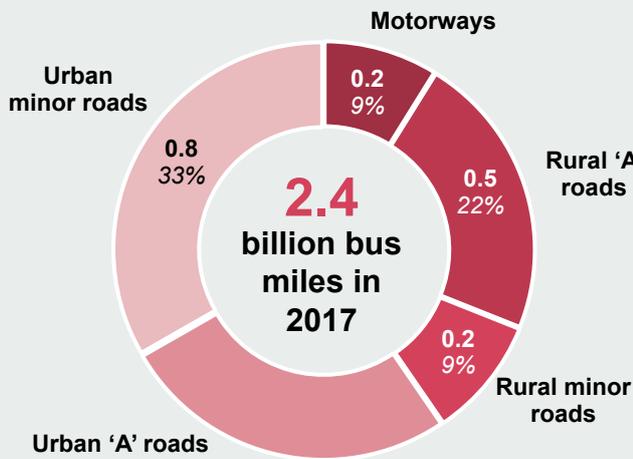
However, there was a downward trend in the proportion of households having access to a motorbike over the period, dropping from 3% in 2002 to 2.3% in 2016.

In other words, the distance ridden by those who ride has changed little, but it appears that fewer people are riding motorbikes.



Buses & coaches

Bus and coach traffic fell by 3.4% between 2016 and 2017 - the largest decrease of any vehicle type. Over the last decade, bus and coach traffic has fallen by more than one-quarter.

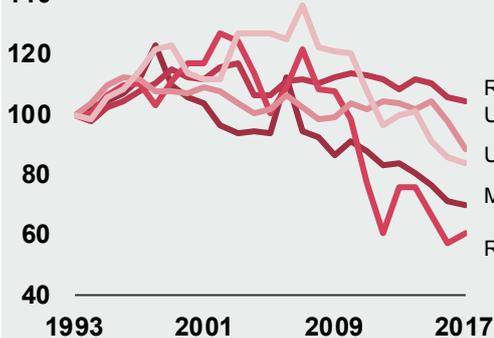


0.7% of motor vehicle traffic

Trend in bus and coach traffic, 1993 - 2017 (billion miles)



Index of bus & coach miles, by road type (1993 = 100)



Change in bus & coach miles travelled on...

	Motorways (M)	Rural 'A' roads (RA)	Rural minor roads (RM)	Urban 'A' roads (UA)	Urban minor roads (UM)
From 5 years ago	-15.9%	-6.3%	0.0%	-15.6%	-12.8%
From 10 years ago	-26.3%	-6.4%	-50.4%	-13.9%	-38.3%

Local bus mileage and passenger mileage

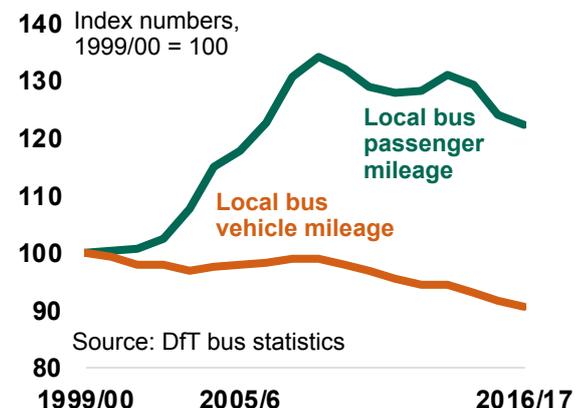
Changes in local bus services have a strong influence on the overall trend in bus and coach traffic, because local bus service mileage makes up a large proportion of the total (approximately 60%).

DfT bus statistics show that between 1999/00 and 2016/17, mileage of local bus services in Great Britain fell by around 8%. However, over the same period bus passenger miles rose by nearly one-quarter, from 13.9 billion in 1999/00 to 17.0 billion in 2016/17.

The difference in trend between vehicle mileage and passenger mileage reflects an increase in the average number of passengers travelling on each bus, from 8.4 passengers per bus in 1999/00 to 11.3 passengers per bus in 2016/17.

The large number of passengers per bus (in comparison to occupancy of cars, motorcycles and pedal cycles) means that, although bus and coach vehicle mileage is a similar level as motorcycle and pedal cycles miles, it accounts for an order of magnitude more trips by people.

Local bus vehicle mileage and passenger mileage, Great Britain 1999/00 - 2016/17



Long term trends: by road type

The majority (60%) of bus and coach miles in Great Britain are driven on urban roads, near to densely populated areas. This road type has, however, seen large decreases in bus traffic over the last decade.

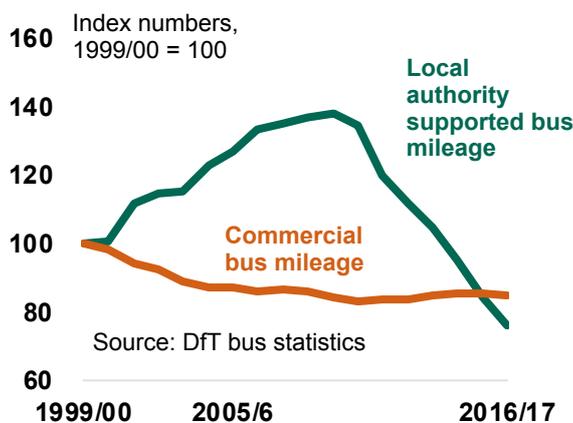
Since 2007, bus traffic has fallen 50% and 38% on rural and urban minor roads respectively. Bus traffic on rural and urban 'A' roads has also fallen over the same period but by a lesser amount (6% and 14% respectively).

The fall observed in bus and coach mileage over the last decade may partly be explained by the trends in local bus service mileage.

Local bus mileage in Great Britain fell 8% in the ten years since 2006/07. This was due to a decrease of 43% in local authority supported bus mileage in Great Britain outside London over the same period.

Increases in commercial bus mileage since 2010 have partially offset the decline in supported mileage, but these services may be more likely to use 'A' roads, causing a shift in mileage from minor to 'A' roads.

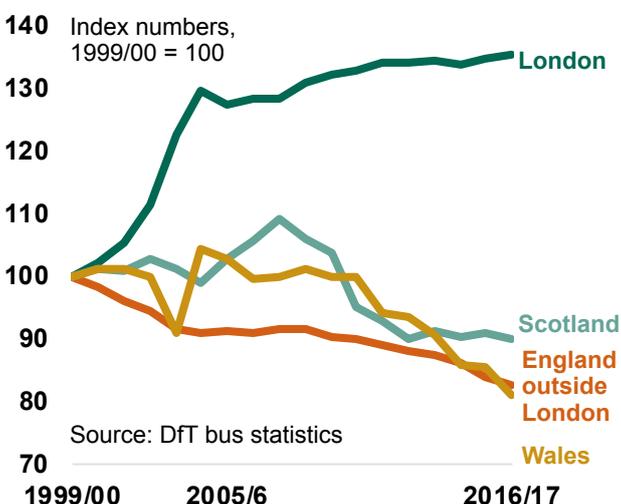
Supported and commercial bus mileage, Great Britain excluding London 1999/00 - 2015/16



Long term trends: by location

Local bus services mileage trends since 1999/00 have not been consistent across the country.

Local bus vehicle mileage by country and London / non-London, 1999/00 - 2015/16



Local bus mileage in London rose rapidly until 2004/5, since when it has increased more slowly.

In the rest of Great Britain local bus mileage has seen an overall downward trend since 1999/00. The declines in Scotland and Wales have not been smooth, falling more rapidly since 2010.

DfT bus statistics

In addition to the estimates of bus and coach mileage published here, DfT also publishes statistics providing a wide range of information about [local bus services](#), mainly based on data from bus operators.

The bus statistics provide contextual information to help interpret the bus and coach traffic estimates.

Mileage estimates are available from both sources, and whilst they are not exactly comparable, it is estimated that local bus mileage makes up roughly three-fifths (1.5 billion vehicle miles) of all bus and coach traffic.

Vehicle definition

Buses and coaches are defined as vehicles designed to transport people, which have a van chassis or larger, but excluding minibuses.

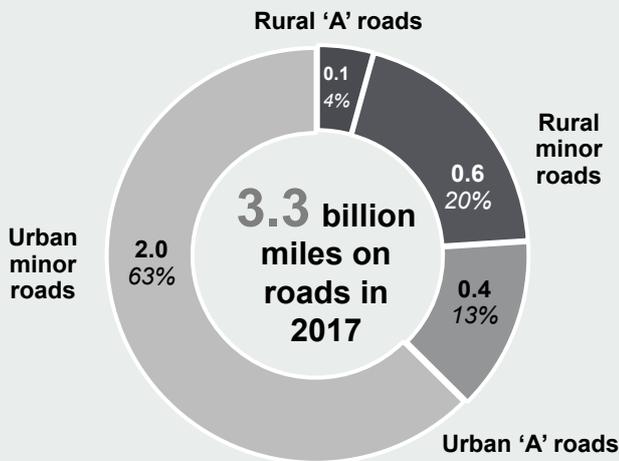
DfT road traffic statistics combine mileage of both public and private vehicles, because public and private vehicles cannot be distinguished in traffic counting surveys.



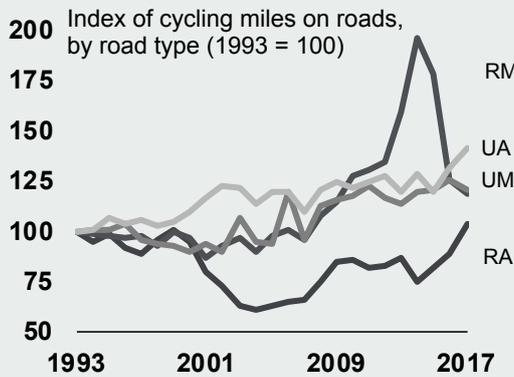
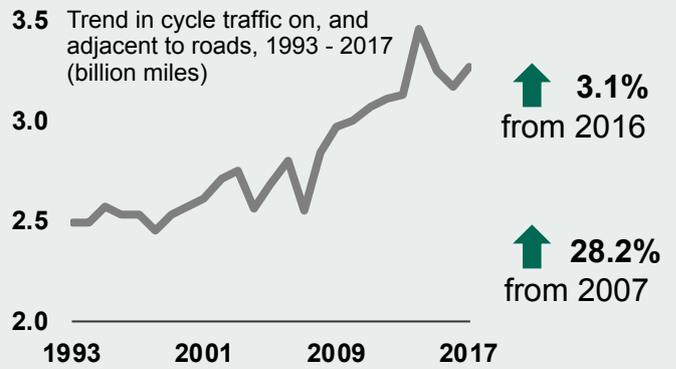


Pedal cycles

Pedal cycles travelled 3.3 billion miles on roads* in 2017, 3% further than in the previous year, and almost 30% more than twenty years ago.



1% of all traffic on roads



Change in cycling miles travelled on...

