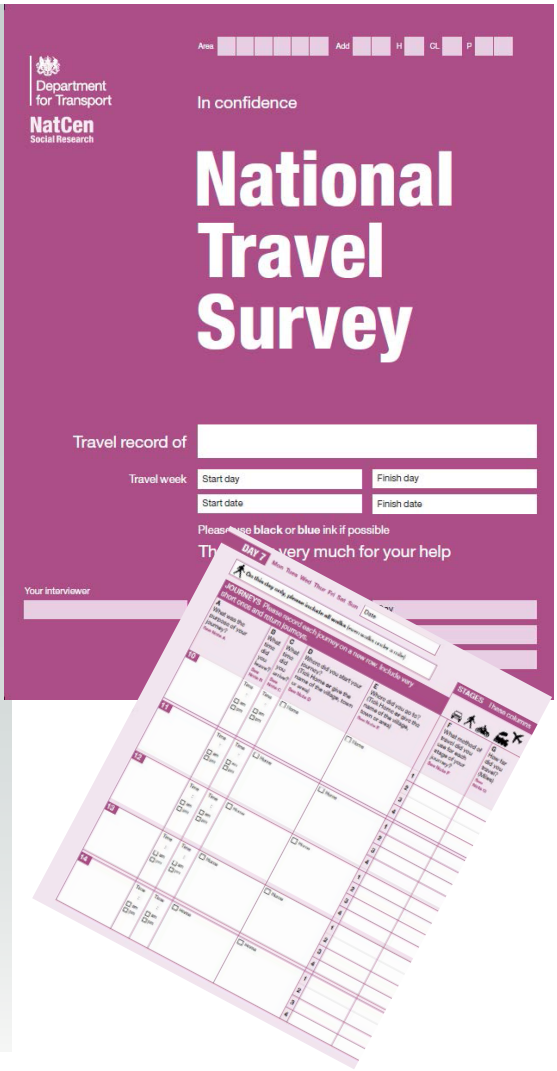
Department for Transport

National Travel Survey
Mode use, 2005 - 2015: A view into a travel week

This factsheet uses data from the National Travel Survey (NTS) to look at the travel behaviours of users of various modes of transport, including cars, bicycles, trains and buses.

The main NTS results usually show the average number of trips made by each person over the course of a year and are calculated over the whole sample in the survey. This is important to model travel patterns across everybody in the country including those who do not travel, and useful so we can follow travel trends over time.

This factsheet takes an alternative approach by looking in more detail at who the users are of different modes of transport. It is a closer look at the trips recorded by different people during their travel week in their NTS travel diary.



In this publication

Key findings include:

The proportion of the NTS sample recording a surface rail trip has increased from 8% in 2005 to 10% in 2015.

On average, individuals who recorded cycling in their travel diary cycled around 20 miles per week. If this pattern was replicated across the year the average distance cycled would be 1,028 miles per rider.

The proportion of drivers and the average distance they travelled increased with income. However, the average number of trips per person were similar across all income groups.

About this analysis

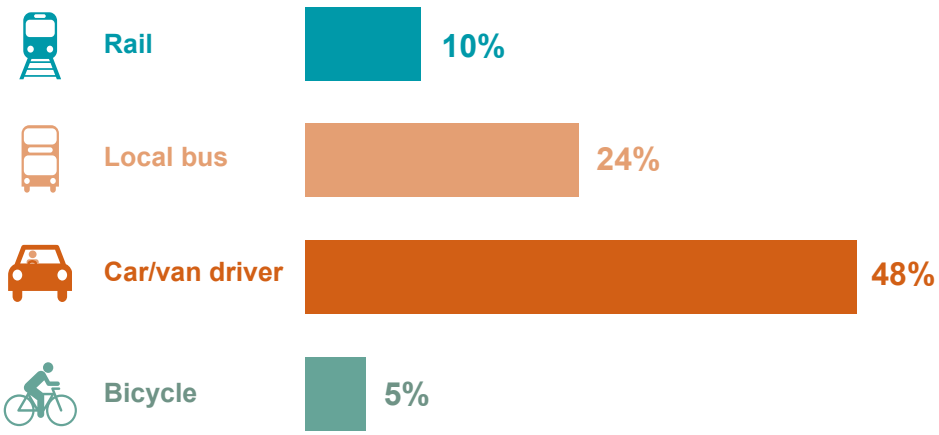
Some of this analysis takes an alternative approach to estimating the average number of trips and the average distance travelled in the National Travel Survey. Usually these measures are calculated by dividing the total trips (or distance) recorded in the weekly diaries by the number of individuals in the total sample, usually around 16,000 respondents. This is how the results are presented in annual NTS publication (for example, Table NTS0303). This analysis is based on "mode users" only (see box opposite)

For example, there might be 32,000 diary week trips for a certain mode of transport. For that mode of transport this equates to an average of 2 trips a week, or 104 trips per year on average for every person in the total sample.

