

Annual Road Traffic Estimates 2011

This Statistical Release presents road traffic estimates for Great Britain in 2011.

Annual estimates are mainly based on around 10,000 manual counts where trained enumerators count traffic by vehicle type over a 12 hour period. Traffic data are also collected continuously from a national network of around 180 Automatic Traffic Counters (ATCs). In addition to counting traffic, the ATCs record some of the physical properties of passing vehicles which are used to classify traffic by type.

These two data sources are combined with road lengths statistics to produce the number of vehicle miles travelled each year by vehicle type, road category and region.



Key findings	1
Road Traffic in 2011	2
Road traffic by vehicle type	4
Road traffic by road class	6
Motor vehicle flows	7
Geographical variations in road traffic	9
Vehicle weights	10
Heavy goods vehicle headway	11
Foreign registered vehicles	11
Strengths and weaknesses of the data	13
Users and uses of Road traffic estimates	14
Background Notes	14

Key results :

- In 2011 the overall motor vehicle traffic volume in Great Britain was 303.8 billion vehicle miles compared to 303.2 billion vehicle miles in 2010 (0.2% change). This is broadly stable after three consecutive years of falls.
- Car traffic increased slightly by 0.4 per cent in the last year to 240.7 billion vehicle miles.
- In 2011, light goods vehicle (LGV) traffic grew for the second consecutive year by 0.8 per cent to 41.4 billion vehicle miles. LGV traffic peaked in 2007, with recent increases not being large enough to cancel out the falls experienced in 2008 and 2009.
- Increases in car and LGV traffic between 2010 and 2011 were offset by decreases in heavy goods vehicle (HGV) and bus and coach traffic.
- HGV traffic has decreased by 2.7 per cent since 2010 to 15.9 billion vehicle miles. HGV traffic has fallen by 8.6 per cent since 2001.
- Bus and coach traffic has decreased by 7.6 per cent since 2010 to 2.9 billion vehicle miles. Bus traffic has fallen by 9.1 per cent since 2001.

RESPONSIBLE STATISTICIAN
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FURTHER INFORMATION

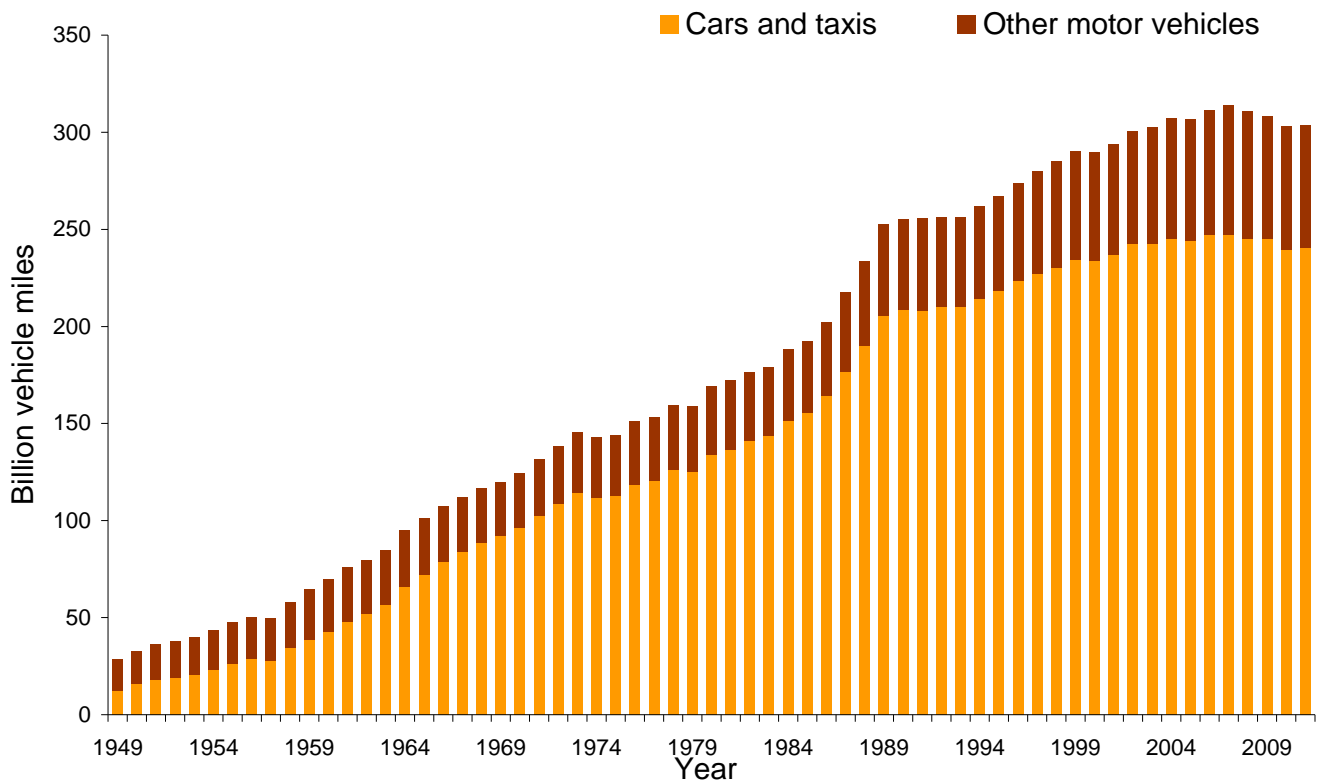
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1. Road Traffic in 2011

In 2011, the overall motor vehicle traffic volume in Great Britain was 303.8 billion vehicle miles. This is similar to traffic volume in 2010 (303.2 billion vehicle miles) and follows three consecutive years of decreases.

