Transport for London

Travel in London, Supplementary Report: London Travel Demand Survey (LTDS)

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1. Introduction

This report aims to provide a more detailed look at the London Travel Demand Survey (LTDS) data than is given in the brief coverage in Travel in London, Report 3. It is intended to enable prospective users to understand more fully the content and coverage of the data, and to illustrate the kinds of analysis that are possible. The survey has been conducted among residents of the Greater London area on a continuous (rolling) basis for the five years between 2005/06 and 2009/10 and combines socio-demographic data with trip diary-based records of personal travel.

The report is divided into the following sections:

Chapter 2 introduces the LTDS survey, giving basic details on how the survey is carried out as well as information on sample sizes.

Chapter 3 looks at how trip rates have changed over the five LTDS survey years, by mode, purpose and area of residence.

Chapter 4 explores how travel varies by time of day, as well as the difference between trip-making on weekdays and weekends.

Chapter 5 looks at mode and purpose shares, in terms of how they have changed over the five years as well as how they differ by area of residence.

In **Chapter 6**, travel is broken down in terms of both the amount of time spent travelling and the distance Londoners travel on an average day.

Chapter 7 looks at how rates of travel and modes used differ for population subgroups defined by socio-economic factors such as age, working status and household income.

Chapter 8 introduces how LTDS data can be broken down spatially by area of trip origin and destination, as well as showing some borough-level data.

Car ownership patterns are introduced in **Chapter 9**, and the effect car ownership has on trip making and mode choices.

Chapter 10 looks at how working patterns have changed, both in terms of the number of people in full or part time employment, and whether people travel to the same or different workplaces, or work from home.

A proportion of London residents make no trips at all on an average day. **Chapter 11** investigates whether this is changing over time, what types of people are not travelling, and the reasons for non-travel.

Chapter 12 looks at the characteristics of 'frequent users' of different modes, and whether they have changed their frequencies of use in the 12 months before the survey, and reasons for that change.

Finally, **Chapter 13** introduces the concept of 'tours', defined as sequences of consecutive trips that start and end at the same location, which provide an alternative to trips as a way of describing people's travel patterns that can be explored using the LTDS data.

2. The London Travel Demand Survey (LTDS)

2.1 What is LTDS?

LTDS is a continuous household survey of the London area, covering the London boroughs as well as the area outside Greater London but within the M25 motorway. Results in this report relate to residents of the Greater London area, comprising the 32 London boroughs and the City of London. The first year of results covered the financial year 2005/06, meaning that there are now five years of data available.

The survey is a successor to the household survey component of the London Area Transport Survey (LATS) which was last carried out in 2001. The total available sample over the 5 years exceeds that of LATS (see Table 2.1). However, the LTDS annual sample size is significantly smaller than for LATS – around 8,000 households in a typical year, compared with 30,000 in LATS 2001.

Table 2.1 Sample sizes and response rates, LATS and LTDS.

Survey	Sample of households	Sample of people	Response rates
LATS 2001	29,973	67,252	54.3%
LTDS 2005/06	5,008	11,583	52.4%
LTDS 2006/07	8,006	18,242	52.6%
LTDS 2007/08	7,873	17,926	51.5%
LTDS 2008/09	8,134	18,975	54.0%
LTDS 2009/10	8,227	18,924	52.2%
Total LTDS	**37,248**	**85,650**	**52.6%**

2.2 How is the survey carried out?

LTDS captures information on households, people, trips and vehicles. All members of the household are surveyed, with complete trip detail for a single day recorded for all household members aged 5 and over.

Three questionnaires are used – a household questionnaire, individual questionnaires for all household members, and trip sheets or travel diaries. The household questionnaire is completed by any responsible adult within the household, and gives details of household structure with basic demographic information on household members and household characteristics such as income, housing tenure and vehicle ownership.

The individual questionnaire has to be completed by all members of the household aged 5 and over. This includes further demographic and travel-related information, including working status, frequency of use of transport modes, and details of driving licences and public transport tickets held.

Finally, trip sheets are completed by every household member aged 5 and over. This captures data on all trips made on a designated travel day, the same day for all

members of the household. Details captured include trip purposes, modes used, trip start and end times, and the locations of trip origins and destinations.

2.3 Analysing LTDS results

Results from a single year are usually robust enough to analyse at the London-wide level, and can be split down by area for Inner and Outer London residents. When analysing results at a more spatially disaggregrated level (typically borough of residence or borough of trip origin), three years of data need to be combined, giving an average figure over the three years. This ensures a large enough sample size to give robust results.

Even at the London-wide level, care should be taken when interpreting changes in small values from one year to the next, particularly for modes of transport with relatively low mode shares, such as taxi, motorcycle and pedal cycle. Changes between successive years may not be statistically significant, but trends can be detected more reliably by examining the results over a run of years rather than considering each annual change in isolation. Percentage changes should not be estimated from rounded estimates shown in the tables of this report.

LTDS is primarily a survey of London residents, and the survey therefore provides a unique window on to the travel behaviour of Londoners. However, the survey does not produce results that are representative of all travel in London, which of course also includes that made by people who are not residents of Greater London (such as longer-distance commuters and other visitors).

All results in this report are therefore for London residents only. For estimates of all travel in London including travel by non-residents, with commentary on the important trends, see Travel in London Report 3, Chapter 2 (www.tfl.gov.uk/travelinlondon).

2.4 Accessing LTDS data

There are two ways to gain access to LTDS data. The first is the Romulus web application, available at http://romulus.tfl.gov.uk/webview/

To access the full analysis functions of Romulus, you will first need to contact the Romulus administrator at Romulusadmin@tfl.gov.uk.

The other option is to specify your analysis requirements to the LTDS team directly, by emailing LTDSenquiries@tfl.gov.uk.

3. Trip rates

This chapter looks at how the overall amount of travel Londoners make, expressed in the form of trip rates, has changed over the five years of the LTDS survey. It also looks at how trip rates vary by mode, purpose, area of residence and day of the week. Since LTDS relates only to residents of the Greater London area, the following statistics do not give a complete view of all travel in London. This section should therefore be read in conjunction with Chapter 2 and Sections 3.1 to 3.3 of TfL's Travel in London 3 report.

3.1 Personal trip rates

Trip rates are a basic measure of the amount of travel people make, and are defined as the number of trips made on an average day, divided by the population (excluding children under 5 years, whose trips are not included in the LTDS count of trips). Table 3.1 and Figure 3.1 show trip rates on an average day (7-day week) over the last 5 years, broken down by main mode. The main mode of a trip is the mode of transport used for the longest distance within the trip.

Table 3.1 Trips per person per day, by main mode.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.11	0.11	0.11	0.11	0.12
Underground/DLR	0.17	0.17	0.19	0.19	0.17
Bus/tram	0.35	0.37	0.36	0.37	0.36
Taxi/other	0.03	0.04	0.03	0.03	0.03
Car driver	0.75	0.73	0.73	0.63	0.62
Car passenger	0.33	0.36	0.35	0.30	0.31
Motorcycle	0.01	0.02	0.01	0.01	0.01
Cycle	0.04	0.05	0.05	0.05	0.05
Walk	0.79	0.80	0.81	0.74	0.73
All modes	**2.59**	**2.65**	**2.64**	**2.42**	**2.41**

The LTDS survey is better at characterising travel behaviour and features of travel demand by residents of London, for example in terms of journey purpose, transport modes and type of travel, than at quantifying trends in the aggregate travel volumes in London. Nevertheless, indications of change can be derived that can be used to supplement modal sources on public transport and road traffic to understand change more robustly. In this context, results for the 2008/09 LTDS survey suggested that travel by London residents fell sharply, and that this lower level has been maintained in 2009/10.

A 'two-year-view' of the results for both 2008/09 and 2009/10 provides the best appreciation from this source of the impact of the recession on the travel behaviour of Londoners. This particularly applies to changes in mode shares, where small apparent increases in travel by car in 2009/10 should be seen in the light of the very significant falls in trip rates by that mode in 2008/09. For public transport, the small falls in 2009/10 relative to 2008/09 reflect a relatively stable position compared

with the pre-recession level, although later data does suggest that public transport ridership is now recovering strongly from the recession.

3.2 Trip rates by day of week

Londoners make more trips on weekdays than at weekends (Tables 3.2 and 3.3), with trip rates being around 5 per cent higher on an average weekday than on the average day (7-day week) including weekends. A greater proportion of weekday trips is made on public transport modes, reflecting the greater number of commuting trips made in the working week. In 2009/10 weekday trip rates fell more than whole week trip rates, falling by 2 per cent to 2.5 trips per person, following a larger decline, 7 per cent, in 2008/09.

Figure 3.1 Trips per person per day, by main mode, 2005/06 to 2009/10.

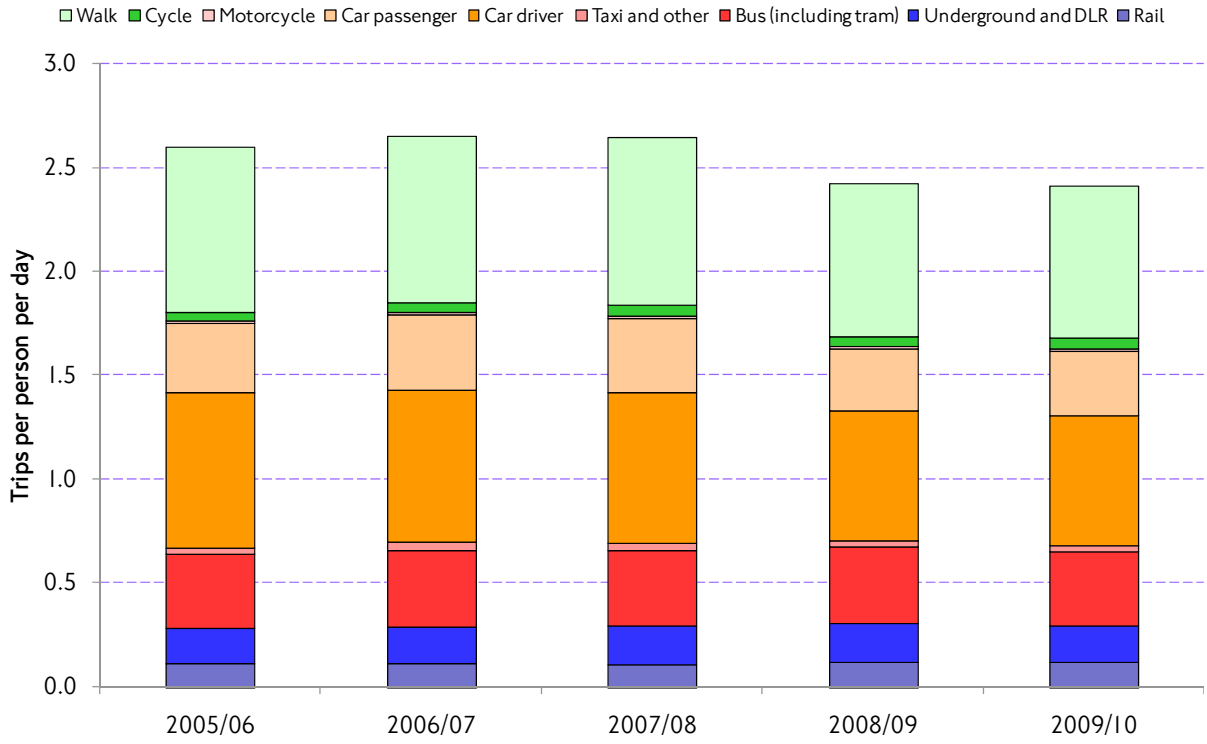


Table 3.2 Trips per person per weekday, by main mode.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.13	0.13	0.13	0.14	0.14
Underground/DLR	0.20	0.21	0.21	0.22	0.21
Bus/tram	0.40	0.41	0.40	0.42	0.40
Taxi/other	0.03	0.04	0.04	0.02	0.03
Car driver	0.81	0.77	0.75	0.64	0.65
Car passenger	0.31	0.31	0.30	0.25	0.27
Motorcycle	0.02	0.02	0.02	0.02	0.01
Cycle	0.04	0.05	0.05	0.05	0.05
Walk	0.82	0.86	0.87	0.80	0.76
All modes	**2.75**	**2.78**	**2.78**	**2.57**	**2.53**

Table 3.3 Trips per person per weekend day, by main mode.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.05	0.05	0.04	0.05	0.07
Underground/ DLR	0.10	0.10	0.13	0.11	0.09
Bus/tram	0.24	0.27	0.27	0.28	0.26
Taxi/ Other	0.03	0.04	0.03	0.03	0.03
Car driver	0.60	0.63	0.67	0.61	0.56
Car passenger	0.40	0.49	0.49	0.43	0.41
Motorcycle	0.03	0.01	0.01	0.00	0.01
Cycle	0.01	0.04	0.04	0.03	0.04
Walk	0.69	0.63	0.65	0.61	0.67
All modes	**2.16**	**2.26**	**2.32**	**2.15**	**2.14**

3.3 Trip rates by area of residence

Figure 3.2 shows how trip rates vary between Inner and Outer London residents, as well as the differences in mode use between the two areas.

Trip rates for Inner London residents increased by 2 per cent in 2009/10, whilst trip rates for Outer London residents continued to decrease, by around 2 per cent. For the first time since the survey started, trip rates for Inner London residents were higher than for Outer London residents (2.43 and 2.39 trips per person per day, respectively). The decline in trip rates in Outer London came mainly from the public transport modes, which fell by 8 per cent. After a big fall in 2008/09, car driver trip rates in Outer London fell again, though only by 1 per cent. In contrast, in Inner London public transport and car driver trip rates both increased. Walk and cycle trip rates also increased compared with 2008/09, up by 4 per cent and 1 per cent respectively.

Figure 3.2 Trips per person per day, by main mode and area of residence, 2005/06 to 2009/10.

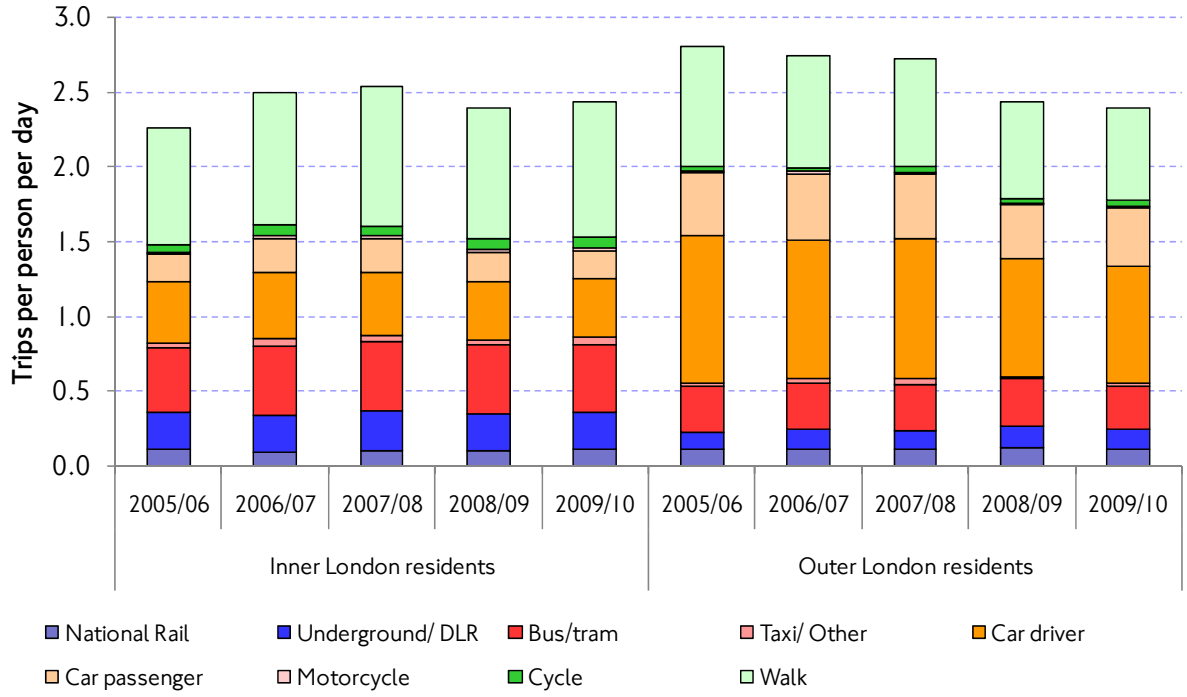


Table 3.4 Trips per person per day, by main mode, Inner London residents, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.11	0.10	0.10	0.10	0.12
Underground/DLR	0.25	0.24	0.27	0.25	0.24
Bus/tram	0.43	0.46	0.46	0.46	0.46
Taxi/other	0.04	0.05	0.05	0.04	0.05
Car driver	0.40	0.44	0.42	0.38	0.39
Car passenger	0.19	0.23	0.23	0.19	0.18
Motorcycle	0.02	0.02	0.02	0.02	0.01
Cycle	0.05	0.07	0.07	0.07	0.07
Walk	0.78	0.88	0.94	0.87	0.90
All modes	**2.26**	**2.50**	**2.54**	**2.39**	**2.43**

Table 3.5 Trips per person per day, by main mode, Outer London residents, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.11	0.12	0.11	0.12	0.11
Underground/DLR	0.12	0.13	0.13	0.14	0.13
Bus/tram	0.30	0.31	0.30	0.32	0.29
Taxi/other	0.02	0.03	0.05	0.02	0.02
Car driver	0.98	0.92	0.93	0.79	0.78
Car passenger	0.42	0.44	0.44	0.37	0.40
Motorcycle	0.01	0.02	0.01	0.01	0.01
Cycle	0.03	0.03	0.04	0.03	0.04
Walk	0.80	0.75	0.72	0.64	0.62
All modes	**2.81**	**2.75**	**2.70**	**2.44**	**2.39**

3.4 Trip rates by purpose

Trip rates by purpose changed very little in the latest LTDS year. Commuting trips, those trips between home and the worker's usual workplace, fell by 2 per cent, while shopping and personal business trip rates fell only slightly after a much larger fall in 2008/09.

Figure 3.3 Trips per person per day, by purpose, 2005/06 to 2009/10.

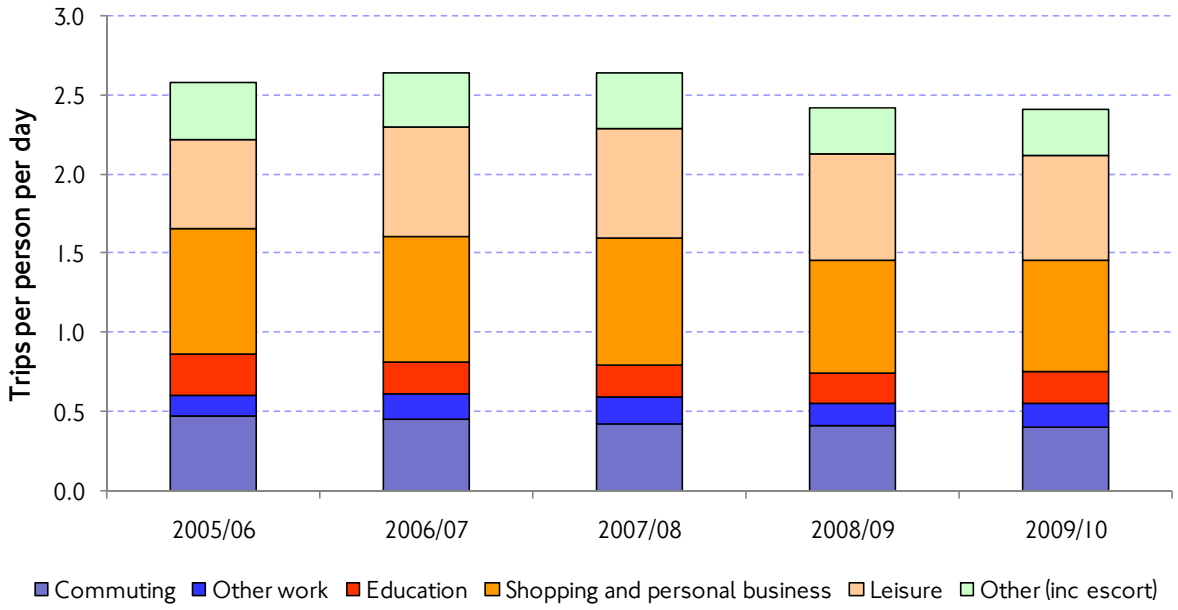


Table 3.6 Trips per person per day, by purpose, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
Commuting	0.47	0.45	0.42	0.41	0.40
Other work	0.13	0.16	0.17	0.14	0.15
Education	0.26	0.21	0.21	0.20	0.20
Shopping and personal business	0.78	0.79	0.81	0.71	0.70
Leisure	0.57	0.69	0.69	0.67	0.66
Other (inc escort)	0.36	0.34	0.35	0.30	0.29
All purposes	**2.58**	**2.63**	**2.64**	**2.42**	**2.41**

4. Travel by time of day

This chapter looks at how patterns of trip making vary, both by time of day and by day of week. It also looks at the different modes of travel that Londoners use throughout the day, as well as how the purposes for which people travel change through the course of the day.

