

Cycle Helmet Wearing in 2008

Abstract

An observational survey of pedal cycle helmet wearing rates was undertaken in 2008 on behalf of the Department for Transport. This was the seventh in a series of surveys that began in 1994; TRL was commissioned to conduct this survey, with Accent collecting the survey data. The surveys enable DfT to assess changes over time in wearing rate patterns and to inform policy on the use of cycle helmets. The survey involved observations at 79 fixed locations on major built-up roads and at 20 locations on minor built-up roads around Great Britain.

Main findings

The 2008 survey on major built-up roads showed that:

- Cycle helmet wearing was 34.3%. This is an increase from 30.7% in 2006 and follows the trend of an increase in cycle helmet wearing each year that the survey has been carried out since 1994, when it was 16.0%.
- The increase was accounted for by the increase in adults (both male and female) wearing helmets at 35.3%, as there was no change to the child helmet wearing rate at 17.6% and the rate for male child cyclists actually declined to 13.1%.
- As in previous surveys, the cycle helmet wearing rates at the London sites were significantly higher at 69.5% than sites outside London at 29.9%. For adult cyclists in London, the strongest effect on wearing rate was time of day, with cyclists more likely to wear a helmet at peak times. Adult cyclists in other cities on weekdays were more likely to wear a helmet at peak times in wet weather.

The 2008 survey on minor built-up roads showed that:

- The overall wearing rate has increased to 16.7% from 13.8% in 2006. The rate has increased each year that the survey has been carried out since 1999.
- When analysing the data by age and gender, the helmet wearing rate for boys aged 11–16 decreased to 7.0% and the rate for boys aged 7–10 is still low at 11.6%.
- The wearing rate for adult cyclists was 18.2%, compared to 12.0% for child cyclists. Female children were most likely to wear a helmet, followed by female adults, male adults, and male children.

Background

The Department for Transport commissioned Accent and TRL to undertake a survey of cycle helmet wearing rates in 2008 that built on the six previous surveys. Accent carried out data collection, while TRL analysed the survey data.

The observational surveys carried out at sites on major built-up roads were originally selected for their high cycle flows. The survey was first carried out in 1994, and surveys on minor built-up roads were added in 1999 to increase the sample of child cyclists, which were over-represented in this survey and so successfully balanced the under-representation at major built-up roads.

The two surveys were not intended to produce a nationally representative wearing rate, but rather to measure trends over time. The objectives of the 2008 surveys were:

- To ascertain cycle helmet wearing rates on major and minor built-up roads in 2008, building on previous surveys;
- To identify and deliver any improvements to previous surveys, in terms of methodology and/or implementation;
- To report the findings of the major and minor built-up roads in a format that is consistent with previous reports, including analysis of differences by age, gender and other factors; and
- To report changes in wearing rates over time by comparing results with previous surveys.

Research findings

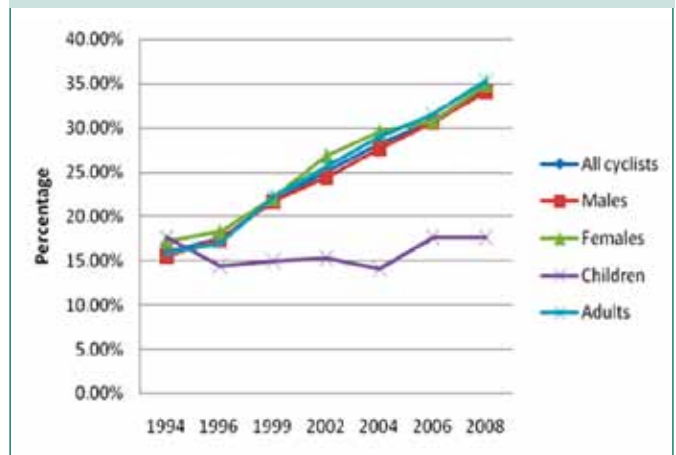
Major built-up roads survey: overall

- 20,034 cyclists were observed at the sites previously surveyed. (A total of 20,063 cyclists were observed, but 29 were excluded from all analyses, as it was not recorded whether or not they were wearing a helmet.) Of these cyclists, 34.3% were wearing helmets.
- The overall wearing rate of 34.3% has increased from the wearing rate of 30.7% observed in the 2006 survey. However, the rise is due to an increased proportion of (both male and female) adult cyclists wearing helmets, as the wearing rate for child cyclists was the same in 2006 and 2008. Figure 1 shows the wearing rates between 1994 and 2008 by age and gender.