	Rural 'A' roads (RA)	Rural minor roads (RM)	Urban 'A' roads (UA)	Urban minor roads (UM)
From 5 years ago	↑ 25.8%	↓ -11.5%	↑ 3.5%	↑ 10.9%
From 10 years ago	↑ 57.3%	↑ 24.5%	↑ 26.8%	↑ 28.0%

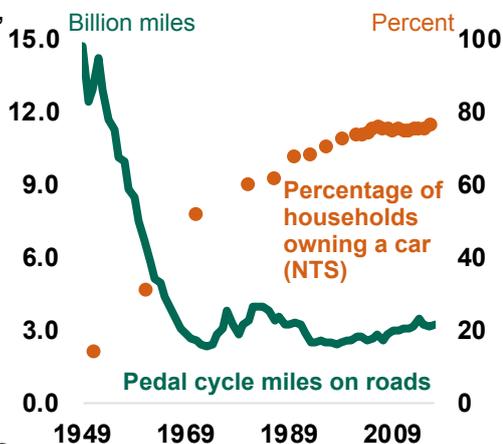
Between 2016 and 2017, cycle traffic increased to 3.3 billion vehicle miles; this was around 0.2 billion lower than 2014, which was the highest figure since 1987. Although over four-fifths of the road cycle miles ridden in 2017 were on minor roads, the largest proportional increases in cycle traffic were rural 'A' roads.

Long-term trends in cycle traffic

Year-to-year changes in cycle traffic can be volatile due to factors such as the weather, so long-term changes are more reliable indicators of underlying trends.

Despite the recent growth in cycle traffic, cyclists in 2017 travelled only around one quarter of the 14.7 billion miles ridden in 1949. Cycle traffic fell most quickly during the 1950s and 1960s, coinciding with a large rise in car ownership. The lowest annual cycle mileage on Great Britain's roads was seen in 1973, at 2.3 billion miles.

Pedal cycle traffic and car ownership (NTS) in Great Britain, 1949 - 2016



*Cycling on roads

DfT road traffic statistics report activity of cyclists on public highways, and on cycle paths and footpaths adjacent to them.

Cycle activity elsewhere (for example on canal towpaths, byways or bridleways) is not included in road traffic statistics.

Statistics from the [National Travel Survey](#) (NTS) and [Active Lives Survey](#) also provide information on cycling.

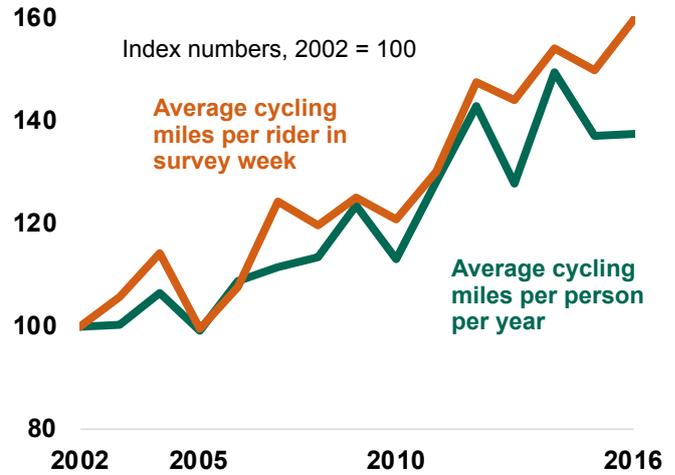
Understanding trends in cycle traffic

Information on cycling from other sources, such as the National Travel Survey (NTS), provide context for the trends in the estimates of cycle traffic from the road traffic statistics.

Between 2002 and 2016, average cycle mileage per person per year (including both people who cycle and those who do not) in England rose by 37%, though the trend is somewhat erratic.

When only considering respondents who cycled at least once during the survey week, the average distance cycled during the week has grown at a similar rate to the whole of England average. This suggests that people who cycle have been cycling further, but that the proportion of the population who cycle has not changed substantially.

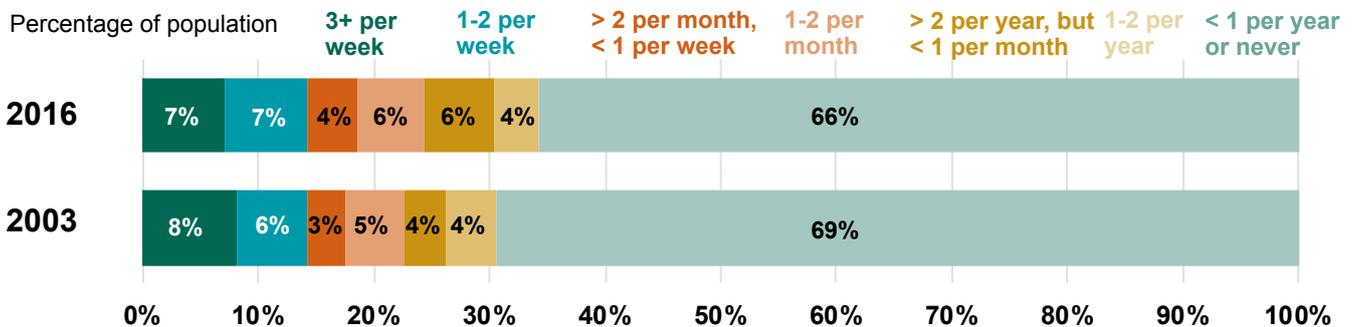
Average cycle miles per capita and per active cyclist in England, 2002-2016 (NTS)



This picture is broadly supported by NTS figures on cycling frequency (below), which show that the proportion of people cycling at least once per week stayed roughly constant between 2003 and 2016, remaining at 14% in both years.

In general, cycling activity is unevenly distributed within the population, with 66% of people rarely or never cycling, but almost half of those cycling doing so more than once per week.

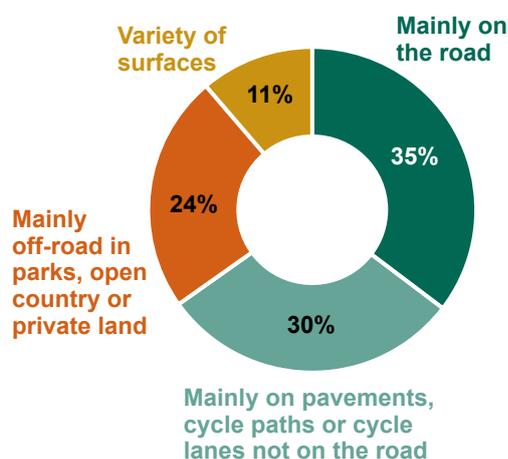
Cycle trip frequency in England, 2003 and 2016 (NTS0313)



Both road traffic estimates and NTS statistics show that cycle traffic has been growing over the last decade, but the NTS figures suggest higher levels of growth than the road traffic estimates.

Some of this difference could be due to off-road cycling, which is not covered in the traffic statistics data collection. In 2016, nearly one-quarter of NTS respondents reported mainly cycling off-road.

Main cycling location in the last 12 months, England 2016 (NTS0315)



Note on National Travel Survey figures

The number of actively cycling respondents in the National Travel Survey is relatively low, so figures on average cycling miles per capita and per rider are expected to fluctuate from year to year as a result of sampling error.

As such, interpretation should focus on long-term trends rather than year-to-year changes.

Traffic by Road Type

This section breaks down the traffic statistics by road type. Figures are presented split by the classification of the road (Motorway, 'A', 'B', 'C', unclassified), by the urban/rural setting of the road.

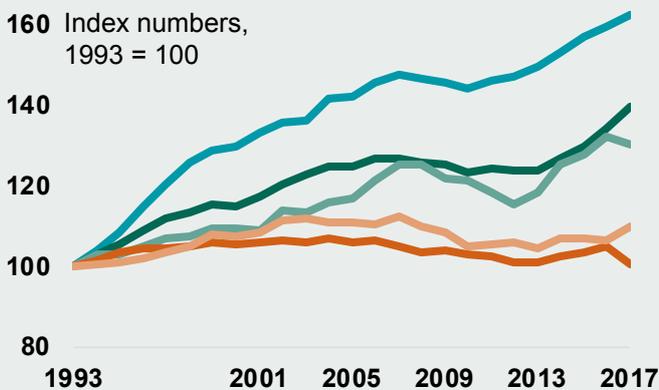
Urban / Rural Changes in 2017

Urban and rural classification is based on residential population density. The classification presented in this release has been updated across all road types in 2017. As the 2016 and earlier figures are based on the older definition, year-on-year comparisons should be treated with caution. More information on the urban/rural definitions can be found on [page 35](#).

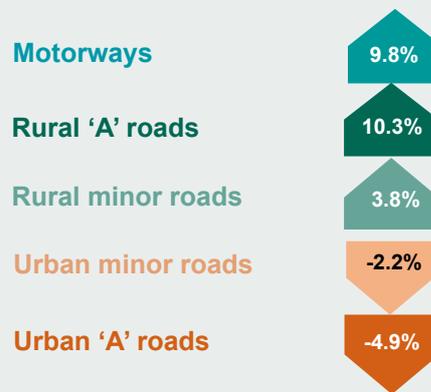
Overview

In 2017, traffic on motorways reached a new all time high.

Index of vehicle miles by road type, 1993 - 2017



Change 2007 - 2017

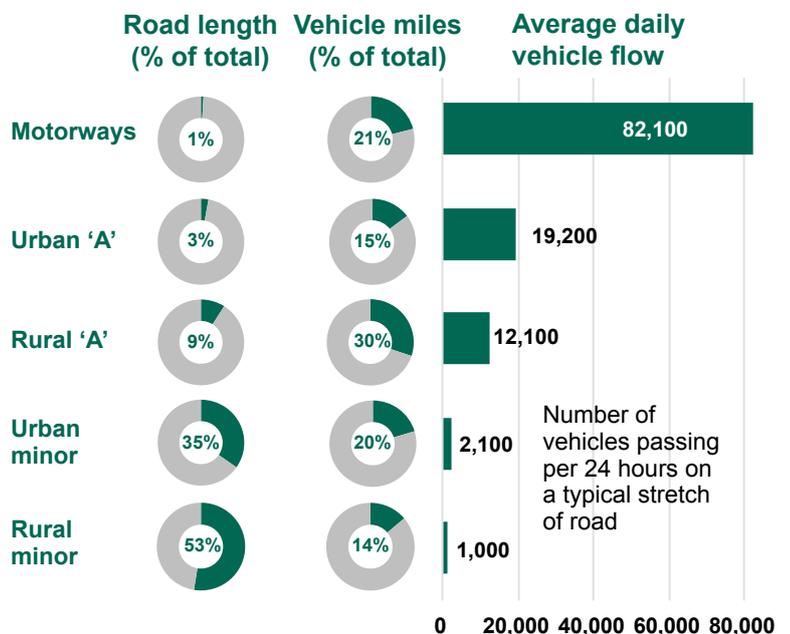


Share of traffic by road type:

Vehicle activity is very unevenly distributed across Great Britain's road network.

In 2017, 66% of the motor vehicle miles travelled were on motorways and 'A' roads, despite comprising only 13% of the road network by length.

On an average day in 2017, 82 times more vehicles travelled along a typical stretch of motorway than a typical stretch of rural minor road ('B' roads, 'C' roads, and unclassified roads).



Definitions

Rural and Urban:

'Urban' roads are those within a settlement of 10,000 people or more, following the 2011 Census definition of urban settlements. All other roads are defined as 'rural'. See [here](#).

