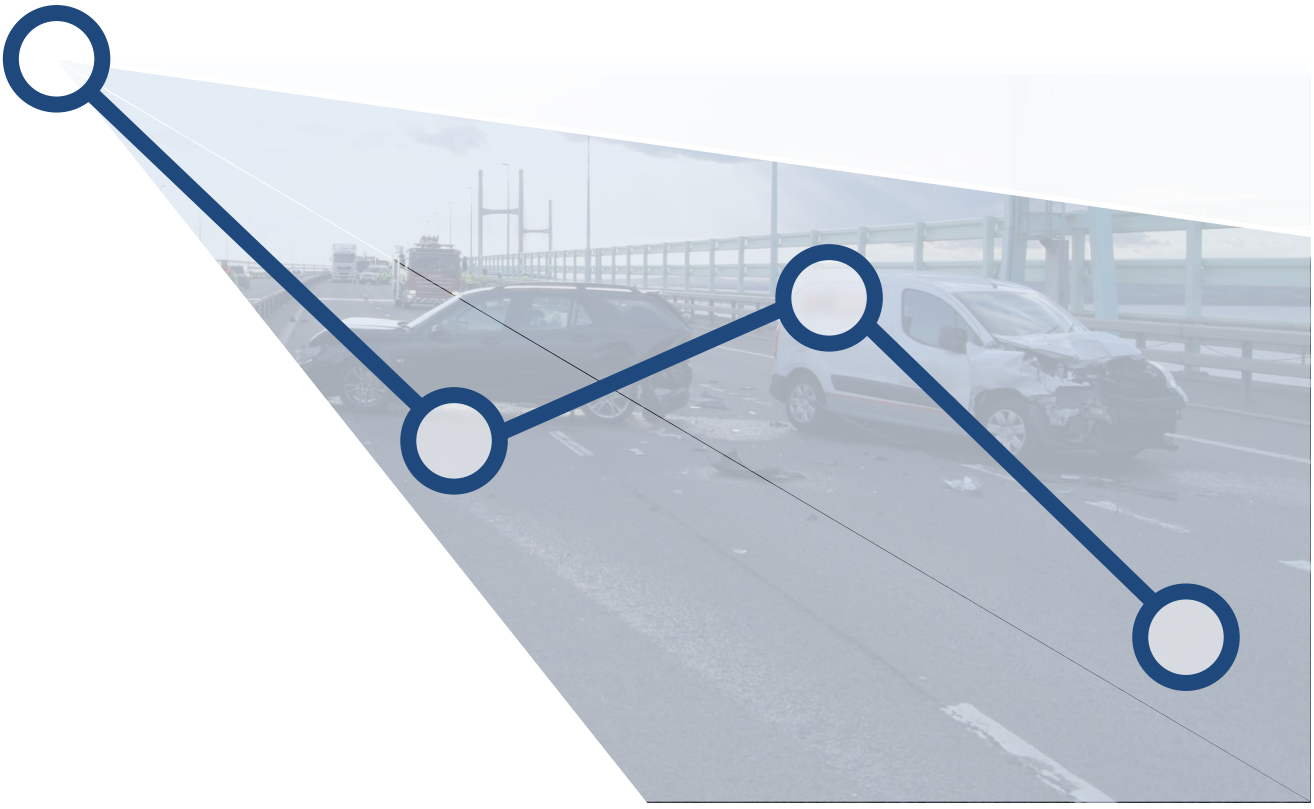
Reported Road Casualties on the Strategic Network 2014



Summary Sheet of 2014 SRN Casualties and Collisions

Collisions	10,589	↑ 4.4% since 2013

Casualties	211 Fatalities	1,853 KSI casualties	16,814 Total casualties
% since 2013	↓ 13.5%	↑ 8.4%	↑ 4.5%

Selected fatalities 2014 and percentage changes	2014	
Car occupants	115	↓ 13.5%
Involving PTWs (motorcycles)	33	↓ 10.8%
Pedal cyclists	4	-
Involving young motorists	28	↓ 37.8%
From hitting a near or offside crash barrier	14	↓ 51.7%
On motorways	84	↓ 3.4%
On motorways with no lights during darkness	24	↓ 14.3%
Exceeding speed limit	20	↓ 9.1%
Driver impaired by alcohol	7	↓ 68.2%
Distraction in vehicle	19	↑ 18.8%
Between Friday 6pm to Saturday 6am	21	↓ 27.6%

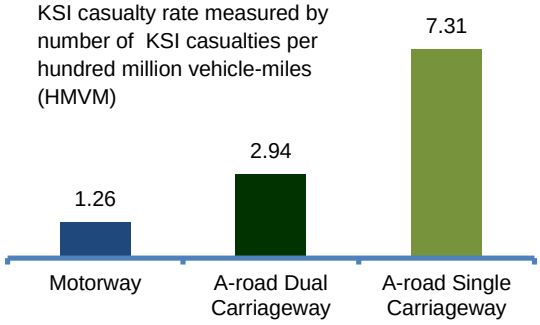
Selected casualties 2014 and percentage changes	2014	
Involving motorway hardshoulders	99	↓ 18.2%
At roadworks	686	↑ 39.4%
Poor or defective road surface	46	↑ 17.9%
Slippery roads	1,350	↑ 2.7%
On motorways during snowfall	45	↓ 75.0%
On roads where lighting was unlit during darkness	177	↑ 22.9%
Pedestrians	182	↓ 0.5%

	KSI Casualties	Traffic (HMVM)
Motorway M & A(M)	720	569.43
	↑ 5.4%	↑ 1.5%
A-road Dual Carriageway	716	243.65
	↑ 14.4%	↑ 2.2%
A-road Single Carriageway	417	57.07
	↑ 4.5%	↑ 1.7%

KSI Casualty Rates

A-road single carriageway most dangerous

KSI casualty rate measured by number of KSI casualties per hundred million vehicle-miles (HMVM)



Selected KSI casualties 2014 and percentage changes	2014	
Children (aged 0 – 15)	64	↑ 68.4%
Young (aged 16 – 19)	94	↓ 8.7%
Older (aged 60 – 69)	199	↑ 33.6%
Elderly (aged 70 and over)	159	↓ 15.4%
Pedestrians	108	↑ 20.0%
Pedal cyclists	51	↑ 50.0%
PTW (motorcycle) occupants	345	↑ 9.9%
Car occupants	1,159	↑ 8.9%
HGV occupants	82	↑ 2.5%
Other goods vehicle occupants	87	↑ 35.9%
Driver using mobile phone	20	↓ 16.7%
Driver fatigued	169	↑ 13.4%
Involving a vehicle with defects	84	↑ 78.7%
At a slip road	130	↓ 13.9%
Road environment* contributed on motorways	77	↑ 16.7%
Road environment contributed on A-road ***dual*** c'way	81	↑ 3.8%
Road environment contributed on A-road ***single*** c'way	32	↓ 22.0%
Resulting from hitting objects off the carriageway	584	↑ 3.5%

** involving contributory factors deemed controllable by Highways England intervention*

Document Map

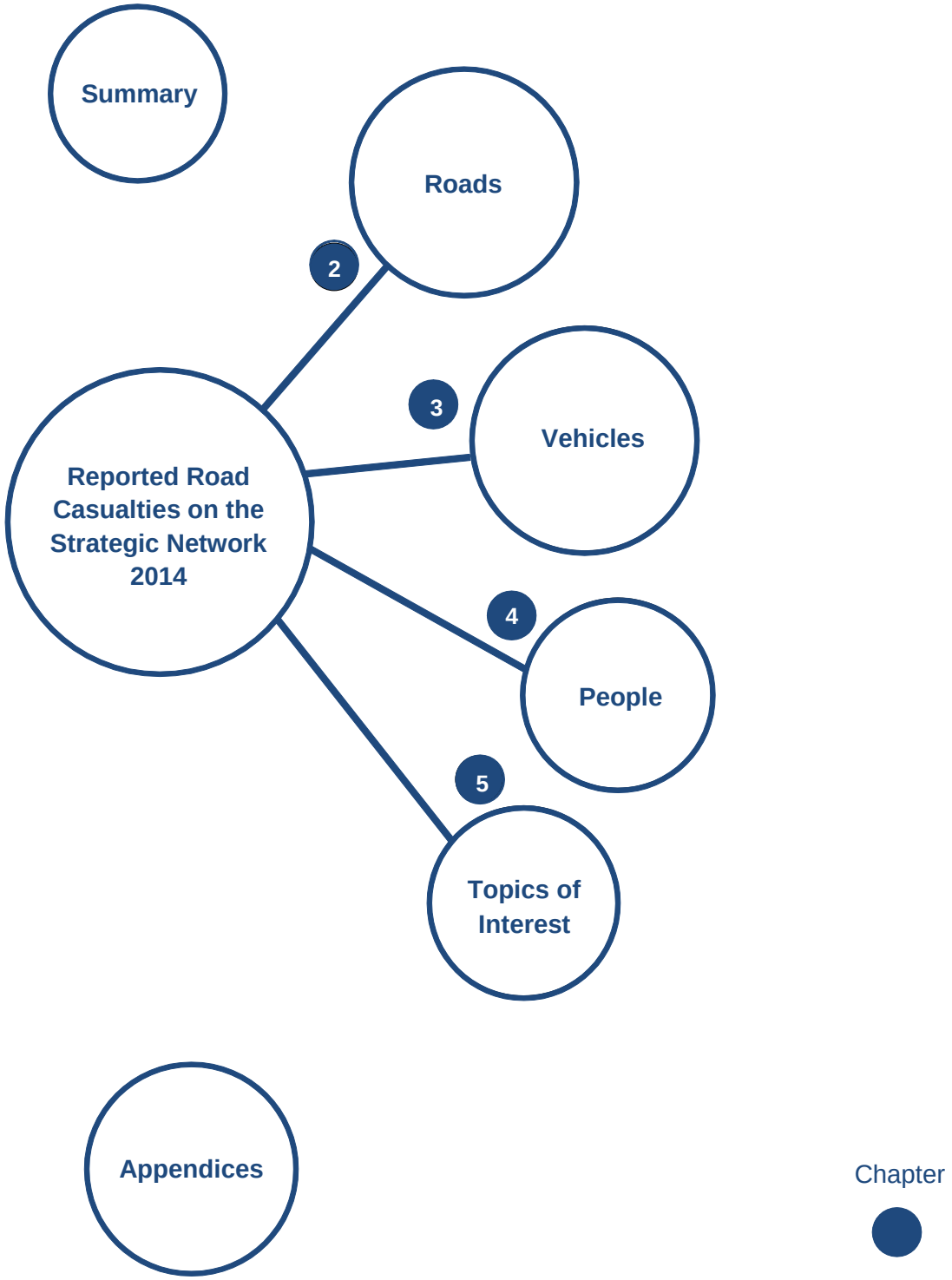


Table of Contents

1 Introduction

1.1 Background

The '*Safety Framework for the Strategic Road Network*' sets out the approach Highways England will take in support of the Department for Transport's '*Strategic Framework for Road Safety*', published in May 2011.

The safety framework establishes how Highways England will work with partners, suppliers and stakeholders from the safety community to target investment in safety related interventions/campaigns to target 'at risk' road user groups; specific causes of collisions; and interventions on the strategic road network with the aim of reducing the number of casualties now and in the future.

It is Highways England's intention to continue to monitor and address the trends in casualties that have occurred over the recent years. Highways England's Board has endorsed the Vision for Road Safety, which is embedded within the culture of the organisation and the Departments for Transports 'Road Investment Strategy – Investment Plan' outlines that around £105 million will be spent on additional measures by 2020/21 to boost the safety on the SRN. Further information regarding the Vision and its implementation can be obtained via ***Highways England's Strategic Safety Team***[1].

The Department for Transport's '*Action for Roads – A network for the 21st century*', published in July 2013 following the spending review, further emphasises the need for the continuous improvement of road user safety.

[1] For enquiries to the Strategic Safety Team, contact Kathrine Wilson-Ellis (Kathrine.Wilson-Ellis@highwaysengland.co.uk).

1.2 Purpose of Document

This document is intended for use by Highways England staff and those in the public arena with an interest. This document '*Reported Road Casualties on the Strategic Network 2014*' follows on from the series of '*Accidents on the trunk road*' and '*Reported Casualties on the HA network*' documents which have been published annually since 1999. They provide quantified road safety information and guidance that describes the current state of Highways England's reportable network in terms of collisions and casualties.

This information is designed to enable Highways England to:

- Answer safety queries from the Government, colleagues and the public
- Make sound strategic and budgeting decisions concerning the future management and safety of the strategic road network (SRN)
- Provide a national safety perspective for balancing needs across the SRN
- Monitor changes in safety on the network year on year and against baseline
- Assess the performance of the network in achieving the target of a 40 per cent reduction in KSI casualties by 2020 from the baseline (2005-2009)
- Assist in developing and monitoring the safety statements prepared by service providers
- Assist in the provision of requirements of the EU Directive on Road Infrastructure Safety Management

1.3 Structure of Document

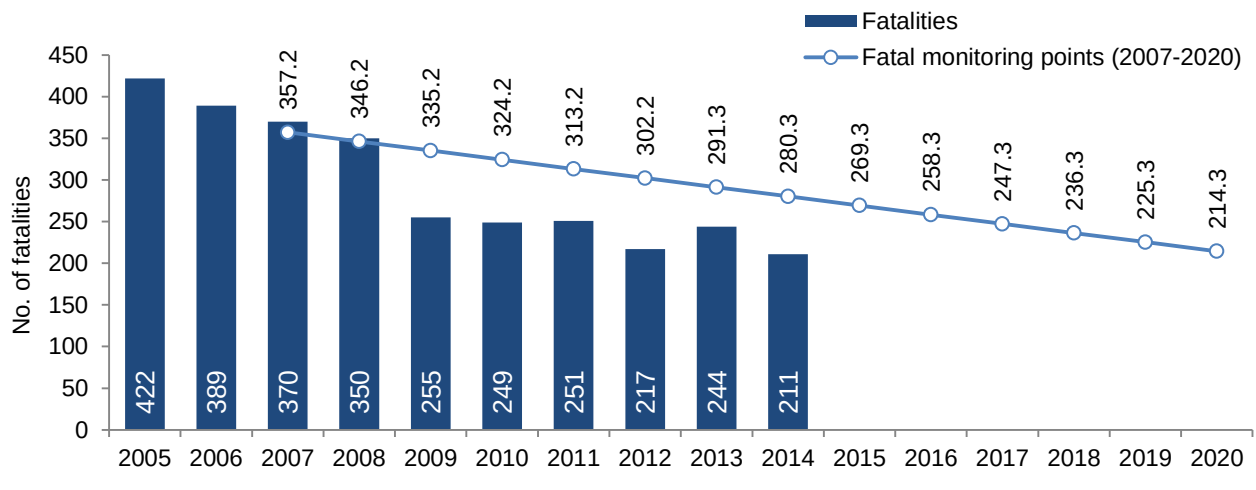
The structure of the rest of the document is as follows:

Chapter	Description
2 Roads	• Overview of the SRN and its unique properties • Assessment of road safety performance of different road types on the SRN • Understanding the impact of contributory factors related directly to the road environment on the number and severity of casualties
3 Vehicles	• Estimation of the type and amount of vehicles using the SRN • Analysis of the number of casualties resulting from different vehicle interactions • Understanding the impact of contributory factors linked to vehicle defects on the number and severity of casualties
4 People	• Analysis of past, present and potential future casualty trends • Snapshot of the types of drivers and riders involved in collisions • Understanding the impact of contributory factors influenced by road users on the number and severity of casualties
5 Topics of Interest	Evaluation of topics of interest, including: • Fatalities • Seriously Injured Casualties • KSI Casualties • Slightly Injured Casualties • Young Motorists • Lighting on the SRN • Weather Effects on the SRN • Roadworks • Objects Hit On and Off carriageways • Junctions • Tyres • Goods Vehicles: HGVs and LGVs • Motorcycles • Hardshoulders and Lay-bys • Collision Type • Hotspot Analysis
A to W Appendices	• Appendix A – Glossary of terms • Appendix B – Collisions. • Appendix C – Casualties • Appendix D – Traffic and casualty rates • Appendix E – Vehicles • Appendix F – Contributory factors • Appendix G to V – Additional topic of interest statistics • Appendix W – GB Comparison

1.4 Summary Sheet of 2014 SRN Fatalities

A summary of the 2014 fatally injured casualty data can be seen below. The percentages indicate the change from 2013; percentages are only given where the 2013 value is 15 or more.

Breakdown	2014	% since 2013
Estimated Cost	£359.9 m	
Fatalities	211	↓ 13.5
Motorway	84	↓ 3.4
A-road Dual Carriageway	73	↓ 18.9
A-road Single Carriageway	54	↓ 19.4
Roundabout	3	- -
Slip Road	13	- -
T or Staggered Junction	17	↓ 5.6
Total at Junction	40	↓ 4.8
Car Occupants	115	↓ 13.5
HGV Occupants	10	- -
LGV Occupants	11	- -
Pedal Cyclists	4	- -
Pedestrians	41	↑ 7.9
PTW Users	30	↓ 18.9
Children (aged 0 to 15)	6	- -
Young (aged 16 to 19)	8	↓ 55.6
Older (aged 60 to 69)	24	↑ 14.3
Elderly (aged 70 and over)	26	↓ 27.8
Involving Single Vehicle	81	↓ 1.2



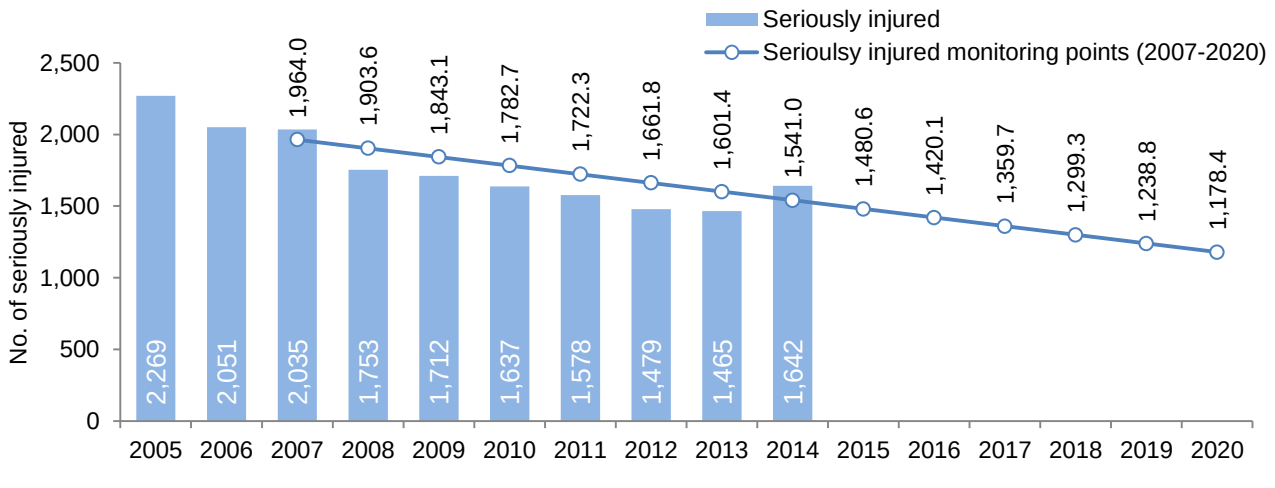
Road classification / Severity	Motorway	A-road Dual Carriageway	A-road Single Carriageway
Fatal	**1.0**	**2.0**	**6.4**

If the likelihood of being injured on a motorway is set at an arbitrary "1.0", then based on casualty rates, the likelihood of being injured on other road classifications is shown above.

1.5 Summary Sheet of 2014 SRN Seriously Injured Casualties

A summary of the 2014 seriously injured casualty data can be seen below. The percentages indicate the change from 2013; percentages are only given where the 2013 value is 15 or more.