However, if those trips were only being done by 4,000 of the 16,000 respondents, this means the average number of trips per year **for a user of that mode of transport** is 416. This is the basis for the analysis in this factsheet.

It means the average trips and average distance for the different modes are affected by the relative proportions of users of the four modes shown. These are shown in Chart 1. Nearly half of the sample recorded a driving trip during their diary week in 2015. However, all of the cycling trips in the NTS during 2015 were recorded by only 5% of the sample (around 800 people).

Chart 1: Proportions of sample using mode during travel diary week: England 2015



Definition of a 'mode user'

In this factsheet, a 'mode user' (for example 'a cyclist') is an individual who recorded the use of a mode in the travel diary at least once.

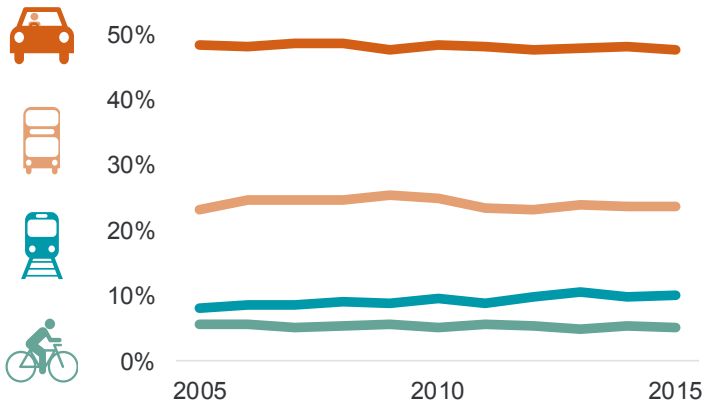
The travel diary lends us a window into what these mode users are actually using the mode for. From their interviews we can examine their characteristics. NTS interviews also show there will be users outside these criteria that are not captured in this analysis, but we should have captured diaries from a range of different types of mode user.

Notes on the NTS

The NTS is a survey of private households. Data are collected from around 16,000 individuals a year through a face-to-face interview and a 7-day travel diary. As these statistics are derived from a sample survey, resulting estimates can fluctuate as a result of sample variability. Therefore users should be careful when drawing conclusions, particularly from short-term changes or analysis based on small sample sizes.

Trends: Proportions of sample recording mode use in diary

Chart 2: Proportions of sample using different modes during travel diary week: England, since 2005

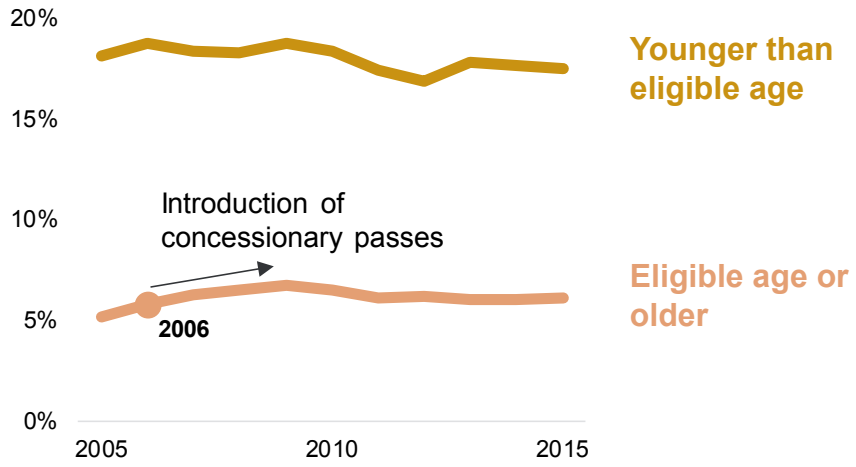


Over the past decade, the proportions of the NTS sample who used each mode during their travel week has remained relatively stable. The exception to this is surface rail, where this has steadily increased from 8% to 10% over the last 10 years. So although the number of trips and distance travelled on average per rail user has remained stable, more people are recording rail trips in their travel week, and the total number of trips made overall in England is increasing.

