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# National Travel Survey: 2011

## Notes & Definitions



Department  
for Transport

### Background to the National Travel Survey

The 2011 National Travel Survey (NTS) is the latest in a series of household surveys designed to provide a databank of personal travel information for Great Britain. It is part of a continuous survey that began in July 1988, following ad hoc surveys since the mid-1960s. The survey is primarily designed to track long-term development of trends in Great Britain; therefore care should be taken when drawing conclusions from short-term changes. NTS data is collected via two main sources. Firstly, face to face interviews are carried out to collect information on the households, all individual members within the household and all vehicles to which they have access. Each household member is then asked to record details of all their trips over a seven-day period in a travel diary, allowing travel patterns to be linked with individual characteristics. The NTS covers travel by people in all age groups, including children.

### National Statistics

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

### Response Rates

Only households classed as 'fully co-operating<sup>1</sup>' are included in the response calculations. A national response rate of 61% was achieved in 2011. This is equivalent to an achieved sample rate (ASR) of 55%. The ASR includes those households classified as ineligible in the denominator.

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<sup>1</sup> For a household to be classed as fully co-operating, the placement interview had to be fully completed and filled in Travel Diaries had to be collected for all household members.

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## Key Definitions

(A full list of definitions can be found in Appendix A)

**Travel:** only includes personal travel by residents of Great Britain along the public highway, by rail or by air within Great Britain.

**Trips:** The basic unit of travel, a trip, is defined as a one-way course of travel with a single main purpose.

**Stages:** A trip consists of one or more stages. A new stage is defined when there is a change in the form of transport or when there is a change of vehicle requiring a separate ticket.

**Mode/main mode:** Trips may include more than one mode of transport, and each mode is recorded as a stage within that trip. When 'main mode' is used in the title of a table or chart this allocates information for the whole trip to the stage used for the greatest length (in distance) of the trip. When 'mode' is used this refers to information for individual stages of trips.

**Car and car/van:** both include 4-wheeled and 3-wheeled cars, 4x4 vehicles, light vans and lorries.

**Rail:** includes surface rail (National Rail) and London Underground, unless otherwise specified and excludes light rail and other rail systems (e.g. Tyne and Wear Metro), which are included under 'other public transport'.

**Walks:** Walks of less than 50 yards are excluded.

**Adults:** Normally persons aged 16+. For some tables (e.g. car driving licence holding and car ownership), analyses are restricted to those aged 17+.

## Sample size

In 2002, the drawn sample size was nearly trebled compared with previous years following recommendations in a National Statistics Review of the NTS. This enables key results to be presented on a single year basis from 2002. Previously data from the continuous survey was shown for three year time periods because of the smaller sample size, e.g. 1995/97. Details of sample sizes are given in "NTS main sample numbers: 1995 to 2011" at:

<https://www.gov.uk/government/publications/national-travel-survey-2011>

**Combined years:** As the sample size for some types of analysis can be small for one year, some tables show a number of years of combined data to ensure the results are robust. The title of the table will show the years which are combined, for example 2006/10.

During 2011, 7,700 households participated fully in the survey by providing information via interview and completing a seven-day travel diary. An additional 700 households participated in the interviews but did not all complete a diary. Although these cases cannot be used for trip-level analysis, their data is included in all analysis at household, individual and vehicle level.

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**Diary sample:** Analysis of travel data is based on the diary sample. This comprises all 'fully co-operating households', defined as households for which the following information is available: a household interview, an individual interview for each household member, a seven day travel diary for each individual and, where applicable, at least one completed vehicle section. Weights were produced to adjust for non-response, and also for drop-off in recording observed during the seven day travel week.

**Interview sample:** Analyses at household, individual and vehicle level presented in this report are based on the interview sample. This sample comprises all fully co-operating households included in the diary sample, together with some additional 'partially co-operating households'. Generally these partially co-operating households had co-operated fully with the various interviews but not all household members had completed the travel diary. Prior to the introduction of the weighting methodology, data from partially co-operating households was not included in NTS analyses but the weighting strategy offers the opportunity to use this expanded data set for analyses which do not require data from the seven day travel record.

