

Roads Task Force - Technical Note 4

How has cycling grown in London and how will it grow in future?

Introduction

This paper forms one of a series of thematic analyses, produced to contribute to the Roads Task Force Evidence Base. It describes the growth in cycle travel in London to date and the expected growth in future. It looks at cycle travel in terms of journeys and traffic flow.

Summary

- Currently, around 570k cycle journey stages are made daily on London's roads (2011) and 2 per cent of all journeys in London are made by bicycle.
- Cycle travel is not evenly distributed across London's road network and has grown faster on the TLRN than on other roads.
- In some locations, cyclists account for a significant proportion of the traffic. Cycle traffic is rising fast on the central London Thames road crossings, and counts carried out in the City of London in October 2012 found that cyclists accounted for around a third of the vehicular traffic in the morning and evening peaks.
- Cycle mode shares, both as a proportion of traffic on the roads or of journeys by all modes, are higher in central and inner London than outer London, although the outer boroughs in the south west have cycle shares commensurate with inner London.
- 2011 Census data shows that London contains seven of the top 20 boroughs in terms of cycle mode share. Notably, however, whilst inner London had seen strong growth in cycling to work, in outer London the share of cycle travel is flat or has fallen somewhat.
- The Mayor has set a target to deliver a 400 per cent increase (from 2001) in the number of cycle journeys and a 5 per cent mode share for cycling by 2026, equivalent to around 1.5 million cycle journeys every day in London.
- Cycle journeys grew by 79 per cent between 2001 and 2011, having remained broadly unchanged between 1993 and 2001. If growth continues at this rate, the Mayor's target will be met.
- Cyclists already account for a significant proportion of road traffic in some locations. As cycling grows, cycles will become a major mode on an increasing number of roads in London, and future plans for the road network will need to take this into account.

Background

The Mayor has set a target to deliver a 400 per cent increase (from 2001) in the number of cycle journeys and a 5 per cent mode share for cycling by 2026. This equates to somewhere between 1.5 and 1.6 million journey stages being made per day by bike in 2026. It is assumed the cycling would continue to grow beyond 2026; if the mode share doubled by 2050 to 10 per cent, which is broadly equivalent to the mode share of Berlin, this might equate to around 3.5 million cycle journeys on an average day across London.

The amount of cycling in London varies significantly by area, and it is likely that the level of growth may also vary substantially by area, reflecting the travel patterns and characteristics of the local population.

This note describes growth to date, pan-London and, where possible, on a more local basis, and also explores growth expectations for the future.

Growth in cycle journeys to date

It is estimated that cycle journey stages grew by 79 per cent between 2001 and 2011 having remained broadly unchanged between 1993 and 2001. There were an estimated 570k cycle journey stages per day in 2011, 5.2 per cent more than in 2010. In total, 2 per cent of journeys were made by bicycle on an average day in London.