If we were to run a similar survey that covered everyone in the country, we would expect to capture around **5.5 million** surface rail users, over **1 million more** than we would have done in 2005.

Overall, the proportion of local bus users has remained relatively stable. However, with the introduction of free concessionary passes in 2006, we can see a slight increase in users that are eligible for the concession. This reflects the initial take up of passes and has levelled off since 2009. This increase has been offset by a slight decrease in bus users younger than the eligible age for a concessionary pass.

Chart 3: Proportion of sample using the local bus during travel diary week by eligible age for concessionary pass: England, since 2005



Eligible population

Since April 2010, the eligibility age has been tied to the State Pension age for women. The pensionable age for women is rising, to reach 65 by 2018 and 66 for both men and women by 2020. See table NTS0619 for ages used to estimate the eligible population.

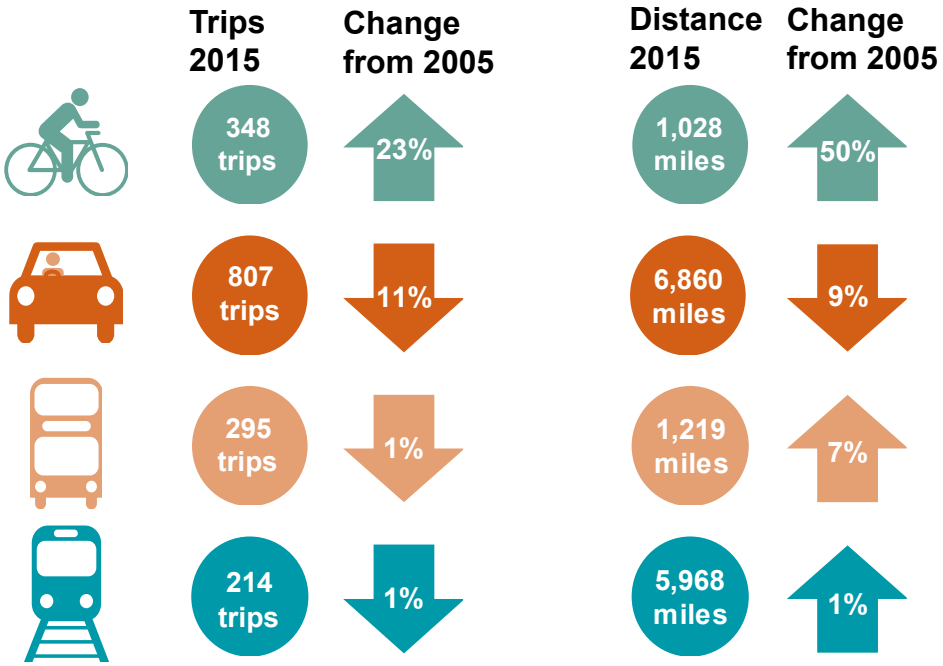
Travel trends of mode users over the past decade

Chart 4 shows changes over the last decade in the four modes for trips and distance. As described on page 2, it is important to remember that these averages relate to the users of the mode, rather than the average of every person across the whole National Travel Survey sample.

These results also assume that the pattern of mode use across the diary week for those users is replicated across the whole 52 weeks of the year.

As a group, cyclists are cycling more than they were a decade ago and drivers are driving less. Bus trips have remained relatively stable among bus users, although they are making longer bus journeys. Surface rail travel has remained relatively stable over this period, although more people have recorded rail journeys as discussed on the previous page.

Chart 4: Average trips and average distance for mode users: England, 2015 and change since 2005



We see the effect of this alternative analysis demonstrated most clearly for cyclists. Across everybody in the NTS (including cyclists and non-cyclists) the average distance cycled is around 50 miles a year. Around 5% of people recorded a cycling trip in their diary, and cyclists who recorded at least one trip in their weekly diary cycled an average of 20 miles a week.

This means among cyclists only the average distance cycled in a year would be over 1,000 miles, if these cyclists replicated their behaviour for each of the 52 weeks in a year.

Conversely, changes over time affect the driving group less as far more people drive compared to other groups where the total trips and distance are spread across fewer individuals. Therefore the level of uncertainty around yearly estimates for cyclists and their travel behaviour is higher than it is for drivers.

Who: Age profiles of mode users

Once we have ascertained the individuals who have used a particular mode during their diary week, we can compare different demographic factors such as age and gender to the overall sample to see how these differ for different modes of transport.

