



Annual Road Traffic Estimates: Great Britain 2012

This Statistical Release presents road traffic estimates for Great Britain in 2012.

Annual estimates are mainly based on around 8,000 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 270 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.

The [traffic counts](#) website provides street-level traffic data for every junction-to-junction link on the 'A' road and motorway network in Great Britain, and also gives links to download the raw data.



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Key findings include:

- In 2012, the overall motor vehicle traffic volume in Great Britain was 302.6 billion vehicle miles, similar to the traffic volume in 2011 and 2010.
- In 2012, traffic volumes for cars and LGVs were broadly similar when compared to 2011, while HGVs, motorcycles, and buses and coaches all showed decreases (-2.4%, -2.0%, and -6.0%, respectively).
- In the last ten years, traffic volumes for all vehicle types have decreased (for example, cars and taxis: -1.0%; HGVs: -11.6%) except for LGVs which have increased by over a fifth (21.5%).
- Traffic on motorways increased by one per cent in the last year. Motorways and urban minor roads (0.7%) were the only road type to experience growth in traffic levels during 2012.
- In 2012, Highways Agency managed roads (i.e. the Strategic Roads Network) were 2.4 per cent of the road network in England, but carried 32.7 per cent of all motor vehicle traffic and 65.5 per cent of all HGV traffic.

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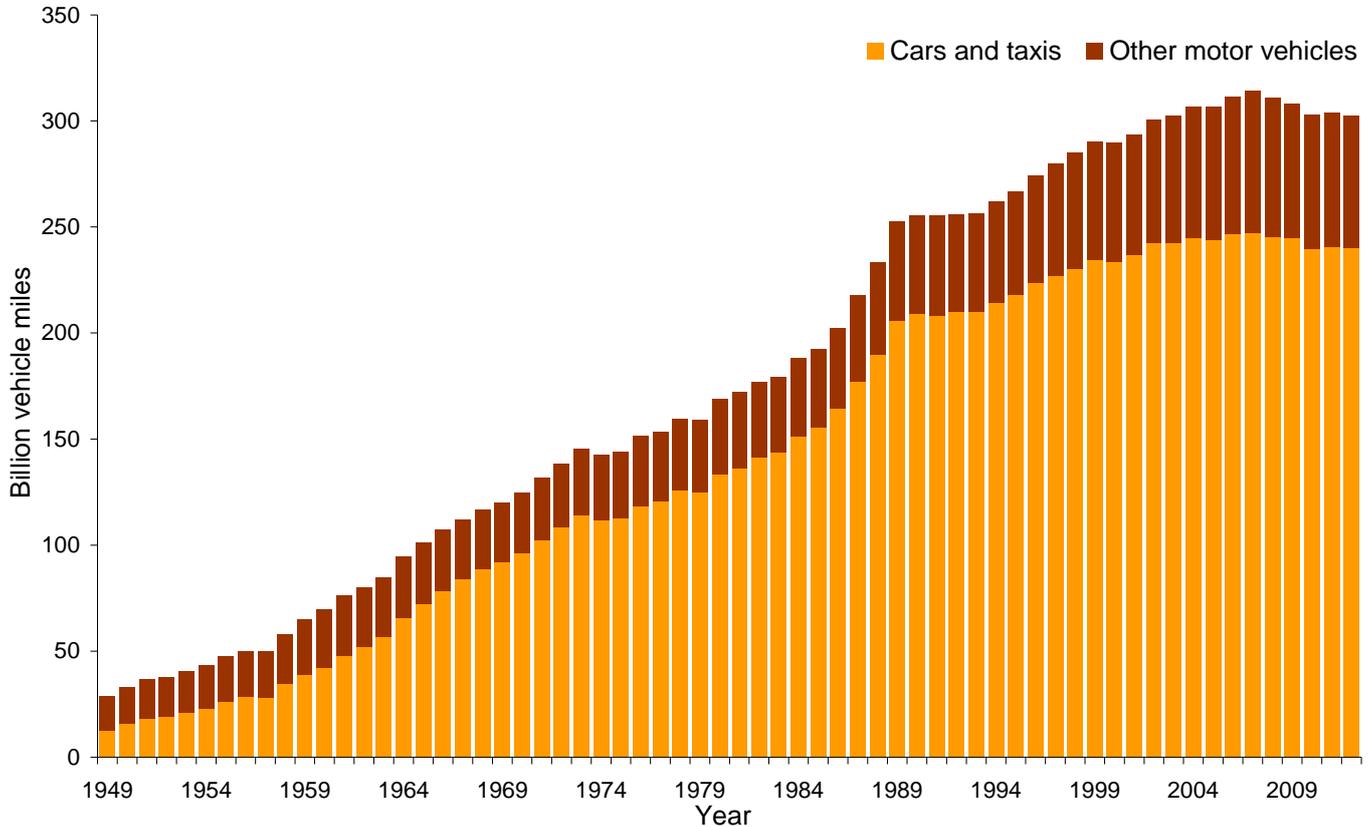
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1. Road Traffic in 2012

In 2012, the overall motor vehicle traffic volume in Great Britain was 302.6 billion vehicle miles. This is similar to traffic volume in 2011 (303.8 billion vehicle miles) and 2010 (303.2 billion vehicle miles).

Road traffic in Great Britain, from 1949 (Table TRA0101)



Since the 1950s the long term trend in the volume of road traffic has been one of growth. In 2012, the overall motor vehicle traffic volume of 302.6 billion vehicle miles was 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 2012 traffic volumes were broadly stable and, as a result, in 2012 overall motor vehicle traffic volume levels were similar to levels seen in 2003.

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
- Forms of transport that can be used in conjunction with various road traffic and those that can be used instead of.

