



On the Move

Making sense of car and train
travel trends in Britain

Executive Summary

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Background

1. This study aims to identify the patterns of behaviour which underlie the observed national levelling off in car traffic in Great Britain – after decades of growth – and the continuing strong growth in rail passenger mileage, even during the current recession. It also seeks to establish whether there is any evidence that these contrasting trends are linked.
2. It was not part of the remit of this study to determine what has caused the changes in behaviour that have been identified, nor to make judgements about the appropriateness of current road and rail forecasts, although the report briefly addresses these issues.
3. Most of the analysis has been based on National Travel Survey (NTS) data between the years 1995 and 2007. The NTS annually samples around 20,000 British residents in 8,000 households, capturing their travel over a one-week period, and includes a record of which car is used for each journey. Data for years preceding 1995 is not fully comparable, and the analysis goes only up to 2007, so as to exclude the effects of the current recession.

Key findings

- Average car driving mileage per head of population has changed little in Britain over the ten-year study period, but this masks large differences in trends between men (whose driving mileage has decreased) and women (whose driving mileage has increased); the largest drop has been for men in their 20s, whose average car mileage fell by about 2,000 miles per year.
- Most of the reduction in mileage by men (except for those in their 20s) can be accounted for by a sharp fall in company car use; this seems to be linked to the large increases in taxation on fuel provided for private use.
- Half of the increase in mileage by women can be accounted for by a rise in adult female licence holding (up from 56% in 1995/7 to 62% in 2005/7).
- London is different from the rest of the country: car travel is lower and rail travel higher among both London residents and those from outside who work in the capital.
- There has been a pattern of continuing growth in non-company car use outside London for those aged 30 and over; for this group, representing around 70% of the British population, there has been no 'peak car' effect.
- The substantial, 60% growth in GB rail travel is the result of more people starting to travel by train, rather than existing rail users travelling more.
- Rail mileage has grown most rapidly for business purposes – it has nearly tripled – and there is some evidence of a partial shift of business travel from company car to rail for men.

4. Sample sizes for some of the population groups of interest, and for many journeys by rail, are relatively small; therefore, to ensure a sample size sufficiently large to identify significant trends, the annual data has been grouped into three time periods: 1995/7, 2000/2 and 2005/7.

The current picture

5. In aggregate, 51% of the distance travelled by British residents is as a car driver, and another 27% as a car passenger (2010 figures). By contrast, rail represents only 8% of mileage, though there are certain markets (such as commuting, particularly into Central London) where it is dominant. Because cars are used much more than rail, relatively small percentage changes in car use could translate into large percentage changes in rail use.
6. Although gender gaps have been shrinking, men still drive about twice as much as women, even though licence holding is only 27% higher among men; men also use rail about 40% more. Moreover, London is structurally different: rail use in the capital is almost twice as high as in the rest of GB, while car use is about half the GB average.

Trends in car travel

7. The levelling off in average car driver mileage per person in Britain over the past decade hides some sharply contrasting behavioural trends, which vary by age, gender, type of car ownership, and area of the country.
8. Car ownership has increased, from 420 cars per 1,000 people in 1995/7 to 481 in 2005/7. Mileage per car has trended downwards, however, from 8,141 to 7,308 miles per year. This is due in large measure to the changing mix of personal and company cars (see paragraph below titled “Use of company cars”). These contrasting trends largely cancel each other out, so that they only result in a roughly 3% increase in average car mileage per person over this period (excluding non-household cars such as hire cars, company pool cars, etc.).



Age and gender

Average changes in car driving mileage according to ownership of the vehicle, by age group and among men and women, 1995/7–2005/7



9. The average car mileage driven by men has fallen in all age groups up to age 60, with larger decreases seen among progressively younger age groups, down to age 20; this is despite stable and comparable levels of car licence holding among men aged between 30 and 60. This reduction has been offset by a major growth in car mileage among women aged over 20; the size of the growth in women's driving mileage increases with age up to the age of 60, and thereafter decreases.
10. For men as a whole, reductions in driving mileage are generally the result of less mileage per driver, with the proportion of males who are drivers remaining stable (except for a fall among the 20–29 age group). For women, however, growth in driving levels is partly due to an increasing proportion of the female population becoming drivers.

