



Department for Transport

# Reported road casualties in Great Britain: 2016 annual report

There were 1,792 reported road deaths in 2016, an increase of 4 per cent compared with 2015. This is the highest annual total since 2011. There were 44 per cent fewer fatalities in 2016 compared with 2006.

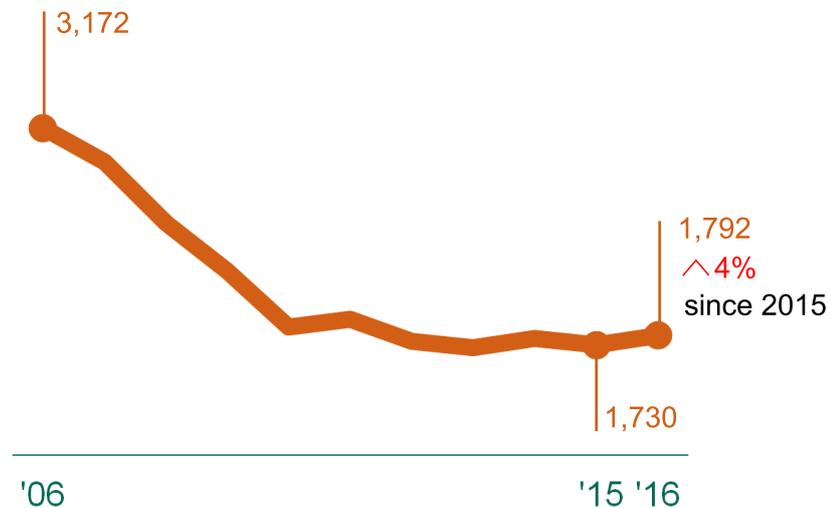
## About this release

This release gives an overview and commentary of reported road casualties in 2016. This is the first release of the headline accident and casualty figures for 2016, which were postponed from 29 June 2017 due to unavailability of data from the Metropolitan Police Service.

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Fatalities in reported road accidents: GB, 2006-2016



- There were 24,101 people **seriously injured** in reported road traffic accidents in 2016. **However, comparisons of this figure with earlier years should be interpreted with caution due to changes in systems for severity reporting by some police forces.**
- There was a total of 181,384 **casualties of all severities** in 2016. This is around 3 per cent lower than in 2015 and is the lowest level on record.
- **Motor traffic levels** increased by 2.2 per cent between 2015 and 2016.

**What we can conclude:** There has been a statistically significant decrease in the number of casualties of all severities in road traffic accidents between 2015 and 2016. This indicates that there are a number of factors that have combined together to improve some aspects of safety on Britain's roads.

**What we cannot conclude:** Although the number of people killed in road traffic accidents has increased between 2015 and 2016, this change is small enough that it can be explained by the natural variation in deaths over time. The 2016 serious injuries figures have been substantially affected, and to a much lesser degree slight injuries, by changes in systems for severity reporting by about half of all police forces. As a result, comparisons with 2015 to serious injuries in particular should be interpreted with caution. See the [changes in reporting systems](#) section for more information.

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 FURTHER INFORMATION: Media: 020 7944 6898 Public: 020 7944 6595



## Summary

The summary table below shows the number of reported road casualties in Great Britain in 2016 compared with previous years.

	2016	Percentage change from:		
		Last year	Five years ago	2010-2014 average
		2015	2011	
<b>Killed</b>	<b>1,792</b>	↓ 4%	↓ 6%	-
<b>Seriously injured*</b>	<b>24,101</b>	↓ 9%	↓ 4%	↓ 6%
<b>KSI<sup>1</sup>*</b>	<b>25,893</b>	↓ 8%	↓ 3%	↓ 6%
<b>Slightly injured*</b>	<b>155,491</b>	↑ 4%	↑ 13%	↑ 10%
<b>All casualties</b>	<b>181,384</b>	↑ 3%	↑ 11%	↑ 8%

1. KSI - Killed or Seriously injured

\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

## Definition

**Casualty:** A person killed or injured in an accident. Casualties are sub-divided into killed, seriously injured and slightly injured.

A full list of the definitions used in this release can be found [here](#).

## Introduction

This publication provides the number of personal-injury road traffic accidents in Great Britain that were reported by the police in 2016 using the STATS19 reporting system. It also includes the number of people killed or injured in these accidents and which road user group they were in.

The figures make up part of a long running series going back to 1926. The current set of definitions and detail of information goes back to 1979, providing a long period for comparison.

The information used to create these statistics are collected by police forces, either through officers attending the scene of accidents or from members of the public reporting the accident in police stations after the incident.

There is **no obligation for people to report all personal-injury accidents to the police** (although there is an obligation under certain conditions, as outlined in the Road Traffic Act). These figures, therefore, **do not represent the full range of all accidents or casualties** in Great Britain. Please see the section on [strengths and weaknesses of the data](#) for further details.

All accidents that were reported by the police and that occurred on a public highway involving at least one motor vehicle, horse rider or pedal cyclist, and where at least one person was injured are included. Accidents that happened on private land (including private drives) or car parks are not included in the statistics. Damage only accidents that do not result in personal injury are also excluded from these statistics.

## Further Information

Information about the data collected, notes, definitions and guidance is available [here](#).

The raw data used to create the statistics (except for a few sensitive and personal variables) are available for download [here](#).

## Headline statistics

A total of **1,792 people were killed** in reported road traffic accidents in Great Britain in 2016. Although this represents an increase of 62 fatalities (or 4 per cent) from 2015, this change is not statistically significant and **it is likely that natural variation in the figures explains the change.**

About half the increase in road deaths occurred in Scotland (162 in 2015 and 191 in 2016), with fatalities in England increasing from 1,463 in 2015 to 1,498 in 2016. It is the highest number of road deaths in Great Britain recorded since 2011. However, there were 44 per cent fewer fatalities in 2016 compared with 2006 and little change compared with the 2010-14 average.

The **trend in the number of fatalities has been broadly flat since 2010** (see front page chart). Previously, and particularly between 2006 and 2010, the general trend was for fatalities to fall. Since that point, though, most of the year on year changes are either explained by one-off causes (for instance, the snow in 2010) or natural variation. The evidence points towards Britain being in a period when the fatality numbers are fairly stable and most of the changes relate to random variation.

In 2016, there were **24,101 seriously injured casualties** in reported road traffic accidents. This figure is not comparable to 2015 due to severity reporting changes (**see changes in systems for severity reporting box**).

There was a total of **181,384 casualties of all severities** in reported road traffic accidents during 2016. This is around 3 per cent lower than in 2015 and is the lowest level on record.

A total of **136,621 personal-injury road traffic accidents** were reported by the police in 2016. Of these accidents, 1,695 resulted in at least one fatality.

### 2010-2014 average

The 2010-14 average is used as a comparison time frame in both this publication and the accompanying statistical tables.

### Changes in systems for severity reporting

The 2016 figures have been affected by a large number of police forces changing their reporting systems during 2016. It is likely that the recording of injury severity is more accurate for forces using these new reporting systems; this has had a large impact on the number of serious injuries recorded in 2016 (24,101 compared with 22,144 in 2015). Some of these serious injuries may previously have been classified as slight injuries which means that the 2016 serious injury figures are not comparable to previous years. Consequently no comparisons of serious injuries with previous years are made in the commentary. Since the impact on slightly injured casualties data is relatively small, comparisons to earlier years for slight injuries have still been made.

Please see the [changes in reporting systems](#) section for more information.

## Factors that affect road casualty numbers

There is **no single underlying factor that drives road casualties**. Instead, there are a number of influences. These include:

- The distance people travel (which is partly affected by economic externalities)
- The mix of transport modes used
- Behaviour of drivers, riders and pedestrians

- Mix of groups of people using the road (e.g. changes in the number of newly qualified or older drivers)
- External effects such as the weather, which can influence behaviour (for instance, encouraging / discouraging travel, or closing roads) or change the risk on the roads (by making the road surface more slippery)

It is very hard to isolate many of these factors between years. In particular, police-reported road casualty data only gives a limited amount of information about behaviour changes and it is very rare to be able to identify such changes between individual years.

A considerable amount of research has been carried out looking at the relationship between **economic activity** and **road casualties**. The Organisation for Economic Co-operation and Development (OECD) produced a comprehensive report on this topic in 2015<sup>1</sup>. The simplest message from the research is that accidents and casualties increase as economic development increases in a country. The main reason for this increase is that as the economy grows, so do traffic volumes. Greater traffic volumes then result in more incidents. This continues until a critical threshold in economic development is reached. At that point, better training, vehicle standards, enforcement and engineering all start to dominate to counteract the effect from traffic increases. As a result, the number of incidents and resulting casualties start to decrease, even if traffic volumes continue to grow.

In times of economic stagnation or recession three key mechanisms come into play:

- Lower traffic growth rates (or even decreases in traffic volumes – as happened in Britain in the 2008-09 recession)
- Disproportionate reductions in the exposure of high-risk groups (for instance, younger drivers)
- Reductions in more risky behaviour (for instance, people might drive more slowly to save fuel, or drink and drive less)

**Chart 1** shows the rolling five year average for the year on year change in gross domestic product (GDP) for the UK along with traffic volumes and the number of road deaths for Great Britain.

Although **GDP** and **traffic** is not perfectly aligned, since the mid-1970s there is a clear relationship in that they move broadly in the same direction. For example, GDP grew strongly between 1993 and 2007. During this period, traffic also grew each year (albeit, not as strongly). The downturn and recession around 2007 to 2012 resulted in very low levels of GDP growth (with economic contraction for some of the years). Traffic growth halted entirely during this period and actually decreased for most of the period.