All published tables show the unweighted sample size on which the weighted results are based. For trip data these are based on the unweighted diary with short walks grossed up.

**GPS pilot (subsample):** In 2011 an experiment was conducted to test the possibility of replacing travel diaries with GPS devices. This pilot was conducted with a randomly selected sub-sample of the main NTS sample for February and March 2011. Across the two months 902 addresses, were selected to take part in the pilot. These households were not incorporated into the main NTS results for 2011 and therefore the overall sample size this year is slightly less than in previous years.

## **Standard errors**

As estimates made from a sample survey depend upon the particular sample chosen, they generally differ from the true values for the population. This is not usually a problem when considering large samples but may give misleading information when considering data from small samples, such as cyclists in a particular age group.

In general, it should be remembered that for estimates of households, individuals and vehicles, unweighted samples of under 100 should not be used, while samples of under 300 should be used cautiously. For trip and stage estimates, even more caution should be exercised: samples of under 300 should not be used, whilst samples of under 1,000 should be used cautiously.

Tables of standard errors for selected key statistics derived from the 2009 NTS are published at: <http://assets.dft.gov.uk/statistics/series/national-travel-survey/stderror2009.xls>

A note explaining the methodology used to calculate the 2009 NTS standard errors is published at: <http://assets.dft.gov.uk/statistics/series/national-travel-survey/stderror2009.pdf>

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## Technical reports

The National Travel Survey 2011 Technical Report includes details on sampling, fieldwork, data processing, weighting and a full set of the questionnaires. Technical reports for the NTS are normally published annually, with an extended version published every 3 to 4 years. The 2008 Technical Report is an extended version. The 2011 Technical Report can be found at: <https://www.gov.uk/government/publications/national-travel-survey-2011>

## Note on 2007 and 2008 trip data

The travel diary was redesigned for the 2007 survey to make it more appealing to respondents and easier for them to use. However, this change to the diary seems to have caused a fall in short, incidental trips reported in 2007. The main modes affected are walks under 1 mile and short car trips under 5 miles. The main purpose affected is shopping, although there was also a fall in short trips, particularly for other 'incidental' purposes, such as personal business and visiting friends. There has been a downward trend in these trip purposes and in short trips over the last ten years so it is likely that part of the fall in 2007 is genuine. As the apparent under-recording of trips in 2007 mainly affects short trips, it has little impact on the average distance travelled overall, which remained fairly constant in 2007. Under-recording of short trips continued in 2008, although the difference compared with earlier years was less pronounced than in 2007.

## Earlier methodological changes

There have been various methodological changes to the NTS since the first survey in 1965. These changes are outlined in detail in the 2008 NTS Technical Report. Methodological changes mean that there are some inconsistencies and discontinuities in the time series. Key recent changes include:

**1995 onwards:** Weights have been applied to adjust for non-response and for the drop-off in recording of trips known to occur during the travel diary week. Discontinuity with earlier surveys is less pronounced for measures at an individual, household and vehicle level as at these levels the weighting only adjusts for non-response, which is less of a problem for earlier years. Details of the weighting methodology and a comparison of weighted and unweighted trend data for 1995 to 2004 are available on the DfT website.

**2002 onwards:** The National Centre for Social Research was appointed as the contractor for the survey from 2002. There were certain changes to the way the survey was managed at this point; these are outlined in the 2002 NTS Technical Report. There are a number of apparent discontinuities between pre and post-2002 in the categorisation of purposes. The definitions have not changed but central coding may have improved the quality. Categories particularly affected are other escort, sport: participate, and entertainment/public activity.

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## Trip lengths and short walks

In the NTS, short walks are only recorded on the seventh day of the travel diary. Weights are generated to account for this. More information on the weighting of short walks is available in the Technical Report. NTS tables which show a distribution by trip length (e.g. NTS0308 and NTS0309) are based on the accumulated distance over all stages in the trip. For trips on days 1 to 6, total trip distance may be understated because short walks were not recorded. This will particularly affect public transport trips as it is usual that a short walk would be necessary to get to a bus stop or rail station.

