

## Roads Task Force - Technical Note 2

### What are the main trends and patterns for road traffic in London?

#### Introduction

This paper forms one of a series of thematic analyses, produced to contribute to the Roads Task Force Evidence Base. This paper reviews the main trends affecting general road traffic volumes in London over recent years.

#### Summary

- Motorised traffic volumes in London peaked in 1999, and have been falling steadily ever since.
- Annual motorised vehicle kilometres in London in 2011 were 11 per cent below the 1999 peak, despite a 15 per cent increase in London's population and a 14 per cent increase in total travel (trips) over this period.
- Motorised traffic declined at a faster rate in central London, down by 21 per cent since 2000. The equivalent falls in inner and outer London (where about 97 per cent of London's motorised traffic occurs) were 13 per cent and 8 per cent respectively.
- In contrast, motorised traffic in Great Britain continued to grow until 2007. Following three years of small declines to motorised traffic levels, GB traffic started to grow again in 2011.
- Since 2000, cars (including minicabs) have decreased – down by 37 per cent at the Central traffic counting cordon, 13 per cent at the Inner cordon and 2 per cent at the Outer cordon.
- Van flows have increased, up by 20 per cent at the outer cordon, 10 per cent at the inner cordon, and falling by just 3 per cent at the central cordon, as the proportion of other goods vehicles in traffic has declined.
- Cycling has grown dramatically, with an increase of 156 per cent in cyclists entering central London between 2000 and 2010. The overall share of traffic accounted for by cycling rose from 1 per cent in 2000 to just 2 per cent in 2010.
- There is evidence of 'peak spreading' for motorised traffic in London. As demand approaches capacity in the peaks, drivers increasingly elect to travel at off-peak times, although lifestyle factors such as increasing leisure trips and more flexible working will also be a factor. Motorised traffic volumes in the peaks therefore remain stable or fall, and the proportion of daily traffic during off-peak hours increases.

### Motorised Vehicle kilometres in London

Motorised vehicle kilometres in Greater London peaked at 32.7 billion per year in 1999, and have been falling steadily ever since (figure 1). In 2011, annual motorised vehicle kilometres were 11 per cent below the 1999 peak. Apart from a brief increase in 2006, motorised vehicle kilometres have been falling year-on-year since 1999.

Figure 1 Annual motorised vehicle kilometres in London.

