



# Reported Road Casualties in Great Britain: 2012 Annual Report

## Survey data on road accidents

### Summary

This article provides the latest Department for Transport estimates of the total number of road casualties in Great Britain annually, including those not reported to the police, using information recorded in the National Travel Survey (NTS).

- It has long been known that police data does not provide a complete record of all injury accidents and resulting casualties, as the estimates illustrate. To help address this, the NTS has included questions asking people about their involvement in road accidents since 2007.
- Our best current estimate derived from the NTS data is that the total of number of road casualties in Great Britain annually, including those not reported to the police, is within the range 630 thousand to 790 thousand with a central estimate of **710 thousand**. This is based on data for the five year period from 2008 to 2012.
- Results of the NTS follow-up study suggest around 10 per cent of accidents reported by the respondents are outside the scope of STATS19. Adjustments were made to exclude these casualties from the above figures.
- The under reporting of road traffic accidents to the police should be borne in mind when using and analysing STATS19 data. However, STATS19 remains the most detailed, complete and reliable single source of information on road casualties covering the whole of Great Britain.

### 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)<sup>1</sup>. The NTS

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<sup>1</sup> National Travel Survey webpage: [https://www.gov.uk/government/organisations/department-for-](https://www.gov.uk/government/organisations/department-for-transport)

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interviews just approximately 17,000 people in Great Britain each year. Questions about road accidents were added to the survey for the first time in 2007.

This article summarises the data on road accidents from the three years of data (2010-2012) available from NTS, briefly describes some of the issues relating to the use of these data to estimate the total number of road casualties in Great Britain, and presents broad brush estimates of total casualties (updating those included in article 5 of the 2010 annual report).

## National Travel Survey on road accidents

### Involvement in road accidents (taken from table [NTS0623<sup>2</sup>](#))

- 11.8 per cent of adults (aged 16 years or over) reported that they were involved in at least one road accident in the past three years, with 5.7 per cent reporting being involved in an accident in the past 12 months.
- Questions about child (under 16 years) road accident involvement have been included in the NTS since 2010. In the last three years 5.5 per cent of children reported being involved in at least one road accident and 2.8 per cent reported being involved in an accident in the past 12 months. The figures for children involved in road accidents were around half of those reported by adults.

### Injury in road accidents

Table 1 represents the proportion of NTS respondents injured in road accidents compared with the proportion of the population injured in road accidents based on STATS19 figures.

- In the last three years, 3.8 per cent of adults reported that they were injured in at least one road accident, with 1.6 per cent saying that they were injured in the previous 12 months.
- Comparing the number of adult casualties recorded in STATS19 with population estimates would suggest around 0.3 per cent of Great Britain's population are recorded in STATS19<sup>3</sup>.
- Men were more likely to report being injured in a road accident than women in the survey data, consistent with the greater number of male casualties recorded in STATS19.
- The NTS data show that injury in road accidents tends to decline with age, from age group 25-29 onwards, However, STATS19 data show a relatively higher proportion of those in younger age groups (16-19 and 20-24) being injured than the survey data. It is possible that these differences may be due to lower response rates among the young adult group in the NTS, a general survey issue that is known to affect this age group.

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[transport/series/national-travel-survey-statistics](#)

<sup>2</sup> Three year average (2010-2012)

<sup>3</sup> Assuming that each person reported as a casualty in STATS19 is unique.

- The proportion of injuries in road accidents reported by children (aged under 16 years) in the NTS was approximately a half of the proportion reported by adults – 1.6 per cent of adults reported being injured in at least one road accident in the 12 months, and 0.7 per cent of children reported injury in the last 12 months. This is broadly similar to STATS19, where the casualty rate for children (0.17) is approximately half of the rate for adults (0.31).