## Publications and unpublished data

The most recent editions of all NTS publications are available on the National Travel Survey web page at:

<https://www.gov.uk/technical-guidance-for-transport-stats#national-travel-survey-statistics>

Key results are normally published annually. Personal travel factsheets covering specific topics are published periodically. The most recent factsheets published cover the following topics:

- *Commuting and business travel* (based on 2009 data)
- *Health-related travel difficulties* (based on 2008 data)
- *Use of public buses* (based on 2008 data)
- *Travel in urban and rural areas* (based on 2008 data)
- *Vehicles* (based on 2008 data)
- *Travel to school* (based on 2006 data)
- *Shopping* (based on 2005 data)
- *Cycling* (based on 2005 data)
- *Walking* (based on 2005 data)

Customised tables using unpublished NTS data can be obtained from the NTS enquiry point (telephone 020 7944 3097 or e-mail [national.travelsurvey@dft.gov.uk](mailto:national.travelsurvey@dft.gov.uk)). Charges may be made to cover the costs of data extraction.

## Symbols and conventions

**Symbols:** The following symbols have been used throughout:

- .. = not available
- = negligible (less than half the final digit shown)
- \* = sample size too small for reliable estimates
- . = not applicable
- 0 = nil
- r = revision
- | = break in series

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**Units:** Figures are shown in italics when they represent percentages.

**Rounding:** In tables where figures have been rounded to the nearest final digit, there may be an apparent slight discrepancy between the sum of the constituent items and the total shown.

**Weeks:** It is assumed that there are 52.14 weeks in a year.

## **Acknowledgements**

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## Appendix A - Definitions

### **Personal travel**

The subject of the National Travel Survey is personal travel. This is travel for private purposes or for work or education, provided the main reason for the trip is for the traveller himself or herself to reach the destination.

### **Coverage**

The NTS covers households within Great Britain. Therefore, it excludes people not living in households, such as students in halls of residence and tourists.

### **Trips in course of work**

Trips made in the course of work are included provided that the purpose of the trip is for the traveller to reach a destination. Travel to deliver goods, or to convey a vehicle or passengers (e.g. as a bus driver or taxi driver), is not covered. Nor is travel as a conductor, guard or other member of a crew of public transport vehicles. Also excluded is travel as a driver or a member of a crew of public vehicles such as fire engines or ambulances; travel in industrial or agricultural equipment (cranes, bulldozers, tractors, etc.); travel in specially equipped vehicles used in the course of a person's work (police patrol cars, AA/RAC repair vehicles, Royal Mail vans, etc.); and trips in course of work by people paid to walk or cycle, such as policemen on the beat, traffic wardens, leaflet distributors, messengers, postmen, or roundsmen.

### **Leisure travel**

Travel for a leisure purpose is normally included. However, trips which are themselves a form of recreation are not. Examples are yachting or gliding, which are done for the pleasure of going in a boat or plane rather than to get somewhere. Travel by foot away from the public highway is excluded unless both the surface is paved or tarred and there is unrestricted access. Thus, walks across open countryside on unsurfaced paths are excluded; and so are walks in pedestrian precincts or parks that are closed at night. Children's play on the street is not included as travel, but information about this is collected separately on Day 7.

### **Geographical coverage**

Only travel within Great Britain is included. Trips to other places are included only up to the ticket control point at which the boat, plane or train using the Channel Tunnel, is boarded. Travel by road vehicle away from the public highway is excluded, but travel on public roads in parks and on cycleways is included.

### **Trips**

The basic unit of travel, a trip, is defined as a one-way course of travel with a single main purpose. Outward and return halves of a return trip are treated as two separate trips. A trip cannot have two separate purposes, and if a single course of travel involves a mid-way change of purpose then it, too, is split into two trips. However, trivial subsidiary purposes (e.g. a stop to buy a newspaper) are disregarded.

Note that in earlier publications the word 'journey' has been used. 'Trip' is now used for clarity, as the word 'journey' is often used in travel literature to mean a sequence of trips starting and finishing at the same place.

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## **Stages**

A trip consists of one or more stages. A new stage is defined when there is a change in the form of transport or when there is a change of vehicle requiring a separate ticket.