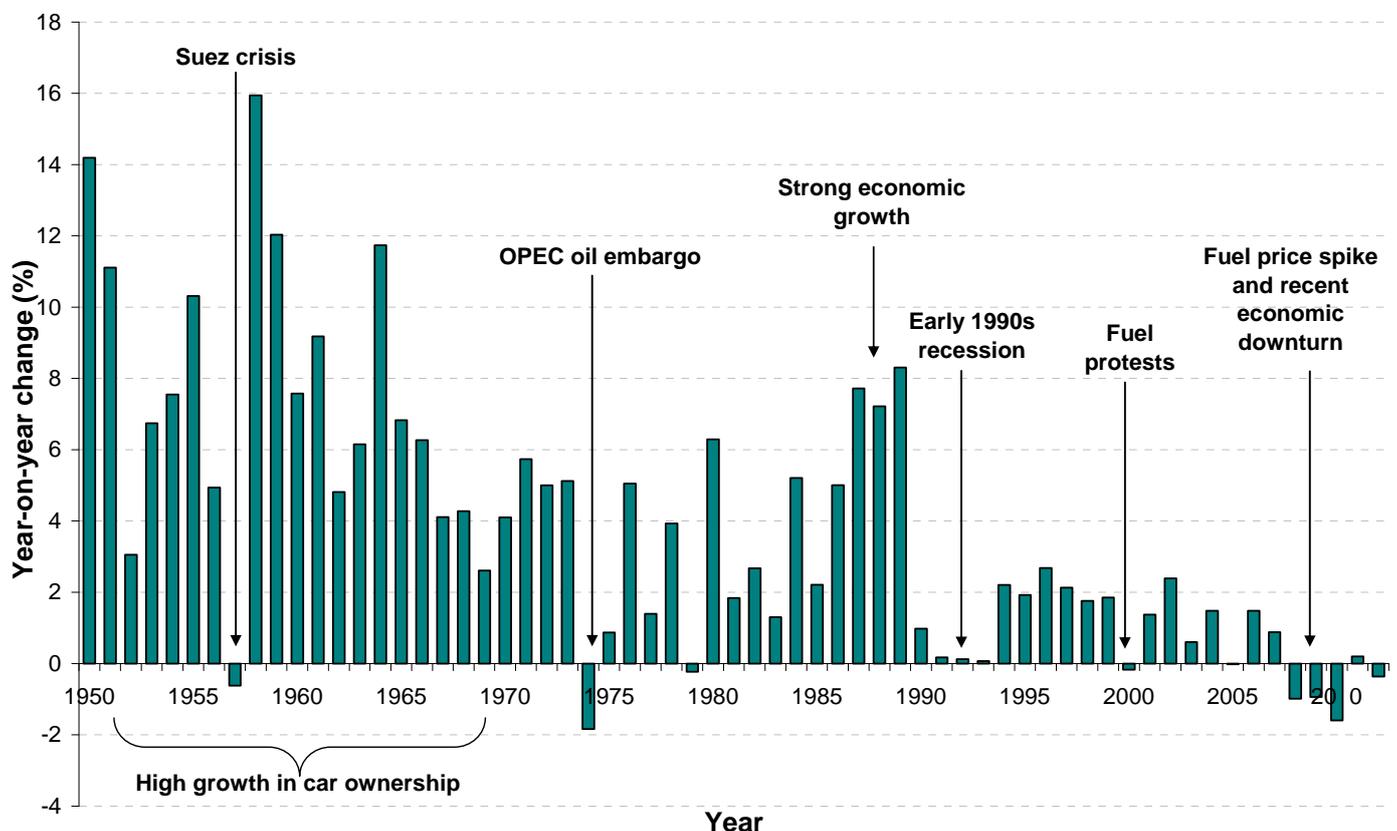
There has been a steady growth in population over the last 20 years resulting in a larger number of people choosing to travel for economic and personal needs and greater production of goods which need to be transported. However changes in the demographics of the driving population have also been observed. According to the National Travel Survey (NTS) 2011, those aged 17 to 29 were less likely to hold a valid driving licence in 2011 than they were 15 years previously (for example, 74 per cent of 21-29 held a driving licence in the 1995/97 NTS compared to 63 per cent in 2011). Young people choosing to delay obtaining a driving licence, or choosing not to get one at all, may also be reducing the number of 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, particularly for those households where the choice of not owning a car is as a result of constrained income. According to the National Travel Survey 2011, there are around a quarter of households without access to a car, down from 30 per cent in 1995/97, 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 change in motor vehicle road traffic in Great Britain, from 1949

(Table TRA0101)

