

# Reported Road Casualties in Surrey 2011



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### Definitions:

**Collision:** Involves personal injury occurring on the public highway (including footways) in which at least one road vehicle or a vehicle in collision with a pedestrian and which becomes known to the police within 30 days of its occurrence. One collision may give rise to several casualties. "Damage-only" collisions are not generally included in published statistics or analyses conducted by the police or local authorities, as the police do not compile "damage-only" collision data. Sometimes the word "collision" or "crash" is preferred by many in the road safety field instead of "accident" because they believe the word "accident" could be taken incorrectly as absolving anyone from blame. The word collision has been used within this report.

**Fatal collision:** A collision in which at least one person is killed.

**Serious collision:** One in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed.

**Slight collision:** One in which at least one person is slightly injured but no person is killed or seriously injured.

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

**Killed:** Human casualties who sustained injuries which caused death less than 30 days after the collision. Confirmed suicides are excluded.

**Serious injury:** An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushing, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the collision. An injured casualty is recorded as seriously or slightly injured by the police on the basis of information available within a short time of the collision. This generally will not reflect the results of a medical examination, but may be influenced according to whether the casualty is hospitalised or not. Hospitalisation procedures will vary regionally.

**Slight injury:** An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

**KSI:** Killed or seriously injured.

**Children:** Those who are aged 0 to 15 years old (under 16 years old).

## Executive Summary

The trend in road casualties in Surrey to the end of 2011 is a mixed picture.

In recent years there has been an improved reduction in fatal casualties on Surrey's roads. There were 28 fatal casualties in 2011 whereas the annual total for the period 1994 to 2007 was typically from 50 to 75. A similar pattern of an accelerated reduction in fatal casualties in recent years has been observed across the south east of England and Great Britain.

In contrast there was an increase in serious injury casualties in 2011 on the highway network within Surrey (a total of 554 casualties) compared to 2010 (a total of 488). Unlike fatal casualties there has not been a reduction in serious injury casualties in recent years. Instead the numbers have remained fairly static since 2003. This makes the accelerated reduction in fatal casualties described above more curious, because the same has not occurred for serious casualties. Surrey County Council have recently commissioned TRL Ltd to undertake more detailed research into the possible reasons for this.

In comparison with other local authority areas, Surrey's performance is again mixed.

When using a measure of the percentage reduction in KSI casualties compared to the 2005 to 2009 average baseline, it can be seen in Figure 3.1 that the downward trend in KSIs has been greater in most other local authorities. Consequently Surrey was in the bottom (worst performing) quartile of all local authorities for this indicator in 2009 and 2010. However when using a measure taking into account the level of traffic flow (the number of KSIs per billion vehicle miles travelled), Surrey is in the top performing quartile of all local authorities for this indicator. However recent performance in Surrey using this indicator is reduced compared to previous years despite still being in the top quartile – see Figure 3.2.

Increases in the number of casualties aged 40 or above appears to account for the biggest increases in KSI casualties overall when comparing 2011 with the average for 2005 to 2009.

Surrey has seen a large increase in pedal cyclist KSI casualties in recent years. (The total of 107 pedal cyclist KSIs in 2011 was an increase of 73 per cent compared to the average for 2005 to 2009). It is likely that this is due in part to increases in the amount of travel undertaken by cyclists. Increased take up of cycling is something that Surrey County Council wish to encourage, as this is a sustainable mode of transport and can lead to improved health. Therefore care and resources will need to be invested to improve the safety of cycling at the same time as promoting this mode of transport.

There has also been disappointing performance in reducing KSI casualties for other vulnerable road users such as pedestrians and motorcyclists when comparing 2011 with the average for 2005 to 2009. There was an increase of 14 per cent for pedestrians and only a small reduction of 2 per cent for motorcyclists.

This report provides an overview of the annual casualty trends in Surrey. Further analysis will be conducted and reported separately for specific road user groups, behaviours and profiles that are identified as a priority for Surrey. This will inform upon the reasons and causes for various trends in order to develop appropriate interventions and campaigns for the future.

## 1. Introduction

- 1.1.1. In February 2012 Surrey County Council began consultation with the public on their Drive SMART Road Safety and Anti-Social Driving Strategy, developed jointly with Surrey Police. Within the strategy it was proposed that progress towards reducing the number of road casualties killed or seriously injured should be monitored using two main indicators:
- The percentage reduction in road casualties killed or seriously injured compared with the baseline average for the period 2005 to 2009.
  - The annual rate of road casualties killed or seriously injured per billion vehicle miles (this measure takes into account the level of motor vehicle use, and therefore the level of exposure to risk).
- 1.1.2. It was proposed that Surrey should be compared to other English local authorities using these indicators with the aim of being in the top quartile of all local authorities for performance. A five-year baseline is usually used when measuring casualty reduction performance. (Using a single year baseline would be unwise in case that year happened to be unusually high or low due the random fluctuation that occurs from year to year). Accordingly national comparative data is published using a base line period from 2005 to 2009.
- 1.1.3. This report presents an overview of the trend in road casualties in Surrey by severity, followed by Surrey's comparative performance using the indicators described above. The report then provides an overview of the trend in road casualties by road user age and road user type for each severity.

## 2. Trend in Road Casualties By Severity

### 2.1. Fatal Road Casualties

- 2.1.1. The chart in Figure 2.1 shows the trend in fatal road casualties in Surrey since 1994. It can be seen that there has been a large drop in fatal casualties in recent years. There were 28 fatal casualties in 2011 whereas there were 60 in 2007. A similar pattern has been experienced across the southeast of England and Great Britain.
- 2.1.2. There could be a range of factors that may have contributed to this. These could include the economic downturn leading to a reduction in the amount of travel, especially by the riskiest (young) drivers, improvements to car design, continued road improvements at collision hotspots, greater compliance with the speed limit, more effective emergency care for road collision victims, more effective roads policing and technology and more effective road safety education, training and campaigning. Surrey County Council have recently commissioned TRL Ltd to undertake more detailed research into the possible reasons for this recent accelerated reduction in fatal casualties so as to inform decisions on any future interventions to consolidate this reduction.

### 2.2. Serious Road Casualties

- 2.2.1. The chart in Figure 2.2 overleaf shows the trend in serious injury road casualties together with the trend in fatal road casualties in Surrey. It can be seen that in 2011 there was a total of 554 serious casualties, an increase of 66 compared to 2010 when there were 488. It can be seen that there hasn't been a reduction in serious injury casualties in recent years. Instead the numbers of serious injury casualties has remained fairly static since 2003. This makes the accelerated reduction in fatal casualties described above more curious, because the same has not happened for serious casualties.

### **2.3. Slight Road Casualties**

- 2.3.1. The chart in Figure 2.3 shows the trend in slight injury road casualties together with the trend in serious and fatal casualties. It can be seen that in 2011 there was a total of 5,173 slight injury casualties, an increase of 362 compared to 2010 when there was 4,811. Prior to 2011 there had been an improved reduction in slight injury casualties after 2006. In the early 2000s the number of slight injuries had remained fairly static.