### **Distance travelled**

The length of any trip stage is the distance actually covered, as reported by the traveller, and not the distance 'as the crow flies'.

### **Series of calls trips**

In order to reduce the burden on respondents, travel involving a number of stops for the same main purpose and using the same form of transport are treated as one continuous series of calls trip from the first such call to the last one. Only shopping and 'in course of work' travel can be treated in this way. A doctor's round would therefore consist of one trip to the first patient, one series of calls trip to the other patients and one trip from the last call back to the surgery or home. In general, series of calls trips are excluded from tables in this report.

### **Modes of travel**

Walks of less than 50 yards are excluded.

Car and car/van both include 4-wheeled and 3-wheeled cars, 4x4 vehicles, light vans and lorries.

Rail includes both surface rail (National Rail) and London Underground, but not any other rail service.

Light Rail includes the Tyne & Wear Metro, Docklands Light Railway, Manchester Metrolink, Glasgow Subway, Sheffield Supertram, Blackpool Tramway, Croydon Tramlink, Nottingham Express Transit (NET) and Midland Metro. It has been possible to distinguish these modes since 1998, but the number of cases is small and they are included in tables under 'other public' transport.

Local bus includes all 'local' services, and in some tables this is split into London and non-London bus services, but excludes express services, excursions and tours (non-local bus).

A bicycle is any pedal cycle capable of use on the public road, but not children's bicycles or tricycles that are intended as toys.

'Other' modes depend on the context, but may include other types of bus (works or school bus, private hire, express bus and tours and excursions), two-wheeled motor vehicles, minibuses, motorcaravans, dormobiles, taxis/minicabs, domestic air travel and other private and public transport.

### **Main mode of travel**

The main mode of a trip is that used for the longest stage of the trip by distance. With stages of equal length the mode of the latest stage is used.

### **Trip purpose**

The purpose of a trip is normally taken to be the activity at the destination, unless that destination is 'home' in which case the purpose is defined by the origin of the trip. The classification of trips to 'work' is also dependent on the origin of the trip. Purposes include:

Commuting - trips to a usual place of work from home, or from work to home.

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Business - personal trips in course of work, including a trip in course of work back to work. This includes all work trips by people with no usual place of work (e.g. site workers) and those who work at or from home.

Other work - trips to work from a place other than home or in course of work, e.g. coming back to work from going to the shops during a lunch break. In most tables this is included with 'personal business'.

Education - trips to school or college, etc. by full time students, students on day-release and part time students following vocational courses.

Shopping - all trips to shops or from shops to home, even if there was no intention to buy.

Personal business - visits to services, e.g. hairdressers, launderettes, dry-cleaners, betting shops, solicitors, banks, estate agents, libraries, churches; or for medical consultations or treatment; or for eating and drinking, unless the main purpose was entertainment or social.

Social or entertainment - visits to meet friends, relatives, or acquaintances, both at someone's home or at a pub, restaurant, etc.; all types of entertainment or sport, clubs, and voluntary work, non-vocational evening classes, political meetings, etc..

Holidays or day trips - trips (within GB) to or from any holiday (including stays of 4 or more nights with friends or relatives), or trips for pleasure (not otherwise classified as social or entertainment) within a single day.

Just walk - walking trips for pleasure or exercise along public highways, including taking the dog for a walk and jogging.

Escort trips - used when the traveller has no purpose of his or her own, other than to escort or accompany another person; for example, taking a child to school. 'Escort commuting' is escorting or accompanying someone from home to work or from work to home. Similarly, other escort purposes are related to the purpose of the person being escorted. Note that the purpose of a trip for a small child accompanying older children to school would be 'escort education'.

### **Households**

A household consists of one or more people who have the sampled address as their only or main residence and who either share at least one main meal a day or share the living accommodation.

### **Work status**

A person is described as working if in paid employment, or self-employed, during the previous week. Persons absent on holiday, on strike, temporarily sick, on study leave, maternity leave, or absent for similar reasons, are included. Sandwich students and students working during vacation are excluded. The distinction between full-time and part-time work is determined by the respondent.

### **Household income**

Household income is the total gross income of all members of the household, from whatever source, before deduction of income tax, National Insurance or pensions contributions.