Young men

11. Car driver mileage among men in their 20s is much lower than was previously the case (mainly due to there being fewer male drivers, rather than a large reduction in average mileage per driver). Whether this change will persist as this group ages, or whether it reflects a delay in adopting more traditional patterns of licence holding and car use is not known.

Similar falls in mileage amongst this age group have been reported in other countries with advanced economies, from Germany to the USA. About a third of the fall in private car mileage among British men in their 20s is in the class of ‘visiting friends and relatives at private home’.

- 12.** The following table shows some of the changes in living circumstances for men in their 20s in Britain that seem to have contributed to falling car driver mileages. The proportions of men in groups that have higher than average car mileages have fallen, while the proportions in groups associated with lower than average car mileages have risen.

Characteristics of men in their 20s which affect annual car driving mileage

Description	Percentage of all men in their 20s		Average annual car driving mileage	
	Level in 2005/7	Change in percentage points from 1995/7 to 2005/7	Mileage in 2005/7 (Values in bold are above the average for all men in their 20s)	Change in average mileage from 1995/7 to 2005/7
Working full-time	72%	(-2%)	5,548	(-2,118)
Working part-time	8%	(+5%)	2,611	(-2,177)
Single (not married)	64%	(+7%)	4,191	(-1,634)
Living in a household with adult(s) aged over 35	47%	(+7%)	4,067	(-1,778)
Living in London	17%	(+4)	1,885	(-2,246)
Holds a full driving licence	68%	(-11%)	6,614	(-1,592)
Average mileage for all men in their 20s	–	–	4,496	-1,912

Use of company cars

- 13.** Most of the reduction in men’s car driver mileage has been the result of reduced mileage in company cars; this effect dominates for men between 30 and 49. The growth in mileage for older men and for women has been in private cars.
- 14.** The largest reductions in company car mileage have been among men classified as ‘Professionals’ (down by 63%) and ‘employer/managers’ (down 35%). This results from reductions both in car ownership and in usage per company car; it reflects what is likely to be largely a one-off step change reduction in men’s car mileage.

15. There is circumstantial evidence of some mileage having transferred from company cars to private cars among the employer/manager group, where private car mileage increased slightly while company car mileage decreased. This is also the case for 'all non-employer/manager/professional workers', where increases in private mileage largely offset reductions in company car mileage. But amongst the 'Professional' group, which has recorded the largest drop in company car use, mileage in private cars also dropped.
16. About half of the growth in women's private car mileage has been for commuting and work-related travel; for men over the age of 30, the reductions in company car mileage have also been mainly for commuting and work-related purposes.

Country of birth

17. People born outside the United Kingdom tend to use cars less, an effect which is seen most in the 20–39 age group in which migrants are concentrated (43% of migrants are in this age bracket, compared to 24% of those born in the UK). This is a single-year finding rather than a time trend, due to this data in the NTS only becoming available in 2010.

Greater London

18. There is a strong 'Greater London' residential and employment effect, with reductions in car use among both London residents and those who live outside the capital and travel in two or more times a week (by any mode) for commuting/business purposes. Most of this drop is accounted for by reduced company car mileage, but further research will be needed to ascertain how this interacts with other changes that have taken place, such as the substantial investment in public transport and walking/cycling infrastructure.