The relationship with **road deaths** is far more complex. In general, road deaths have fallen in most

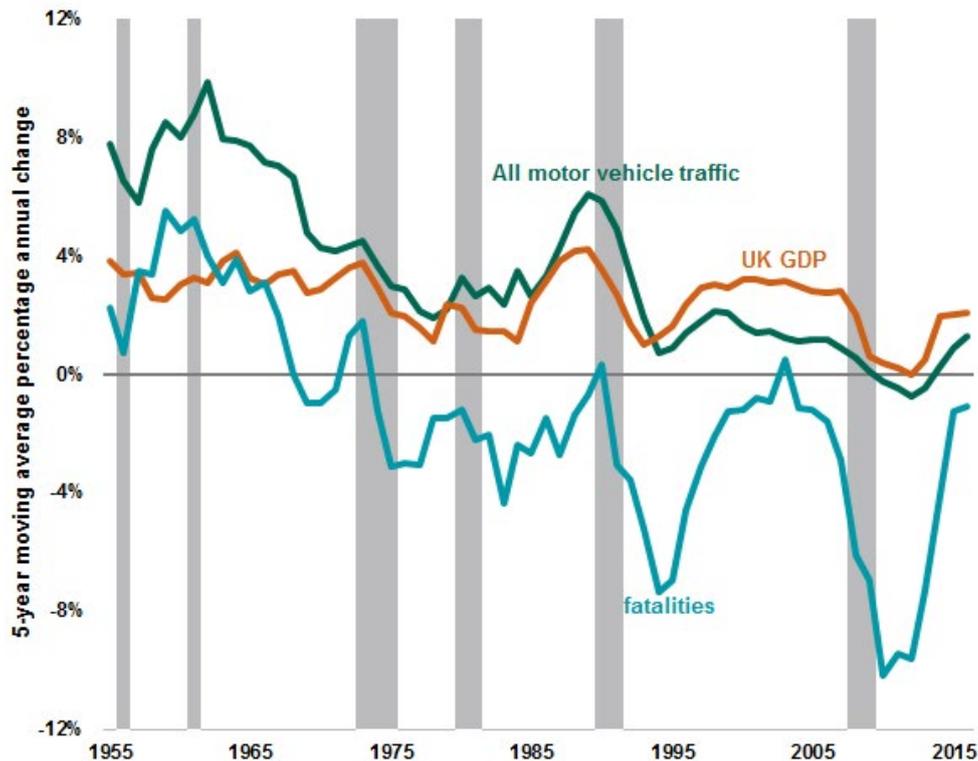
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<sup>1</sup> [www.itf-oecd.org/why-does-road-safety-improve-when-economic-times-are-hard](http://www.itf-oecd.org/why-does-road-safety-improve-when-economic-times-are-hard)

years since the 1970s. However, the periods of greatest decreases have coincided with weaker GDP growth. This is particularly marked in the period 2007 to 2010 when road deaths dropped by between 7 and 17 per cent every year. By 2011, however, road deaths increased, and most subsequent decreases were of a much small magnitude than earlier.

Whilst not certain, all of this indicates that while Britain is in a period of stronger growth (in comparison with the recent recession) there is unlikely to be as large falls in casualties as there were earlier on without further significant interventions.

**Chart 1: Five year rolling average of growth in traffic, GDP and road deaths**



### Further Information

[ONS GDP data](#)

[Road traffic data](#)

The chart shows periods of recession shaded grey.

An article which examined a number of factors which influence road casualty numbers was published with the 2015 Reported road casualties in Great Britain (RRCGB) annual report. It covers topics such as:

- **Population changes**, and particularly focussing on how the number of people in younger and older age groups have changed over time. In particular, it highlights that the population of Britain has grown by 15 per cent since 1986 whereas fatalities have fallen by 68 per cent in that time.
- The population of **older people (aged 70 and older)** has increased relatively rapidly over recent years. This carries implications for higher levels of casualties in this age group in the future.

### Further information

The article **Factors affecting reported road casualties** from the 2015 annual report can be found [here](#).

### Weather and accidents

An article on modelling the impact of weather on road casualty statistics can be found [here](#).

- The number of people taking **driving tests** has changed over time. After a number of years of falling numbers of younger people taking the test, there has been an increase over the last three years. This could suggest that the challenges from having more younger drivers on the roads could increase.
- **Fuel prices and the economy** which impact on traffic volumes and therefore casualties.

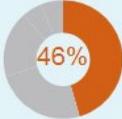
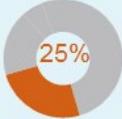
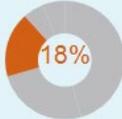
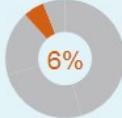
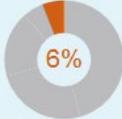
**Weather** also influences the number of road casualties. This has been reported on in an article in the 2014 annual report. A table giving weather-adjusted casualty numbers has been previously published (RAS300080) however this has not been updated for this year since the adjustments are impacted by the severity reporting changes mentioned previously. An assessment of how the weather has affected the 2016 fatalities can be found in the [other topics](#) section.

## Casualties by road user type

There are two key ways of looking at casualty numbers. The first is in terms of **absolute counts**. On this basis, **car occupants** tend to come out as the worst road user group as they account for the greatest number of casualties each year (60 per cent of total casualties in 2016). However, this is unsurprising as cars account for around 80 per cent of the traffic on British roads.

## Fatalities by road user type

In 2016, **car occupants** accounted for 46 per cent of road deaths, pedestrians 25 per cent, motorcyclists 18 per cent and pedal cyclists 6 per cent.

	Fatalities in 2016	% share in 2016	% change since '15	% change from '10 - '14 avg
	816		^8%	√1%
	448		^10%	^6%
	319		√13%	√10%
	102		^2%	√9%
Other	107		^4%	^19%

The second approach is to look at **casualty rates** in terms of the number of casualties per mile travelled. In these terms, the road user groups are split into two clearly distinctive groups. The first, with much higher casualty rates, are typically referred to as **vulnerable road users** (usually defined as pedestrians, pedal cyclists, motorcyclists and, albeit with very low casualty numbers, horse riders). All of these groups have much higher casualty rates per mile travelled in comparison with the other road user groups, as shown in **Chart 2**.

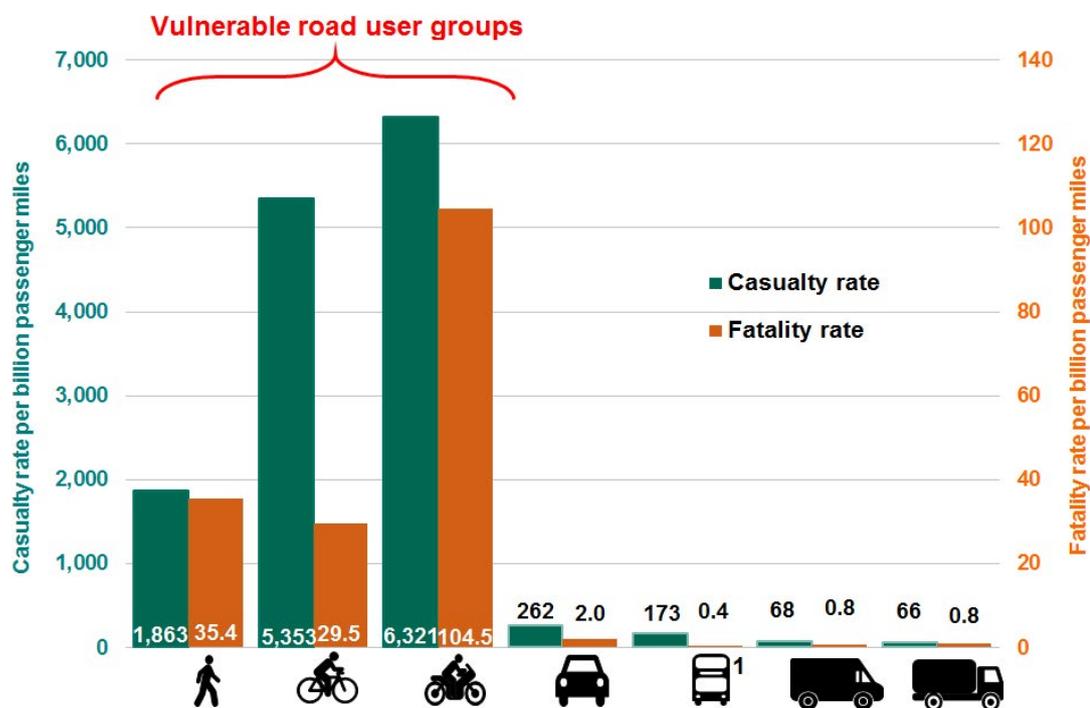
## Useful links

National Travel Survey, 2016: [www.gov.uk/government/statistics/national-travel-survey-2016](http://www.gov.uk/government/statistics/national-travel-survey-2016)

Annual bus statistics: year ending March 2016: [www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2016](http://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2016)

Road traffic estimates in Great Britain: 2016: [www.gov.uk/government/statistics/road-traffic-estimates-in-great-britain-2016](http://www.gov.uk/government/statistics/road-traffic-estimates-in-great-britain-2016)

**Chart 2: Casualty and fatality rates per billion passenger miles by road user type: GB, 2016**

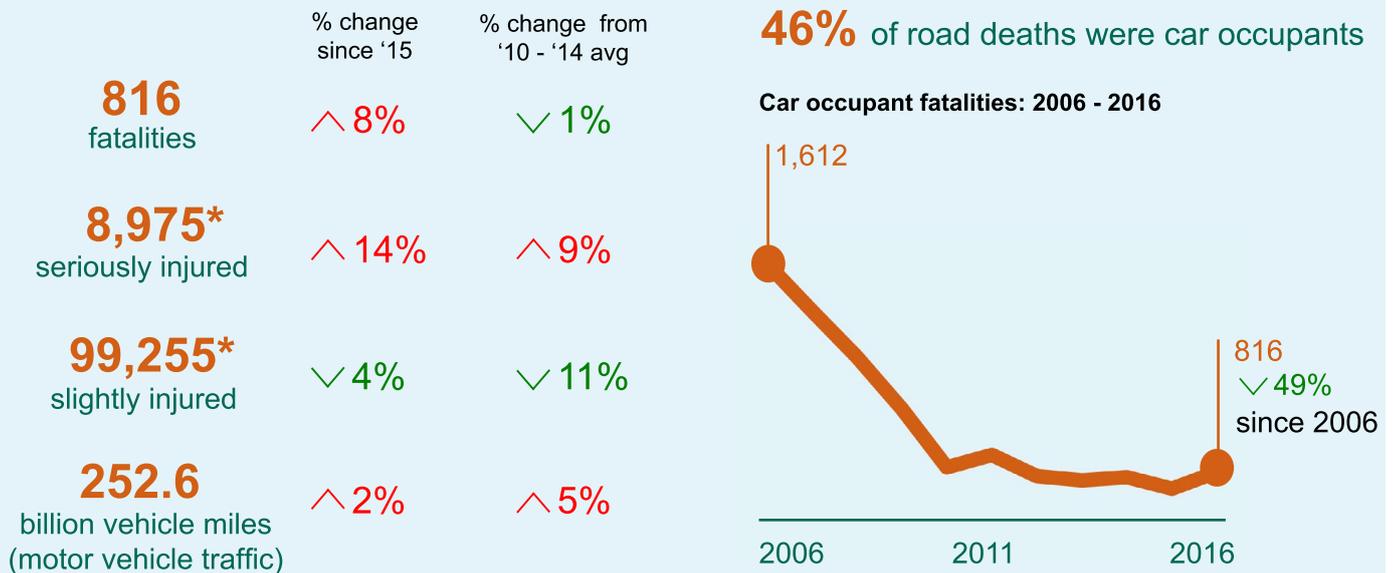


1. Bus passenger miles based on 2015 mileage figure as no 2016 figure available at the time of publication

The pattern for **pedal cycles** is an interesting one: the overall casualty rate of around 5,400 casualties per billion miles cycled is close to the motorcycling casualty rate, whereas the fatality rate of 29.5 per billion miles cycled is much closer to the pedestrian rate.