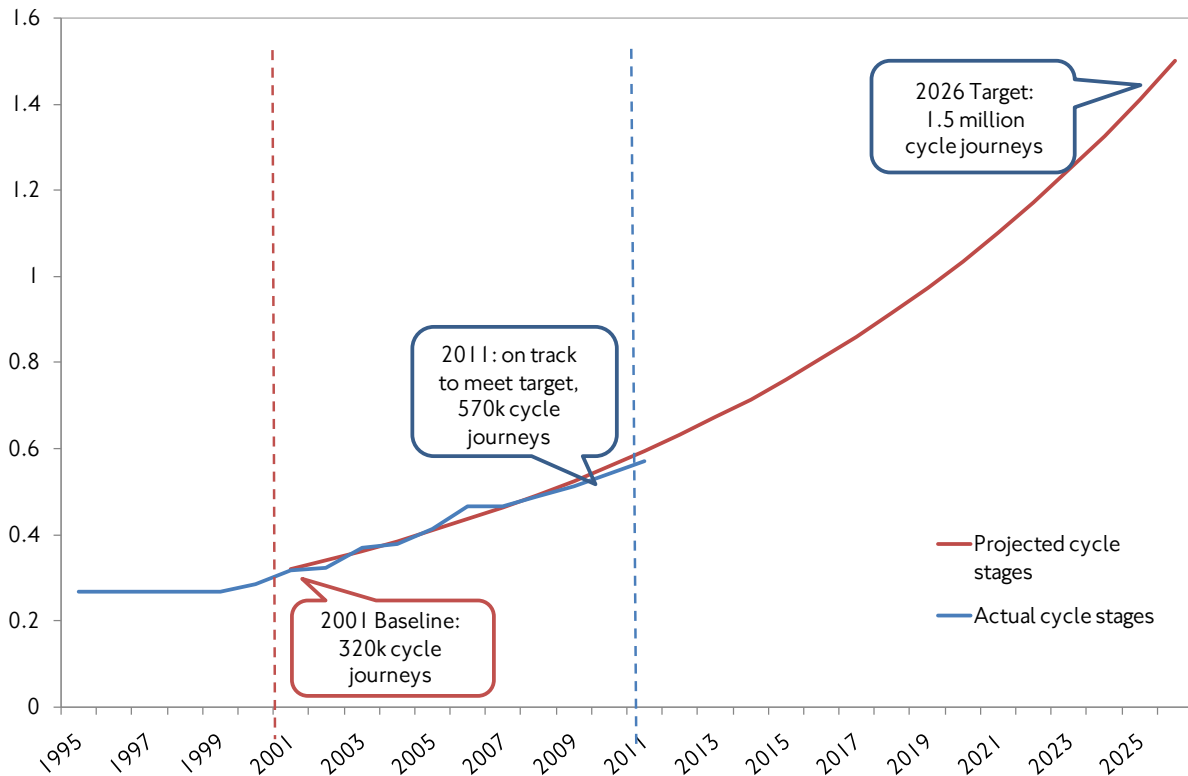
Table 1 Daily average cycle stages and trips in London.

	Cycle stages		Cycle trips
	Millions	year on year change %	Millions
2000	0.29	6	0.27
2001	0.32	12	0.30
2002	0.32	1	0.30
2003	0.37	14	0.32
2004	0.38	3	0.33
2005	0.41	9	0.39
2006	0.47	12	0.42
2007	0.47	-	0.42
2008	0.49	5	0.44
2009	0.51	5	0.47
2010	0.54	6	0.49
2011	0.57	5	0.50

Source: TfL Group Planning, Strategic Analysis.

As shown in Figure 1, if growth is sustained at broadly the current rate, the target will be met, based on assumed year-on-year growth of around 6 per cent. Of course, in reality, it is likely that growth will vary year-on-year, reflecting investment and factors such as weather patterns.

Figure 1 A comparison of growth in cycling to date and an estimated growth trajectory to meet the Mayor's target in 2026.