The age profile of the National Travel Survey sample is representative of the population of England. Around one in five respondents are aged under 16 years. There is a relatively small proportion of 17 to 20 year olds and then after that, the numbers peak in the 40 to 49 year old age group and then generally decrease after that.

Cyclists and drivers share a similar age profile to that of the whole sample.

Local bus users have a very different age profile to all other groups, with the number of adults peaking at 21 to 29 years, and again at over 70 years after a decrease through to middle ages.

The proportions of surface rail users peak at younger ages, at 21 to 29 years, and the proportions decrease by age group through to older ages.

There are much lower proportions of individuals aged under 21 years old in the users of surface rail.

Chart 5: Age profile of the whole National Travel Survey sample: England, 2015

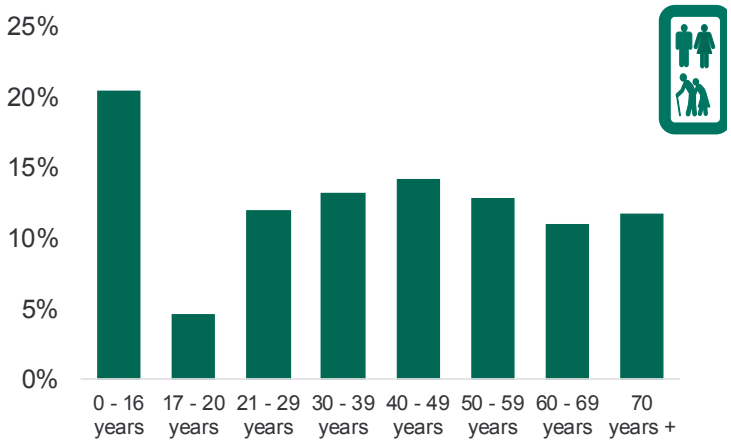


Chart 6: Age profile of bus users: England, 2015

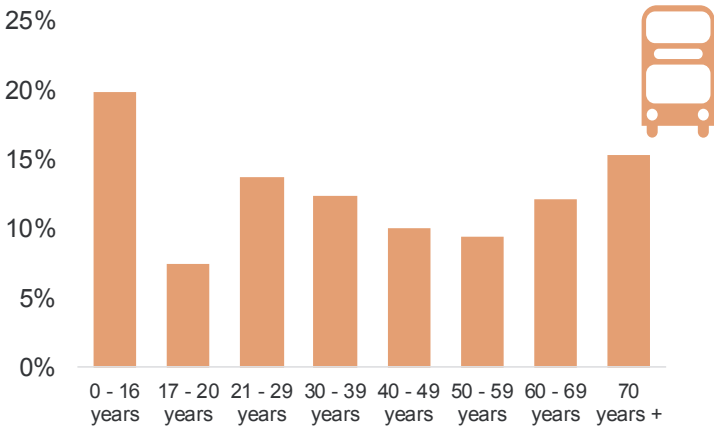
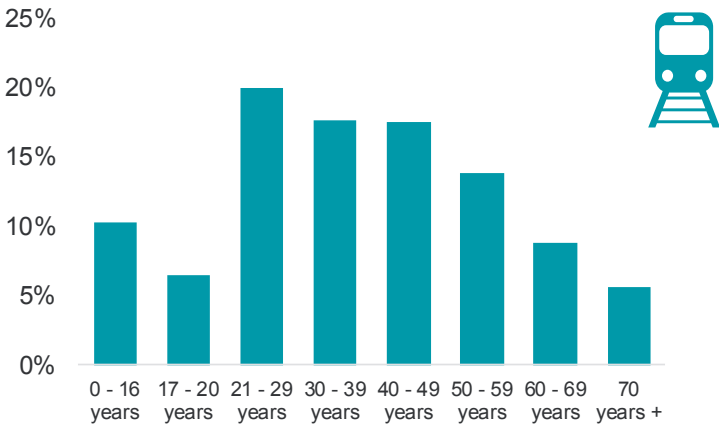


Chart 7: Age profile of surface rail users: England, 2015

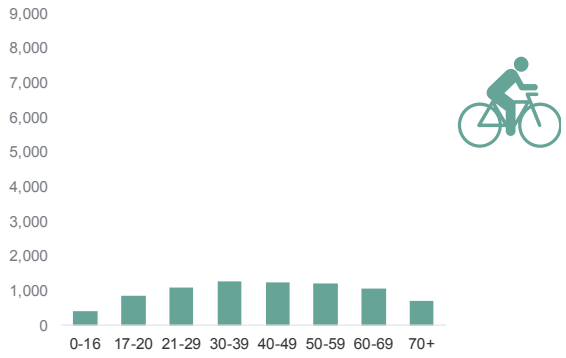


Who: How far do people travel by different modes?