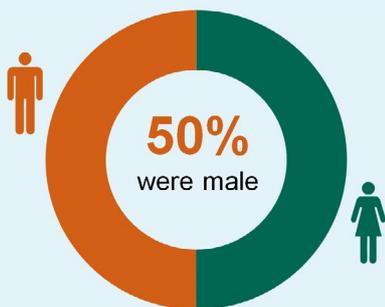
## Car occupants

A total of 816 **car occupants** were killed in 2016, up 8 per cent (or 62 fatalities) from the 754 in 2015. Overall car occupant casualties decreased by 2 per cent between 2015 and 2016.



\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in systems for severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

**109,046** car occupant casualties of which:



**68%** were drivers  
of these drivers **19%** were aged 17-24

**32%** were passengers

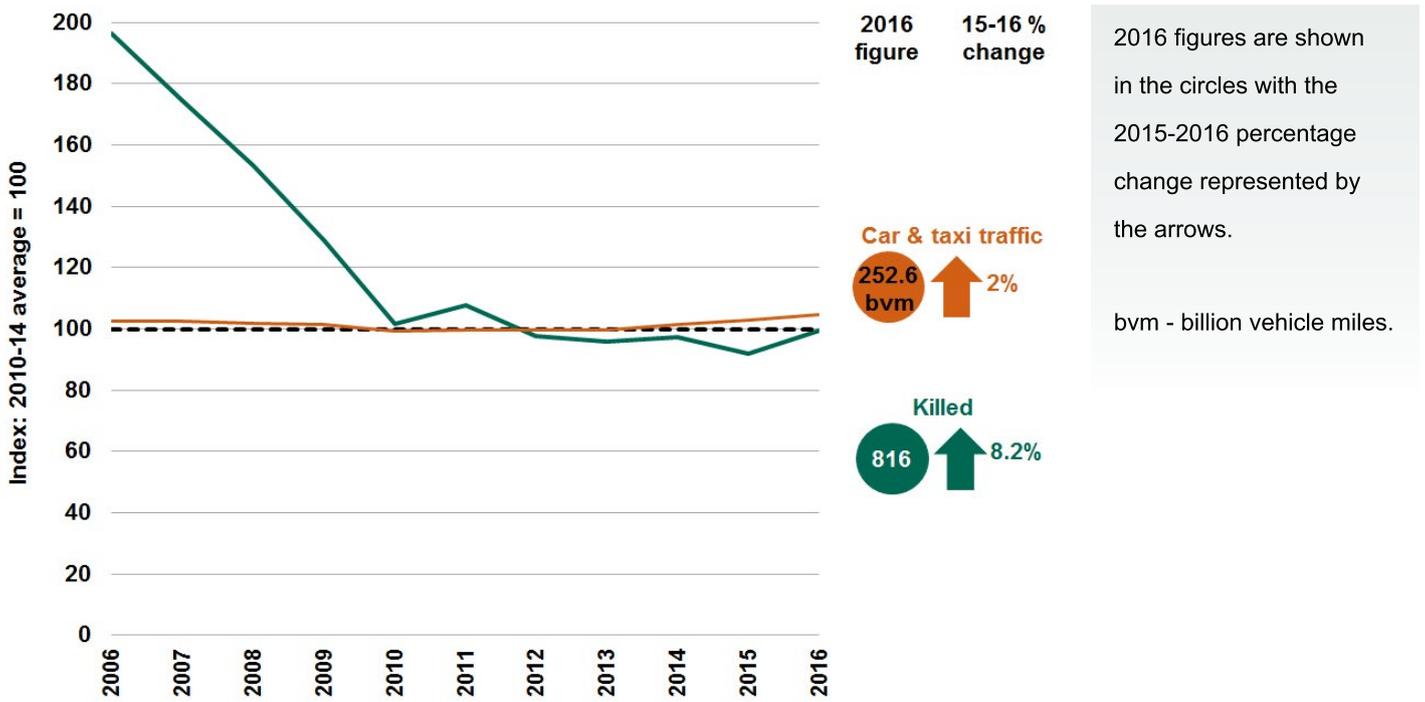
**Car occupants** continue to account for the **largest proportion of casualties** of all severities. A total of 816 car occupants were killed in 2016, up 8 per cent (or 62 fatalities) from the 754 in 2015. There were 8,975 seriously injured casualties and 9,791 KSI casualties in 2016. Slightly injured casualties fell by 4 per cent to 99,255 and overall casualties fell by 2 per cent to 109,046.

This was the largest number of car occupant fatalities recorded since 2011, but car occupant casualties of all severities in 2016 were the lowest on record.

**Car occupant fatalities** are now 1 per cent below the 2010-14 average and slightly injured casualties are 11 per cent below the average.

**Car and taxi traffic** in Great Britain increased by 2 per cent from 2015 to 2016, and is currently 4.8 per cent above the 2010-14 average. Although increases in car and taxi traffic can lead to an increase in accidents, other factors can have a stronger influence on road safety.

**Chart 3: Number of killed car occupants compared with car and taxi traffic, GB: 2006 - 2016**



# Pedestrians

A total of 448 **pedestrians** were killed in 2016, up from 408 in 2015. Overall pedestrian casualties decreased by 2 per cent between 2015 and 2016.

	% change since '15	% change from '10 - '14 avg
<b>448</b> fatalities	^ 10%	^ 6%
<b>5,140*</b> seriously injured	^ 4%	∨ 2%
<b>17,962*</b> slightly injured	∨ 4%	∨ 8%
<b>12.6</b> billion miles <sup>1</sup>	^ 9%	^ 11%

1. Estimated using survey data - see chart 4 below

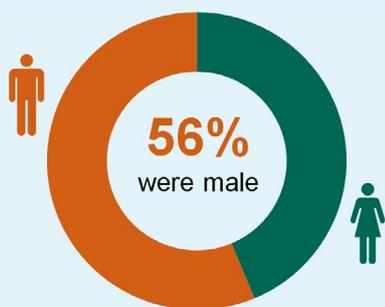
**25%** of road deaths were pedestrians

Pedestrian fatalities: 2006 - 2016



\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in systems for severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

**23,550** pedestrian casualties of which:



**36%** occurred between 3pm and 7pm

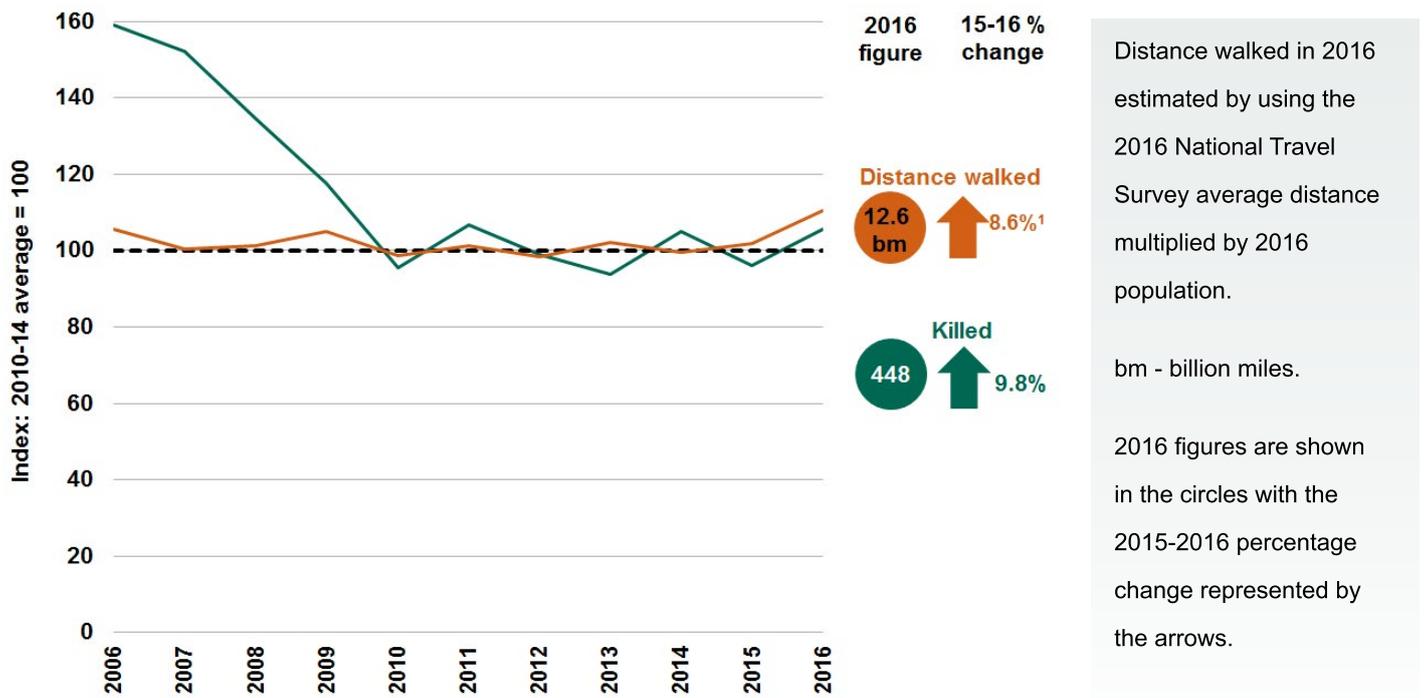
**26%** were aged 0-15

After a fall in pedestrian fatalities between 2014 and 2015, **pedestrian fatalities** have now risen back up to around the 2014 level. A total of 448 pedestrians were killed in reported road traffic accidents in 2016, up from 408 in 2015, and just above the 446 pedestrians killed in 2014.