4.1 Weekday trips

The peak periods for trip making on weekdays are usually defined as between 7am and 10am in the morning and between 4pm and 7pm in the afternoon and early evening. The highest flows during the morning peak are in the hour from 8 to 9am, while in the afternoon there are two distinct peaks – one between 3pm and 4pm, associated with education trips (see figure 4.1), and a second between 5pm and 6pm, associated with commuting trips.

Figure 4.1 Trips by main mode by hour of departure, weekdays only, 2009/10.

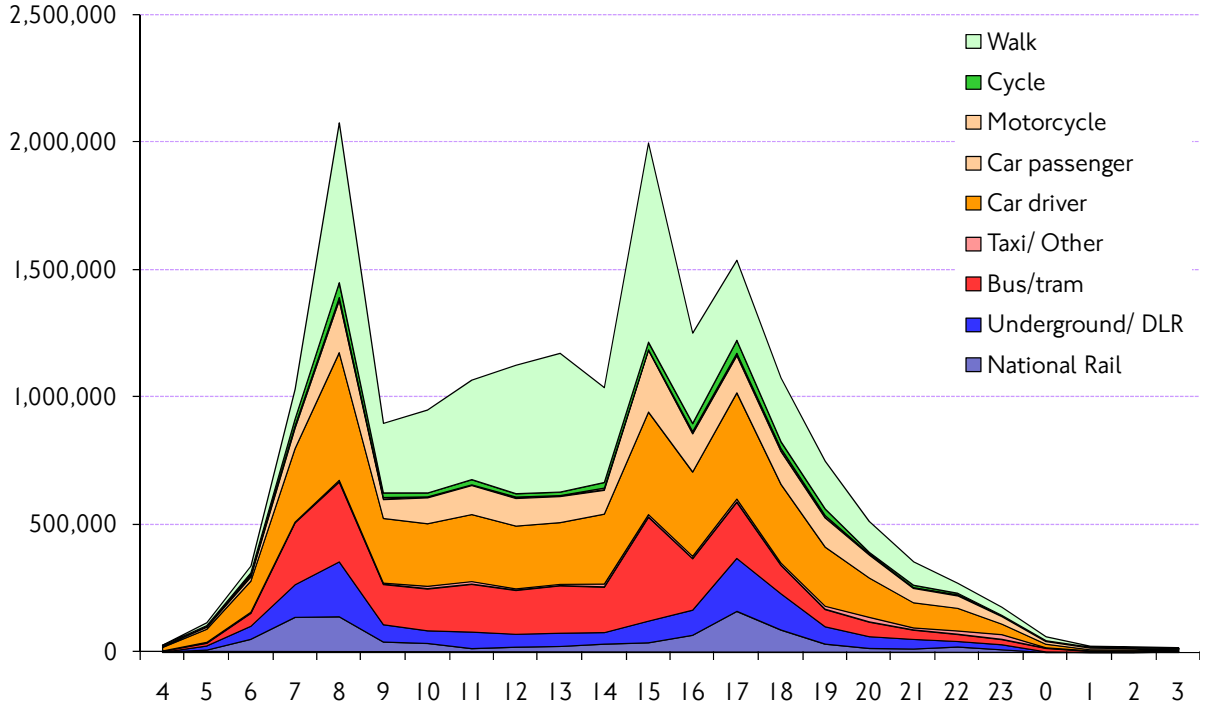


Figure 4.2 shows the trends in trip rates per person per hour for the following time periods during an average weekday: early morning (4am to 7am), am peak (7am to 10am), inter-peak (10am to 4pm), pm peak (4pm to 7pm), evening (7pm to 10pm) and night (10pm to 4am). All time periods had decreases in their numbers of trip starts between 2007/08 and 2008/09. However, trips starting in the inter-peak period increased slightly in 2009/10 while those starting in the am or pm peaks again decreased. Although Londoners make the highest number of trips in the morning peak, closely followed by the evening peak, trip-making remains high in the inter-peak period, partly as a result of the afternoon travel from schools which falls in this period.

In terms of the purposes for which trips are made (Figure 4.3), weekday trips are dominated by commuting and education trips in the morning and afternoon peaks, with shopping or personal business trips predominating in the middle of the day. In the evening leisure trips are more common.

Figure 4.2 Trip rates per hour by time period, weekdays only, 2005/06 to 2009/10.

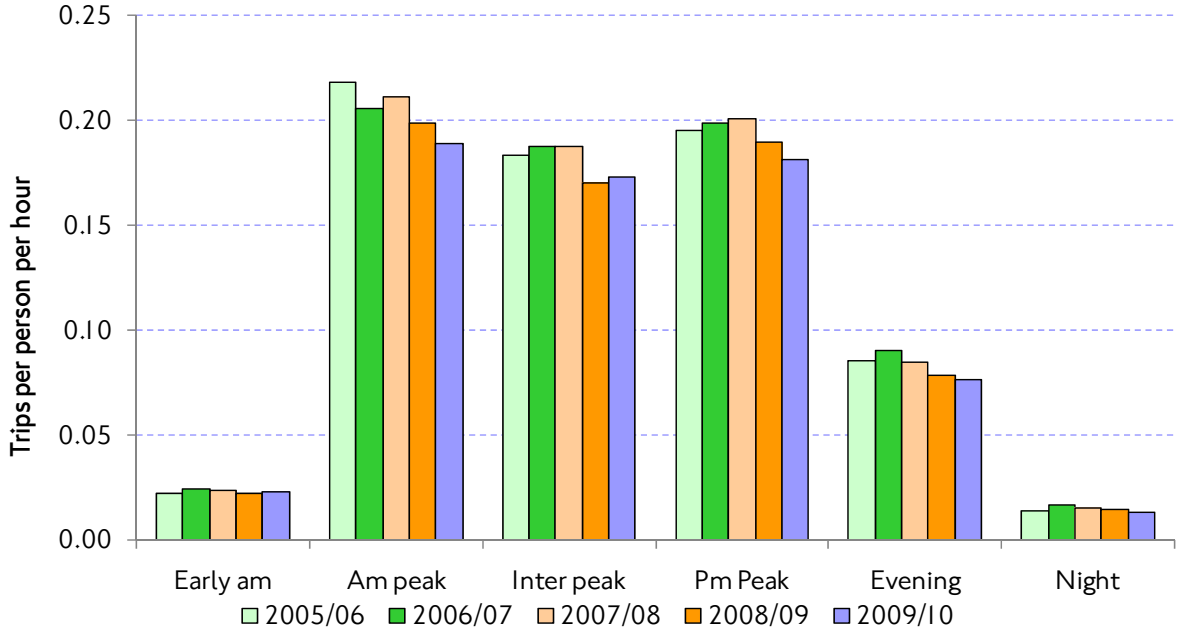
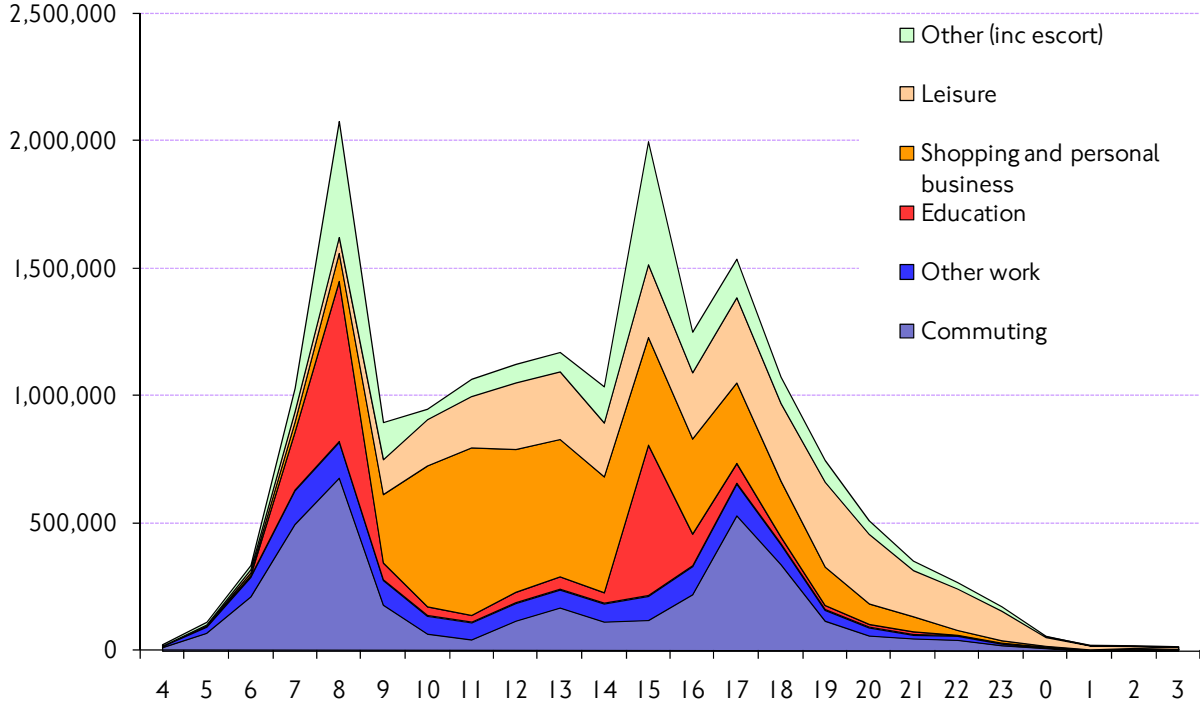


Figure 4.3 Trips by journey purpose by hour of departure, weekdays only, 2009/10.



4.2 Weekend trips

Weekend trips follow a very different profile to weekdays. On both Saturdays and Sundays there is one main peak in the middle of the day, between 11am and 12pm. As can be seen in Figures 4.4 and 4.5, although the weekend peak is lower than the weekday peak, there are more trips made in the middle of a weekend day than in the equivalent time period on a weekday. These trips are much more likely to be made by car, but there is also a large number of walk trips.

Figure 4.4 Trips by main mode by hour of departure, Saturdays only, 2009/10.

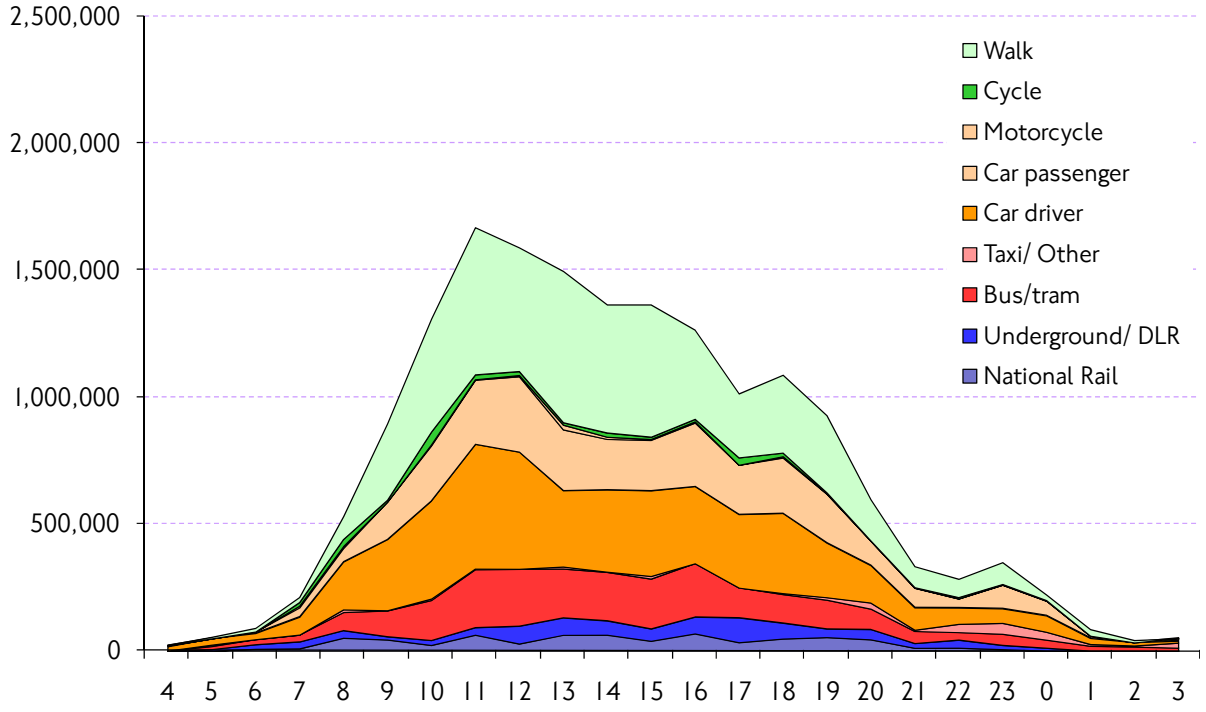
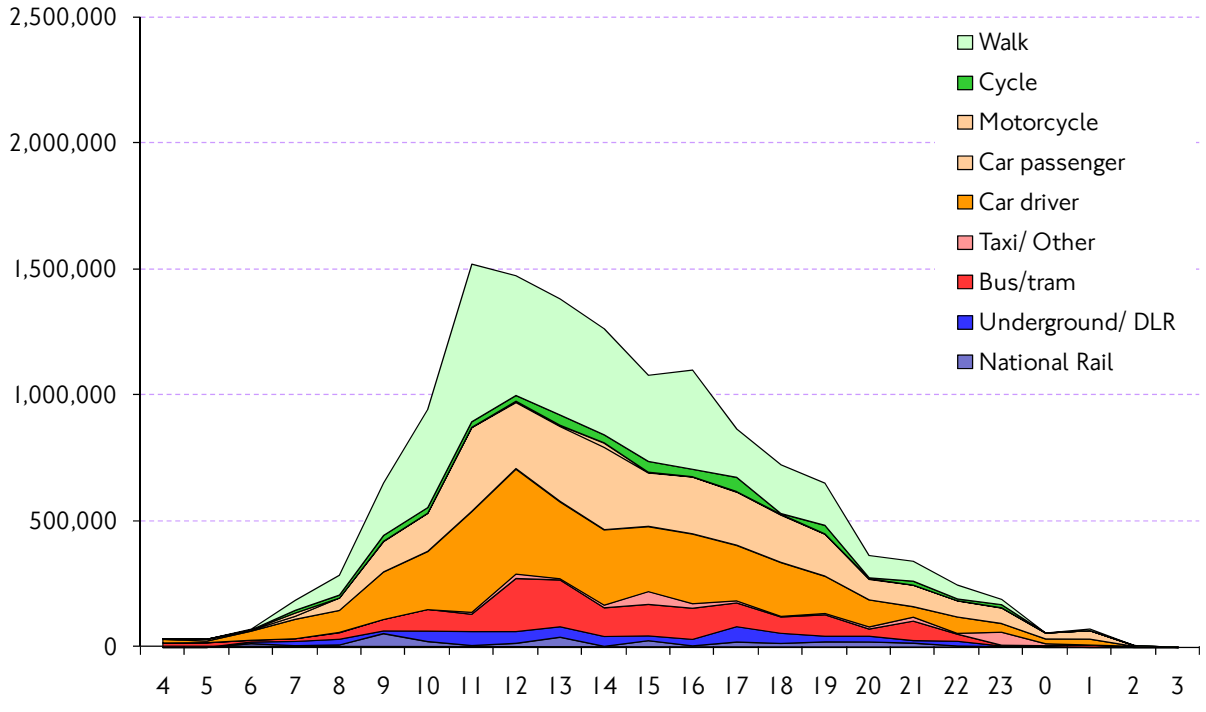


Figure 4.5 Trips by main mode by hour of departure, Sundays only, 2009/10.



Over the weekend, shopping and personal business and leisure trips dominate, with a reduction in shopping trips on a Sunday reflecting the reduced opening hours of most shopping facilities on that day as well as more leisure travel on Sundays.

Figure 4.6 Trips by journey purpose by hour of departure, Saturdays only, 2009/10.

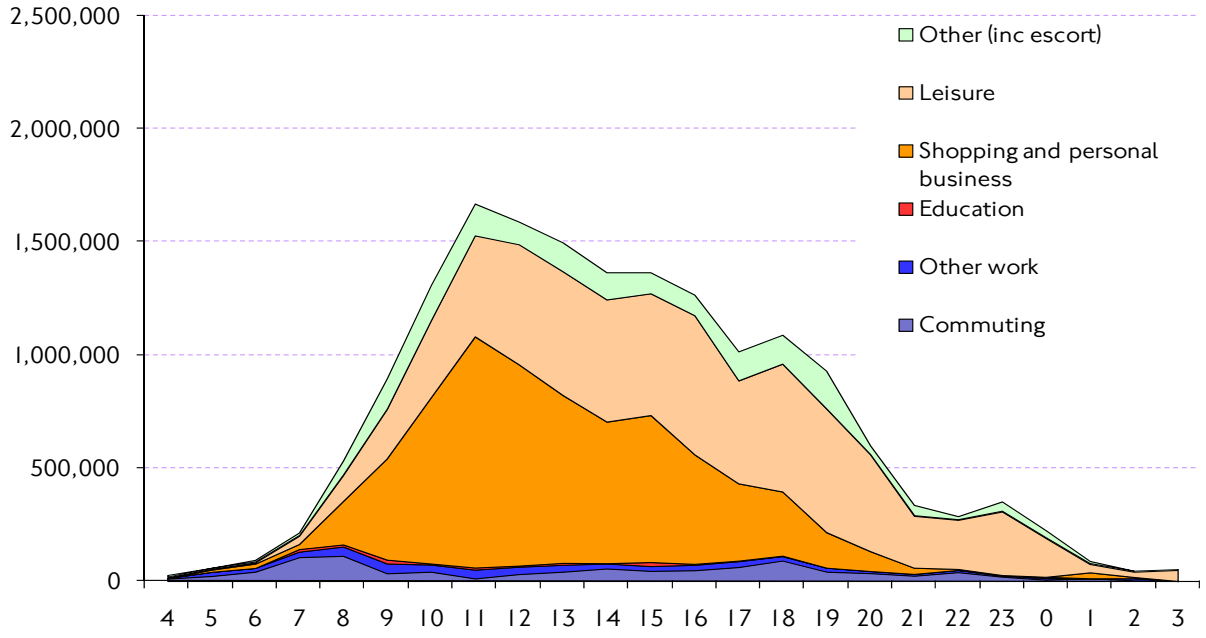
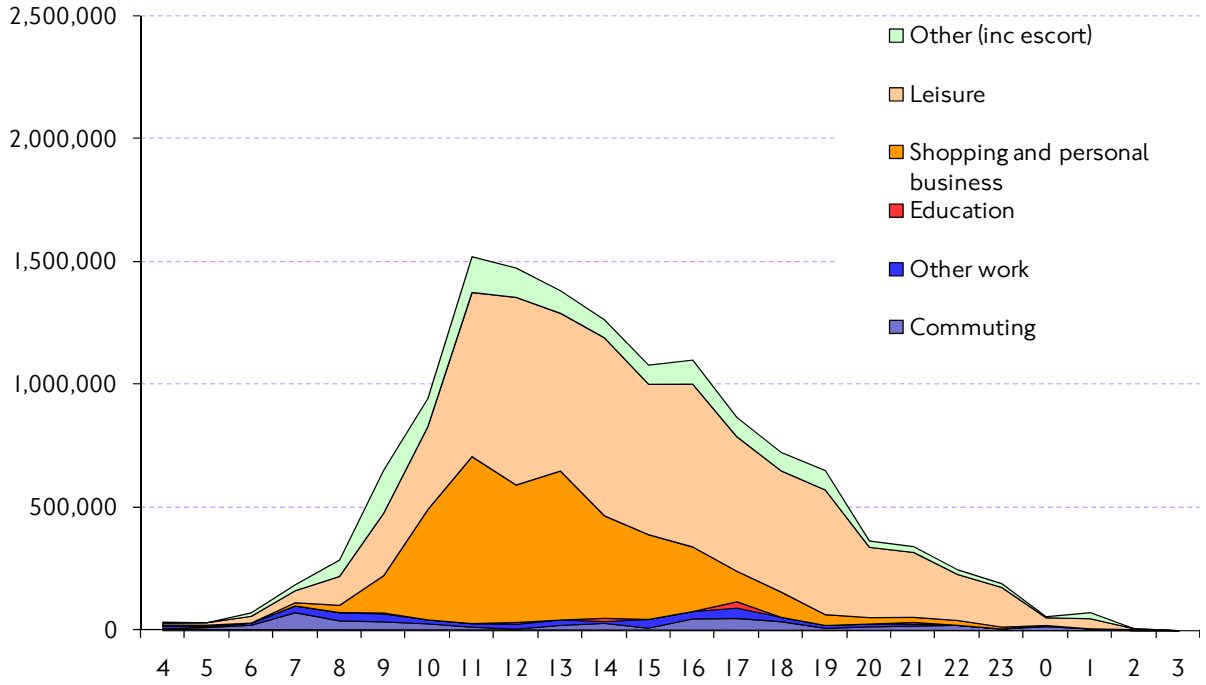


Figure 4.7 Trips by journey purpose by hour of departure, Sundays only, 2009/10.