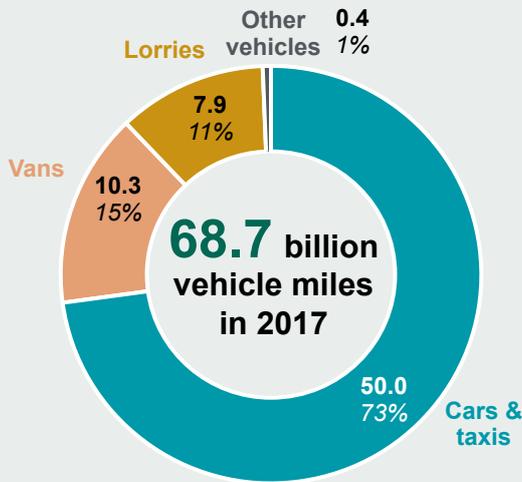
Minor and Major:

Major roads include motorways and 'A' roads. Minor roads comprise 'B' roads, 'C' roads, and unclassified roads.



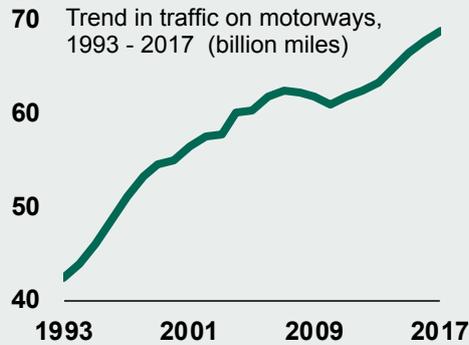
Motorways

In 2017, 68.7 billion vehicle miles were travelled on Great Britain's motorways, 10% more than 10 years ago.



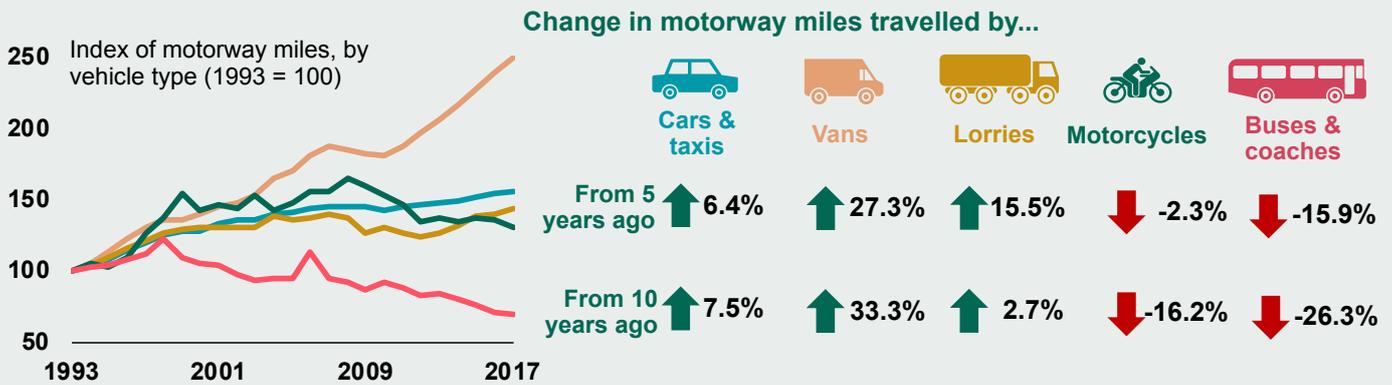
1% of road length

21% of vehicle miles



↑ 9.8% from 2012

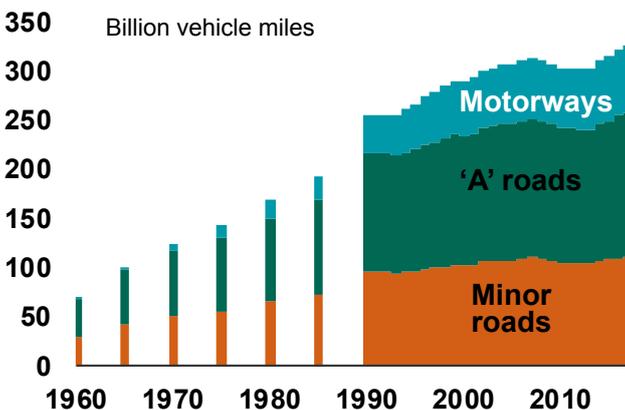
↑ 10.0% from 2007



The overall increase in motorway traffic over the last decade comprises of differing trends by vehicle type. Van traffic has grown by one-third, whilst motorcycle and bus and coach traffic have both fallen.

Motorways are vital for the movement of freight, carrying almost half (46.2%) of all lorry traffic in 2017, compared to one-fifth of car traffic.

Motor vehicle traffic by road type, 1960 to 2017 (TRA0102)



The proportion of total vehicle miles driven on motorways has increased over time, from 0.6% in 1960 to 21% in 2017. This has resulted from motorways increasing in length from 95 miles in 1960 to 2,292 miles in 2017, as well as an increase in average vehicle flow over the same period from 11,500 to 82,100 vehicles per day.

Traffic on motorways appeared to be less severely affected by the 2008 recession than traffic on other road types.



Rural roads

Traffic on rural roads has increased by 12.8% over the last 5 years.

Rural 'A' roads

98.4 billion vehicle miles in 2017

of which...

Cars & taxis Vans Lorries Other vehicles



9% of road length

30% of vehicle miles

Trend in traffic on rural 'A' roads, 1993 - 2017 (billion miles)



↑ **12.8%** from 2012

↑ **10.3%** from 2007

Rural minor roads

45.3 billion vehicle miles in 2017

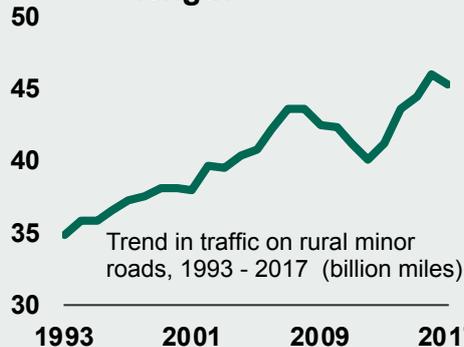
of which...

Cars & taxis Vans Lorries Other vehicles



53% of road length

14% of vehicle miles



↑ **12.9%** from 2012

↑ **3.8%** from 2007

In 2017, rural 'A' and rural minor roads carried around 44% of all motor vehicle traffic between them; almost 10% more than the vehicle miles travelled on urban roads. However, the average daily flow on rural roads (12,100 vehicles on rural 'A' roads; 1,000 vehicles on rural minor roads) was far below that on urban roads (19,200 on urban 'A' roads; 2,100 on urban minor roads).

Over the last decade, traffic on rural roads has risen substantially, by 10% and 4% on 'A' roads and minor roads, respectively. This rapid growth in rural traffic in recent years contrasts with a relatively flat trend in urban traffic. The differences between traffic on urban and rural roads are discussed further on page [24](#).

Trends by vehicle type

On rural 'A' roads, among motor vehicles, van traffic has grown most in percentage terms (32%) since 2007, whilst HGV and bus and coach traffic has decreased over the same period. On rural minor roads, van traffic again rose most quickly (7%) of any motor vehicle between 2007 and 2017, followed by cars (5%).

Urban / Rural Changes in 2017

The classification presented in this release has been updated in 2017. As the 2016 and earlier figures are based on the older definition, year-on-year comparisons should be treated with caution. More information can be found on [page 35](#).



Urban roads

Traffic on urban 'A' roads has been fairly steady over the last five years. This is in contrast to an increase of 3.7% on urban minor roads.

Urban 'A' roads

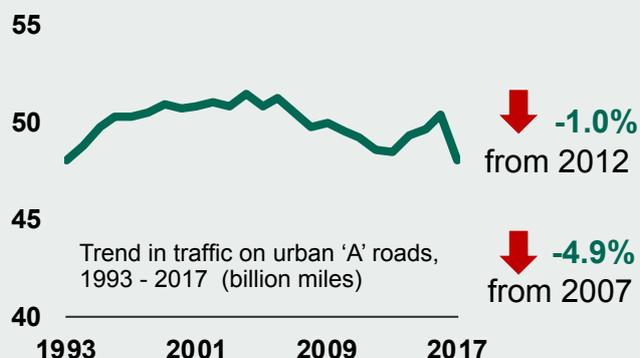
48.1 billion vehicle miles in 2017

of which...



3% of road length

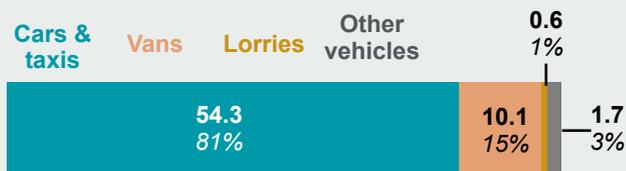
15% of vehicle miles



Urban minor roads

66.6 billion vehicle miles in 2017

of which...



35% of road length

20% of vehicle miles



Urban traffic fell during the 2008 recession, and remains below the levels seen in the mid-2000s.

However, this pattern has varied amongst vehicle types, with van traffic on urban roads rising 12% from 10 years ago, compared to a fall of 24% in HGV traffic over the same period.

Traffic on urban roads has also shown varying trends geographically, with London showing larger drops in traffic than elsewhere in Great Britain. Urban roads carried 86% of the traffic in the Greater London region in 2017.

Percentage change in traffic on urban roads in Great Britain (GB) within and outside of London, 2007-2017



Urban / Rural Changes in 2017

The classification presented in this release has been updated in 2017. As the 2016 and earlier figures are based on the older definition, year-on-year comparisons should be treated with caution. More information can be found on [page 35](#).

Why have trends in urban and rural traffic differed?

Between 2000 and 2017, traffic on rural roads rose markedly, while traffic on urban roads fell slightly.

Patterns vary among vehicle types:

- **Car traffic** rose by 18% overall on rural roads and fell by around 5% on urban roads.
- **Van traffic** rose on all road types but saw larger increases on rural roads.
- **Lorry traffic** fell on all road types except for motorways, with the largest decreases on minor roads.

Percentage change in traffic, 2000 - 2017

	Cars & taxis	Vans	Lorries	Other motor vehicles
Motorways	21%	78%	10%	-23%
Rural 'A' roads	17%	73%	1%	-4%
Rural minor roads	18%	41%	-33%	-28%
Urban 'A' roads	-8%	29%	-20%	-17%
Urban minor roads	-2%	46%	-46%	-10%

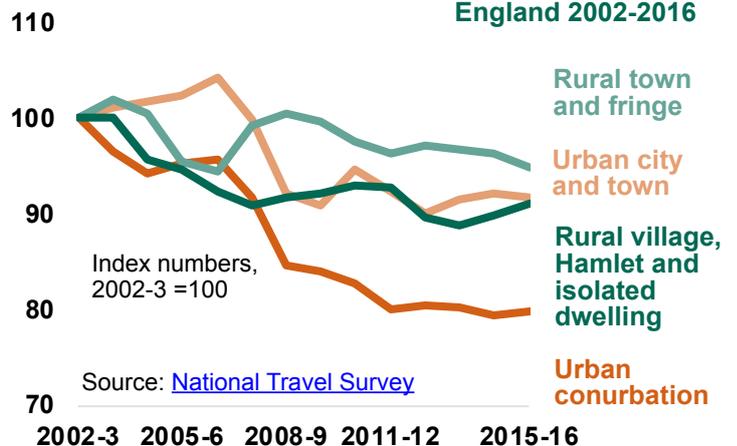
Car trends

Cars have contributed around two-thirds of the observed changes to traffic on rural and urban roads between 2000 and 2017.