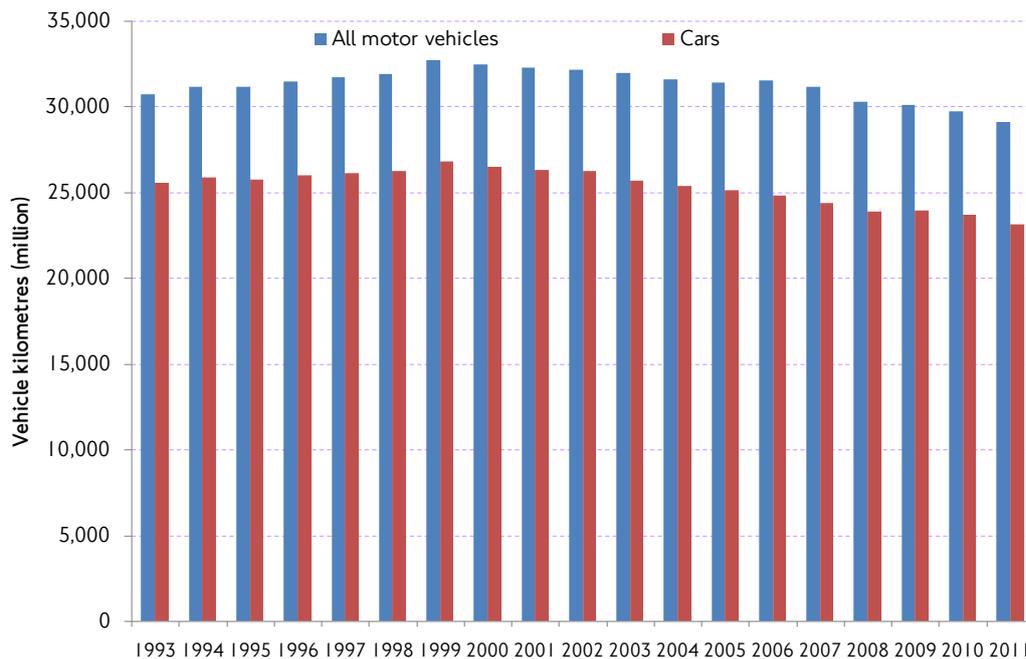
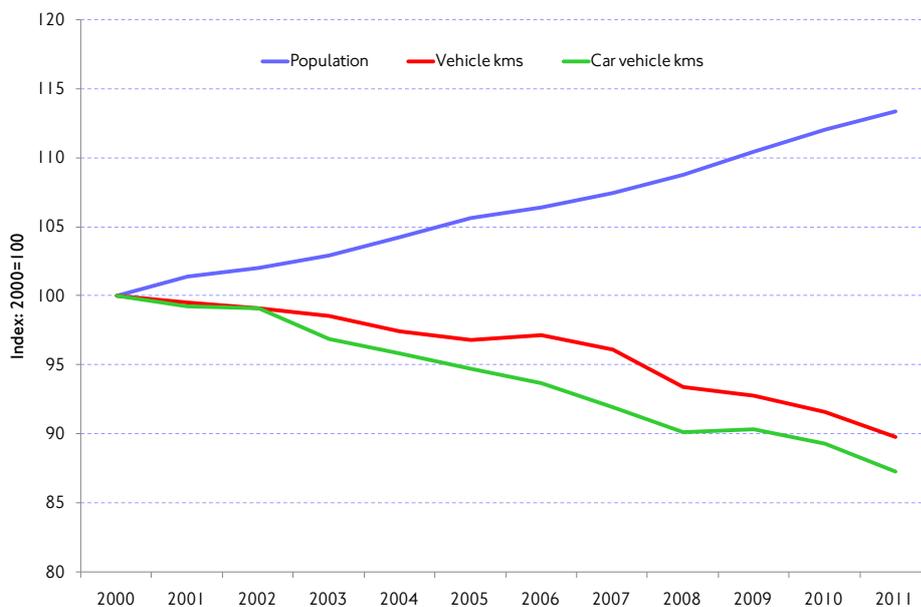


Figure 2 Population and traffic growth, index: 2000=100.



Car vehicle kilometres (including licensed taxis and private hire vehicles) have followed a similar trend to general motorised traffic, again peaking in 1999 and falling year-on-year ever since. Car vehicle kilometres were 14 per cent below the 1999 peak in 2011, despite a 15 per cent increase in London’s population over the same period (Figure 2).

Figure 3 shows how the relative proportion of cars in motorised traffic has changed since 1993. This proportion has gradually fallen over time, from 83 per cent of all traffic in 1993 to 79 per cent in 2011. This decline has been more prevalent in central and Inner London – in Inner London, the proportion of car traffic fell from 80 per cent in 2002 to 75 per cent in 2006, while in central London the proportion of car traffic is even lower, at 72 per cent.

Figure 3 Proportion of cars in total traffic by area.