5. Mode and purpose shares

This chapter looks at trips made by London residents, firstly split by the main mode of the trip and then by journey purposes, and how they differ by area of residence.

5.1 Mode shares

Table 5.1 shows the percentage mode shares of trips by London residents on an average day. The main mode of a trip is defined as the mode used for the longest distance during the trip. On an average day, walk trips make up the largest proportion of trips (30 per cent). Car driver and car passenger trips together account for almost 40 per cent of all trips, whereas public transport makes up just under 30 per cent.

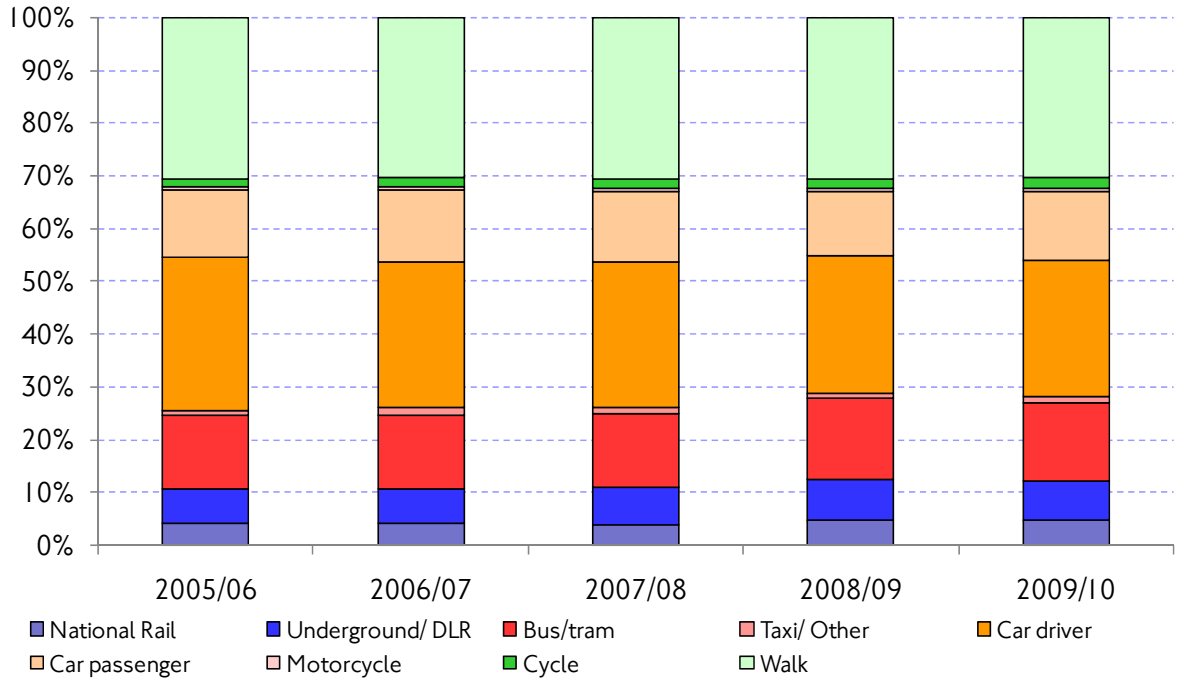
Table 5.1 Mode share of trips by London residents.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	4.3	4.1	4.0	4.7	4.8
Underground/DLR	6.5	6.6	7.0	7.7	7.2
Bus/tram	13.7	14.0	13.8	15.4	14.9
Taxi/other	1.1	1.5	1.3	1.1	1.3
Car driver	29.0	27.7	27.5	25.9	25.9
Car passenger	12.7	13.6	13.4	12.3	12.9
Motorcycle	0.6	0.7	0.6	0.5	0.5
Cycle	1.5	1.7	1.9	1.9	2.1
Walk	30.6	30.2	30.5	30.4	30.4
All modes	**100**	**100**	**100**	**100**	**100**

A result of the decline in public transport trips rates in 2009/10 (see Section 3.1) was that the share of public transport trips by Londoners fell marginally from 29 per cent of all London residents' trips in 2008/09 to 28 per cent in 2009/10. This compares with the previously increasing trend and a public transport share of 26 per cent in 2007/08. Conversely, the share of trips made by car rose slightly from 38 per cent in 2008/09 to 39 per cent in 2009/10, still lower than the 41 per cent recorded in 2007/08 (Table 3.2).

The 3rd Travel in London report (Section 2.7) provides a comprehensive treatment of mode shares and trends in mode shares for all travel in London.

Figure 5.1 Mode share of trips by London residents, 2005/06 to 2009/10.



5.2 Mode shares by area of residence

Figure 5.2 shows how mode shares differ depending on whether people are residents of Inner or Outer London. Inner London residents walk and cycle more, and are more likely to use public transport. Residents of Outer London make a far higher proportion of trips by car, both as driver and as passenger. These patterns broadly reflect patterns of urban density and transport network provision across Greater London.

Figure 5.2 Mode share of trips by Inner/Outer London residents, 2009/10.

Table 5.2 Mode share of trips by Inner and Outer London residents, 2009/10.

	Inner London residents	Outer London residents	All London residents
National Rail	4.8	4.8	4.8
Underground/DLR	9.9	5.4	7.2
Bus/tram	18.7	12.3	14.9
Taxi/other	2.0	0.7	1.3
Car driver	16.2	32.4	25.9
Car passenger	7.5	16.6	12.9
Motorcycle	0.5	0.5	0.5
Cycle	2.9	1.5	2.1
Walk	37.2	25.8	30.4
All modes	**100**	**100**	**100**

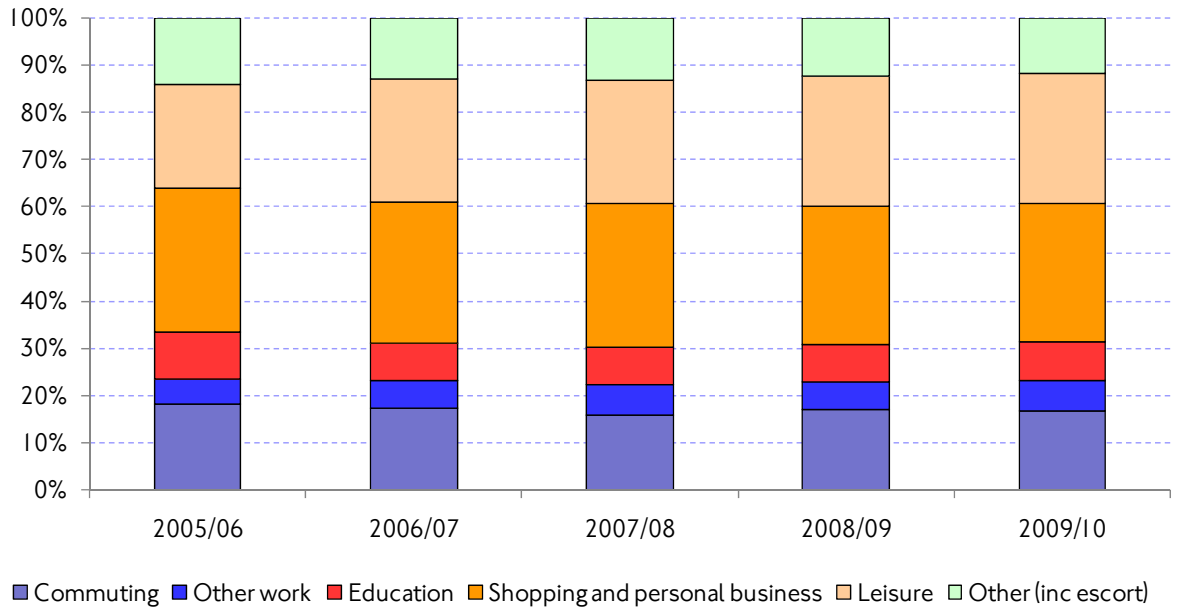
5.3 Purpose shares

Table 5.3 shows the share of trips by London residents on an average day, split by journey purpose. The most common purposes of trips are for shopping (with personal business) and leisure, each making up just under 30 per cent of all trips. Commuting and other work related trips make up just under a quarter of all trips.

Table 5.3 Purpose share of trips by London residents.

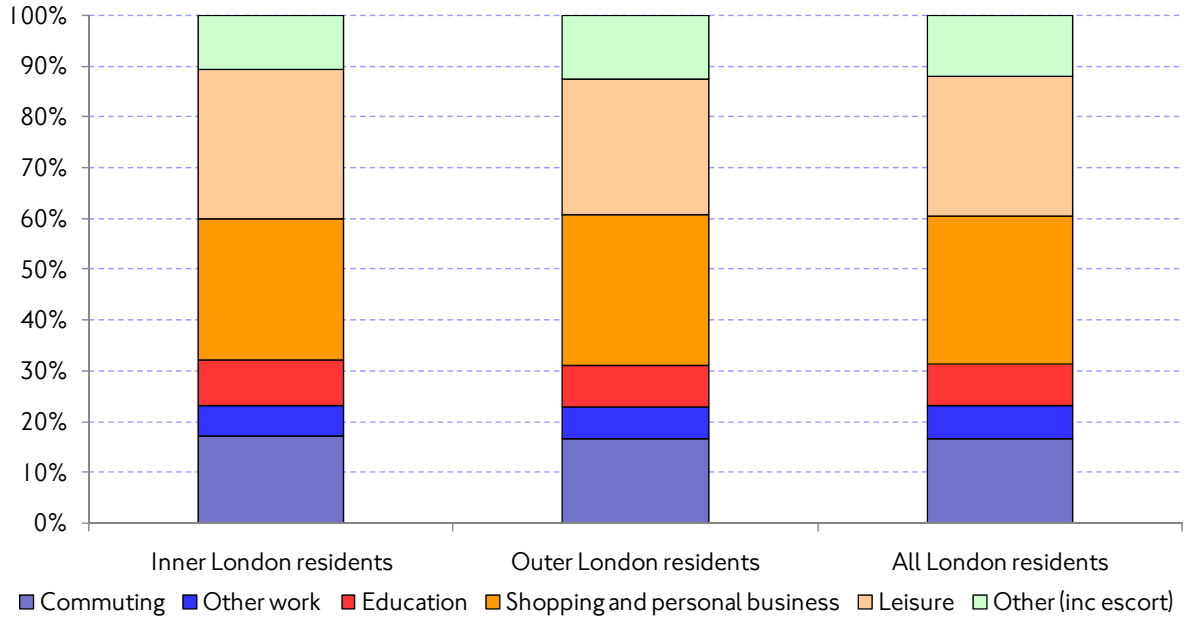
	2005/06	2006/07	2007/08	2008/09	2009/10
Commuting	18.3	17.3	15.9	17.0	16.7
Other work	5.2	5.9	6.4	5.8	6.3
Education	10.1	7.8	7.8	8.1	8.3
Shopping and personal business	30.4	29.9	30.6	29.4	29.1
Leisure	22.1	26.1	26.1	27.5	27.6
Other (inc escort)	14.0	12.9	13.3	12.2	11.9
All purposes	**100**	**100**	**100**	**100**	**100**

Figure 5.3 Purpose share of trips by London residents, 2005/06 to 2009/10.



When analysing the share of trips by journey purpose, changes over time are less evident (Figure 5.3). The proportion of commuting trips decreased slightly in 2009/10 after an increase in 2008/09. Shopping and personal business trips have decreased their share again, with the share of leisure trips remaining high compared with previous years. Trips for other purposes, including escorting, continued to fall.

Figure 5.4 Purpose share of trips by Inner/Outer London residents, 2009/10.



In contrast to modes and as might be expected, the purposes of trips Londoners make do not differ much between Inner and Outer London residents (Table 5.6).

Table 5.4 Purpose share of trips by Inner and Outer London residents, 2009/10.

	Inner London residents	Outer London residents	All London residents
Commuting	17.1	16.5	16.7
Other work	6.2	6.4	6.3
Education	8.8	8.0	8.3
Shopping and personal business	28.0	29.9	29.1
Leisure	29.2	26.5	27.6
Other (inc escort)	10.7	12.6	11.9
All purposes	**100**	**100**	**100**

6. Travel time and distance

This chapter looks at the amount of travel London residents make in terms of their time spent travelling and the distance travelled. These measures can be thought of as additional ways to the number of trips to describe the extent of Londoners' travel.

6.1 Time spent travelling

Table 6.1 Time spent travelling per day (minutes) by London residents, trip-based by main mode of transport.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	7.1	7.6	7.1	7.8	8.1
Underground/DLR	8.6	9.1	9.5	9.7	9.2
Bus/tram	14.7	14.4	13.9	14.7	14.2
Taxi/other	0.8	1.4	1.1	0.7	1.0
Car driver	18.4	18.5	17.7	16.8	16.4
Car passenger	8.0	9.4	8.4	7.5	8.0
Motorcycle	0.5	0.5	0.4	0.4	0.3
Cycle	0.8	1.0	1.0	1.0	0.9
Walk	13.4	11.5	10.5	9.5	9.7
All modes	**72.4**	**73.4**	**69.6**	**68.1**	**67.8**

The amount of time London residents spent travelling on an average day in a 7-day week continued to decrease in 2009/10, and is now under 68 minutes (Table 6.1). Despite a small increase in 2009/10, there has been a declining trend in the time spent on 'walk all the way' trips, as well as a fall in the time spent on car driving trips. The time spent on public transport trips has also fallen on average.

However, the picture looks different when analysing the time spent travelling by journey stage. When including all walk stages, including those to access other modes, the time spent walking on an average day remains almost as high as in previous years and higher than 2007/08. The time spent driving has fallen year by year, as has the time spent travelling by Underground and bus.

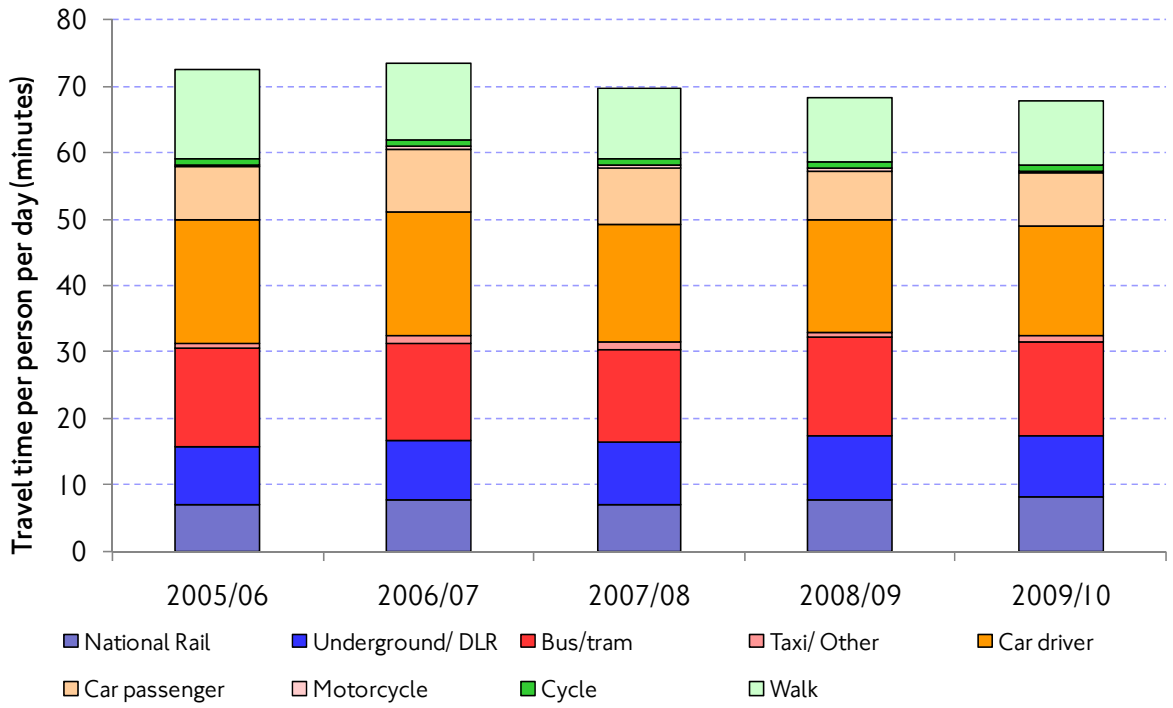
Key definitions

A **Trip** is a complete door-to-door movement by an individual to achieve a specific purpose (eg to go from home to work).
A **Journey Stage** is a part of a trip made on a specific mode of transport, eg a trip of 3 stages comprising a walk stage from home to a bus stop, a bus stage to central London, and a further walk stage to a place of work.

Table 6.2 Time spent travelling per day (minutes) by London residents, based on time spent in journey stages on each mode of transport.

Journey stage mode	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	5.1	5.2	4.4	4.3	4.5
Underground/DLR	6.9	7.1	6.7	6.6	6.4
Bus/tram	13.3	13.0	12.0	12.1	11.7
Taxi/other	1.1	1.4	1.1	0.7	0.9
Car driver	18.4	18.3	17.6	16.6	16.3
Car passenger	7.5	9.0	8.0	7.0	7.5
Motorcycle	0.3	0.3	0.3	0.4	0.3
Cycle	0.8	1.0	1.0	1.0	1.0
Walk	21.6	19.7	18.4	19.4	19.2
All modes	**75.0**	**74.9**	**69.5**	**68.1**	**67.8**

Figure 6.1 Time spent travelling per day by London residents, 2005/06 to 2009/10, by trip main mode.



6.2 Distance travelled

Figure 6.2 shows the distance travelled by London residents on an average day. Distances here are measured as 'crow-fly' distances of trips, taking the straight line distance between origin and destination of each trip (including any part of the trip outside London). Figure 6.2 shows the results both for trips with either origin or destination (or both) in Greater London and for trips wholly within London (ie both origin and destination in Greater London).

Figure 6.2 Distance travelled per day (kilometres) by London residents.