Figure 2.1

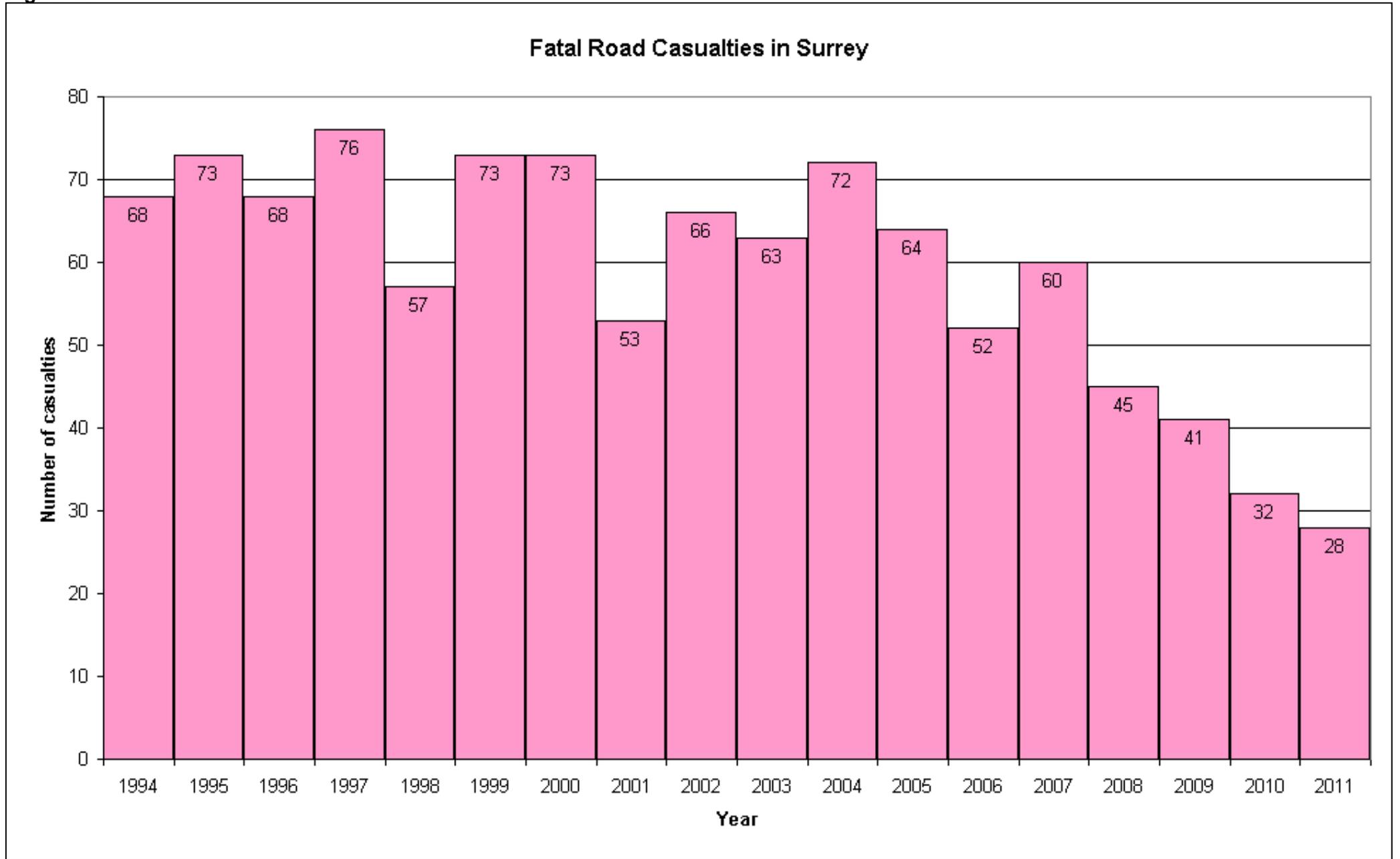


Figure 2.2

### Fatal and Serious Road Casualties in Surrey

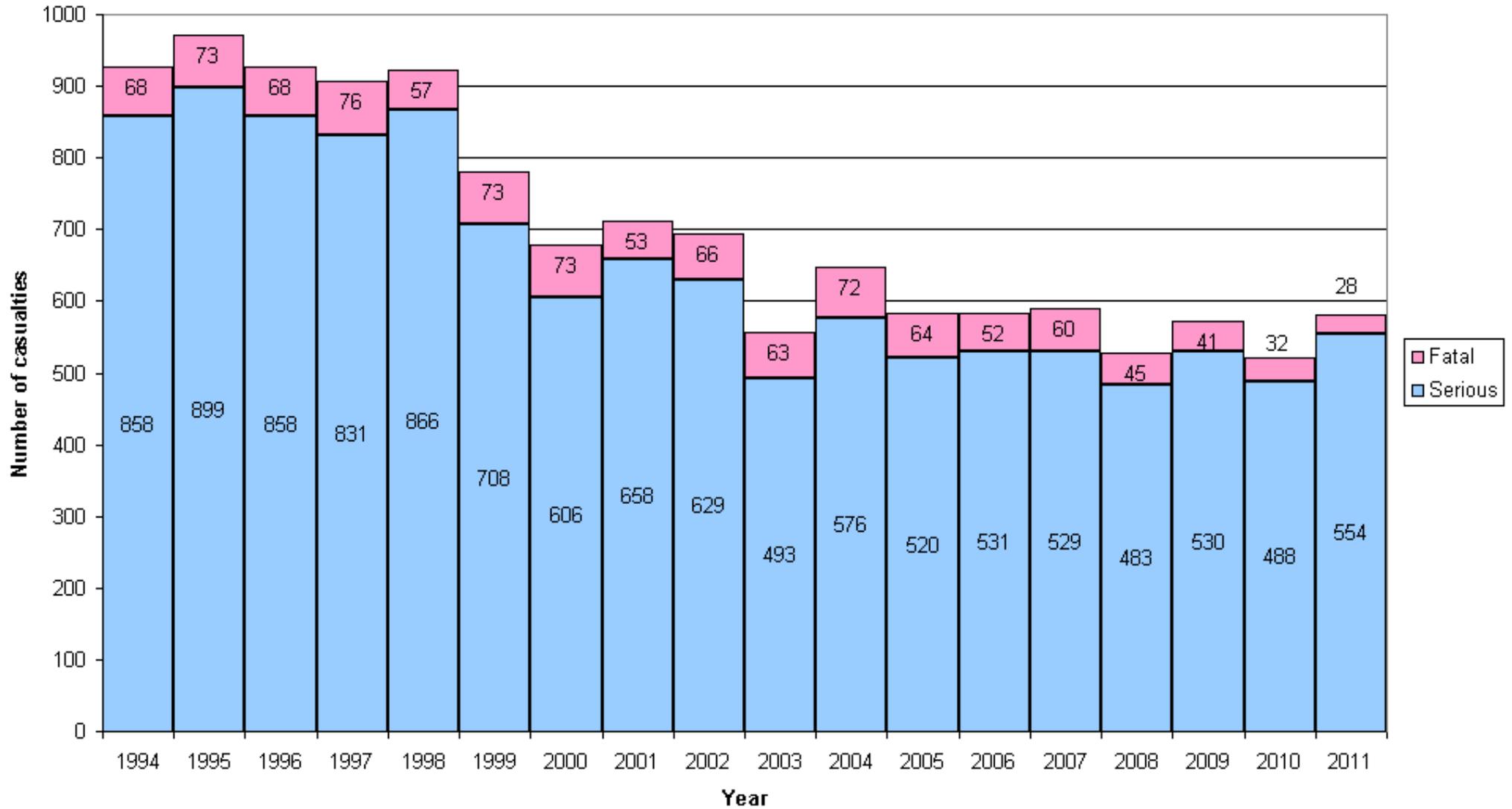
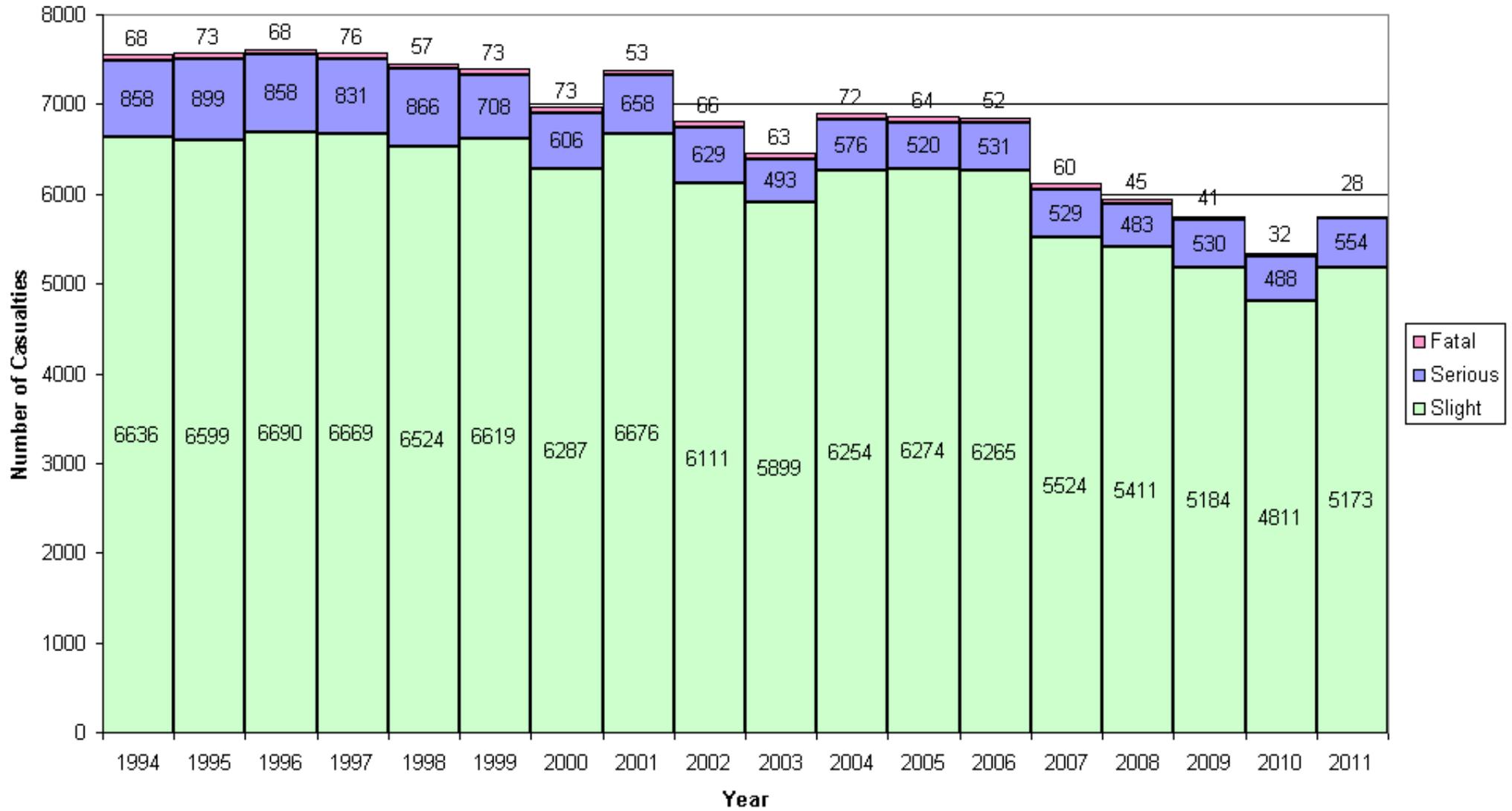


Figure 2.3

Fatal, Serious and Slight Road Casualties in Surrey



### **3. Surrey's Performance Compared to Other Local Authorities**

#### **3.1. The Percentage Reduction in Road Casualties Killed or Seriously Injured**

- 3.1.1. The chart in Figure 3.1 shows the percentage reduction in casualties killed or seriously injured (KSI) in Surrey compared to the baseline average for the period from 2005 to 2009 (an average of 571 casualties). From the previous Figure 2.2 it can be seen that there was a total of 582 KSI in Surrey in 2011, which means there was a 1.9 per cent increase compared to the baseline average of 571 casualties.
- 3.1.2. There are a total of 149 English local authority areas for which this data is published and Surrey's aim is to be in the top quartile for this indicator (i.e. in the top 37 out of 149 local authorities). Figure 3.1 also shows the thresholds between each of the performance quartiles for the 149 English local authorities up to the end of 2010 (data for 2011 is likely to be published by DfT in September 2012). In 2010 Surrey's rank was 115.