Breakdown	2014	% since 2013
Estimated Cost	**£314.7 m**	
Seriously Injured Casualties	**1,642**	↑ **12.1**
Motorway	636	↑ 6.7
A-road Dual Carriageway	643	↑ 20.0
A-road Single Carriageway	363	↑ 9.3
Roundabout	119	↑ 25.3
Slip Road	117	↓ 15.8
T or Staggered Junction	140	↑ 52.2
Total at Junction	434	↑ 10.4
Car Occupants	1,044	↑ 12.1
HGV Occupants	72	↑ 9.1
LGV Occupants	76	↑ 46.2
Pedal Cyclists	47	↑ 67.9
Pedestrians	67	↑ 28.8
PTW Users	315	↑ 13.7
Children (aged 0 to 15)	58	↑ 75.8
Young (aged 16 to 19)	86	↑ 1.2
Older (aged 60 to 69)	175	↑ 36.7
Elderly (aged 70 and over)	133	↓ 12.5
Involving Single Vehicle	495	↑ 14.6



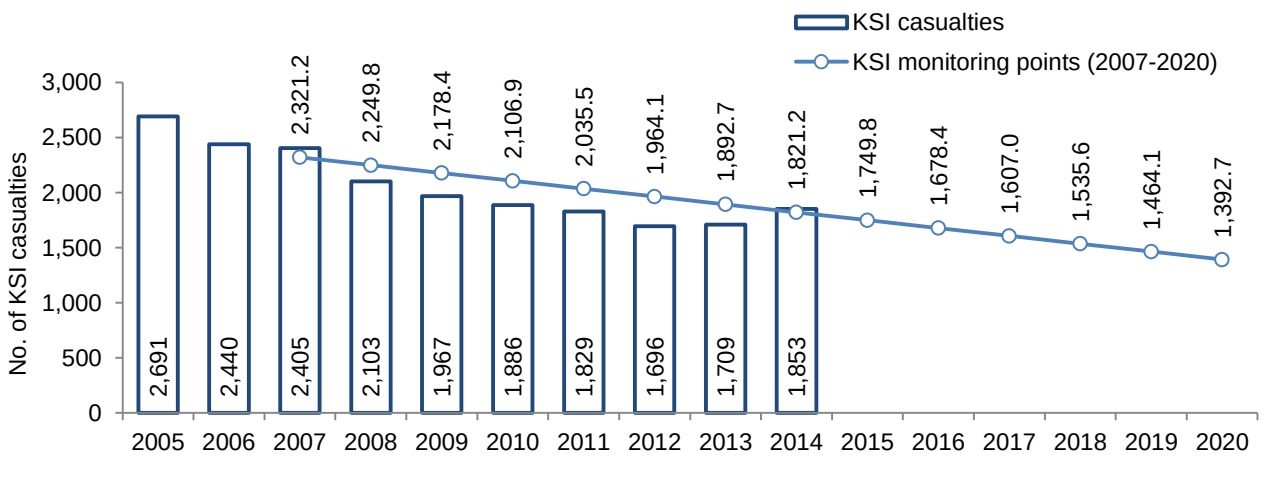
Road classification / Severity	Motorway	A-road Dual Carriageway	A-road Single Carriageway
Serious	**1.0**	**2.4**	**5.7**

If the likelihood of being injured on a motorway is set at an arbitrary "1.0", then based on casualty rates, the likelihood of being injured on other road classifications is shown above.

1.6 Summary Sheet of 2014 SRN KSI Casualties

A summary of the 2014 Killed or Seriously Injured (KSI) casualty data can be seen below. The percentages indicate the change from 2013; percentages are only given where the 2013 value is 15 or more.

Breakdown	2014	% since 2013
Estimated Cost	£674.6 m	
KSI Casualties	1,853	↑ 8.4
Motorway	720	↑ 5.4
A-road Dual Carriageway	716	↑ 14.4
A-road Single Carriageway	417	↑ 4.5
Roundabout	122	↑ 22.0
Slip Road	130	↓ 13.9
T or Staggered Junction	157	↑ 42.7
Total at Junction	474	↑ 9.0
Car Occupants	1,159	↑ 8.9
HGV Occupants	82	↑ 2.5
LGV Occupants	87	↑ 35.9
Pedal Cyclists	51	↑ 50.0
Pedestrians	108	↑ 20.0
PTW Users	345	↑ 9.9
Children (aged 0 to 15)	64	↑ 68.4
Young (aged 16 to 19)	94	↓ 8.7
Older (aged 60 to 69)	199	↑ 33.6
Elderly (aged 70 and over)	159	↓ 15.4
Involving Single Vehicle	576	↑ 12.1



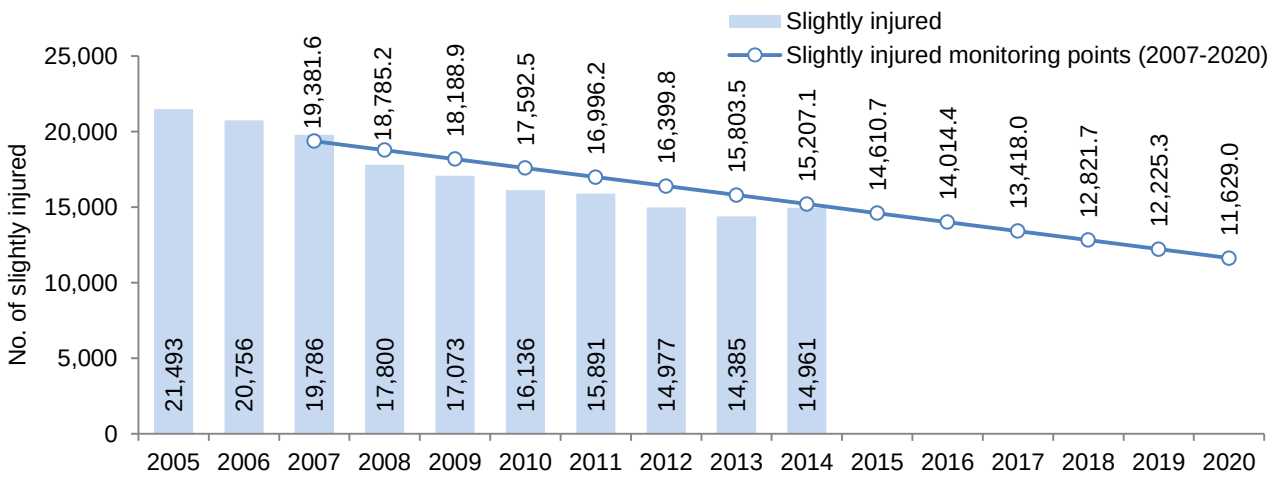
Road classification / Severity	Motorway	A-road Dual Carriageway	A-road Single Carriageway
KSI	**1.0**	**2.3**	**5.8**

If the likelihood of being injured on a motorway is set at an arbitrary "1.0", then based on casualty rates, the likelihood of being injured on other road classifications is shown above.

1.7 Summary Sheet of 2014 SRN Slightly Injured Casualties

A summary of the 2014 slightly injured casualty data can be seen below. The percentages indicate the change from 2013; percentages are only given where the 2013 value is 15 or more.

Breakdown	2014	% since 2013
Estimated Cost	**£221.0 m**	
Slightly Injured Casualties	**14,961**	↑ **4.0**
Motorway	7,471	↑ 4.4
A-road Dual Carriageway	5,531	↑ 3.0
A-road Single Carriageway	1,959	↑ 5.5
Roundabout	1,595	↑ 1.9
Slip Road	1,389	↑ 7.9
T or Staggered Junction	782	↑ 7.0
Total at Junction	4,293	↑ 4.6
Car Occupants	12,723	↑ 2.8
HGV Occupants	421	↑ 10.2
LGV Occupants	857	↑ 19.2
Pedal Cyclists	128	↑ 11.3
Pedestrians	74	↓ 20.4
PTW Users	572	↑ 7.5
Children (aged 0 to 15)	908	↑ 17.2
Young (aged 16 to 19)	851	- 0.0
Older (aged 60 to 69)	1,011	↑ 0.3
Elderly (aged 70 and over)	622	↓ 2.2
Involving Single Vehicle	2,395	↑ 4.2



Road classification / Severity	Motorway	A-road Dual Carriageway	A-road Single Carriageway
Slight	**1.0**	**1.7**	**2.6**

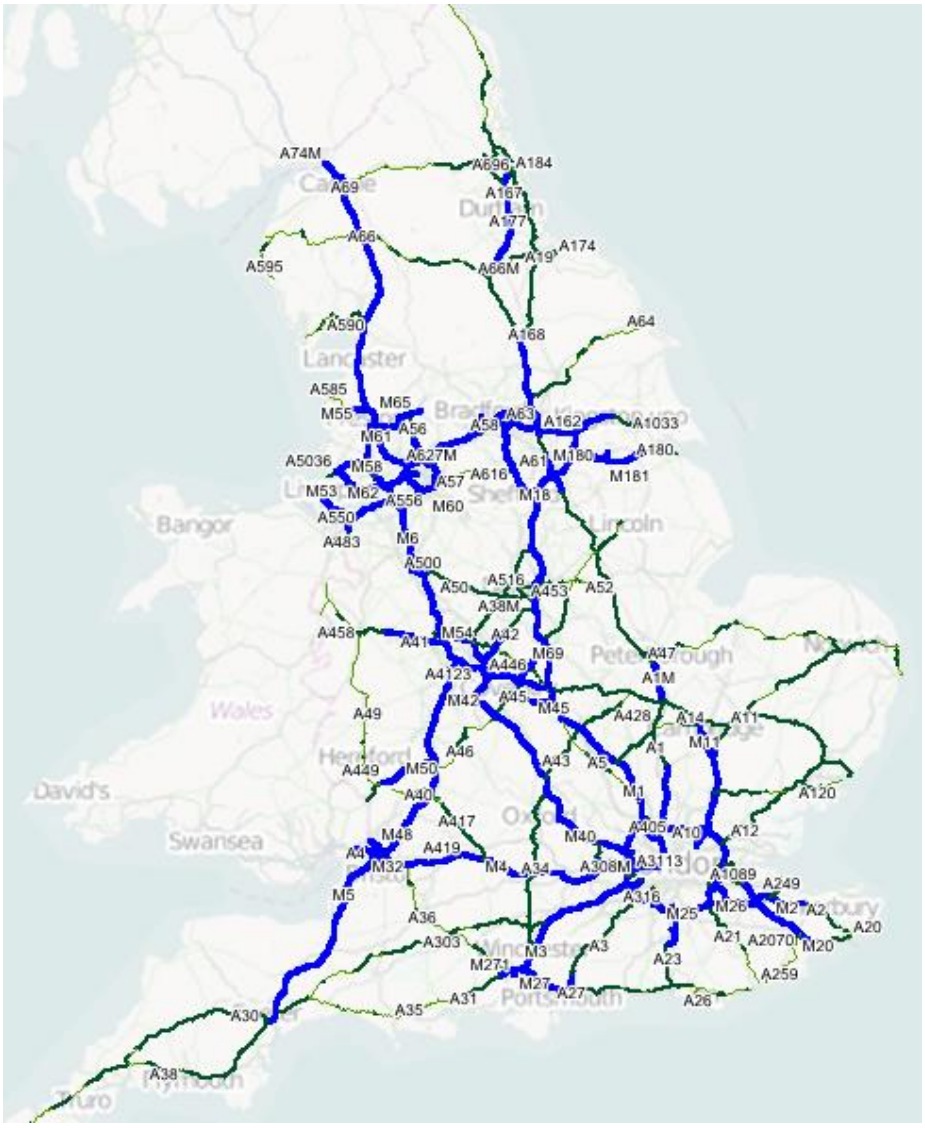
If the likelihood of being injured on a motorway is set at an arbitrary "1.0", then based on casualty rates, the likelihood of being injured on other road classifications is shown above.

2 Roads

In Chapter 2, an assessment has been undertaken to depict how the strategic road network (SRN) influences casualties and collisions. The main focus of the assessment is the differing characteristics of motorways, A-road dual carriageways and A-road single carriageways and their respective road safety performance.

2.1 The Strategic Road Network

Figure 2-1 provides a brief overview of the SRN and its properties.



Motorways M & A(M)

Estimated Length[2] 1,857 miles

Average Daily Flow[3] 86,153 vehicles per day

A-road Dual Carriageways

Estimated Length 1,625 miles

Average Daily Flow 42,113 vehicles per day

A-road Single Carriageways

Estimated Length 944 miles

Average Daily Flow 16,990 vehicles per day

Figure 2-1 Highways England's Strategic Road Network

Based on the 2010 SRN used as a static reference network to analyse collisions and casualties between 2005 and 2014

Source: OpenStreetMap 2011 Contributors CC-BY-SA

To enable a like-for-like comparison of annual trends, all of Highways England's collision and casualty data recorded between 2005 and 2014 has been referenced to Highways England's 2010 strategic road network. This is instead of using the continuously changing 'live' network. The reference network is updated periodically with the next update planned for 2015. Prior to 2010, all collision and casualty data was referenced to the 2006 network.

[2] Based on summation of length from DfT countpoints identified as part of the 2010 SRN.

[3] Based on 2014 AADF values obtained from DfT countpoints identified as part of the 2010 SRN.

2.2 SRN Traffic Estimates and Economic Factors

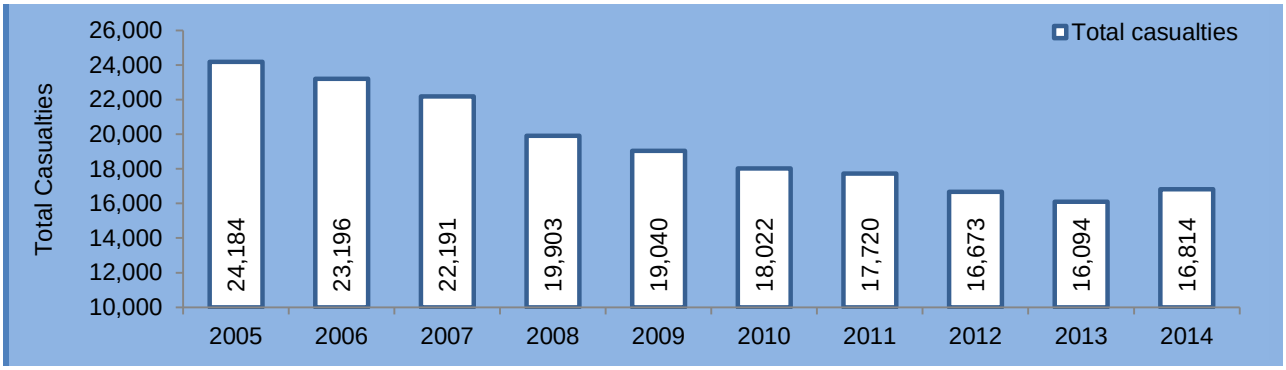


Figure 2-2 Total Casualties on the SRN

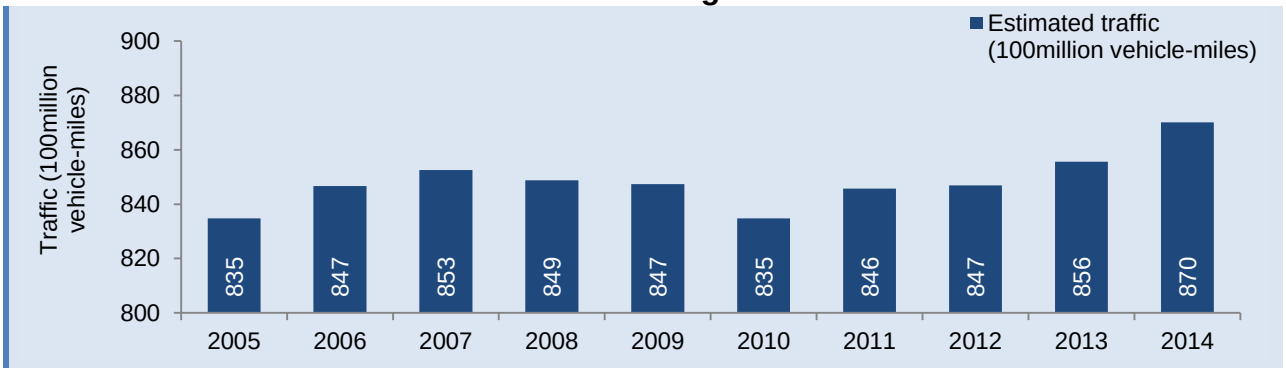


Figure 2-3 Historic Traffic Levels on the SRN

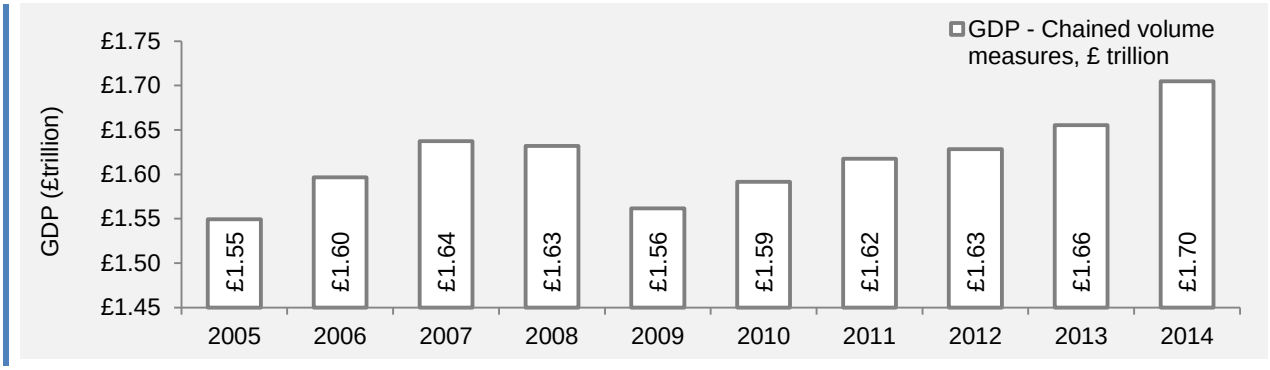


Figure 2-4 UK Gross Domestic Product between 2005 and 2014

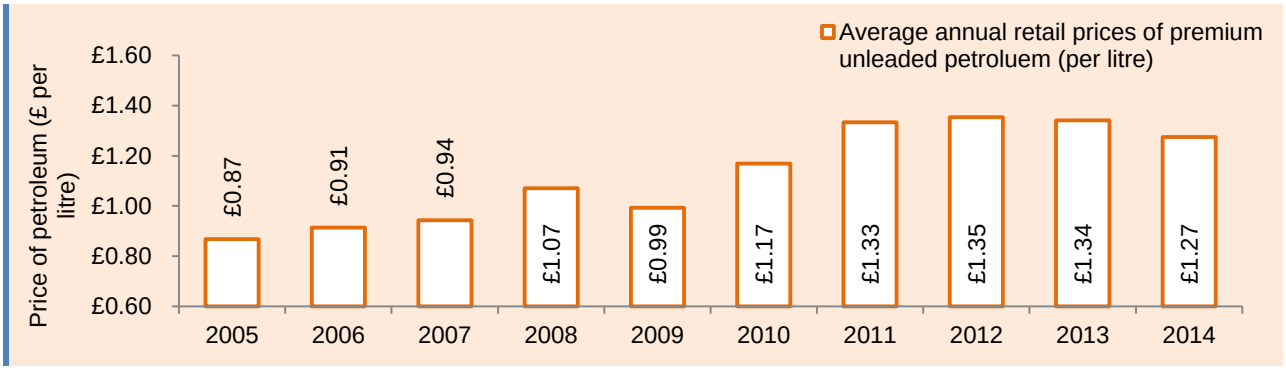


Figure 2-5 UK fuel prices between 2005 and 2014

Notes:

(a) Traffic estimates based on 2014 AADF values obtained from DfT countpoints identified as part of the 2010 SRN.

(b) UK GDP sourced from http://www.ons.gov.uk/ons/site-information/using-the-website/time-series/index.html#

(c) UK fuel prices sourced from DfT Table 4.1.2 Average annual retail prices of petroleum products and a crude oil price index UK.

Figure 2-2 to Figure 2-5 show total casualties along with economic factors. Figure 2-3 shows that between 2007 and 2010, the SRN witnessed a decline in overall usage with headline traffic levels decreasing by 2.1 per cent from 853 hundred million vehicle-miles (HMVM) to 835 HMVM.

Between 2010 and 2014, traffic levels increased 4.2 per cent from 835 HMVM to 870 HMVM, with the largest percentage traffic growth within this period (1.6 per cent) occurring between 2013 and 2014. In the same period, traffic on the Great Britain network (excluding estimates for the SRN) increased 2.8 per cent from 2,197 HMVM to 2,259 HMVM.

The traffic increase since 2010 on the SRN correlates strongly with improving economic performance, as shown in Figure 2-4; particularly during the recovery after the 2007 to 2009 recession.

2.3 SRN Traffic Estimates by Road Classification

Estimates of traffic (measured in hundred million vehicle-miles, HMVM) by road classification are provided in Table 2-1. Between 2010 and 2014, there has been a 4.2 per cent increase in motorway traffic and 4.8 per cent increase in A-road dual carriageway traffic on the SRN (based on the 2010 reference network). In contrast, traffic on A-road single carriageways has only increased by 2.5 per cent.