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## Real household income equivalent

Because of price inflation, and because household size and composition is not taken into account in the simple measure of household income, a measure of household affluence, known as real household income equivalent, is used. A household income equivalent scale – called the McClements Scale - was used to assign values to adults and children within a household. The scales takes childless, two adult households as standard (that is, they are assigned a weight of 1) and then scales up the income of households with fewer people and scales down the income of households with more. Total household income is then divided by the sum of these values so that the household income relative to a household consisting of just one married couple can be obtained. These are then deflated to 1990 values using the Retail Price Index (RPI). Households are then assigned to one of twenty groups in ascending order of affluence. These are usually grouped into five 'quintile' groups for analysis purposes. The values assigned to individuals within a household were as follows:

### Married head of household

Married couple of 2 adults		1.00
1 <sup>st</sup> additional adult	0.42	
2 <sup>nd</sup> (or more) additional adult	0.36	(per adult)

### Single head of household

1 adult only		0.61
1 <sup>st</sup> additional adult	0.46	
2 <sup>nd</sup> additional adult	0.42	
3 <sup>rd</sup> (or more) additional adult		0.36 (per adult)

### Child aged:

16-18yrs	0.36
13-15yrs	0.27
11-12yrs	0.25
8-10yrs	0.23
5-7yrs	0.21
2-4yrs	0.18
Under 2	0.09

### **Household vehicles**

The term 'car' and 'car/van' is used for all three or four wheeled vehicles with a car body type, and also light vans, 4x4 vehicles, dormobiles and motorcaravans. Such vehicles are regarded as household cars if they are either owned by a member of the household, or available for the private use of household members. Vehicles used only for the carriage of goods, as public service passenger vehicles, or solely for hire by other people are excluded. Hired or borrowed vehicles are included only if they were available to the household over the whole of the sample travel week. Company cars provided by an employer for the use of a particular

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employee (or director) are included, but cars borrowed temporarily from a company pool are not.

The term 4-wheeled car excludes light vans, 4x4 vehicles, dormobiles and motorcaravans.

#### **Access to cars**

The 'main driver' of a household car is the household member that drives the furthest in that car in the course of a year. Households with two or more cars are likely to have two or more main drivers, one for each car.

'Other drivers' are people in car-owning households, who have a full driving licence to drive a car, but are not main drivers of a household car. No account is taken of whether or not they actually drive a household car.

Non-drivers are all other people in car-owning households. They include children below driving age and adults with provisional driving licences.

#### **Type of area**

Households are classified according whether they are within an urban area of at least 3,000 population or in a rural area. Urban areas are subdivided for the purpose of this publication as follows:

- London boroughs - the whole of the Greater London Authority
- Metropolitan built-up areas - the built-up areas of former metropolitan counties of Greater Manchester, Merseyside, West Midlands, West Yorkshire, Tyne and Wear and Strathclyde (excludes South Yorkshire)
- Large urban - self-contained urban areas over 250,000 population
- Medium urban - self-contained urban areas over 25,000 but not over 250,000 population
- Small/medium urban - self-contained urban areas over 10,000 but not over 25,000 population
- Small urban - self-contained urban areas over 3,000 but not over 10,000 population
- Rural - all other areas including urban areas under 3,000 population

Prior to 1996, 'small urban' and 'small/medium urban' were combined into one category covering self-contained urban areas over 3,000 but not over 25,000 population.

#### England and Wales

The classification specifies urban areas based on the extent of urban development indicated on Ordnance Survey maps. An urban area is a tract of continuously built-up urban land extending 20 hectares or more. Urban areas thus defined but less than 200 metres apart are combined into a single urban area. Data for England and Wales are provided by the Office for National Statistics.

#### Scotland

In Scotland postcodes were classified as urban or rural using population density. Data for Scotland was provided by the Scottish Executive. The method for classifying postcodes in Scotland was amended slightly in 2007 to bring it more in line with the classification for England and Wales.

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Data up to 2001 use a classification which reflects built-up areas and population at the time of the 1991 Census. Data from 2002 use a classification which reflects built-up areas and population at the time of the 2001 Census.