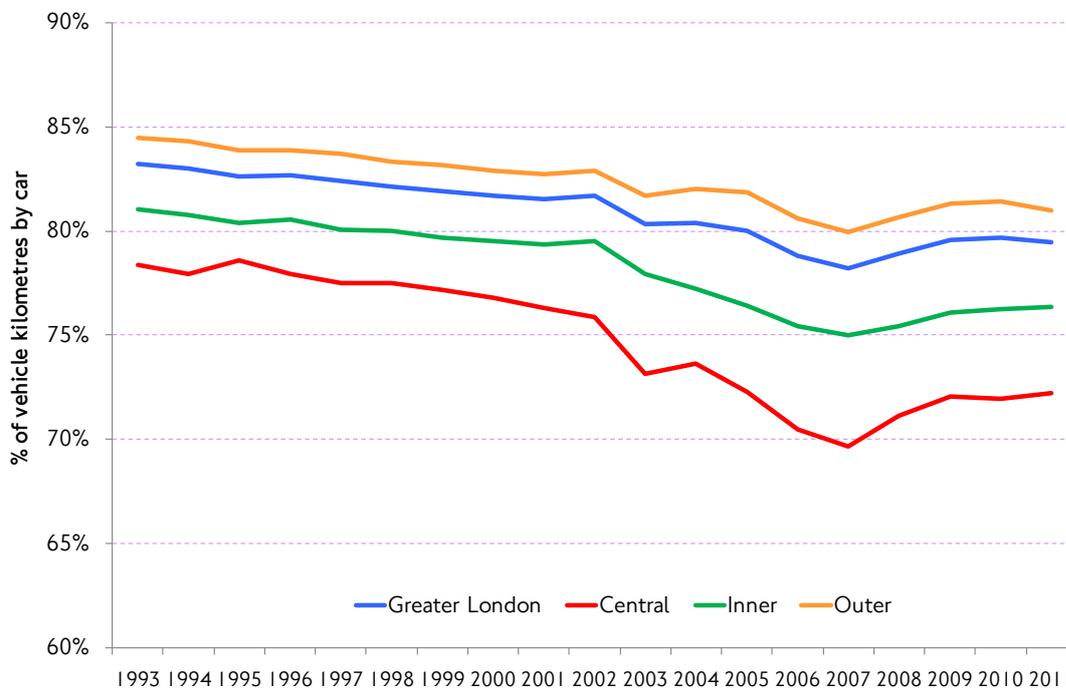


Figure 4 shows how motorised traffic has changed over time in different parts of London. The fall in motorised vehicle kilometres is most prevalent in central London, with motorised traffic now 21 per cent lower than in 2000. This partly reflects the introduction of congestion charging in 2003. Motorised traffic in Inner London is 13 per cent lower than in 2000, while the decline has been slower in Outer London, where motorised traffic levels are 8 per cent below 2000 levels.

### Changes in vehicle type composition – central, inner and outer London

TfL monitors vehicular traffic crossing ‘cordons’ surrounding central, inner and outer London. Since the year 2000, the number of motorised vehicles crossing the central cordon has decreased by 24 per cent.

Figure 4 Motorised vehicle kilometres by area, 2000 = 100.

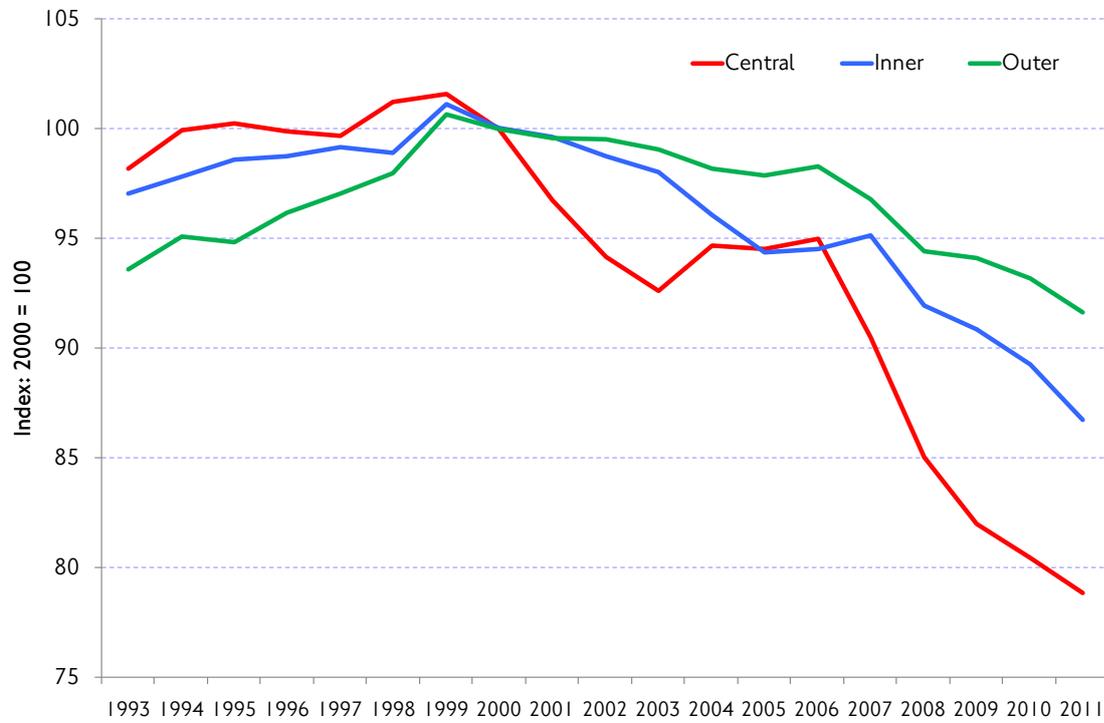


Figure 5 Motorised vehicles crossing the central cordon, Index: 2000=100 .