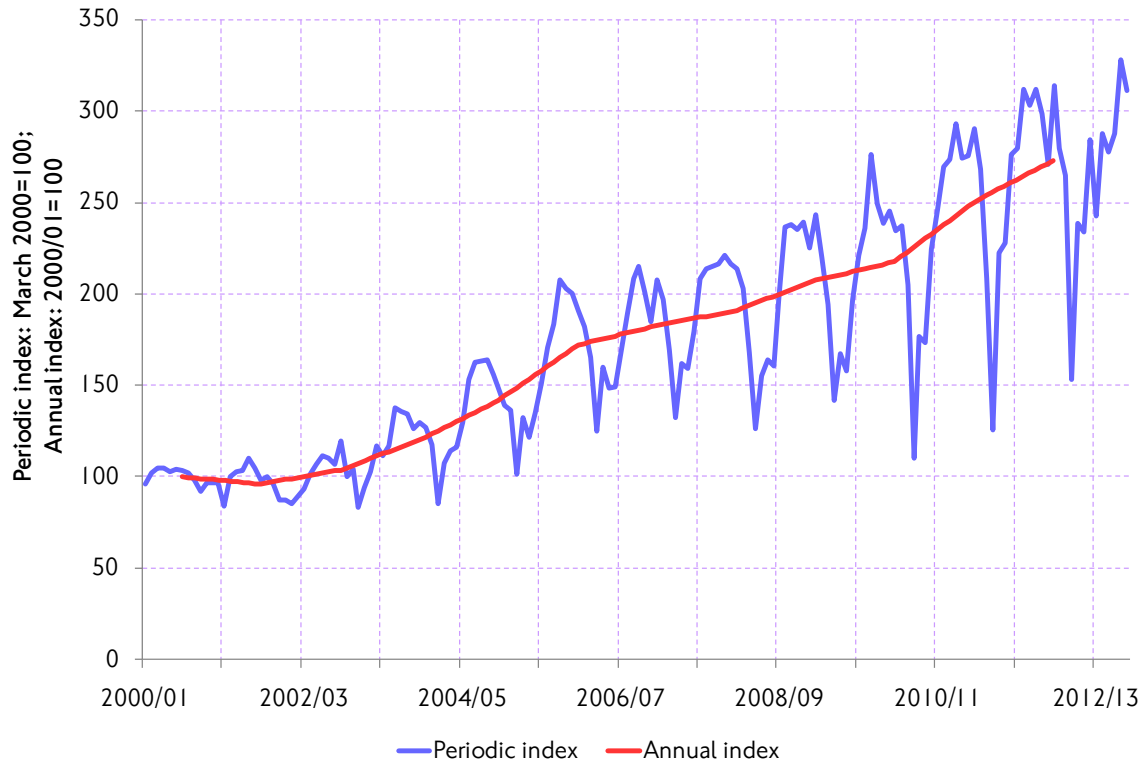


Source: TfL Group Planning, Strategic Analysis.

Growth in cycle traffic by area

Cycle flows on the Transport for London Road Network (TLRN) have increased by 173 per cent between 2000/01 and 2011/12 and increased by 9 per cent in the last year to March 2012 (see Figure 2). There are clear seasonal variations in cycling, with peaks and troughs in the series corresponding with summer and winter respectively.

Figure 2 Trends in cycle flows on the TLRN – annualised and periodic indices.



Source: TfL Surface Transport Delivery & Planning.

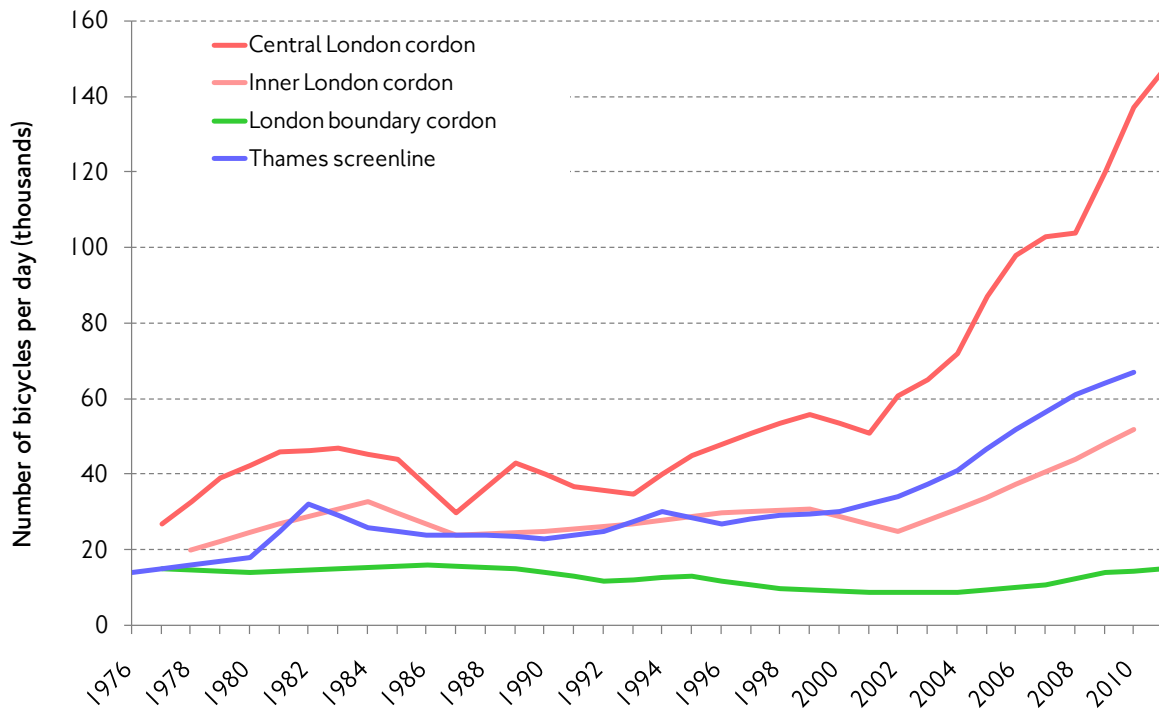
Figure 3 shows cycle flows crossing the three strategic counting cordons in London between 1976 and 2011. These data are the total number of cycles crossing the cordon in a full weekday (24-hours). Surveys are taken at the same time of year, to ensure there is no seasonal bias.