Table 2-1 Traffic levels on the strategic road network by road classification

Year	2010	2011	2012	2013	2014
Road Classification	Traffic (HMVM) +/- Annual percentage change from previous year				
Motorway	546.6 -	552.9 1.2%	555.2 0.4%	561.0 1.0%	569.4 1.5%
A-road Dual Carriageway	232.5 -	236.7 1.8%	237.5 0.3%	238.5 0.4%	243.7 2.2%
A-road Single Carriageway	55.7 -	56.1 0.6%	55.7 -0.7%	56.1 0.8%	57.1 1.7%

2.4 Casualties by Road Classification and Severity

Section 2.4 provides an overview of the casualty rates by road classification, severity and year based on the number of casualties per HMVM. The rates discussed in this section provide an indication of the likelihood of being injured.

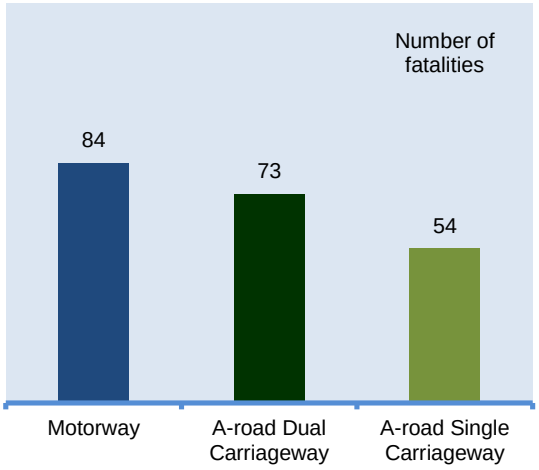
Figure 2-6 (a) to (f) illustrates a graphical distribution of motorway and A-road (single and dual carriageway) casualties in terms of the number of casualties and casualty rate. From comparing road classifications in the figure, in can be shown that for 2014:

- The largest proportion of KSI casualties (38.9 per cent) and total casualties (48.7 per cent) occurred on motorways
- The most fatalities (84 out of 211) occurred on motorways
- The likelihood of being injured on motorways was in fact the lowest of all three road classifications across all severities
- The likelihood of being injured on A-road single carriageways was the highest of all three road classifications across all severities, followed by A-road dual carriageways

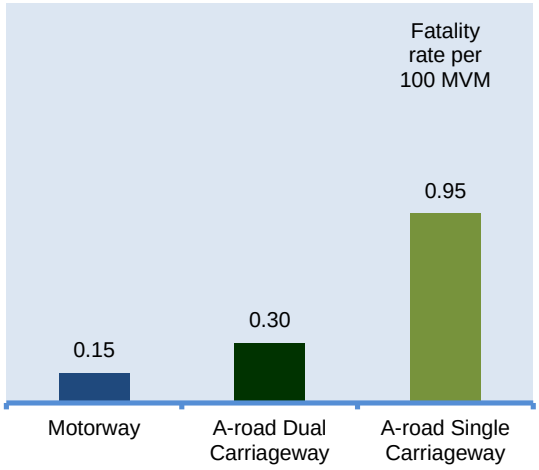
For 2014, the ratio (based on casualty rate) between the likelihood of an injury occurring on a motorway, dual carriageway or single carriageway is highlighted in Table 2-2.

Table 2-2 Likelihood of injury ratio between road classifications, 2014

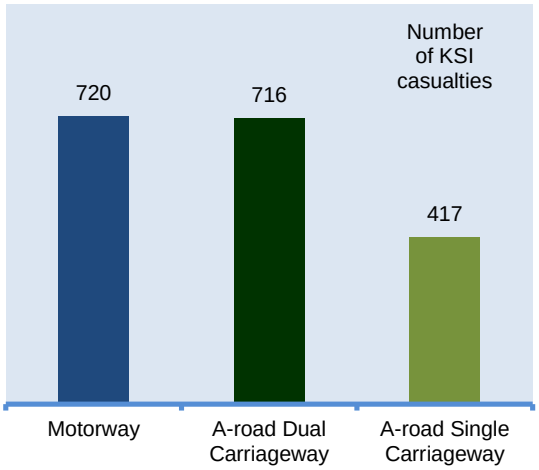
	If the likelihood of being injured on a motorway is set at an arbitrary "1.0", then based on casualty rates, the likelihood of being injured on other road classifications are as follows:		
Road classification / Severity	*Motorway*	*A-road dual carriageways*	*A-road single carriageways*
Total casualties	**1.0**	**1.8**	**2.9**
KSI casualties	**1.0**	**2.3**	**5.8**
Fatalities	**1.0**	**2.0**	**6.4**



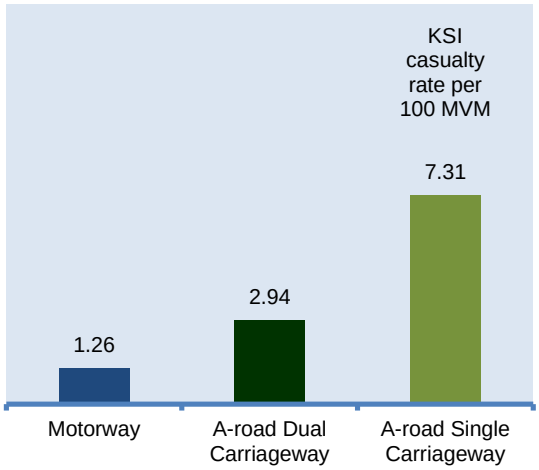
(a) Number of fatalities



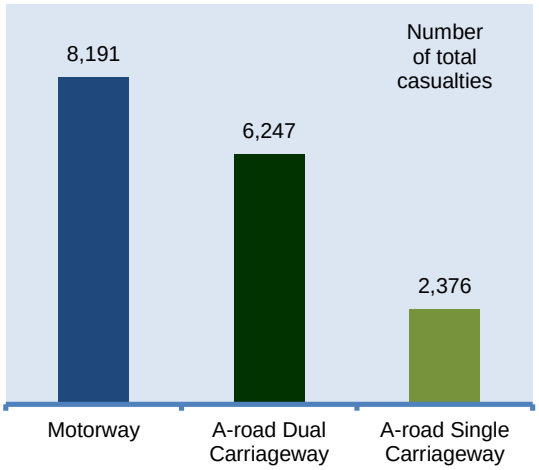
(b) Fatality rate per HMVM



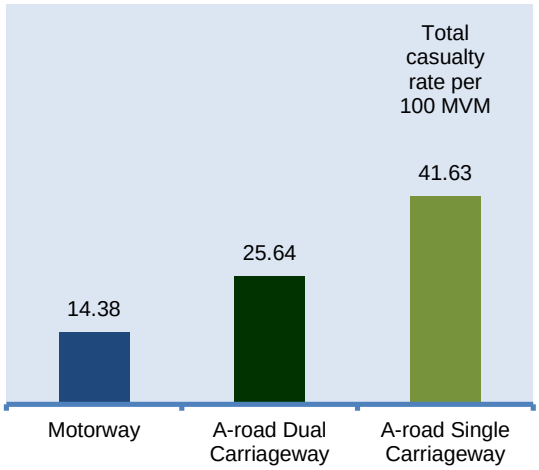
(c) Number of KSI casualties



(d) KSI casualty rate per HMVM



(e) Number of total casualties



(f) Total casualty rate per HMVM

Figure 2-6 Casualties and casualty rates by road classification, 2014

2.5 Motorway Casualties and Casualty Rates by Year

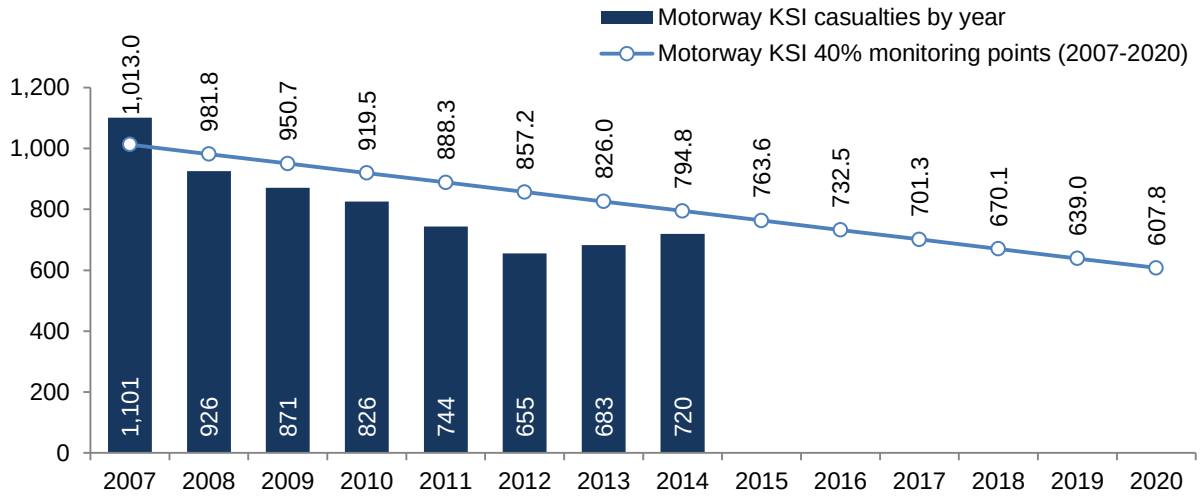


Figure 2-7 Historic motorway KSI casualties by year[4]

The number of historic motorway KSI casualties that occurred on the SRN between 2007 and 2014 are illustrated in Figure 2-7. The figure highlights that the increase of 4.3 per cent in fatalities from 655 in 2012 to 683 in 2013 was the first increase since at least 2007. Secondly, the number of KSI casualties on motorways has again increased from 683 in 2013 to 720 in 2014, an increase of 5.4 per cent.

In addition, the overall motorway casualties and casualty rates by severity and year between 2010 and 2014 are provided in Table 2-3**.** The table shows that the number of total motorway casualties increased by 4.5 per cent to 8,191 in 2014 from 7,837 in 2013. The majority of the increase resulted from an increase of 317 slightly injured casualties. In contrast, fatalities were the only severity to decrease from 87 in 2013 to 84 in 2014 a decrease of 3.4 per cent.

Further assessment of the table highlights contrasting changes in casualty rates between the severities against a backdrop of a 1.5 per cent increase in traffic levels on motorways as outlined in Table 2-3. The overall casualty rate increased from 13.97 casualties per HMVM to 14.38 casualties per HMVM between 2013 and 2014. The increase in 2014 discontinues the downward trend observed in previous years whilst traffic levels were increasing. However the fatal casually rate decreased from 0.16 casualties per HMVM to 0.15 casualties per HMVM in the same period.

[4] A linear expression has been used to determine each 40% monitoring point based on a 40 per cent reduction from the 2005-2009 baseline value by 2020. The 2005-2009 baseline value has been plotted at 2007; the midpoint of the baseline period.

Table 2-3 Motorway casualties and casualty rates by severity and year

Casualties / rate (Cas' per HMVM)	2010	2011	2012	2013	2014	2014 per cent change from 2013
Killed	110	90	78	87	84	3.4
Seriously injured	716	654	577	596	636	6.7
KSI	826	744	655	683	720	5.4
Slightly injured	8,552	8,008	7,556	7,154	7,471	4.4
Total	9,378	8,752	8,211	7,837	8,191	4.5
Traffic (100 MVM)	546.59	552.92	555.19	561.00	569.43	1.5
Killed rate	0.2	0.16	0.14	0.16	0.15	4.9
Serious rate	1.31	1.18	1.04	1.06	1.12	5.1
KSI rate	1.51	1.35	1.18	1.22	1.26	3.9
Slight rate	15.65	14.48	13.61	12.75	13.12	2.9
Total rate	17.16	15.83	14.79	13.97	14.38	3.0

Overall, the above trends suggest that the increase in motorway traffic has affected the frequency of serious collisions. A more detailed analysis of seriously injured casualties, including those occurring on motorways, are discussed in the seriously injured casualties Topic of Interests section respectively (Section 5.2.2) with supporting data found in Appendix H.

2.6 A-road Dual Carriageway Casualties and Casualty Rates by Year

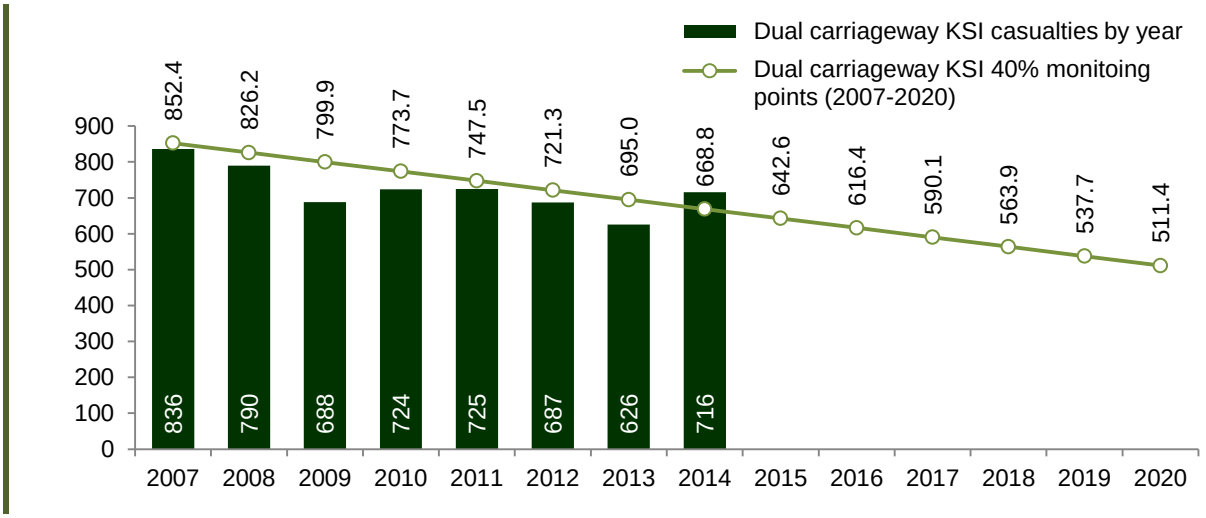


Figure 2-8 Historic A-road dual carriageway KSI casualties by year[4]

Figure 2-8 shows the historic number of KSI casualties on A-road dual carriageways between 2007 and 2014. This figure is accompanied by Table 2-4, which highlights the number of casualties and casualty rates by severity and year between 2010 and 2014.

Similar to motorways, Figure 2-8 shows that the number of KSI casualties on A-road dual carriageways increased between 2013 and 2014 from 626 to 716; an increase of 14.4 per cent and above the 2014 monitoring point by 7.1 per cent.

Historically, severity casualties show a downward trend in absolute numbers and rates (apart from 2009). Further breakdowns of dual carriageway casualties where the road was either built-up (40mph or less) or non-built-up (50mph or greater) are provided in Appendix C Table C-1.

Table 2-4 A-road dual carriageway casualties and casualty rates by severity and year

Casualties/ rate (Cas' per HMVM)	2010	2011	2012	2013	2014	2014 per cent change from 2013
Killed	92	103	84	90	73	18.9
Seriously injured	632	622	603	536	643	20.0
KSI	724	725	687	626	716	14.4
Slightly injured	5,539	5,908	5,445	5,369	5,531	3.0
Total	6,263	6,633	6,132	5,995	6,247	4.2
Traffic (100 MVM)	232.50	236.74	237.55	238.46	243.65	2.2
Killed rate	0.40	0.44	0.35	0.38	0.30	20.6
Serious rate	2.72	2.63	2.54	2.25	2.64	17.4
KSI rate	3.11	3.06	2.89	2.63	2.94	11.9
Slight rate	23.82	24.96	22.92	22.52	22.70	0.8
Total rate	26.94	28.02	25.81	25.14	25.64	2.0

2.7 A-road Single Carriageway Casualties and Casualty Rates by Year

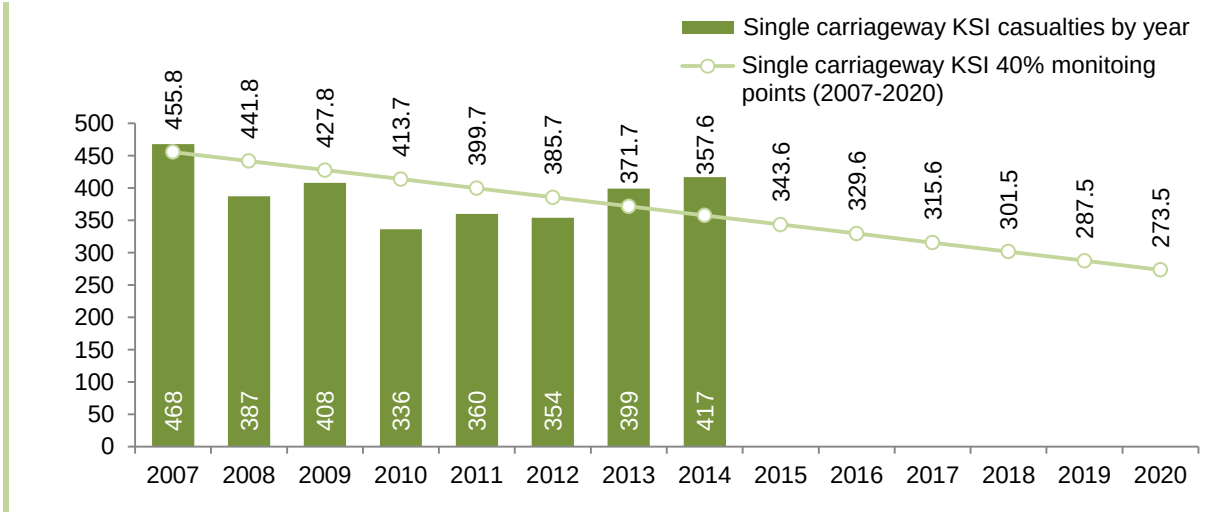


Figure 2-9 Historic A-road single carriageway KSI casualties by year[4]

Figure 2-9 shows the number of KSI casualties occurring on A-road single carriageways by year between 2007 and 2014. In 2014, the number of KSI casualties (417) exceeded the number of KSI casualties in 2013 (399), and continued to exceed the corresponding monitoring point by 16.6 per cent.

In addition, the number of casualties and casualty rates by severity and year between 2010 and 2014 are provided in Table 2-5. Assessment of the table shows that traffic levels on single carriageways have increased by 2.5 per cent from 55.68 HMVM to

57.07 HMWM between 2012 and 2014. However during the same period the number of seriously injured casualties increased. As a result, the seriously injured casualty rate has increased by 18.4 per cent from 5.37 casualties per HMVM to 6.36 casualties per HMVM between 2012 and 2014.

Table 2-5 A-road single carriageway casualties and casualty rates by severity and year

Casualties/ rate (Cas' per HMVM)	2010	2011	2012	2013	2014	2014 per cent change from 2013
Killed	47	58	55	67	54	19.4
Seriously injured	289	302	299	332	363	9.3
KSI	336	360	354	399	417	4.5
Slightly injured	2,045	1,975	1,976	1,857	1,959	5.5
Total	2,381	2,335	2,330	2,256	2,376	5.3
Traffic (100 MVM)	55.73	56.06	55.68	56.13	57.07	1.7
Killed rate	0.84	1.03	0.99	1.19	0.95	20.7
Serious rate	5.19	5.39	5.37	5.92	6.36	7.5
KSI rate	6.03	6.42	6.36	7.11	7.31	2.8
Slight rate	36.69	35.23	35.49	33.09	34.32	3.7
Total rate	42.72	41.65	41.85	40.19	41.63	3.6

As highlighted in Table 2-5, the number of KSI casualties has increased by 18 from 399 to 417 between 2013 and 2014. Analysis of Appendix C Table C-1 shows that the only decrease in KSI casualties, which was only by one, occurred on non-built-up A-road single carriageways where the speed limit can be 50mph or greater. In contrast, there was an increase of 19 KSI casualties on built-up roads.

2.8 Casualties where the Road Environment Contributed

This section evaluates the number of casualties involving at least one contributory factor categorised as where the road environment contributed. Assessment of these factors gives an indication of how the SRN could be enhanced to mitigate against further casualties where the road is a contributing factor.

In 2014, the number of KSI casualties involving road environment factors (190) was equivalent to 10.3 per cent of the respective total KSI casualties (1,853). The number of total casualties involving road environment factors equalled 1,846 and was equivalent to 11.0 per cent of the respective total casualties on the SRN (16,814).