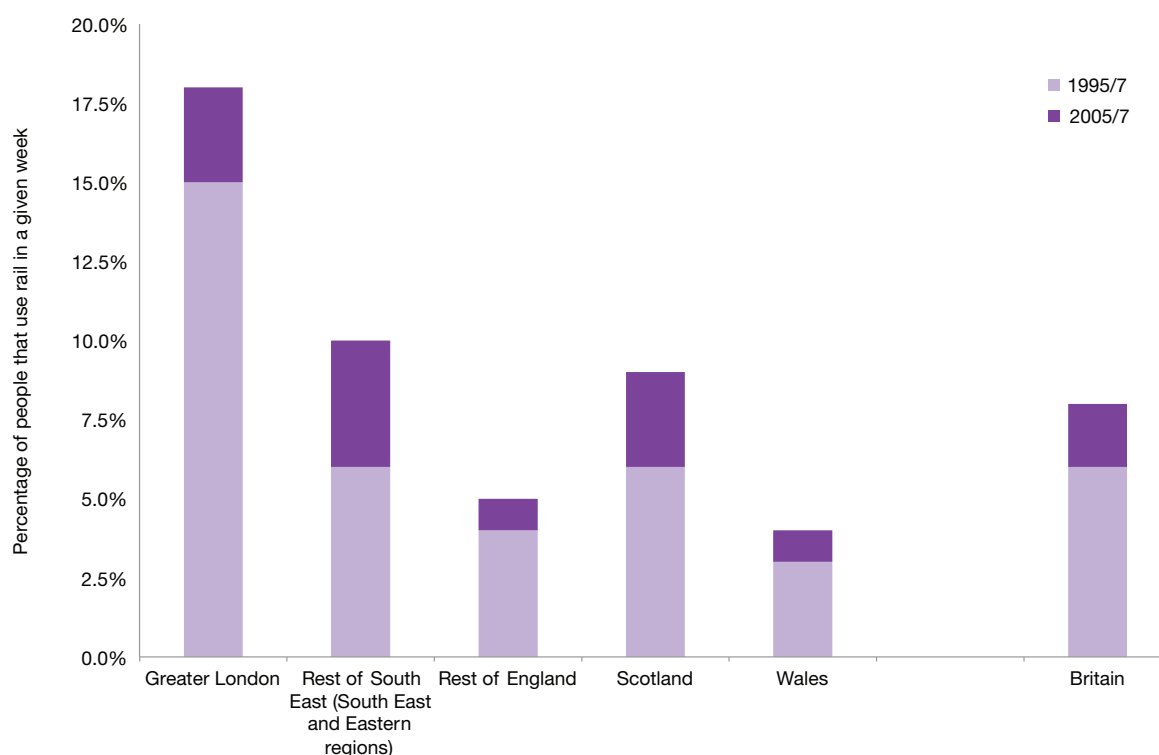
Does 'peak car' exist?

19. The aggregated traffic trends for Britain seem to show a 'peak car' phenomenon (the situation in which there is no increase over a sustained period of time – and in some cases an actual decline – in average car mileage per person, even during periods of economic growth), with car use levelling off per person since the 1990s. But a closer look finds that this is limited to specific groups and areas. It does not apply to women's car travel outside London, which has shown a steady increase between 1995/7 and 2005/7. Indeed, if we look just at private car use (excluding driving in company cars), then overall car travel per person outside London continued to grow up to the start of recession, and for those residents aged over 30 was flat in London rather than showing a steady decline.

Trends in rail travel

- 20.** The main conclusion concerning the increase in National Rail travel between 1995/7 and 2005/7 is that the growth in passenger kilometres of 50% per person is almost entirely explained by an expanding market base: the growth is due to higher proportions of the population travelling by train, rather than to existing users making more frequent or longer rail trips. The proportion of NTS respondents reporting at least one rail trip in their diary week rose from 6% in 1995/7 to 9% in 2005/7.
- 21.** Rail travel is growing both for men and women, with the largest increases for women in their 20s and men in their 40s without a full car driving licence. Usage is also growing in all parts of Britain, and outside London the proportion of the population travelling by train is increasing more in regions where rail usage was already relatively high in 1995/7.