It is evident that both cycle travel and growth in cycling has been concentrated in the centre of London. Cycle flows crossing the central London cordon increased by 188 per cent between 2001 and 2011. 147,000 cycles crossed the cordon on an average day in 2011, 11 per cent of total vehicular traffic. In comparison, cars accounted for 47 per cent of vehicular traffic, vans 14 per cent, and Medium and Heavy Goods Vehicles 4 per cent.

In comparison, cycles accounted for 3 per cent of traffic crossing the inner cordon in 2010, with flows having increased by 108 per cent since 2002. At the London boundary cordon, cycles accounted for 1 per cent of vehicular traffic and flows had increased by 67 per cent since 2001.

Figure 3 also shows cycle flows crossing the Thames Screenline. Cycles accounted for 8 per cent of traffic crossing the Thames in 2010, an increase of 123 per cent since 2000. Note that pedestrian and cycle-only counts have also been conducted in 2011 and 2012 to monitor the Olympics, not presented here as they are not part of the longitudinal series.

Figure 3 Long-term trends in cycling across strategic cordons and screenlines in London, 24-hour weekdays, both directions.



Source: TfL Surface Transport.

Focus on cycle commuting to and from central London

Much cycling in London involves travel to, from or within central London, and the highest growth has been seen in this area in recent years, reflecting the introduction of Barclays Cycle Hire in 2010, and the launch of the first four of twelve intended Barclays Cycle Superhighways, providing fast, safe and direct routes into the centre.

In particular, London residents are more likely to cycle to work than for other purposes, and central London workers are more likely to commute by bike than those working elsewhere in London.

Six per cent of London residents working in central London cycle as their main mode of travel to work, and a further 2 per cent cycle part of the way (based on London Travel Demand Survey 2008/09 – 2010/11). In comparison, 4 per cent of those working in inner London and 3 per cent of those working in outer London cycle as their main mode of travel to work. In total, 5 per cent of those working in the City of London, 6 per cent working in Westminster and 7 per cent working in Hackney cycled as their main mode of travel to work.

In the morning peak in Autumn 2012, cycles accounted for 26 per cent of all vehicular traffic crossing the central London cordon inbound to central London and for 22 per cent of vehicular traffic heading out of central London in the evening peak.