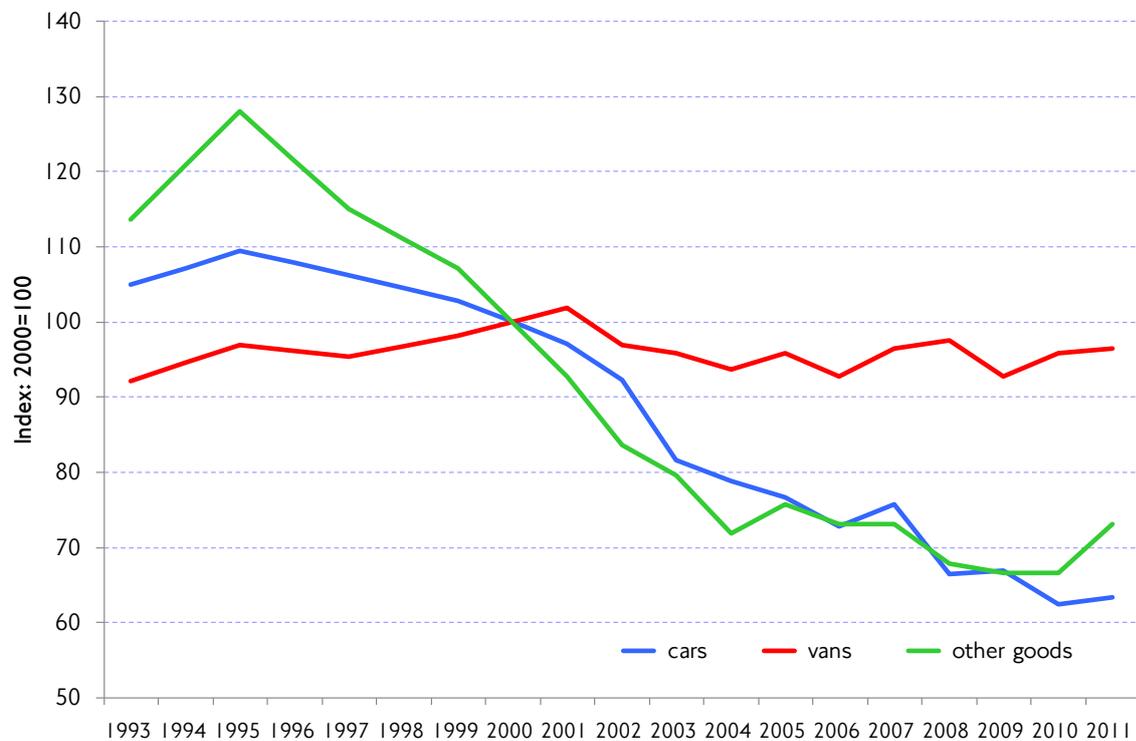
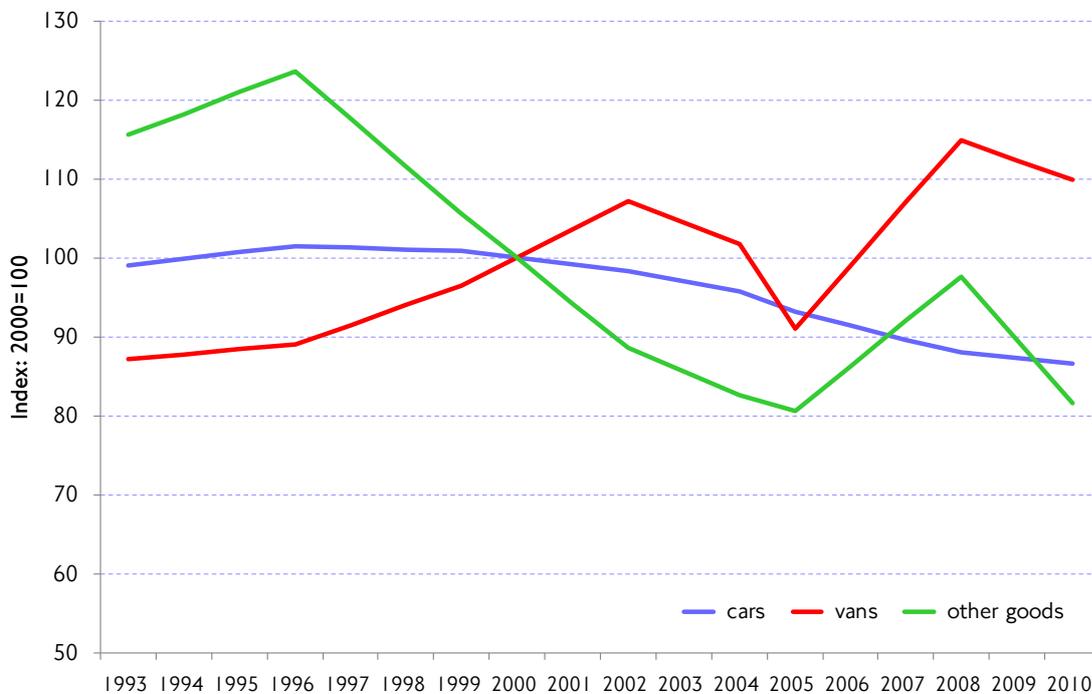