- 3.1.3. It can be seen that the downward trend in KSIs has been greater in most other local authorities compared to Surrey and therefore in 2009 and 2010 Surrey was in the bottom (worst performing) quartile for this measure. It seems likely that Surrey will be in the worst performing quartile in 2011 too (data for 2011 is likely to be published by DfT in September 2012). In 2010 the top performing 37 local authorities all achieved a KSI casualty reduction performance better than 27.4 per cent reduction.

#### **3.2. The Number of Road Casualties Killed or Seriously Injured Per Billion Vehicle Miles**

- 3.2.1. The chart in Figure 3.2 shows the number of KSI road casualties per billion vehicle miles travelled in Surrey each year since 2004. This is a helpful indicator for use in comparing different local authority areas because it takes into account the level of traffic and therefore the exposure to risk in each area. For example a local authority with twice the amount of traffic as another may reasonably be expected to suffer a greater number of collisions and casualties.
- 3.2.2. Surrey's aim is to be in the top quartile for all local authorities for this indicator. Figure 4.1 also shows the thresholds between each of the performance quartiles for 149 English local authorities to the end of 2010 (the Department for Transport will publish traffic flow data for 2011 in the summer of 2012). In 2010 Surrey was ranked 37 and it can be seen that therefore Surrey was just within the top (best performing) local authorities. However Surrey was close to dropping into the second quartile in 2009 and 2010, having been well within the top quartile in previous years.