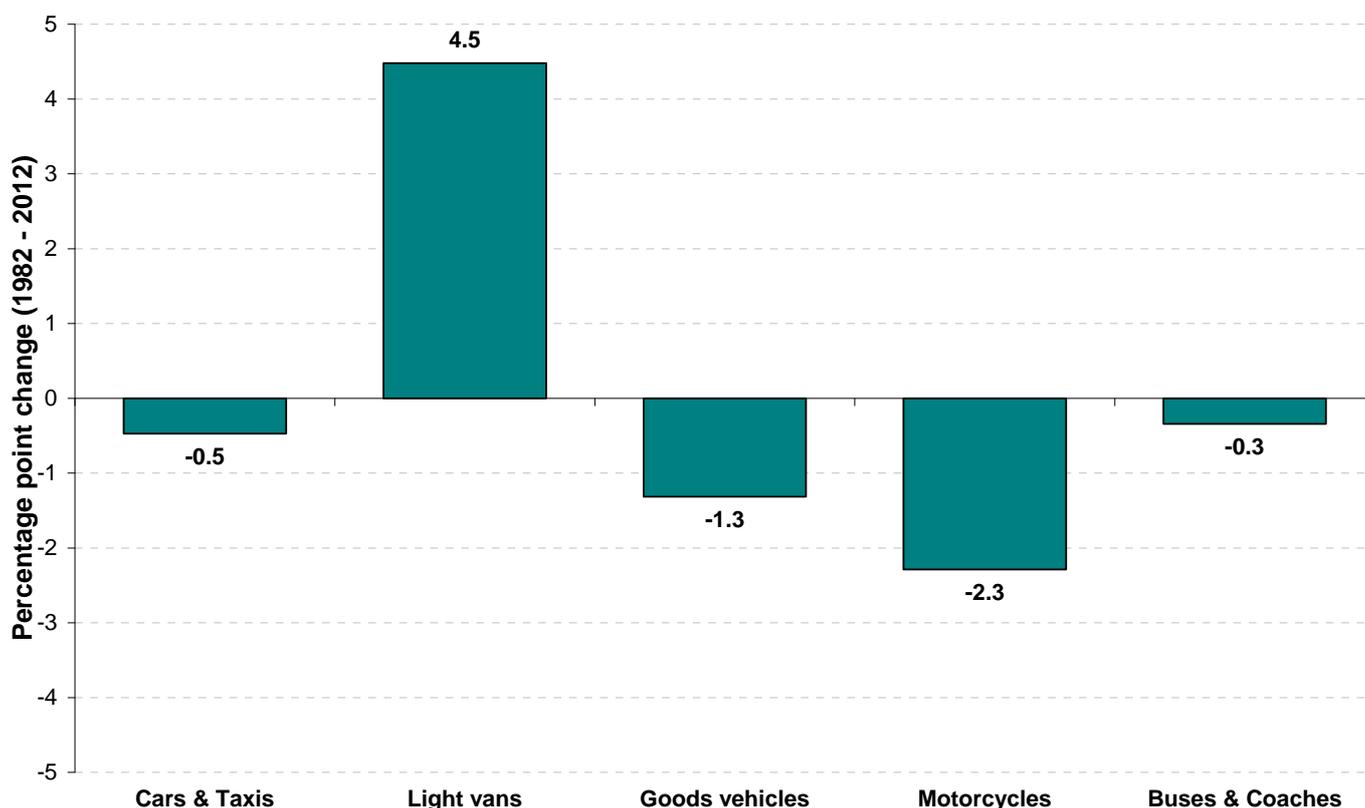


Increases to the cost of motoring¹ could be expected to have a negative effect on changes in the volume of car traffic. However car use is also influenced by associated changes in the cost of alternative modes of transport (i.e. buses and trains)². Additionally, there is evidence that motorists are continuing 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 as it is a cheaper option than driving their car.

2. Road traffic by vehicle type

Percentage point change in the proportion of road traffic accounted for by vehicle type, in Great Britain, between 1982 and 2012 (Table TRA0101)



- Since the 1980s, 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.
- Compared to 30 years ago the proportions of traffic accounted for by all vehicle types have decreased (for example, Heavy Goods Vehicles decreased by 1.3pp) with the exception of Light

¹ Table TSGB0122: <https://www.gov.uk/government/publications/tsgb-2011-modal-comparisons>

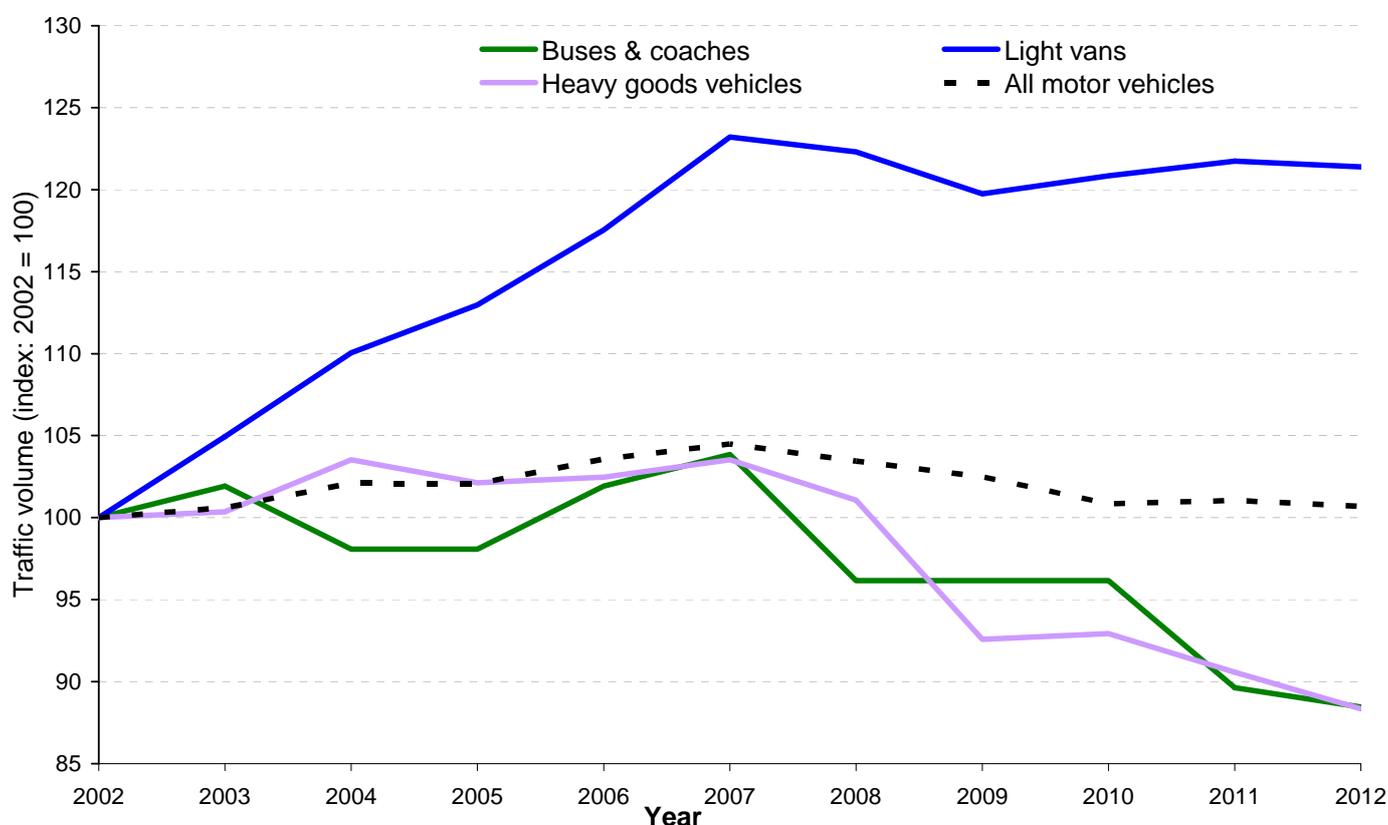
² Table TSGB0123: <https://www.gov.uk/government/publications/tsgb-2011-modal-comparisons>

³ Table VEH0255: <https://www.gov.uk/government/statistical-data-sets/veh02-licensed-cars>

Goods Vehicles (LGVs) which increased by 4.5 percentage points. 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.⁴

- Car traffic was broadly similar at 240.3 billion vehicle miles in 2012 compared to 240.7 billion vehicle miles in 2011 and 239.8 vehicle miles in 2010. Longer term, car traffic has increased by 1.0 per cent between 2002 and 2012 while motorcycles decreased 9.8 per cent between 2002 and 2012 to 2.8 billion vehicle miles.

Road traffic by vehicle type (Commercial and public service vehicles) in Great Britain, from 2002 (Table TRA0101)



- In 2012, LGV traffic was 41.3 billion vehicle miles, which is broadly similar to the 2011 figure. LGV traffic increased by 21.5 per cent between 2002 and 2012, however, in 2012 it was 1.4 per cent lower than the 2007 peak.
- Heavy Goods Vehicle (HGV) traffic decreased by 2.4 per cent between 2011 and 2012 to 15.5 billion vehicle miles. HGV traffic has fallen by 11.6 per cent since 2002 and by 14.5 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 the 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

⁴ <http://www.ons.gov.uk/ons/rel/rsi/retail-sales/april-2013/stb-rsi-april-2013.html#tab-Internet-Sales>

from 22.7 tonnes in 2001 to 25.9 tonnes in 2011⁵. 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. However, according to the road freight survey, between 2002 and 2010 goods moved as measured in tonne kilometres decreased by a similar amount (-8.0%) to HGV traffic (-7.0%).

