Department for Transport

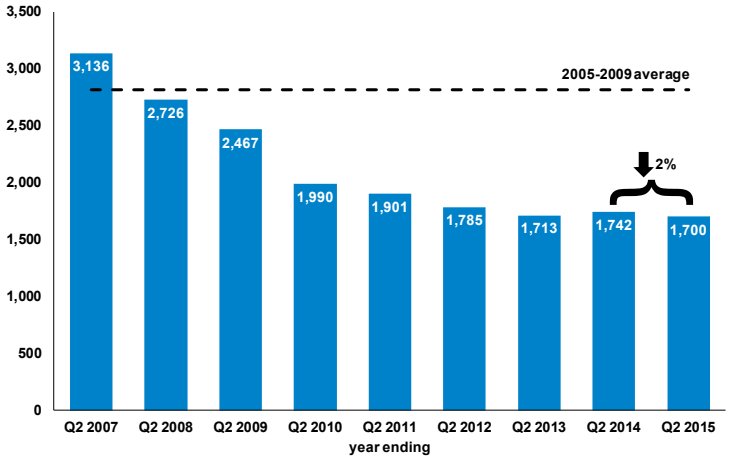
Reported Road Casualties in Great Britain: quarterly provisional estimates Q2 2015

There were 1,700 road deaths in the year ending June 2015, down by 2 per cent compared with the year ending June 2014.

About this release

This publication provides the number of personal-injury road traffic accidents in Great Britain that were reported to the police for year ending June 2015. It also includes the number of people killed or injured in these accidents and which road user group they were in.

Road deaths: GB, rolling years ending Q2, 2007-2015



What we can conclude: There has been a statistically significant decrease in the number of people injured (but not killed) in road traffic accidents between the years ending June 2014 and 2015. This indicates that there are a number of factors that have combined together to improve some aspects of safety on Britain's roads. However, it is not definitive evidence of a continued improvement in road safety.

What we cannot conclude: Although the number of people killed in road traffic accidents has decreased between years, this change is small enough that it can be explained by the natural variation in deaths over time. Therefore there is not yet enough evidence to say that the number of road deaths is decreasing between years.

In this publication

- A total of 22,830 people were **killed or seriously injured** (KSI casualties) in the year ending June 2015, down by 7 per cent from the previous year.
- There were 180,500 **casualties of all severities** in the year ending June 2015, down by 7 per cent from the previous year.
- **Motor traffic levels** rose by 2.3 per cent compared with the year ending June 2014.
- **Child KSIs** (killed or seriously injured) decreased by 8 per cent to 530 in Q2 2015. This is the lowest quarter 2 on record.

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Overall results

Rolling years ending June

- In the year ending June 2015, there were 1,700 reported **road fatalities**, a 2 per cent decrease from 1,742 in the previous year.
- **Killed or seriously injured** casualties (KSIs) decreased by 7 per cent to 22,830 and the total number of casualties decreased by 7 per cent to 180,500.
- **Motor vehicle traffic** increased by 2.3 per cent over the same period.
- It is likely that differences in the **weather conditions** between the year ending June 2015 and previous year played a part in the decreases in casualties. This is discussed in more detail in the section on background to trends.

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.