Population and personal car travel

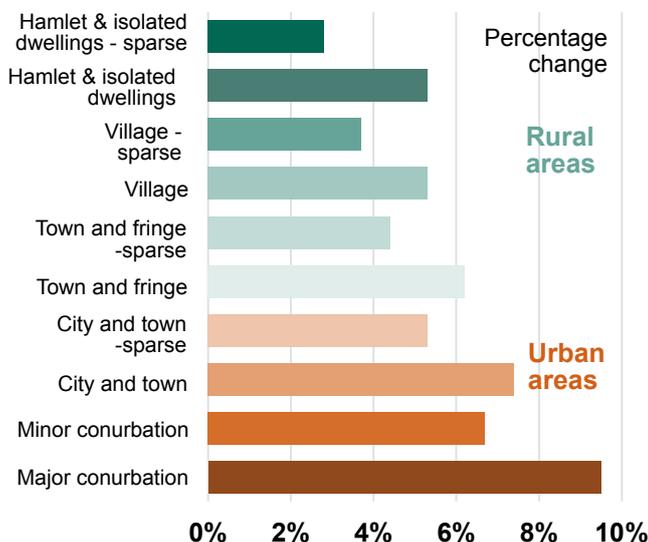
In England, the 2016 National Travel Survey showed that the average annual mileage per person fell most for residents in urban conurbations, but to a lesser extent for more rural residents. As a greater proportion of the distance driven by rural residents is likely to occur on rural roads, this trend would tend to lead to a relative shift in car traffic towards rural roads.

Average personal car/van driver distance by area type, England 2002-2016



Source: [National Travel Survey](#)

Population growth in England and Wales by rural-urban classification (ONS), 2001 - 2011



However, differing population growth in rural and urban areas may have offset how changes in per person car travel have affected total car traffic.

Population growth between 2001 and 2011 was generally higher in urban areas than in rural areas (left), perhaps explaining why the reduction in car traffic in urban areas was not as large as might be expected from the drop in per person car travel in these areas.

Mode choice and car traffic

In urban areas, factors such as congestion on urban roads and better cycling and public transport links can make car travel a less attractive option than in rural areas. Compared with using a car, reaching key services using public transport takes over twice as long on average in rural areas, but only about 50% longer in urban areas (below).

This could have caused a shift in people's travel behaviour away from using cars towards public transport and other modes. Between 2002/3 and 2015/16 there was indeed a decline in average annual distance travelled by urban residents: this was 556 miles for a car driver, and 246 miles for a car passenger. However, distance travelled by other modes rose only 13 miles over the same period, suggesting that they are simply travelling less far.

Car trip destinations and routing

Another factor that could influence traffic trends on urban and rural roads is a change in the type of car trips people make, or the route they take to get between a given origin and destination.

There are no long-term data sources yet available which directly address this question. However, it is possible to look at factors which might cause drivers to choose rural routes over urban ones, such as congestion levels.

In 2017 in England, delays on locally managed urban 'A' roads were greater than on rural 'A' roads or on Highways England managed roads (right), and have also risen more since 2014.

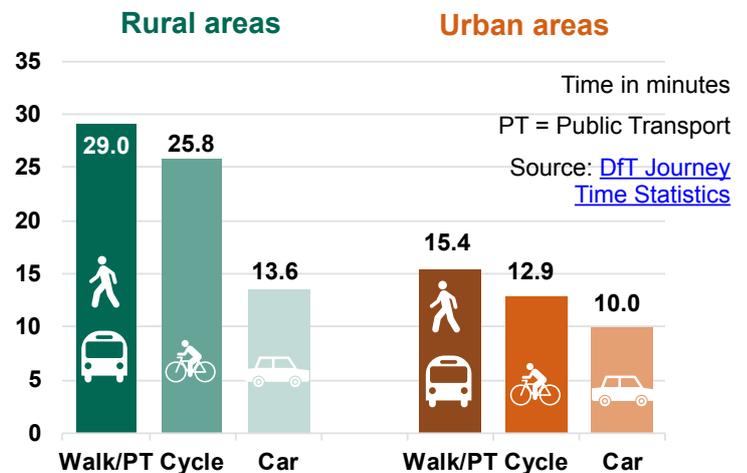
Average daily flows on urban roads are much higher than on rural roads (right), so urban roads likely have less spare capacity to buffer changes in traffic without increasing congestion. Changes in road space for private cars on urban roads could affect delays even without traffic growth, for example through the creation of bus and cycle lanes.

Freight trends

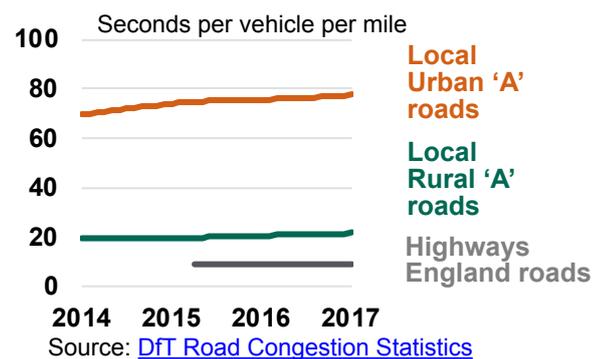
The decline in lorry traffic on urban roads (a reduction of 0.9 billion vehicle miles between 2000 and 2017) has been offset by the corresponding increase in van traffic on these roads (an increase of 4.7 billion vehicle miles over the same period).

As discussed in the van and lorry sections of this report (see [p.14](#)), anecdotal evidence suggests that freight is moved more efficiently by larger lorries on motorways and rural dual-carriageways than on narrow or busy urban roads; large lorries are often restricted to certain routes. To some extent, vans may have replaced lorries for use in urban areas.

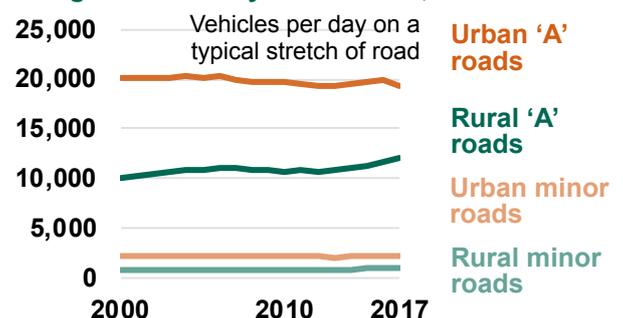
Average minimum travel time to key services by transport mode and area type, England 2016



Average delay on major roads, England 2014 - 2017



Average annual daily vehicle flow, 2000 - 2017



The Strategic and Local Road Networks in England

This section explores how traffic differs across the different road networks in England.

Overview

Compared with 2016, traffic increased by 2.1% on England's Strategic Road Network and 1% on the Local Road Networks in 2017.

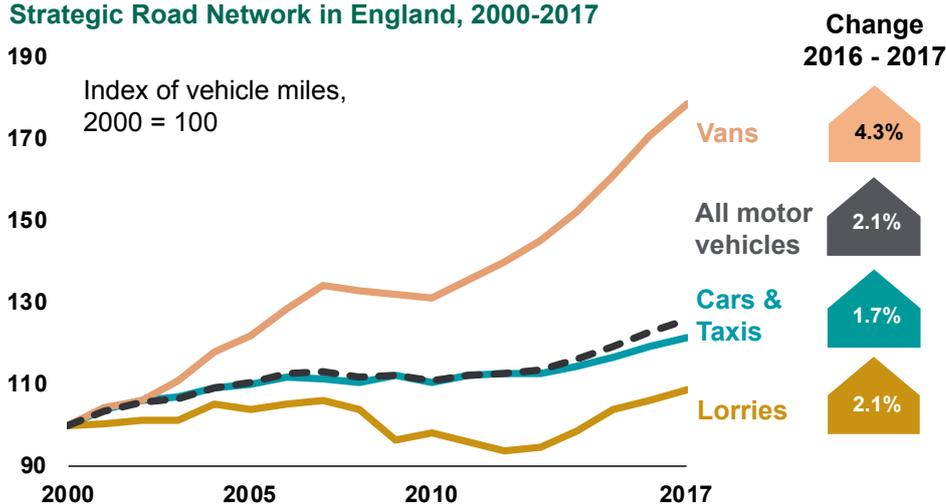
Billion vehicle miles travelled in 2017:

	Billion vehicle miles travelled in 2017:	Change 2016 - 2017:	AADF (Number of vehicles passing per 24 hours on a typical stretch of road)
Strategic Road Network	94.1	2.1%	57,700
Local Major Road Network	89.6	0.2%	14,000
Local Minor Road Network	95.7	1.2%	1,600

In 2017 on the Strategic Road Network:

- ▶ Although the SRN makes up only 2.4% of England's road network, it carried 34% of all motorised traffic in England.
- ▶ **Car traffic** grew by 1.7% from 2016, to 69.1 billion vehicle miles.
- ▶ **Van traffic** grew more quickly than any other vehicle type, rising 4.3% from 2016 levels to 14.3 billion vehicle miles.
- ▶ **Lorry traffic** also grew by 2.1% to 10.1 billion vehicle miles.

Vehicle miles travelled by selected vehicle types on the Strategic Road Network in England, 2000-2017

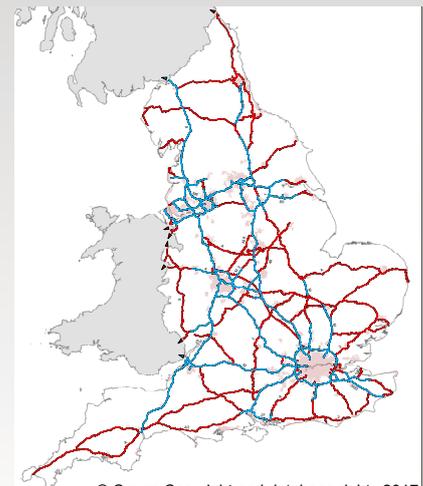


About the SRN

The Strategic Road Network (SRN) is made up of the motorways and major trunk roads in England that are managed by [Highways England](#) (HE; previously the Highways Agency). These roads are depicted in the map.

In 2017 the SRN comprised approximately 4,470 miles of road (2.4% of the English network).

The majority of other roads in England are maintained by one of the 152 local highways authorities.



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Department for Transport gisu1112j178

In 2017 on the Local Road Networks:

The local motorway and 'A' road network (major roads) carried 32% of traffic despite being only 9% of England's road length. The remaining third of traffic was on England's 'B' and 'C' classified and unclassified road network, which makes up 88% of roads in England.