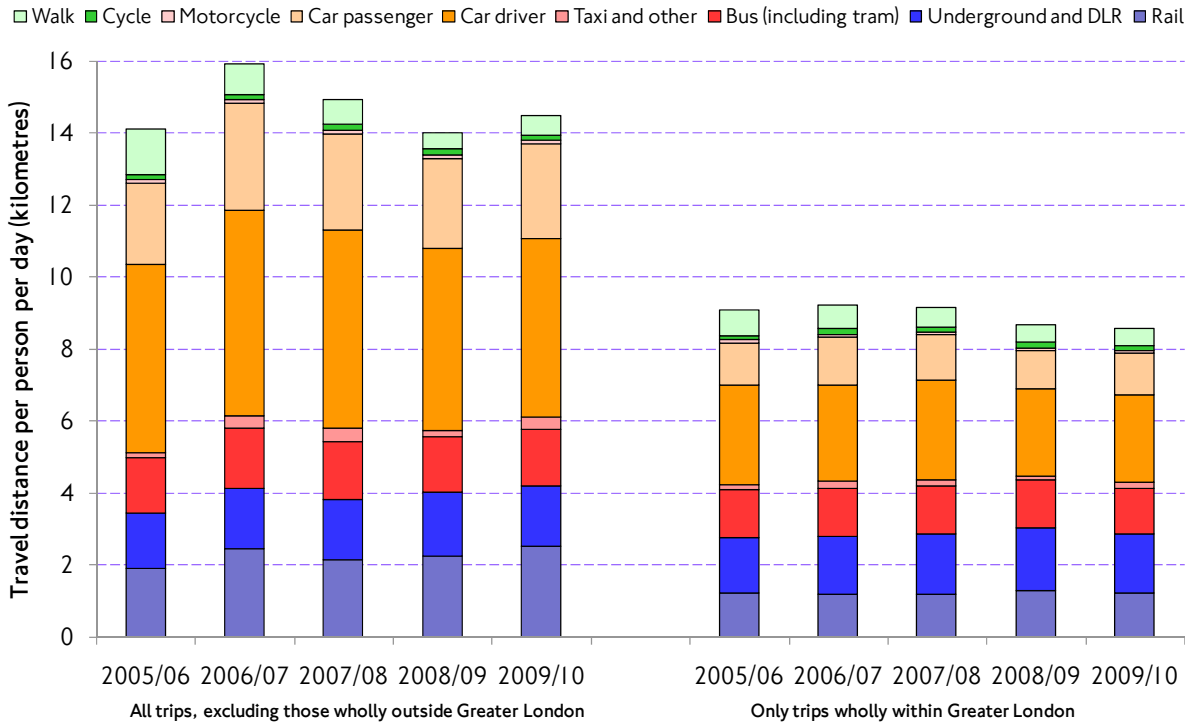


Table 6.3 Distance travelled per day (kilometres) by London residents: all trips wholly or partly within Greater London, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	1.9	2.4	2.1	2.2	2.5
Underground/DLR	1.6	1.7	1.7	1.8	1.6
Bus/tram	1.5	1.7	1.6	1.5	1.6
Taxi/other	0.2	0.4	0.4	0.2	0.3
Car driver	5.2	5.7	5.5	5.1	4.9
Car passenger	2.3	2.9	2.7	2.5	2.6
Motorcycle	0.1	0.1	0.1	0.1	0.1
Cycle	0.1	0.2	0.1	0.2	0.1
Walk	1.3	0.8	0.7	0.5	0.5
All modes	**14.1**	**15.9**	**14.9**	**14.0**	**14.5**

Table 6.4 Distance travelled per day (kilometres) by London residents: trips wholly within Greater London, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	1.2	1.2	1.2	1.3	1.2
Underground/DLR	1.5	1.6	1.7	1.7	1.6
Bus/tram	1.3	1.4	1.3	1.3	1.3
Taxi/other	0.1	0.2	0.2	0.1	0.2
Car driver	2.8	2.7	2.8	2.4	2.4
Car passenger	1.2	1.3	1.2	1.1	1.1
Motorcycle	0.1	0.1	0.1	0.1	0.1
Cycle	0.1	0.2	0.1	0.2	0.1
Walk	0.7	0.7	0.6	0.5	0.5
All modes	**9.1**	**9.2**	**9.2**	**8.7**	**8.6**

In contrast to the decline in Londoners' time spent travelling, their average distance travelled increased, by 3 per cent, in 2009/10. This was mainly driven by an increase in National Rail trips, where average journey lengths tend to be longer than for other public transport modes.

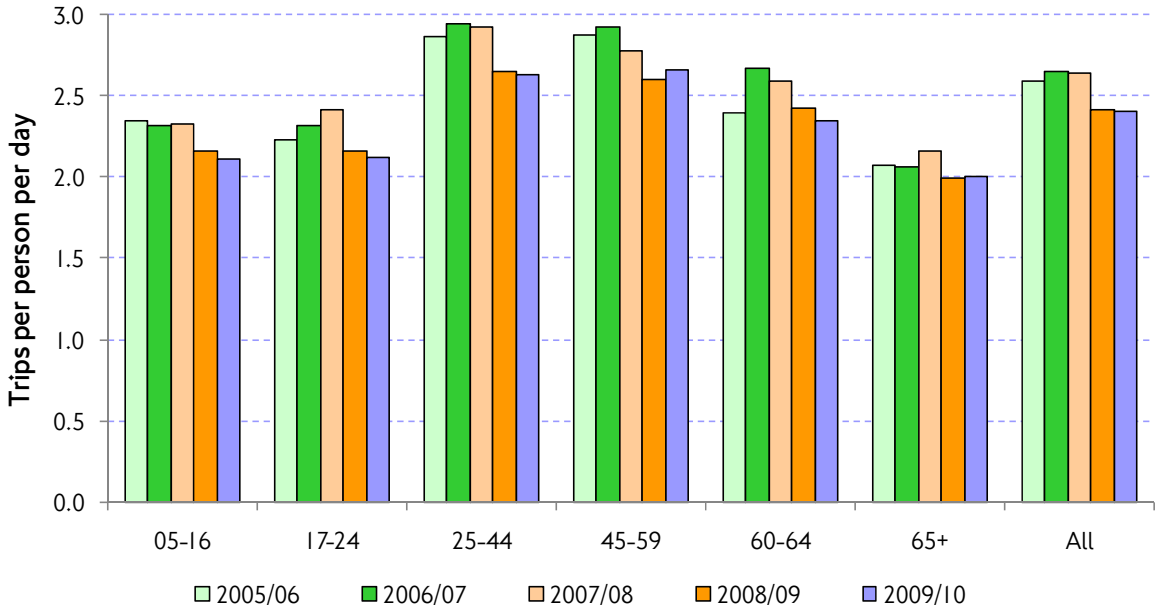
However, average travel distance can be distorted by long distance trips made between London and other parts of the UK. To remove this effect, the right-hand side of Figure 6.2 includes only trips with both origin and destination within Greater London. This exhibits much lower variation than the left-hand side of the graph, and shows a slight decrease in average distances travelled on within-London trips in 2009/10.

7. Socio-economic breakdowns

The amounts of travel people make and the modes they use vary between different groups of the London population. This chapter looks at how Londoners' travel varies by age, gender, working status, household income and ethnic group.

7.1 Travel by age group

Figure 7.1 Trips per person per day, by age group.



Londoners aged 25-44 and 45-59 make more trips on an average day than other age groups, around 2.7 trips per day on average. Residents aged over 65 made the least number of trips, at just over 2 per person per day. Trip rates for most age groups continued to fall in 2009/10, albeit at a slower rate than in the previous year. The only exceptions were those in the 65 and over age group, and particularly the 45 to 59 age group, where trip rates increased by over 2 per cent.

7.2 Travel by working status

Working Londoners make more trips on an average day than those not in employment (Figure 7.2). Trip rates increased slightly for those in full and part-time work, whereas trip rates decreased slightly amongst all other categories of working status.

Figure 7.2 Trips per person per day, by working status.

7.3 Gender and mode use

Trip rates for men and women remained close in 2009/10, both making around 2.4 trips per person per day. Both car driver and cycle trip rates are much higher amongst men, whilst women tend to use the bus and walk more.

Figure 7.3 Trips per person per day, by main mode and gender.

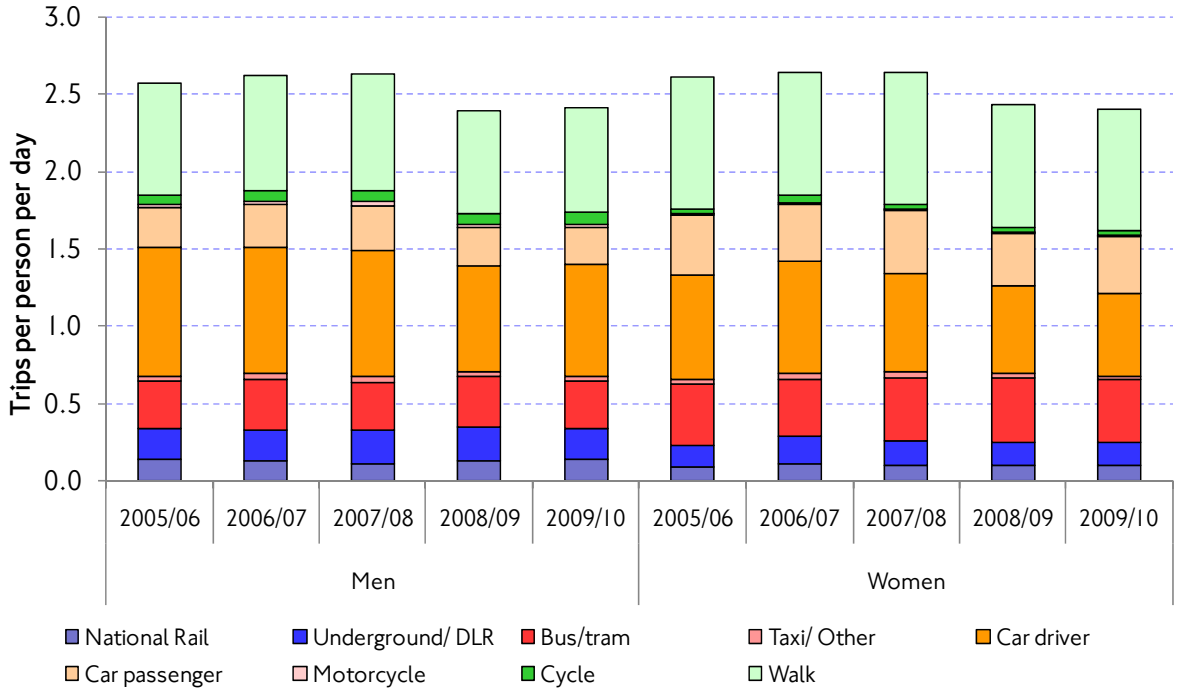


Table 7.1 Trips per person per day by main mode: men.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.14	0.13	0.11	0.13	0.14
Underground/ DLR	0.20	0.20	0.21	0.22	0.20
Bus/tram	0.31	0.32	0.31	0.33	0.31
Taxi/ Other	0.03	0.04	0.03	0.02	0.03
Car driver	0.84	0.82	0.82	0.69	0.72
Car passenger	0.26	0.28	0.29	0.24	0.24
Motorcycle	0.02	0.03	0.03	0.02	0.02
Cycle	0.06	0.06	0.07	0.07	0.07
Walk	0.73	0.75	0.75	0.67	0.68
All modes	**2.57**	**2.62**	**2.63**	**2.40**	**2.41**

Table 7.2 Trips per person per day by main mode: women.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.08	0.11	0.10	0.09	0.09
Underground/ DLR	0.14	0.17	0.16	0.16	0.15
Bus/tram	0.40	0.37	0.41	0.42	0.41
Taxi/ Other	0.03	0.04	0.04	0.03	0.03
Car driver	0.67	0.73	0.64	0.56	0.53
Car passenger	0.40	0.36	0.41	0.35	0.38
Motorcycle	0.01	0.02	0.00	0.00	0.00
Cycle	0.02	0.05	0.03	0.03	0.03
Walk	0.86	0.80	0.85	0.80	0.78
All modes	**2.61**	**2.65**	**2.64**	**2.44**	**2.40**

7.4 Travel by household income

As household incomes increase, so do the amounts of travel that household members make (Figure 7.4). Londoners with gross annual household incomes under £10,000 make just over 2 trips per day on average, whereas those with incomes over £75,000 make around 2.8 trips per day. The modes used also changes as income increases, with lower income groups making more bus trips, and higher income groups making more car, rail and Underground trips.

Figure 7.4 Trips per person per day, by main mode and household income, 2009/10.

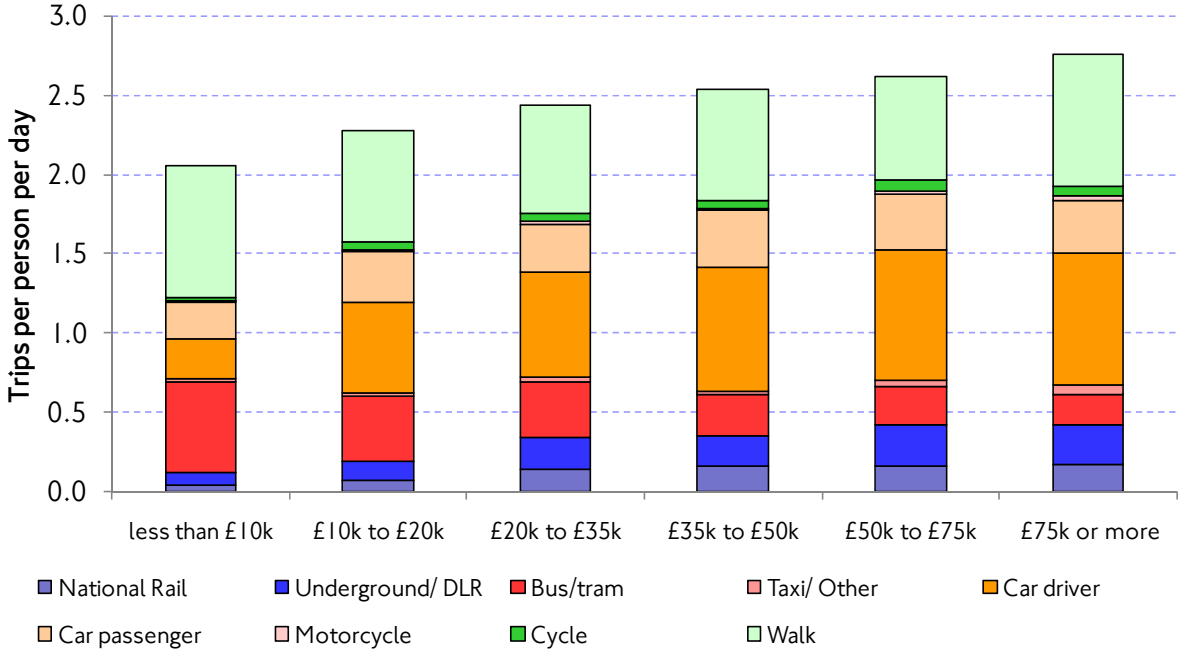


Table 7.3 Trips per person per day by main mode, by household income, 2009/10.

	Gross annual household income					
	less than £10k	£10k to £20k	£20k to £35k	£35k to £50k	£50k to £75k	£75k or more
National Rail	0.04	0.07	0.14	0.16	0.16	0.17
Underground/DLR	0.08	0.12	0.20	0.19	0.26	0.25
Bus/tram	0.57	0.41	0.35	0.26	0.24	0.19
Taxi/other	0.02	0.02	0.03	0.03	0.04	0.05
Car driver	0.26	0.56	0.67	0.78	0.82	0.84
Car passenger	0.23	0.33	0.30	0.35	0.35	0.33
Motorcycle	0.00	0.01	0.02	0.02	0.01	0.03
Cycle	0.03	0.05	0.05	0.05	0.07	0.07
Walk	0.83	0.70	0.69	0.69	0.65	0.83
All modes	**2.05**	**2.27**	**2.44**	**2.53**	**2.62**	**2.76**

7.5 Travel by ethnic group

Travel also differs between ethnic groups. Some notable features are the high number of walk trips made by the Bangladeshi community, high levels of car use by Indian and Pakistani communities, and relatively high bus use by Black people (Figure 7.5).

Figure 7.5 Trips per person per day, by main mode and ethnic group, 2009/10.

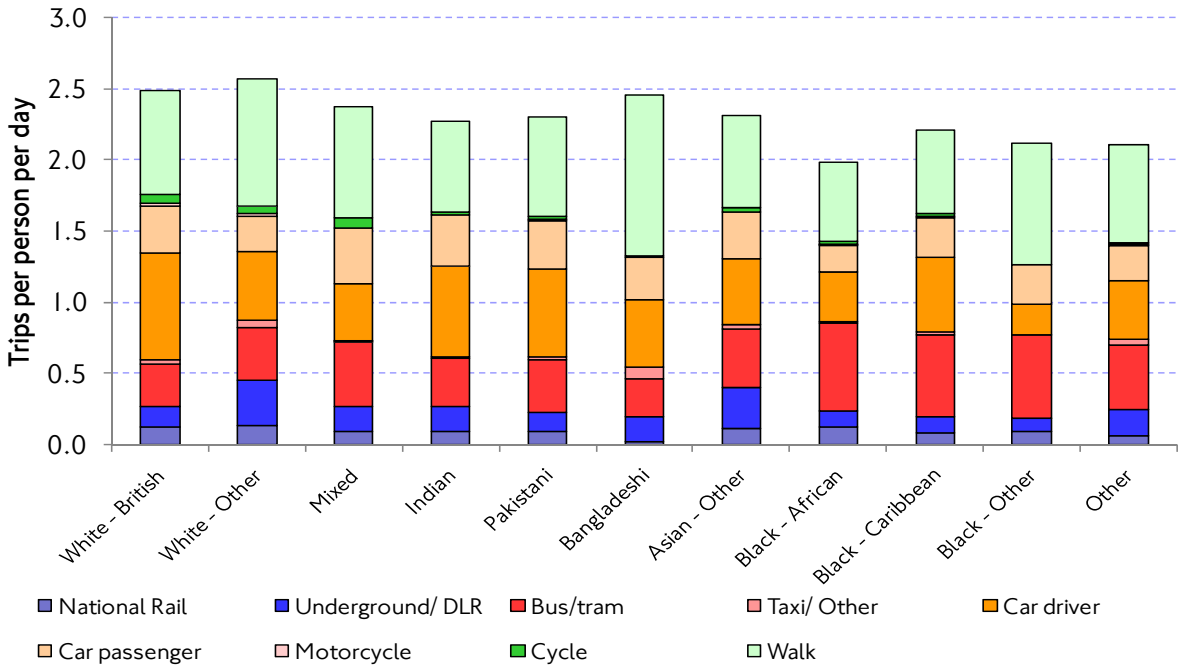


Table 7.4 Trips per person per day by main mode, by ethnic group, 2009/10.

	White - British	White - Other	Mixed	Indian	Pakistani	Bangla-deshi	Asian - Other	Black - African	Black - Caribbean	Black - Other	Other
National Rail	0.13	0.13	0.09	0.09	0.09	0.02	0.11	0.12	0.09	0.09	0.06
Underground/ DLR	0.14	0.33	0.17	0.18	0.14	0.17	0.29	0.12	0.11	0.09	0.19
Bus/tram	0.29	0.37	0.46	0.34	0.37	0.27	0.41	0.61	0.57	0.59	0.44
Taxi/other	0.03	0.04	0.00	0.01	0.02	0.08	0.02	0.01	0.02	0.00	0.04
Car driver	0.75	0.49	0.40	0.63	0.61	0.47	0.46	0.35	0.52	0.22	0.41
Car passenger	0.33	0.25	0.39	0.37	0.35	0.30	0.34	0.20	0.28	0.28	0.25
Motorcycle	0.02	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01
Cycle	0.07	0.05	0.08	0.01	0.02	0.00	0.02	0.01	0.02	0.00	0.01
Walk	0.73	0.89	0.78	0.64	0.71	1.13	0.65	0.55	0.59	0.85	0.69
All modes	**2.49**	**2.57**	**2.38**	**2.27**	**2.31**	**2.45**	**2.31**	**1.98**	**2.21**	**2.11**	**2.10**

8. Spatial breakdowns

8.1 Mode shares by area of trip origin and destination

The modes that Londoners use are very dependent on where within London they are travelling. As can be seen in Figure 8.1, over 70 per cent of trips within central London are walk trips, with most of the rest either bus or Underground trips. In the rest of Inner London, the percentage of walk trips drops to below 50 per cent, and within Outer London just over 30 per cent. In contrast, car use increases, with almost half of all trips within outer London being made by car.

Figure 8.1 Mode shares by area of trip origin and destination, 2009/10.