- Bus and coach traffic saw a decrease of 6.0 per cent between 2011 and 2012, to 2.7 billion vehicle miles. This is a 15.1 per cent decrease since 2002 and 18.9 per cent decrease since its peak in 2007 (3.4 billion vehicle miles).

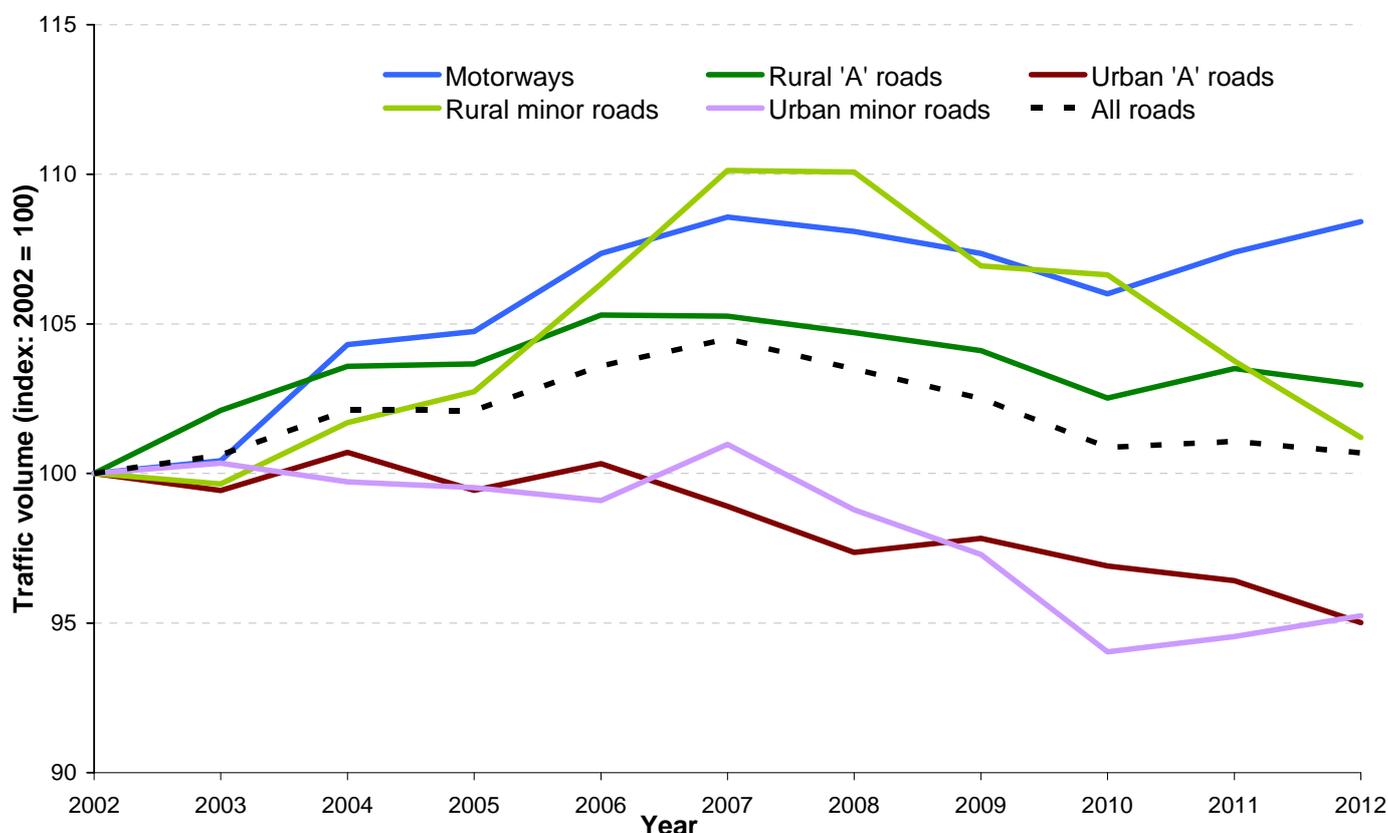
Detailed statistics (tables and charts) on “Annual road traffic by vehicle type” can be found in the Annual Road Traffic Statistics web tables, [TRA0101](#), [TRA0104](#), [TRA0201](#), and [TRA0204](#)

3. Road traffic by road class

The 2012 figures show that major roads (Motorways and ‘A’ roads) carried the majority of the traffic (65.5%), as has been the case over the past ten years:

- Traffic on motorways increased by one per cent between 2011 and 2012. Over the past 10 years, the volume of traffic on motorways has grown by 8.4 per cent.
- Traffic volumes are not proportionate to road lengths: for example, motorways account for around one per cent of the road network in length⁶, but carried 20.6 per cent of traffic in 2012.

Road traffic by road class in Great Britain, from 2002 (Table TRA0102)



⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/184241/veh0556.xls

⁶ <https://www.gov.uk/government/organisations/department-for-transport/series/road-lengths-statistics>

With the exception of motorways, the only road types to experience growth in traffic volumes between 2011 and 2012 were urban minor roads:

- Traffic on urban minor roads grew by 0.7 per cent between 2011 and 2012 while traffic on urban 'A' roads decreased by 1.5 per cent, meaning traffic on urban roads has been broadly stable.
- Traffic on rural minor roads has been falling since 2007 and has continued to do so with a 2.5 per cent decrease in 2012. Rural 'A' roads have also fallen slightly by 0.5 per cent meaning that rural roads (both 'A' road and minor) have fallen by 1.1 per cent which is the fifth consecutive annual fall. Road traffic on all 'A' roads (both urban and rural) has fallen by 0.9 per cent.