**Table 1: Injuries in road accidents, NTS compared to STATS19**  
(RAS web table [RAS54001](#), NTS web tables [NTS0623](#) and [NTS0625](#))

	National Travel Survey (2010/12): Proportion of individuals injured in road accidents			STATS19: GB 2008/12 average	
	Sample size (unweighted)	Last 3 years	Last 12 months	Injured casualties	as a % the of population <sup>4</sup>
All adults <sup>12</sup>	49,756	3.8	1.6	186,521	0.3
Males	23,732	4.1	1.8	108,249	0.4
Females	26,024	3.6	1.5	78,251	0.3
Age 16-19	2,996	3.8	2.1	24,345	0.8
Age 20-24	3,406	6.7	2.8	28,318	0.7
Age 25-29	3,454	5.8	2.9	22,247	0.5
Age 30-39	7,567	5.0	1.9	35,331	0.4
Age 40-49	8,967	4.4	1.8	32,493	0.4
Age 50-59	7,856	3.0	1.3	20,350	0.3
Age 60+	15,510	1.8	0.7	23,438	0.2
Children <sup>3</sup>	11,806	1.6	0.7	19,713	0.2

1 Includes casualties aged 16 years or over only

2 Includes casualties where the age/gender were not recorded in STATS19

3 Aged < 16 years

4 Based on 2008/12 population average

Source: National Travel Survey (NTS0623 and NTS0625), STATS19 and Office for National Statistics population estimates

## Reporting to police

- NTS respondents reported around 55 per cent of personal injury road accidents to the police.
- Of injury accidents which the police became aware according to NTS respondents, the majority (73 per cent) were cases where the police attended the scene. This is comparable to 81 per cent of police attendance recorded in STATS19.

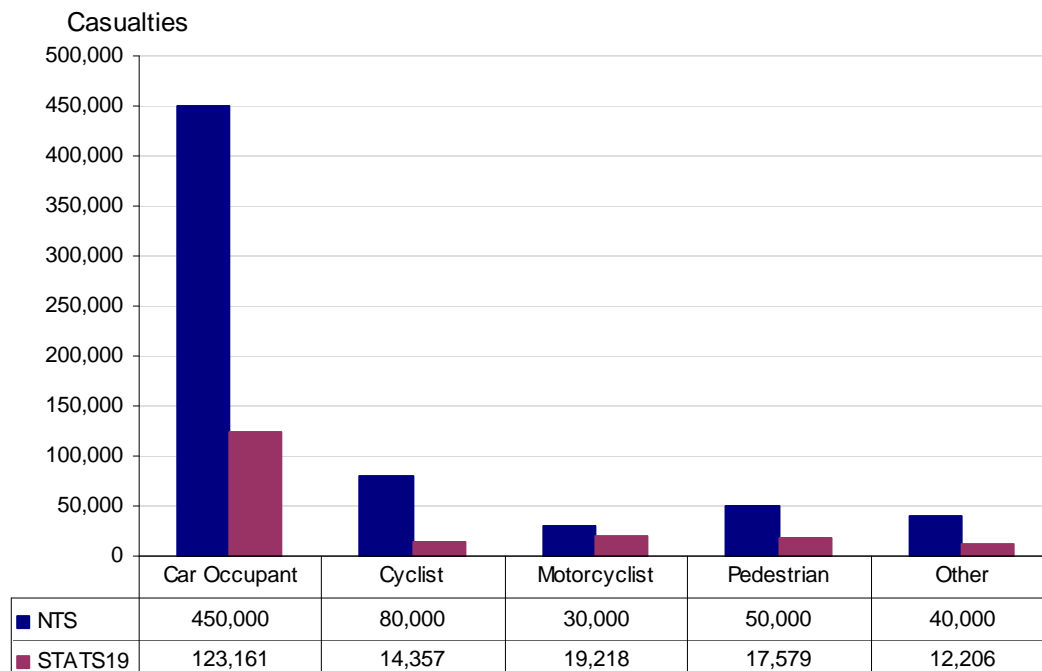
## Road user type

Chart 1 presents the main road user groups of adults injured in road accidents comparing NTS estimates and casualties recorded in STATS19.