Figure 5 shows that this motorised traffic reduction has mainly been as a result of a decrease in both car and other goods vehicles, down by 37 and 27 per cent respectively. In contrast, the number of vans crossing the cordon has remained stable, down by only 3 per cent compared with 2000, with a slight increase since 2009.

The number of motorised vehicles crossing the Inner cordon (roughly corresponding to the North/South Circular roads) has also decreased, and is 10 per cent below the 2000 level. As with central London, this decline has been principally among cars and other goods vehicles, with numbers of motorised vehicles crossing the cordon down by 13 and 18 per cent respectively. Again, the trend for vans has been different, with the number of vans crossing the Inner cordon 10 per cent higher than in 2000.

Figure 6 Motorised vehicles crossing the Inner cordon, Index: 2000=100.



The number of vans crossing the London boundary cordon also increased, and is 20 per cent higher than in the year 2000. Again, the number of other goods vehicles declined, by 8 per cent. In contrast to other areas of London, the number of cars crossing the Boundary cordon remained relatively stable, and only started to decline with the onset of the recession in 2008.

There has also been a 20 per cent decline in motorised vehicles crossing the Thames since 2000. Again, this has been particularly pronounced amongst cars and other goods vehicles, which have declined by 26 and 29 per cent respectively. The number of vans crossing the Thames also decreased up until 2006, but has recently recovered and is now only 4 per cent below 2000 levels.

Figure 7 Motorised vehicles crossing the Outer cordon, Index: 2000=100.