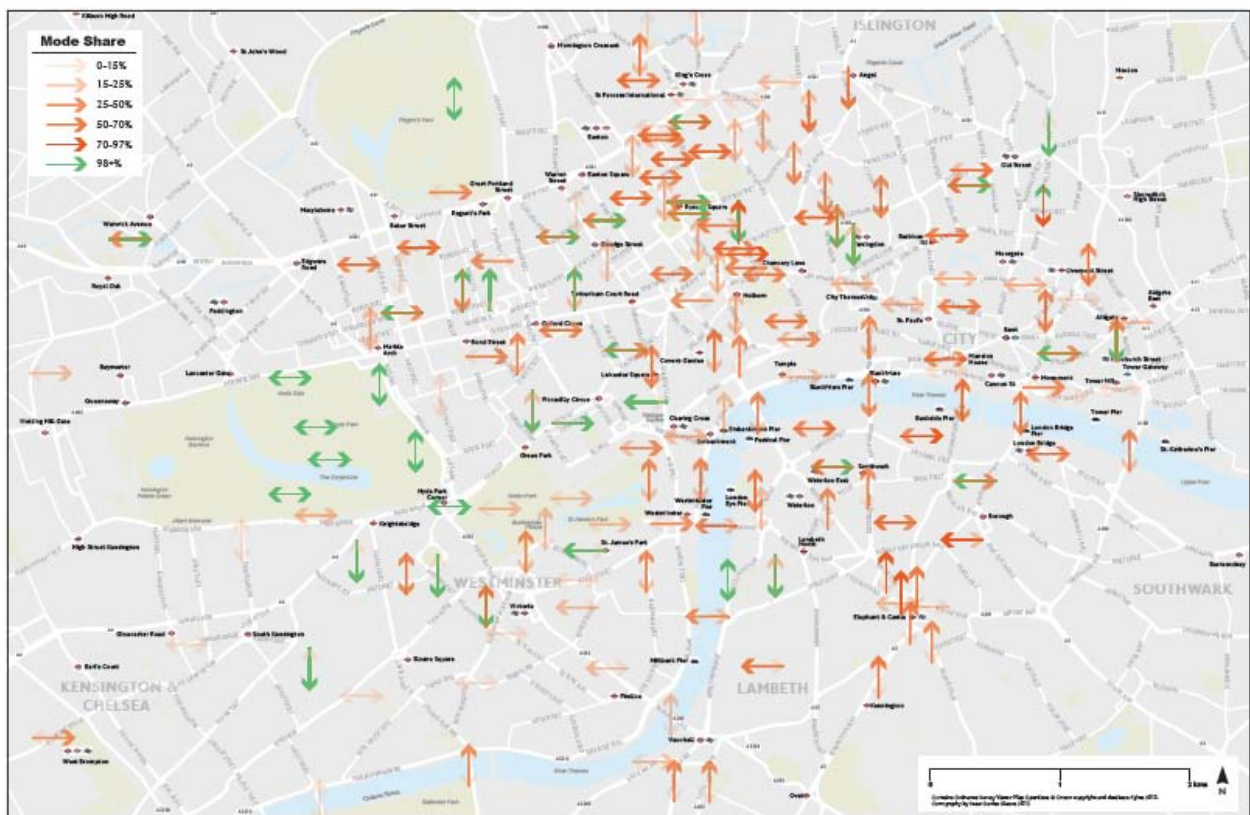
In total, cyclists account for 3 per cent of people entering central London in the morning peak by all modes. The number of cyclists entering central London in the morning peak has increased by 177 per cent since 2001, from 12.1k in 2001 to 33.5k in 2011.

The number of cyclists crossing the Thames on an average weekday in central London increased by 10 per cent between 2010 and 2011, and by another 24 per cent in the Olympic summer of 2012. Counts undertaken by TfL in April 2013 found that cycles made up 62 per cent of Northbound vehicular traffic on Southwark Bridge in the morning peak. Cycles were the single largest mode crossing Northbound in the morning peak at London Bridge (47 per cent), Waterloo Bridge (44 per cent) and Blackfriars Bridge (43 per cent). In total, 45,100 cyclists crossed the central London Thames bridges (between Albert and Tower Bridges) heading North and 23,800 crossed heading South in the morning peak (7am-10am).

Manual cycle counts conducted by the City of London in October 2012 found that cycles made up 35 per cent of vehicular traffic in the morning peak and 43 per cent in the peak hour of 8am to 9am across all sites. On some roads, more than 50 per cent of the vehicular traffic was bicycles.

Figure 4 shows cycles as a share of all traffic at a series of locations counted in April 2013.

Figure 4 Cycles as a share of all traffic, morning peak (7am-10am).



Source: TfL Group Planning.