Major built-up roads survey: cyclist characteristics

- The adult cycle helmet wearing rate of 35.3% was significantly greater than the 17.6%

Figure 1: Changes in wearing rate on major built-up roads over time



observed among children. The proportion of adult cyclists wearing helmets has significantly increased from 31.5% in 2006 to 35.3%. The proportion of children wearing a helmet while cycling has remained at 17.6% in 2008.

- There was no difference between the wearing rates of male and female cyclists overall or between adult cyclists. The wearing rate of adult males significantly increased from 31.8% in 2006 to 35.4% in 2008, and adult females increased from 30.9% to 35.0%.
- The wearing rate for female children cyclists in 2008 is 32.9%, increased from 1994, when it was 22.9%. The wearing rate for male children cyclists in 2008 is 13.1%, which is lower than the 16.0% in the first survey in 1994. The difference between male and female child cyclists is significant.
- White cyclists were more likely to be wearing a cycle helmet (35.4%). The wearing rate for cyclists of 'other' origin (i.e. not Black, White or Asian) was 16.9% and south Asian was 20.2%, and these were the groups least likely to be wearing a helmet.

Table 1: Wearing rate by peak/off-peak

Year	Peak (%)	Off-peak (%)
1994	19.4	11.3
1996	20.9	13.2
1999	26.0	15.0
2002	29.6	16.8
2004	34.7	18.0
2006	34.4	24.0
2008	40.7	24.6

Major built-up roads survey: type of bike, cycling conditions and location

- Helmet wearing varied according to type of bike ridden. Of those on racing bikes, 56.0% wore a helmet, compared with 41.2% on 'other' bikes (i.e. not a racer, mountain/BMX or traditional town bike), 32.6% on mountain bike/BMXs and 24.3% on traditional town bikes.
- Helmets were worn by 24.6% of those observed during weekday off-peak times and 40.7% of those observed during peak times
- Table 1 shows that the wearing rate has increased in peak and off-peak periods since 1994 and that the wearing rate in peak periods remains higher than in off-peak periods.
- The wearing rate was 52.1% for the 188 cyclists on recreational routes, which were excluded from the main peak/off-peak analysis during the weekday survey.
- A difference was found due to weather, with a wearing rate of 35.3% found in rain, 33.0% in dry weather and 51.8% in mixed weather.
- The cycle helmet wearing rate in central London (69.5%) was more than double that for sites outside of London (29.9%), replicating findings from previous surveys.
- More cyclists wore helmets on recreational routes (52.1%) than at other sites (34.2%).

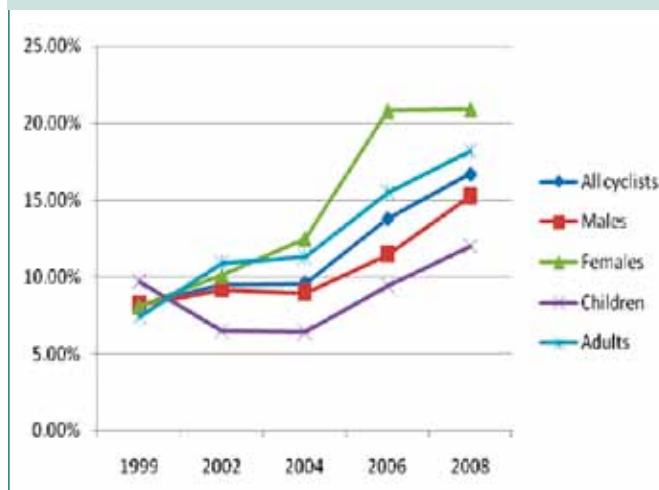
Minor built-up roads survey: overall

- 4,699 cyclists were observed in the 2008 survey, 16.7% of whom were wearing a cycle helmet. (A total of 4,741 cyclists were observed, but 42 were excluded from all analyses, as it was not recorded whether or not they were wearing a helmet.) The increase from the 13.8% wearing rate in 2006 was statistically significant. Figure 2 shows the changes in cycle helmet wearing rates over time by age and gender.