There were 5,140 **seriously injured** pedestrians in 2016. The number of **slightly injured** casualties decreased by 4 per cent to 17,962, which is the lowest number on record.

Despite being 6 per cent above the 2010-14 average, the number of fatalities has remained much the same since 2010. Any changes since that point are most likely to be as a result of **natural variation** and cannot be attributed to underlying causes.

**Chart 4: Number of killed pedestrians compared with the distance walked, GB: 2006 - 2016**



## Pedal cyclists

Although the number of **pedal cyclists** killed on the roads in 2016 was slightly higher than in 2015, the 102 fatalities is very similar to the level seen since 2008. Overall pedal cyclist casualties decreased by 2 per cent between 2015 and 2016.

**102**  
fatalities

% change since '15

^ 2%

% change from '10 - '14 avg

✓ 9%

**6%** of road deaths were pedal cyclists

**3,397\***  
seriously injured

^ 5%

^ 10%

**Pedal cyclist fatalities: 2006 - 2016**

**14,978\***  
slightly injured

✓ 3%

✓ 7%



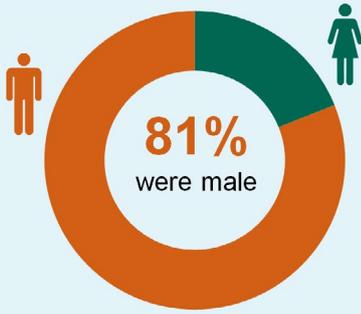
**3.5**  
billion vehicle miles

^ 6%

^ 9%

\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in systems for severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

18,477 pedal cyclist casualties of which:



44% occurred on a weekday at 7-9am or 3-7pm

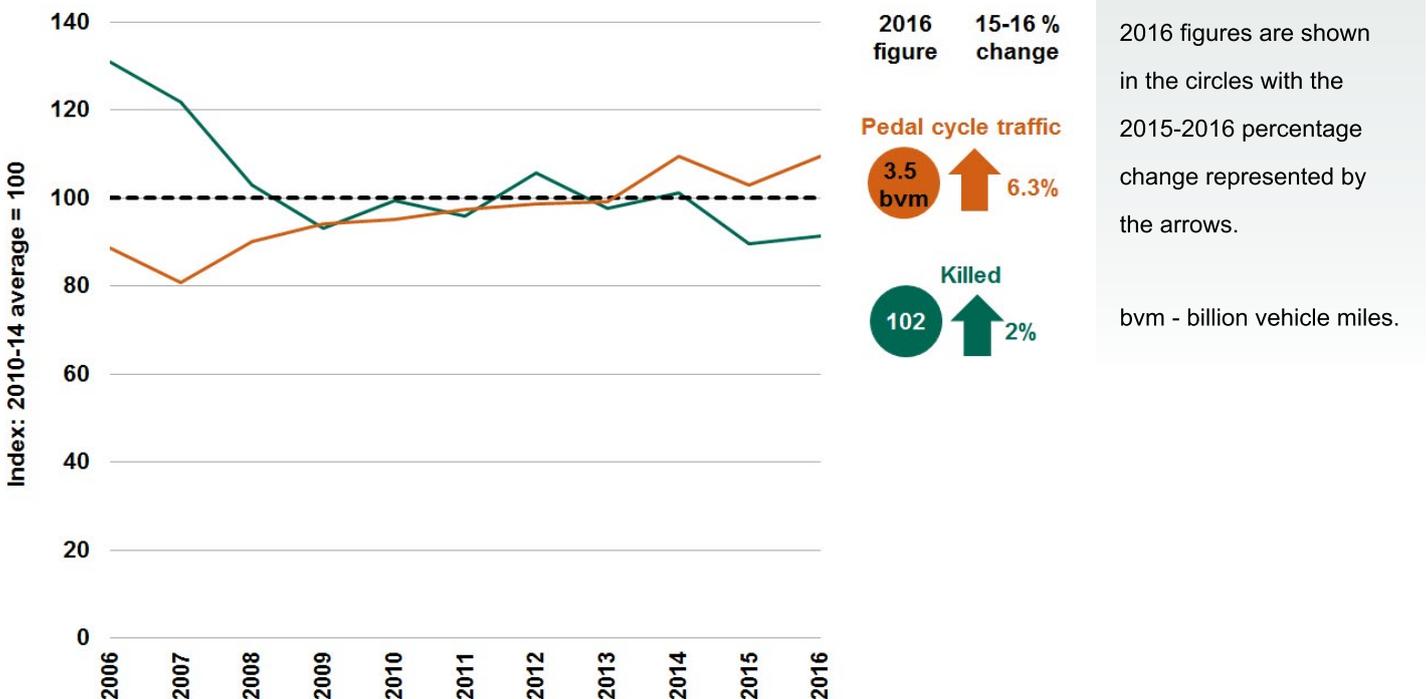
77% occurred on a 30 mph road

Although the number of **pedal cyclists killed** on the roads in 2016 was slightly higher than in 2015, the 102 fatalities is very similar to the figures for each year since 2008. Since that point, the number of deaths has been between 100 (2015) and 118 (2012). In statistical terms, there has been no change in the number of fatalities over this period.

In 2016 there were 3,397 pedal cyclists **seriously injured** in reported road traffic accidents.

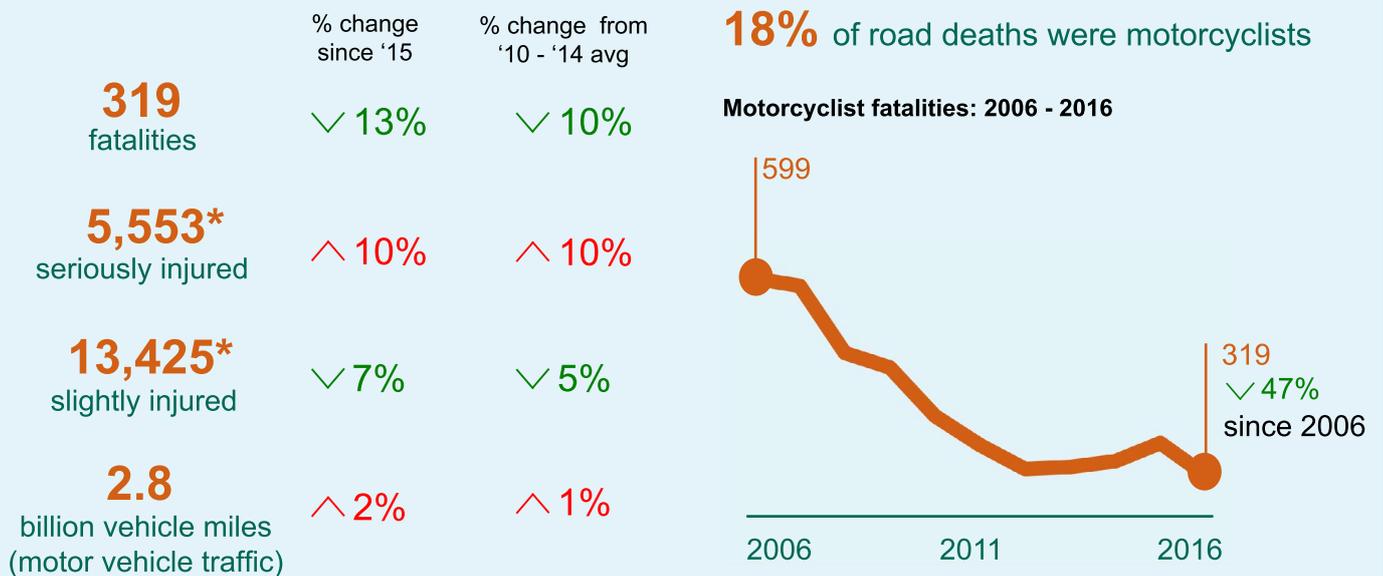
Overall **pedal cyclist casualties** were lower in 2016 than any year since 2010. This comes despite an estimated 6 per cent increase in cycling traffic in 2016 in comparison with 2015.

Chart 5: Number of killed pedal cyclists compared with pedal cycle traffic, GB: 2006 - 2016



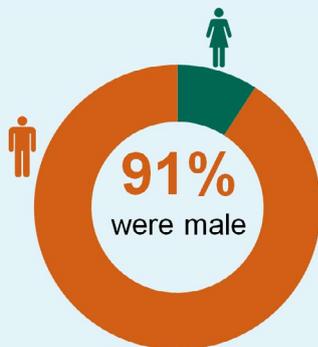
# Motorcyclists

In total, 319 **motorcyclists** were killed during 2016, down 13 per cent from 365 in 2015. Overall motorcyclist casualties decreased by 3 per cent between 2015 and 2016.



\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in systems for severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