- The majority of NTS respondents reporting involvement in injury road accidents were car occupants, consistent with STATS19. Chart 1 shows the estimates of the different levels of under reporting for each road user type, suggesting that the user groups with

the highest levels of under reporting are pedal cyclists and car occupants – with estimates of 18 per cent and 27 per cent of casualties reported in STATS19. This corresponds to lower levels of accidents reported to the police for these user groups as suggested in the hospital admissions data article in the 2011 annual report<sup>4</sup>.

**Chart 1: Road user type of adults injured in road accidents: NTS estimates (2010/12) based on the details of road accidents in the past three years and STATS19 (2008/12 average)**



Source: STATS19, National Travel Survey.

### Injuries sustained and medical treatment

- Whiplash was the most commonly reported injury experienced by 57 per cent of NTS respondents who were injured in a road accident in the previous three years (Table 2).
- Most respondents who reported injuries sustained in road accidents sought some form of medical attention (77 per cent), with 38 per cent of respondents having treatment at Accident and Emergency departments.
- Around a third of NTS (35 per cent) respondents injured in an accident in the past three years reported having a serious<sup>5</sup> injury. This includes respondents who reported having a slight<sup>5</sup> injury but also had an overnight stay in hospital. The proportion of adult casualties classified as serious is lower in the STATS19 data (around 12 per cent of injuries are coded serious).

<sup>4</sup> Hospital admissions data on road accidents in England:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/9279/rrcgb2011-06.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/9279/rrcgb2011-06.pdf)

<sup>5</sup> STATS19 definition of a serious/slight injury available at:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48822/reported-road-casualties-gb-notes-definitions.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48822/reported-road-casualties-gb-notes-definitions.pdf)

**Table 2: Injuries sustained in road accident in the last three years: NTS (2010/12)**  
(RAS web table [RAS54003](#) or NTS web table [NTS0624](#))

Type of injury experienced <sup>1</sup>	per cent	Medical attention <sup>1</sup>	per cent
<b>Slight</b>		No medical attention	23
Whiplash	57	First aid at roadside	15
Minor bruising or cuts	38	At GP surgery	36
Slight shock	28	At a minor injuries unit	7
Sprains	11	At Accident and Emergency	38
		As an inpatient in hospital	6
		Other	9
<b>Serious</b>			
Fracture/broken bones	11		
Severe shock	7		
Concussion	6		
Severe cuts	6		
Internal injuries	4		
Crushing	2		
Burns	1		
Other	10		

<sup>1</sup> Percentages sum to more than 100 as more than one answer may be given.

Source: National Travel Survey (sample size 1,427)

## Estimating the total number of road casualties

The methodology used to produce the estimates of the total number of road casualties is broadly the same as described in the 2009<sup>6</sup> and 2010<sup>7</sup> annual reports.

The 2010 annual report includes a discussion on understanding survey data and the possible errors which may be associated with such data. The report also includes an overview of the NTS follow-up survey – including a summary of further issues highlighted by this follow-up survey and a discussion of how these findings are used when calculating estimates of the total number of road casualties in Great Britain.

### Estimates of total number of road casualties

Updated estimates of the total number of road casualties in Great Britain are shown in Table 3, with the estimates rounded to the nearest 10 thousand. **The figures may be broadly interpreted as an average annual total number of non-fatal road casualties between 2008 and 2012.**

- Based on the data currently available, our best estimate of the total number of road casualties occurring each year is around 710 thousand, with a range (approximate 95% confidence interval) of 630 thousand to 790 thousand. This estimate is a reduction on the previous estimate of 730 thousand, which is in keeping with the reductions in reported road accidents in the STATS19 data.
- The estimated number of adult casualties is 640 thousand - with an estimate of 450 thousand car occupant casualties, and 80 thousand pedal cyclist casualties.