Figure 3.1

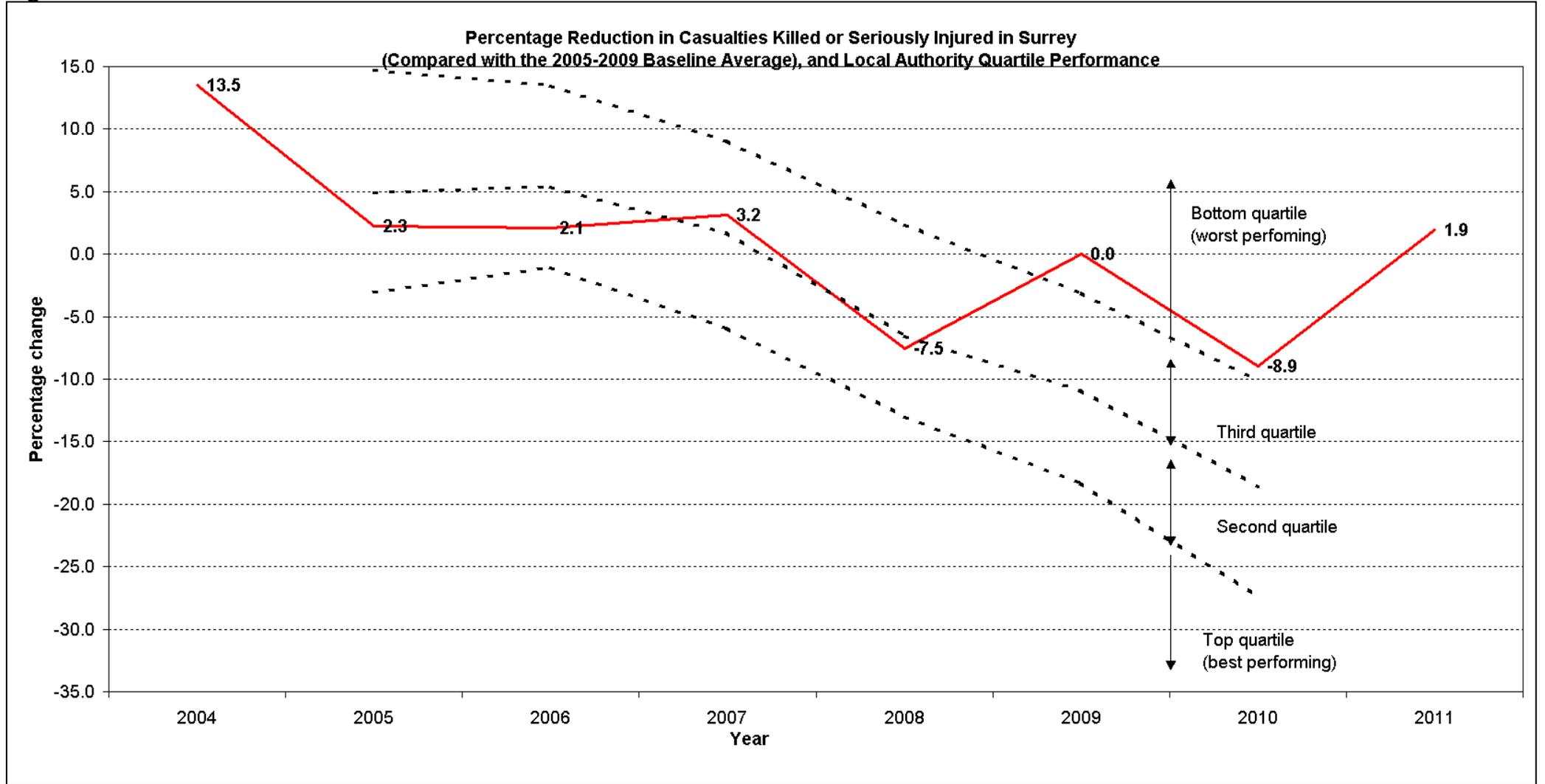
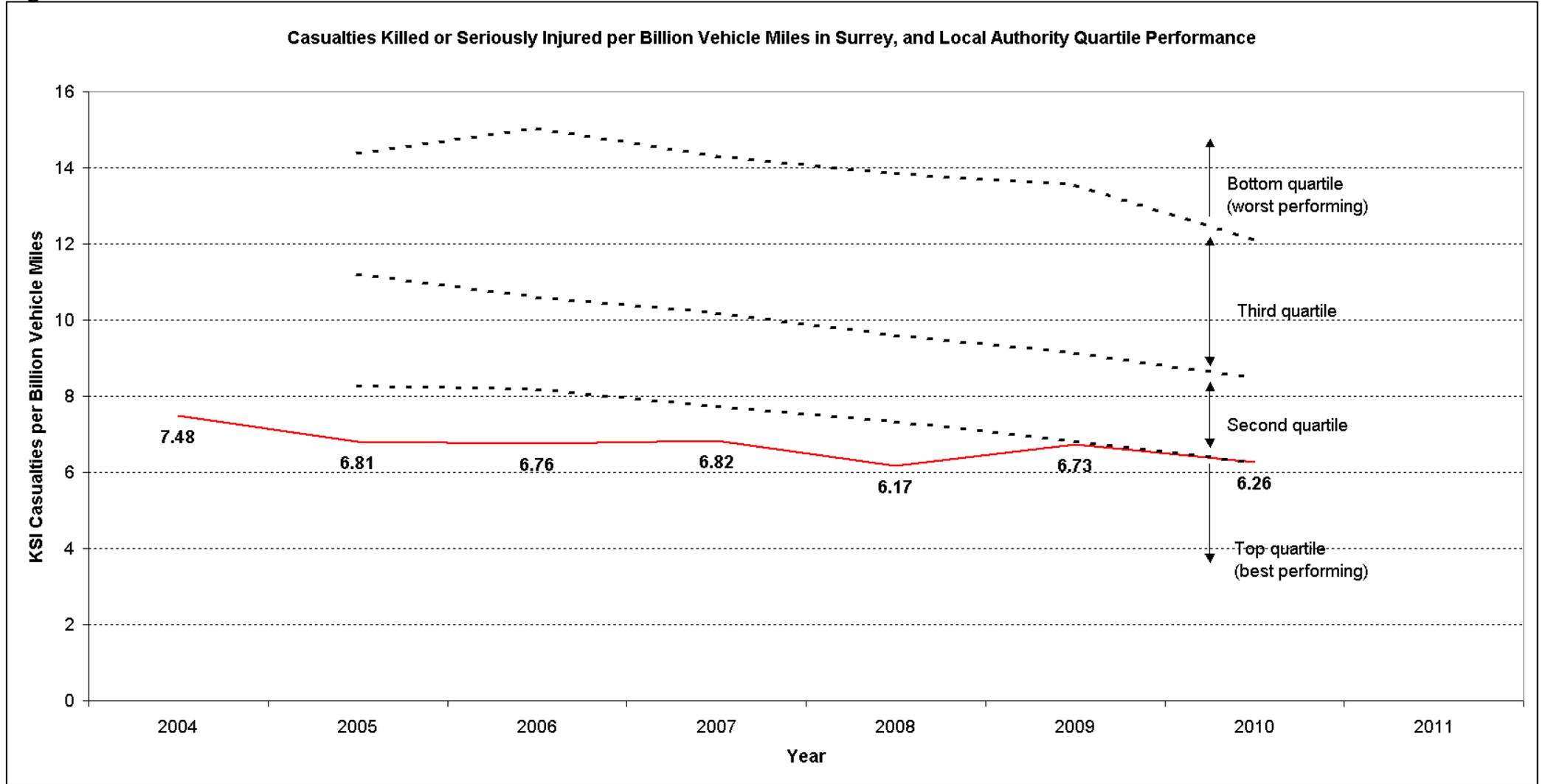