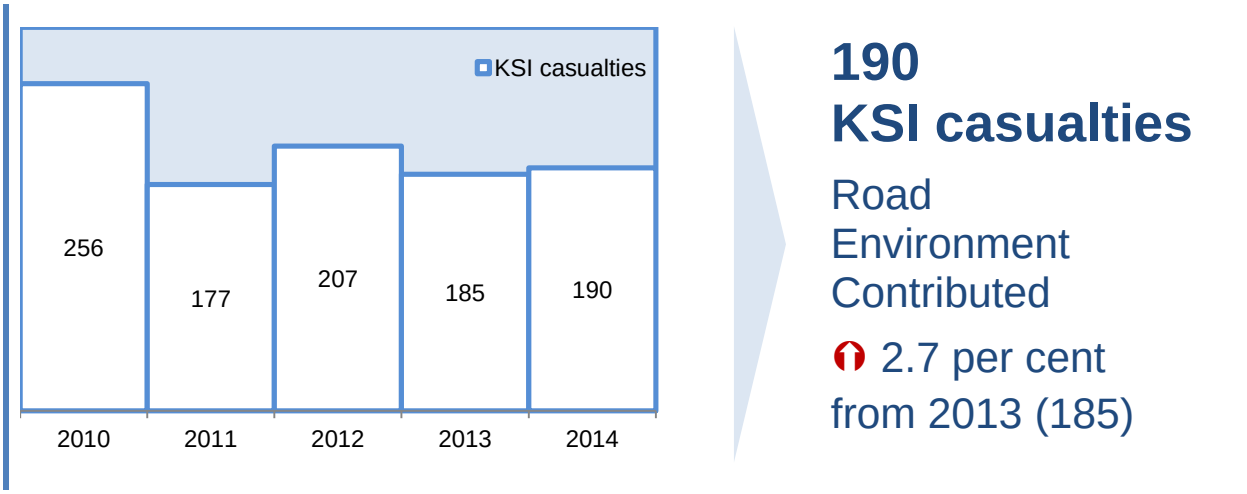


Figure 2-10 Historic KSI casualties

Figure 2-11 outlines the historic number of KSI casualties involving at least one factor associated with the road environment between 2005 and 2014. The figure highlights that between 2005 and 2014, the trend in KSI casualties involving road environment factors was volatile across all road classifications; particularly on motorways.

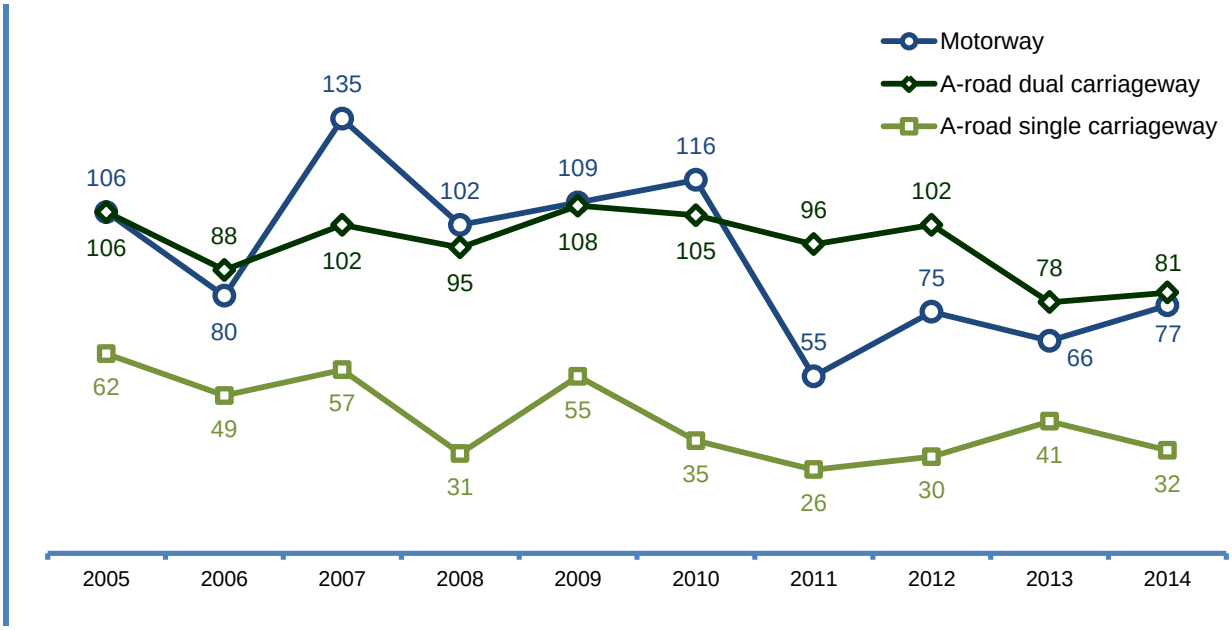


Figure 2-11 Historic KSI casualties involving at least one "Road Environment Contributed" contributory factor by road classification and year

Table 2-6 provides a breakdown of casualties involving each of the contributory factors associated with road environment against severity for 2014.

Table 2-6 Number of casualties involving at least one "Road Environment Contributed" contributory factor by factor and severity, 2014

Casualty severity / contributory factor	Killed	Seriously injured	KSI	Slightly injured	Total
Slippery road (due to weather)	14	109	123	1,227	1,350
Animal or object in carriageway	5	26	31	173	204
Road layout (eg. bend, hill, narrow carriageway)	1	14	15	105	120
Deposit on road (eg. oil, mud, chippings)	0	11	11	89	100
Temporary road layout (eg. contraflow)	1	7	8	78	86
Poor or defective road surface	0	6	6	40	46
Defective traffic signals	0	1	1	15	16
Inadequate or masked signs or road markings	0	5	5	10	15
Traffic calming (eg. speed cushions, road humps, chicanes)	0	1	1	2	3
Slippery inspection cover or road marking	0	0	0	0	0

Notes:
(a) Values in the table report the number of casualties by severity where at least one of the specified contributory factors above was recorded in the collision.
(b) As up to six contributory factors can be recorded per collision, the table should not be summed between two or more factors.

As shown in Table 2-6, the primary contributory factor for road environment was "Slippery road (due to weather)" which contributed to 123 KSI casualties and 1,350 total casualties in 2014. Other significant factors include "Animal or object in carriageway" which contributed to 204 total casualties and "Road layout" which contributed to 120 casualties in 2014.

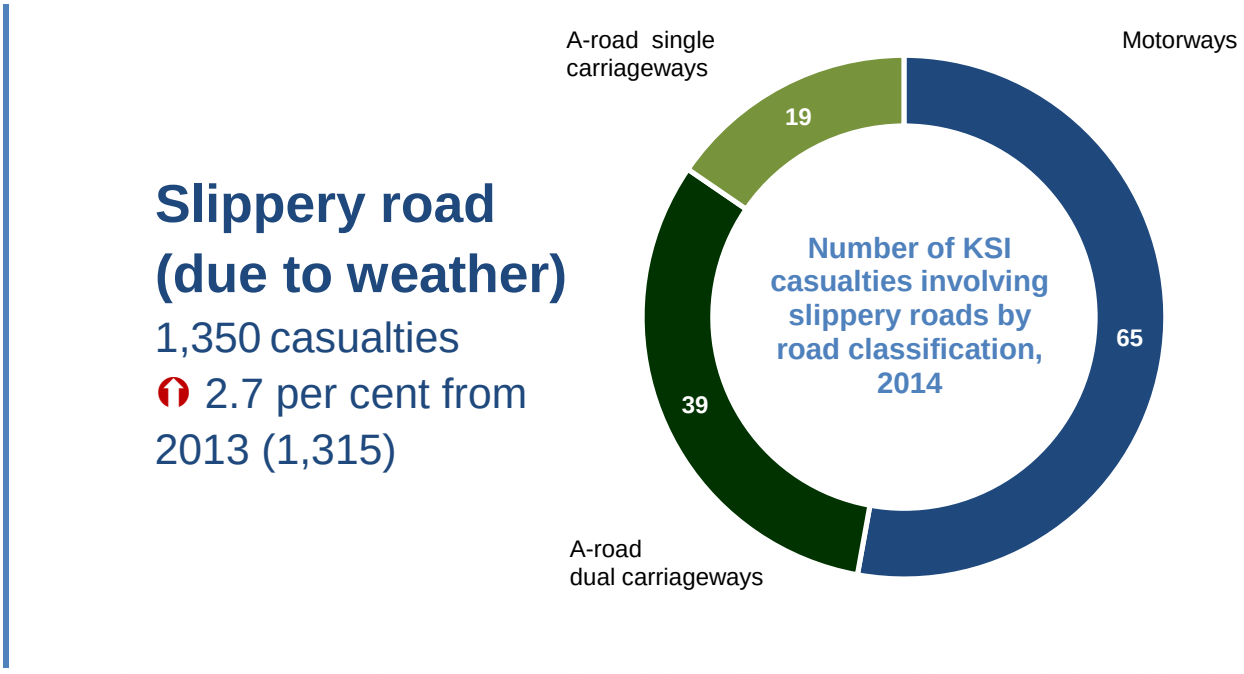


Figure 2-12 Casualty summary involving slippery road by road classification, 2014

Further analysis of the primary contributory factor "Slippery road (due to weather)" reveals that the number of total casualties involving slippery roads has increased by 2.7

per cent to 1,350 in 2014 from 1,315 in 2013. The factor was also recorded in 14 fatalities in 2014. Four of these fatalities also involved motorist travelling too fast for conditions.

From the casualty summary provided in Figure 2-12 it can be seen that the percentage of KSI casualties in 2014 occurring on both type of A-roads combined equalled 47.2 per cent. In comparison the percentage occurring on motorways equalled 52.8 per cent.

A further analysis of the number of casualties involving a poor or defective road surfacing on the SRN is provided in Figure 2-13. This provides context on the potential human cost of defects in surfacing. From 2008 to 2011, England experienced a number of harsh winters, with December 2010 being one of the coldest on record[5]. As a result, the occurrence of surface defects during and after this period became a significant concern for all stakeholders.

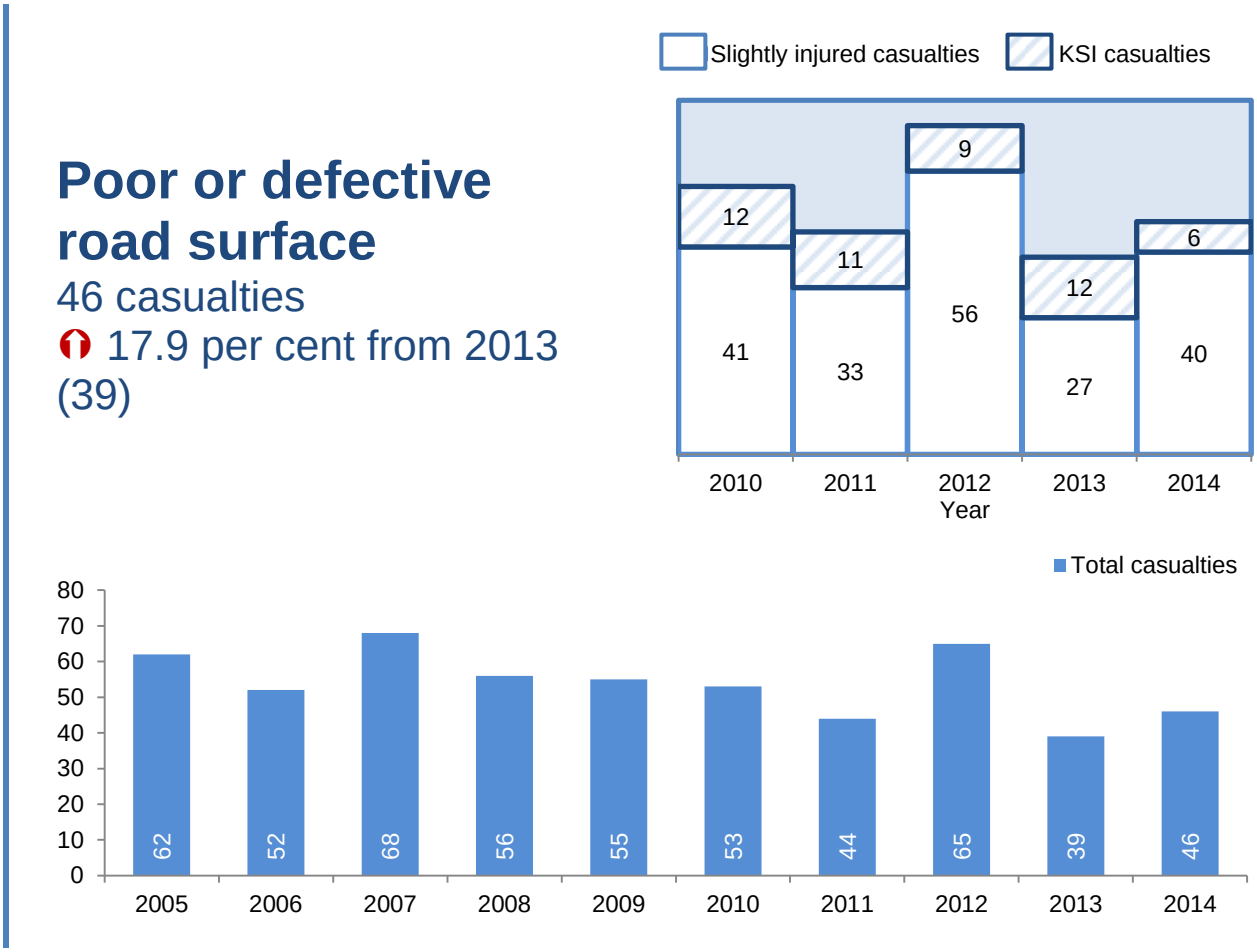


Figure 2-13 Casualty summary involving a poor or defective road surface by year

[5] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4002/potholes-review-progress-report.pdf

Figure 2-13 shows that the number of casualties in 2012 spiked by 47.7 per cent from 44 in 2011 to 65 in 2012, followed by a 40.0 per cent decrease in 2013. However from 2013 to 2014 there was again an increase of 17.9 per cent. When assessing the overall impact of this contributory factor against total casualties for all years, the typical contribution is less than one per cent per annum.

Between 2006 and 2010, there were 8 fatalities involving poor or defective surfacing; 5 of these fatalities occurred on motorways. The number of KSI casualties has been generally increasing, albeit slowly, from 5 in 2005 to 12 in 2013 however in 2014 the number of KSI casualties was 6. PTW occupants[6] appear particularly vulnerable when a casualty is in a collision involving a poor or defective surface. The proportion of PTW occupants who were seriously injured typically ranged from 30 to 65 per cent of all casualties involving a poor or defective surface in the past five years.

[6] A driver or passenger of a powered two wheeler (PTW) commonly referred to as a motorcycle. See glossary for definition.

3 Vehicles

The vehicle chapter briefly assesses the impact of vehicles on casualties occurring on the SRN.

The section primarily focuses on highlighting the change in vehicle types on the network and the casualties resulting from different vehicle interactions. An overview of casualties where vehicle defects contributed is also provided.

3.1 Traffic Estimates by Vehicle Type

An estimate of vehicle traffic levels[7] on the SRN in 2014 is shown in Figure 3-1. As shown in the figure, the largest percentage of vehicle traffic is generated by cars (74.8 per cent) followed by LGVs (other goods vehicles[8]) with 14.0 per cent.

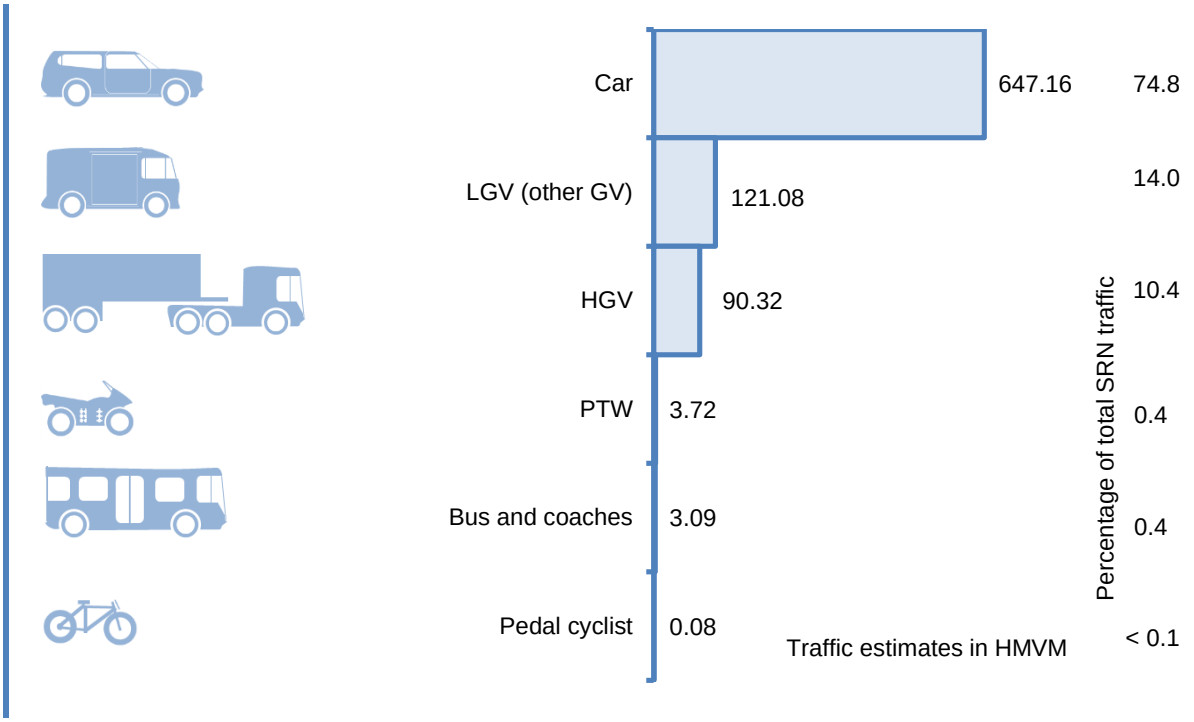


Figure 3-1 Estimated vehicle traffic by DfT vehicle type, 2014

Between 2010 and 2014, out of the three major vehicle types (car, HGV, LGVs), the largest increase was LGVs equivalent to 15.2 per cent. As shown in Figure 3-2, LGV traffic increased steadily from 105.12 HMVM in 2010 to 121.08 HMVM in 2014. The effect of this traffic growth is further investigated in the goods vehicle topic of interest (Section 5.12) with supporting data found in Appendix R.

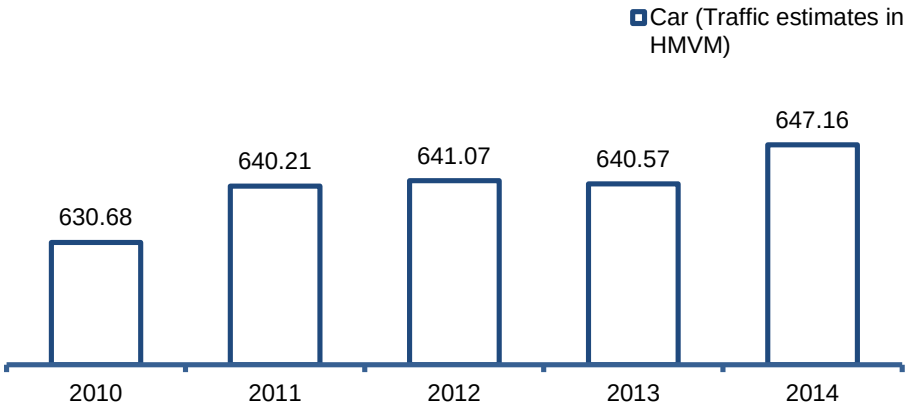
In contrast, in the same period HGV traffic fell dramatically and has now recovered to 2010 levels. Based on traffic estimates, car traffic has remained relatively static over the last three years ranging only between 640.21 and 647.16 HMVM.

[7] Vehicle traffic estimates were determined using countpoint vehicular data accessed from the DfT Traffic Counts website found at http://www.dft.gov.uk/traffic-counts/ along with the underlying assumptions and collection methods. Only countpoints aligned with the 2010 reference network were used in the calculation.

[8] For the purposes of reporting traffic estimates, the vehicle type “Other goods vehicles” is represented by light goods vehicles (LGV) as termed by the DfT.