Increase in the proportion of the population recording one or more rail trips in their diary week, 1995/7 to 2005/7, by region

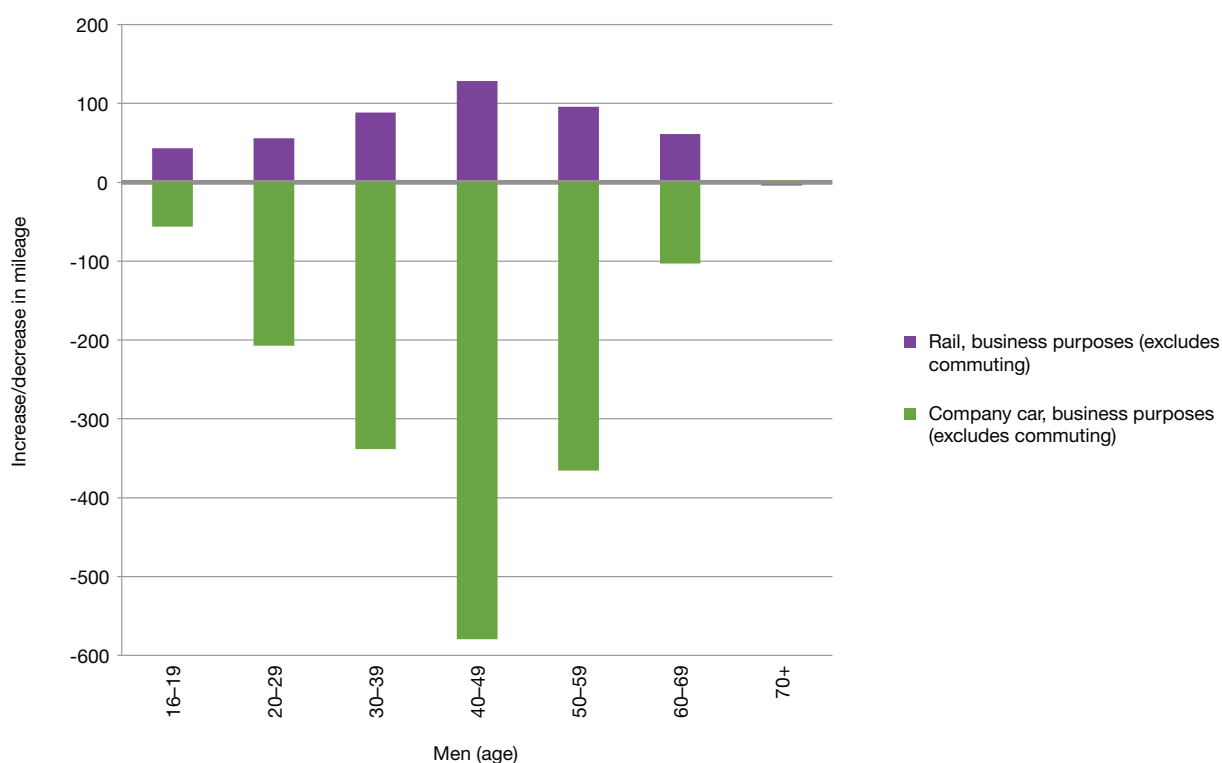


- 22.** The fastest growth in rail travel is for non-commuting business purposes (which rose by nearly 170% between 1995/7 and 2005/7). The strongest 'traditional' rail markets (i.e. commuting trips and travel to/from London) are growing, but not as fast as other rail markets; this means that they are declining in relative importance. In the case of the latter, the proportion of all National Rail journeys that are to/from or within London is down from 63% in 1995/7 to 57% in 2005/7.

Relationship between rail growth and car stagnation

23. For the specific group of men who live outside London but travel into the capital on two or more days a week for work-related purposes, we observe a switch of commuting mileage (on average around 1,250 miles per year) from company cars to rail.
24. There is evidence of some substitution of business travel by men between road and rail: for every four-mile reduction in company car travel for business purposes, we observe an increase of approximately one mile in business travel by rail.
25. Car drivers who also used rail during their diary week drove around 1,000 miles per year less than those drivers who did not travel by train.