Strategic Road Network

(Motorways and 'A' roads managed by Highways England)

94.1 billion vehicle miles in 2017

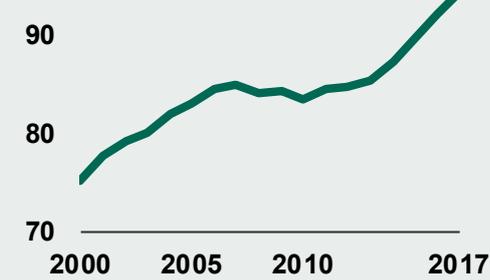
of which...



2% of road length

34% of vehicle miles

Trend in traffic on the strategic road network, 2000 - 2017 (billion miles)



↑ **2.1%**
from 2016

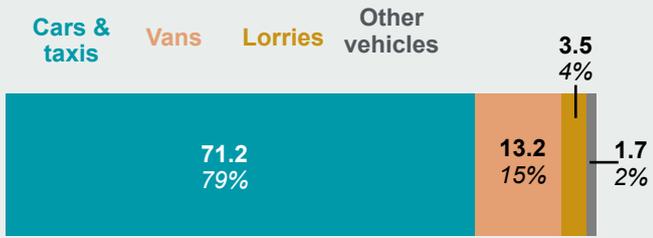
↑ **10.8%**
from 2007

Local Major Road Network

(Motorways and 'A' roads managed by local authorities)

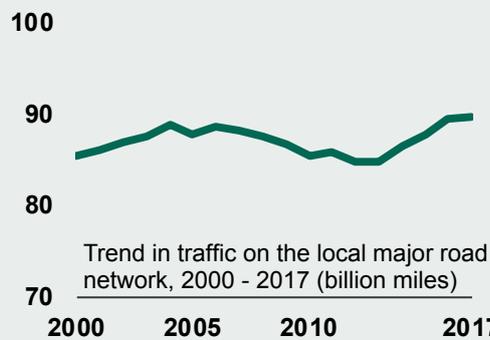
89.6 billion vehicle miles in 2017

of which...



9% of road length

32% of vehicle miles



↔ **0.2%**
from 2016

↑ **2%**
from 2007

Local Minor Road Network

('B' and 'C' classified and unclassified roads managed by local authorities)

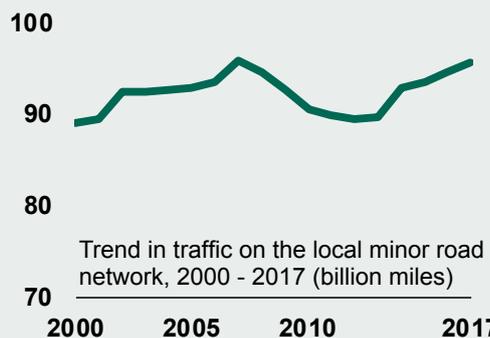
95.7 billion vehicle miles in 2017

of which...



88% of road length

34% of vehicle miles



↑ **1.2%**
from 2016

↔ **-0.3%**
from 2007

“Detrunking” and traffic trends over time on the SRN and local roads

Between 1999 and 2012, the length of the SRN reduced by 12.6%. This was a result of the detrunking programme, where the management of parts of the SRN transferred from Highways England (then Highways Agency) to the relevant local authorities.

DfT produces two kinds of time-series broken down by management to facilitate interpretation of trends over time:

- Figures in tables TRA41 figures refer to the management status of a road on 1st April in each of the historic years;
- Figures in tables TRA42 figures refer to the management status of a road as of 1st April 2017 (“static management”), to remove the effect of changing road length on vehicle miles.

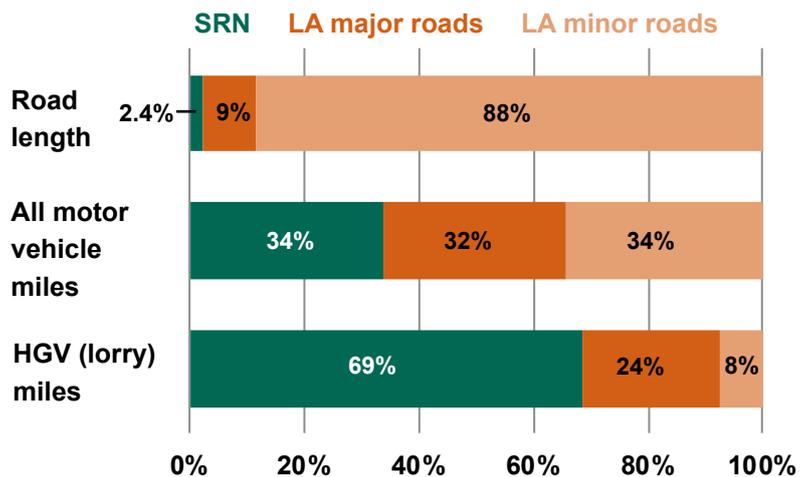
All of the trends over time presented in this section use “static management” figures, as published in tables TRA42.

Share of traffic by road type

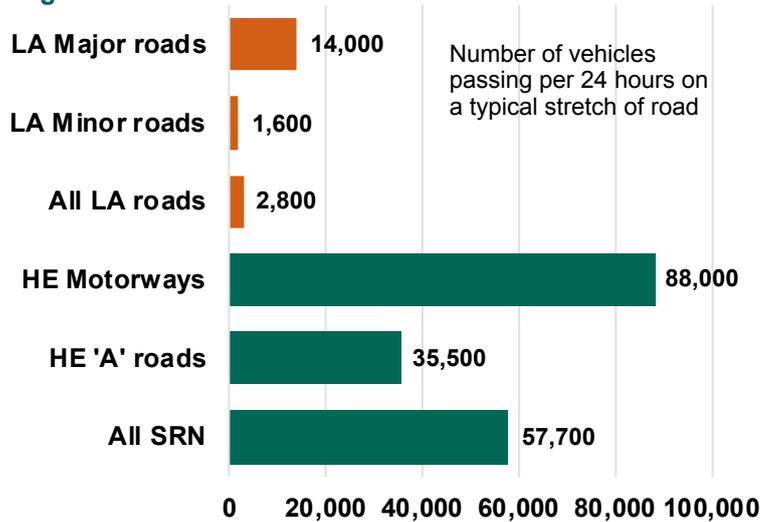
Despite making up only 2.4% of the road network by length in England, one third of all vehicle miles were driven on the SRN in 2017.

The SRN is particularly important for freight, with one third of van miles and over two-thirds of lorry miles in England being driven on the SRN in 2017.

Road length and vehicle miles in England, 2017



Average daily vehicle flow by road type and management, England 2017



Over 57 thousand vehicles travel along a typical stretch of the strategic road network each day. This is about four times greater than the number for a typical stretch of locally managed major roads, at 14,000.

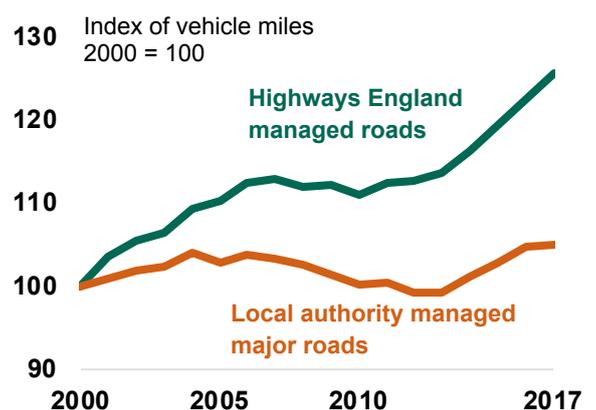
The difference in average vehicle flow between the SRN and local roads was widened by the “detrunking” program of the last two decades, which transferred a subset of trunk roads (in general, those with lower flow) to local authority management.

Longer term trends

Traffic on the SRN rose quickly after a period of stasis during the 2008 recession. Traffic increased 12.7% between 2010 and 2017.

In comparison, traffic fell more on all local roads during the recession and recovered slower. Traffic increased 5.2% between 2010 and 2017, so that in 2017 it was slightly above pre-recession levels.

Motor vehicle traffic in England by road management, 2000-2017



Useful Links

Strategic Road Network Statistics - www.gov.uk/government/statistics/strategic-road-network-statistics

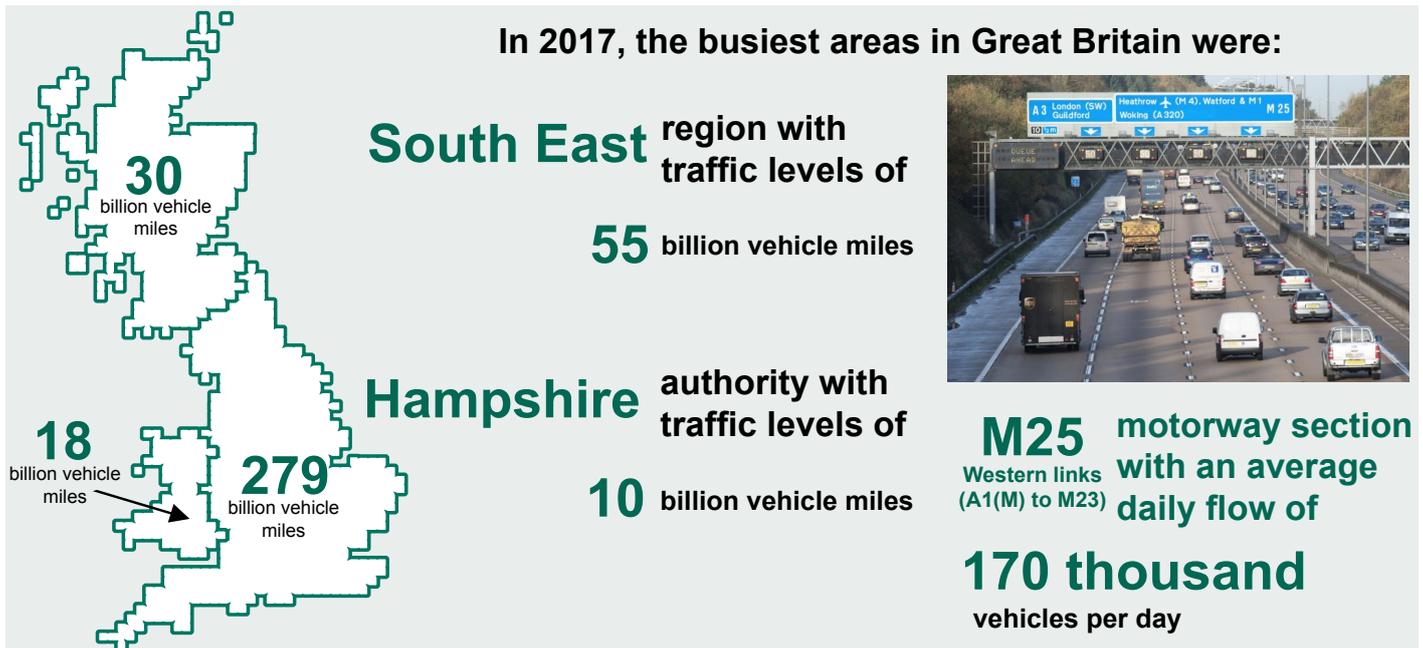
DfT report 'Use of the Strategic Road Network' - www.gov.uk/government/statistics/use-of-the-strategic-road-network

Highways England homepage - www.gov.uk/government/organisations/highways-england

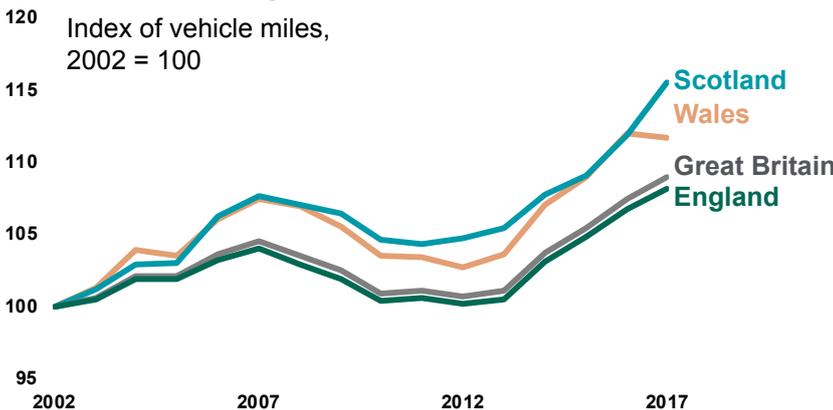
Forecasts from DfT's National Transport Model - www.gov.uk/government/publications/road-traffic-forecasts-2015

Geographical Variation in Traffic

This section explores how levels and trends in traffic differ between different roads and areas of Great Britain.