Figure 3.2



## 4. Fatal Casualties By Age and Road User Type

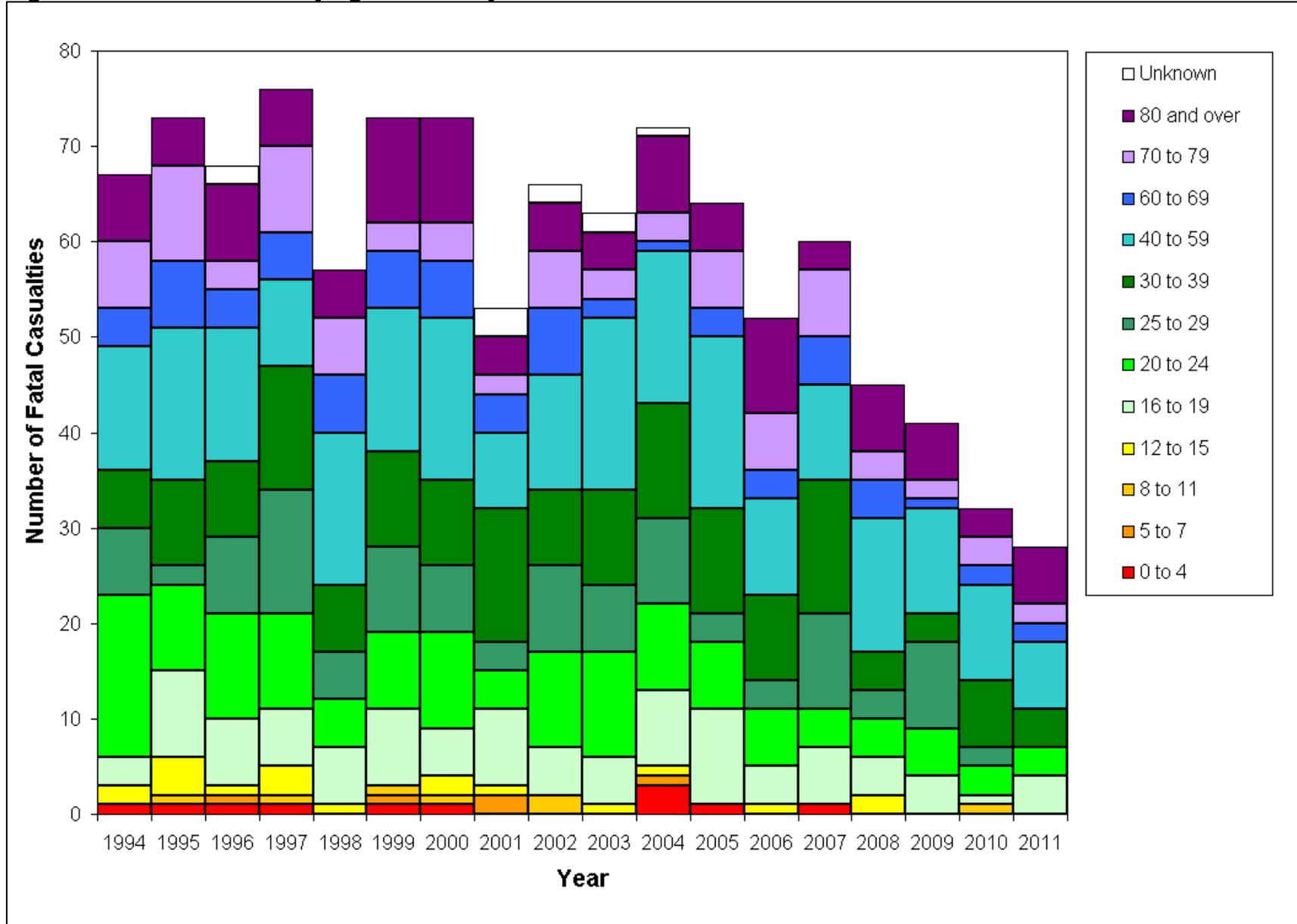
### 4.1. Fatal Casualties by Age

- 4.1.1. The data in Table 4.1 and the chart in Figure 4.1 describe the trend in fatal casualties in Surrey by age of casualty. It can be seen from the data that the total number of fatal casualties in Surrey in 2011 was 28. This is a 13 per cent reduction compared with 2010, a 32 per cent reduction compared with 2009 and a 47 per cent reduction compared with the average for 2005 to 2009.
- 4.1.2. It can be seen from the data in Table 4.1 that fatal casualties have reduced in all age groups in 2011 compared to the 2005 to 2009 average. There were no children (under the age of 16) killed in 2011.
- 4.1.3. Caution should be exercised before drawing any strong conclusions from trends within the numbers of fatal casualties because the numbers are small and subject to random fluctuation from year to year.

**Table 4.1: Fatal Casualties by Age of Casualty**

Age band	2005-2009 average	2009	2010	2011	2011 percentage change over 2005-2009 average
0 to 4	0.4	0	0	0	-100
5 to 7	0.0	0	0	0	0
8 to 11	0.0	0	1	0	0
12 to 15	0.6	0	0	0	-100
16 to 19	5.6	4	1	4	-29
20 to 24	5.2	5	3	3	-42
25 to 29	5.6	9	2	0	-100
30 to 39	8.2	3	7	4	-51
40 to 59	12.6	11	10	7	-44
60 to 69	3.2	1	2	2	-38
70 to 79	4.8	2	3	2	-58
80 and over	6.2	6	3	6	-3
Unknown	0.0	0	0	0	0
Total	52.4	41	32	28	-47

Figure 4.1: Fatal Casualties by Age of Casualty





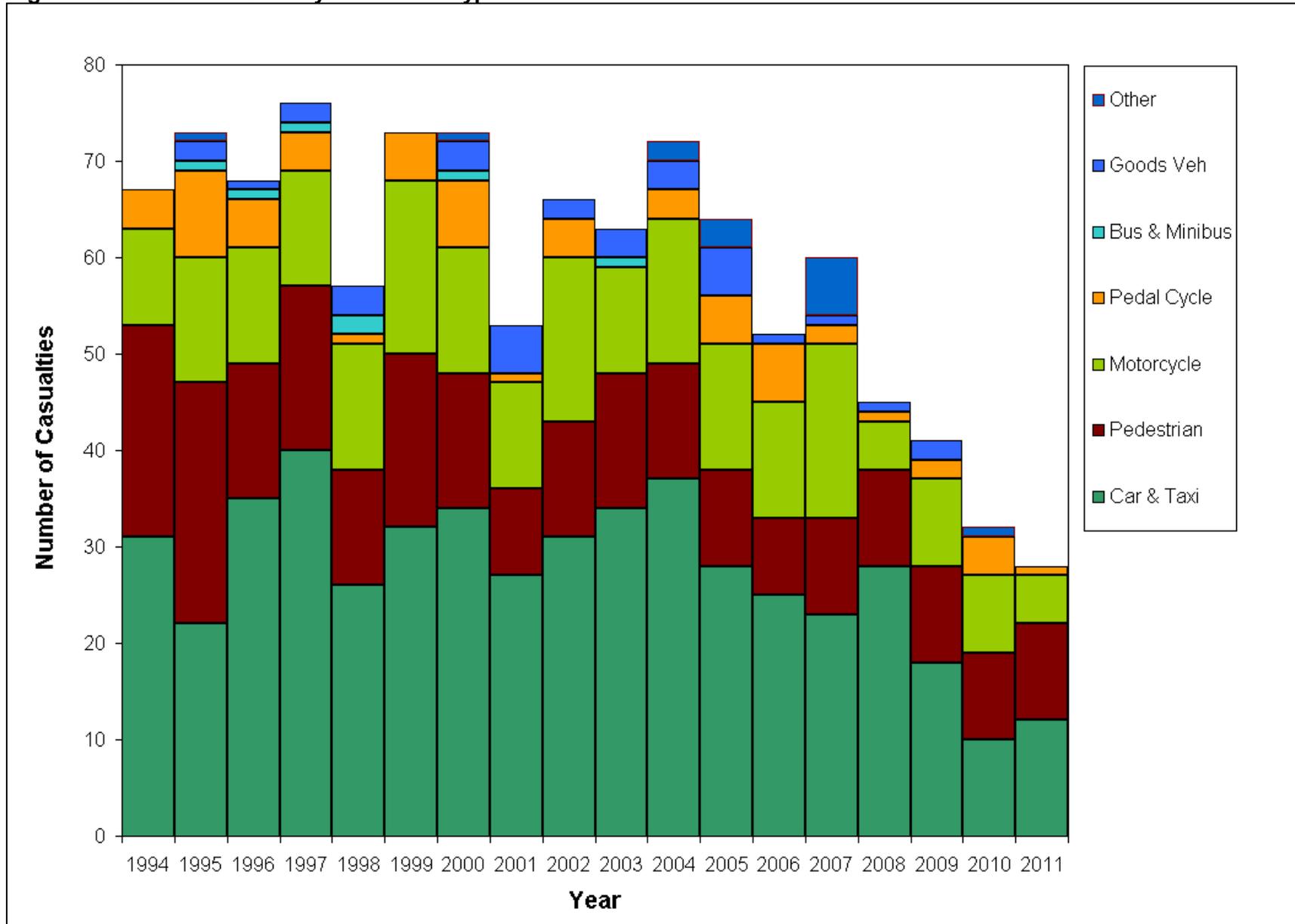
## 4.2. Fatal Casualties by Road User Type