Table RAS45001: Reported road casualties by severity, GB: year ending Q2 2015

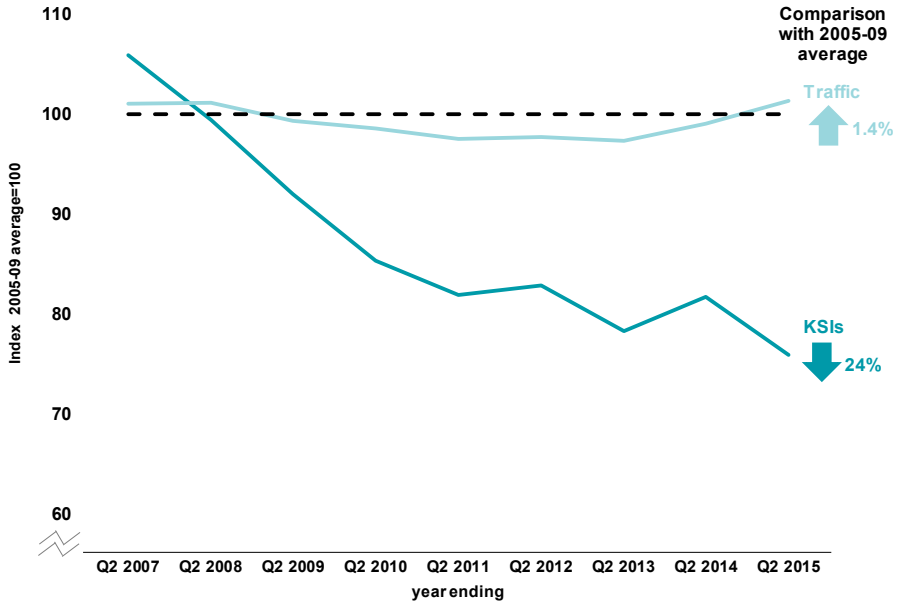
	Number/percentage change compared with previous 12 months			
ALL CASUALTIES	Jul-13 to Jun-14	Jul-14 to Jun-15 (P)	Percentage change	Traffic [1] percentage change
Killed	1,742	1,700	↓2%	↑2.3%
KSI [2]	24,562	22,830	↓7%	↑2.3%
Slightly injured	169,053	157,670	↓7%	↑2.3%
All casualties	193,615	180,500	↓7%	↑2.3%

P Provisional estimates
1 Motor traffic (excludes pedal cycles)
2 Killed or seriously injured

2005-2009 average

The 2005-2009 average is used as a comparison time frame in both this publication and the accompanying statistical tables. This average is the baseline for the **Strategic Framework for Road Safety Outcomes**.

Chart 1: Reported killed or seriously injured casualties and motor traffic, GB: rolling years ending Q2, 2007-2015



Tables

- Reported road casualties by severity (estimates): Great Britain, rolling annual totals, quarterly, table RAS45001.
- Road traffic (vehicle miles) by vehicle type in Great Britain, quarterly from 1993, table TRA2501.

Figures for April to June 2015

- Between April and June 2015, 400 people were **killed in reported road accidents**, a 7 per cent decrease from 428 in the same quarter of 2014.
- **KSI casualties** decreased by 11 per cent to 5,540 from 6,233 in the second quarter of 2014.
- **Casualties of all severities** fell by 12 per cent from the same quarter in 2014 to 42,320 (chart 2).
- **Motor traffic** levels increased by 2.9 per cent over the same period.