Road traffic trends by the countries of Great Britain, 2002-2017



At the national level in 2017, 85% of Great Britain's traffic was on England's roads.

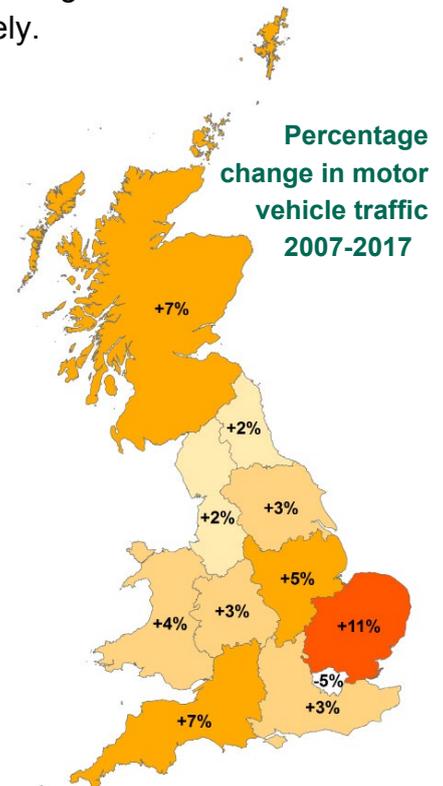
Over the last ten years, traffic growth has been fastest in Scotland and slowest in England, with 2017 figures 7% and 4% higher than in 2007 respectively.

Road traffic trends by regions of Great Britain

The South East region had the highest traffic levels in 2017, with 55 billion vehicle miles driven on its roads. This was 17% of all traffic in 2017. The South East has 12% of road length in Great Britain.

Of the five local authorities with the highest levels of traffic, three are in the South East region (Hampshire, Kent, Surrey) and the other two are in East of England region (Essex, Hertfordshire). These are all authorities with relatively large road networks, and they all contain some of the major motorways of Great Britain.

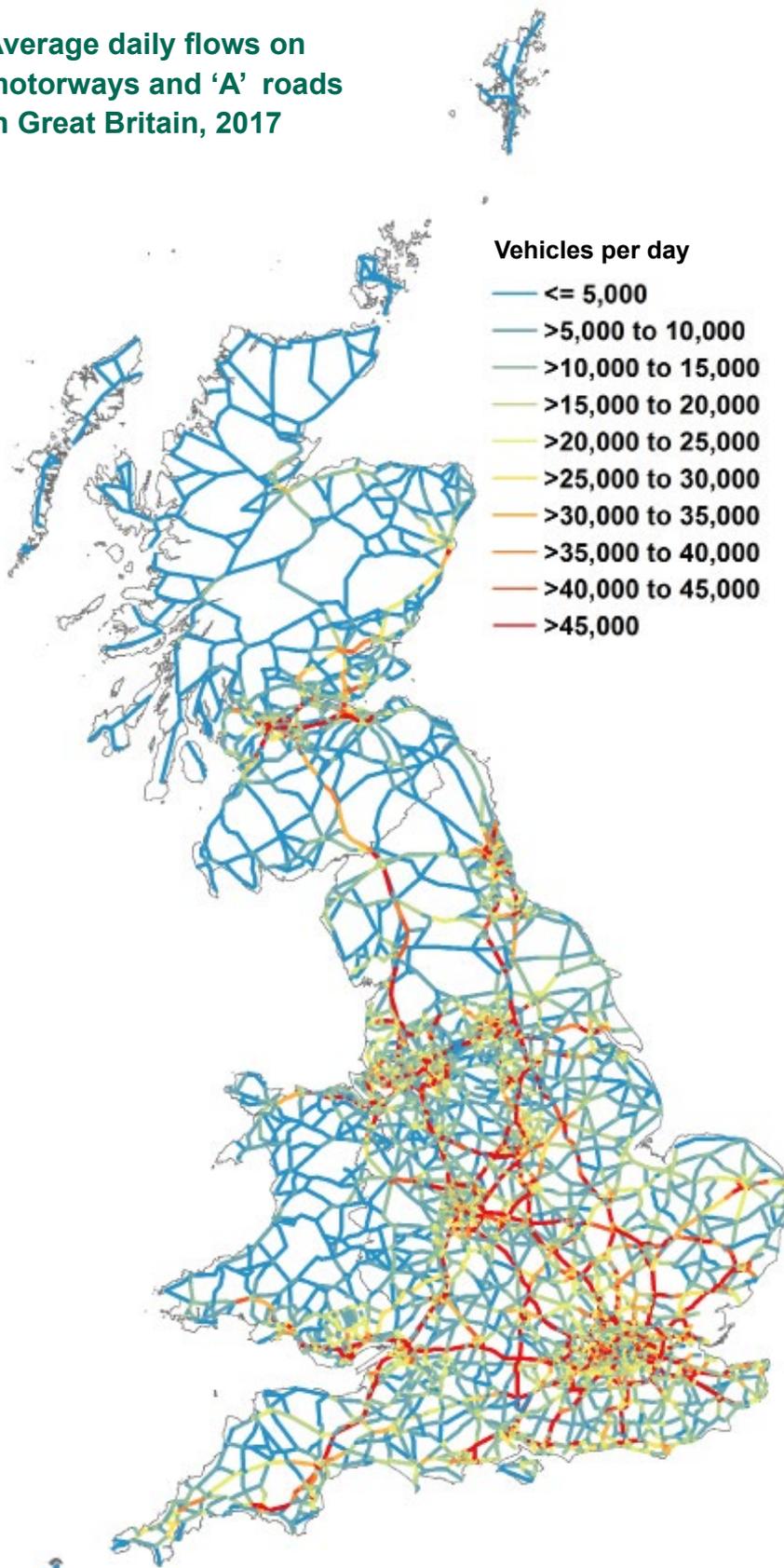
Compared to 2016, all regions saw an increase or stability in their traffic levels in 2017 of between 0% and 4%. Over the last ten years, the East of England region has seen the highest traffic growth (11%) and Greater London is the only region to have had a fall in traffic (-5%).



Road-level traffic data for Great Britain

The DfT statistics produce an estimate of traffic flow (see definition on page 2), for an average day in a given year, for each junction-to-junction link on the motorway and 'A' road network in Great Britain. The 2017 average flows for these roads are represented on the map.

Average daily flows on motorways and 'A' roads in Great Britain, 2017



Average daily flows on motorway and 'A' road links in 2017 ranged from less than 5,000 vehicles to over 200,000.

Major roads with the lowest flow levels (shown in blue on the map) tended to be rural 'A' roads.

The busiest roads (shown in red on the map) were in general the motorways and 'A' roads that make up the Strategic Road Network in England, or equivalent trunk road networks in the devolved administrations.

The road links with the highest average daily traffic flows in 2017 were sections of the M25 and M60.

Five busiest road sections

Vehicles per day in 2017*

1. M25 J14-15	211,000
2. M25 J15-16	203,000
3. M25 J13-14	195,000
4. M60 J12-13	184,000
5. M25 J12-13	184,000

*rounded figures

Road-level data

The street level traffic estimates for all junction-to-junction links of motorways and 'A' roads in Great Britain are available to view and download at the traffic counts website -

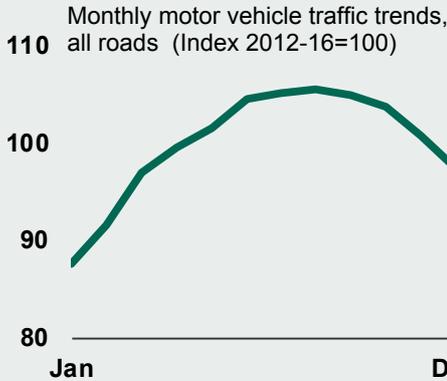
www.dft.gov.uk/traffic-counts

Daily, weekly and seasonal traffic patterns

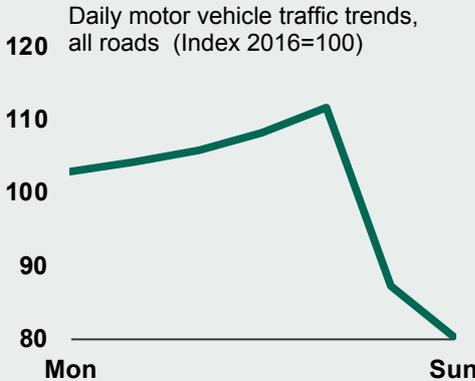
This section presents statistics on how traffic varies across the year.

On average, across all road types in Great Britain:

August is the busiest month



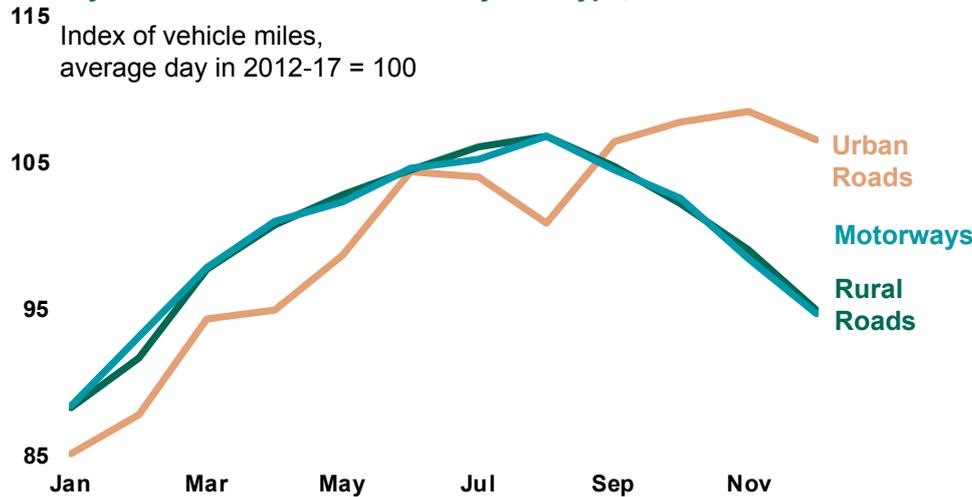
Friday is the busiest day of the week



4pm to 6pm are the busiest hours in weekdays

11am to 1pm are the busiest hours at weekends

Monthly motor vehicle traffic trends by road type, 2012-17



Data source

Statistics about temporal variation in traffic flow are compiled using data from DfT's network of automatic traffic counters (ATCs).