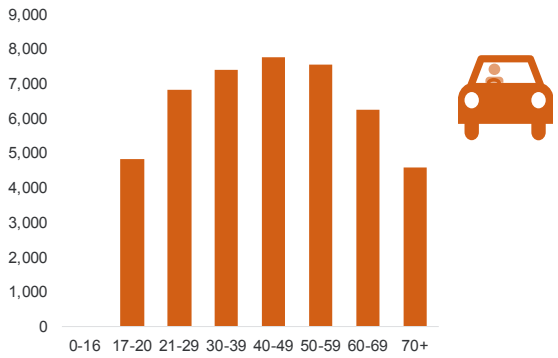
This section shows the average distance travelled per year by users of different modes in 2015. The average distance travelled per year by an age group will reflect the age profiles that were discussed previously, as well as the travel behaviour of that group.

Chart 8: Average miles travelled by age for each mode: England, 2015 (2011/15 combined for cyclists)

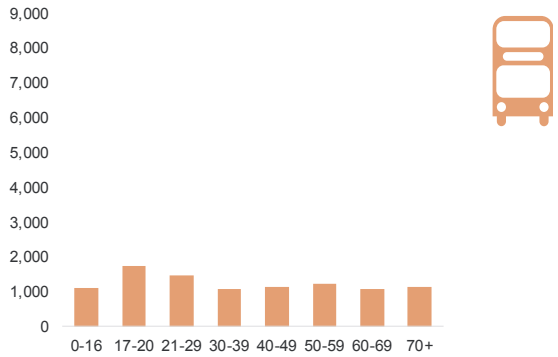
More people were more likely to cycle at middle ages, aged 30 to 59 years. Cyclists between these ages are also more likely to cycle the furthest: individuals in each group cycling more than 1,200 miles per year on average, if they replicated the travel behaviour in the travel week for the other 51 weeks of the year.



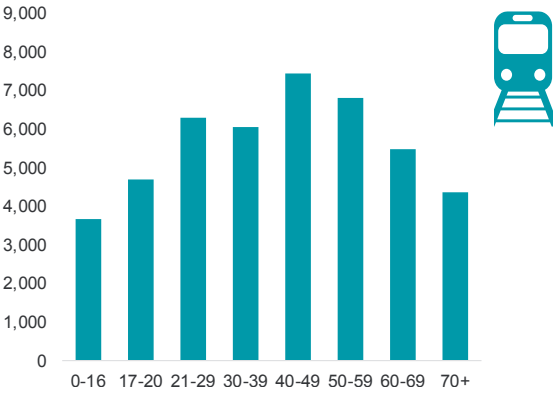
Drivers travelled the most at middle ages, making 871 trips and driving 7,744 miles per driver per year in 2015. Drivers aged 17-20 and drivers aged 70 and over drove a similar number of miles per year.



Although the chart on the previous page showed that more people travelled by bus age 70 years and over, this group of bus users did not travel any further than other age groups. Rather, people aged 17 to 20 years travelled the furthest, making 345 trips and travelling 1,742 miles per person per year.



Surface rail users aged between 30 and 39 years made the most trips at 269 trips on average per person per year in 2015. However, it was the 40 to 49 year old age group that travelled the furthest, on average 7,427 miles per year. It is likely this is related to commuting.



Who: A comparison of male and female cyclists

Except for cyclists, there were no large differences in 2015 between men and women in the number of individuals recording mode use during their travel weeks.

More than twice as many men recorded a cycling trip in their diary than women. Despite more men than women cycling, those that do cycle did not make many more trips than women on average. However, men cycled further than women both overall, and in every age group.