Cycle travel by borough

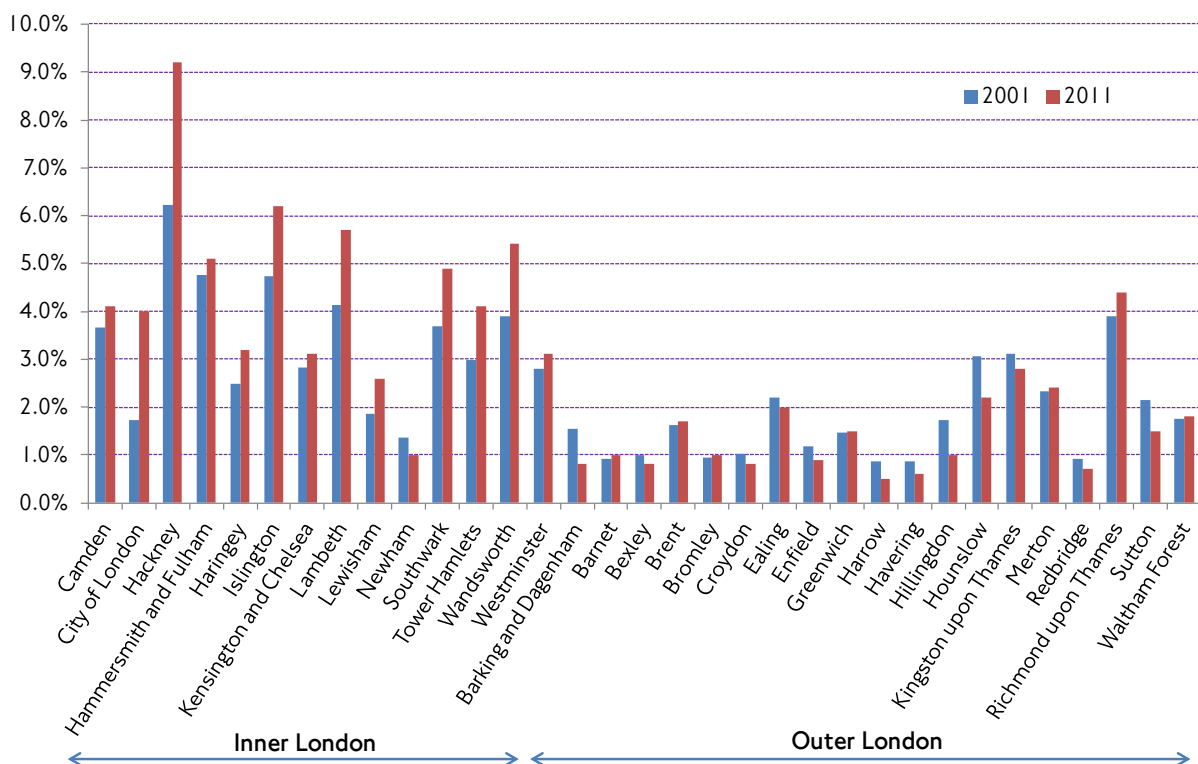
The Census 2011 found that 2.6 per cent of London residents cycle to work (as their main mode), 4.4 per cent of inner London residents and 1.4 per cent of outer London residents. The borough with the highest proportion of residents who cycled to work was Hackney, where nearly one in ten employed residents commute by bike (9.2 per cent).

Several boroughs had a cycle to work mode share of 5 per cent or more: Islington, Lambeth, Wandsworth, Hammersmith & Fulham, Southwark. The borough with the highest cycle to work mode share in outer London was Richmond upon Thames (4.4 per cent). London has 7 of the top 20 boroughs nationally in terms of their cycle to work mode share.

In comparison with 2001, the cycle mode share for travel to work has grown substantially in most inner London boroughs (with the exception of Newham) but has remained stable or fallen somewhat in most outer London boroughs. The highest growth has been seen in Hackney (48 per cent) and Lewisham (41 per cent).

Figure 5 presents the cycle mode share for travel to work, by borough of residence, as per the 2001 and 2011 Census.