Road traffic in Great Britain, 1949-2011



Since the 1950s the long term trend in the volume of road traffic has been one of growth. In 2011, the overall motor vehicle traffic volume of 303.8 billion vehicle miles was 3.4 per cent higher than 10 years ago, and over 10 times higher than in 1949 (28.9 billion vehicle miles). However over the last 20 years there has been a decline in the rate of traffic growth. Motor vehicle traffic grew by 50 per cent during the 1980s, by 14 per cent during the 1990s and by six per cent between 2000 and 2009. Motor vehicle traffic peaked at 314.1 billion vehicle miles in 2007 following which it fell for three consecutive years; the first consecutive annual falls since traffic records began. In contrast, between 2010 and 2011 traffic volumes were broadly stable.

Road transport continues to be the main transport mode for individuals and businesses. Changes in the volume of road traffic can be related to a number of factors including:

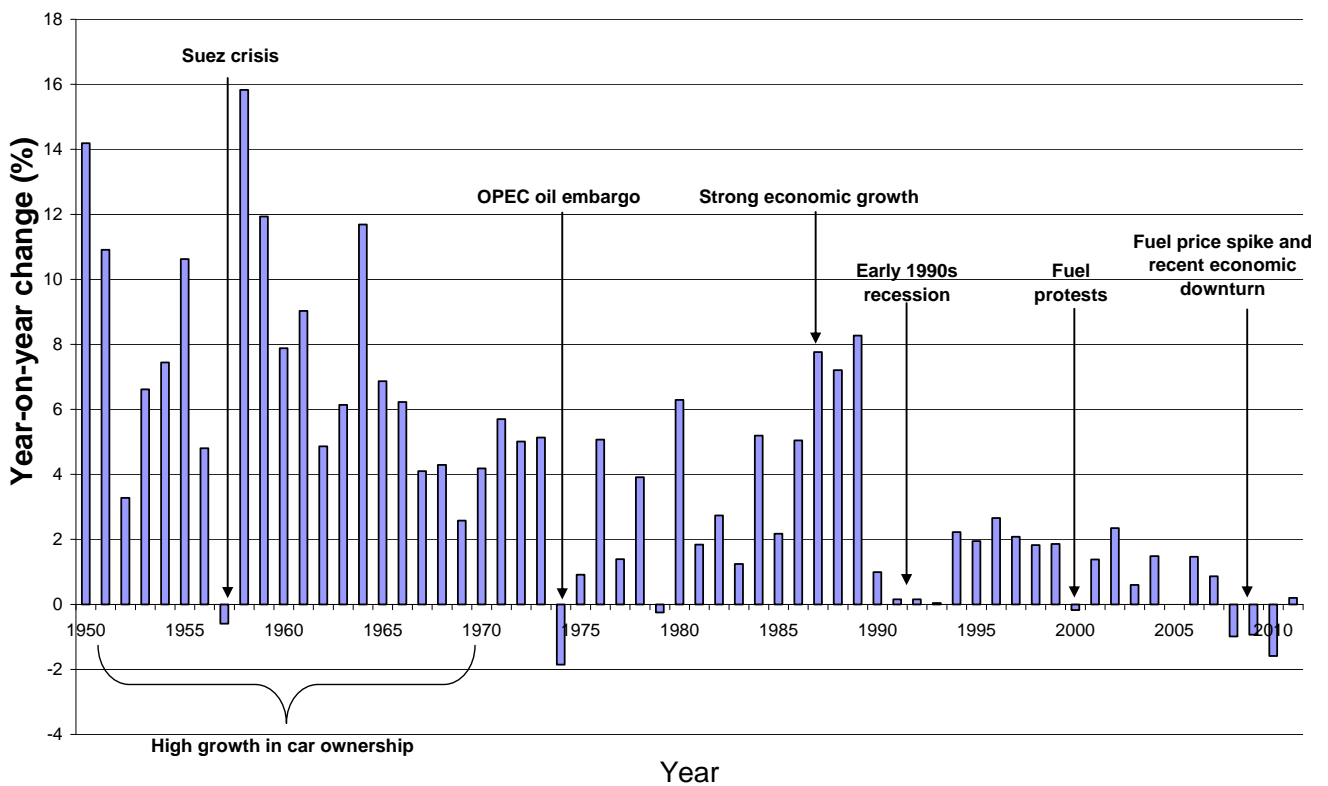
- Population and demography;
- Incomes and the economy;
- Cost of motoring (e.g. fuel prices, fuel efficiency, insurance, etc); and
- Substitutes and complementary forms of transport.

There has been a steady growth in population over the last 20 years resulting in a larger number of people choosing to travel for economic and personal needs and greater production of goods which need to be transported. However changes in the demographics of the driving population have also been observed. According to the National Travel Survey 2010, those aged 17 to 20 and 21 to 29 were less likely to hold a valid driving licence in 2010 than they were 15 years previously. Young people choosing to delay obtaining a driving licence or choosing not to get one at all may reduce the number of potential drivers on the roads.

The long term trend of growth in traffic has mainly been a result of growth in car ownership. Growth in people's incomes, especially those on lower incomes, makes car ownership more affordable. There may be a saturation point in car ownership in the future. However there currently appears to still be some scope for further growth in ownership in some sections of the population. According to the National Travel Survey 2010, there are around a quarter of households without access to a car, with a larger proportion of lower income households without a car.

Fluctuations in road traffic volume tend to coincide with events such as changes in the economy and fuel prices, which influence car ownership and the trip behaviour of car owners.