- 4.2.1. The data in Table 4.2 and the chart in Figure 4.2 describe the trend in fatal casualties in Surrey by road user type. It can be seen that fatalities to car occupants accounted for 47 per cent of fatal casualties in Surrey during 2005 to 2009 (an annual average of 24.4 casualties out of an annual average total of 52.4). In 2011 there were 12 fatal casualties who were car occupants (43 per cent of the total for that year), and this is a reduction of 51 per cent compared to the average for 2005 to 2009.
- 4.2.2. The number of fatal pedestrian casualties has remained fairly static. There were 10 fatal pedestrian casualties in 2011, which is similar to the average for 2005 to 2009 (an average of 9.6).
- 4.2.3. The number of fatal motorcyclist casualties has reduced by 56 per cent from an average of 11.4 in 2005 to 2009, to 5 in 2011.
- 4.2.4. Although there have been reductions in fatalities for all the main road user categories including pedestrians, motorcyclists and car occupants, the reduction in car occupant fatal casualties appears to have contributed the most to the overall reduction in fatal casualties.
- 4.2.5. Caution should be exercised before drawing any strong conclusions from trends within the numbers of fatal casualties because the numbers are small and subject to random fluctuation from year to year.

**Table 4.2: Fatal Casualties by Road User Type**

Road User Type	2005-2009 average	2009	2010	2011	2011 Percentage change over 2005-2009 average
Pedestrian	9.6	10	9	10	4
Pedal Cycle	3.2	2	4	1	-69
Motorcycle	11.4	9	8	5	-56
Car & Taxi	24.4	18	10	12	-51
Bus & Minibus	0.0	0	0	0	0
Goods Veh	2.0	2	0	0	-100
Other	1.8	0	1	0	-100
Total	52.4	41	32	28	-47

Figure 4.2: Fatal Casualties by Road User Type



## 5. Casualties Killed and Seriously Injured by Age and Road User Type

### 5.1. Casualties Killed or Seriously Injured by Age

5.1.1. The data in Table 5.1 and the chart in Figure 5.1 describe the trend in KSI casualties in Surrey by age of casualty. It can be seen that there were a total of 582 KSIs in 2011, which is an increase of 12 per cent compared with 2010, and an increase of 2 per cent compared with the average for 2005 to 2009.

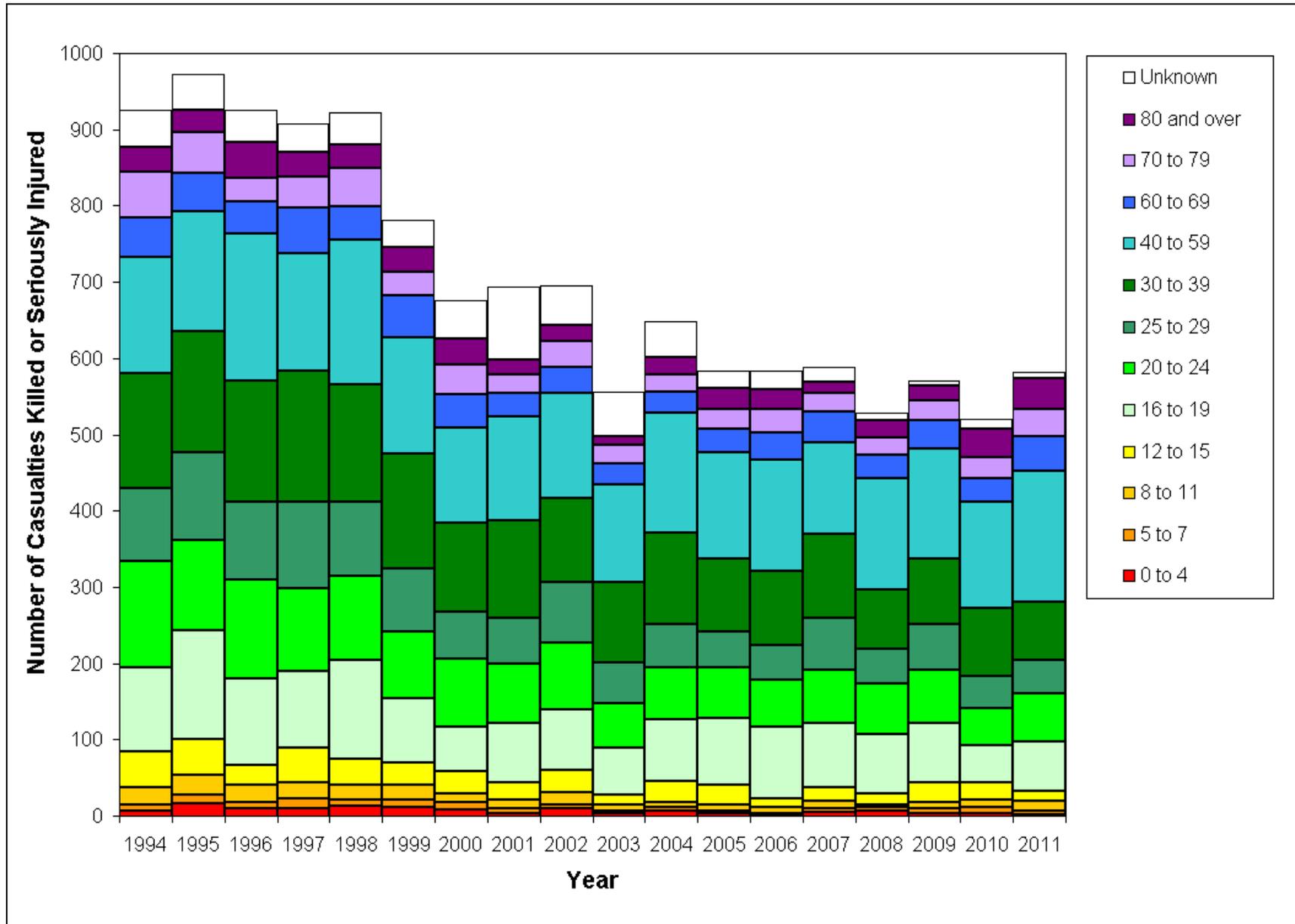
5.1.2. The number of children (under the age of 16) KSIs was 33 which is a 23 per cent reduction compared to 2010 (43 child KSIs) and a 4 per cent reduction compared to the 2005 to 2009 average (34.4 child KSIs).