**19,297** motorcyclist casualties of which:



 **32%** were aged 17-24

 **44%** occurred in London and the South East

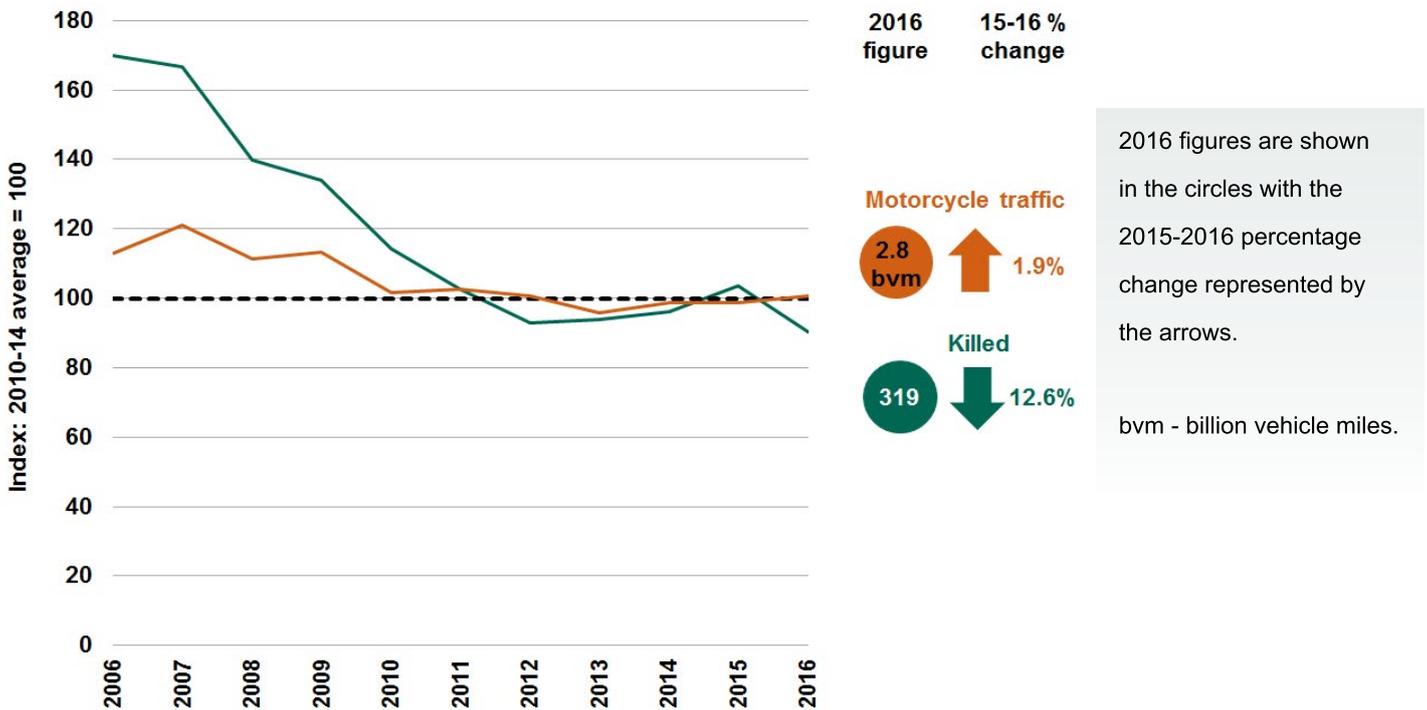
**Motorcyclists** were the only significant road user group to see a fall in fatalities in 2016 compared with 2015. In total, 319 motorcyclists were killed during 2016, down 13 per cent from 365 in 2015. This figure is the lowest number of motorcyclists killed on record. However, motorcyclist fatalities have fluctuated between 319 and 365 over 2011 to 2016 with no clear trend.

In 2016 there were 5,553 **seriously injured** motorcyclists in reported road traffic accidents.

**Slightly injured** motorcyclist casualties decreased by 7 per cent to 13,425 in 2016. Overall motorcyclist casualties of all severities in 2016 were just below the 2010-14 average.

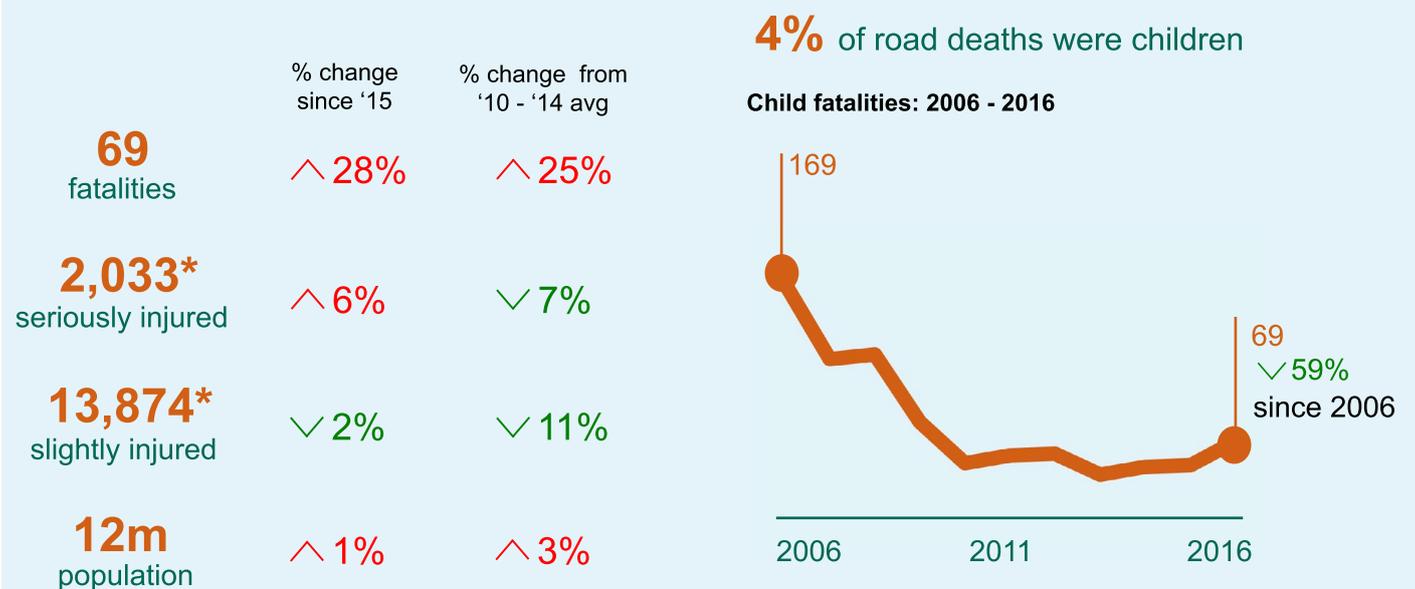
Motorcycle traffic increased by 2 per cent to 2.8 billion vehicle miles in 2016.

Chart 6: Number of killed motorcycle users compared with motorcycle traffic, GB: 2006 - 2016



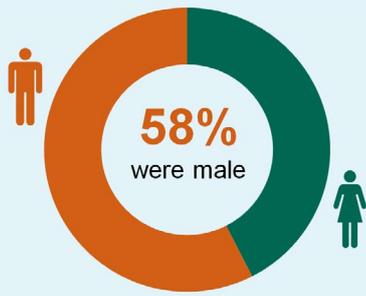
## Children (aged 15 or under)

There were 69 **child** deaths in 2016, up from 54 deaths in 2015. Overall child casualties decreased by 1 per cent between 2015 and 2016.



\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in systems for severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

**15,976** child casualties of which:



 **38%** were pedestrians

 **22%** occurred between 3pm and 5pm on a weekday

 **14%** occurred between 7am and 9am on a weekday

The number of **child deaths** in reported road traffic accidents in 2016 was 69. This is 15 more deaths than the 54 child deaths which occurred in 2015. The 2016 figure is the highest number of child deaths seen since 2009. However, child fatalities have fluctuated between 48 and 69 over 2010 to 2016 with no clear trend.

As has been the case historically, child fatalities occur mainly in the **pedestrian** (34 fatalities in 2016) and **car occupant** (26 fatalities) categories, with a smaller number of pedal cyclists (6 fatalities). This is because these are the forms of transport most commonly used by children.

In 2016 there were 2,033 children **seriously injured** in reported road traffic accidents. Overall child casualties of all severities decreased by 1 per cent to 15,976 which is the second lowest year on record after 2013.

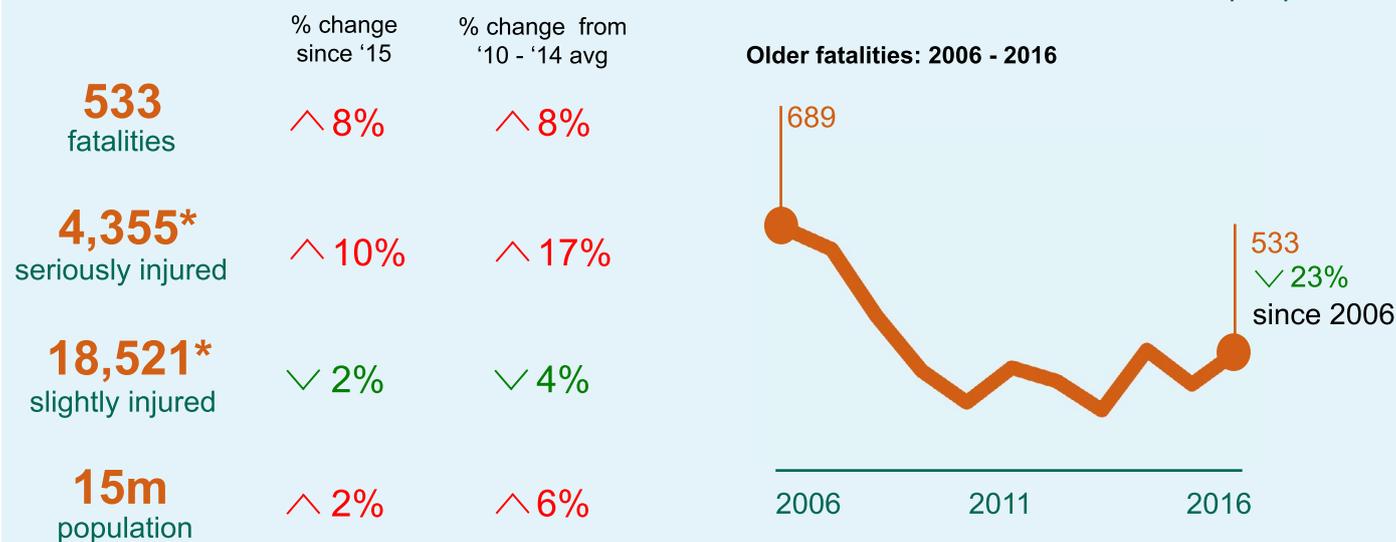
The number of child **casualties of all severities** in 2016 was 10 per cent lower than the 2010-14 average.

## Older casualties (aged 60 and over)

There were 533 **older** deaths in 2016, up from 492 deaths in 2015. There were 23,409 older casualties of all severities, virtually unchanged from 2015.

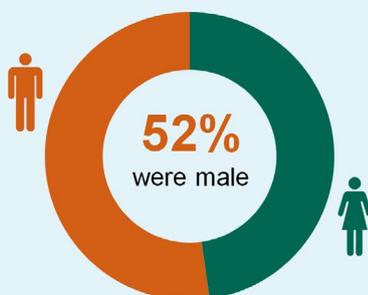
**30%** of road deaths were older people

Older fatalities: 2006 - 2016



\*2016 figures for seriously injured and slightly injured casualties compared to 2015 and the 2010-2014 average should be interpreted with caution due to changes in systems for severity reporting by some police forces. Please see the [changes in reporting systems](#) section for more information.

**23,409** older casualties of which:



**45%** were car drivers

**18%** were car passengers

**18%** were pedestrians

The number of fatalities aged 60 and over in reported road traffic accidents has increased from 492 in 2015 to 533 in 2016. The 2016 figure is similar to the 535 deaths recorded for this age group in 2014. This increase was driven by more older fatalities as car occupants in 2016 (232 fatalities in 2015 and 249 in 2016) and pedestrians (173 in 2015 and 186 in 2016). The population in this age group has increased by 6 per cent compared with the 2010-2014 average and by 19 per cent compared with 2006. This relatively rapidly growing population may partly explain the slight upturn in fatalities seen for this age group in the last few years.