29% cyclists
299 trips
695 miles

travelled per person per year: 5 year average 2011/2015

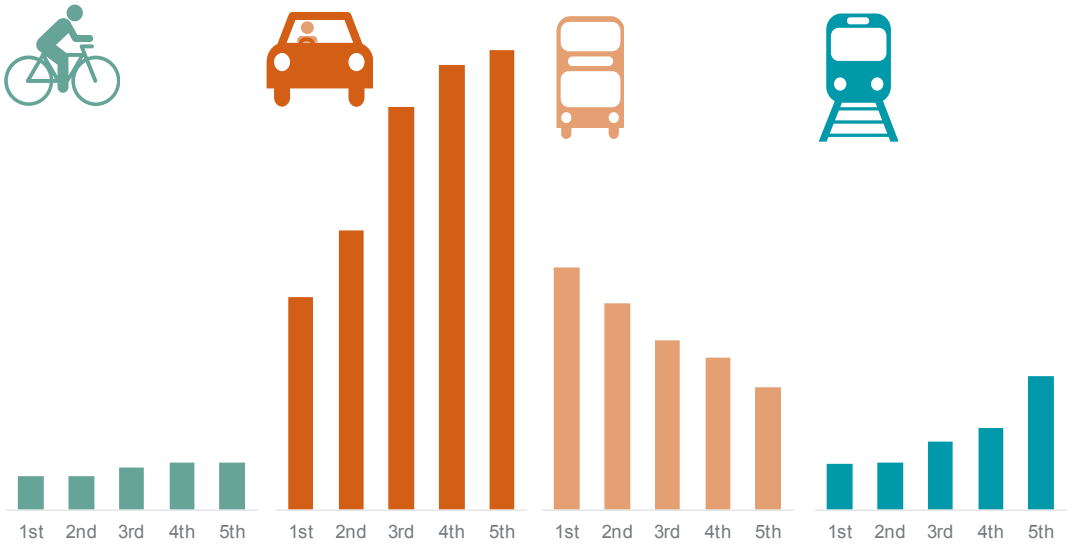
71% cyclists
344 trips
1,122 miles

travelled per person per year: 5 year average 2011/2015

Who: Mode users by income quintile

We can see a clear pattern of numbers of mode users by their income quintile. The higher the income, the more likely an individual was to cycle, drive, or use surface rail. People using local bus followed the inverse of this pattern, where people living in lower income households were more likely to use the bus.

Chart 9: Distribution of users of different modes, by income quintile for each mode: England, 2015 (2013/15 years combined for cyclists)



Who: Average number of trips and distance by income

The previous chart showed how the distributions of individuals across household income quintiles were different for each mode. This impacts on the average number of trips and distance travelled by each quintile group and each mode. Even though a particular income quintile may have had more mode users in 2015, it does not necessarily follow that the average number of trips, or the average distance travelled in the year will be higher.

Looking at the trips and distance travelled by income and comparing with **chart 9** on the previous page, we can see some different patterns emerging.

What are income quintiles?

Income quintiles, used in this section, come from dividing all households into five groups of equal size according to their level of real household income equivalent (accounting for inflation and household composition). The analysis uses the quintiles calculated across the whole sample, rather than for each individual mode separately.

Chart 10: Average number of trips by income quintile and mode: England, 2015 (2013/15 for cyclists)