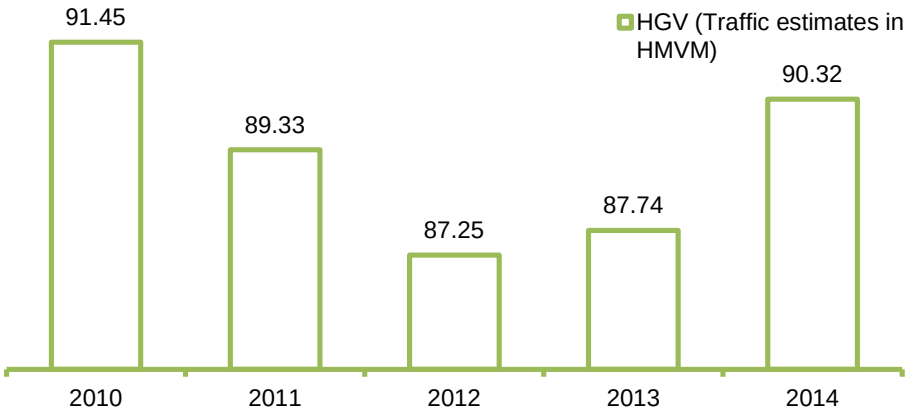
Car

2.6 per cent from 2010 (630.68 to 647.16)



HGV

1.2 per cent from 2010 (91.45 to 90.32)



LGV

15.2 per cent from 2010 (105.12 to 121.08)

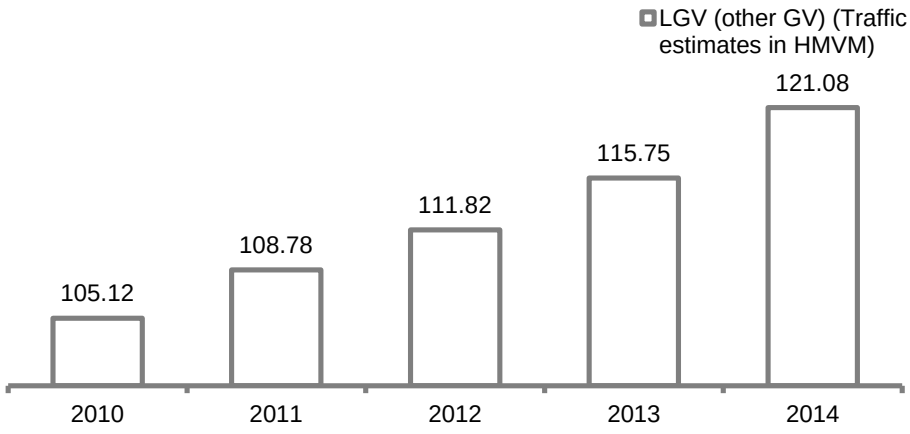


Figure 3-2 Growth of vehicle traffic between 2010 and 2014

3.2 Casualties where Vehicle Defects Contributed

This section evaluates the number of casualties where at least one vehicle within a collision had a defect which was a contributory factor. As shown previously in Figure 2-4, it is apparent that the economic situation is recovering and hence this section also assesses the corresponding historic trends in vehicle defects.

Figure 3-3 summarises specific factors classed as vehicle defects and their overall impact on KSI casualties for 2014. In 2014 the most common vehicle defect resulting in 54 KSI casualties was tyres that were illegal, defective or under inflated. For further detailed analysis of the tyres contributory factor refer to the tyre Topic of Interest in Section 5.11.

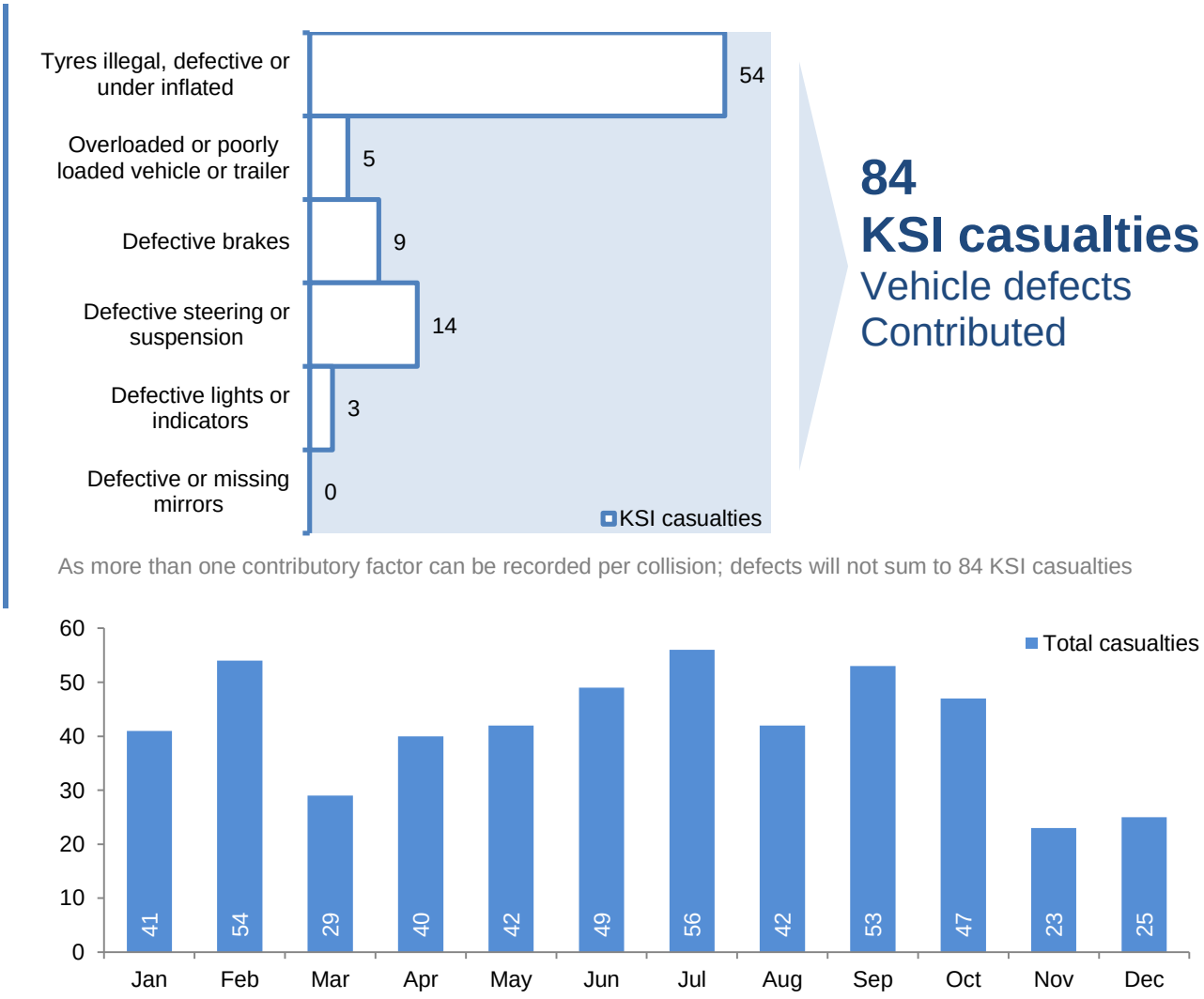


Figure 3-3 Casualties involving at least one vehicle defect contributory factor, 2014

Assessing the historic KSI casualties involving vehicles defects as highlighted in Figure 3-4 shows that between 2005 and 2014 there was a total reduction of 36.4 per cent from 132 to 84. This reduction is at a faster rate than the overall KSI casualties that within the same period reduced by 31.1 per cent from 2,691 to 1,853. The most significant change over the period was between 2013 and 2014, which resulted in an increase in KSI casualties involving vehicle defects of 78.7 per cent from 47 in 2013 to 84 in 2014.

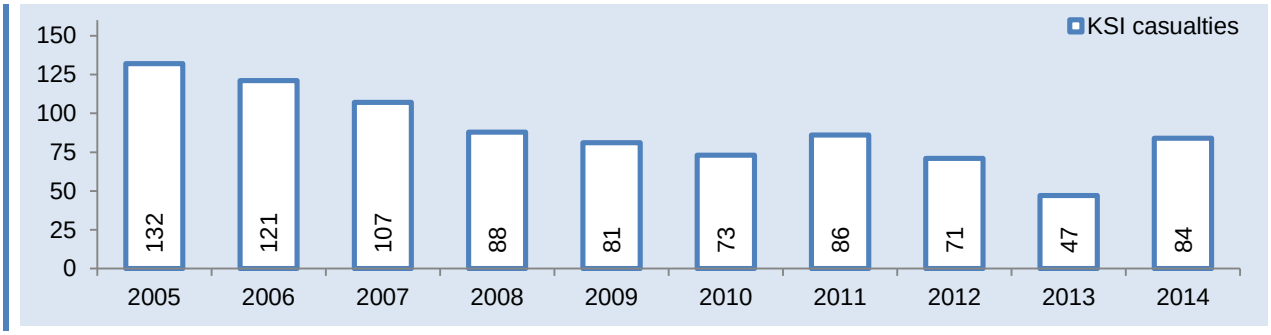


Figure 3-4 Historic KSI casualties involving at least one vehicle defect contributory factor by year

3.3 Casualties by Age of Vehicle

Table 3-1 shows KSI casualties in 2014 by vehicle association and age along with the KSI severity ratio (percentage of KSI casualties to total casualties for each individual category).

Table 3-1 KSI casualties by age of vehicle categories, 2014

Casualty type	Vehicle Age (KSI casualties / KSI severity ratio)									
	0-4 years		5-9 years		10-14 years		15 years or older		Unknown	
Car occupants	229	7.2%	321	7.7%	347	9.2%	98	12.3%	164	8.3%
PTW users	75	36.8%	87	39.9%	59	36.6%	67	38.7%	57	35.4%
Pedestrians	36	69.2%	32	58.2%	12	48.0%	9	90.0%	19	47.5%
Goods vehicle occupants	38	10.1%	19	7.4%	10	8.8%	3	20.0%	17	9.3%
HGV occupants	33	16.8%	22	17.2%	3	12.5%	0	-	24	16.0%
Pedal cyclists	0	-	0	-	0	-	0	-	51	28.5%
Bus/Coach occupants	2	8.7%	4	5.6%	0	-	3	10.7%	1	11.1%
Other	3	17.6%	2	20.0%	3	42.9%	0	-	3	12.3%
Total	416	10.3%	487	9.9%	434	10.6%	180	17.4%	336	12.3%

Notes:
(a) Values in the table report the number of KSI casualties in 2014 by casualty type and the vehicle age at the time of the collision, based on the vehicle assigned within STATS19 and the manufacture year of the vehicle.
(b) KSI severity ratios are the percentage of KSI casualties to total casualties for each individual category; these values should be treated with caution where the number of KSI casualties is particularly low.

Figure 3-5 shows that in 2014 the KSI severity ratio for car occupants was lowest for vehicles aged 0 to 4 years old at the time of collision, this appear to indicates that car improvements related to safety are potentially having a positive effect on the severity of car occupant injures.

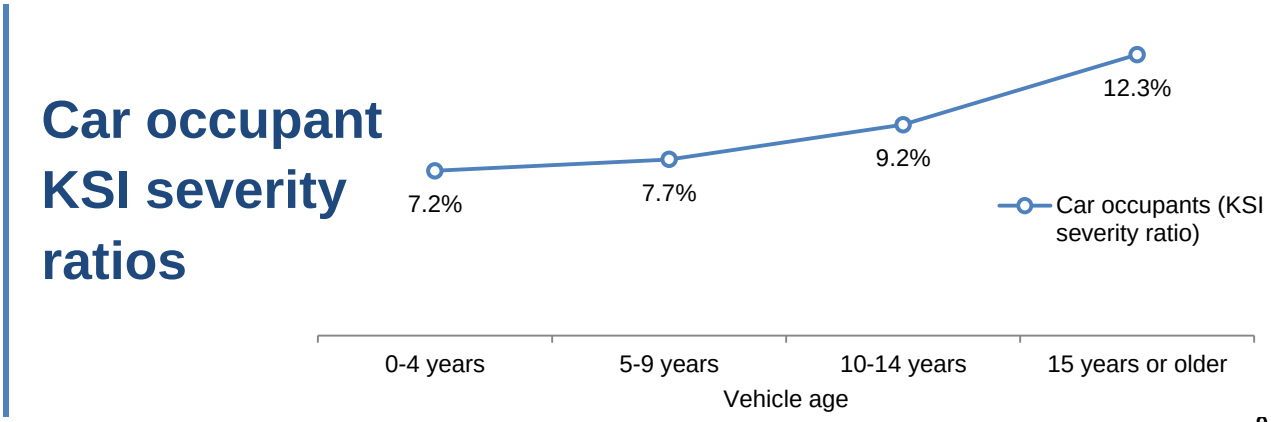


Figure 3-5 KSI severity ratio of car occupants based on vehicle age, 2014[9]

It can be seen from Figure 3-6 that 69.2 per cent of pedestrian casualties involving a vehicle 0 to 4 years old resulted in a KSI casualty in 2014. Figure 3-6 contradicts Figure 3-5 trend, and shows that the newer the vehicle involved in a collision with a pedestrian the more likely the pedestrian is to become a KSI casualty.

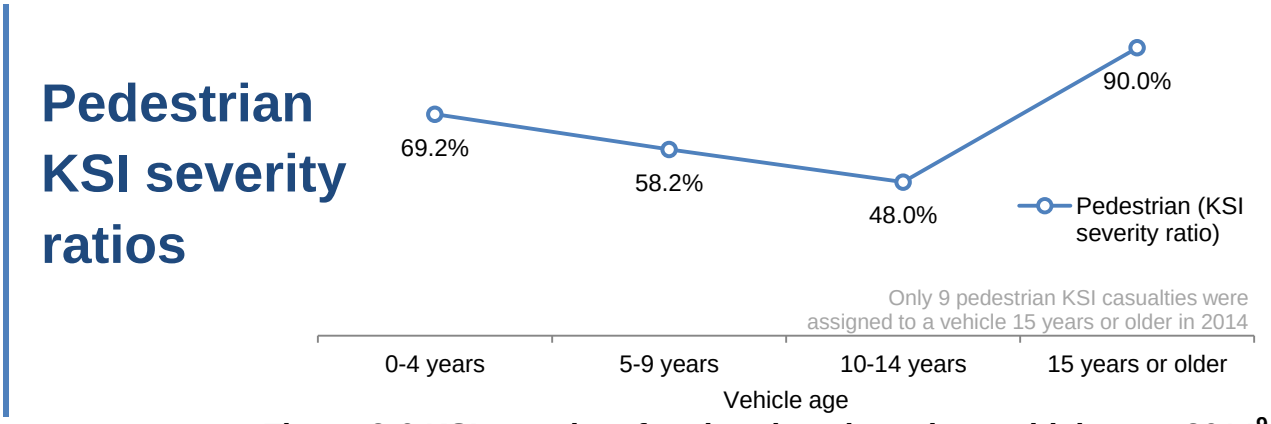


Figure 3-6 KSI severity of pedestrians based on vehicle age, 2014[9]

[9] KSI severity ratios are the percentage of KSI casualties to total casualties for each individual category; these values should be treated with caution where the number of KSI casualties are particularly low.

3.4 Casualties by First Point of Impact

Figure 3-7 provides a breakdown of the number of KSI casualties by first point of vehicle impact.

KSI casualties where the first point of vehicle impact was front (1,002) made up 54.1 per cent of all KSI casualties in 2014 and the corresponding KSI severity ratio (KSI severity ratios are the percentage of KSI casualties to total casualties for each individual category) was 14.5 per cent. It can also be seen that both offside and nearside impacts resulted in a similar number of KSI casualties and severity ratios.

A further breakdown of the data can be seen in Appendix U Table U-7.

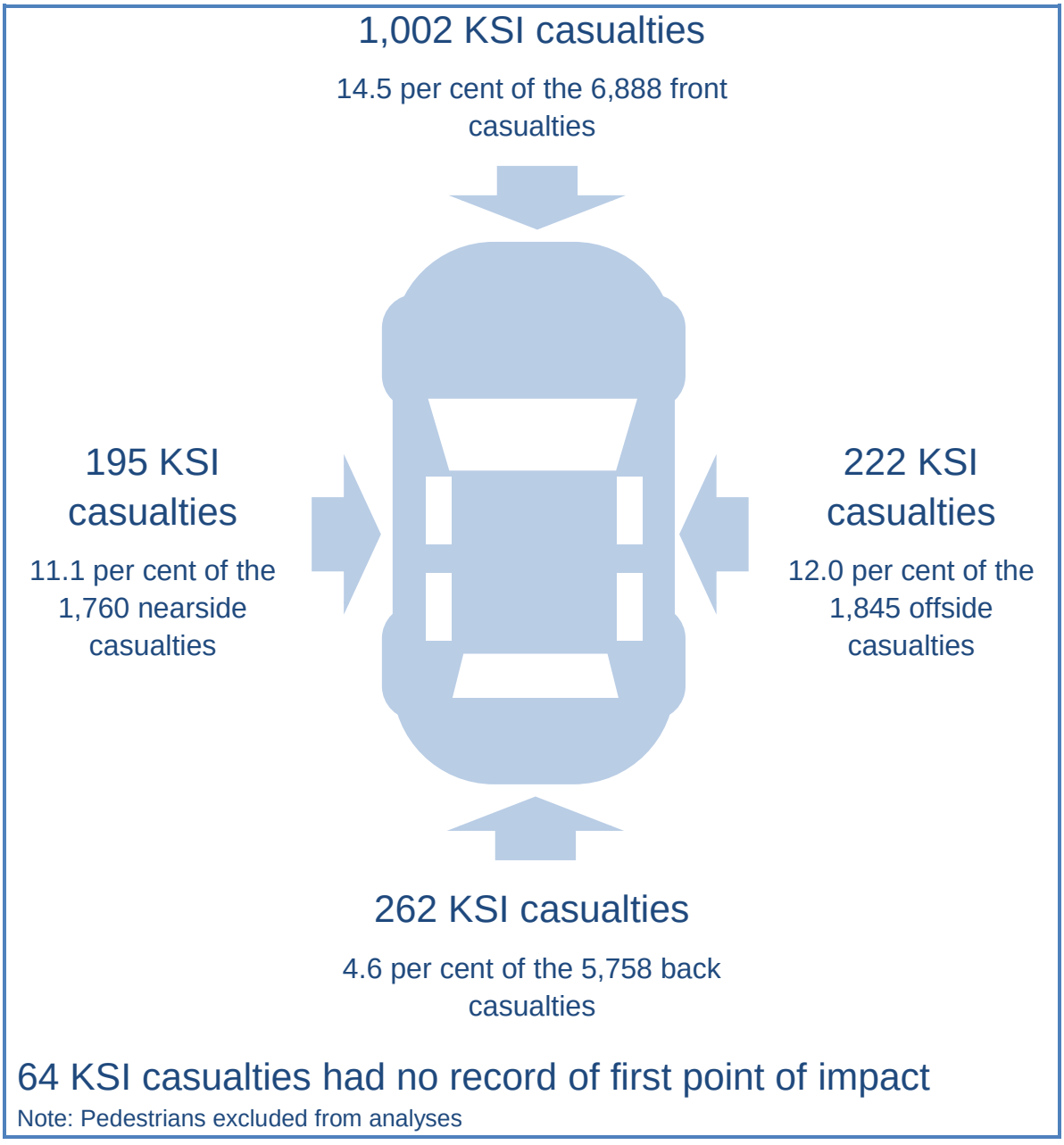


Figure 3-7 KSI casualties and severity ratio by first point of impact, 2014

Table 3-2 shows the KSI casualty types involved in offside or nearside impacts. It can be seen that 61.9 per cent of the 417 total KSI casualties in side impacts were car occupants with 26.4 per cent being PTW users.

Table 3-2 Breakdown of KSI casualty types where first point of impact was offside or nearside

110 KSI PTW users

26.4 per cent of KSI side impacts (417)

Casualty type	2013	2014	Percentage of KSI casualties resulting from a side impact, 2014
Car occupants	238	258	61.9%
PTW users	105	110	26.4%
HGV occupant	29	19	4.6%
Pedal Cyclist	11	17	4.1%
Goods vehicle occupant	20	9	2.2%
Bus / Coach occupant	6	2	0.5%
Other	9	2	0.5%

Note:
(a) Pedestrians have been excluded from analyses

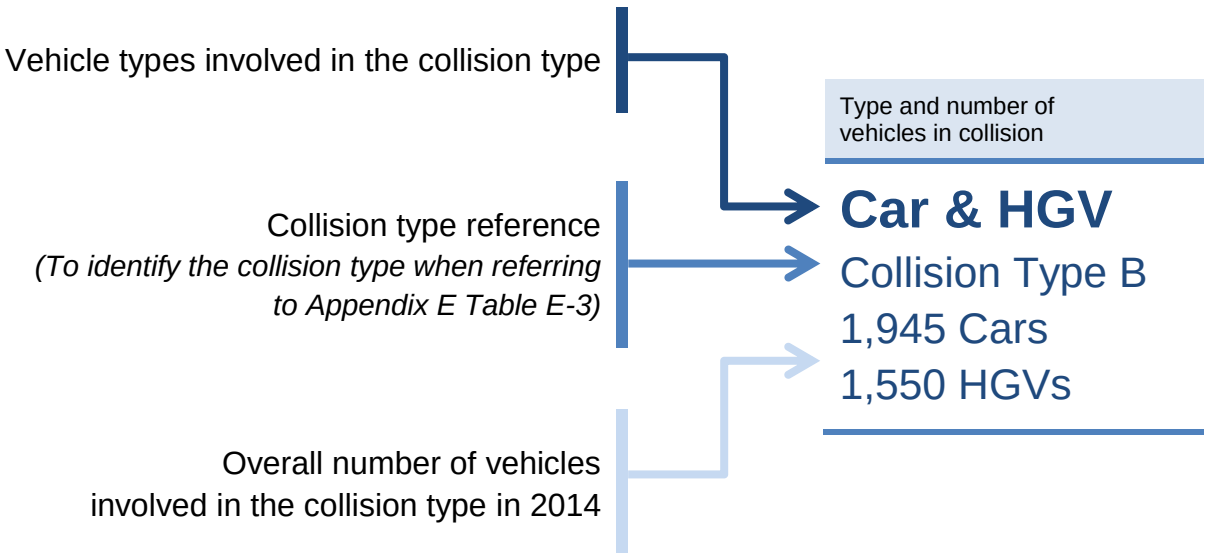
3.5 Casualties from Vehicle Interactions

All collisions in 2014 were grouped by the various combinations of vehicle types that were involved in the collision, for instance, a car colliding with a pedal cyclist. A breakdown of all collision combination types where data was available are reported in Appendix E Table E-3.