There were 4,355 older people **seriously injured** in 2016. Overall casualties of all severities for this age group increased slightly to 23,409 in 2016.

## Casualties by road type

Of the 1,792 road deaths in 2016, the majority occurred on non built-up roads (910). A total of 789 deaths occurred on built-up roads with 93 on motorways.

Non built-up fatalities: 2006 - 2016



Built-up fatalities: 2006 - 2016



Motorway fatalities: 2006 - 2016



**129,837** casualties on built-up roads of which:

 **18%** were pedestrians compared with 2% or less on other types of roads

 **13%** were pedal cyclists compared with 4% or less on other types of roads

As has been the pattern over recent years, the greatest change in casualty and accident numbers is on **20 mph roads**. The number of people killed on 20 mph roads increased from 14 in 2015 to 30 in 2016 but is similar to the 28 deaths on 20 mph roads recorded in 2014. Overall the number of casualties on 20 mph roads rose by 53 per cent from 2015 to 2016.

In recent years local highway authorities have been introducing more 20 mph speed limits and zones. Unfortunately the Department does not have any comprehensive data to look at this evidence. However, last year we ran a voluntary survey with local highways authorities in England. Although only a quarter of authorities responded with data, the survey indicated that the number of miles of road with 20 mph speed limits increased by about a quarter between 2014 and 2015. This supports the hypothesis that the increases in accident numbers is not as a result of 20 mph roads being less safe, but as a result of roads having the speed limit reduced. The Department has commissioned an evaluation of the effectiveness of 20 mph speed limits (i.e. 20 mph limits with no physical traffic

### Definitions

**Built-up roads:** Accidents on “built-up roads” are those which occur on roads with speed limits (ignoring temporary limits) of 40 mph or less.

**Non built-up roads** refer to speed limits over 40 mph.

**Motorway** accidents are shown separately and are excluded from the totals for built-up and non built-up roads.

calming measures). This will provide much more evidence relating changes in casualty numbers with the introduction of 20 mph limits.

Across the other **built-up roads**, there was a rise in fatalities of 9 per cent and a fall in slight injuries of 7 per cent on 30 mph roads. There were falls of 12 per cent and 5 per cent respectively for fatalities and slight injuries on 40 mph roads.

Across **non built-up roads**, fatalities increased on 50 mph, 60 mph and 70 mph roads but there was a decrease in slight injuries on all roads compared with 2015.

There was a fall in the number of **fatalities on motorways** from 108 deaths in 2015 to 93 in 2016. Motorway fatalities have moved from a minimum of 88 and maximum of 118 since 2010 with no clear trend. The latest decrease is likely to be caused by natural variation in the figures.

In 2016 there were 803 people **seriously injured on a motorway**. The number of people slightly injured fell by 5 per cent to 7,838.

**Traffic volumes** on all road types increased in 2016. Motorway traffic rose by 2 per cent, rural 'A' roads by 2.8 per cent, urban 'A' roads by 0.8 per cent, other rural roads by 2.4 per cent and other urban roads by 2.7 per cent.

## Built-up roads



Casualties on **built-up roads** compared with the 2010-2014 average:

Killed	↑ 3%
Serious*	↑ 6%
KSI*	↑ 6%
All casualties	↓ 8%

\*changes should be interpreted with caution. See [here](#) for more information.

## Non built-up roads

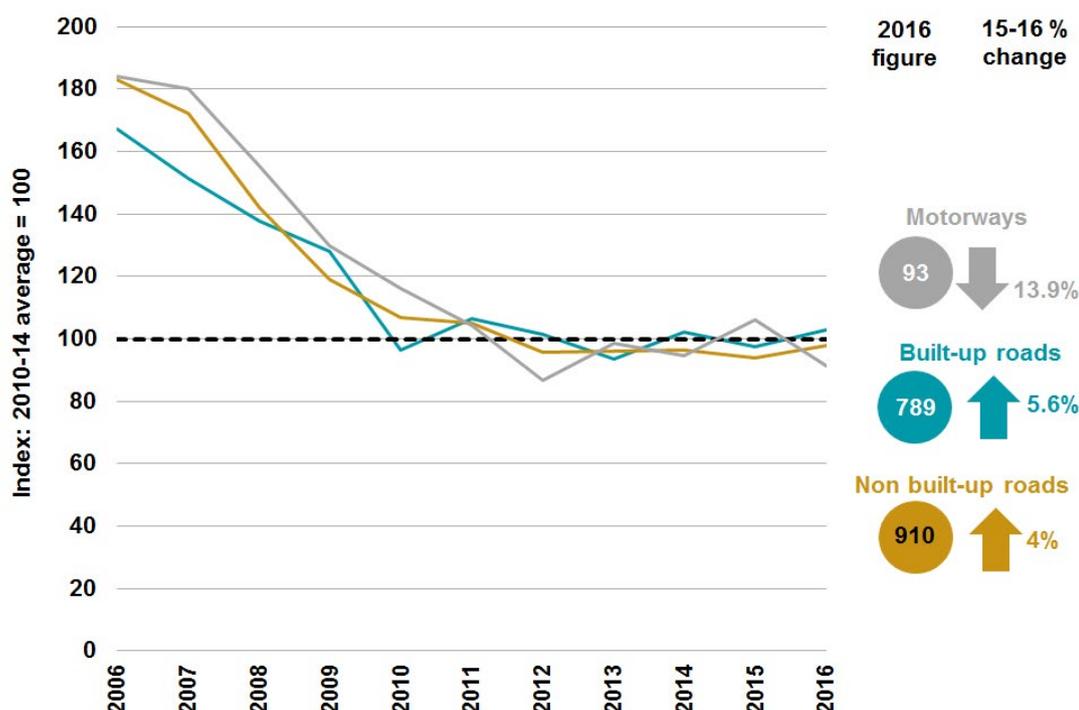


Casualties on **non built-up roads** compared with the 2010-2014 average:

Killed	↓ 2%
Serious*	↑ 6%
KSI*	↑ 5%
All casualties	↓ 10%

\*changes should be interpreted with caution. See [here](#) for more information.

**Chart 7: Number of fatalities by road type, GB 2006 - 2016**



2016 figures are shown in the circles with the 2015-2016 percentage change represented by the arrows.

The majority of seriously and slightly injured casualties occurred on **built-up roads** in 2016. However, the majority of fatalities occurred on **non-built-up roads** (just over a half). The reason for this is that non-built-up roads have higher average speeds which often result in more serious collisions. Although motorways carry around 21 per cent of traffic, they only account for 5 per cent of fatalities, 3 per cent of serious injuries and 5 per cent of slight injuries.

## Motorways

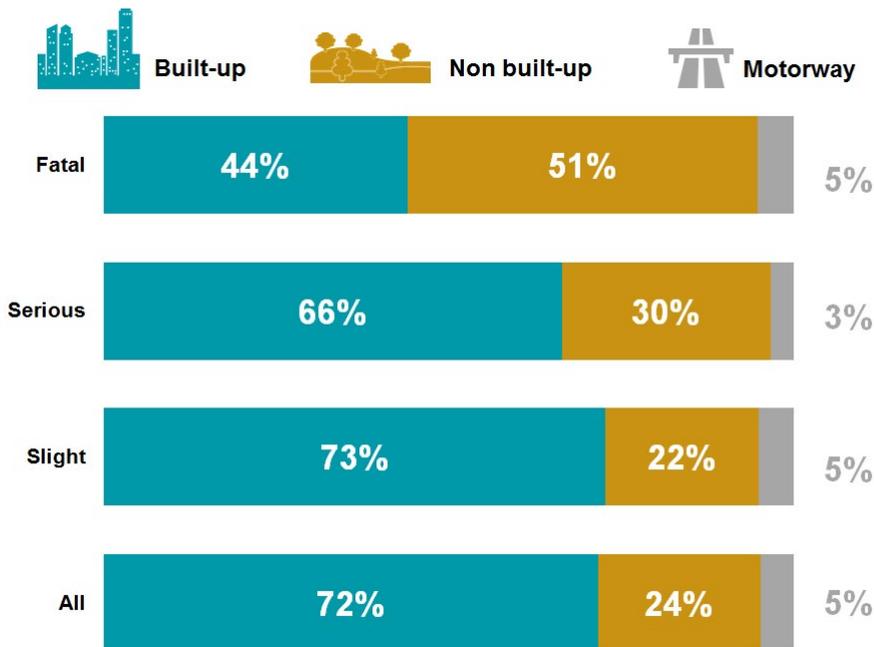


Casualties on **motorways** compared with the 2010-2014 average:

Killed	↓ 8%
Serious*	↑ 12%
KSI*	↑ 10%
All casualties	↓ 8%

\*changes should be interpreted with caution. See [here](#) for more information.