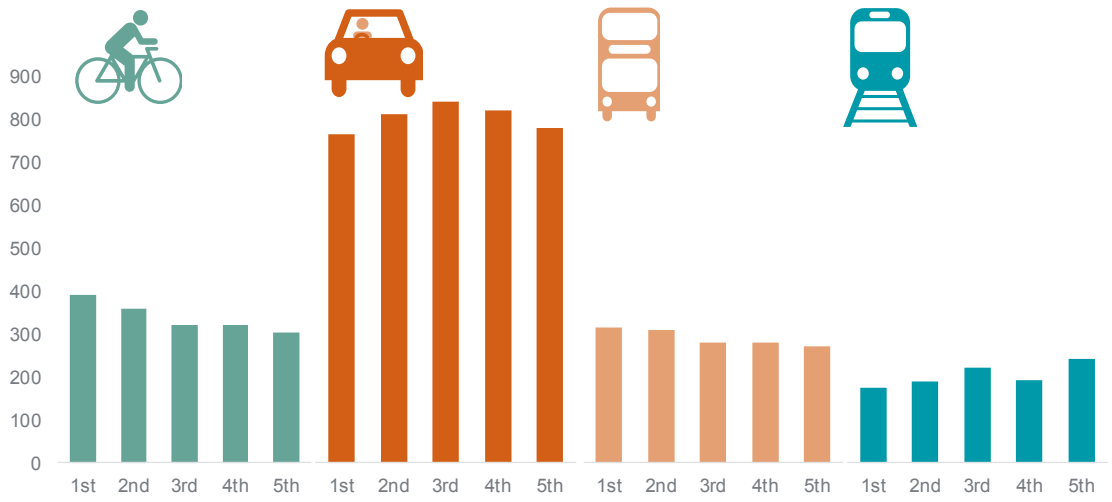
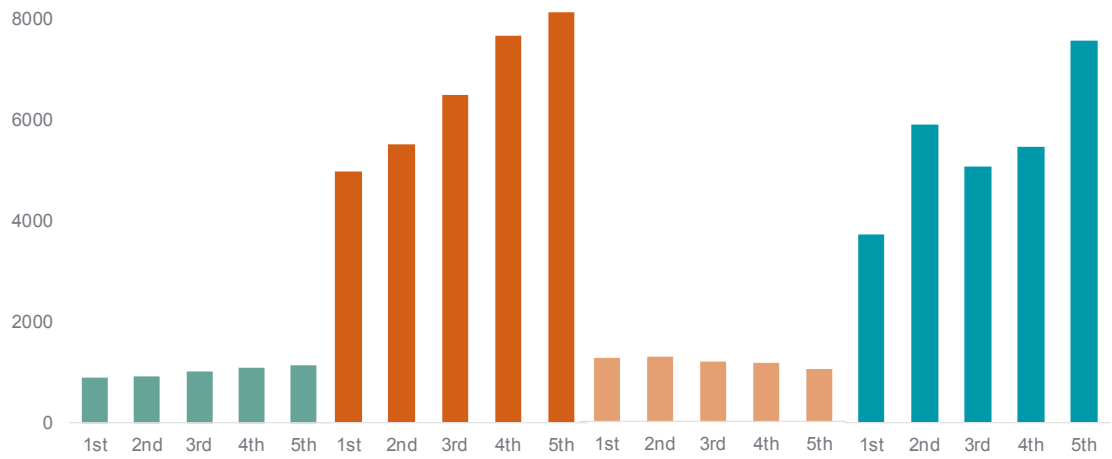


Chart 11: Average miles travelled by income quintile and mode: England, 2015 (2013/15 for cyclists)



Who: Travel by income

Some of the main results for each mode include:

Chart 9 showed that people were more likely to cycle the higher their income. However, cyclists in the lowest income group made more trips on average than individuals in the higher household income groups. Cyclists in the higher household income groups did cycle further though.

The proportion of drivers, and the average distance they travelled increased with income. However, the average number of trips was similar across the 5 income groups shown.

There were a higher proportion of bus users in the lowest two income quintiles and they made more trip and travelled further on average.

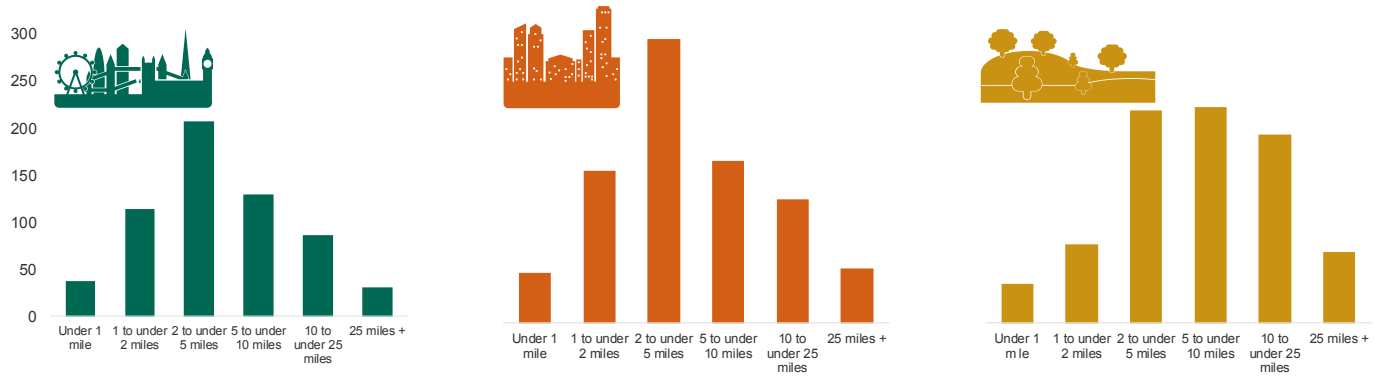
Surface rail users in the middle and highest income groups (3rd and 5th) make the most rail trips, these are mainly for commuting purposes. It is individuals in the 2nd and 5th household income groups however, that travel the furthest by rail. The bulk of the distance travelled in the lower income group is for a leisure purpose, and in the highest for commuting.