In 2014, there were 40 different combinations of vehicle types involved in collisions. In the appendix table each collision type has been labelled with a reference letter (A to AO).

An evaluation of how specific vehicle interactions influence the numbers of casualties in 2014 by severity and type is provided in Figure 3-8 and Figure 3-9.

The left-hand side of both figures report the following:



In the example, collisions involving only cars and HGVs involved 1,945 cars and 1,550 HGVs in 2014. The corresponding right-hand side of the figure reports the resulting casualties by severity and casualty type.

Figure 3-8 reports the resulting casualties (including pedestrians) where only one vehicle type was involved; Figure 3-9 reports where two vehicle types were involved.

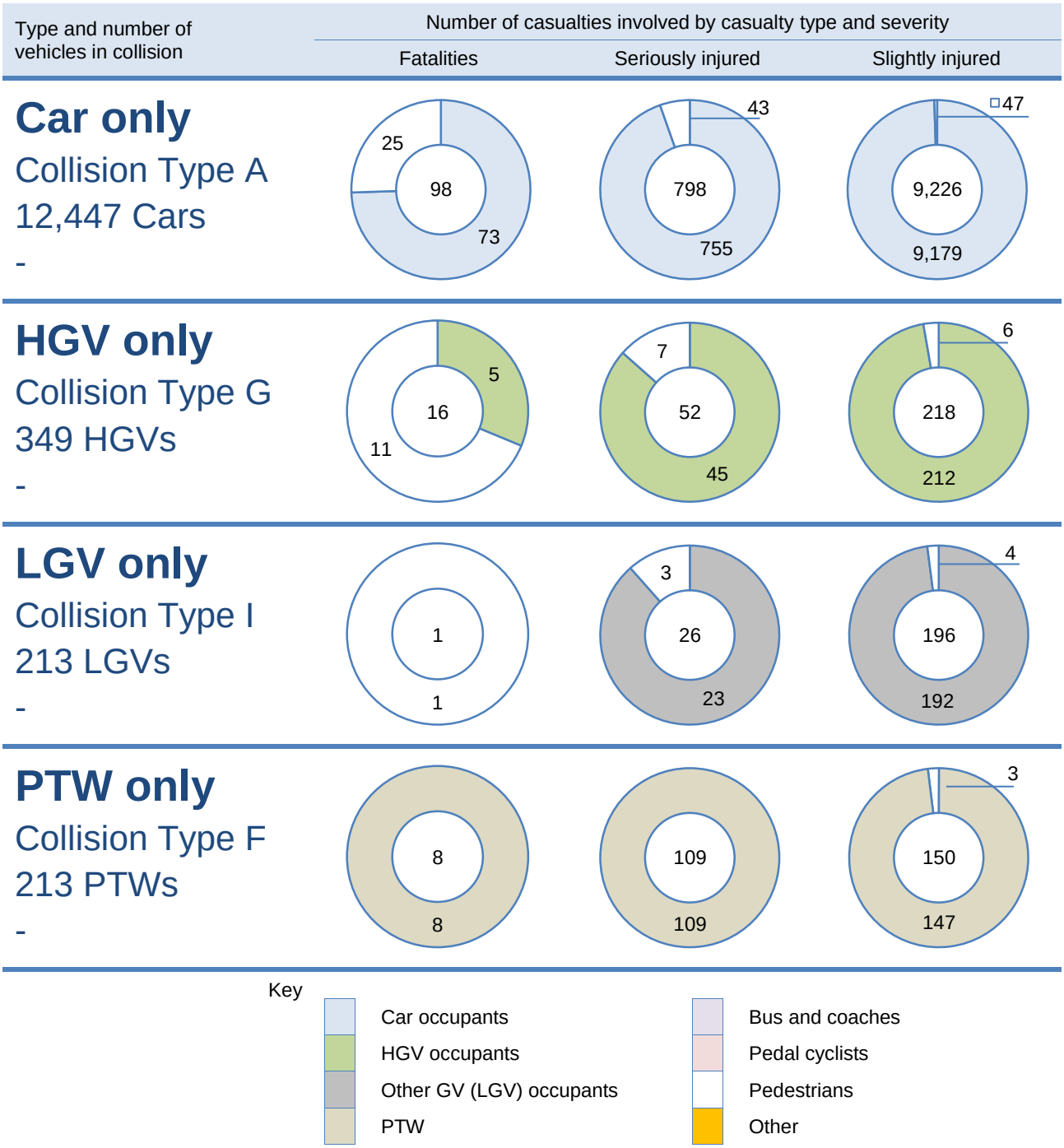
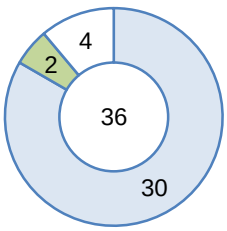
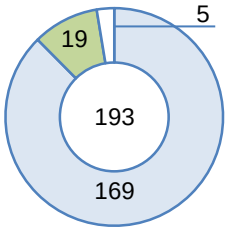
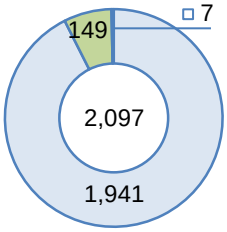
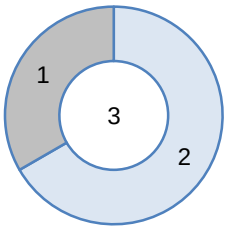
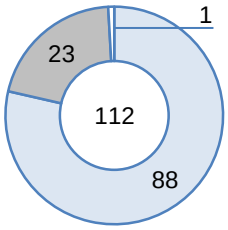
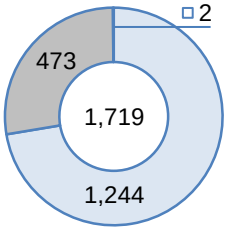
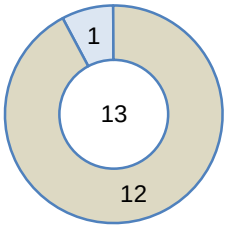
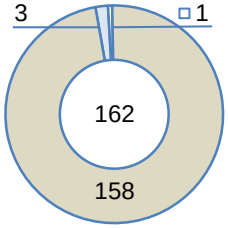
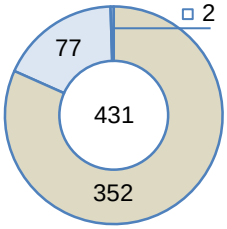
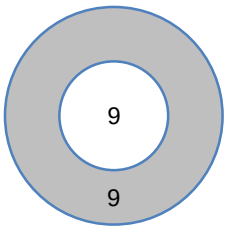
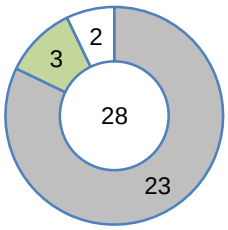
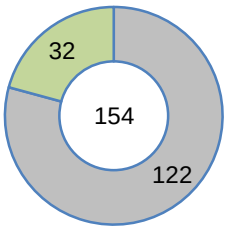
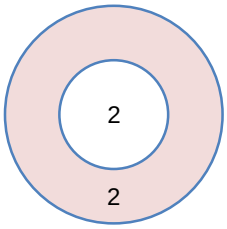
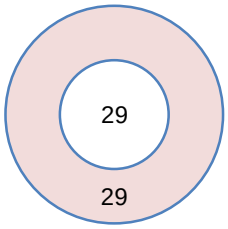
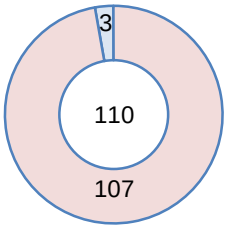


Figure 3-8 Casualties resulting from vehicle interactions involving a single vehicle type by casualty type and severity, 2014

Type and number of vehicles in collision	Number of casualties involved by casualty type and severity		
	Fatalities	Seriously injured	Slightly injured
Car & HGV Collision Type B 1,945 Cars 1,550 HGVs			
Car & LGV Collision Type C 1,420 Cars 942 LGVs			
Car & PTW Collision Type D 558 Cars 475 PTWs			
HGV & LGV Collision Type J 144 HGVs 141 LGVs			
Car & Cycle Collision Type K 115 Cars 112 Pedal cycles			

Key Refer to Figure 3-8

Figure 3-9 Casualties resulting from vehicle interactions involving multiple vehicle types by casualty type and severity, 2014

The most frequent interaction as shown in Figure 3-8 was car only collisions (type A). Car only collisions resulted in 98 fatalities, equivalent to 46.4 per cent of the 211 total fatalities in 2014. As shown by collision types A (car only) and G (HGV only), 25 pedestrian fatalities in 2014 involved only a car and 11 involved only a HGV.

Where cars collide with vulnerable roads users[10] such as PTW user and pedal cyclists as shown in collision types D (car and PTW) and K (car and pedal cycle) in Figure 3-9, the vulnerable road users are at high risk of being fatally or seriously injured. In these collision types, 97.6 per cent of the 206 KSI casualties where vulnerable road users.

As shown by collision type B (car and HGV) in Figure 3-9, car occupants involved in this collision type are disproportionally killed with 83.3 per cent of fatalities being car occupants. The number of cars involved in this collision type was only 55.7 per cent of total vehicles.

[10] Vulnerable road users include PTW users, cyclists, pedestrians, children (aged 0 to 15) and elderly (aged 70 and over).

4 People

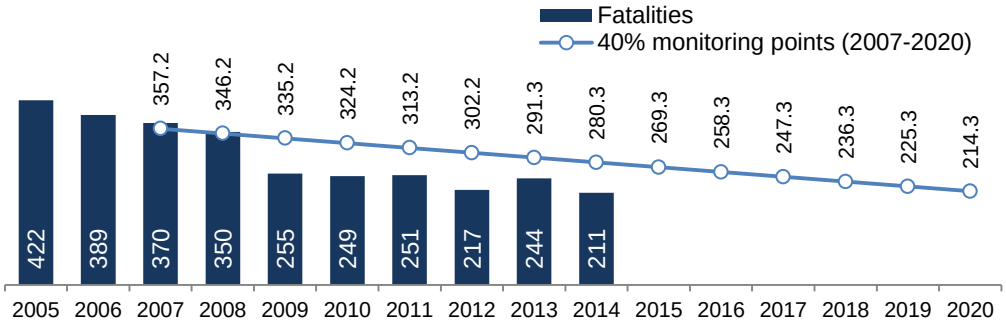
In Chapter 4, an assessment of the casualties on the strategic road network has been undertaken. This includes analysis of historic and future trends, casualty types and assessment of the drivers and riders including the human factors involved in collisions.

4.1 Casualty Trends

This section identifies underlying trends in the number of casualties occurring each year by severity between 2005 and 2014.

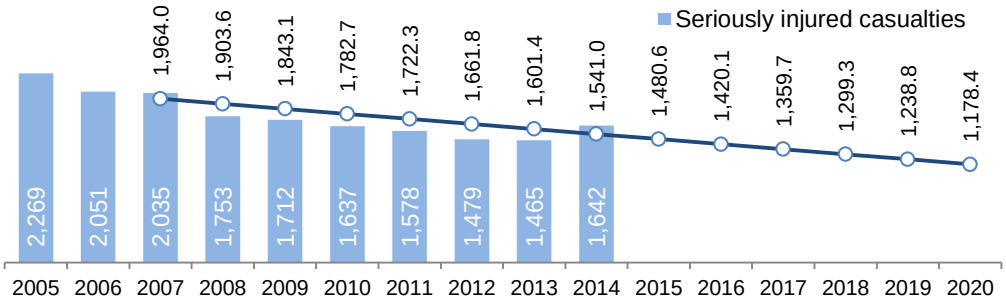
Fatalities

13.5 per cent from 2013



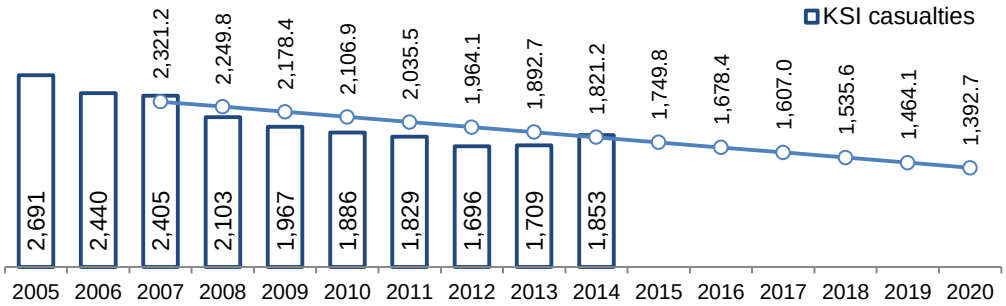
Seriously injured

12.1 per cent from 2013



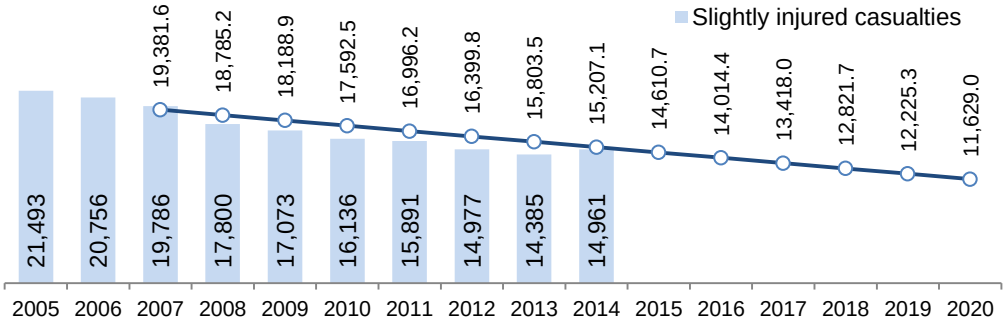
KSI

8.4 per cent from 2013



Slightly injured

4.0 per cent from 2013



Total

4.5 per cent from 2013

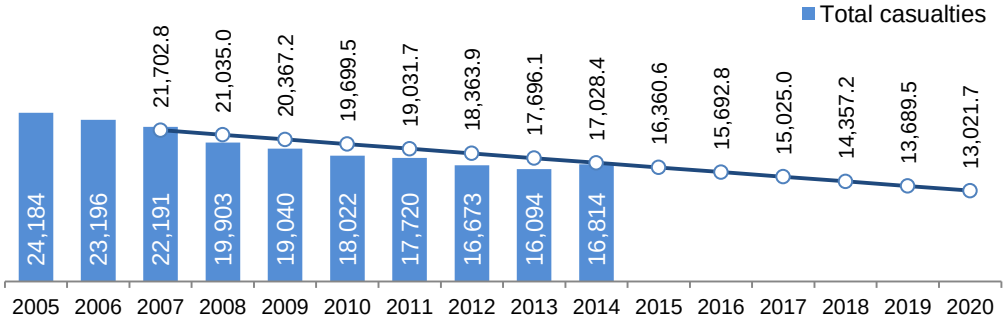


Figure 4-1 Historic casualty trends by severity between 2005 and 2014

Figure 4-1 provides an outline of historic casualty trends for fatalities, seriously injured casualties, KSI casualties, slightly injured casualties and total casualties between 2005 and 2014.

Summarising Figure 4-1, the largest percentage change between severities since 2013 was the number of fatalities. Fatalities decreased by 13.5 per cent (from 244 to 211); compared to an increase of 12.1 per cent for seriously injured casualties (from 1,465 to 1,642) and 8.4 per cent for KSI casualties (from 1,709 to 1,853).

Figure 4-2 indexes all severities against a base value of 100.0 in order to directly compare changes in casualty numbers across severities by year. The base value is equivalent to the baseline average (2005-2009).

As shown by Figure 4-2, the change in total casualties over time has been relatively steady and decreased on average by 2.5 index points per annum. The increase in the total number of casualties between 2013 and 2014 is the first increase since at least 2005. The fatalities profile plateaued at approximately 70.0 index points between 2009 and 2011 after which it fluctuated between approximately 60.0 and 70.0 index points.

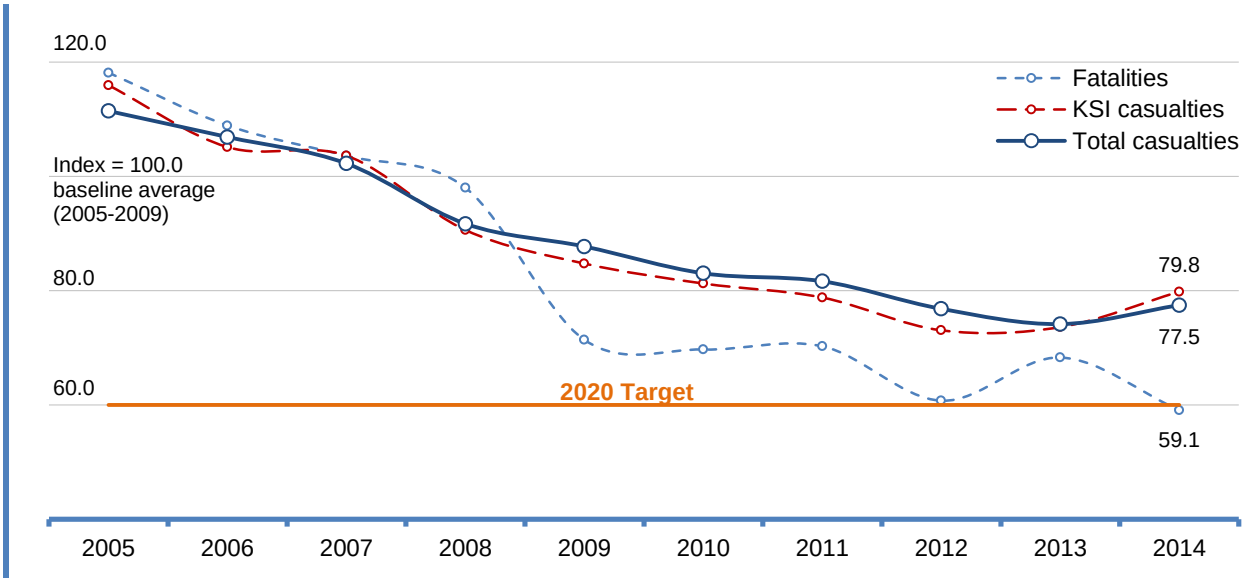


Figure 4-2 Index of changes in historic casualties by severity

4.2 Future Casualty Trends

In this section, a forecast of future KSI casualties has been produced using simplified models based on casualty rates (averaged between 2010 and 2014) and traffic forecasts.

The forecasts assume that future casualty trends are based on current investment by Highways England already influencing safety on the SRN.

Figure 4-3 shows that in 2020, the number of KSI casualties could potentially range from 1,950 to 2,069 depending upon traffic growth. The 2020 monitoring point (1,392.7 KSI casualties) is considerably below these forecasts.