Table RAS45002: Reported road casualties by severity: GB, Q2 2015

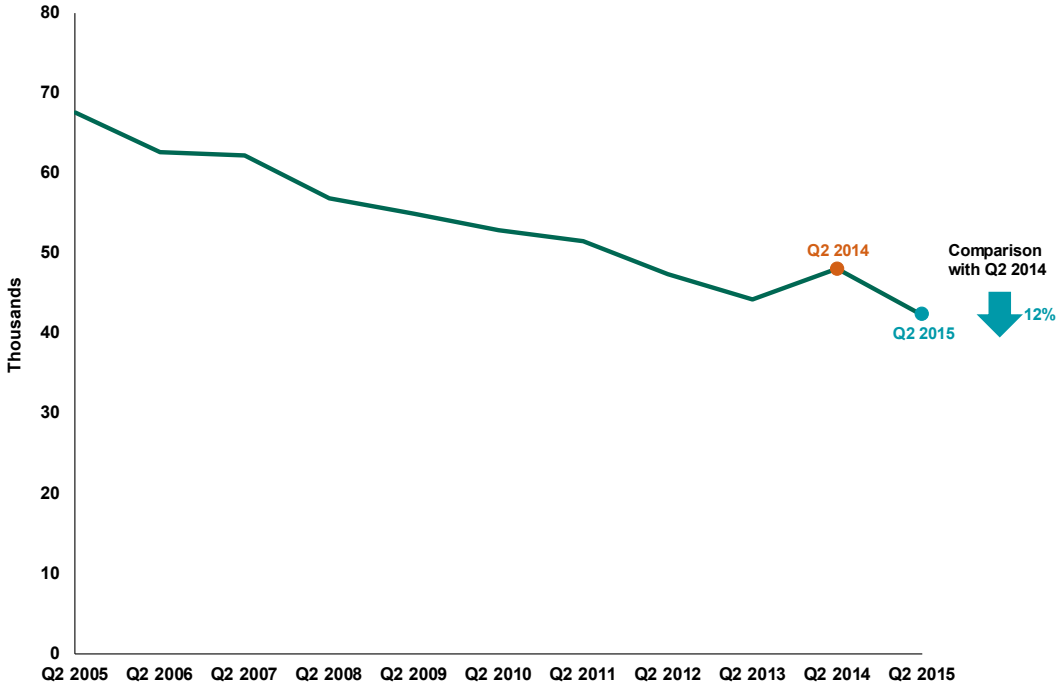
	Number/percentage change compared with same quarter last year			
ALL CASUALTIES	Q2 2014	Q2 2015 (P)	Percentage change	Traffic [1] percentage change
Killed	428	400	↓7%	↑2.9%
KSI [2]	6,233	5,540	↓11%	↑2.9%
Slightly injured	41,790	36,780	↓12%	↑2.9%
All casualties	48,023	42,320	↓12%	↑2.9%

P Provisional estimates
1 Motor traffic (excludes pedal cycles)
2 Killed or seriously injured

Tables

• Reported road casualties by severity (estimates): Great Britain, quarterly and annual, table RAS45003.

Chart 2: Reported road casualties, GB: Q2, 2005-2015



Casualty rates

- In the year ending June 2015, fatalities fell by 2 per cent while traffic levels rose by 2.3 per cent. As a result, the **fatality rate per billion vehicle miles** decreased by 5 per cent.
- Total casualties decreased by a greater amount compared with fatalities. As a result, the **overall casualty rate** per billion vehicle miles decreased by 9 per cent in the year ending June 2015.
- In the **second quarter of 2015**, fatalities decreased by 7 per cent, KSIs by 11 per cent, slight casualties and total casualties fell by 12 per cent. Over the same period, traffic levels increased by 2.9 per cent. As a result, the **fatality rate** per billion vehicle miles fell by 9 per cent and the **overall casualty rate** by 14 per cent.

Tables

• Reported road casualties by severity and road user type (estimates): Great Britain, rolling annual totals, updated quarterly, table RAS45006.

• Reported road casualties by severity and road user type (estimates): Great Britain, latest available quarter, table RAS45007.

Road user type

Rolling years ending June 2015

- There was a decrease in **KSI casualties** for all road user types in the year ending June 2015.
- **Car user** KSIs decreased by 8 per cent to 8,150 in the year ending June 2015 compared with the previous year. **Motorcyclist** KSIs fell by 5 per cent to 5,240, **pedestrian** KSIs by 9 per cent to 5,050 and **pedal cyclist** KSIs by 6 per cent to 3,300 over the same period.

2005-2009 average

Car occupant casualties in the year ending June 2015 compared to the 2005-2009 average:

KSI	↓ 37%
All casualties	↓ 33%

Table RAS45006: KSI casualties by road user type: GB, year ending June 2015

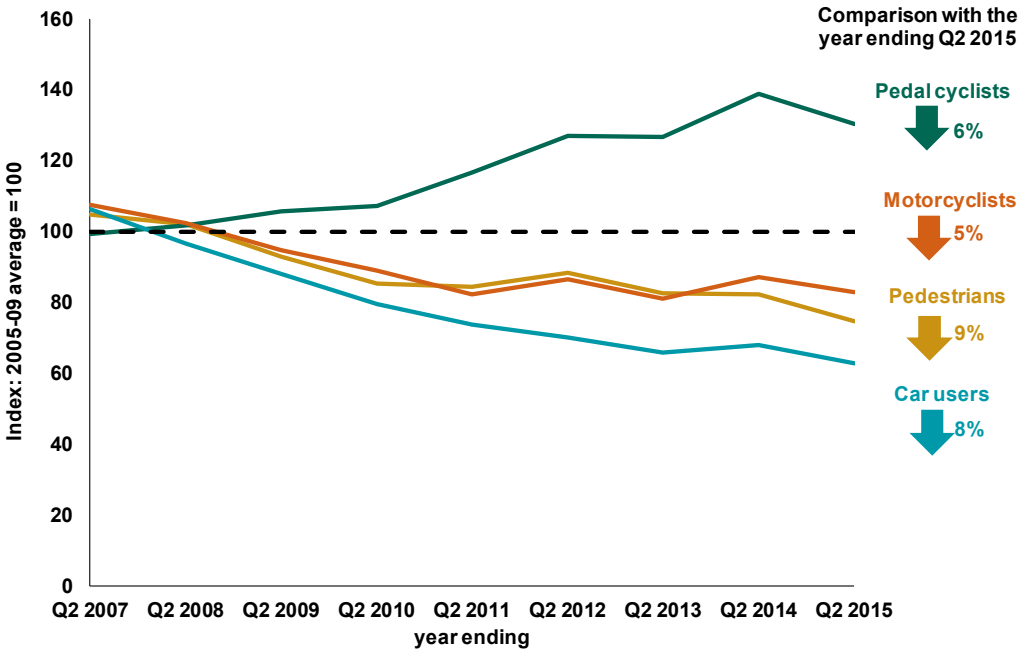
ROAD USER TYPE	Number/Percentage change compared with previous 12 months		
	Jul-13 to Jun-14	Jul-14 to Jun-15 (P)	Percentage change
	8,845	8,150	↓8%
	5,514	5,240	↓5%
	3,515	3,300	↓6%
	5,573	5,050	↓9%
All	24,562	22,830	↓7%

2005-2009 average

Pedestrian casualties in the year ending June 2015 compared to the 2005-2009 average:

KSI	↓ 25%
All casualties	↓ 23%

Chart 3: Reported killed or seriously injured casualties by road user type, GB: rolling years ending Q2, 2007-2015



2005-2009 average

Motorcycle user casualties in the year ending June 2015 compared to the 2005-2009 average:

KSI	17%
All casualties	16%

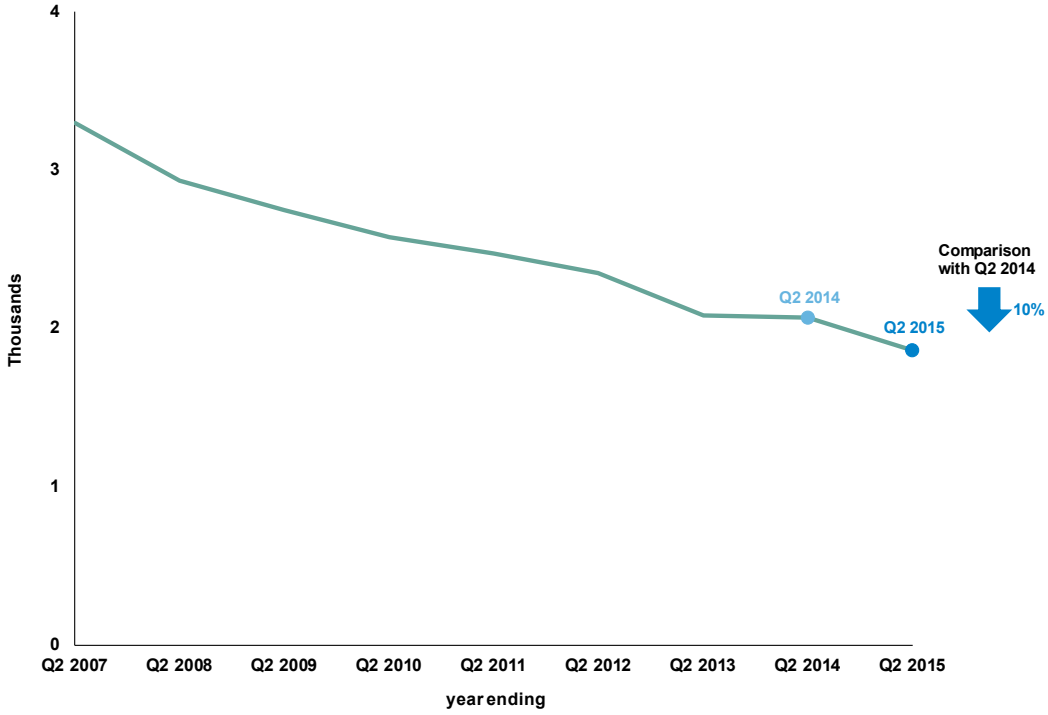
- **Child (aged 0-15)** KSI casualties decreased by 10 per cent to 1,860 in the year ending June 2015 and child pedestrian KSIs decreased by 10 per cent. Child casualties of all severities decreased to 15,300 from 16,854 in the previous year.

2005-2009 average

Pedal cyclist casualties in the year ending June 2015 compared to the 2005-2009 average:

KSI	31%
All casualties	17%

Chart 4: Child KSI casualties: GB, rolling years ending Q2, 2007-2015



2005-2009 average

Child (aged 0-15) casualties in the year ending June 2015 compared to the 2005-2009 average:

KSI	39%
All casualties	36%

Figures for April to June 2015

- **KSI casualties** decreased for all road user groups in the second quarter of 2015 compared with the same quarter of 2014.

Table RAS45007: KSI casualties by road user type: GB, Q2 2015

ROAD USER TYPE	Number/Percentage change compared with same quarter last year		
	Q2 2014	Q2 2015 (P)	Percentage change
	2,135	1,910	↓11%
	1,662	1,450	↓13%
	951	850	↓11%
	1,213	1,070	↓12%
All	6,233	5,540	↓11%

- **Child KSIs** decreased by 8 per cent to 530 and child casualties of all severities decreased by 12 per cent in the second quarter of 2015. This represents the lowest quarter 2 on record for child casualties.

- **Child pedestrian KSIs** and total casualties both decreased by 8 per cent.

Road type

Rolling years ending June 2015

- Fatal accidents on **major roads** (motorways and A roads) decreased by 6 per cent in the year ending June 2015. However, fatal accidents on **minor roads** rose by 2 per cent over the same period. Fatal or serious accidents on major roads and minor roads decreased by 8 and 6 per cent respectively.

- On roads with a speed limit over 40 mph (**non-built-up roads**) fatal or serious accidents decreased by 8 per cent in the year ending June 2015. There was a 7 per cent decrease in fatal or serious accidents on roads with a speed limit of up to and including 40 mph (**built-up roads**).

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.

Major roads: includes motorways and A roads.

Figures for April to June 2015

- Fatal or serious accidents on **major roads** and **minor roads** both decreased by 11 per cent in the second quarter of 2015.

- Fatal accidents on **built-up roads** decreased by 22 per cent in the second quarter of 2015. However, fatal accidents on **non-built-up roads** increased by 7 per cent. Fatal or serious accidents on non-built-up and built-up roads both decreased by 11 per cent compared with the same quarter of 2014.

Tables

• Reported road accidents, by road type (estimates): Great Britain, rolling annual totals, updated quarterly, table RAS45009.

• Reported road accidents by road type (estimates): Great Britain, latest available quarter, table RAS45010.