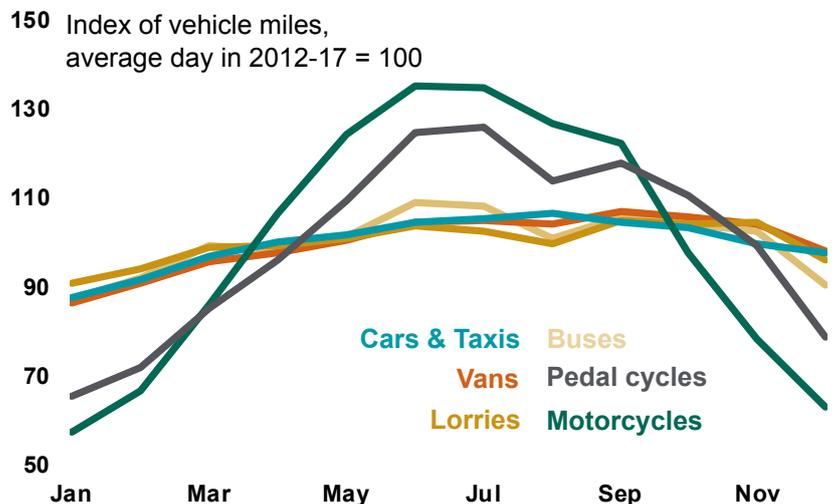
ATCs count and classify vehicles passing over them 24 hours a day, on every day of the year, so are well suited to provide data on flow variation across a range of timescales.

On average between 2012 and 2017, motor vehicle flow was lowest in January on all road types. Flow was highest on motorways in August, and highest on rural roads in July. On urban roads, flow was highest on average in November. A dip in urban road traffic is evident in August, likely due to this being the school holidays when traffic associated with the school run and commuting is reduced.

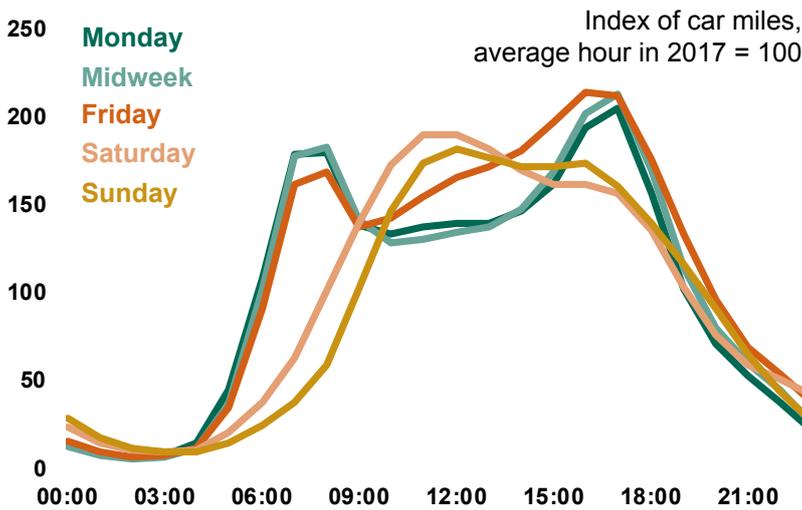
Most vehicle types (cars, vans, heavy goods vehicles, buses and coaches) followed these patterns by road type.

However, motorcycles and pedal cycles had much more seasonal travel patterns. The miles travelled by these vehicle types in the summer months were over 75% higher than in the winter months.

Monthly vehicle traffic trends on all roads by vehicle type, 2012-17



Daily car traffic trends on all roads



On an average weekday in 2017, car traffic was highest in the afternoon peak, between 4pm and 6pm.

This pattern was observed across the different road types (motorways, rural roads, urban roads).

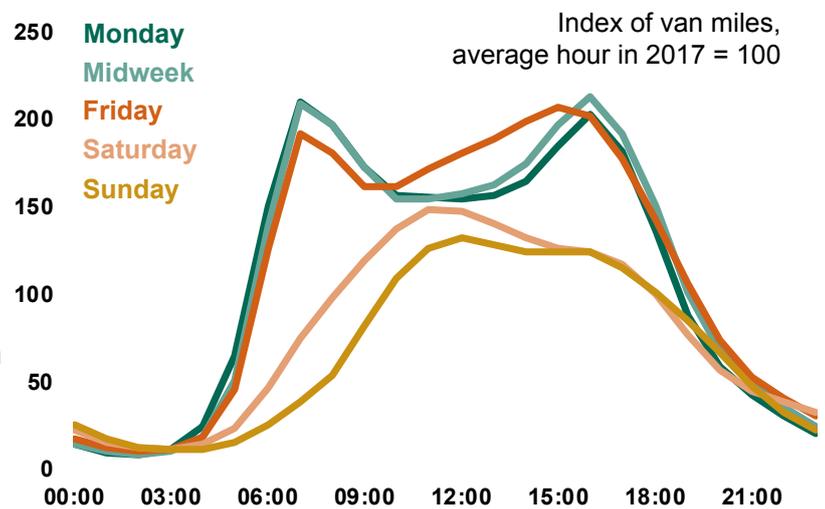
On an average weekend in 2017, car traffic was highest in the middle of the day, between 11am and 1pm. The weekend peaks were at a similar level to the weekday morning peak.

Motorways had a slightly different pattern on Sundays, where the peak traffic flow was on average between 4pm and 5pm.

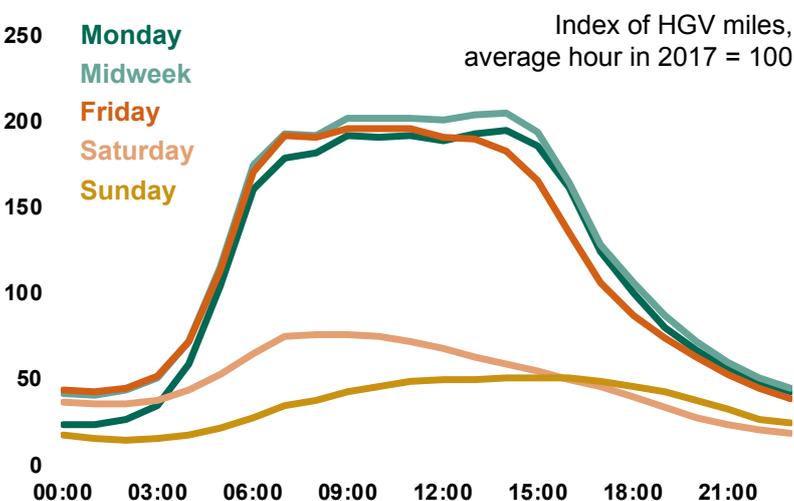
Daily van traffic trends on all roads

On average in 2017, vans had similar daily travel patterns to cars. The main differences between van and car daily patterns were:

- Weekday morning and afternoon peaks were a similar level for vans, whereas the afternoon peak is higher for cars.
- The afternoon peak for vans was an hour earlier, between 3pm and 5pm, on average.
- The proportion of vans on the road at weekends was generally lower than weekdays, even at the peak periods.



Daily HGV traffic trends on all roads



HGV travel patterns, for an average weekday in 2017, showed a more constant level of traffic in the middle of the day than cars and vans. There were much lower numbers of HGVs on the roads at the weekends than on weekdays.

On motorways, HGV weekday peaks were in the early afternoon (1pm to 3pm), except on Friday when the highest HGV traffic was at 11am to 12pm.

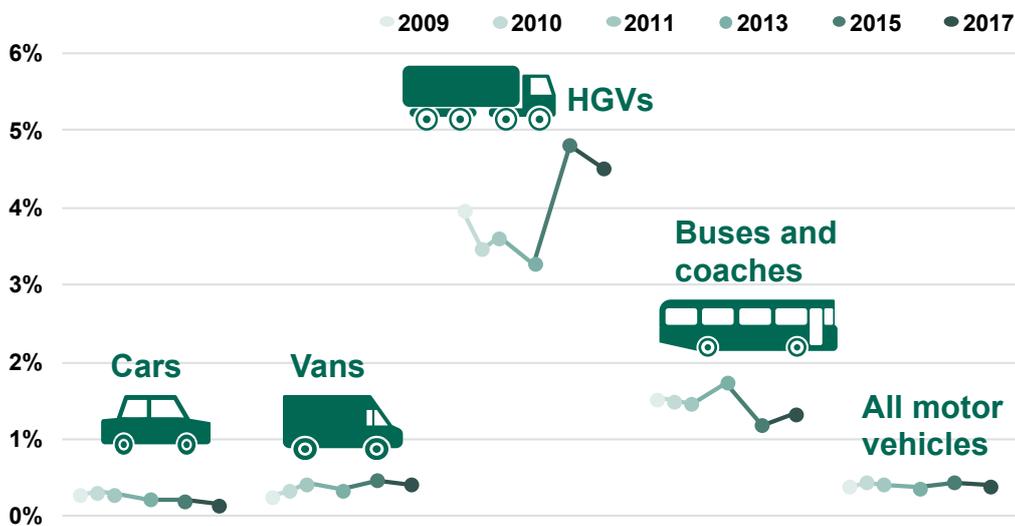
On other types of road, the highest weekday levels of HGV traffic were in the morning (8am to 11am).

Foreign Registered Vehicles

The statistics presented elsewhere in this release include the activity of both British and foreign-registered vehicles in Great Britain. This section discusses the proportion of vehicles in traffic which are registered outside the UK. The latest figures available cover the year 2017. See the 'data source' box for more information.

In 2017, 0.4% of all traffic on British roads was estimated to be accounted for by foreign registered vehicles. HGV traffic has the highest proportion of foreign registered vehicles. In 2017, 4.5% of HGV traffic was estimated to be foreign registered, a slight decrease of 0.3 percentage points compared to 2015.