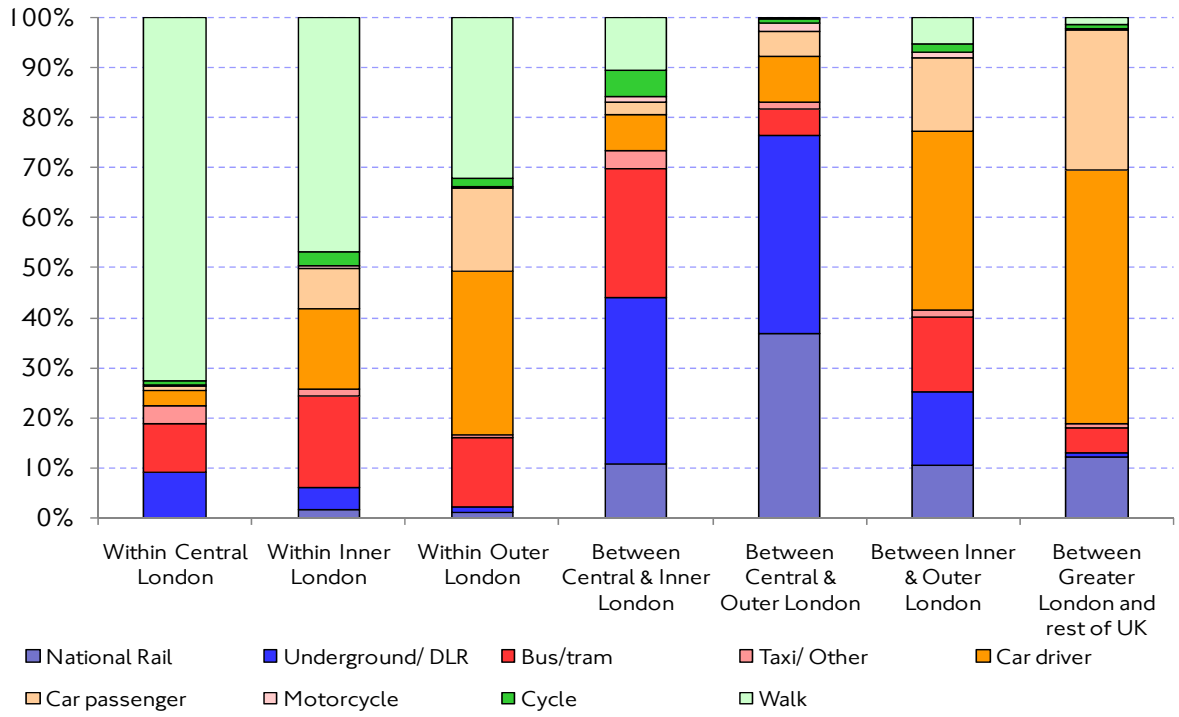


Table 8.1 Mode shares by area of trip origin and destination, 2009/10.

	Within Central London	Within Inner London	Within Outer London	Between Central & Inner London	Between Central & Outer London	Between Inner & Outer London	Between Greater London and rest of UK
National Rail	0.0%	1.7%	1.0%	10.9%	37.0%	10.6%	12.2%
Underground/DLR	9.3%	4.4%	1.1%	33.3%	39.4%	14.5%	1.0%
Bus/tram	9.5%	18.3%	14.1%	25.5%	5.2%	15.0%	5.0%
Taxi/other	3.7%	1.4%	0.6%	3.7%	1.5%	1.4%	0.8%
Car driver	3.0%	16.0%	32.6%	7.2%	9.3%	35.7%	50.7%
Car passenger	0.7%	8.2%	16.6%	2.6%	4.9%	14.8%	28.0%
Motorcycle	0.4%	0.4%	0.3%	1.1%	1.5%	1.2%	0.3%
Cycle	0.9%	2.9%	1.6%	5.2%	1.0%	1.5%	0.8%
Walk	72.5%	46.7%	32.1%	10.5%	0.1%	5.3%	1.3%
All	100%	100%	100%	100%	100%	100%	100%

Trips to and from central London have different characteristics, tending to be predominantly made by public transport. Over 80 per cent of trips between central and Outer London are made by public transport, with three-quarters by rail or Underground. Trips between London and the rest of the UK are mostly made by car.

8.2 Travel by borough of residence and trip origin

Tables 8.2 and 8.3 show how travel differs by borough, both in terms of residence and trip origin. A number of patterns are evident, which often reflect local differences in the transport networks. For example, 13 per cent of trips by Lewisham residents are made on National Rail, compared with only 1 per cent of trips by residents of Kensington & Chelsea and Hillingdon, reflecting the absence of a significant rail network in these boroughs. Similarly, car mode share differs between boroughs; Hackney and Westminster residents make only 17 percent of their trips by car, compared with 59 per cent of all trips by Bexley and Havering residents. Cycling and walking tend to be more common in the Inner London boroughs, with cycle mode shares particularly high in Hackney, Hammersmith & Fulham and Islington, as well as in Richmond in Outer London.

Table 8.2 Mode shares by borough of trip origin, 2007/08 to 2009/10.

London borough	Trips per day (000s)	Rail	Under-ground /DLR	Bus/tram	Taxi/ other	Car/ motor-cycle	Cycle	Walk
Camden	744	5%	15%	16%	2%	18%	3%	42%
City of London	250	19%	26%	8%	3%	7%	2%	35%
Hackney	377	4%	5%	26%	2%	20%	5%	40%
Hammersmith & Fulham	477	2%	13%	16%	1%	25%	4%	38%
Haringey	447	2%	9%	20%	1%	33%	2%	34%
Islington	489	5%	11%	21%	1%	17%	3%	41%
Kensington & Chelsea	518	1%	13%	14%	4%	21%	3%	44%
Lambeth	546	6%	10%	21%	1%	29%	3%	30%
Lewisham	448	9%	2%	19%	1%	38%	2%	30%
Newham	539	2%	9%	16%	1%	33%	1%	39%
Southwark	513	7%	8%	22%	1%	29%	3%	30%
Tower Hamlets	525	4%	16%	16%	1%	21%	2%	41%
Wandsworth	575	7%	6%	16%	1%	36%	3%	30%
Westminster	1,186	7%	20%	15%	3%	13%	3%	39%
Inner London	**7,633**	**6%**	**12%**	**17%**	**2%**	**24%**	**3%**	**37%**
Barking & Dagenham	300	2%	5%	16%	1%	40%	1%	35%
Barnet	770	1%	5%	12%	1%	49%	1%	31%
Bexley	334	4%	0%	8%	1%	59%	1%	28%
Brent	611	2%	7%	16%	1%	44%	1%	29%
Bromley	728	6%	0%	8%	1%	56%	1%	29%
Croydon	665	6%	0%	17%	1%	51%	1%	25%
Ealing	621	2%	8%	16%	0%	47%	2%	26%
Enfield	564	3%	3%	15%	1%	52%	0%	26%
Greenwich	384	5%	3%	14%	1%	47%	1%	29%
Harrow	424	1%	6%	10%	1%	52%	1%	30%
Havering	485	4%	2%	13%	1%	58%	1%	21%
Hillingdon	592	1%	5%	12%	2%	54%	2%	25%
Hounslow	509	3%	4%	15%	1%	47%	3%	28%
Kingston upon Thames	394	6%	1%	11%	1%	47%	2%	32%
Merton	424	5%	5%	11%	1%	45%	2%	31%
Redbridge	538	1%	5%	11%	0%	51%	1%	29%
Richmond upon Thames	453	6%	2%	11%	1%	44%	5%	31%
Sutton	359	5%	0%	11%	0%	54%	1%	28%
Waltham Forest	395	2%	7%	13%	1%	41%	1%	34%
Outer London	**9,552**	**3%**	**4%**	**13%**	**1%**	**50%**	**1%**	**29%**
Greater London	**17,186**	**4%**	**7%**	**15%**	**1%**	**38%**	**2%**	**32%**

Table 8.3 Mode shares and trip rates by borough of residence, 2007/08 to 2009/10.

London borough	Trips per person per day	Rail	Under-ground /DLR	Bus/ tram	Taxi/ other	Car/ motor-cycle	Cycle	Walk
Camden	3.1	2%	10%	17%	2%	18%	3%	47%
City of London	3.4	5%	17%	5%	1%	16%	0%	56%
Hackney	2.0	3%	6%	30%	1%	17%	5%	37%
Hammersmith & Fulham	3.0	2%	12%	16%	2%	27%	4%	37%
Haringey	2.4	4%	13%	17%	1%	30%	2%	33%
Islington	2.7	3%	10%	22%	2%	18%	4%	41%
Kensington & Chelsea	3.0	1%	13%	13%	3%	19%	3%	47%
Lambeth	2.3	6%	10%	21%	1%	29%	3%	30%
Lewisham	2.3	13%	3%	18%	1%	36%	2%	27%
Newham	2.4	2%	12%	15%	1%	30%	1%	39%
Southwark	1.7	5%	5%	30%	1%	26%	3%	30%
Tower Hamlets	2.3	2%	14%	17%	2%	21%	2%	42%
Wandsworth	2.4	9%	9%	16%	2%	32%	3%	30%
Westminster	3.3	2%	12%	15%	4%	17%	2%	48%
Inner London	**2.5**	**4%**	**10%**	**18%**	**2%**	**25%**	**3%**	**38%**
Barking & Dagenham	2.3	2%	7%	16%	1%	43%	1%	31%
Barnet	2.9	2%	8%	11%	1%	47%	1%	30%
Bexley	1.9	7%	0%	7%	1%	59%	1%	25%
Brent	2.7	2%	9%	16%	1%	41%	1%	29%
Bromley	3.0	9%	1%	7%	0%	54%	1%	28%
Croydon	2.4	8%	0%	16%	1%	52%	1%	23%
Ealing	2.4	2%	11%	16%	1%	44%	2%	25%
Enfield	2.5	4%	5%	15%	1%	51%	0%	25%
Greenwich	1.8	8%	3%	15%	1%	45%	1%	28%
Harrow	2.5	2%	8%	9%	1%	53%	1%	27%
Havering	2.5	6%	3%	11%	1%	59%	1%	19%
Hillingdon	2.6	1%	5%	12%	1%	54%	2%	26%
Hounslow	2.6	3%	6%	15%	0%	48%	3%	26%
Kingston upon Thames	3.0	8%	2%	8%	1%	48%	2%	31%
Merton	2.8	7%	7%	12%	1%	43%	2%	28%
Redbridge	2.6	2%	8%	9%	1%	51%	1%	27%
Richmond upon Thames	3.1	8%	3%	11%	2%	43%	4%	30%
Sutton	2.4	7%	1%	9%	1%	55%	1%	27%
Waltham Forest	2.2	3%	11%	13%	1%	38%	1%	33%
Outer London	**2.5**	**5%**	**5%**	**12%**	**1%**	**49%**	**1%**	**27%**
Greater London	**2.5**	**4%**	**7%**	**15%**	**1%**	**39%**	**2%**	**31%**

9. Car ownership and use

9.1 Car ownership patterns in London

Table 9.1 Levels of car ownership by London household.

	Number of cars in household (percentage)				
	None	One	Two	Three or more	All households
Greater London					
2005/06	42	41	13	3	100
2006/07	42	43	13	2	100
2007/08	42	42	13	2	100
2008/09	42	43	13	2	100
2009/10	42	43	12	3	100
Inner London					
2005/06	57	36	5	1	100
2006/07	56	36	6	1	100
2007/08	57	36	6	1	100
2008/09	56	37	7	1	100
2009/10	57	37	6	1	100
Outer London					
2005/06	32	45	19	4	100
2006/07	32	47	18	3	100
2007/08	32	47	18	3	100
2008/09	32	48	17	3	100
2009/10	32	47	17	4	100

Figure 9.1 Levels of car ownership amongst London residents: percentage of households, 2009/10.

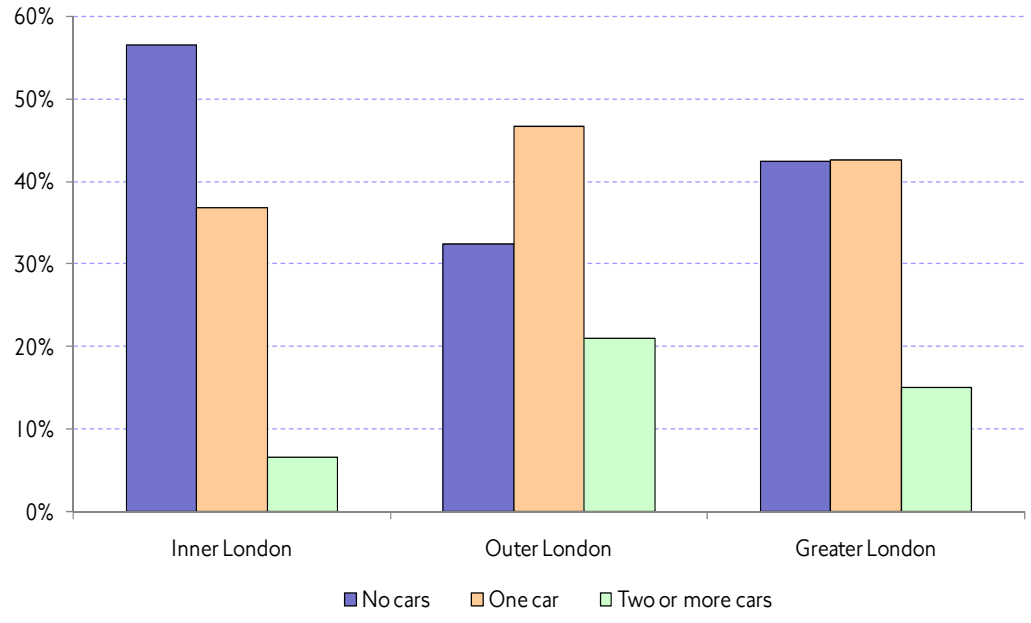


Table 9.1 and Figure 9.1 show how car ownership levels have changed over the course of the LTDS surveys to date. In fact, the picture is relatively stable, with the proportion of households with no car or one car each remaining around 42 to 43 per cent, and around 15 per cent of households owning two or more cars.

Table 9.2 Car ownership by borough of residence, 2007/08 to 2009/10.

	Percentage of households with:		
	No car	One car	Two or more cars
Camden	59%	35%	6%
City of London	79%	21%	0%
Hackney	62%	34%	4%
Hammersmith & Fulham	54%	39%	7%
Haringey	53%	37%	11%
Islington	65%	30%	5%
Kensington & Chelsea	59%	33%	7%
Lambeth	58%	34%	8%
Lewisham	46%	45%	9%
Newham	58%	36%	5%
Southwark	62%	34%	4%
Tower Hamlets	61%	34%	5%
Wandsworth	41%	49%	10%
Westminster	60%	32%	8%
Inner London	**57%**	**37%**	**7%**
Barking & Dagenham	42%	46%	12%
Barnet	30%	48%	23%
Bexley	23%	52%	25%
Brent	42%	44%	14%
Bromley	26%	47%	28%
Croydon	32%	48%	20%
Ealing	38%	47%	15%
Enfield	35%	43%	22%
Greenwich	39%	48%	13%
Harrow	29%	44%	28%
Havering	23%	49%	28%
Hillingdon	27%	46%	27%
Hounslow	35%	45%	20%
Kingston upon Thames	25%	51%	24%
Merton	34%	50%	16%
Redbridge	27%	51%	22%
Richmond upon Thames	29%	50%	21%
Sutton	25%	46%	29%
Waltham Forest	47%	40%	14%
Outer London	**32%**	**47%**	**21%**
Greater London	**42%**	**43%**	**15%**

9.2 How car ownership is related to trip making

Figure 9.2 Trips per person per day, by car ownership.

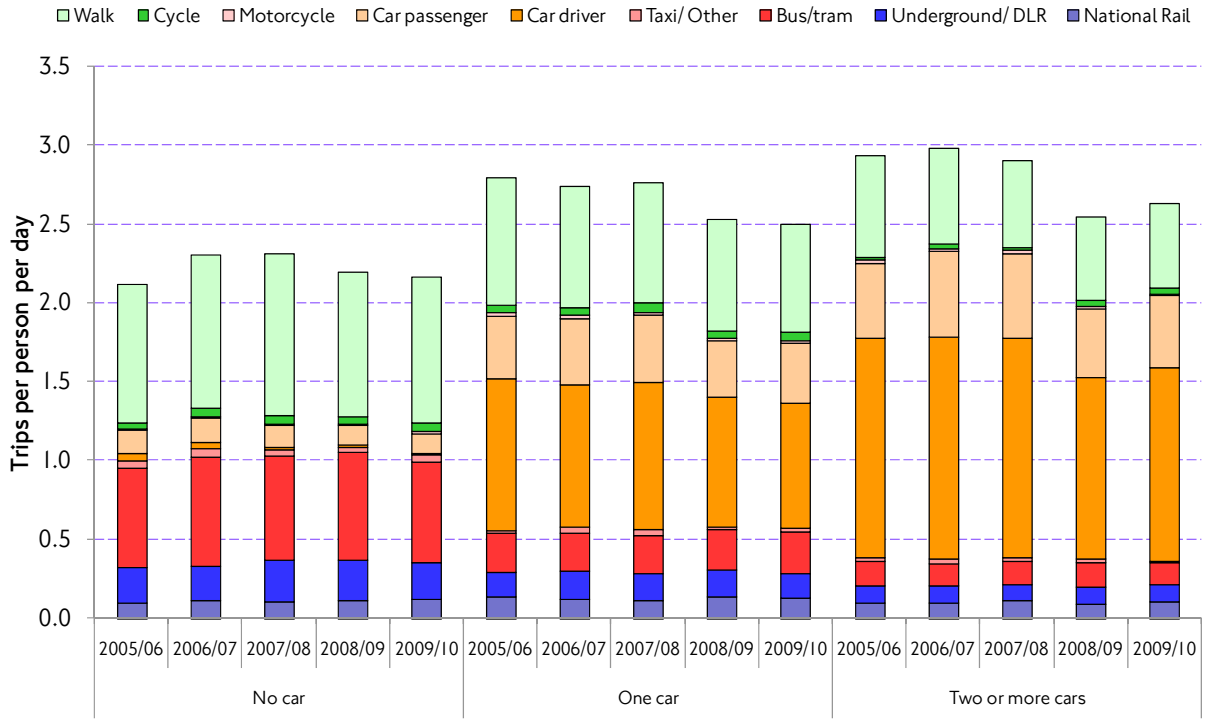


Figure 9.2 shows how car ownership is related to Londoners' travel patterns. People with access to a car in their household make more trips on average than those without. However, those with cars also make fewer public transport trips. People with access to a car cycle as much as those without, but tend to make fewer walk trips. Trip rates amongst households with no cars, or just one car, both decreased by around 1 per cent in 2009/10, whereas amongst the 15 per cent of households with two or more cars, they increased by 3 per cent.

Table 9.3 Trips per person per day, people in households with no cars, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.09	0.11	0.10	0.11	0.12
Underground/DLR	0.23	0.22	0.26	0.26	0.23
Bus/tram	0.63	0.69	0.66	0.68	0.63
Taxi/other	0.04	0.05	0.04	0.04	0.05
Car driver	0.05	0.04	0.02	0.02	0.01
Car passenger	0.15	0.16	0.14	0.12	0.12
Motorcycle	0.00	0.01	0.01	0.01	0.01
Cycle	0.04	0.05	0.06	0.05	0.05
Walk	0.87	0.97	1.02	0.91	0.93
All modes	**2.11**	**2.30**	**2.31**	**2.19**	**2.16**

Table 9.4 Trips per person per day, people in households with one car, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.13	0.12	0.11	0.13	0.12
Underground/DLR	0.16	0.17	0.17	0.17	0.16
Bus/tram	0.24	0.25	0.24	0.25	0.26
Taxi/other	0.02	0.03	0.04	0.02	0.03
Car driver	0.96	0.91	0.93	0.82	0.80
Car passenger	0.40	0.42	0.43	0.36	0.38
Motorcycle	0.02	0.02	0.02	0.01	0.02
Cycle	0.05	0.05	0.06	0.05	0.06
Walk	0.81	0.77	0.77	0.70	0.68
All modes	**2.79**	**2.74**	**2.76**	**2.52**	**2.49**

Table 9.5 Trips per person per day, people in households with one or more cars, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
National Rail	0.09	0.09	0.11	0.08	0.10
Underground/DLR	0.11	0.11	0.10	0.11	0.11
Bus/tram	0.16	0.14	0.15	0.16	0.14
Taxi/other	0.02	0.03	0.02	0.02	0.01
Car driver	1.39	1.40	1.39	1.15	1.22
Car passenger	0.47	0.54	0.54	0.44	0.46
Motorcycle	0.02	0.02	0.02	0.01	0.01
Cycle	0.02	0.03	0.02	0.03	0.03
Walk	0.64	0.61	0.55	0.54	0.54
All modes	**2.93**	**2.98**	**2.90**	**2.54**	**2.63**

10. Working patterns

10.1 Working status

Table 10.1 shows the distribution of working status amongst London residents aged 16 or over in each year between 2005/06 and 2009/10, as assessed by the LTDS survey sample (which is not optimised to quantifty this aspect in detail). As would be expected, the table shows only minor variation from year to year. Residents in employment account for between 56 and 58 per cent of residents over this period, peaking in 2007/08 and declining only slightly in 2008/09 and 2009/10 despite the economic downturn.

The remaining 43 per cent of residents over 16 is made up of students (9 per cent), retired people (16 per cent) and others not in employment (18 per cent). These shares have also remained stable over the 5-year period.

Table 10.1 Working status shares of London residents, 2005/06 to 2009/10.