Background to trends

The first two quarters of 2015 are lower for each casualty severity than the corresponding quarters in 2014. If this trend is not adversely offset in the second half of the year, there will be a fall in casualties in 2015 when final data is published in June 2016. Based on the provisional data for the first two quarters of 2015, there would have to be over 1,000 fatalities in the last two quarters of 2015 for there to be an increase in fatalities compared with 2014. There has not been more than 1,000 fatalities in the last six months of a year since 2009. To counter this, though, there were indications that the 2014 figures could have represented a change to an upward trend in reported road casualties. This point was discussed in more detail in Main results: 2014, as published in June 2015.

One of the conclusions in Main results: 2014 was that the trends had become very complex and conflicting factors and evidence made it hard to surmise if the 2014 figures did, in fact, represent a genuine worsening in road safety in Britain, a one-off upward blip, or a plateauing of reported casualty numbers. The results contained within this report do not provide much help in indicating which of these potential options is correct. Our best guess at the current time is that the trend is flattening out albeit with random fluctuation each quarter. There is some evidence though that the trend is still slightly downwards, but if so, at a much lower rate than in recent history.

As is noted in every provisional release of quarterly statistics, the results from individual quarters should be used with caution. The data are always imperfect and this quarter, as with every quarter in the past, are based on incomplete returns from police forces. The returns are incomplete in three ways. Firstly, some forces have not provided data for the whole period April to June 2015: six forces have not provided data for June 2015, one force has not provided data for May or June 2015 and one force has not provided any data for the period. Secondly, even where forces have provided data for a given month, this does not mean that every accident that was reported to the force

Uncertainty

There is more missing data for this publication than in the previous quarterly publications e.g. for the Q1 2015 publication there was data missing for only two forces. Therefore, the uncertainty associated with these estimates is likely to be larger than in previous publications.

have been included in the return at this stage (accident records are not provided to us until they have been entered and validated by the original police force or local authority). Lastly, detailed validation has not yet been carried out on the records (this final validation, carried out at the end of the year by us, police forces and local authorities can result in details of the accident record being changed, or accidents being removed entirely). Although we have processes to deal with the first two problems (both of which would result in under reporting if ignored), these processes are imperfect and could well produce an estimate that is incorrect. However, now that all the data for Q1 have been returned there is no evidence that under reporting at the provisional stage is more than it has been in the past.

Tables

• Reported road casualties by police force area, rolling annual totals, updated quarterly, table RAS45011.

Weather

The **second quarters of 2014 and 2015** were similar in terms of precipitation with both close to the long term average (LTA). However, Q2 2014 was a particularly warm quarter with the average temperature 1.2 ºC above the LTA. In contrast, the temperature in the second quarter of 2015 was slightly below the LTA. Using the methodology outlined in the Reported road casualties Great Britain: annual report 2014 the Q2 2014 and Q2 2015 road casualty figures can be adjusted for the weather. The weather-adjusted figures shown in this section should be interpreted as the number of road casualties we would have expected that quarter had the temperature and precipitation in each month of the quarter been at the long term average (see table below).

Long term average (LTA)

The Met Office use 30 year averages for UK temperature and precipitation to assess changes in the latest temperature and precipitation data. Currently the 1981-2010 average is used for comparison: www.metoffice.gov.uk/climate/uk/summaries/2014/annual.

Chart 5: UK temperature and precipitation deviations from the long-run monthly average: July 2013 to June 2015

April 2014 was the third warmest April on Met Office records which is estimated to have led to six more fatalities than would have been expected if the temperature had been average. The

drier than average June 2014 is also estimated to have led to three more fatalities than expected. The Q2 2014 fatality figure is therefore adjusted downwards by 9 to account for these effects i.e. we would have expected 419 road deaths in Q2 2014 if the temperature and precipitation in each month had been at the LTA rather than the 428 actually observed.

Weather data

Weather data is available from the Met Office here.