Percentage of foreign vehicles in traffic, by vehicle type



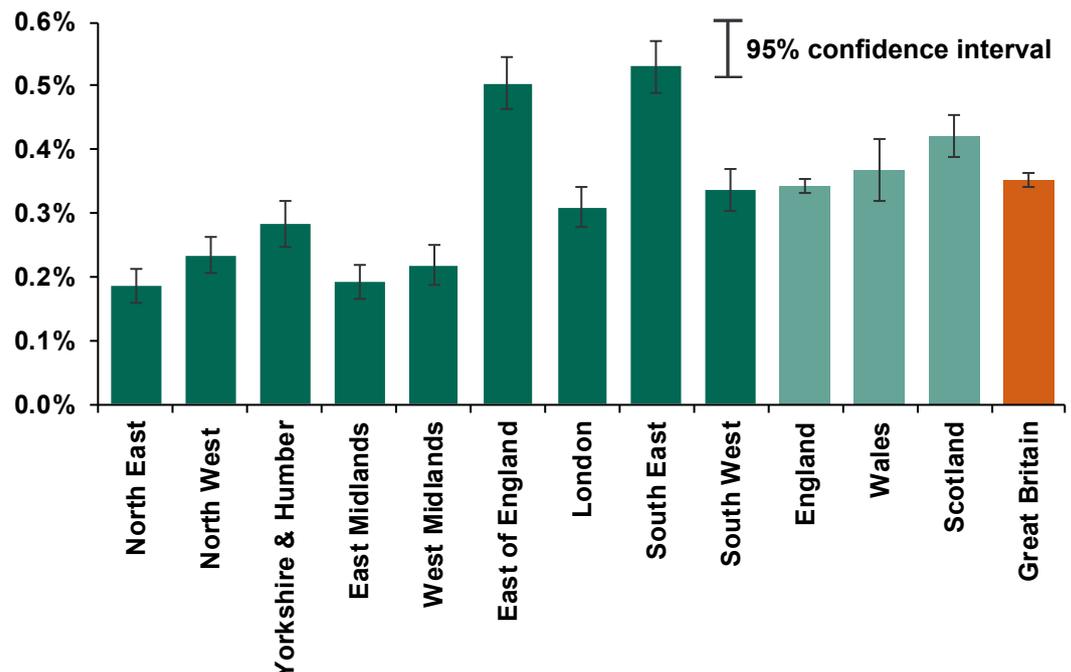
Data source

Estimates of the proportion of traffic from vehicles which are registered outside of the UK are published on the Department for Transport website every second year.

Every other June, a roadside survey using Automatic Number Plate Recognition cameras captures registration marks of over a million vehicles. Registration marks originating outside the UK, the Isle of Man and the Channel Islands are identified and used to estimate the rate of foreign registered vehicles on Britain's roads.

The South East region had the highest proportion of foreign registered vehicles of any region within Great Britain. This likely reflects that the South East is the region of arrival and departure for many motor vehicles coming from Europe through ports and the channel tunnel.

Percentage of foreign vehicles in traffic, by region, 2017



Further Information

Online traffic data

The complete series of data tables associated with this release, including tables mentioned in the text, can be found on the following pages:

- ▶ **TRA01:** Traffic volume (miles) - www.gov.uk/government/statistical-data-sets/tra01-traffic-by-road-class-and-region-miles
- ▶ **TRA02:** Traffic volume (kilometres) - www.gov.uk/government/statistical-data-sets/tra02-traffic-by-road-class-and-region-kms
- ▶ **TRA03:** Average annual daily flow and temporal traffic distributions - www.gov.uk/government/statistical-data-sets/tra03-motor-vehicle-flow
- ▶ **TRA04:** Pedal cycle traffic - www.gov.uk/government/statistical-data-sets/tra04-pedal-cycle-traffic
- ▶ **TRA31:** Heavy goods vehicle traffic - www.gov.uk/government/statistical-data-sets/tra31-heavy-goods-vehicle-traffic
- ▶ **TRA32:** Foreign registered vehicles in GB traffic - www.gov.uk/government/statistical-data-sets/tra32-foreign-registered-vehicles-in-traffic
- ▶ **TRA41:** Strategic Road Network traffic - www.gov.uk/government/statistical-data-sets/tra41-strategic-road-network-traffic
- ▶ **TRA42:** Strategic Road Network traffic based on a static road management status - www.gov.uk/government/statistical-data-sets/tra42-traffic-based-on-a-static-road-management-status
- ▶ **TRA89:** Road traffic by region and local authority - www.gov.uk/government/statistical-data-sets/tra89-traffic-by-local-authority

Quarterly traffic data

- ▶ **TRA25:** All quarterly traffic estimates - www.gov.uk/government/statistical-data-sets/tra25-quarterly-estimates

Traffic counts website

- ▶ This website provides street-level traffic data for every junction-to-junction link on the 'A' road and motorway network in Great Britain, free for the general public - www.dft.gov.uk/traffic-counts/

Related data

- ▶ **DfT Road traffic forecasts** - www.gov.uk/government/publications/road-traffic-forecasts-2015
- ▶ **DfT Road congestion and reliability statistics** - www.gov.uk/government/collections/road-congestion-and-reliability-statistics
- ▶ **DfT National Travel Survey Statistics** - www.gov.uk/government/collections/national-travel-survey-statistics
- ▶ **DfT Road accidents and safety statistics** - www.gov.uk/government/collections/road-accidents-and-safety-statistics
- ▶ **DfT Vehicles statistics** - www.gov.uk/government/collections/vehicles-statistics
- ▶ **DfT report 'Use of the Strategic Road Network'** - www.gov.uk/government/statistics/use-of-the-strategic-road-network
- ▶ **DfT report 'Understanding the drivers of road travel'** - www.gov.uk/government/publications/understanding-the-drivers-of-road-travel-current-trends-in-and-factors-behind-roads-use
- ▶ **DfT Road use statistics 2016 report** - www.gov.uk/government/statistics/road-use-statistics-2016
- ▶ **Transport Statistics Great Britain 2017** - www.gov.uk/government/statistics/transport-statistics-great-britain-2017

Background information

Road Traffic Statistics Methodology: 2017 Changes

A more robust methodology was implemented to produce road traffic estimates in 2017. The changes fall into two categories:

► Road Traffic Methodology Review

The Department for Transport's Road Traffic Statistics Team have conducted a review of the traffic estimates for Great Britain. The aim of the review was to seek opportunities for innovation and efficiencies in the production of traffic statistics, without degrading their quality in terms of accuracy and reliability, timeliness and meeting user needs.

The result of this review was the implementation of a more robust method for producing annual road traffic estimates. The methodology improvements are:

- New stratification categories.
- Innovations in the processing and imputation of data from the Department for Transport's automatic traffic counters.
- Refinement of the calculation of the "expansion factors", which are used to transform 12-hour vehicle counts into an estimate for an average day in the year.
- Refinement of the calculation of traffic estimates on minor roads.
- Use of automatic traffic counter data from other sources (Highways England, Transport Scotland, Transport for London).

These methodology improvements have been applied to 2017 data, and also applied retrospectively to 2016 data. The revised 2016 figures are presented in this release and the accompanying tables to enable a direct year-on-year comparison. Longer-term comparisons, as presented in this document, can be made given the relatively small nature of the revision. Further guidance is available in the Technical Note that accompanies this publication.

www.gov.uk/government/statistics/road-traffic-statistics-methodology-review

► Road length statistics improvements

Road traffic statistics are calculated by using vehicle counts and road length data, and so changes to the road length statistics impact on the road traffic estimates. The Department for Transport has made improvements to the methodology used to produce the statistics "*Road Lengths in Great Britain 2017*". These changes include:

- Updates to the urban/rural definitions applied to the road lengths, so that they are based on the latest definitions published by the Office for National Statistics (for England and Wales figures) and the Scottish Government.
- Methodology improvements in calculating urban and rural road lengths for motorways and 'A' roads in Great Britain, resulting in more accurate estimates for these road types in 2017.

Further information about these improvements to the road lengths methodology for 2017 can be found in the publication "*Road Lengths in Great Britain 2017*":

www.gov.uk/government/statistics/road-lengths-in-great-britain-2017

Background information

Traffic statistics methodology: strengths and weaknesses

Annual estimates make use of data from around 8,000 manual traffic counts in addition to continuous data from a national network of around 300 automatic traffic counters. These data sources produce accurate estimates on traffic levels in Great Britain by vehicle type and by road type.

A detailed explanation of the methodology used to produce DfT road traffic statistics can be found online in **Annual road traffic estimates: methodology note** at www.gov.uk/government/publications/road-traffic-statistics-guidance.

Whilst road traffic data is accurate at a high level of aggregation, it should be noted that:

- ▶ Although we produce traffic breakdowns by local authorities, traffic at this level is not robust, due to the sample size of the minor road data and must be treated with caution.
- ▶ Estimates for pedal cycle traffic only include cycling on roads, or paths directly adjacent to the road, and do not include estimates of cycling on other routes such as canal paths. Therefore, they may not give a complete representation of cycling.
- ▶ During June, every second year, a roadside survey is carried out collecting information about vehicles travelling on the road which identifies vehicles with registration marks originating outside United Kingdom. This information has been used to produce estimates of the rate of foreign registered vehicles on Britain's roads, which are presented in tables [TRA32](#). These figures are designated as official statistics but not as National Statistics and should be treated with caution as the sample size is relatively small (over 7,000 observations of foreign registered vehicles out of 1.1 million total observations). Particular attention should be paid to the confidence interval associated with each statistic and in some cases statistics have not been produced as the sample size is too small. This survey is next due to be carried out in 2017 and therefore the next estimates of foreign vehicle traffic will be published in 2018.
- ▶ The Road Traffic statistics series consistently reports higher levels of vehicle kilometres for HGVs than the Road Freight statistics series. This can mainly be attributed to difference in data collection. A methodology note on this issue has been published and can be found in our statistical guidance notes online here: www.gov.uk/government/publications/road-traffic-statistics-guidance.

Background information

Users and uses of road traffic estimates

We continuously review the content of these statistics to ensure they are meeting users' needs. We welcome feedback via email and the team can be contacted at roadtraff.stats@dft.gsi.gov.uk.

A summary of the feedback we have received from users in a previous consultation can be found in '[Meeting customers' needs: Users and uses of road traffic statistics and data](#)'. We continue to welcome any feedback on these statistics.

Road traffic data are a key source of management information on the country's infrastructure. Main uses of road traffic statistics include:

► National Atmospheric Emissions Inventory (NAEI)

Road traffic statistics are used to produce the National Atmospheric Emissions Inventory (NAEI), a legal requirement for EU Air Quality Directives, and for the UN Framework Convention on Climate Change.

► Transport Modelling

The Department for Transport's National Transport Model uses most traffic and speeds outputs to make forecasts and to inform policy decisions on a broad range of issues.

► Local transport planning

Local Authorities (including Transport for London) and devolved governments use the data for transport planning, road engineering and policy monitoring at a regional or local level.

► Road accident and safety statistics

Road accident and safety statistics use annual and quarterly traffic estimates to produce road safety and accident rates, as required for the Strategic Framework on Road Safety.

► The Department for Communities and Local Government

This department uses traffic data on major roads to contribute towards the funding settlement for local authorities.

► Public Users

The Department for Transport receives over 200,000 visits to the traffic counts website (www.dft.gov.uk/traffic-counts/) and its underlying datasets, which provide street-level traffic data for every junction-to-junction link on the 'A' road and motorway network in Great Britain.

Next release

The next annual traffic statistics release is expected to be published in June 2019, reporting 2018 traffic figures.

Provisional figures for 2018 will be published on a quarterly basis during 2018-19. The next provisional figures, for the year to end Mar 2018, are due to be released 19 July 2018.

Feedback

We welcome further feedback on any aspects of the Department's road traffic statistics including content, timing, and format via email to roadtraff.stats@dft.gsi.gov.uk

National Statistics

National Statistics are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure they meet customer needs.

Details of Ministers and officials who receive pre-release access to these statistics up to 24 hours before release can be found here: www.gov.uk/government/publications/pre-release-access-lists-for-road-traffic-speeds-and-congestion-series