**Chart 8: Casualties by severity and road type, GB: 2016**



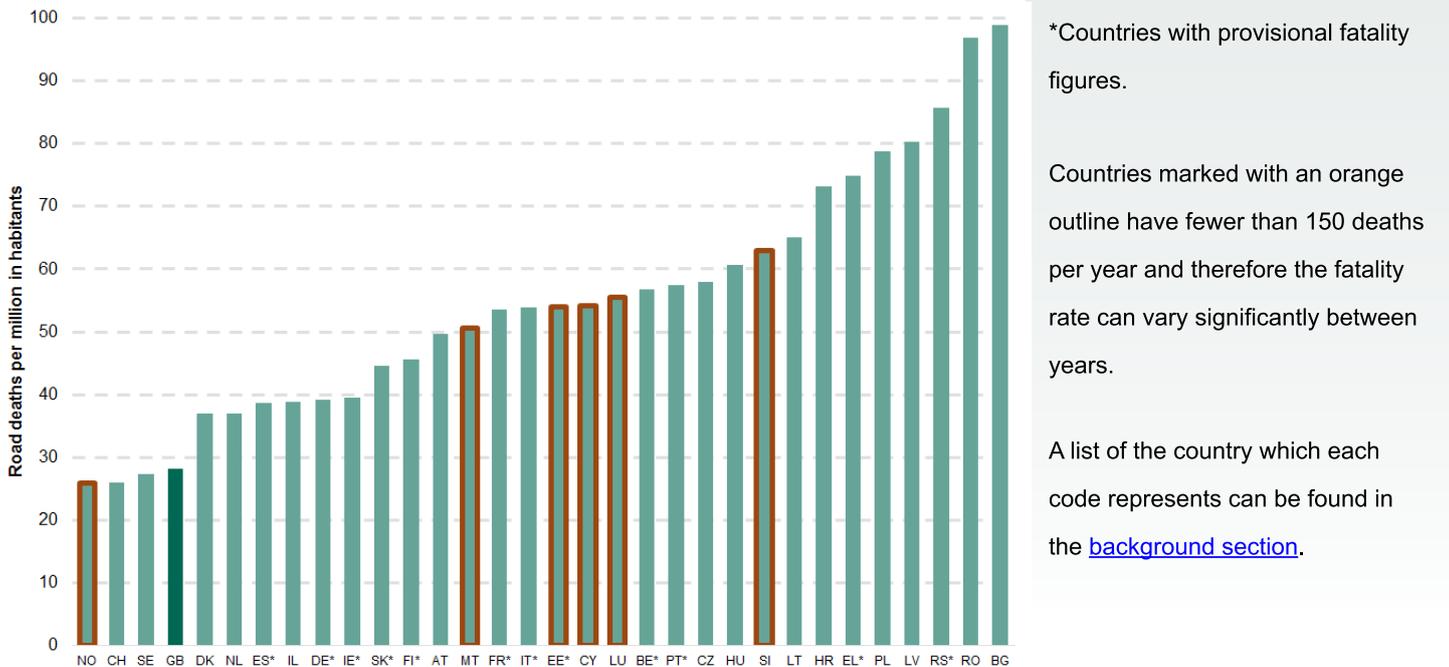
## International comparisons

The European Transport Safety Council's Performance Index (PIN) programme enables comparisons of road safety progress between **European countries** to be made. The latest PIN report was published by the European Transport Safety Council in June (see [here](#)).

Overall, the **total number of road deaths** in the 28 members of the European Union during 2016 was around 25,670, compared with around 26,200 in 2015 (a 2 per cent decrease). This has followed 1 per cent increase in road deaths in 2015 and stagnation in 2014.

Of the 32 countries covered, 15 had a decrease in the number of fatalities between 2015 and 2016, 16 had an increase, and one remained unchanged.

**Chart 9: Number of road deaths per million inhabitants in 2016, PIN Programme countries**



## Other topics

This section summarises other topics which have not been reported on above.

### Weather

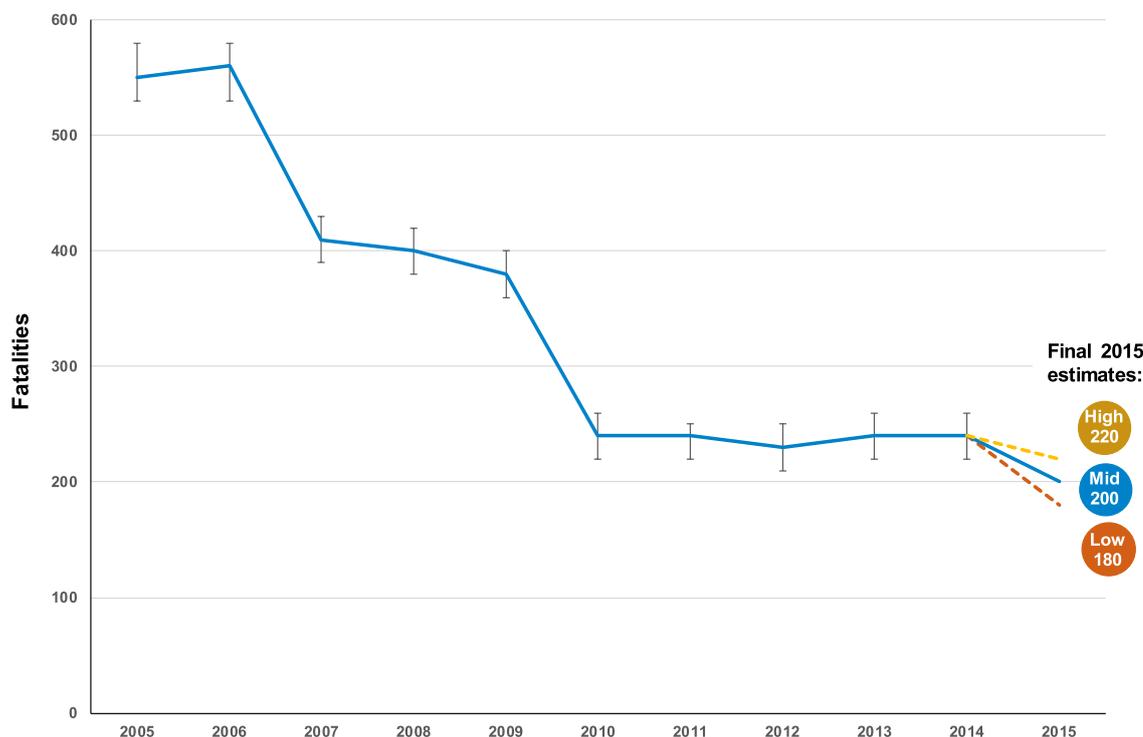
Due to the warmer and drier weather experienced in 2016, compared to the long term average, we estimate that there were approximately 20 more deaths observed than we would have expected if the weather had followed the long term average. Therefore the number of fatalities after weather adjustment is approximately 1,772, a 2 per cent increase from the 1,730 deaths observed in 2015. Motorcyclists alone account for almost two thirds of the weather adjustment. The motorcyclist casualties were strongly influenced by the warmer weather in September (2 degrees above the long term average) which is likely to have increased the number of them on the road.

### Drinking and driving

- Final estimates for 2015 show that 200 people were **killed** in accidents in Great Britain where at least one driver was over the drink drive limit. Although the final estimate for 2015 shows that the number of fatalities has fallen by 40 since 2014, this change is **not statistically significant**.
- Around 12 per cent of all **deaths** in reported road traffic accidents in 2015 involved at least one driver **over the drink drive limit**.
- The number of **seriously injured casualties increased by 9 per cent** from 1,070 in 2014 to 1,170 in 2015. This is the first rise in serious casualties since 2011 and represents a **statistically significant change**. This rise is not related to the changes in systems for severity reporting by police forces which affects the 2016 figures (see [here](#) for more information).
- The total number of casualties in drink drive accidents for 2015 is 8,470, up 3 per cent on the

final 2014 figure. Although this is the first rise in the number of total casualties since 2011, it remains the **third lowest total** on record.

### Killed casualties in reported drink drive accidents: GB 2005 to 2015; error bars show 95% confidence intervals



### Value of the prevention of accidents

An estimate of unreported injuries has been included in the 'value of prevention of accidents', which can be found [here](#). We estimate that the **total value of prevention of the unreported casualties at around £20bn a year**, the value of the reported injury accidents at around £5bn a year and the total value of prevention of the reported casualties at around £11bn a year. This gives a total estimate for **all reported and unreported accidents of around £36bn per year**.

The data used as the basis for these statistics are therefore not a complete record of all personal injury road accidents, and this should be borne in mind when using and analysing the figures. Furthermore, police data on road accidents, whilst not perfect, remain the most detailed, complete and reliable single source of information on road casualties covering the whole of Great Britain, in particular for monitoring trends over time.

## Quarterly estimates

Provisional estimates for the first quarter of 2017 were due to be published in August 2017. Data availability issues meant that these were not published and both Q1 and Q2 2017 provisional estimates will now be released in October 2017.

## Strengths and weaknesses of the data

### Underreporting of casualties and accidents, and other sources of information

Comparisons of road accident reports with **death registrations** show that very few, if any, road accident fatalities are not reported by the police. However, it has long been known that a **considerable proportion of non-fatal casualties are not known to the police**, as hospital, survey and compensation claims data all indicate a higher number of casualties than police accident data would suggest.

The 2016 annual report contains two other key sets of information which help give an indication of how much underreporting of casualties there is. These are the National Travel Survey and hospital data.

### Survey data

Our current best estimate, derived primarily from National Travel Survey (NTS) data and produced in 2016, is that the total number of road casualties in Great Britain each year, including those not reported by the police, is within the range 630 thousand to 800 thousand with a central estimate of 710 thousand.

### National Travel Survey

Table RAS54004, available [here](#), is based on questions asked about whether respondents to the National Travel Survey have been in a personal-injury accident in the last three years and, if so, was that accident reported by the police. The current figures can be found in **Table 1**, below.

**Table 1: Estimated total number of reported and unreported casualties, average for 2012-2016, Great Britain**

	Number (thousands, estimates rounded to nearest 10 thousand)				
	NTS Central estimate (reported and unreported) <sup>1</sup>	95% confidence limits		Stats19 reported <sup>2</sup>	Estimated unreported
Lower		Upper			
Seriously injured	80	50	110	23	57
Slightly injured	590	510	670	164	426
Total casualties	670	590	760	187	483

1. Based on National Travel Survey data collected for 2012-2016

2. Based on police-reported Stats19 casualties for 2012-2016

The current best estimate is that around 670 thousand people are injured to some degree in

road traffic accidents each year. Of these, only around 187 thousand casualties are reported by the police and recorded in Stats19. This suggests that about **483 thousand casualties are unreported a year**, of which roughly **57 thousand probably had a serious injury**.

This estimate is based on the average from the last five NTS years in order to have a robust sample. There has been no discernible trend in the estimate over that time so there is **no evidence that underreporting is getting worse**.

## Hospital data

The second alternative source about people injured in road traffic accidents comes from **hospital admissions** data. The 2015 annual report included an article discussing the first estimates for the total number of people admitted to hospital in the United Kingdom with a **clinically defined serious injury** following a road traffic accident. The formal name for these figures is casualties with MAIS3+, which means that it includes all casualties with a maximum score on the abbreviated injury scale of three or higher. More detail about the source of the data, the abbreviated injury scale and the correction factors used can be found in the article at: [www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-2015](http://www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-2015). Table [RAS55050](#) provides MAIS3+ figures for 1999 to 2011.

## Changes in reporting systems used by police forces

Approximately half of English police forces adopted the CRASH (Collision Recording and Sharing) system for recording reported road traffic collisions at the end of 2015 or the first part of 2016, although Surrey has been using the system since November 2012. In addition, the Metropolitan Police Service (MPS) switched to a new reporting system called COPA (Case Overview Preparation Application) from September 2016.