Largely owing to the warmer than average April 2015 and drier than average June 2015, it is estimated that there were more **fatalities in Q2 2015** than would have been expected if the temperature and precipitation in each month had been at the LTA. We would have expected roughly 390 road deaths in Q2 2015 compared with the estimated 400. It is estimated that there would have been fewer **KSI casualties and slightly injured casualties** if the temperature and precipitation had been at the LTA in Q2 2014. The Q2 2015 casualties are not affected as much and if precipitation and temperature had been at the LTA across Q2 2014 and Q2 2015 there would have been smaller falls in KSIs and slightly injured casualties.

The **latest rolling year comparisons** are also likely to have been influenced by the weather. Largely due to warmer than average temperatures in the majority of months, it is estimated that there would have been roughly 1,699 road deaths in the year ending June 2014 if temperature and precipitation had been at the LTA rather than the 1,742 actually observed. There were also warmer than average temperatures in months of the year ending June 2015 with an estimated 1,680 road deaths if temperature and precipitation had been average compared with the 1,700 estimated. If temperature and precipitation had been at the LTA, it is estimated that there would have been a decrease in road deaths of 1 per cent in the year ending June 2015 rather than the 2 per cent observed. Similarly, it is estimated that there would have been smaller falls in KSIs and slightly injured casualties in the year ending June 2015 compared with the previous year had the temperature and precipitation been at the LTA in both years.

Table: Reported road casualties by severity: GB, Q3 2013 – Q2 2015

	Fatalities		KSI		Slightly injured		Total casualties	
QUARTER	Published	Weather-adjusted	Published	Weather-adjusted	Published	Weather-adjusted	Published	Weather-adjusted
Q3 2013	468	*461*	6,590	*6,521*	42,604	*42,687*	49,194	*49,209*
Q4 2013	470	*460*	6,195	*6,077*	44,310	*43,911*	50,505	*49,989*
Q1 2014	376	*359*	5,544	*5,295*	40,349	*39,412*	45,893	*44,707*
Q2 2014	428	*419*	6,233	*6,151*	41,790	*40,763*	48,023	*46,914*
year ending Q2 2014	1,742	*1,699*	24,562	*24,044*	169,053	*166,774*	193,615	*190,818*
Q3 2014	457	*442*	6,492	*6,406*	42,972	*43,509*	49,464	*49,915*
Q4 2014	514	*512*	6,313	*6,272*	44,784	*44,814*	51,097	*51,086*
Q1 2015 (P)	340	*340*	4,480	*4,470*	33,140	*33,040*	37,610	*37,510*
Q2 2015 (P)	400	*390*	5,540	*5,580*	36,780	*36,840*	42,320	*42,420*
year ending Q2 2015 (P)	1,700	*1,680*	22,830	*22,730*	157,670	*158,200*	180,500	*180,930*

1 Figures have been rounded to the nearest 10 for the provisional estimates.

Statistical significance in changes in casualty numbers

As described in the Main results: 2014 publication, we have started to test for statistically significant changes in the number of reported road casualties. Although the tests below can be applied to the provisional quarterly data, the outputs should be treated with caution. The tests do not make any allowances for uncertainty in the figures being used: they assume that the casualty figures are complete counts of all the records. This is fine for the annual figures as we know that police forces have no more reportable accidents on file and everything has been submitted. However, the provisional quarterly data are not complete records of all the reportable accidents during April to June 2015: not all police forces have provided data for the whole period and most forces will send additional records for this period at a later date. In theory, therefore, any statistical test needs to take this uncertainty into account and it should mean that it is more difficult to get a statistical significant change.

At this point in time we have not yet modified the tests to take into account this uncertainty. This should be kept in mind when interpreting these results. In practice, anything that appears to be statistically significant or nearly statistically significant should be regarded with some caution.

Road casualty numbers tend to be large in number and follow a Poisson distribution. The Normal approximation to the Poisson distribution has been used below to test for statistically significant changes in the latest rolling and quarterly comparisons. This shows that the **decrease in fatalities in the year ending June 2015 is not statistically significant** and is likely to be due to random variation. However, the **decreases in KSIs, slightly injured and total casualties are all highly significant** with the chance of these differences being due to random variation at less than 1 in 100. These changes are so large that even taking into account the uncertainty associated with the estimates, they are likely to remain significant.