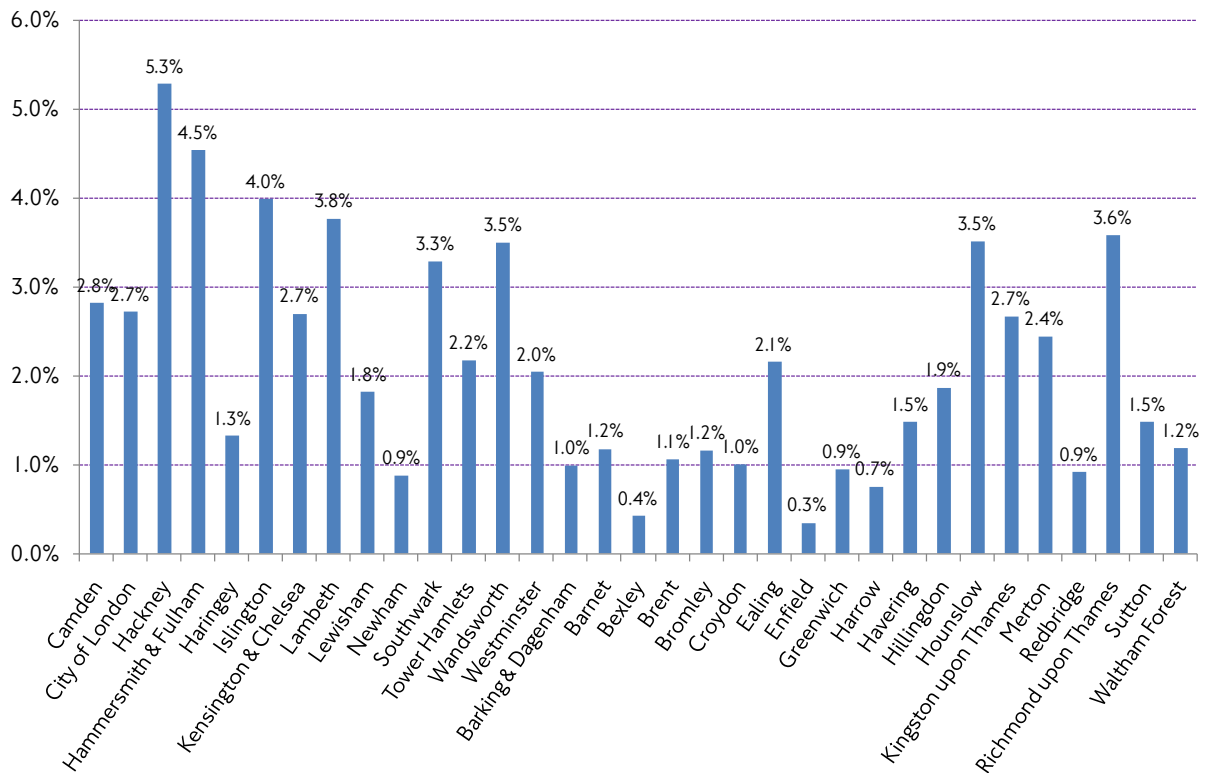
Figure 5 Mode share for cycling as main mode of travel to work, by borough of residence, Census 2001 and 2011.



Source: Office of National Statistics.

Finally, Figure 6 shows the cycling as a proportion of all journeys by borough of origin, for London residents only. Cycling makes up a greater proportion of journeys with an origin in inner than outer London, with the highest mode shares seen in Hackney (5.3 per cent), Hammersmith and Fulham (4.5 per cent) and Islington (4 per cent). In outer London, the boroughs with the highest cycle mode share are Richmond upon Thames and Hounslow (3.6 per cent and 3.5 per cent respectively). The share of cycling is 18 times higher in Hackney than it is in Enfield, where just 0.3 per cent of all journeys are made by bicycle.

Figure 6 Londoners' trips by borough of origin, cycle mode share, average day (seven-day week) 2008/09 to 2010/11.



Source: London Travel Demand Survey 2009/10 – 2011/12.

Implications for the Roads Task Force

Although the Mayor's target is that 5 per cent of journeys by 2026 will be made by cycle, in some locations, we can expect this proportion to be much greater.

Cycling is already a significant mode on the central London road network: cycles account for 11 per cent of vehicular traffic crossing the central London cordon throughout the day and as much as 17 per cent in the morning peak. In some locations, cycles account for more than 50 per cent of vehicles on the road in peak periods. Currently, this phenomenon is concentrated in central London but as cycling grows we can expect it to spread more widely. Increasingly, cycles will account for a significant proportion of the traffic on many of London's roads.

Thus, it is important that the design of the future network takes proper account of the need to accommodate and facilitate the needs of cyclists, both now and in the future.

References

TfL (2008-2012) Travel in London reports 1 to 5, London: TfL

TfL (2008) Analysis of Cycling Potential, London: TfL

ONS (2013) 2011 Census, Key Statistics and Quick Statistics for Wards and Output Areas in England and Wales, Newport, Wales: ONS