Year-on-year growth of motor vehicle road traffic in Great Britain, 1949-2011



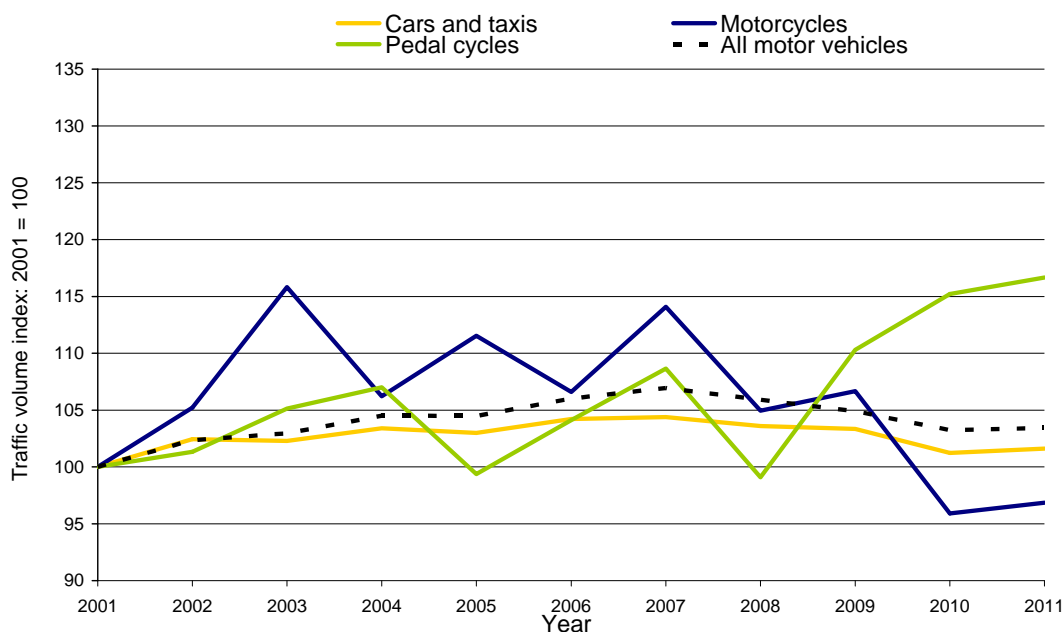
Increases to the cost of motoring¹ could be expected to have a negative effect on changes in the volume of car traffic. However car use is also influenced by associated changes in the cost of alternative modes of transport (i.e. buses and trains)². Additionally, there is evidence that motorists are continuing to move towards cars with lower running costs and greater fuel efficiency. The proportion of diesel, small engine and low CO₂-emitting cars are increasing, especially in the new vehicle market³.

The recent recession may also have influenced people's perception of the value of time which, in turn, may have influenced how much time people spend travelling and which mode they take. For example, more people may be willing to sacrifice the extra time it takes to cycle to their destination following a reduction in income during a recession as it is a cheaper option than driving their car.

2. Road traffic by vehicle type

- Since 1980, cars have accounted for around 80 per cent of all motor vehicle traffic and continue to be the main contributor to changes in the volume of overall motor vehicle traffic.

Road traffic by vehicle type (private vehicles) in Great Britain, 2001-2011



- Car traffic was 240.7 billion vehicle miles in 2011 compared to 239.8 billion vehicle miles in 2010. Longer term, car traffic has increased by around 1.6 per cent between 2001 and 2011. The slight increase in car traffic (0.4 percent) between 2010 and 2011 follows a decline for three consecutive years between 2008 and 2010. According to statistics on vehicle licensing, the number of licensed cars also increased by 0.2 per cent between 2010 and 2011⁴.

¹ <http://www.dft.gov.uk/statistics/tables/tsgb0122/>

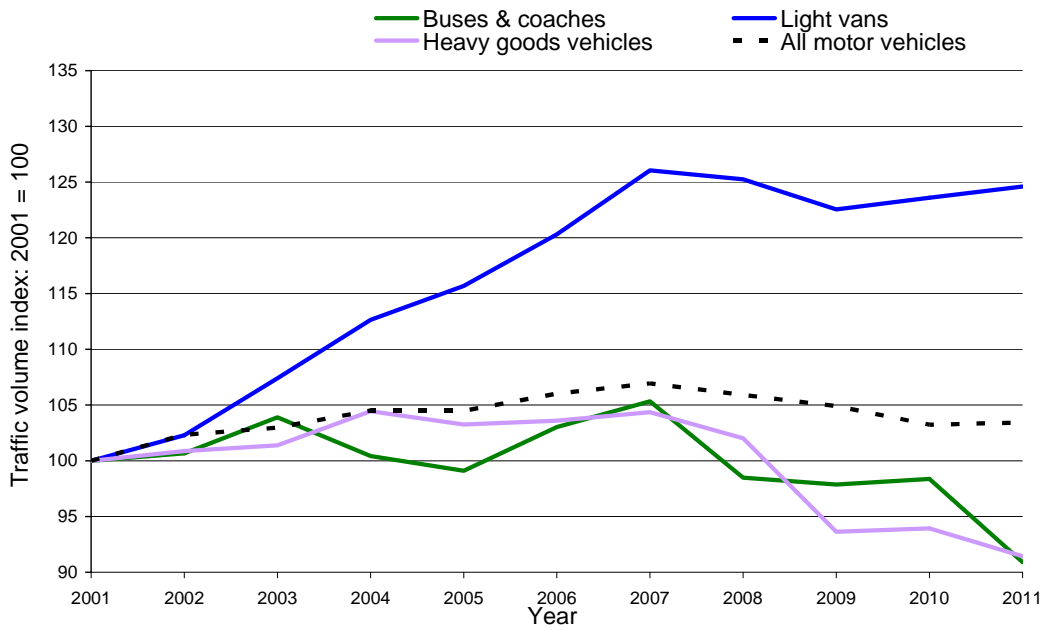
² <http://assets.dft.gov.uk/statistics/tables/tsgb0123.xls>

³ <http://www.dft.gov.uk/statistics/releases/vehicle-licensing-statistics-2011/>

⁴ <http://assets.dft.gov.uk/statistics/tables/veh0102.xls>

- Pedal cycle traffic increased by 2.2 per cent between 2010 and 2011. This is the fourth consecutive year where pedal cycle traffic has increased and means that pedal cycle traffic is 17.7 per cent higher in 2011 than 10 years earlier.
- Motorcycles increased one per cent between 2010 and 2011 to 2.9 billion vehicle miles.