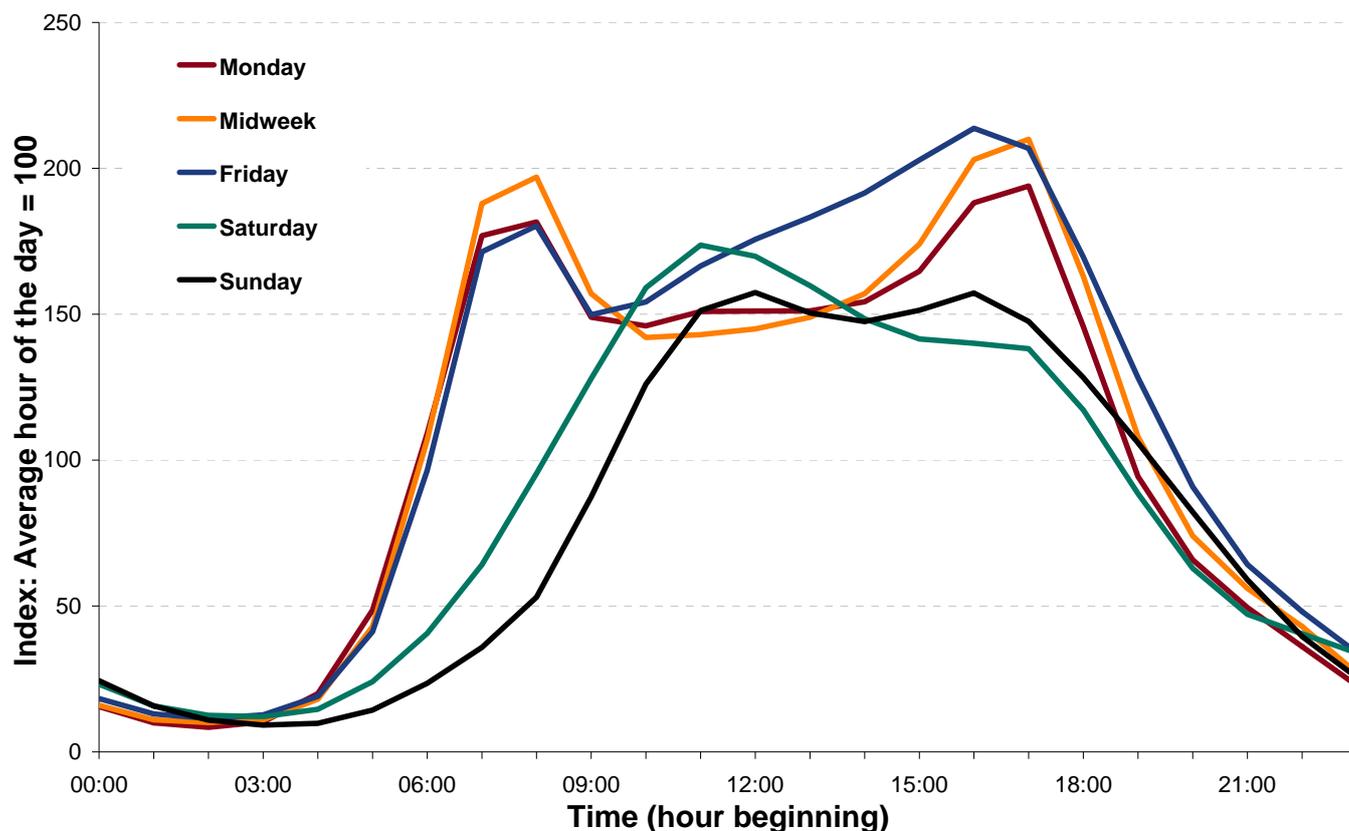
Detailed statistics (tables and charts) on "Annual road traffic by road class" can be found on the Annual Road Traffic Statistics web tables, [TRA0102](#), [TRA0104](#), [TRA0202](#), and [TRA0204](#)

4. Motor vehicle flows

Motor vehicle flow statistics give an indication of how busy roads in Great Britain are, rather than the 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 75.8 thousand vehicles for each mile of motorway per day in 2012, one per cent lower than 2011. On average, motorways in Great Britain had around six times the flow of 'A' roads and major roads had over 13 times the flow of minor roads in 2012.
- Out of all major sections of motorway, the western half of the M25 had the highest average traffic flow in 2012 with 153 thousand vehicles per mile per day. This figure is around double the average for all motorways.
- The five year average daily traffic flow on all roads, between 2008 and 2012, showed that August had the highest average daily car traffic flow while January had the lowest. This is consistent with previous years.
- On weekdays, traffic peaks between 7 am and 9 am in the morning and between 4 pm and 6 pm in the afternoon. At these times traffic was approximately double the average level due to commuting and trips to/from 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.
- 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. In particular, Saturday has no evening peak.

Distribution of traffic flows by time of day and day of the week in Great Britain, 2012 (Table TRA0307)



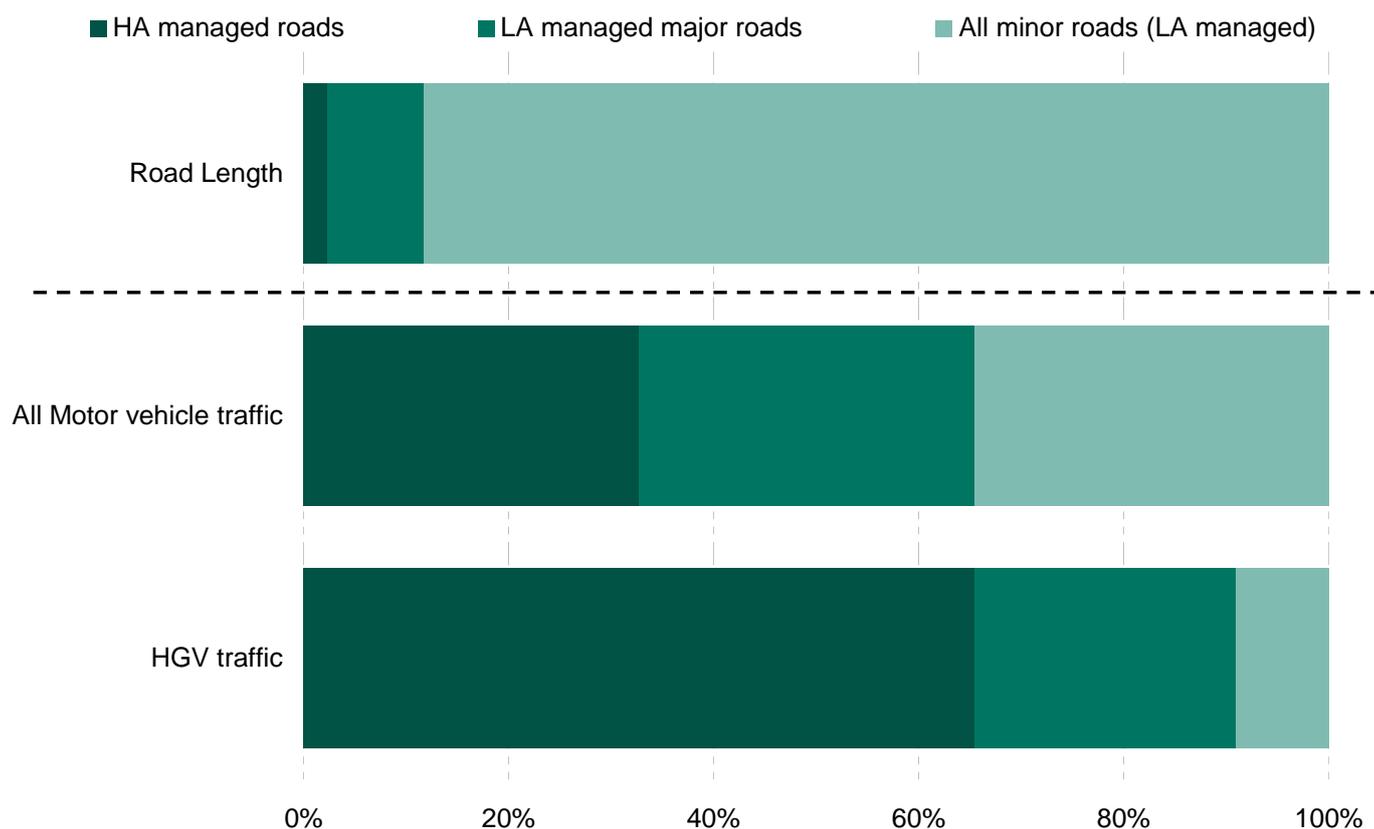
Detailed statistics (tables and charts) on “Motor vehicle flows” can be found on the Annual Road Traffic Statistics web tables, [TRA0301-8](#).