5.1.3. Increases in casualties aged 40 or above appears to account for the biggest increases in KSI casualties overall. The number of KSI casualties over 40 was 293 in 2011, which is an increase of 19 per cent compared to 2010 (247 casualties aged 40 or over), and an increase of 32 per cent compared to the average for 2005 to 2009 (222.4 casualties aged 40 or over).

**Table 5.1: Casualties Killed or Seriously Injured by Age of Casualty**

Age band	2005-09 average	2009	2010	2011	2011 Percentage change over 2005-09 average
0 to 4	3.8	4	4	1	-74
5 to 7	4.2	6	7	5	19
8 to 11	7.8	8	10	14	79
12 to 15	18.6	25	22	13	-30
16 to 19	84.6	79	50	65	-23
20 to 24	66.6	70	48	62	-7
25 to 29	53.4	59	42	44	-18
30 to 39	93.0	86	90	77	-17
40 to 59	139.6	145	138	171	22
60 to 69	34.8	36	31	45	29
70 to 79	26.2	27	28	36	37
80 and over	21.8	19	37	41	88
Unknown	16.6	7	13	8	-52
Total	571.0	571	520	582	2

Figure 5.1: Casualties Killed or Seriously Injured by Age of Casualty



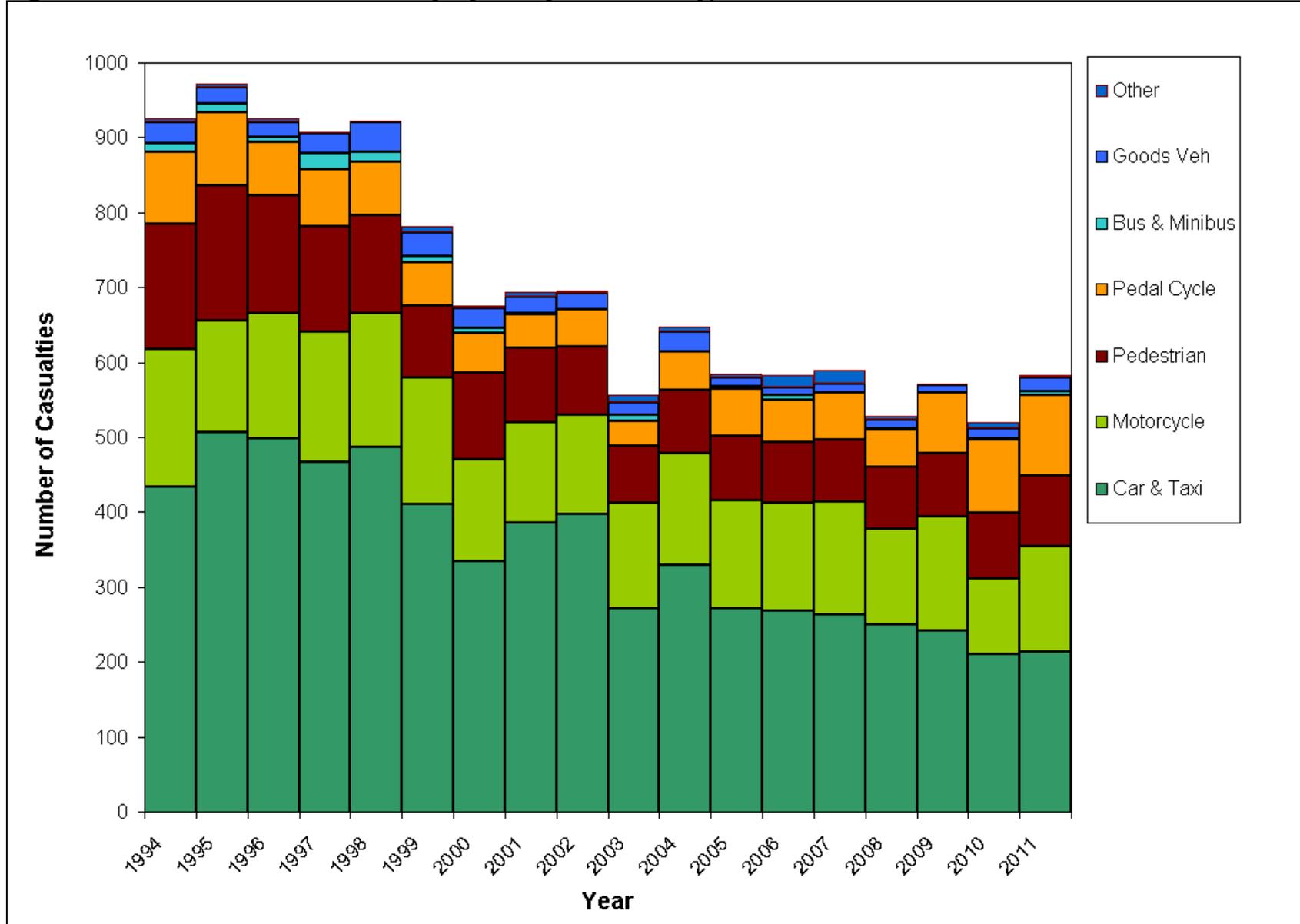
## 5.2. Casualties Killed or Seriously Injured by Road User Type

- 5.2.1. The data in Table 5.2 and the chart in Figure 5.2 describe the trend in casualties killed or seriously injured in Surrey by road user type.
- 5.2.2. It can be seen that car occupants constitute 37 per cent of the total KSIs in 2011. There was a small increase in car occupant casualties in 2011 compared to 2010 (an increase of 3 KSIs from 210 to 213). Despite this there were still 18 per cent fewer car occupant KSIs in 2011 than there were on average from 2005 to 2009 (258.6 KSIs).
- 5.2.3. There was an increase of 9 per cent in the number of pedestrian KSI casualties in 2011 (95 KSIs) compared with 2010 (87 casualties). The number in 2011 was 14 per cent greater than the average for 2005 to 2009 (83.6 KSIs).
- 5.2.4. There was a 9 per cent increase in the number of pedal cyclist KSI casualties in 2011 (107 KSIs) compared to 2010 (98 KSIs). There has been a large increase in pedal cyclist KSIs in recent years compared to the average for 2005 to 2009. The total in 2011 is 73 per cent greater than the average for 2005 to 2009. It is possible that this is due in part to an increase in the amount of travel undertaken by cyclists. Increased cycling is something that Surrey County Council wish to encourage, as this is a sustainable mode of transport and can help to improve health. However care will be needed to improve the safety of cycling at the same time as promoting this mode of transport.
- 5.2.5. The number of motorcycling KSI casualties has increased by 38 percent in the space of one year from 2010 (102 KSIs) to 2011 (141 KSIs). This means that the total in 2011 was similar to the average in 2005 to 2009 (144.2 KSIs).

