

Survey data on road accidents: Methodology note

Introduction

For many years the police have provided data on road accidents reported to them involving casualties under the STATS19 system. This source provides almost all the data in Reported Road Casualties Great Britain. In recent years, questions about involvement in road accidents have been added to the National Travel Survey (NTS)¹. The NTS interviews approximately 17,000 people in Great Britain each year. Questions about road accidents were added to the survey for the first time in 2007.

It has long been known that police data does not provide a complete record of all injury accidents and resulting casualties. Since 2008 the Department has estimated the total number of road casualties in Great Britain, using information collected in the NTS. This note summarises the methodology used in order to obtain these estimates.

NTS Questions

The NTS asks questions on whether a respondent was **involved in an injury accident** in (a) the last three years and (b) the last 12 months. For those respondents involved they are then asked which **road user group** they were in (were they a pedestrian/car occupant etc.), the **type of injury** experienced, whether they received **medical attention**, and whether the **police** were aware of the accident. This information is collected alongside other information about the respondents such as age and gender. Questions specifically relating to child road accident involvement have also been included in the NTS since 2010.

The answers to these questions for the latest three years available are grouped (in order to increase the sample size and thus reducing the margin of error) and then used in order to estimate the total number of casualties in Great Britain.

Producing estimates

The proportions of those involved in injury road accidents, for both the last three years and the last 12 months, are calculated using a three year sample of respondents from the NTS. The average proportion is then used as an approximation of the total proportion of involvement in injury accidents in Great Britain. An assumption is made that 10 per cent of NTS respondents reporting involvement will not be covered by the scope of STATS19. This estimate is derived from the NTS follow-up survey in 2010.

In order to obtain the overall estimate of casualties in road accidents, this proportion is multiplied by the average population of Great Britain between the corresponding five year period, e.g. for 2010-2012 NTS data the average population between 2008 and 2012 is used. This is in order to ensure that the entire period reported in the NTS is covered – for example, somebody reporting involvement in an injury accident in the last three years in the 2010 NTS may have been involved in that accident as early as 2008.

¹ National Travel Survey webpage: <https://www.gov.uk/government/organisations/department-for-transport/series/national-travel-survey-statistics>

As the NTS is a sample survey (and therefore subject to several types of error²) approximate confidence intervals are calculated in order to give an indication of the scope for error surrounding this overall estimate. In order to calculate these intervals we assume that they are based upon a simple random sample applying a design affect of 1.5, which is in keeping with those witnessed elsewhere in the NTS³.

Separate estimates for adult and child casualties are produced using the same methods except that the proportions of those involved in accidents are derived from adult and child respondent groups separately. Estimates for each of the main road user groups are also calculated, using the proportions of each road user group involved in injury accidents, which are again derived from questions asked in the NTS.

Further information

Additional information relating to the estimation of the total number of road accident casualties can be found in the article titled "*Survey data on road accidents*" in the 2012 road casualty annual report⁴. Alternatively, please contact the Road Safety Statistics team on 020 7944 6595 or email roadacc.stats@dft.gsi.gov.uk.

Any changes or updates to this methodology will be documented as and when they are updated.

² See discussion in 2010 annual report: <http://tinyurl.com/rrcgb2010>

³ See NTS standard error analysis 2009: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49699/StandarderrorsAnalysis2009NTS.xls

⁴ Available at: <https://www.gov.uk/government/publications/reported-road-casualties-great-britain-annual-report-2012>