Minor built-up roads survey: cyclist characteristics

- The wearing rate for male cyclists in 2008 of 15.3% was greater than the wearing rate in 1999 of 8.2%, and the rate for female cyclists has increased from 8.1% in 1999 to 20.9% in 2008.
- While the adult male wearing rate has significantly increased from 13.4% in 2006 to 17.4% in 2008, the rate for adult females has decreased slightly but not statistically significantly to 20.7%.
- The cycle helmet wearing rate for child males

Figure 2: Changes in wearing rate on minor built-up roads over time



was 9.0% (significantly higher than 2006) and for child females was 22.0%.

- The cycle helmet wearing rate on minor built-up roads was significantly higher for children than for adults in the first survey of 1999, but this was reversed in all subsequent surveys, including the current survey. The wearing rate has increased from 1999 to 2008 among children and adults.
- Male children aged 7–16 continue to be less likely to wear a cycle helmet than all other groups. Although the wearing rate for boys aged 7–16 decreased between 1999 and 2004, it has increased since 2004.
- Cyclists of white ethnic origin are more likely to wear a helmet than other ethnic groups, but only significant for adult cyclists.

Minor built-up roads survey: type of bike, cycling conditions and location

- There was a significant difference between the helmet wearing rates of children riding different types of bike. Of those riding a racing bike, 30.4% wore a helmet. For mountain bikes/BMXs, 11.8% wore a helmet (with more than three-quarters riding this type), for traditional town bikes, 9.7% wore a helmet, and 15.3% of those on 'other' bikes (i.e. not a racer, mountain/BMX or traditional town bike).
- The wearing rate was found to be greatest during the weekday peak hours (weekday peak hours are defined as 07:00 to 09:59 and 16:00 to 18:59 hours Monday to Friday), as in previous years.
- As in all previous surveys, cyclists were found to be more likely to wear a helmet if they were riding on the road (18.5%) rather than the

pavement (12.4%). However, the wearing rate was highest amongst those cyclists riding on a cycle path on a recreational route (22.4%).

- A significantly higher proportion of cyclists wore a helmet in dry weather than in the wet.
- Those with additional safety aids on their bikes, such as reflectors, were twice as likely to wear a cycle helmet than those without additional safety equipment: 29.2% compared to 14.3%.

Conclusions

The overall cycle helmet wearing rate increased to 34.3% on major built-up roads and 16.7% on minor built-up roads. However, on major built-up roads the increase was accounted for by the increase in adults (female and male) wearing helmets, as there was no change to the child helmet wearing rate overall. As in previous surveys, the wearing rates at London sites were significantly greater than sites outside London. Wearing rates were also particularly higher during peak times in London and other cities.

References

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About the project

The design for both major and minor built-up roads survey was kept as similar as possible to previous surveys. The major built-up roads survey sites were surveyed on weekdays, unless on a recreational route, which were observed on a Sunday. Accent conducted the surveys at the same times and day of the same week as they had in 2006 and as closely as possible to previous surveys. The survey teams used observation data collection forms and worked at each site for six hours (either 07:00 to 13:00 or 13:00 to 19:00), making continuous observations.

The survey on minor built-up roads employed a moving observation technique on specified routes. The same compact areas (1 km squares) were used as in the previous surveys at twenty locations. Each of the selected routes was surveyed on one weekday and one weekend day by driving around the prescribed route for a six-hour period (either 07:00 to 13:00 or 13:00 to 19:00), recording the same details for each cyclist observed, using the same data collection form as in previous years.

Further information

The full report, **Cycle Helmet Wearing in 2008** by Catherine Sharratt, Omar Anjum and Louise Walter (Transport Research Laboratory), is published by TRL Ltd as Report PPR420. To order the full report as a priced publication, go to www.trl.co.uk or IHS, or download a free copy from www.trl.co.uk/online_store/reports_publications/free_reports/

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