	2005/06	2006/07	2007/08	2008/09	2009/10
Full time employees	40	39	41	40	40
Part time employees	8	8	7	7	7
Full time self-employed	6	8	8	8	7
Part time self-employed	2	2	2	2	2
All in employment	**57**	**57**	**58**	**57**	**56**
Students	9	9	9	9	10
Retired people	16	16	16	16	16
Others not in employment	18	17	18	17	18
All people (aged 16+)	**100**	**100**	**100**	**100**	**100**

10.2 Usual workplace

This section looks at the travel to work patterns of London's workers in terms of whether they have a single place of work to which they travel on most of their working days, travel to different places to work on different days, or whether they work mainly at or from home.

In the first survey year, 2005/06, LTDS showed 80 per cent of London residents in employment had a single usual place of work. This was similar to the percentage recorded by the London Area Transport Survey in 2001. However, this fell to 74 per cent in 2006/07 and has remained at a similar level each subsequent year. Conversely, the percentage of workers that travelled to different places to work, which was 15 per cent at the start of the decade, increased to 20 per cent by 2006/07. It appears that these shares were not significantly affected by the onset of recession in 2008/09.

The percentage of workers who usually work at or from home, as assessed by LTDS, has remained relatively stable at between 5 and 6 per cent since 2005/06, but fell from 5.9 per cent in 2008/09 to 5.1 per cent in 2009/10.

Table 10.2 Travel to work patterns – London residents in employment, 2005/06 to 2009/10.

	Percentage of workers				
	2005/06	2006/07	2007/08	2008/09	2009/10
Travel to same workplace every day	80	74	73	74	75
Travel to different workplaces	15	20	21	20	20
Usually work from home	5	6	6	6	5
All employed people	100	100	100	100	100

10.3 Workplace and travel

Table 10.3 shows trip rates, between 2007/08 and 2009/10, for the three groups of workers defined by their travel to work patterns. Overall, there is little difference between these groups in their average number of trips per weekday. All show the dip in trip rates in 2008/09 - continued in 2009/10 - that has been attributed to the recessionary conditions starting in the second half of 2008. Commuting (that is, travel to a usual workplace) was affected less than other work travel, which includes travel from home to other workplaces and travel in course of work or on employer's business. Workers with no single usual place of work showed the largest decline in trips between 2007/08 and 2008/09, with a 12 per cent drop in their weekday trip rates, compared with 8 per cent for the other two groups.

For workers with a single usual place of work, almost half (49 per cent) of their weekday trips were for commuting and 4 per cent for other work travel. Workers with no usual place of work had a similar number of work-related trips, 49 per cent. However, for workers who usually worked at home, only 14 per cent of their trips were work-related and 86 per cent for other purposes.

Table 10.3 Weekday trip rates by travel to work group – London residents in employment, 2007/08 to 2009/10.

	Trips per person per weekday		
	2007/08	2008/09	2009/10
Workers who travel to the same workplace every day	3.1	2.9	2.8
Workers who travel to different workplaces	3.0	2.7	2.7
Workers who usually work from home	3.2	3.0	2.8
All workers	**3.1**	**2.8**	**2.8**

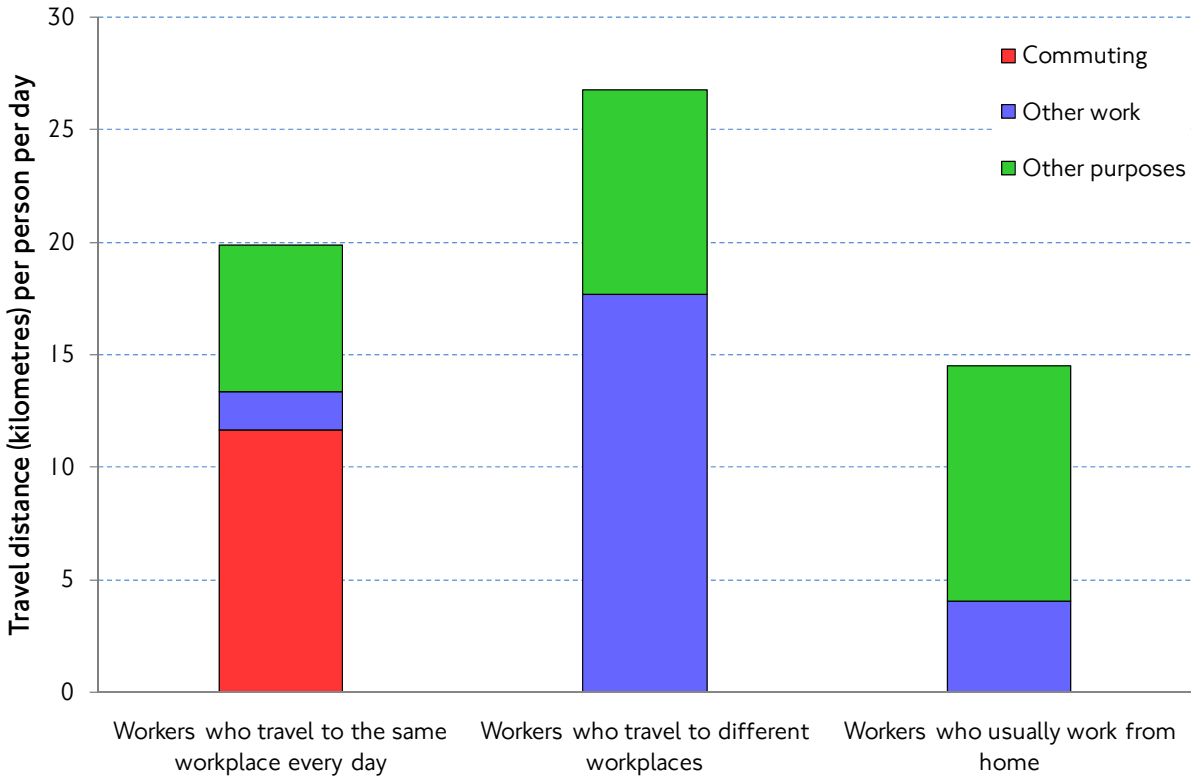
Figure 10.1 Weekday trip rates by travel to work group – London residents in employment 2007/08 to 2009/10 average.

Table 10.4 shows there are larger differences between the groups in terms of distance travelled than in terms of numbers of trips. Workers who travel to different workplaces have the highest average travel distance. Home workers on average made over 80 per cent more trips for non-work purposes than did those who travelled to work. However, their travel in terms of distance travelled was the lowest of the three groups.

Table 10.4 Travel distance per person per weekday, by travel to work group – London residents in employment 2007/08 to 2009/10.

	Kilometres per person per weekday		
	2007/08	2008/09	2009/10
Workers who travel to the same workplace every day	20.4	19.6	19.6
Workers who travel to different workplaces	29.6	25.5	25.2
Workers who usually work from home	12.8	14.2	16.7
All workers	**21.9**	**20.5**	**20.5**

Figure 10.2 Weekday travel distance, kilometres per person, by purpose, by travel to work group – London residents in employment 2007/08 to 2009/10 average.



11. Non-travel

11.1 What is non-travel?

Every day there is a substantial number of people in London who do not make any trips. The level of non-travel in LTDS, that is the proportion of people who do not report any trips on the travel day assigned to them, tends to vary inversely with trip rates: non-travel increases as trip rates decline and vice versa. Non-travel rates, therefore, are another indicator of more general trends in levels of travel.

11.2 Levels of non-travel in London

Weekday levels of non-travel increased substantially between 2007/08 and 2008/09 and remained at about the same level in 2009/10. On an average weekday in both 2008/09 and 2009/10, 3 per cent more people made no trips compared with an average weekday in 2007/08 (Table 11.1): about 1 in 7 people made no trips.

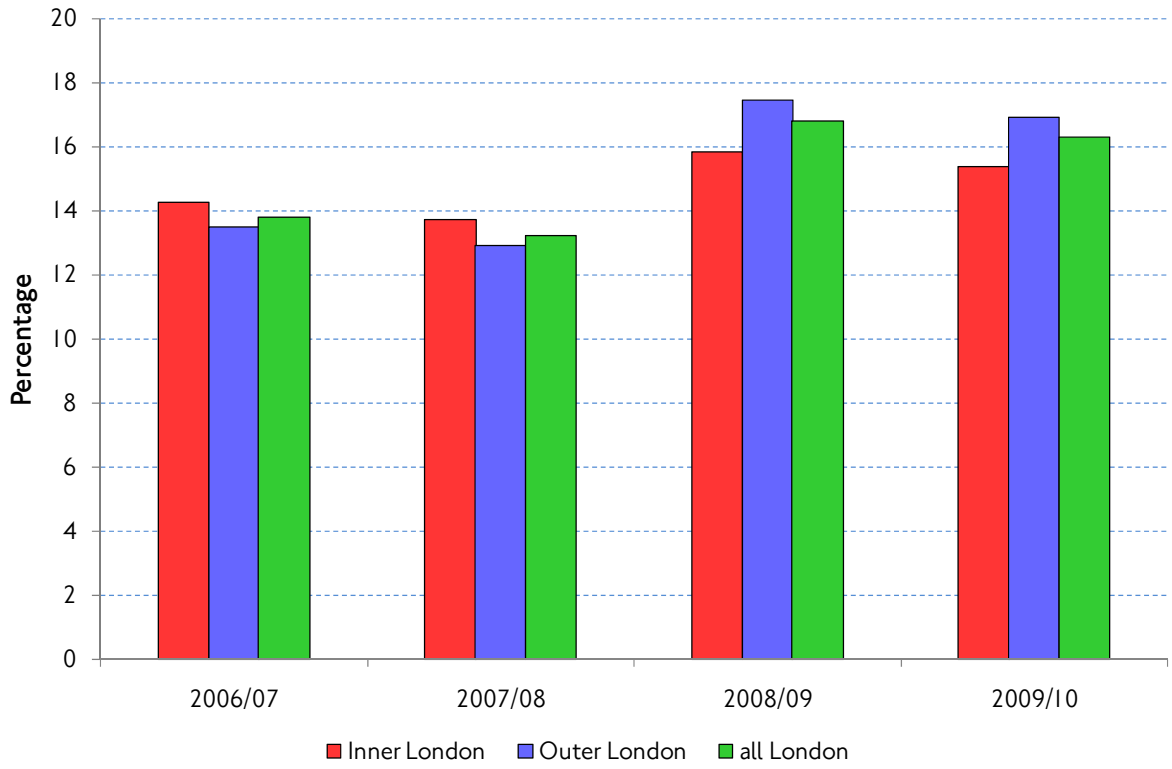
At weekends, the increase between 2007/08 and 2008/09 was 5 per cent, so that almost a quarter (24 per cent) did not travel on an average 2008/09 weekend day. This fell back slightly to 23 per cent in 2009/10. A further 3 per cent of London residents were away from London and so made no trips in London.

The increase in non-travel was especially pronounced in Outer London, where the proportion of people making no trips in 2008/09 was 4.5 per cent higher than in 2007/08, compared with a 2.1 per cent rise in Inner London. Since 2008/09 the proportion of non-travellers has been slightly higher in Outer London than in Inner London. In both Inner and Outer London the average for all days (weekdays and weekends) fell by 0.5 per cent between 2008/09 and 2009/10.

Table 11.1 Percentage of people making no travel or absent on an average day, 2006/07 to 2009/10, weekdays and weekends.

	Weekdays		Weekends	
	no travel	absent	no travel	absent
2006/07	11.9	1.8	18.6	3.1
2007/08	11.0	2.5	18.9	3.0
2008/09	13.8	2.5	24.1	3.4
2009/10	13.7	2.3	22.7	3.9

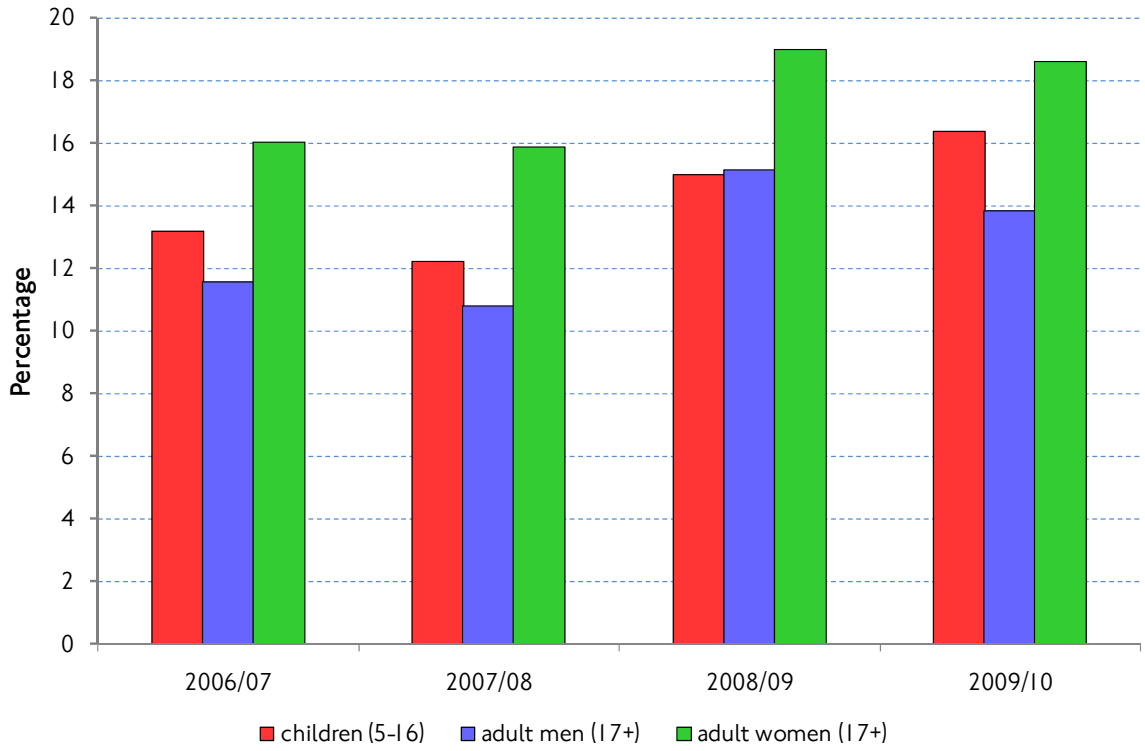
Figure 11.1 Percentage of Londoners making no trips on an average day by area of residence.



11.3 Socio-demographic factors and non-travel – age and gender

Women are more likely to be non-travellers than men, although in 2008/09 non-travel rose by 4 per cent for men and 3 per cent for women compared with their 2007/08 levels. Both men and women slightly reduced their non-travel in 2009/10, but that for children (under 17) increased. Older age groups (aged 60 and above) are most likely to be non-travellers (Figure 11.2).

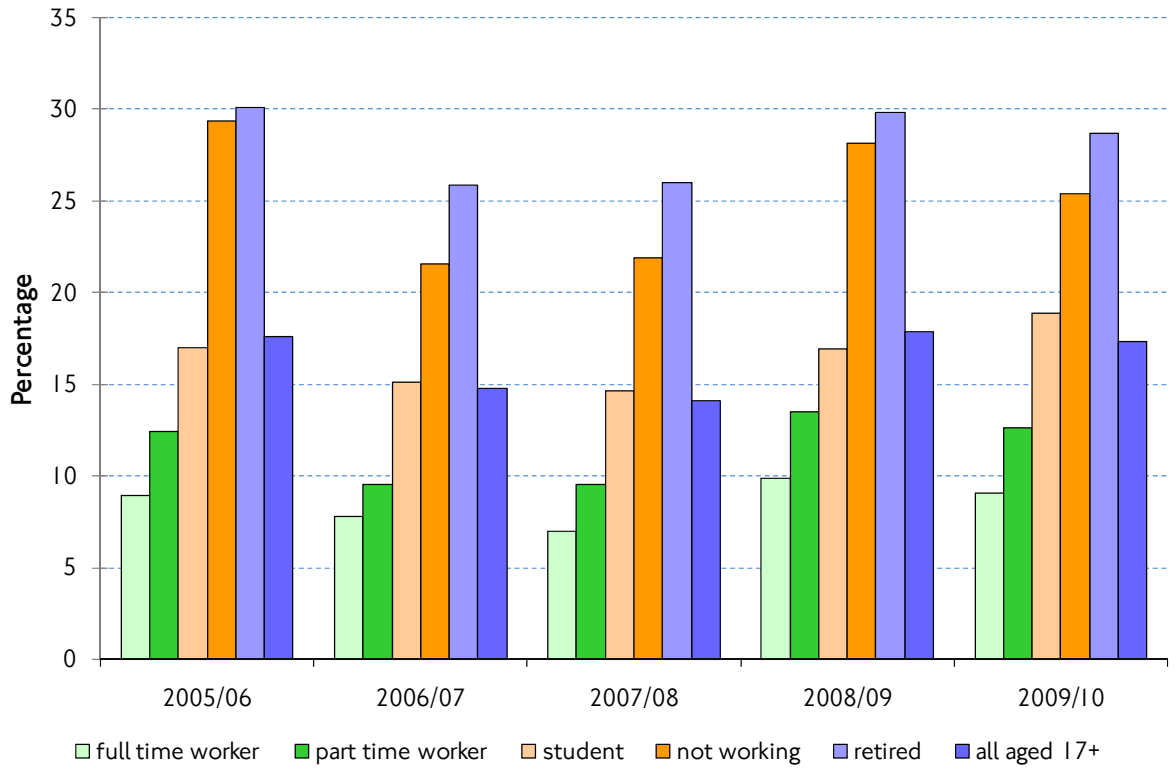
Figure 11.2 Percentage of Londoners making no trips on an average day - men, women and children, 2006/07 to 2009/10.



11.4 Socio-demographic factors and non-travel – working status

Retired and unemployed Londoners are more likely than workers to make no trips on an average day (Figure 11.3). The proportion of people making no trips on an average day increased between 2007/08 and 2008/09 amongst London residents of all working statuses, and (apart from students) fell slightly in the following year.

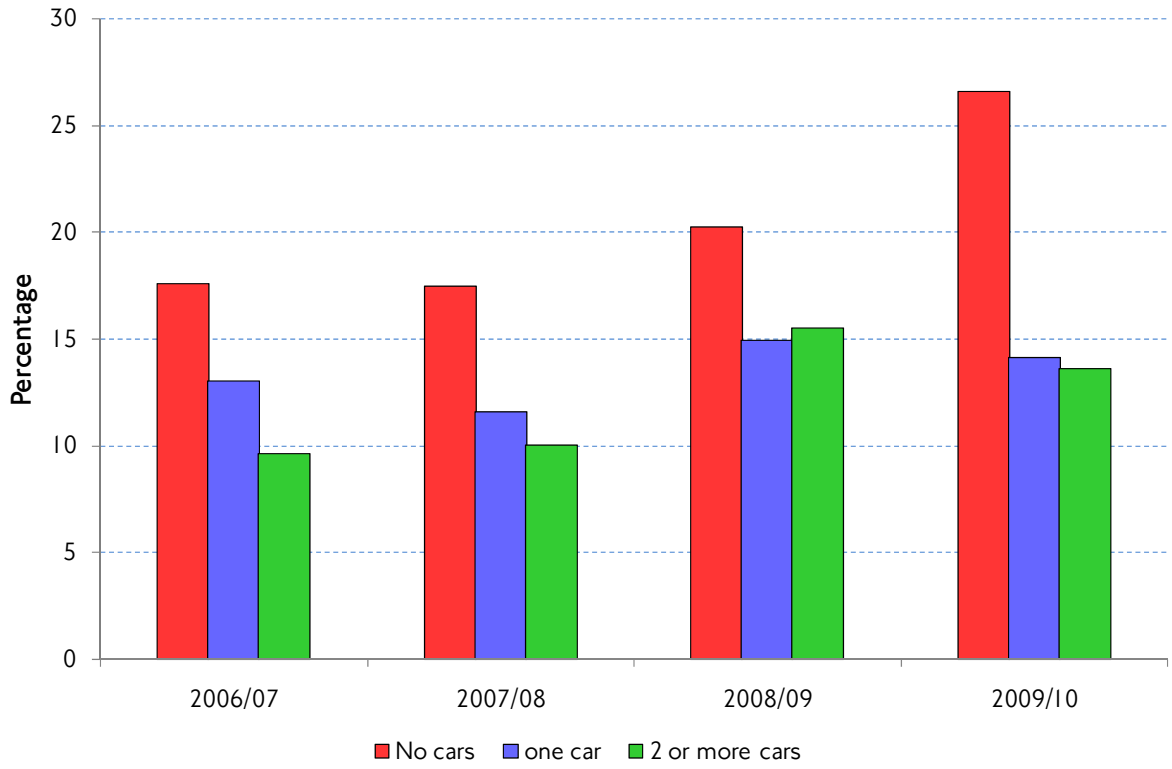
Figure 11.3 Percentage of Londoners making no trips on an average day, by working status.