5. Highways Agency managed roads

The trunk road network, consisting of most of the motorways and some ‘A’ roads in England, is called the Strategic Roads Network (SRN) and unlike the rest of the road network is managed at the national level by the Highways Agency; an executive agency of the Department for Transport. In the Annex is a map of the SRN and which roads are included in it.

- Despite making up only 2.4 per cent of road network in England, the SRN carries 32.7 per cent of all motor vehicle traffic and 65.5 per cent of all HGV traffic.
- The SRN has an average flow of 52,400 vehicles a day per mile of road which is around four times the size of the average flow for Local Authority managed major roads at 13,300.
- In 2012, 84.7 billion miles were driven on the SRN. This is broadly similar to the level in 2011.
- Traffic volumes on the SRN in 2012 were 2.1 per cent lower than they were ten years ago; however, this is largely due to a reduction in the amount of road managed by the Highways Agency. The road length reduced by 22.7 per cent which was mostly as a result of the detrunking programme, in which the management of parts of the SRN was transferred from the Highways Agency (HA) to the relevant Local Authorities. This caused the amount of road under the management of the Highways Agency to fall significantly from 1999 onwards.

Road traffic and road length by road class in England, 2012 (Table TRA4105)

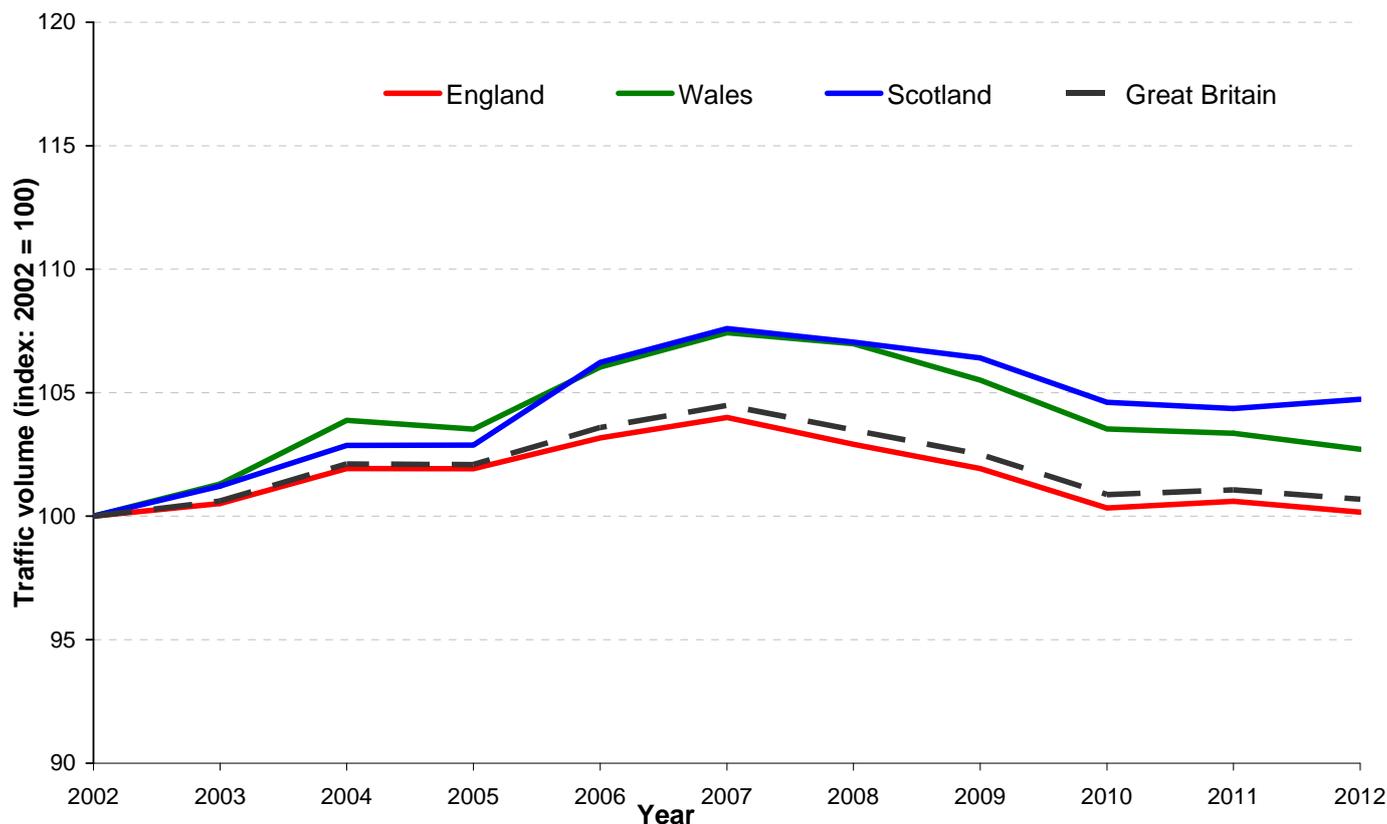


- To enable easier comparisons over time, tables TRA42 contain figures based on a road network similar to that in 2012 for all years. This is achieved by keeping the management status of the network constant throughout the time series, meaning changes to the road network are only caused by the construction of new roads. According to these figures, traffic volumes grew by 7 per cent between 2012 and 2002 compared to a 3 per cent fall experienced by Local Authority managed roads over the same period. However, these figures should be interpreted with caution due to their experimental nature and therefore may not be robust.