Definition

The **Poisson distribution** can be defined as the probability distribution which expresses the probability of the number of rare events occurring in a given period of time if these events occur with a known average rate and independently from each other.

Table RAS45001: Reported road casualties by severity: Great Britain year ending second quarter 2015

	Number/percentage change compared with previous 12 months			
ALL CASUALTIES	Jul-13 to Jun-14	Jul-14 to Jun-15 (P)	Percentage change	statistically significant?
Killed	1,742	1,700	↓2%	
KSI [2]	24,562	22,830	↓7%	***
Slightly injured	169,053	157,670	↓7%	***
All casualties	193,615	180,500	↓7%	***

P Provisional estimates
1 Motor traffic (excludes pedal cycles)
2 Killed or seriously injured
*** statisticallly significant at 0.001 level.

Similarly, **the decrease in fatalities in the second quarter of 2015 compared with the same quarter of 2014 is not statistically significant** and is likely to be the result of random variation. However, the decreases in KSIs, slightly injured and total casualties in Q2 2015 are highly significant (at the 1% level). It is important to note, though, that it is not unusual to have statistically significant changes between individual quarters as the number of accidents can be affected by so many external factors.

Table RAS45002: Reported road casualties by severity for the second quarter 2015: Great Britain

	Number/percentage change compared with same quarter last year			
ALL CASUALTIES	Q2 2014	Q2 2015 (P)	Percentage change	statistically significant?
Killed	428	400	↓7%	
KSI [2]	6,233	5,540	↓11%	***
Slightly injured	41,790	36,780	↓12%	***
All casualties	48,023	42,320	↓12%	***

P Provisional estimates
1 Motor traffic (excludes pedal cycles)
2 Killed or seriously injured
*** statisticallly significant at 0.001 level.

Strengths and weaknesses of the data

- The quarterly figures are based on estimates. No single quarter's figures should be taken in isolation as an indication of long-term trend, as there are seasonal fluctuations particularly in the smaller categories of road user. The 2015 Q2 results are based on complete (April to June 2015) figures provided by 35 police authorities with partial data for seven authorities. Adjustments are made to take account of missing data. Table RAS45011 provides a list of which police authorities are included in these figures.

- Comparison of road accident reports with death registrations shows that very few, if any, road accident fatalities are not reported to 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 suggested by police accident data.

- 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 kept in mind when using and analysing the figures. However, police data on road accidents (STATS19), 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.

- Following requests from users, we have started to include casualty rates in the quarterly release i.e. casualty rates per mile. They are based on provisional casualty and traffic estimates

and are subject to revision at the end of the year.

- Provisional traffic estimates do not include pedal cycling estimates. We have attempted to adjust for this in the figures by adding in approximately 1% extra vehicle miles. This ratio is based on the relationship between all motor vehicle traffic and pedal cycle traffic for 2012 to 2014.

Background notes

- Estimates are based on information reported to the Department for Transport 17 weeks after the end of the second quarter 2015. Figures are based on information available on 30 October 2015.
- The Reported Road Casualties Great Britain Quarterly Provisional Estimates web page provides further detail of the key findings presented in this statistical release. The tables are available at: www.gov.uk/government/statistics/reported-road-casualties-in-great-britain-provisional-estimates-apr-to-jun-2015
- A note on methodology can be found at: www.gov.uk/government/publications/road-accidents-and-safety-statistics-guidance
- 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. 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
- The latest annual road safety publication, Reported road casualties Great Britain: annual report 2014, is available at: www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-2014. Final figures for 2015 will be published in Main Results 2015, due in June 2016.

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/48822/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/transport-statistics-notes-and-guidance-road-accident-and-safety.

Next release

The next quarterly release of reported road casualty statisics, for the year ending September 2015, will be published in February 2016.