<sup>6</sup> Available on National Archives at: <http://tinyurl.com/rrcgb2009>

<sup>7</sup> Available on National Archives at: <http://tinyurl.com/rrcgb2010>

- The principle reason for the estimated high levels of under reporting of the number of pedal cyclist casualties, compared with those recorded in STATS19, is the number of casualties in accidents involving no motor vehicle (of which very few are recorded in the police data) – 42 per cent of pedal cycle casualty respondents in the NTS reported involvement in a single vehicle accident compared with 3 per cent of pedal cycle casualties reported as being in a single vehicle accident in STATS19.
- These estimates have been derived as outlined in Article 5 of RRCGB 2008<sup>8</sup>, which contains details of the simple methodology and limitations.

**Table 3: Estimates of the annual non-fatal road casualties in Great Britain using National Travel Survey data, compared with casualties recorded in STATS19 (2008/12)**  
(RAS web table [RAS54004](#))

Number (thousands, estimates rounded to nearest 10 thousand)

	Central estimate <sup>1</sup>	Approx. 95% Confidence Limits		STATS19
		Lower	Upper	Injured casualties (08/12 avg)
<b>All road casualties</b>	<b>710</b>	<b>630</b>	<b>790</b>	<b>206</b>
Adults	640	570	720	187
Children	60	40	90	20
Seriously injured	80	50*	110*	24
Slightly injured	630	550*	710*	186
<b>Adult casualties:</b>				
Car occupants	450	390	510	146
Pedal cyclists	80	50	100	12
Motorcyclists	30	20	50	21
Pedestrians	50	30	70	19
Others	40	20	50	14

<sup>1</sup> Some figures may not add up to the total due to rounding

\* these estimates are not approximate confidence limits, but a range to illustrate the uncertainty around the estimate.

### Use and limitations of the estimates

These estimates act as a broad indication of the total number of road casualties in Great Britain, which very roughly illustrates the possible extent to which the STATS19 data are incomplete. However, the limitations of this approximation need to be made clear:

- The overall figure is based on survey data. Whilst we can calculate approximate confidence intervals to allow for sampling variation, it is hard to know the extent to which non-sampling errors affect the figures. If these are large, the estimates presented will be misleading.
- Where there are reasons to suspect that there are non sampling errors affecting the survey data (for example, in the reporting of severity) we have produced illustrative figures loosely based on previous research studies, which may not be representative.
- The nature of these estimates, the way in which they have been produced, the assumptions made and the considerable margin for error all mean that it is not appropriate to produce figures for individual years or to look at trends over time at present, although this may be possible in future.

<sup>8</sup>Available on National Archives at: <http://tinyurl.com/rrcgb2008>

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## Background notes

Detailed statistics (tables and charts) on “survey data on road accidents” can be found on the Reported Road Casualties in Great Britain web page at:

<https://www.gov.uk/government/statistical-data-sets/ras54-survey-data>

Table numbers RAS54001 - RAS54004.

1. Further information about the Reported Road Casualties Great Britain Annual Report can be found at: <https://www.gov.uk/government/publications/reported-road-casualties-great-britain-annual-report-2012>
2. Notes & Definitions used in STATS19 can be found at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48822/reported-road-casualties-gb-notes-definitions.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48822/reported-road-casualties-gb-notes-definitions.pdf)
3. Further information about the National Travel Survey, including a copy of the questionnaire, can be found at: <https://www.gov.uk/government/organisations/department-for-transport/series/national-travel-survey-statistics>
4. For a discussion of alternative sources of data on road casualties, including their strengths and limitations, please see article 5 in Reported Road Casualties, Great Britain: 2008 Annual Report - Comparing police data on road accidents with other sources: <http://webarchive.nationalarchives.gov.uk/20110503151558/http://www.dft.gov.uk/adobe/pdf/162469/221412/221549/227755/rrcgb2008articles.pdf>
5. For more details of the methods used to estimate the annual number of road casualties in Great Britain, please see the Survey data on road accidents Methodology note: <https://www.gov.uk/transport-statistics-notes-and-guidance-road-accident-and-safety>