Road traffic by vehicle type (Commercial and public service vehicles) in Great Britain, 2001-2011



- In 2011, light goods vehicle (LGV) traffic was 41.4 billion vehicle miles, a 0.8 per cent increase on the 2010 figure. This is the second consecutive year that LGV traffic has increased, although levels remain slightly lower than the peak of 41.9 billion vehicle miles in 2007.
- LGV traffic increased by 24.6 per cent between 2001 and 2011. Over this period, LGVs have become more influential on overall traffic growth. This increase in LGV traffic may be as a result of changes in shopping habits towards more internet-based and home delivery retail over this time period.⁵
- Heavy goods vehicle (HGV) traffic decreased by 2.7 per cent between 2010 and 2011 to 15.9 billion vehicle miles. HGV traffic has fallen by 8.6 per cent since 2001 and by 12.4 per cent since the peak of 18.2 billion vehicle miles in 2007. Many HGV trips relate to activities such as retail, construction and industry. These activities are closely tied to general economic situation of the country. Additionally, according to HGV licensing figures, newly licensed HGVs are heavier now than they were ten years ago, with the average weight of a vehicle increasing from 22.4 tonnes in 2001 to 27.4 tonnes in 2011.⁶ This could be an indicator of companies choosing to use fewer but larger vehicles to move goods around, resulting in a fall in HGV traffic.

⁵ http://www.ons.gov.uk/ons/dcp171778_256706.pdf

⁶ <http://www.dft.gov.uk/statistics/tables/veh0556/>

- Bus and coach traffic saw a decrease of 7.6 per cent between 2010 and 2011 to 2.9 billion vehicle miles. This is a 9.1 per cent decrease since 2001. Bus and coach traffic peaked in 2007 at 3.4 billion vehicle miles. There has been a slightly smaller decrease in the number of public service vehicles⁷ in use (around 1.5 per cent) according to the 2010/11 Annual Bus Statistics.⁸ These reductions are likely to be associated with the reduction in net public sector financial support for local bus services (down by 7.3 per cent) between 2009-10 and 2010-11.
- The small increase in car traffic in 2011 is partially offset by decreases in HGV and bus traffic, resulting in a stabilisation in overall motor vehicle traffic in the most recent year.

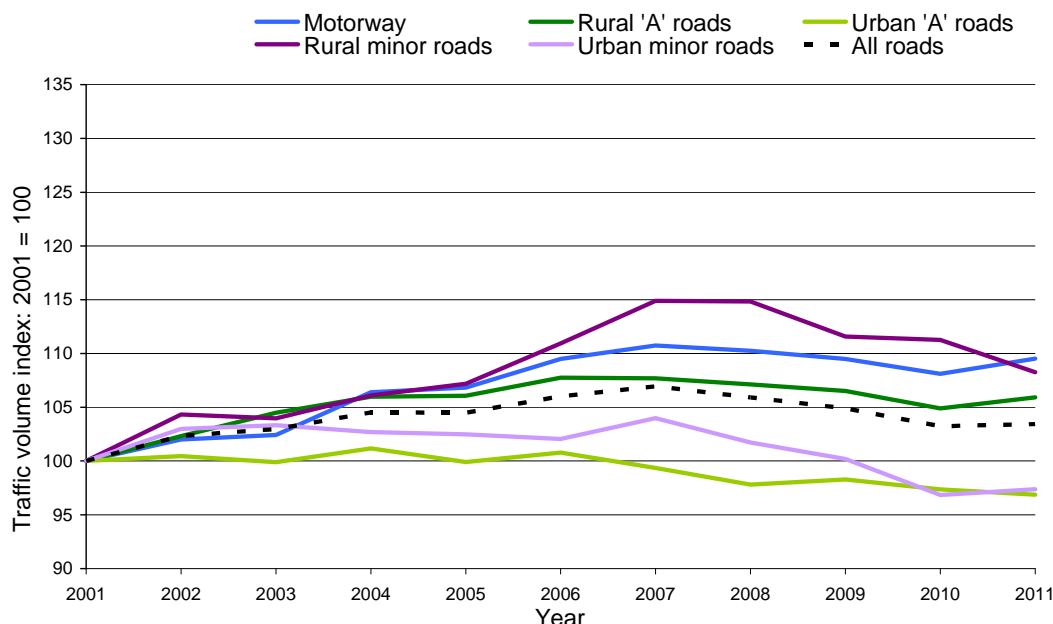
Detailed statistics (tables and charts) on “Annual road traffic by vehicle type” can be found in the Annual Road Traffic Statistics web tables, [TRA0101](#), [TRA0104](#), [TRA0201](#), and [TRA0204](#)

3. Road traffic by road class

The 2011 figures show that major roads (Motorways and ‘A’ roads) carried the majority of the traffic (65 per cent), as has increasingly become the case over the past ten years:

- Traffic on motorways increased by 1.3 per cent between 2010 and 2011 and traffic on all major roads by 0.7 per cent. Over the past 10 years, the volume of traffic on motorways has grown by 9.5 per cent.
- Traffic volumes are not proportionate to road lengths: for example, motorways account for around one per cent of the road network in length⁹ where as 20 per cent of traffic was carried by motorways in 2011.