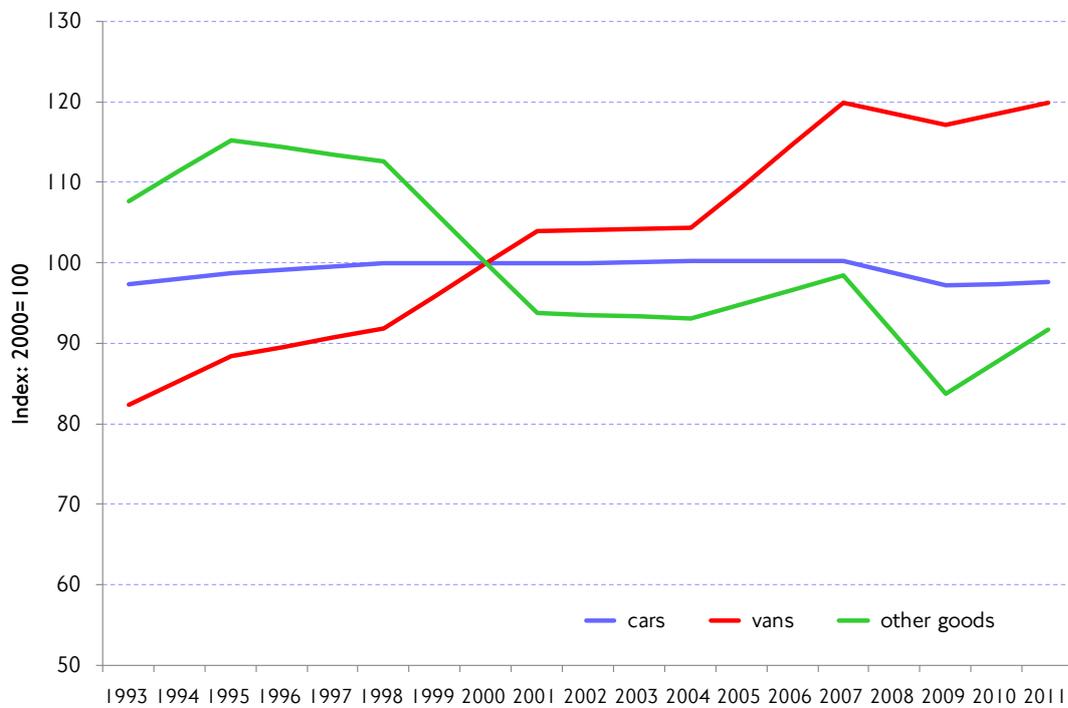
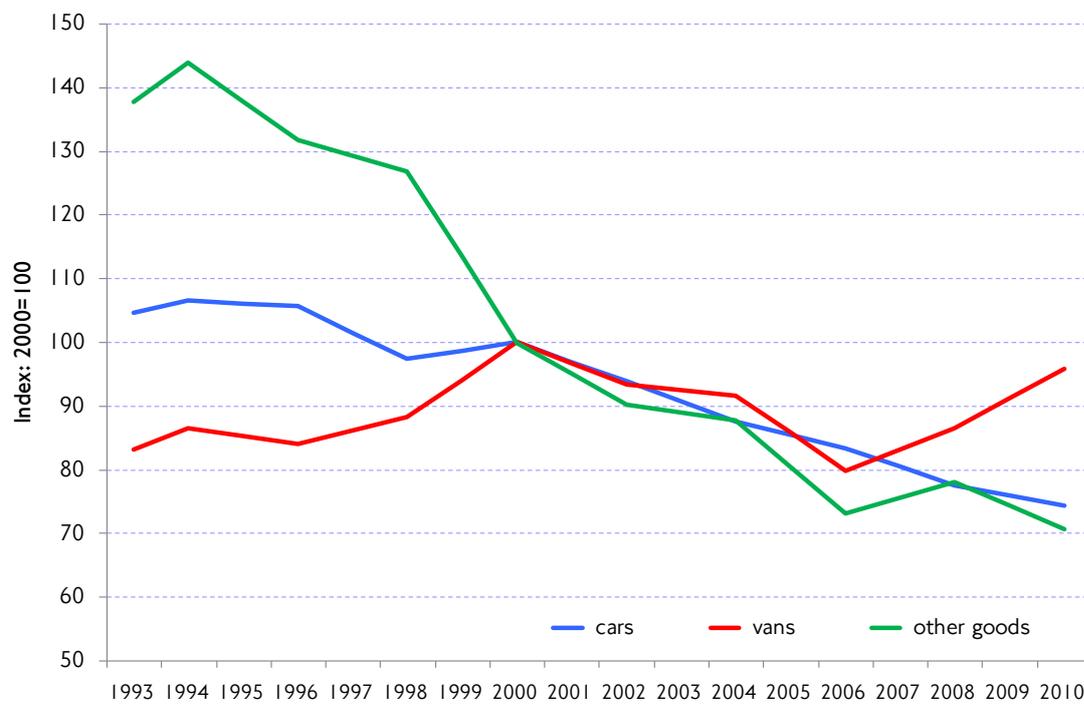