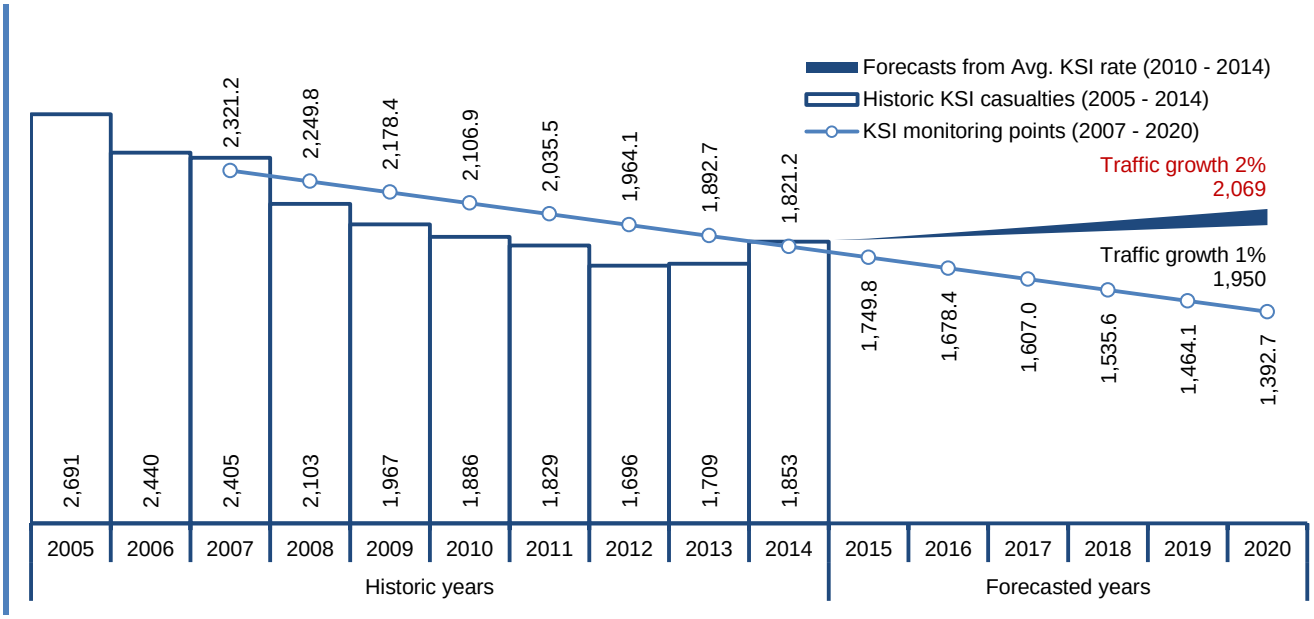


Figure 4-3 Forecasted KSI casualties between 2014 and 2020 based on trend lines

4.3 Casualties by Type and Age

This section provides an overview of casualty types and ages involved in collisions on the SRN. Figure 4-4 illustrates all 211 fatalities in 2014 by type, gender and age.

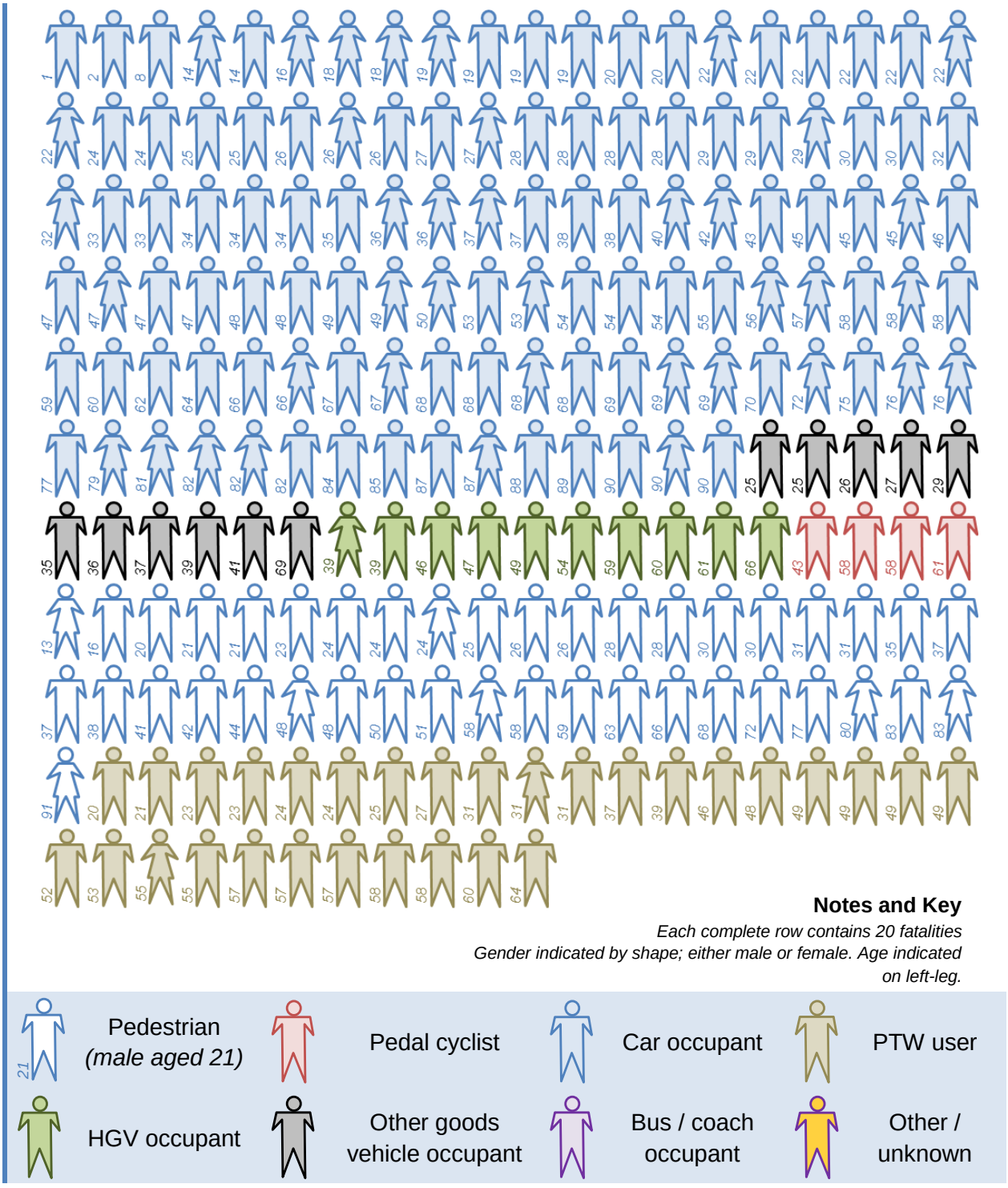


Figure 4-4 Pictogram of all SRN fatalities by casualty type, gender and age, 2014

It can be seen in Figure 4-4 that road users of all ages were killed on the SRN in 2014; including an infant aged one year old who was a car occupant. No bus / coach occupants were killed on the SRN in 2014. The fatalities in the pictogram are summarised in Table 4-1 by casualty type and age banding.

Table 4-1 Summary of fatalities by casualty type and age banding, 2014

Casualty age banding / casualty type	Children (0-15)	Young (16-19)	Other (20-59)	Older (60-69)	Elderly (70+)	Total
Pedestrian	1	1	30	3	6	41
Pedal cyclist	0	0	3	1	0	4
Car occupant	5	7	69	14	20	115
PTW user	0	0	28	2	0	30
HGV occupant	0	0	7	3	0	10
Other GV occupant	0	0	10	1	0	11
Bus / coach occupant	0	0	0	0	0	0
Other / unknown	0	0	0	0	0	0
Total	6	8	147	24	26	211

Analysing historic changes in casualty type as detailed in Appendix C Table C-3; the biggest decreases in fatalities in 2014 from 2013 occurred in car occupants (by 13.5 per cent from 133 to 115) and PTW users (by 18.9 per cent from 37 to 30). The only casualty type for which the number of fatalities increased was pedestrians from 38 in 2013 to 41 in 2014.

Similarly, observing historic changes in casualty age bands as detailed in Appendix C Table C-2 highlights a relatively large decrease in young fatalities from 18 in 2013 to 8 in 2014, this makes 2014 the second safest year since at least 2005 (in terms of young fatalities) after 2012 in which there were only 4 fatalities (Figure 4-5). The decrease in young fatalities, particularly involving young motorists is discussed further in Section 5.1, the fatalities topic of interest, and Section 5.5, the young motorist topic of interest.

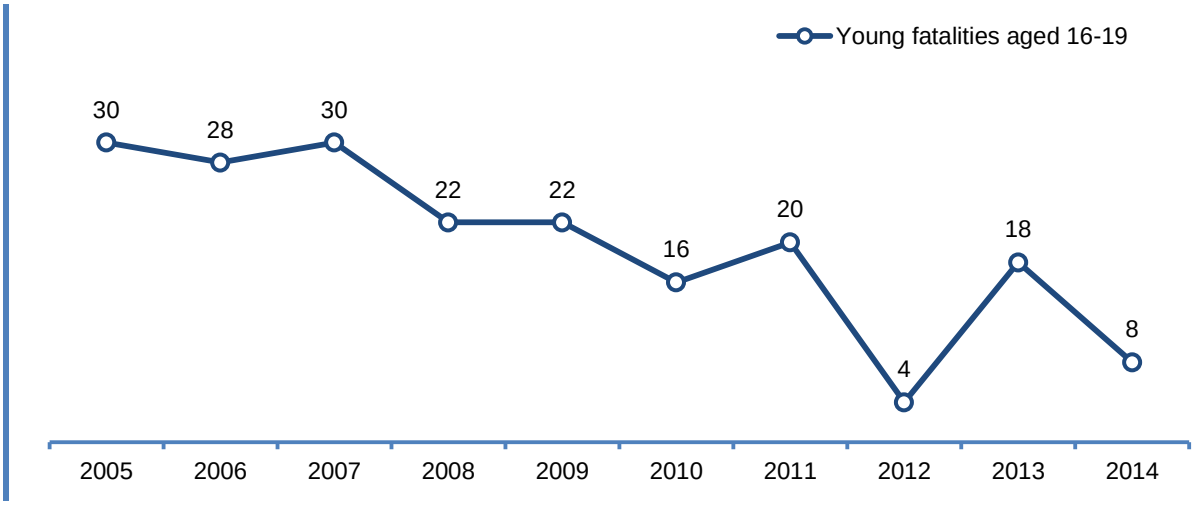
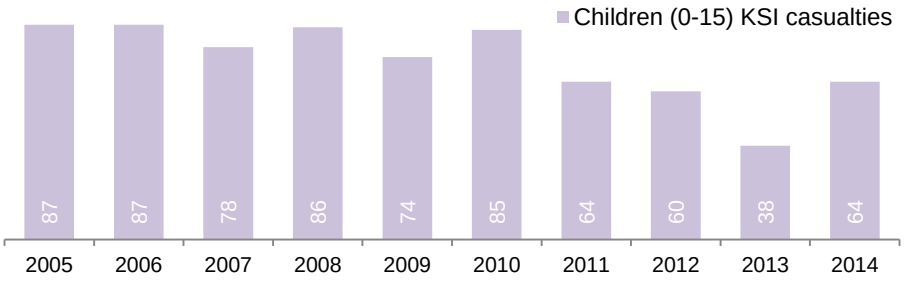


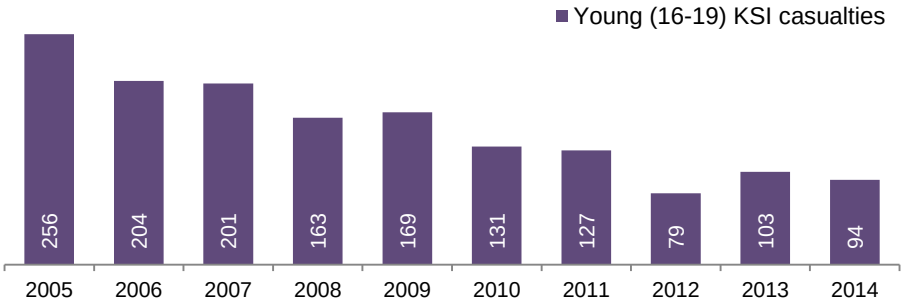
Figure 4-5 Historic young fatalities aged 16 to 19 by year

Other changes in casualty types and ages between 2013 and 2014 for KSI and total casualties are shown below in Figure 4-6.

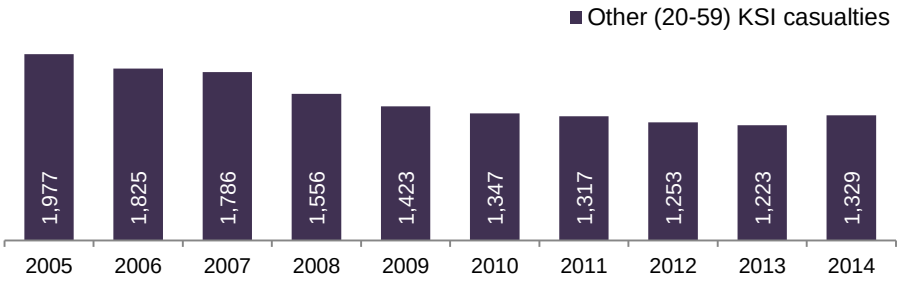
Children (0-15)
64 KSI casualties
68.4 per cent
from 38 in 2013



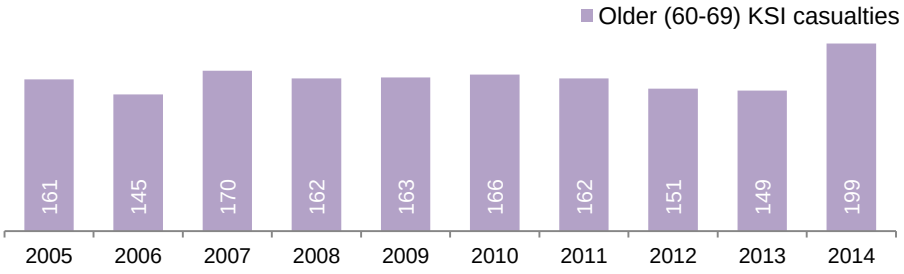
Young (16-19)
94 KSI casualties
8.7 per cent
from 103 in 2013



Other (20-59)
1,329 KSI casualties
8.7 per cent
from 1,223 in 2013



Older (60-69)
199 KSI casualties
33.6 per cent
from 149 in 2013



Elderly (70+)
159 KSI casualties
15.4 per cent
from 188 in 2013

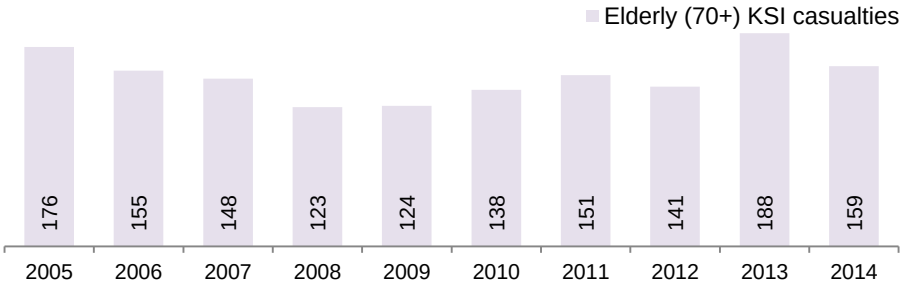
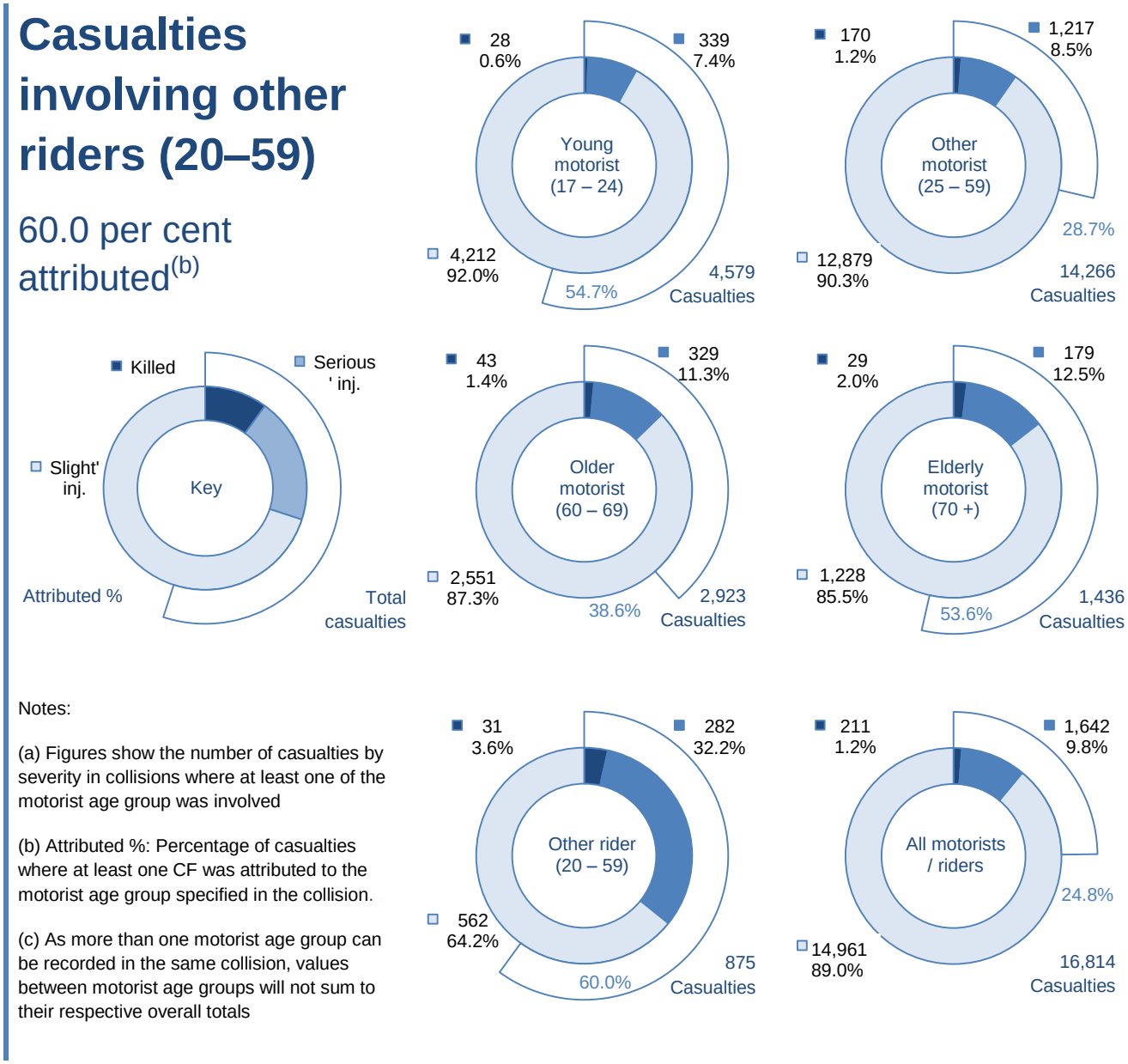


Figure 4-6 Historic KSI casualties by age group

4.4 Casualties involving Motorists and Riders of Specific Age Groups

A summary of casualties involving at least one motorist or rider from a specific age group for 2014 is shown below in Figure 4-7. As shown in the key in Figure 4-7, the inner ring shows the distribution of casualty severity involved and, the outer ring indicates the percentage of casualties where at least one contributory factor was attributed to the motorist or rider age group specified in the collision. The second measure gives an outline approximation of how active the specified age group was in contributing to the resulting casualties.



Notes:

(a) Figures show the number of casualties by severity in collisions where at least one of the motorist age group was involved

(b) Attributed %: Percentage of casualties where at least one CF was attributed to the motorist age group specified in the collision.

(c) As more than one motorist age group can be recorded in the same collision, values between motorist age groups will not sum to their respective overall totals

Figure 4-7 Summary of casualties involving specific motorist and rider age groups, 2014

When comparing the casualty severity distribution for each age group to all motorists and riders in Figure 4-7, the percentage of fatalities and seriously injured casualties involving motorists aged 60 and over (older and elderly) and riders aged between 20 and 59 are typically higher than that of all motorists and riders. For example, in 2014 the percentage of seriously injured casualties involving other riders (32.2 per cent) was over three times the respective value for all motorists and riders (9.8 per cent).

The number of fatalities involving young motorists, as detailed in Figure 4-7 was 28 in 2014. Cross-referencing with Figure 5-33, found in the young motorist topic of interest, it can be shown that the number of fatalities involving at least one young motorist decreased by 37.8 per cent to 28 in 2014 from 45 in 2013.