Detailed statistics (tables and charts) on “Highways Agency managed roads” can be found on the Annual Road Traffic Statistics web tables, [TRA41](#) and [TRA42](#). The figures in tables TRA42 are not classed as National Statistics and should be treated with caution.

6. Geographical variations in road traffic

Road traffic by the countries of Great Britain, from 2002 (Table TRA8901)



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:

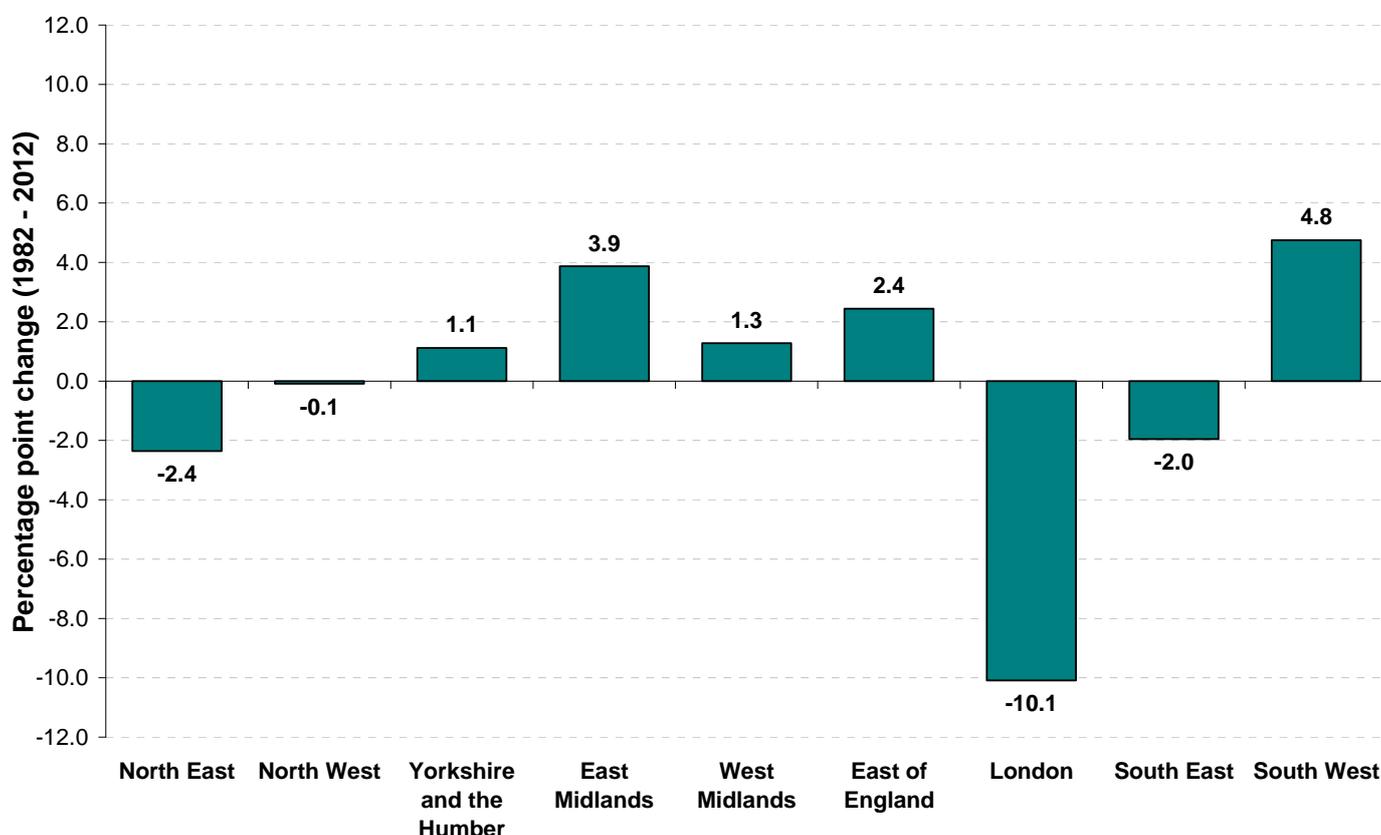
- In 2012, 86 per cent of traffic in Great Britain was in England. Scotland had nine per cent of the traffic and Wales five per cent. Similar traffic proportions have been seen across the three nations since 1993 when this level of data first became available.
- Compared to the 2011 figures, the 2012 figures show that all three nations were broadly stable with Scotland showing weak growth (0.4%) while England and Wales' traffic volume decreased slightly (-0.4% and -0.6% respectively).
- Between 2002 and 2012, the volume of traffic has grown by more in Scotland and Wales (4.7% and 2.7% respectively) than in England which was broadly stable. The volumes of traffic for all three nations peaked in 2007 and have followed similar trends since.

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

- In 2012, 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 2011 and 2012, all regions were broadly stable or had small decreases in traffic (for example, Yorkshire and the Humber had the largest fall at -1.1%). The impact of the Olympics is not noticeable in the Greater London traffic figures for 2012, which fell by 0.7 per cent when compared to 2011.

- Over the last 10 years, around half of the regions in England have experienced increases in road traffic (for example, South West: 4.8%; East Midlands: 3.9%). Greater London experienced the largest decrease (-10.1%) over the same time period.

Percentage point change in road traffic by English Regions, between 1982 and 2012 (Table TRA8901)



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.

7. Heavy goods vehicle weights and headway

Vehicle weight statistics are collected 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 in 2012 was higher than in 2011 for all categories of HGV after a year-on-year falls from 2009 to 2011. The proportion of HGVs exceeding the legal weight limit in 2012 was roughly level with 2010.

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.