11.5 Socio-demographic factors and non-travel – car ownership

People living in households with no access to a car tend to be more likely to make no trips on an average day (Figure 11.4). In 2008/09 the proportion of people making no trips increased most amongst people in households with a car, especially those with 2 or more cars, where over 5 per cent more people than in 2007/08 made no trips on an average day. In 2009/10, however, while non-travel by car owning households fell slightly, non-travel by those in households without cars increased substantially to over 25 per cent.

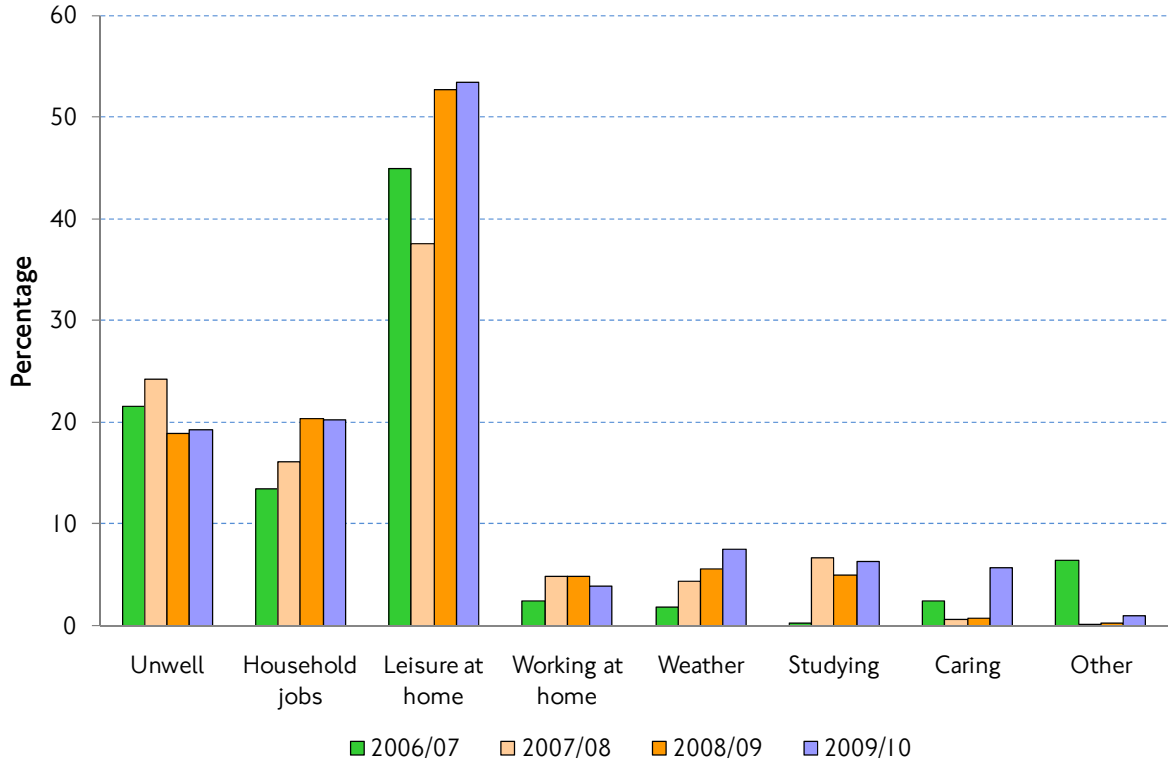
Figure 11.4 Percentage of Londoners making no trips on an average day, by number of cars in household.



11.6 Reasons for non-travel

Non-travellers are asked why they did not leave home on the travel day in question. Each respondent may give more than one reason (Figure 11.5). Around a fifth of Londoners that made no trips did so because they were either unwell or housebound, and a similar number because they were doing household jobs. However, the most common reason people gave for not leaving the house was 'leisure at home' – over 50 per cent of non-travellers gave this as a reason in 2008/09 and 2009/10. Only around 4 to 5 per cent of respondents made no trips because they were working from home, while about 6 per cent were studying. Weather conditions were given as the reason for non-travel by a similar proportion of respondents, increasing to almost 8 per cent in 2009/10, perhaps due particularly to snow in the winter of that year.

Figure 11.5 Reasons for non-travel – percentages of LTDS non-travellers, 2006/07 to 2009/10.

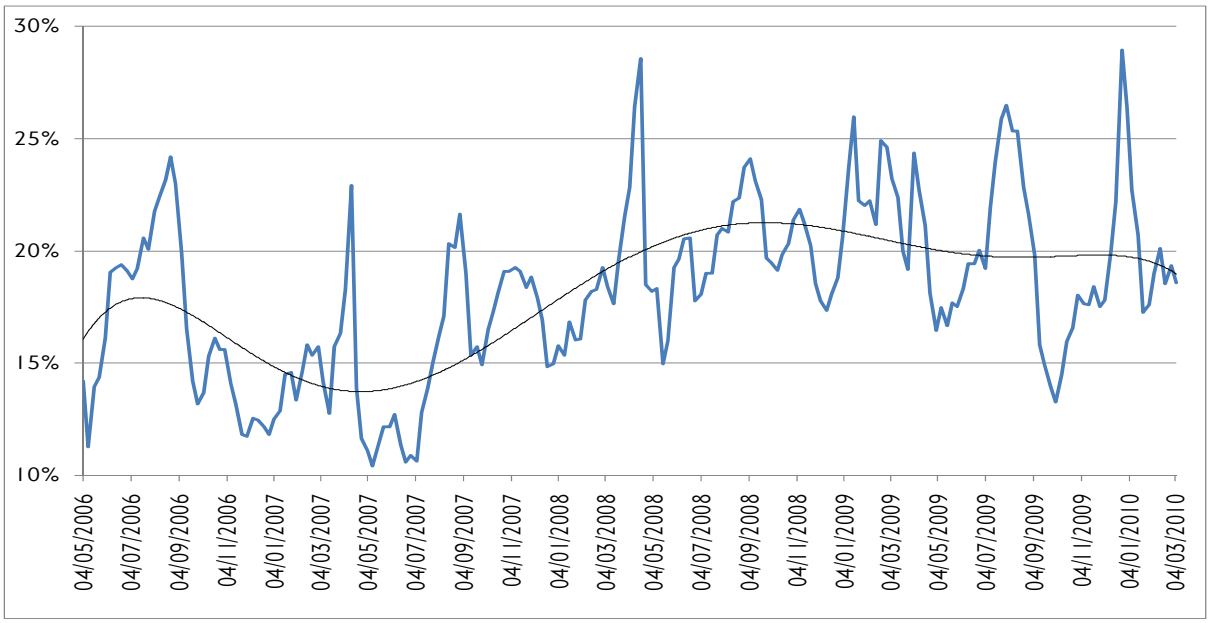


11.7 Non-travel rates in successive LTDS surveys

Figure 11.6 shows the trend in the level of non-travel since 2006. This is based on moving average 4-week periods for travel days of completed interviews, and shows substantial random variation because of the small samples included. Nevertheless, some significant trends can be seen. The peaks observed in April 2007 and 2008 are likely to be associated with the design of the survey, as this is the last week in the survey year, and therefore do not necessarily represent typical rates of non-travel in these months. Typically periods of high non-travel tend to be during holiday periods, particularly noticeable in Summer 2009 and 2010 New Year which was also affected by snowy weather conditions.

Also shown is a trend line, fitted from a polynomial trend. This suggests that while non-travel increased throughout most of 2007 and 2008, it peaked around the end of 2008 calendar year and subsequently was broadly stable, with a gradual decline as London emerged from economic recession in 2009. When averaged across survey years, this results in values for non-travel that are similar in 2008/09 and 2009/10 and still significantly higher than in 2006/07 and 2007/08.

Figure 11.6 Percentage of Londoners making no trips on an average day, four-weekly rolling average (with fitted polynomial trend).



12. Frequency of use of travel modes and changes in travel behaviour

12.1 Introduction

Respondents to LTDS were asked how frequently they used each mode of transport in London (or in journeys to and from London). Their responses can be used to classify people either as 'users' or 'non-users' of each mode. Users of a mode are defined here as those who have used that mode at least once in the preceding 12 months. Frequent users are defined as those who at the time of the survey used the mode on at least 2 days a week.

12.2 Frequency of mode use

On this basis, bus is the most commonly used mode of public transport, with 89 per cent of Londoners (excluding children under 5) being 'bus users' and 50 per cent 'frequent bus users' (Table 12.1). In comparison, although 82 per cent of Londoners were users of the Underground, only 26 per cent were frequent users, while for National Rail the percentages of users and frequent users were lower at 69 per cent and 12 per cent, respectively.

The car is the most commonly used mode of private transport: 88 per cent of Londoners had been a car passenger in the past year, and 46 per cent a car driver. However, drivers were more likely to be frequent drivers, with 37 per cent of Londoners being frequent drivers (at least 2 days a week) and 34 per cent being frequent car passengers.

Table 12.1 also shows differences between children, men and women in their usage of different modes. Thus while women (and children) are more likely than men to be frequent bus users, the reverse is true for Underground and rail. It is still the case that more men than women are car drivers, with 51 per cent of men being frequent car drivers compared with 37 per cent of women, while women have the higher likelihood of being car passengers. Car as passenger is the most frequently used mode for children (under 17), with 64 per cent being a car passenger on at least 2 days a week.

Over a fifth (23 per cent) of Londoners had used a pedal cycle in the past year and 9 per cent stated that they cycled on at least 2 days a week. However, it is likely that these results are affected by the seasonal variation of cycling which is much more dependent on weather than are other modes. Cyclists tend to respond by giving their frequency of cycling at the time of year when they cycle the most, which may not reflect the average frequency over the whole year. The largest share of cyclists is amongst children, with 43 per cent having cycled in the past year and 15 per cent cycling at least twice a week. Men are more likely than women to cycle, with 11 per cent and 5 per cent, respectively, being frequent cyclists.

Walking refers to walks of at least 5 minutes, whether or not as part of a trip using other modes. Almost all Londoners, 97 per cent, were walkers under this definition, and 89 per cent walked on at least 2 days a week.

Table 12.1 Percentages of users and frequent users of modes of transport: London residents, men/women/children (LTDS 2007/08 to 2009/10).

	Greater London residents		children (aged 5-16)		men (aged 17+)		women (aged 17+)	
Mode of transport	users %	frequent users %	users %	frequent users %	users %	frequent users %	users %	frequent users %
Bus	89	50	93	53	86	45	90	54
Underground	82	26	77	6	85	34	82	26
National Rail	69	12	58	3	72	16	69	12
Car driver	46	37	-	-	63	51	46	37
Car passenger	88	34	93	64	83	21	90	35
Cycle	23	9	43	15	25	11	13	5
Walking	97	89	98	94	98	88	97	88

Table 12.2 shows how frequencies of use of the modes of transport differ between Inner and Outer London residents. Thus, Inner London residents tend to use public transport more frequently, apart from National Rail for which the share of frequent users is about the same in the two areas, 12 and 13 per cent respectively. Conversely, car is more commonly used in Outer London, with 45 per cent of residents of Outer London being frequent drivers, compared with only 25 per cent of Inner London residents. Slightly more residents of Inner London are frequent cyclists, 10 per cent compared with 8 per cent in outer London.

Table 12.2 Percentages of users and frequent users of modes of transport: residents of inner and outer London (LTDS 2007/08 to 2009/10).

	Greater London residents		Inner London residents		Outer London residents	
Mode of transport	users %	frequent users %	users %	frequent users %	users %	frequent users %
Bus	89	50	93	60	86	44
Underground	82	26	84	35	81	20
National Rail	69	12	70	12	68	13
Car driver	46	37	37	25	52	45
Car passenger	88	34	83	25	91	40
Cycle	23	9	22	10	23	8
Walking	97	89	98	92	97	87

12.3 Frequency of mode use by household income

Table 12.3 shows how frequency of use of different modes varies with household income. Households have been grouped by income band into five equal groups, using a definition of equivalized household income, ie gross household income adjusted by household size and structure to give comparable levels of income at the person level.

In general, travel increases with income, so for most modes of transport, the percentage of frequent users is higher at the higher income levels. For bus, however, the reverse is the case, with the percentage of frequent bus users being highest at 64 per cent among

members of the lowest income quintile group, and decreasing to 39 per cent in the highest quintile group.

Table 12.3 Percentages of users and frequent users of modes of transport: London residents by household income group (LTDS 2007/08 to 2009/10).

	Equivalised household income quintile group									
	Lowest quintile group		2nd quintile group		Middle quintile group		4th quintile group		Highest quintile group	
Mode	Users %	Frequent users %	Users %	Frequent users %	Users %	Frequent users %	Users %	Frequent users %	Users %	Frequent users %
Bus	*91*	*64*	*89*	*56*	*88*	*49*	*87*	*44*	*88*	*39*
LU	*74*	*18*	*76*	*20*	*83*	*24*	*88*	*30*	*91*	*40*
Rail	*55*	*6*	*61*	*8*	*70*	*12*	*76*	*16*	*83*	*20*
Car driver	*23*	*18*	*37*	*30*	*48*	*39*	*58*	*48*	*66*	*49*
Car passenger	*85*	*30*	*87*	*34*	*89*	*37*	*90*	*37*	*90*	*32*
Cycle	*16*	*7*	*17*	*7*	*23*	*9*	*26*	*9*	*31*	*12*
Walking	*96*	*90*	*96*	*87*	*98*	*89*	*98*	*89*	*99*	*90*

12.4 Frequency of mode use by ethnic group

Table 12.4 shows how usage of modes of transport varies between the different ethnic communities in London. These differences underlie the variations in the modal trip rates by ethnic group presented in Chapter 7 (Figure 7.5 and Table 7.4). Car use is highest among the White and Indian groups, while Black Africans and other Black groups have the highest share of frequent bus users. These variations partly reflect the areas in which different ethnic groups tend to live. Chinese people show particularly high frequency of use of the Underground, with 42 per cent frequent users. Whites, with the mixed ethnic group, are the groups with the highest proportions of frequent cyclists.

Table 12.4 Percentages of users and frequent users of modes of transport: London residents by ethnic group (LTDS 2007/08 to 2009/10).

	Bus		Underground		National Rail	
	users %	frequent users %	users %	frequent users %	users %	frequent users %
White	*87*	*46*	*82*	*26*	*72*	*13*
Mixed ethnicity	*91*	*61*	*80*	*26*	*63*	*10*
Indian	*87*	*49*	*84*	*27*	*58*	*10*
Pakistani	*86*	*46*	*80*	*19*	*57*	*8*
Bangladeshi	*93*	*56*	*78*	*23*	*46*	*5*
Chinese	*92*	*53*	*91*	*42*	*71*	*13*
Black Caribbean	*93*	*67*	*78*	*21*	*66*	*13*
Black African	*97*	*74*	*86*	*28*	*69*	*14*
Black Other	*98*	*64*	*83*	*23*	*64*	*6*
Other	*92*	*58*	*83*	*28*	*59*	*8*
All groups	***89***	***50***	***82***	***26***	***69***	***12***

	Car driver		Car passenger		Cycle		Walking	
	users %	frequent users %	users %	frequent users %	users %	frequent users %	users %	frequent users %
White	*51*	*41*	*88*	*34*	*26*	*10*	*97*	*88*
Mixed ethnicity	*27*	*22*	*86*	*39*	*26*	*10*	*98*	*93*
Indian	*49*	*41*	*90*	*39*	*12*	*4*	*98*	*89*
Pakistani	*44*	*38*	*87*	*38*	*12*	*4*	*97*	*90*
Bangladeshi	*28*	*23*	*83*	*34*	*8*	*2*	*97*	*92*
Chinese	*39*	*32*	*81*	*25*	*12*	*3*	*97*	*89*
Black Caribbean	*35*	*28*	*88*	*31*	*20*	*8*	*97*	*90*
Black African	*29*	*24*	*87*	*31*	*14*	*5*	*98*	*93*
Black Other	*21*	*18*	*89*	*32*	*14*	*7*	*99*	*94*
Other	*36*	*29*	*84*	*36*	*14*	*4*	*98*	*92*
All groups	***46***	***37***	***88***	***34***	***23***	***9***	***97***	***89***

12.5 Frequency of mode use and socio-demographic characteristics

Table 12.5 summarises the characteristics of frequent users for each mode of transport, compared with the distributions of the whole London population. These reflect the varying shares of frequent users for different population groups that we have already noted. Men are under-represented among frequent bus users and over-represented among Underground and rail users. Children are over-represented amongst frequent car passengers and cyclists but under-represented amongst Underground and rail users. Because almost everyone walks, the characteristics of frequent walkers are very similar to the population as a whole.

The age-group 25-44 is also over-represented amongst frequent users of Underground, rail and car drivers. This is also related to working status - because they are commonly used for

commuting, these modes are also the ones that have the highest share of full-time workers amongst their frequent users.

Bus and Underground users include a higher proportion of people who live in households without cars.

Table 12.5 Characteristics of frequent users of transport modes (LTDS 2007/08 to 2009/10).

	Bus	LU	Rail	Car driver	Car passenger	Cycle	Walking	London population
Number of frequent users (thousand)	3,550	1,851	873	2,606	2,393	616	6,273	7,043
of which (percentages):								
Children (under 17)	*16*	*4*	*4*	*-*	*29*	*41*	*16*	*15*
Men	*37*	*53*	*53*	*56*	*25*	*17*	*40*	*41*
Women	*47*	*44*	*43*	*44*	*46*	*2*	*43*	*44*
All frequent users	*100*	*100*	*100*	*100*	*100*	*3*	*100*	*100*
Age bands								
05-16	*16*	*4*	*4*	*-*	*29*	*27*	*16*	*15*
17-24	*15*	*17*	*14*	*6*	*12*	*10*	*11*	*11*
25-44	*37*	*53*	*55*	*47*	*30*	*41*	*39*	*39*
45-59	*14*	*16*	*17*	*28*	*14*	*17*	*17*	*18*
60-64	*5*	*4*	*4*	*7*	*4*	*2*	*5*	*5*
65+	*13*	*7*	*6*	*12*	*11*	*3*	*11*	*13*
All ages	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Number of vehicles (cars and vans) owned by or available to household:								
None	*49*	*42*	*34*	*1*	*17*	*33*	*35*	*34*
One	*39*	*43*	*48*	*59*	*53*	*47*	*45*	*44*
Two	*10*	*12*	*15*	*31*	*24*	*16*	*17*	*18*
Three or more	*2*	*3*	*3*	*8*	*5*	*3*	*4*	*4*
Working status								
Frequent users aged over 16 (thousand)	3,068	1,805	849	2,602	1,761	462	5,355	6,067
of which (percentages):								
Full time workers	*40*	*62*	*69*	*61*	*40*	*63*	*48*	*48*
Part time workers	*9*	*8*	*7*	*11*	*10*	*10*	*9*	*9*
Students (aged 16+)	*14*	*13*	*11*	*3*	*13*	*11*	*10*	*9*
Retired	*17*	*7*	*6*	*13*	*16*	*5*	*14*	*16*
Other non-working	*19*	*9*	*7*	*12*	*20*	*11*	*18*	*17*
All people (aged 16+)	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

12.6 Changes in frequency of mode use

Table 12.6 Users' reported changes of frequency of use in past 12 months, by mode of transport (LTDS 2009/10).