Reductions in company car business mileage and increases in rail business mileage for men, by age group



Possible causes of these behavioural changes

26. Although definitively identifying the causes of the behavioural changes that we have documented in this report is beyond the scope of this study, we suggest a number of possible factors that are likely to be contributing – to varying degrees – to these observed changes in car and rail travel behaviour among the various population subgroups.
27. One instance where there does seem to be a clear link between government policy and a significant change in travel behaviour is in the use of company

cars. Figures from HM Revenue and Customs show that the notional taxable value of an employee being provided with free fuel for private use rose sharply during the late 1990s/early 2000s. This resulted in an 80% drop in the number of people declaring that they have been provided with both a company car and free fuel for private use. There has been a much smaller reduction in company car ownership where the arrangement is that the driver purchases their own fuel for non-business use.

- 28.** Otherwise, there seems to be no single straightforward explanation for the observed changes in car use and increases in rail patronage. Likely influencing factors include:
- increases in car running costs, ranging from higher insurance costs to oil price rises and higher parking charges;
 - income and GDP effects;
 - reductions in traffic speeds on some roads (due to higher traffic levels or lower speed limits), resulting in lengthening journey times;
 - reductions in effective road capacity for general traffic in urban areas (especially in Central and Inner London);
 - improvements to rail services and to other public transport services (particularly, though not exclusively, in London);
 - spatial planning policies, encouraging the reuse of brownfield sites and the application of the ‘sequential test’ (i.e. look for development sites in or close to the town centre first) to proposals for new commercial and retail development;
 - the impacts of a range of other government policies (e.g. ‘Smarter Choices’, which encourage behaviour change); and
 - improvements in broadband/mobile communications, possibly contributing to:
 - reductions in food shopping by car
 - reductions in visiting friends and relatives at home
 - reductions in business trips by car
 - increasing relative attractiveness of train travel.

Implications for future travel

- 29.** In general, very little of the observed aggregate change in car and rail travel is accounted for by the ongoing changes in the proportions of the population that fall in each age group, or that live in different types of area; most are due to changes in travel behaviour within groups, caused by external factors.
- 30.** How might the observed changes in behaviour develop in the future? The following scenarios give a broad indication of the likely magnitude and direction of some possible future developments, if they are taken to the extreme – this is certainly not an exhaustive list of possibilities:

- **Scenario 1: company cars.** Company car mileage dropped by nearly 40% between 1995/7 and 2005/7. If company car mileage were to disappear completely, without any corresponding increase in personal car mileage, then this would cut total national car mileage per person by a further 10%.
 - **Scenario 2: gender comparability.** If women's car use rose over time to the same levels as men's in 2005/7, right across the age spectrum, then this would add 35% to the average national car mileage per person.
 - **Scenario 3: generational change.** If those currently in their 20s (and younger) preserve their lower mobility characteristics as they age, then over time this would eventually imply a decrease in per-person driving mileage of approximately 20%, once it had worked its way through the population as all cohorts aged.
 - **Scenario 4: increases in rail market penetration.** How far can the base of the rail market keep increasing? In 2005/7, 18% of Londoners used surface rail during their diary week, up from 15% in 1995/7; outside London, this figure grew from 4% to 7%. If these proportions grew to, say, 20% of Londoners and 10% of those living in the rest of Great Britain, then per-person rail mileage would increase by around 40% from its 2005/7 level.
31. The possible changes illustrated above are from a 2005/7 base and are on a per-person basis. In other words, they do not take account of the effects of the expected national population growth of 18% in the 25 years from 2010, or of other developments such as changes in the age profile – which would tend to magnify the cumulative effects of increases in mileage per head and offset (to some extent) average reductions in mileage per head.
32. Recommendations are made for research to plug the remaining gaps in knowledge (for example, to investigate why 'Professionals' have seen the largest fall in company car mileage, and what is causing lower levels of car use among the migrant population), and to establish the factors causing the behavioural changes that have been identified.

Further information

33. The study team has produced the following reports:
- 'On the Move: Making sense of car and train travel trends in Britain'
 - A supporting technical compendium containing figures and tables that were prepared but have not been included in this summary report
 - 'Rail Demand Forecasting Using the Passenger Demand Forecasting Handbook'
 - 'National Rail Passenger Survey Data Analysis'
 - A report on trends in Scotland, using both NTS data and data from the Scottish Household Travel Survey

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