Who: Driving by residence of drivers

We can see that drivers make the smallest number of driving trips in London. People living in rural and urban areas make a similar numbers of trips: 814 and 836 trips per person per year on average.

Whilst the majority of driving trips (around 60%) are shorter than 5 miles for individuals living in London and urban areas, most rural drivers car journeys are longer than 5 miles (also around 60%).

Chart 12: Average number of trips driven by trip length and whether in urban areas, rural areas or London: England, 2015



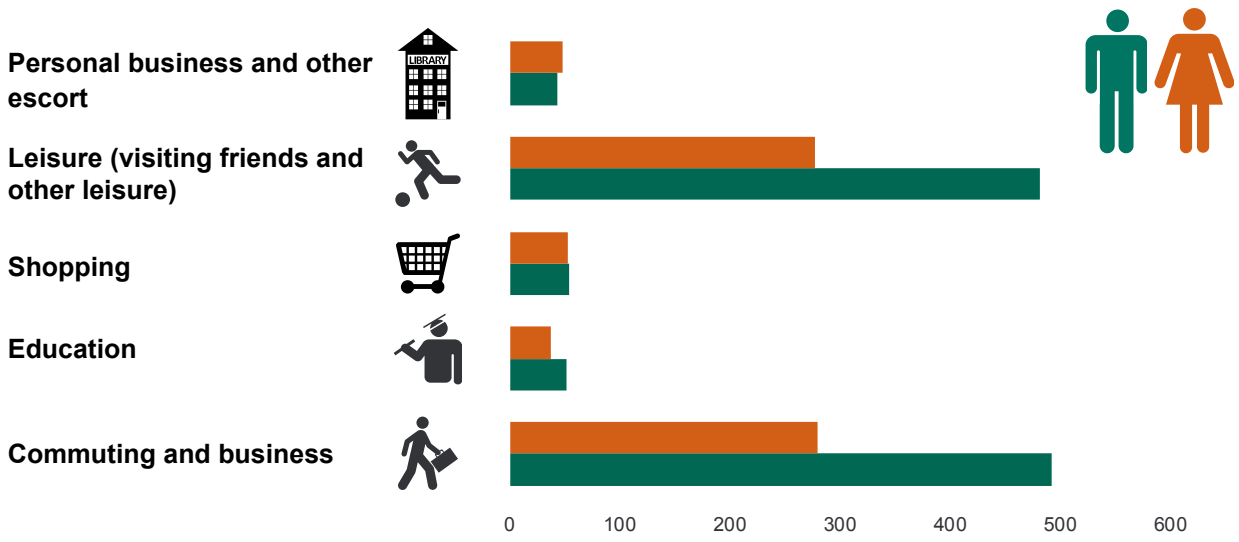
Why: Travel by purpose

The final section of this factsheet briefly looks at the purpose for travel for each of the modes. Cyclists and surface rail users mainly travel for commuting and business and for leisure purposes. Driving and bus journeys are made for most purposes, with fewer for education for both modes. The most common reason for travelling for all the modes is for commuting and business. Car drivers drive 216 commuting and business trips per year compared to 134 cycling trips by cyclists.

Chart 13: Average number of trips per user by purpose and mode: England 2015 (cycling 2011/15 combined)

Men and women both cycle the furthest for commuting and leisure purposes. Men cycle more than one and a half times as far as women, cycling almost 500 miles per person per year for each of these purposes.

Chart 14: Average number of cycling trips per cyclist by purpose and mode: England 2011/15 combined



Background and references

Further reading and references

More details about travel behaviours of English residents can be found in the 2015 National Travel Survey publication: https://www.gov.uk/government/statistics/national-travel-survey-2015.

Full guidance on the methods used to conduct the survey, response rates, weigthing methodology and survey materials can be found in the National Travel Survey Technical Report: 2015 on the above page.

More factsheets on further specific topics from the National Travel Survey can be found at: https://www.gov.uk/government/publications/nts-factsheets.

The Rail Statistics team have also published factsheets on rail trends and rail passengers and can be found at: https://www.gov.uk/government/statistics/rail-factsheets-2016

Contact us

For any questions or queries in relation to this factsheet, please contact the National Travel Survey team:

- Responsible Statistician: Kathryn Kershaw
- Email: national.travelsurvey@dft.gsi.gov.uk
- Telephone: 020 7944 3097