	Reported change in use of modes in past 12 months						
	increased a lot	increased a little	no change	reduced a little	reduced a lot	all users	number of users (thousands)
All users:							
Bus	*6*	*5*	*83*	*4*	*3*	*100*	6,384
Underground	*4*	*3*	*86*	*3*	*4*	*100*	5,891
National Rail	*3*	*3*	*90*	*3*	*3*	*100*	4,881
Car driver	*5*	*4*	*81*	*6*	*4*	*100*	3,265
Car passenger	*1*	*2*	*94*	*2*	*1*	*100*	6,298
Cycle	*7*	*5*	*82*	*3*	*3*	*100*	1,726
Walking	*5*	*5*	*87*	*2*	*1*	*100*	6,992
Frequent users:							
Bus	*9*	*7*	*79*	*4*	*2*	*100*	3,618
Underground	*10*	*6*	*77*	*4*	*3*	*100*	1,880
National Rail	*11*	*6*	*78*	*2*	*3*	*100*	853
Car driver	*7*	*4*	*81*	*5*	*3*	*100*	2,621
Car passenger	*3*	*3*	*91*	*2*	*1*	*100*	2,367
Cycle	*15*	*7*	*74*	*2*	*2*	*100*	678
Walking	*5*	*5*	*87*	*2*	*0*	*100*	6,587
Infrequent users:							
Bus	*2*	*3*	*88*	*3*	*4*	*100*	2,766
Underground	*1*	*2*	*90*	*3*	*4*	*100*	4,010
National Rail	*1*	*2*	*92*	*3*	*3*	*100*	4,028
Car driver	*1*	*2*	*80*	*7*	*9*	*100*	644
Car passenger	-	*1*	*95*	*2*	*1*	*100*	3,931
Cycle	*2*	*3*	*87*	*4*	*4*	*100*	1,048
Walking	*1*	*2*	*87*	*5*	*6*	*100*	405

Users of each mode, that is those that had used the mode at least once in the past year, were asked whether their usage had increased or decreased compared with a year earlier (Table 12.6). These questions were introduced in the 2009/10 LTDS so broadly refer to changes in modal use between 2008/09 and 2009/10. In both years mode use was affected by the dip in travel demand associated with the economic recession starting in the second half of 2008. For all modes, the majority (over 80 per cent) of users reported no change in usage compared with a year earlier. As was to be expected, frequent users (at the time of interview) were more likely than infrequent users to have increased their use. Walking and cycling were the modes with the highest proportions of people reporting increased use. Overall, bus users also reported a net increase is use, ie more users reporting increased use than reported reduced use.

Among car drivers, 5 per cent reported their frequency of driving had 'increased a lot' and 4 per cent had 'increased a little' compared with a year before. Slightly higher numbers reported lower frequency of driving compared with a year earlier, with 6 per cent having 'reduced a lot' and 4 per cent 'reduced a little'. 'A lot' and 'a little' cannot be quantified but the net effect is of little change in frequency of driving. The data on trip rates suggest a slight increase while both years remain below 2007/08 pre-recession levels.

12.7 Reasons for changes in frequency of mode use

All respondents aged 16 or over were given a list of possible changes in circumstances and asked to identify those they might have experienced in the previous 12 months. They were also asked whether these had affected either the amount of travel they did or their choice of modes of transport. The results are summarised in Table 12.7. The most common change in circumstances was a change of employment or in the location of their workplace: 9 per cent of respondents experienced such a change and for the majority of these it had an effect on their travel. Overall, nearly a third (30 per cent) of people experienced one or more of the identified changes in circumstances, and this includes 23 per cent where there was a travel-related effect.

Respondents were then invited to identify other reasons, from the list in Table 12.8, why their travel had changed in the previous 12 months. The most common reason given was 'wanting to improve fitness', chosen by 6 per cent of respondents. Five per cent cited the cost of public transport as something affecting their travel. In total 24 per cent of people gave at least one reason why their travel had changed compared with a year earlier.

Some people identified in Table 12.7 as experiencing a change in personal circumstances that affected their travel are also included with the other reasons for changing travel behaviour covered by Table 12.8: this overlap amounted to 9 per cent of the adult population (aged 16 and over). Thus people who reported that their travel had changed in the previous 12 months accounted for 38 per cent of the adult population, 23 per cent due to a change in personal circumstances amongst those listed in Table 12.7, 24 per cent for one or more of the other reasons in Table 12.8, and 9 per cent in both.

Table 12.7 Reported changes in circumstances: percentages experiencing change and percentage whose travel was affected (LTDS 2009/10).

	Percentage of adult population	
Changes in personal circumstances in the 12 months before interview	**experiencing change**	**of which, affecting travel**
changing jobs or workplace	*9.3*	*7.6*
moved house within the London area	*8.1*	*5.0*
changes in household or family circumstances	*4.6*	*3.0*
stopped working	*4.4*	*3.6*
started, stopped or changed school, college or university	*3.8*	*3.3*
child stopped, started or changed school, college or university	*3.3*	*1.7*
changes in the number of vehicles owned or usually available to household	*2.8*	*2.0*
moved to the London area	*2.8*	*2.5*
acquired a driving licence for the first time or after ban/disqualification	*0.6*	*0.5*
At least one of the above changes	*30.0*	*22.9*

Table 12.8 Other reasons for changing travel in last year (LTDS 2009/10).

Other reasons for changing amount of travel or means of transport used	**% of adult population affected**	**% of all giving reasons for change in travel**
wanting to improve fitness	*5.9*	*25.0*
cost of using public transport	*5.1*	*21.8*
availability of public transport services	*4.8*	*20.4*
wanting to save money	*4.6*	*19.7*
a change in health	*3.6*	*15.3*
acquiring an Oyster Card or changes in Oyster Card use	*3.3*	*14.0*
the costs of motoring or of maintaining a vehicle	*2.7*	*11.4*
the availability or cost of parking	*2.6*	*11.0*
wanting to reduce the environmental impact or carbon footprint of my travel	*2.0*	*8.5*
a decrease in my disposable income	*1.8*	*7.9*
the Central London congestion charge	*1.7*	*7.1*
acquiring a Freedom Pass, or changes in Freedom Pass use	*1.5*	*6.2*
discounted or free travel on public transport in London	*0.8*	*3.4*
an increase in my disposable income	*0.8*	*3.4*
Any other reason	*0.9*	*3.9*
At least one reason	*24.4*	*100*

13. Tours

13.1 What is a tour?

Tours are defined as sequences of consecutive trips that a person performs, starting from one location and travelling to different destinations to undertake activities, until they return to the original starting point at the end of the tour.

In this section we consider tours that start and end at home, known as 'home-based tours'. Typically a person's travel pattern on a particular day consists of one or more tours as they start from home to go to their daily activities involving travelling between one or more destinations and finally travelling back to home.

13.2 Defining a tour

In LTDS the Travel Day is defined to start at 4am and end at 4am the following day. All trips starting within that time period are recorded. By definition a tour in LTDS must begin from home and be completed within the same travel day. If the respondent does not start the travel day at home, there may be trips at the start of the day that do not form part of a home-based tour. Similarly, if the respondent leaves home during the travel day but does not return home until after 4am the following morning, these trips cannot be formed into tours. On an average day, only 3 per cent of trips are not part of a tour.

One measure of the complexity of a tour is the number of trips it includes. The simplest tours are made up of just two trips, such as going to work in the morning and returning in the evening without making any other trips in between. This simple tour may be made more complex by adding other trips in a number of ways: examples would be travel in the course of work, or trips for non-work purposes in the lunch break. Parents may accompany a child to school (an 'escort trip') before themselves travelling on to get to work. Purposes such as shopping, leisure or recreation may also be made as sequences of trips forming a tour.

13.3 Complexity of tours

Table 13.1 shows the distribution of tours (and their trips) by London residents by the number of trips they contain. Thus, almost three-quarters of tours have only 2 trips, the outward trip from home and a return trip to home. Such 2-trip tours account for 61 per cent of the trips in tours. At the other extreme, 3 per cent of tours have 5 or more trips, and these account for 7 per cent of the trips. Overall there are 17.3 million trips made in 7.2 million tours.

Table 13.1 Distribution of tours and trips by number of trips in the tour, average day (2007/08 to 2009/10).

Number of trips in tour	Number of tours thousands	% of tours	Number of trips thousands	% of trips
2	5,285	*74*	10,559	*61*
3	1,117	*16*	3,350	*19*
4	519	*7*	2,078	*12*
5	153	*2*	764	*4*
6	58	*1*	345	*2*
7 or more	31	-	240	*1*
All tours	**7,162**	***100***	**17,335**	***100***

13.4 Purposes of tours

Tours may be classified by purpose in a similar way to trips, in terms of the activity that prompts the need to travel. For trips, this is the either the activity at the destination or, if the purpose of a trip is to return home, the activity that has taken place at the origin location, Occasionally, travel itself may define the purpose, as in the case of some types of leisure travel, for sightseeing or to keep fit.

However, whereas each trip has a single purpose, tours may be undertaken to satisfy several different purposes. For this reason, we define purposes of tours by grouping and ranking the different types of activity and giving each tour the purpose of one of its component trips, the one that ranks highest. Purposes are ranked in the following order: work, education, shopping and personal business, escort, leisure and other purposes.

A 'work tour' is one for which one or more of its component trips is for work, either commuting to or from a workplace or travel in course of work. Education is travel to or from a place of education (school, college or University), either as a pupil or student or to take someone else to school or college. However, taking a child to school on the way to work would be part of a tour with purpose work, not education. Shopping and personal business are grouped together in this classification, so a tour with purpose shopping might include a combination of shopping and personal business activities (eg going to the bank, doctor, hairdresser etc); but shopping on the way home from work would still be within a work tour.

Table 13.2 shows that on an average day, including weekends, 1.9 million tours, 26 per cent of tours by London residents, are work-related; that is, they include travel for some work purpose. The largest group of tours is for shopping (with personal business) accounting for 2.2 million, 31 per cent of tours. Leisure accounts for 1.7 million tours, 23 per cent. Education and escort (accompanying or meeting someone for purposes other than education) each account for about 700 thousand, 10 per cent, of tours.

Work-related tours tend to have more trips than do other tours, which reflects the tendency to make trips for personal reasons as well as work during a working day. 33 per cent of work tours have more than 2 trips and 19 per cent have more than 3. Shopping (with personal business) tours also have a high proportion of multi-trip tours: 38 per cent have more than 2 trips, partly because movements from shop to shop are counted as a separate trip from the trips between home and the shopping centre. By contrast, four-fifths of tours for education and escort have only 2 trips. The same is true of 91 per cent of tours for leisure purposes.

Every tour must have at least two trips and, to achieve this, trips which start and end at the same place (such as walking for leisure) are divided into two, an outward and a return leg.

Table 13.2 Distribution of tours by the number of trips, by tour main purpose (LTDS 2007/08 to 2009/10).

	Percentage of tours					
	Work	Education	Shopping and personal business	Escort	Leisure and other	All purposes
Number of trips in tour						
2	*67*	*82*	*62*	*80*	*91*	*74*
3	*14*	*11*	*26*	*13*	*7*	*16*
4	*12*	*5*	*8*	*6*	*2*	*7*
5	*4*	*1*	*3*	*1*	-	*2*
6	*2*	*1*	*1*	-	-	*1*
7 or more	*1*	-	-	-	-	-
All tours	*100*	*100*	*100*	*100*	*100*	*100*
Tours per day (thousands)	**1,881**	**732**	**2216**	**652**	**1682**	**7,162**

A finer division of tour purposes is used in Table 13.3 to distinguish tours with a single purpose from those that combine trips for different purposes. Thus, 19 per cent of tours are for work purposes only, although these may include both travel to and from work and travel in course of work or on employer's business.

13.5 Tours by day of week

Variations by day of week reflect the different mix of activities undertaken on weekdays and at weekends. Work makes up the largest group of tours on weekdays, with work-only tours accounting for 23 per cent, and work in combination with other purposes for 8 per cent. Tours just for shopping or personal business make up 22 per cent of weekday tours, and shopping with other purposes for a further 7 per cent. At weekends, over a third of tours are for shopping, 34 per cent for shopping (or personal business) only and 6 per cent for shopping combined with leisure. The proportion of shopping is higher on Saturdays than on Sundays, with 39 and 29 per cent of tours, respectively, being for shopping only. On Sundays the largest share of tours is for leisure only with 44 per cent compared with 34 per cent on Saturdays and 16 per cent on weekdays.

Table 13.3 Distribution of tour purposes by day of week: weekdays, Saturdays and Sundays (LTDS 2007/08 to 2009/10).

	Percentage of tours				
	Weekdays	Saturdays	Sundays	Weekends	All days
Purposes of tours					
Work only	23	8	6	7	19
Education only	11	1	-	-	8
Shopping and personal business only	22	39	29	34	25
Escort only	9	4	4	4	8
Leisure only	16	34	44	38	22
subtotal - single purpose tours	82	85	83	84	82
Work and shopping (or personal business)	3	1	-	-	3
Work and leisure	3	1	-	1	2
Work and escort	2	-	-	-	1
Shopping (or personal business) and leisure	3	6	5	6	4
Shopping (or personal business) and escort	1	1	1	1	1
Other combinations of purposes	6	6	10	8	7
Subtotal - multipurpose tours	18	15	17	16	18
All tours	100	100	100	100	100
Tours per day (thousands)	**7,450**	**6,953**	**5,933**	**6,443**	**7,162**

13.6 Modes of transport in tours

Just as trips may include journey stages made by different modes of transport, tours may also be made by using different modes of transport in various combinations. However, most tours fall into one of three groups, those that are wholly made on foot, those that use only public transport (usually also including some walk stages or trips) and those that use private transport but no public transport. Table 13.4 shows that the largest group, 2.8 million tours on an average day, was made using private motorised transport, possibly with some walk stages: this group accounted for 39 per cent of tours. Public transport accounted for 2.0 million, or 28 per cent of tours. A quarter of tours (26 per cent) were made entirely by walking. The remaining 6 per cent of tours included 2 per cent made by pedal cycle (about one in ten of these also involved other modes of transport) and 4 per cent of tours using combinations of private and public modes.

Table 13.4 Distribution of tours by the number of trips, by mode combinations: public, private and walking (LTDS 2007/08 to 2009/10).

	Percentage of tours				
	Public transport	Private vehicles	Walking	Other combinations of modes	all modes
Number of trips in tour					
2	*68*	*72*	*86*	*61*	*74*
3	*18*	*17*	*11*	*18*	*16*
4	*9*	*8*	*3*	*12*	*7*
5	*3*	*2*	*1*	*4*	*2*
6	*1*	*1*	-	*3*	*1*
7 or more	*1*	*1*	-	*1*	-
All tours	*100*	*100*	*100*	*100*	*100*
Tours per day (thousands)	**2,024**	**2,828**	**1,867**	**444**	**7,162**
Percentage	*28*	*39*	*26*	*6*	*100*

Table 13.5 shows, in relation to tours, how the use of modes of transport varies by day of week. Tours made entirely by walking had an almost constant share, about 26 per cent, throughout the week. Private transport increases its share at weekends, with 48 per cent of tours at weekends being by private transport, compared with 37 per cent on weekdays. Conversely, the share of tours by public transport is 31 per cent on weekdays and falls to 20 per cent at the weekend. On an average Saturday, the number of tours, 7.0 million, was 7 per cent lower than on an average weekday; on Sundays there were 20 per cent fewer tours than on an average weekday.

Table 13.5 Distribution of tours by mode combinations, by day of week: weekdays, Saturdays and Sundays (LTDS 2007/08 to 2009/10).

	percentage of tours				
	weekdays	Saturdays	Sundays	weekends	all days
Public transport	*31*	*22*	*18*	*20*	*28*
Private vehicles	*37*	*46*	*49*	*48*	*39*
Walking	*26*	*26*	*27*	*27*	*26*
Other combinations of modes	*6*	*5*	*6*	*5*	*6*
All modes	*100*	*100*	*100*	*100*	*100*
Tours per day (thousands)	**7,450**	**6,953**	**5,933**	**6,443**	**7,162**

13.7 Duration of tours

The duration of a tour is defined as the length of time between the start of the first trip and the end of the last trip, ie the time that elapses between leaving and returning home. The average duration varies with the purpose of the tour, with work tours having the longest mean duration of 579 minutes, ie almost 10 hours between leaving home to go to work and returning home.

Only part of the tour duration is spent actually travelling. The actual travel time within each tour is measured by summing the durations of the individual trips. Typically only a fifth of the duration of a tour is spent travelling. Work and education tours have the lowest proportion of travel time, 17 per cent and 13 per cent, respectively. The average duration of a tour for shopping is 145 minutes of which 54 minutes (38 per cent) is spent travelling: however, in this case, the distinction between the activity (shopping) and the travel is less clear, so that the time spent travelling between a series of shops will usually include some time actually spent in shops. Tours for escorting or accompanying someone else have the shortest average durations at 80 minutes, of which on average half is spent travelling.

Table 13.6 Tour durations and travel times by tour purposes (LTDS 2007/08 to 2009/10).

	Mean total tour duration (minutes)	Mean travel time (minutes)	Travel time as percentage of tour duration
Work	579	98	*17*
Education	456	60	*13*
Shopping and personal business	145	54	*38*
Escort	80	41	*51*
Leisure and other	222	53	*24*
All purposes	**303**	**65**	***21***

13.8 Tour making by workers and non-workers

Table 13.7 shows that on an average day about 15 per cent of London residents stay at home, making no trips during the whole day. In addition, 3 per cent of London residents recorded no travel in London because they were absent from the survey area for the whole of the LTDS travel day. A further 3 per cent made trips but no tours in the travel day, because they did not both leave and return home during the same day.

This leaves almost 80 per cent of London residents who do make one or more tours on an average day: 60 per cent made only one tour, 14 per cent made exactly two tours and 4 per cent made more than two.

Table 13.7 shows how the number of tours a person makes tends to reflect their working status. Adults in employment are the group most likely to travel: 88 per cent of full-time workers and 86 per cent of part time workers made some trips during the travel day. Full-time workers are also most likely to make exactly one home-based tour during the day, typically by commuting between home and work. Part-time workers are more likely to make several tours with 27 per cent of part-time workers compared with 19 per cent of full-time workers making more than one tour on the travel day. Retired and other non-working people are most likely to

do no travel on the nominated travel day: 28 and 25 per cent, respectively, made no trips. About half made exactly one tour. However, non-workers are also amongst the groups most likely to make several tours during the day - 7 per cent made 3 or more tours - reflecting their greater flexibility to travel to and from home, compared with someone who usually works away from home.

Table 13.7 Distribution of number of tours in travel day by London residents: by working status (LTDS 2007/08 to 2009/10).

	Percentage of people						
	all (aged 5+)	Children (aged 5-16)	Full time workers	Part time workers	Students (aged 17+)	Retired	Other non-working
No travel - stayed at home	*15*	*15*	*9*	*12*	*17*	*28*	*25*
No travel in London - away from home	*3*	*3*	*3*	*2*	*4*	*1*	*2*
Making trips on travel day	*82*	*83*	*88*	*86*	*79*	*70*	*73*
of which:							
no tours	*3*	*3*	*4*	*3*	*4*	*2*	*2*
one tour	*60*	*67*	*65*	*56*	*61*	*54*	*48*
two tours	*14*	*11*	*15*	*19*	*12*	*12*	*15*
three or more tours	*4*	*1*	*4*	*8*	*2*	*3*	*7*
All people	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Tours per person	1.02	0.94	1.07	1.21	0.92	0.87	1.02
Tours per travelling person	1.24	1.13	1.21	1.40	1.16	1.24	1.40
Total tours per day (thousand)	**7,162**	**1,018**	**3,117**	**670**	**521**	**850**	**1,077**
Total people (thousand)	**7,043**	**1,082**	**2,914**	**556**	**569**	**972**	**1,056**

13.9 Tour making by drivers and public transport users

Table 13.8 looks at the distribution of the number of tours made in the travel day, for people classified as either frequent car drivers, frequent public transport users or others. A frequent car driver is someone who drives a car on at least 2 days a week. A frequent public transport user is someone who uses one of the main London public transport modes (rail, Underground, DLR, bus, tram and London Overground) on at least 2 days a week. There were 2.6 million frequent car drivers among London residents, and 4.3 million frequent public transport users, including 1.0 million who fall into both groups. Everyone else is classified in the 'other people' category.

Frequent car drivers are more likely to travel, and to make more tours in a day, than either public transport users or other people: 86 per cent of the car drivers made some trips in the travel day, and 26 per cent made more than one tour. A slightly lower proportion (83 per cent) of the public transport users made some trips and only 16 per cent made more than one tour. Other people, ie people who are neither frequent car drivers nor frequent public transport users, are the group

least likely to travel, with only 72 per cent making trips and only 13 per cent making more than one tour.

Table 13.8 Distribution of number of tours in travel day by London residents, frequent car drivers, frequent public transport users and other people (LTDS 2007/08 to 2009/10).

	Frequent car drivers	Frequent public transport users	Other people	All people (aged 5+)
No travel - stayed at home	*11*	*14*	*26*	*15*
No travel in London - away from home	*3*	*3*	*3*	*3*
Making trips on travel day	*86*	*83*	*72*	*82*
of which:				
no tours	*3*	*4*	*3*	*3*
one tour	*57*	*63*	*56*	*60*
two tours	*19*	*13*	*11*	*14*
three or more tours	*7*	*3*	*2*	*4*
All people	*100*	*100*	*100*	*100*
Tours per person	1.18	1.00	0.84	1.02
Tours per travelling person	1.36	1.20	1.17	1.24
Total tours per day (thousand)	**3,067**	**4,280**	**979**	**7,162**
Total people (thousand)	**2,606**	**4,280**	**1,164**	**7,043**