Road traffic by road class in Great Britain, 2001-2011



⁷ Public sector vehicles refers to buses, minibuses and coaches.

⁸ <http://www.dft.gov.uk/statistics/releases/annual-bus-statistics-201011/>

⁹ <http://www.dft.gov.uk/statistics/releases/road-lengths-2010/>

Traffic volume patterns differ by urban and rural areas and by road classification:

- Traffic on rural roads has increased by 6.6 per cent over the past 10 years, whilst traffic on urban roads has decreased by 2.8 per cent.
- More recently, traffic on both urban and rural roads¹⁰ has been falling between 2007 and 2010. Traffic on rural and urban roads is broadly stable in 2011. The trend on urban and rural roads differs when major and minor roads are considered separately.
- Traffic on rural minor roads has been falling since 2007, and has continued to do so with a 2.7 per cent decrease in 2011. Relatively large decreases in HGV and bus traffic on rural minor roads over the last four years have contributed to this trend.
- In contrast to rural minor roads, rural 'A' roads experienced an increase of in traffic of 1.0 per cent between 2010 and 2011, the first increase on these roads since 2007.
- Traffic on urban 'A' roads has been falling since 2006 (although a small increase was experienced in between 2008 and 2009) and continued to decrease in 2011, dropping by 0.5 per cent.
- Traffic on urban minor roads fell for three consecutive years from 2007, but increased by 0.5 per cent between 2010 and 2011.

Detailed statistics (tables and charts) on "Annual road traffic by road class" can be found on the Annual Road Traffic Statistics web tables, [TRA0102](#), [TRA0104](#), [TRA0202](#), and [TRA0204](#)

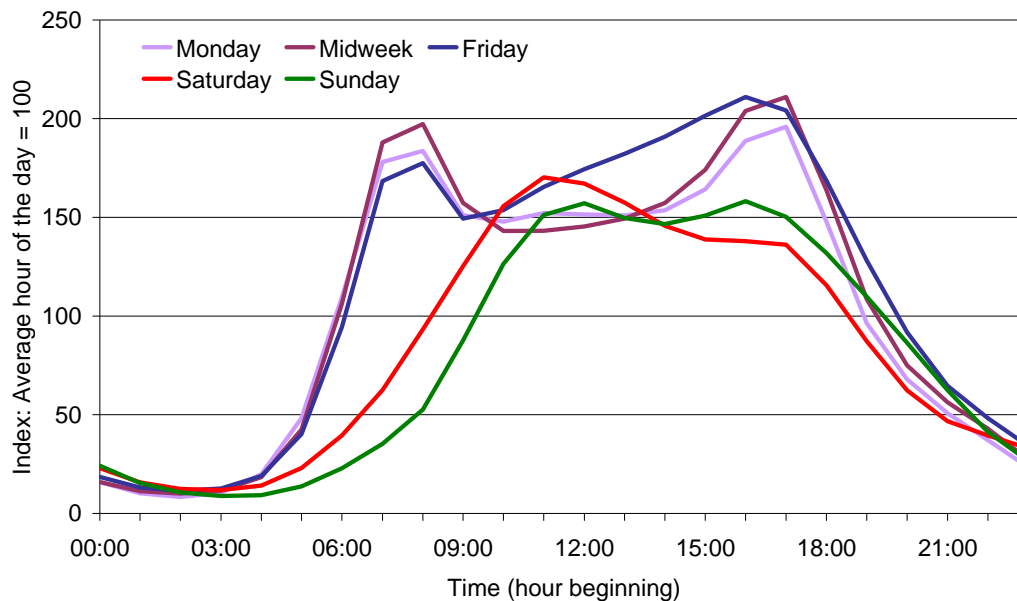
4. Motor vehicle flows

Motor vehicle flow statistics give an indication of how busy roads in Great Britain are rather than volume of miles travelled by traffic on the road network. They are presented as the average number of vehicles per day per mile of road.

- Motorways continue to have the highest average traffic flow, with 76.3 thousand vehicles for each mile of motorway per day in 2011, 0.9 per cent higher than 2010. On average, major roads in Great Britain had over 13 times the flow of minor roads in 2011.
- Out of all major sections of motorway the western half of the M25 had the highest average traffic flow in 2011 with 147 thousand vehicles for per mile per day. This figure is almost double the average for all motorways.
- The five year average daily traffic flow on all roads between 2007 and 2011, showed that July and August had the highest average daily car traffic flow while January had the lowest. This is consistent with previous years.

¹⁰ This figure excludes motorways.

Distribution of traffic flows by time of day and day of the week in Great Britain, 2011