In CRASH and COPA, the police officer records the types of injuries suffered by the casualty rather than the severity (severity is measured simply as 'slight' or 'serious'). Under other systems, to record severity directly, police officers need to determine themselves which injury type classifies into each of the two severity types. CRASH and COPA, in contrast, automatically converts the injury type to a severity classification which eliminates the uncertainty that arises from the officer having to make their own judgement. If this hypothesis is demonstrated to be correct then it means that the new severity level data from these systems are more accurate than the data from other systems.

### Definitions

**CRASH:** Collision Recording and Sharing system. This is a centralised system used by some police forces to record road traffic collisions.

**COPA:** Case Overview Preparation Application. This is a system used by the Metropolitan Police Service to record road traffic collisions.

**Table 2** shows the link between injury and injury severity as used in the CRASH system.

**Table 2: Classification of injury severity using the CRASH reporting system**

Injury in CRASH	Detailed severity	Severity classification
Deceased	Killed	Killed
Broken neck or back	Very Serious	Serious
Severe head injury, unconscious	Very Serious	Serious
Severe chest injury, any difficulty breathing	Very Serious	Serious
Internal injuries	Very Serious	Serious
Multiple severe injuries, unconscious	Very Serious	Serious
Loss of arm or leg (or part)	Moderately Serious	Serious
Fractured pelvis or upper leg	Moderately Serious	Serious
Other chest injury (not bruising)	Moderately Serious	Serious
Deep penetrating wound	Moderately Serious	Serious
Multiple severe injuries, conscious	Moderately Serious	Serious
Fractured lower leg / ankle / foot	Less Serious	Serious
Fractured arm / collarbone / hand	Less Serious	Serious
Deep cuts / lacerations	Less Serious	Serious
Other head injury	Less Serious	Serious
Whiplash or neck pain	Slight	Slight
Shallow cuts / lacerations / abrasions	Slight	Slight
Sprains and strains	Slight	Slight
Bruising	Slight	Slight
Shock	Slight	Slight

**Table 3** shows the police forces which used either CRASH or COPA for at least part of 2016. **Table 4** provides aggregated information on the number of accidents and casualties by severity observed year on year for forces which were using CRASH or COPA in 2016 compared to those which continued to use previous systems.

Tentatively, using forces which had no change in system as an indicator for the underlying change from 2015 to 2016, this would suggest that taking out the effects of moving to CRASH or COPA would show that both serious accidents and serious casualties would have been virtually unchanged compared with 2015. The effect on slight accidents would have been to show a marginally larger decline in the level shown in the statistics if there had been no changes in reporting systems.

Given that a number of forces were not using CRASH for the whole of 2016, further differences in reporting are going to be a feature of the 2017 data even if no more forces change reporting system.

**Table 3: Adoption dates for CRASH or COPA by police force**

Police Force	System Used	Adoption Date
Bedfordshire	CRASH	April 2016
Cambridgeshire	CRASH	May 2016
City of London	CRASH	November 2015
Cumbria	CRASH	January 2016
Devon and Cornwall	CRASH	December 2015
Durham	CRASH	March 2016
Essex	CRASH	November 2015
Gloucestershire	CRASH	November 2015
Hertfordshire	CRASH	April 2016
Humberside	CRASH	January 2016
Kent	CRASH	January 2016
Metropolitan Police Service	COPA	September 2016
Norfolk	CRASH	February 2016
Northumbria	CRASH	April 2016
South Yorkshire	CRASH	January to February 2013, then January 2016 onwards
Staffordshire	CRASH	May 2015
Suffolk	CRASH	February 2016
Surrey	CRASH	November 2012
Warwickshire	CRASH	November 2015
West Mercia	CRASH	December 2015
West Midlands	CRASH	November 2015

The early indications are that switching to CRASH / COPA has added between 5 and 15 per cent to the Great Britain total for serious injuries. This is still very much a preliminary estimate, and the Department, along with Transport for London, intends to publish more detailed research and analysis looking at the effects of switching to the CRASH and COPA systems in due course. As a starting point the Methodology Advisory Service in the Office for National Statistics has been commissioned to undertake some research to provide guidance to users in understanding these effects, but also to establish methods to produce adjusted back-estimates of already published severity based data. This will enable the Department for Transport (DfT) to produce consistent time series which are independent of the reporting system used.

**Table 4: Comparison of reported accidents and casualties for forces using CRASH/COPA and forces not using CRASH/COPA**

Accidents/Casualties	Forces using CRASH/COPA in 2016			Forces not using CRASH/COPA in 2016		
	2015	2016	% change	2015	2016	% change
Fatal accidents	733	750	2%	883	945	7%
Serious accidents	9,007	10,813	20%	11,031	10,912	-1%
Slight accidents	65,387	63,092	-4%	53,015	50,109	-5%
Fatal casualties	791	787	-1%	939	1,005	7%
Serious casualties	9,869	11,864	20%	12,275	12,237	0%
Slight casualties	87,898	85,351	-3%	74,417	70,140	-6%

*Note that adoption dates are indicative as there can be phased introduction of new systems*

## Publication Delays

In order to produce the intended publication of 2016 main results for June, DfT set a cut-off date for 2016 data of 30 April 2017 with its data suppliers. It became apparent at that time that Transport for London (TfL) was not able to meet the deadline due to changes in the way the Metropolitan Police Service (MPS) provided it with data. These changes would create a significant delay in TfL providing the data for the last two months of 2016. As a result, DfT announced that the main results publication would be delayed until 28 September 2017 in order to allow TfL time to validate

the data. In the end, it was not until 7 September that DfT received final validated data from TfL. Following the finalisation of 2016 data, DfT understands that TfL is now starting to prepare 2017 data from the MPS, which gives DfT cause for concern. Following the introduction of the COPA by the MPS it took TfL three months to process November and December 2016 data and if this situation continues there appears to be a risk that 2017 annual estimates will again be published late. For the purposes of our quarter 1 and 2 publication at the end of October, however, we understand that TfL should be in a position to supply unvalidated provisional data which should enable estimates for London to be included.

## Detailed tables

The annual report also includes detailed tables based on data reported by the police. Areas covered are listed below, with relevant table numbers in brackets:

- Accidents ([RAS10](#))
- Drivers and vehicles involved ([RAS20](#))
- Casualties ([RAS30](#))
- Combined accidents, casualties, vehicles ([RAS40](#))
- Area comparisons ([RAS30038-RAS30058](#), [RAS10014-RAS10015](#), [RAS41002-RAS41004](#))
- International comparisons ([RAS52](#))
- Inter modal comparisons ([RAS53](#))
- Former Strategic Framework for Road Safety outcome indicators ([RAS41](#))
- Reported drink driving ([RAS51](#))
- Contributory factors ([RAS50](#))
- Survey data on road accidents ([RAS54](#))
- Hospital admissions as a result of road accidents ([RAS55](#))
- Accident and casualty costs ([RAS60](#))

A full list of tables in the road safety series and an index linking 2009 RRCGB report table numbers with 2016 RRCGB web tables can be found [here](#).

The following tables have not been updated for this year's release:

- **RAS30030**: gives reported child casualties in accidents occurring on a school day at given times but will now be discontinued.
- **RAS30035**: provides death registrations based on ONS data and will be updated in due course.

- **RAS30080**: provides weather-adjusted road casualty figures and will be updated in due course.
- **RAS51010**: estimates of accidents involving a car drink driver and will be updated in due course.
- **RAS51017-RAS51018**: provide roadside screening breath test results and will be updated in due course.
- **RAS55050**: provides estimates of clinically seriously injured MAIS3+ road casualties and will be updated in due course.
- **RAS51101-RAS51104**: provide information on self reported drink and drug driving from the ONS Crime Survey for England and Wales. These tables will be updated in due course.

## Background information

Tables providing more details of accidents and casualties are available at: <https://www.gov.uk/government/collections/road-accidents-and-safety-statistics>.

Provisional quarterly reported road casualty statistics are published throughout the year. Provisional estimates for the first quarter of 2017 were due to be published in August 2017. Data availability issues meant that these were not published and both Q1 and Q2 2017 provisional estimates will now be released in October 2017. Quarterly statistical releases can be found at: [www.gov.uk/government/organisations/department-for-transport/series/road-accidents-and-safety-statistics](http://www.gov.uk/government/organisations/department-for-transport/series/road-accidents-and-safety-statistics).

National Statistics are produced to high professional standards as set out in the Code of Practice for Official Statistics. They undergo quality assurance reviews to ensure that they meet customer needs. The first assessment report (report number 4) and letter confirming that the statistics have been designated as National Statistics are available at: [www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/index.html](http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/index.html). The statistics were reassessed during 2013 and the report, number 258, was published at the link above on the 25th July 2013.

Details of Ministers and officials who receive pre-release access to these statistics up to 24 hours before release can be found here: [www.gov.uk/government/publications/road-accident-and-safety-statistics-pre-release-access-list](http://www.gov.uk/government/publications/road-accident-and-safety-statistics-pre-release-access-list).

### Further information

A full list of the definitions used in this publication can be found here: [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/462818/reported-road-casualties-gb-notes-definitions.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/462818/reported-road-casualties-gb-notes-definitions.pdf).

Further information on Reported Road Casualties Great Britain, including information about the variables collected on the STATS19 form, historical publications and factsheets, can be found at: [www.gov.uk/government/publications/road-accidents-and-safety-statistics-guidance](http://www.gov.uk/government/publications/road-accidents-and-safety-statistics-guidance).

### Feedback

We welcome further feedback on any aspects of the Department's road safety statistics including content, timing, and format via email to [roadacc.stats@dft.gsi.gov.uk](mailto:roadacc.stats@dft.gsi.gov.uk)

## International comparisons section

The country codes used in chart 9 can be found in the table below.

Country	Code
Austria	AT
Belgium	BE
Bulgaria	BG
Croatia	HR
Cyprus	CY
The Czech Republic	CZ
Denmark	DK
Estonia	EE
Finland	FI
France	FR
Germany	DE
Greece	EL
Hungary	HU
Ireland	IE

Country	Code
Italy	IT
Latvia	LV
Lithuania	LT
Luxembourg	LU
Malta	MT
The Netherlands	NL
Poland	PL
Portugal	PT
Romania	RO
Slovakia	SK
Slovenia	SI
Spain	ES
Sweden	SE
Great Britain	GB

Country	Code
Israel	IL
Norway	NO
Serbia	RS
Switzerland	CH