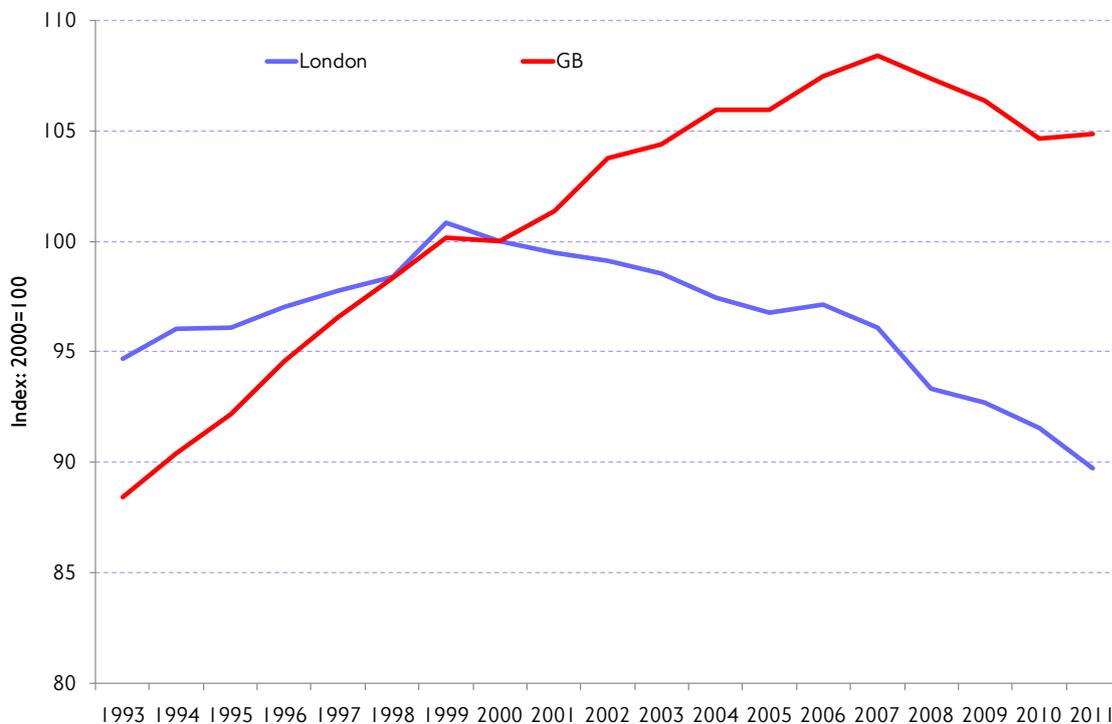
Figure 8 Motorised vehicles crossing the Thames screenline, Index: 2000=100,



### How motorised traffic trends in London differ from the rest of the country

Figure 9 shows how motorised traffic has changed over time, both in London and the whole of Great Britain. While motorised traffic levels peaked in London in 1999, motorised traffic in Great Britain continued to grow year-on-year until the start of the recession in 2008. After three years of declining motorised traffic levels, the latest year (2011) shows a slight increase, with motorised traffic levels in Great Britain in 2011 5 per cent higher than in 2000. Splitting this 5 per cent increase in all motorised traffic in Great Britain by vehicle type reveals similar trends to those seen in London; Goods vehicle traffic has decreased by 9 per cent since 2000, while van traffic increased by 28 per cent over the same period.

Figure 9 Motorised traffic trends, London and Great Britain. Index: 2000=100.