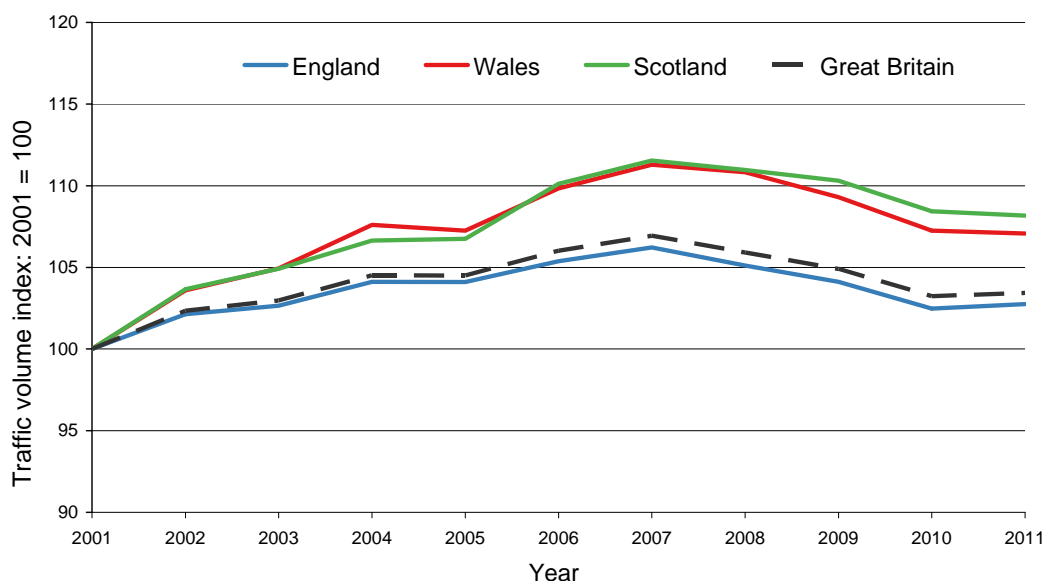


- On weekdays traffic peaks between 8 am and 9 am in the morning and between 4 pm and 6 pm in the afternoon. At these times traffic is approximately double the average level due to commuting and trips to school.
- Friday differs from the other weekdays in that there is a lower peak in the morning and the build up to the evening peak accumulates steadily throughout the day, rising from 10 am.
- The distribution of traffic flows throughout the day for weekends differs from weekdays in that there is a peak between 11 am and 1 pm, which reflects the different types of journeys being carried out. Saturday in particular has no evening peak.

Detailed statistics (tables and charts) on “Motor vehicle flows” can be found on the Annual Road Traffic Statistics web tables, [TRA0301](#), [TRA0302](#), [TRA0303](#), [TRA0305](#), [TRA0306](#), [TRA0307](#) and [TRA0308](#).

5. Geographical variations in road traffic

Road traffic by the countries of Great Britain, 2001-2011



Variations in road traffic can be found between the three nations that make up Great Britain, with trends for England being similar to that of Great Britain as a result of its relative size:

- In 2011, 86 per cent of traffic in Great Britain was in England. Scotland had nine per cent of the traffic and Wales six per cent. Similar traffic proportions have been seen across the three nations since 2001.
- Compared to the 2010 figures, the 2011 figures show a slight growth in the volume of traffic in England (0.3 per cent) where as in Scotland and Wales the volume of traffic shrank for the fourth consecutive year (both -0.2 per cent slight falls in the last year).
- Between 2001 and 2011, the volume of traffic has grown by more in Scotland and Wales (8.2 per cent and 7.1 per cent respectively) than in England (2.8 per cent). The volume of traffic for all three nations peaked in 2007 and has fallen at similar rates between 2007 and 2011.

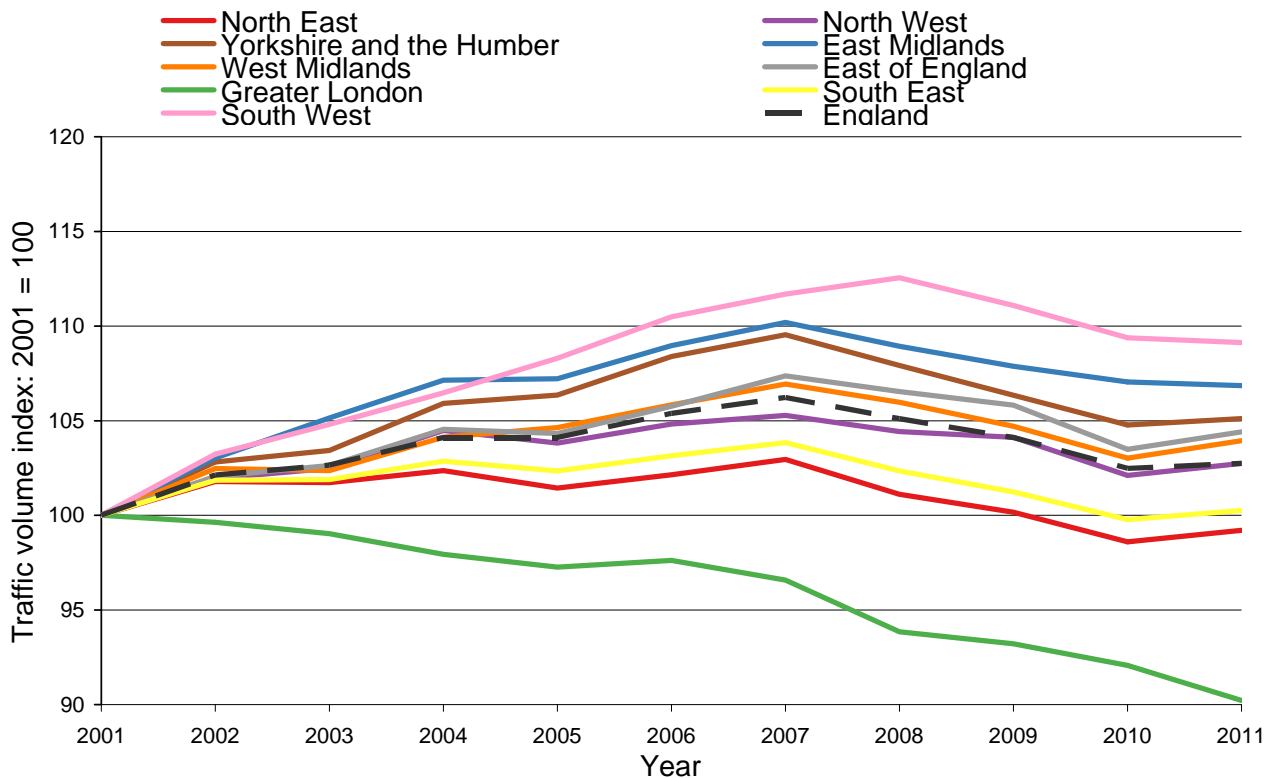
Additionally, variations in road traffic within England can be found:

- In 2011, the largest proportion of traffic in England was in the South East, accounting for 20 per cent of traffic in England, while the smallest proportion of traffic at four per cent was in the North East.
- Between 2010 and 2011, the East Midlands and the South West experienced small falls in the volume of traffic (both -0.2 per cent) while Greater London experienced a larger fall in the volume of traffic (- 2.0 per cent). All other regions experienced small increases (less than one per cent).
- Over the last 10 years, most regions in England have experienced increases in road traffic (for example, South West: 9.1 per cent; East Midlands: 6.8 per cent). However, the North East experienced a small decrease (-0.8 per cent) while Greater London experienced a much larger

decrease (-9.8 per cent) over the same time period.

- Between 2001 and 2011, Greater London has seen a gradual decrease in the amount of car and HGV traffic, with decreases in LGVs, Motorcycles and Buses and Coaches starting in 2007. These falls may be partly attributed the introduction of the Congestion Charge in 2003 and the Low Emission Zone in 2008, although economic conditions are also likely to have had an impact on road traffic from 2007 onwards.

Road traffic by English Regions, 2001-2011



Detailed statistics (tables) on Road Traffic by Regions and Local Authorities can be found on the Annual Road Traffic Statistics web tables, [TRA8901](#), [TRA8902](#) and [TRA8903](#). The figures in the Local Authority tables are not classed as National Statistics and should be treated with caution.

6. Vehicle weights

Vehicle weight is measured by automatic weight-in-motion (WIM) classifiers; a conventional measure of vehicles exceeding the legal maximum weight is the count of those that are 10 per cent or more above the legal maximum limit.

The proportion of HGVs exceeding the legal weight limit has fallen year-on-year for all categories of HGV since 2010:

- For example, 1.2 per cent of rigid HGVs exceeded their legal weight of 35 tonnes in 2010. In 2011 the percentage exceeding the legal weight limit was 0.6 per cent.

7. Heavy goods vehicles' headway

Headway is the measurement of time between two vehicles. The Highway Code (rule 126) recommends larger vehicles allow a four second gap in normal driving conditions. Figures suggest that fewer HGVs are following these recommendations:

- In 2011, 56 per cent of HGVs left at least the recommended four second gap between themselves and the vehicle in front, compared to 58 per cent of HGVs in 2010.
- Fifteen per cent of HGVs left less than a two second gap in 2011. This is unchanged from the proportion in 2010.

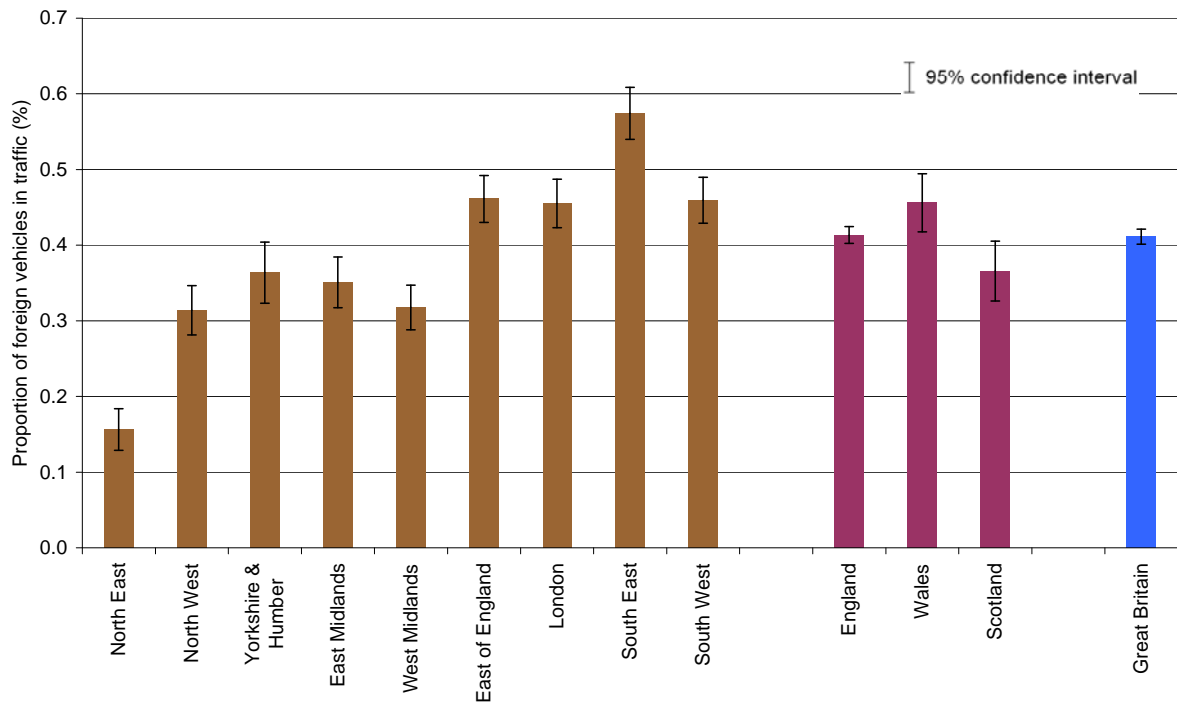
Detailed statistics (tables) on Vehicle weights and Headway can be found on the Annual Road Traffic Statistics web tables, [TRA3106](#), [TRA3107](#). The figures in these tables are not classed as National Statistics and should be treated with caution.

8. Foreign Vehicles

This section discusses the proportion of vehicles in traffic which are registered outside the UK; all other traffic estimates refer to all vehicles on the road, regardless of the national origin of the vehicle.