**Table 5.2: Casualties Killed or Seriously Injured by Road User Type**

Road User Type	2005-09 average	2009	2010	2011	2011 Percentage change over 2005-09 average
Pedestrian	83.6	85	87	95	14
Pedal Cycle	62.0	80	98	107	73
Motorcycle	144.2	153	102	141	-2
Car & Taxi	258.6	241	210	213	-18
Bus & Minibus	2.8	0	2	5	79
Goods Veh	10.6	11	13	18	70
Other	9.2	1	8	3	-67
Total	571.0	571	520	582	2

Figure 5.2: Casualties Killed or Seriously Injured by Road User Type



## 6. Trend in Slight Injury Casualties by Age and Road User Type

### 6.1. Casualties Slightly Injured by Age

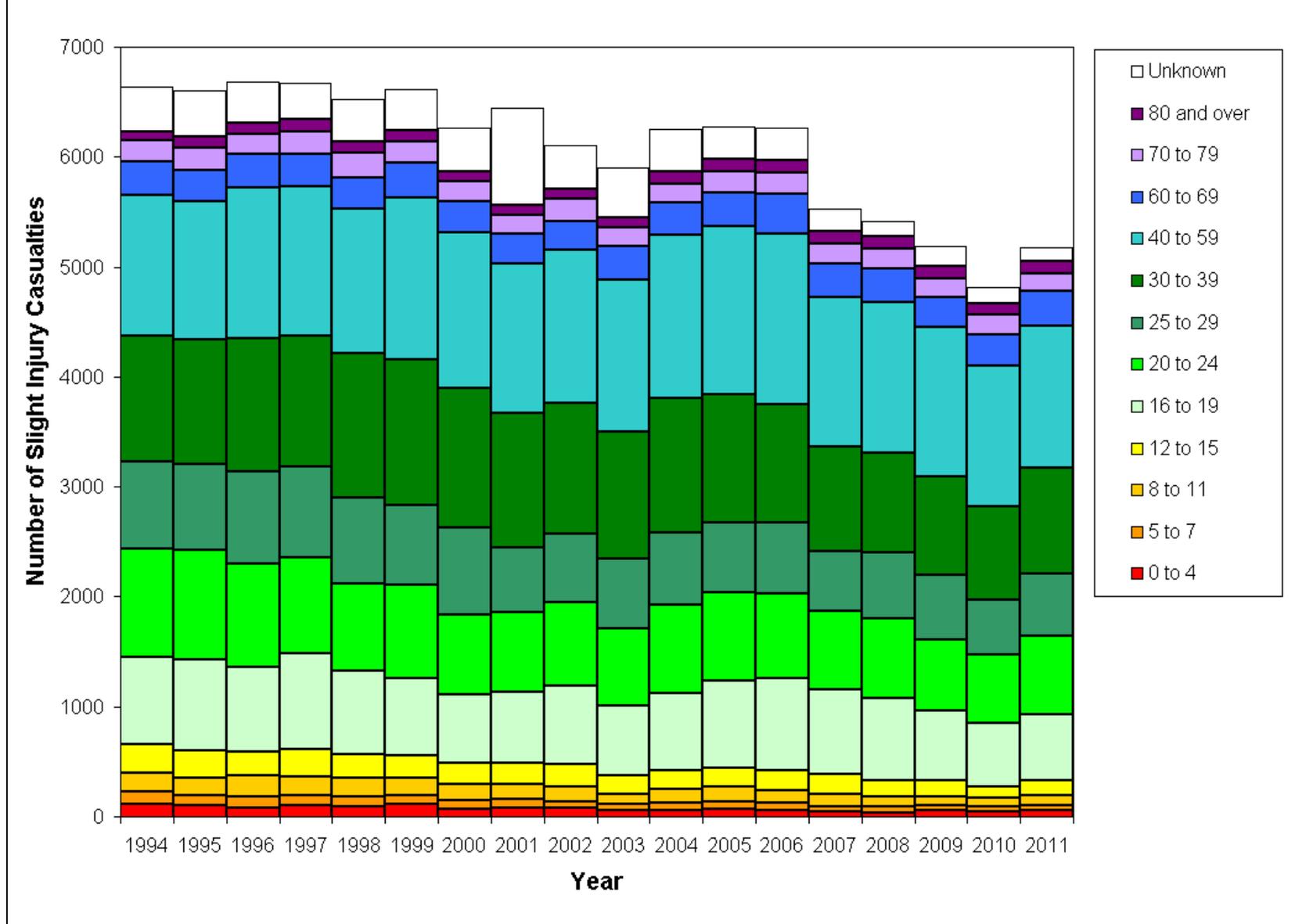
6.1.1. The data in Table 6.1 and the chart in Figure 6.1 describe the trend in casualties slightly injured in Surrey by age of casualty. It can be seen that there were a total of 5,173 casualties slightly injured in 2011, which is an increase of 8 per cent compared with 2010, but a decrease of 10 per cent compared with the average for 2005 to 2009.

6.1.2. It can be seen that the greatest percentage reductions in slight injury casualties compared to the 2005 to 2009 average have occurred for the younger age groups. For example the total number of slightly injured casualties under the age of 20 was 924 in 2011, which is a 19 per cent reduction compared to 2005 to 2009 when there was an average of 1,137.6. This is despite a 9 per cent increase in 2011 compared to 2010 (when there were 847).

**Table 6.1: Casualties Slightly Injured by Age of Casualty**

Age band	2005-09 average	2009	2010	2011	2011 percentage change over 2005-2009 average
0 to 4	53.0	56	45	55	4
5 to 7	56.4	44	44	43	-24
8 to 11	106.8	83	78	96	-10
12 to 15	164.4	150	102	133	-19
16 to 19	757.0	628	578	597	-21
20 to 24	732.6	650	629	720	-2
25 to 29	600.8	582	495	563	-6
30 to 39	1,001.0	898	854	959	-4
40 to 59	1,430.6	1,357	1,271	1,294	-10
60 to 69	313.4	279	292	317	1
70 to 79	183.0	162	173	158	-14
80 and over	109.6	116	105	116	6
Unknown	222.8	179	145	122	-45
Total	5,731.4	5,184	4,811	5,173	-10

Figure 6.1: Casualties Slightly Injured by Age of Casualty





## 6.2. Slight Injury Casualties by Road User Type

- 6.2.1. The data in Table 6.2 and the chart in Figure 6.2 describe the trend in casualties slightly injured in Surrey by road user type. It can be seen that car & taxi users constitute the majority of slight injury casualties (nearly three quarters of the total in 2011).
- 6.2.2. The number of car & taxi user slight injury casualties has reduced by 12 per cent in 2011 compared with the average for 2005 to 2009. However there was an increase of 7 per cent in 2011 compared with 2010.
- 6.2.3. Pedal cyclists constitute about 8 per cent of the total number of slightly injured casualties in 2011. There has been an increase of 19 per cent in the number of pedal cyclist slight injury casualties in 2011 compared to the average for 2005 to 2009. There was an increase of 19 per cent in 2011 compared to 2010 too.

**Table 6.2: Casualties Slightly Injured by Road User Type**

Road User Type	2005-09 average	2009	2010	2011	2011 Percentage change over 2005-09 average
Pedestrian	317.2	317	306	295	-7
Pedal Cycle	354.2	392	355	422	19
Motorcycle	421.0	385	330	343	-19
Car & Taxi	4,349.2	3,826	3,584	3,843	-12
Bus & Minibus	59.0	58	50	56	-5
Goods Veh	149.8	149	161	200	34
Other	81.0	57	25	14	-83
Total	5,731.4	5,184	4,811	5,173	-10

**Figure 6.2: Casualties Slightly Injured by Road User Type**