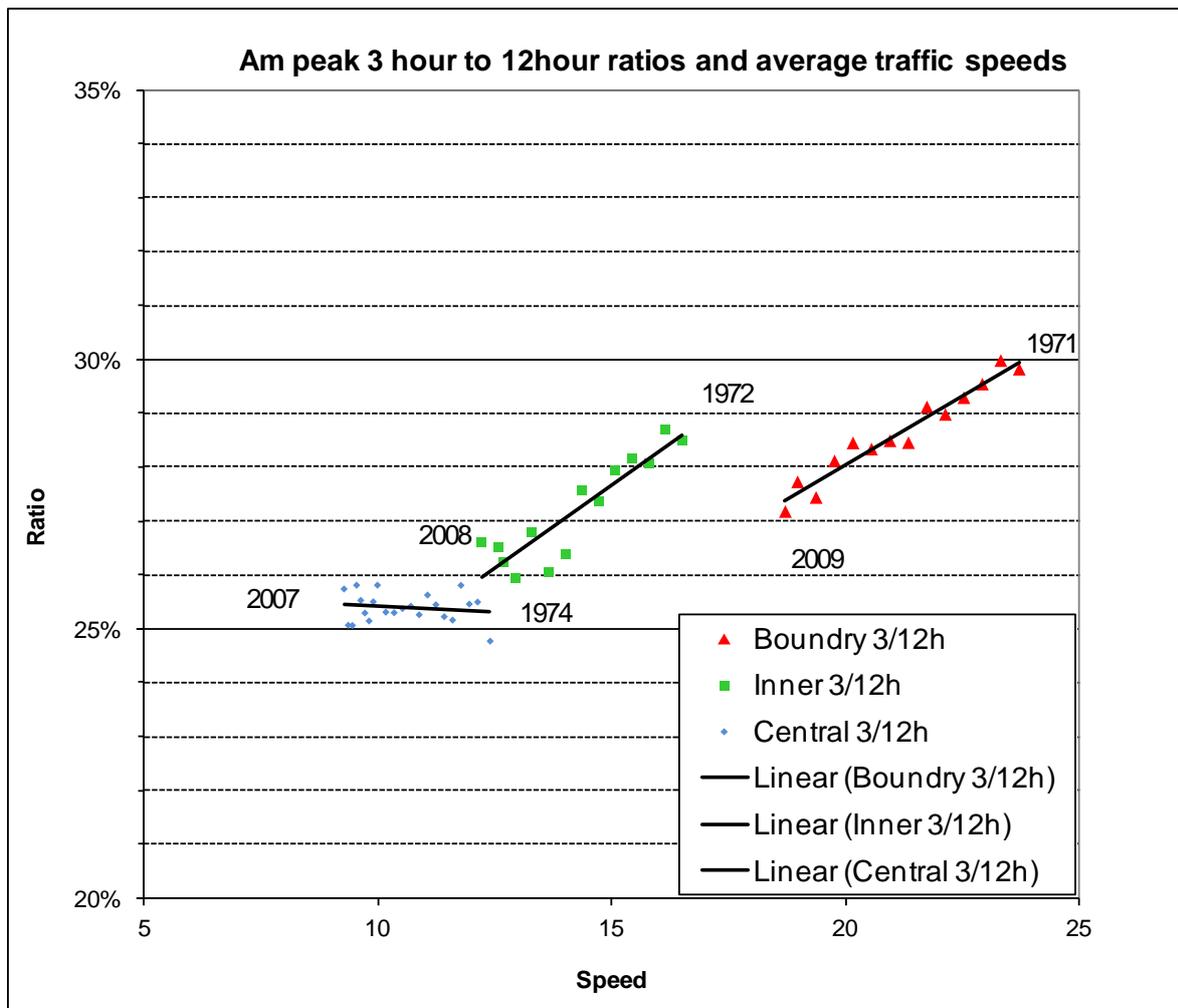


### Time of day – peak spreading

There is evidence of ‘peak spreading’ of motorised traffic in London. As roads become more congested and cannot accommodate more motorised traffic during the peak periods, drivers elect to travel at off-peak times. This has happened in parallel with an increase in off-peak travel volumes due to ‘lifestyle’ factors such as increased leisure travel and the ‘night-time economy’. The volumes of motorised traffic occurring in the peak remain relatively stable, or decline as capacity is removed (and speeds fall), with corresponding increases in motorised traffic during the off peak, where spare capacity still remains. Figure 10 shows this trend for central, inner and outer London over the past 40 years. It is notable that the trend for central London is flat – central London experiences ‘all-day’ congestion, with off-peak motorised traffic levels comparable to those of the AM peak, and has done so for many years. Similar

relationships can be seen in the ratio of motorised traffic occurring in the 12 'daytime' hours compared with that occurring in the 12 'night-time' hours.

Figure 10 Peak spreading – ratio of 3 hour AM peak period flows to 12 hour (daytime) flows.



### Contributing factors towards these trends

There are a number of reasons why these trends in motorised traffic levels have occurred in London, contrary to the prevailing national trends. These are explored further in other Notes in this series.