- In 2011, 0.4 per cent of traffic on British roads was estimated to be foreign registered. This is a small decrease from the rate in 2010, but is similar to the estimate in 2009.
- The proportion of HGV traffic that is made up by foreign registered vehicles is higher than for other vehicle types. In 2011, 3.6 per cent of HGV vehicle miles were driven by a foreign registered vehicle. This has decreased from 4.0 per cent in 2009.
- The South East region had the highest proportion of foreign registered vehicles out of any region within Great Britain reflecting that the South East is the region of arrival for many motor vehicles coming from Europe.

Proportion of foreign registered vehicles in traffic by regions of England and country in Great Britain 2010-2011



Detailed statistics (tables and charts) on foreign registered vehicle traffic can be found on the Annual Road Traffic Statistics web tables, [TRA3201](#), [TRA3202](#), and [TRA3203](#). The figures in these tables are not classed as National Statistics and should be treated with caution.

9. Strengths and weaknesses of the data

- Annual estimates make use of data from around ten thousand manual traffic counts in addition to continuous data from a national network of around 180 automatic traffic counters and can produce accurate estimates on traffic levels in Great Britain by vehicle type and by road type.
- Road traffic data is accurate at a high level of aggregation, and whilst we produce traffic breakdowns by local authorities, traffic at this level is not robust and must be treated with caution.
- Estimates for pedal cycle traffic only include cycling on roads and do not include estimates of cycling on other routes such as canal paths.
- The Road traffic statistics series consistently reports higher levels of vehicle kilometres for HGVs than the Road freight statistics¹¹ series. This can mainly be attributed to difference in data collection. Road freight statistics summarise the findings from the Continuing Survey of Road Goods Transport (CSRGT). This survey measures the activity of GB-registered HGVs operating in the UK, collecting data for a weekly sample of HGV operators. There are also differences in vehicle types included in the CSRGT survey and Road traffic statistics. CSRGT specifically excludes some HGVs that would be captured by the road traffic estimate methodology. Finally CSRGT estimates the activity of GB-registered vehicles in the UK whereas Road traffic statistics estimate traffic on roads in Great Britain including those vehicles registered in Northern Ireland and foreign registered vehicles.
- Vehicle weight is measured by automatic weight-in-motion (WIM) classifiers located at a small sample of ATCs: 5 motorway sites and 1 'A' road site. WIM Classifiers are able to record vehicle weight. A conventional measure of the proportion of vehicles exceeding the legal maximum weight is the count of those that are 10 per cent or more above the legal maximum limit: this allows for any potential measurement error by the WIM classifier. These figures are classed as official statistics but not as National Statistics and should be treated with caution as the sample size is small.
- Headway data is collected from the same ATC sites used in the WIM analysis, but are based on traffic in lane 1 only. These figures are classed as official statistics but not as National Statistics and should be treated with caution as the sample size is small.
- During June each year a roadside survey is carried out collecting information about vehicles travelling on the road: vehicles with registration marks originating outside United Kingdom have been identified and this information has been used to produce estimates of the rate of foreign registered vehicles on Britain's roads. 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 (6,617 observations of foreign registered vehicles). This survey is next due to be carried out in 2012 and therefore the next estimates of foreign vehicle traffic will be published in 2013.

¹¹ <http://www.dft.gov.uk/statistics/series/road-freight/>

10. Users and uses of Road traffic estimates

We continuously review the content of these statistics to ensure they are meeting users' needs. A summary of the feedback we have received from users 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:-

- 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.
- The Department for Transport's National Traffic Model uses most traffic and speeds outputs to make forecasts and to inform policy decisions on a broad range of issues.
- 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 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 uses traffic data on major roads to contribute towards the funding settlement for local authorities.

11. Background notes

1. The web tables give further detail of the key results presented in this statistical release and statistics on other related topics. They are available here:

(http://www.dft.gov.uk/statistics?post_type=table&series=traffic-tag)

2. Full guidance on the methods used to compile these statistics can be found in 'Technical Information' here: (<http://www.dft.gov.uk/statistics/series/traffic/>)

3. National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure they meet customer needs: (<http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>).

These statistics are National Statistics, and were assessed by the United Kingdom Statistics Authority (UKSA) during 2012. An assessment report will be published in July 2012.

4. Details of ministers and officials who receive pre-release access to these statistics up to 24 hours before release can be found in the 'Pre-release access list' section here:

(<http://www.dft.gov.uk/statistics/series/traffic/>)

5. This release is the revised 2011 Road Traffic Estimates, replacing the version published in June 2012. The estimates published in June 2012 omitted data for a small number of sections of the road network in Scotland. This revision has resulted in small changes to the Scottish traffic estimates with larger changes for some Scottish local authorities. The traffic estimates for Great Britain have changed very slightly; however all substantive trends reported in the original 2011 statistical release remain valid. For further details regarding the omitted data and the revision please see:- (http://dft.gov.uk/statistics/series/traffic/2011_Road_Traffic_Estimates_-_Note_of)

Revision Aug 2012)

6. Provisional quarterly road traffic estimates are published throughout the year with the next provisional estimates due to be published in August 2012. Quarterly statistical releases can be found here: http://www.dft.gov.uk/statistics?post_type=release&series=traffic-tag

Provisional annual estimates are produced based on the provisional quarterly series, published alongside traffic estimates for Q4. Final annual estimates for 2012 are due to be published in summer 2013. The provisional quarterly estimates are subsequently constrained to align with the final annual estimates each year.

7. The roadside survey used to collect information about foreign registered vehicles on roads in Great Britain will next be carried out in 2012 and therefore the next estimates of foreign vehicle traffic will be published in 2013.