- The headway figures have shown a broadly similar trend over the last four years. In 2012, 57 per cent of HGVs left at least the recommended four second gap between themselves and the vehicle in front, compared to 56 per cent of HGVs in 2011. Fifteen per cent of HGVs left less than a two second gap in 2012. This is unchanged from the proportion in 2011.

Detailed statistics (tables) on Vehicle weights and Headway can be found on the Annual Road Traffic Statistics web tables, [TRA31](#). The figures in these tables are not classed as National Statistics and should be treated with caution.

8. Strengths and weaknesses of the data

Annual estimates make use of data from around eight thousand manual traffic counts in addition to continuous data from a national network of around 270 automatic traffic counters. These data sources produce accurate estimates on traffic levels in Great Britain by vehicle type and by road type.

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 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. As they may not give a complete representation of cycling they have been moved into a separate set of tables ([TRA04](#)).
- The Road traffic statistics series consistently reports higher levels of vehicle kilometres for HGVs than the Road freight statistics⁷ series. This can mainly be attributed to difference in data collection. A methodology note on this issue has been published and can be found here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/192486/hgv-traffic-statistics-note.pdf
- Vehicle weight (in table TRA3106) 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 (in table TRA3107) 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 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 (6,617 observations of foreign registered vehicles). This survey is next due to be carried out in 2013 and therefore the next estimates of foreign vehicle traffic will be published in 2014.

⁷ <https://www.gov.uk/government/organisations/department-for-transport/series/road-freight-statistics>

9. Users and uses of Road traffic estimates

We continuously review the content of these statistics to ensure they are meeting users' needs. A consultation has been launched alongside this publication with particular emphasis on weight-in-motion and HGV axle configuration figures that are currently published in this annual. We would like to hear your thoughts on these current issues and more. The consultation note can be found [here](#) and the feedback form can be found [here](#). We also 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:

- 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.

10. 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:

<https://www.gov.uk/government/organisations/department-for-transport/series/road-traffic-statistics>

2. Full guidance on the methods used to compile these statistics can be found in 'Technical Information' here: <https://www.gov.uk/government/organisations/department-for-transport/series/road-traffic-statistics>

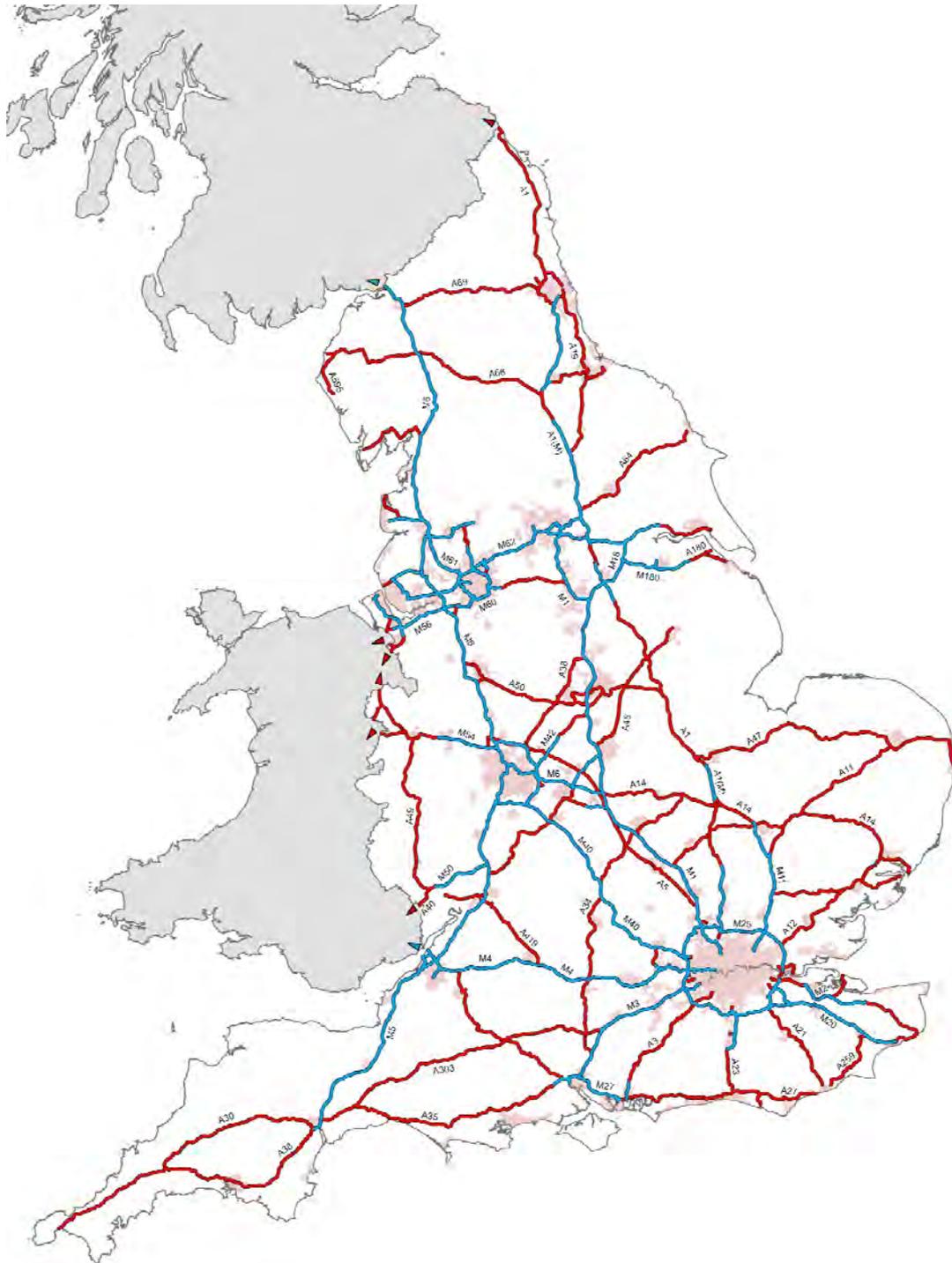
3. National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. Road Traffic Statistics were assessed by the UK Statistics Authority against the Code of Practice and were confirmed as National Statistics in February 2013.

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:

<https://www.gov.uk/government/organisations/department-for-transport/series/road-traffic-statistics>

5. Final annual estimates for 2013 are due to be published in summer 2014. Provisional quarterly road traffic estimates are published throughout the year with the next provisional estimates (for Quarter 2: April to June 2013) due to be published in August 2013.

Annex: A map of the Strategic Roads Network (Highways Agency managed roads)



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