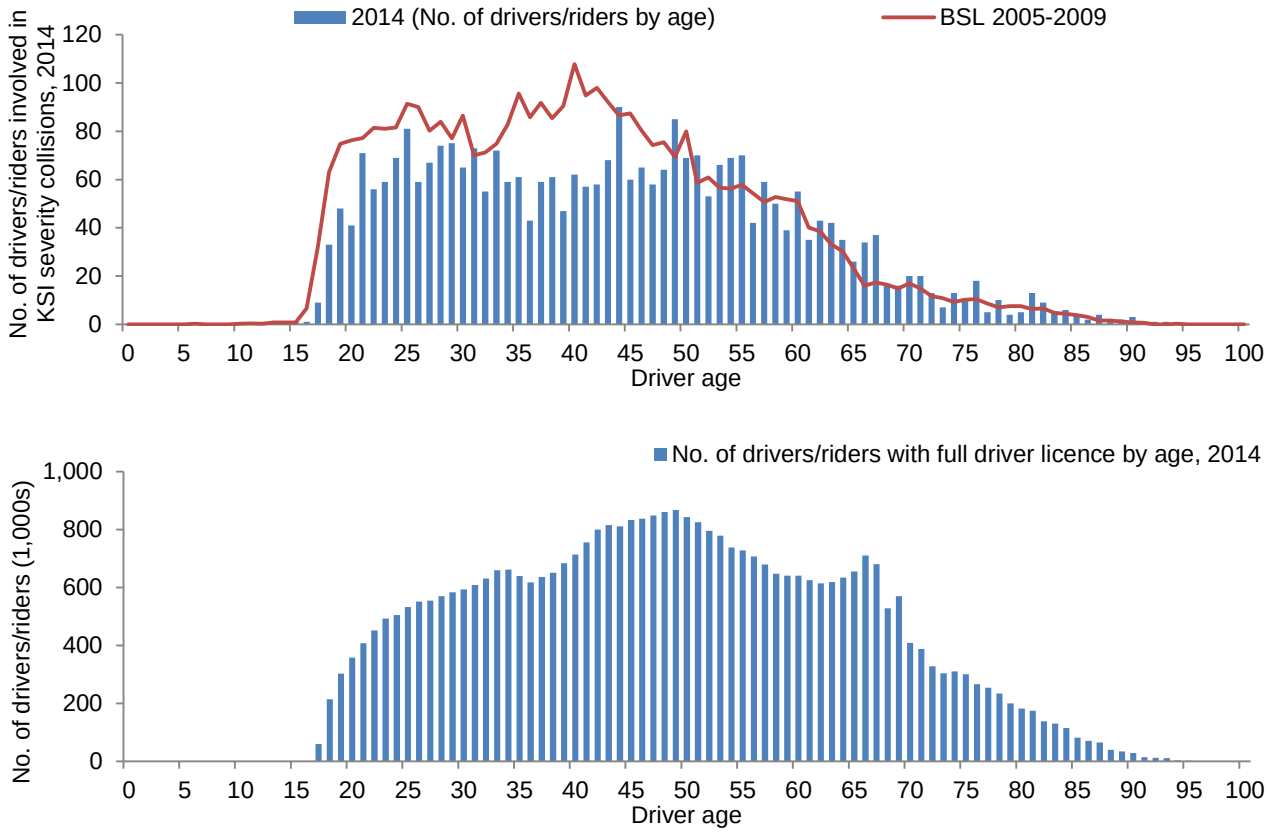
Assessing the percentage of total casualties attributed[11] to each motorist or rider age group, highlights that other riders (aged 20 – 59) are one of the least safe age groups using the SRN. Other riders were assigned a contributory factor in over 60.0 per cent of resulting casualties. Young motorists and elderly motorists (aged 70+) were assigned similar values, with 54.7 per cent and 53.6 per cent respectively.

It should be noted that the number of contributory factors recorded per collision was marginally less in 2014 than 2013.

Figure 4-8 shows that there is a moderate correlation between the age of drivers or riders involved in KSI severity collisions and the number of drivers or riders that hold a full driving licence for each age. It can also be seen that the involvement of drivers or riders aged between 30 and 45 in KSI severity collisions has decreased the most compared to the baseline profile and other age groups. Whereas the involvement of drivers or riders aged 50 to 65 has seen an increase compared to the baseline profile. It is expected that in future years this category will continue to increase due to the ever increasing age of the population in the UK[12].

[11] Refer to Figure 4-7 for definition of percentage attributed.

[12] Population of 50 to 65 year olds expected to increase by 8.2 per cent by 2035, http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/sum-2010-based-national-population-projections.html



Notes:

(a) Driver licence information sourced from: www.data.gov.uk/dataset/driving-licence-data.

(b) Not all those who hold a full driving licence will be active drivers on the SRN.

Figure 4-8 KSI severity collisions by driver age involved and number of full driver licenses held by age in Great Britain, 2014

4.5 Casualties where Human Factors Contributed

Human factors remain the largest single cause of killed and seriously injured casualties on the SRN. In 2014, there were 1,554 KSI casualties involving at least one human factor representing 83.9 per cent of total KSI casualties.

Figure 4-9 is an assessment of the contributing human factors which result in KSI casualties on the SRN. These human factors broadly fall into 4 categories of contributory factor: driver/rider error or reaction, impairment or distraction, injudicious action, and behaviour or inexperience[13].

[13] For full listing of contributory factors in these groupings please refer to Appendix F Table F-1.

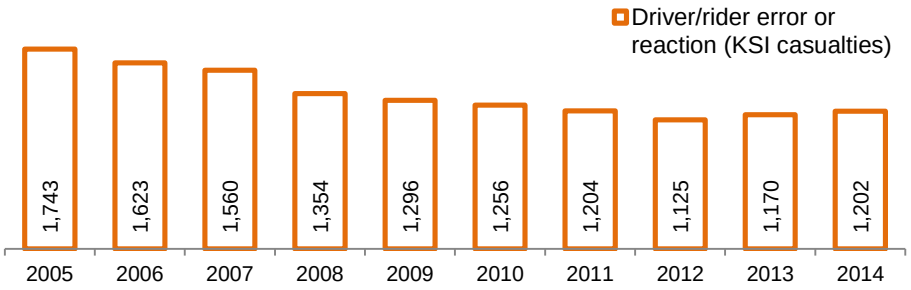
1,554 KSI casualties where human factors were attributed

83.9 per cent of the 1,853 KSI casualties in 2014

Driver/Rider error or reaction

1,202 KSI casualties

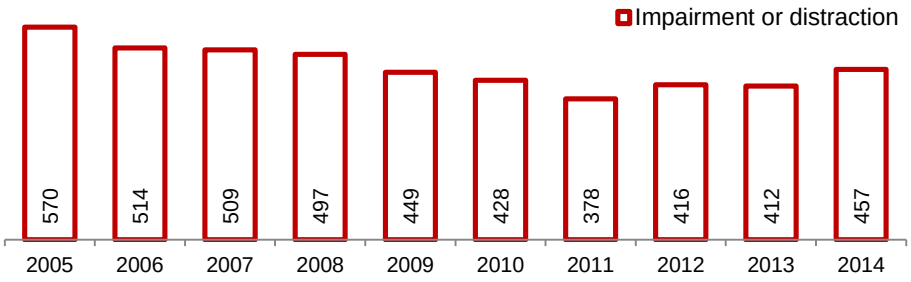
2.7 per cent from 1,170 in 2013



Impairment or distraction

457 KSI casualties

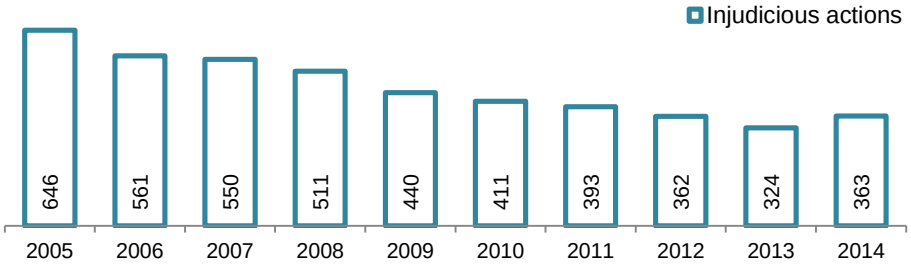
10.9 per cent from 412 in 2013



Injudicious actions

363 KSI casualties

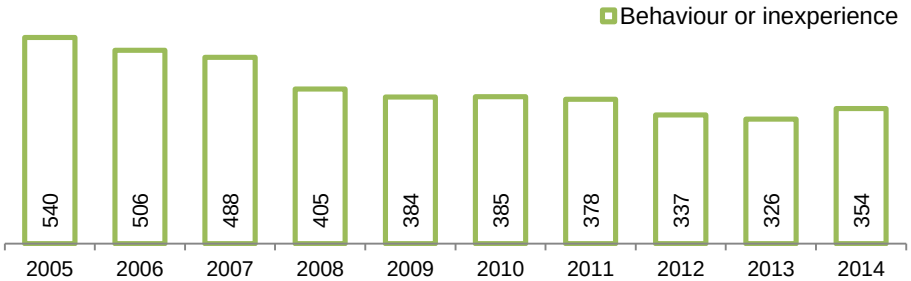
12.0 per cent from 324 in 2013



Behaviour or inexperience

354 KSI casualties

8.6 per cent from 326 in 2013



Note:

(a) Figures show the number of KSI casualties involving at least one contributory factor from the relevant contributory factor group (see Appendix F for group details).

Figure 4-9 Historic KSI casualties involving human contributory factors by group and year

In 2014, the number of KSI casualties involving injudicious actions (speeding, following too close) was 363, a 12.0 per cent increase from 324 KSI casualties in 2013.

Investigating the impairment or distraction human factor category further, Figure 4-10 details the number of KSI casualties involving at least one driver using a mobile phone. From the figure it can be seen that since 2011, the number of KSI casualties has increased by 33.3 per cent to 20 from 15 despite increased awareness and legislation.

Driver using mobile phone

20 KSI casualties

16.7 per cent from 24 in 2013

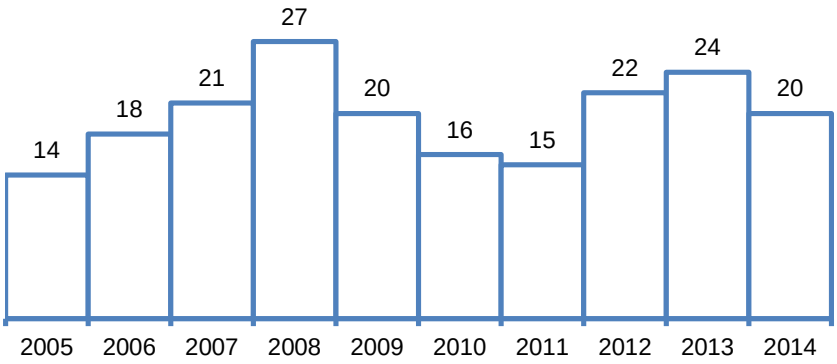


Figure 4-10 Historic KSI casualties involving mobile phones by year

Finally, Table 4-2 highlights the top 20 human contributory factors by severity for 2014 (ranked by KSI casualties). The top 3 contributory factors involved in KSI casualties were all driver/rider error or reaction. This category features heavily in all collisions as stated previously.

Table 4-2 Top 20 human contributory factors involved in casualties by severity, 2014

Rank	Contributory factor		KSI	Killed	Seriously injured	Slightly injured	Total casualties
1	405	Failed to look properly	491	47	444	4,958	5,449
2	410	Loss of control	428	55	373	2,167	2,595
3	406	Failed to judge other person's path or speed	389	31	358	4,593	4,982
4	602	Careless, reckless or in a hurry	247	26	221	1,620	1,867
5	403	Poor turn or manoeuvre	191	20	171	1,564	1,755
6	503	Fatigue	169	17	152	759	928
7	409	Swerved	159	20	139	889	1,048
8	307	Travelling too fast for conditions	148	14	134	1,082	1,230
9	408	Sudden braking	125	6	119	1,923	2,048
10	306	Exceeding speed limit	111	20	91	375	486
11	308	Following too close	109	6	103	2,235	2,344
12	505	Illness or disability, mental or physical	108	15	93	305	413
13	509	Distraction in vehicle	100	19	81	635	735
14	501	Impaired by alcohol	100	7	93	351	451
15	601	Aggressive driving	62	12	50	289	351
16	605	Learner or inexperienced driver/rider	51	5	46	379	430
17	502	Impaired by drugs (illicit or medicinal)	36	9	27	64	100
18	510	Distraction outside vehicle	29	3	26	261	290
19	401	Junction overshoot	25	1	24	147	172
20	404	Failed to signal or misleading signal	22	1	21	140	162

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience

Notes:
(a) Table reports number of casualties.
(b) Table ranked by KSI casualties.
(c) As more than one contributory factor can be recorded per collision; columns will not sum to their respective totals.

From the table, it is evident that the impairment or distraction human factor category also remains a major issue. Individual factors such as fatigue, impaired by alcohol and distraction in vehicle, contributed to 169, 100 and 100 KSI casualties respectively in 2014.

Table 4-3 is an adaptation of the 'Fatal Four' driving offences:

- Speeding (CFs 306 and 307).
- Improper use of restraints (Casualty code "Seat belt in use – not used").
- Distractions in vehicle (including use of mobile phone) (CFs 508, 509 and 510).
- Impaired by drink and drugs (CFs 501 and 502)

It can be seen from Table 4-3 that casualties involving speeding increased across all severities other than fatal in 2014 with KSI casualties increasing by 30.8 per cent from 182 in 2013 to 238 KSI casualties in 2014.

Due to the recording of the use of seatbelts not being mandatory for all severities this category shows the minimum number of casualties by severity. However, the large percentage increases from 2013 to 2014 is likely to be due to increased recording by police forces. Nonetheless Table 4-3 does show that in 2014 a minimum of 492 casualties involved improper use of or no restraints.

Table 4-3 Casualties involving speeding, restraints, distractions and drink/drugs, 2014

Category/ Severity	Speeding	Restraints[(a)]	Distractions	Drink/Drugs
Fatalities	**31** ↓ 13.9%	**10** -	**20** ↓ 16.7%	**15** ↓ 34.8%
Seriously injured	**207** ↑ 41.8%	**65** ↑ 85.7%	**89** ↑ 11.3%	**110** ↑ 34.1%
KSI	**238** ↑ 30.8%	**75** ↑ 92.3%	**109** ↑ 4.8%	**125** ↑ 19.0%
Slightly injured	**1,380** ↑ 3.4%	**417** ↑ 847.7%	**680** ↓ 1.6%	**392** ↓ 4.4%
Total	**1,618** ↑ 6.7%	**492** ↑ 492.8%	**789** ↓ 0.8%	**517** ↑ 0.4%

Notes:

(a) The recording of seatbelts is only required in STATS19 for fatalities who are occupants of vehicles in which the wearing of a seatbelt is mandatory. However police forces can choose to collect this data for all casualty severities and hence a large proportion of the increase in 'Restraints' is likely to come from the increased recording by police forces.

(b) Percentages represent the per cent change of 2014 values from 2013 values; percentages are only shown where the base is 15 or more.

5 Topics of Interest

The purpose of the chapter is to provide analysis and published data for a number of topics of interest. The topics are themes that affect the SRN and hence include more detailed analysis than the overall assessment of casualty trends in the previous chapters.

The topic of interest chapter includes the following:

- Fatalities
- Seriously injured casualties
- KSI casualties
- Slightly injured casualties
- Young motorists
- Lighting on the SRN
- Weather effects on the SRN
- Roadworks
- Objects hit on and off the carriageway
- Junctions
- Tyres
- Goods vehicles (HGVs and LGVs)
- Motorcycles (PTWs)
- Hardshoulders and lay-bys
- Collision type
- Hotspot analysis

5.1 Fatalities

This section provides an overview of fatalities on the SRN for 2014 along with comparisons to previous years and the baseline period (2005-2009).

5.1.1 Overview of fatalities

In 2014, there were 211 fatalities on the SRN; this is a decrease of 33 fatalities from the 2013 value of 244. This is the lowest number of fatalities on the SRN since at least 2005, and is also below the 2020 monitoring point[4] of 214.3. The estimated cost of fatalities on Highways England's network in 2014 was £359.9m[14].

211 fatalities

13.5 per cent from 2013 (244)

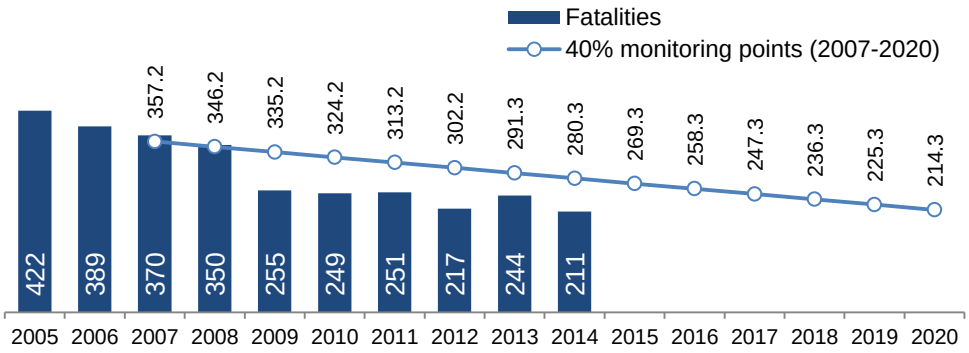


Figure 5-1 Breakdown of fatalities by year, SRN

5.1.2 Route and road type performance

Table 5-1 gives a breakdown of fatality rates by motorway along with the average rate of motorways on the SRN for 2014. Although only motorways with traffic greater than 5 HMVM have been included within Table 5-1, fatality rates can still fluctuate significantly between years. It can however be seen that the top seven motorways in 2014 are above the average rate of 0.15 fatalities per HMVM. Both the M61 and M56 have a fatality rate of at least twice that of the 2014 average rate with 0.41 and 0.30 fatalities per HMVM respectively.

[14] Based on the average value of prevention per casualty at 2010 prices and 2014 values, DfT WebTAG: Unit A 4.1.1, May 2014

Table 5-1 Fatality rates by road name (Motorways)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN M'way average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	M61	24.3	7.40	0.35	0.14	0.00	0.41	0.15	174.7	-
2	M56	38.2	13.48	0.25	0.00	0.08	0.30	0.15	101.2	279.5
3	M11	52.1	13.94	0.41	0.08	0.08	0.22	0.15	45.9	183.2
4	M40	91.1	28.70	0.29	0.21	0.21	0.21	0.15	41.7	0.2
5	M3	61.5	19.97	0.19	0.15	0.15	0.20	0.15	35.8	32.7
6	M20	51.4	12.21	0.42	0.17	0.08	0.16	0.15	11.0	94.9
7	M4	118.1	40.04	0.29	0.17	0.10	0.15	0.15	1.6	49.8
8	M5	167.6	50.64	0.21	0.18	0.18	0.14	0.15	-6.3	-22.2
9	M1	198.5	76.37	0.34	0.17	0.12	0.13	0.15	-11.2	11.7
10	M42	43.7	15.66	0.13	0.07	0.19	0.13	0.15	-13.4	-34.3

Notes:
(a) Only Motorways (M'ways) with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high fatality rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

Table 5-2 gives a breakdown of fatality rates by A-road along with the average rate of A-roads on the SRN for 2014. As with the table above, only A-roads with traffic greater than 5 HMVM have been included within Table 5-2. It can be seen that the top nine A-roads are above the average rate of 0.43 fatalities per HMVM in 2014, with the A64, A47 and A5 all being over twice that of the average A-road with 1.14, 0.91 and 0.86 fatalities per HMVM respectively.

Table 5-2 Fatality rates by road name (A-roads)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN A-road average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	A64	57.2	5.26	0.94	0.39	0.39	1.14	0.43	165.9	192.8
2	A47	107.3	8.76	0.99	1.14	1.15	0.91	0.43	112.8	-20.2
3	A5	136.8	10.48	0.88	0.58	0.97	0.86	0.43	100.0	-11.2
4	A46	111.2	11.23	0.69	0.54	0.74	0.62	0.43	45.3	-15.2
5	A11	54.8	5.73	0.41	0.52	0.34	0.52	0.43	21.9	52.3
6	A30	133.5	11.54	0.71	0.68	1.02	0.52	0.43	21.2	-49.0
7	A66	103.0	5.91	0.86	0.52	0.34	0.51	0.43	18.2	47.7
8	A34	63.6	12.22	0.38	0.17	0.25	0.49	0.43	14.4	98.6
9	A3	51.2	10.44	0.54	0.21	0.20	0.48	0.43	11.6	136.8
10	A50	44.2	7.55	0.38	0.13	0.55	0.40	0.43	-7.4	-27.6

Notes:
(a) Only A-roads with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high fatality rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

In 2014 fatalities per HMVM decreased across all road classes with:

- A-road single carriageways decreasing to 0.95 fatalities per HMVM in 2014 from 1.19 fatalities per HMVM in 2013, this is still above the 2010 value of 0.84 fatalities per HMVM
- A-road dual carriageways decreased to 0.30 fatalities per HMVM from 0.38 fatalities per HMVM in 2013, this is the lowest rate since at least 2005
- Motorways decreased to 0.15 fatalities per HMVM in 2014 from 0.16 fatalities per HMVM in 2013 but has varied only marginally since 2011

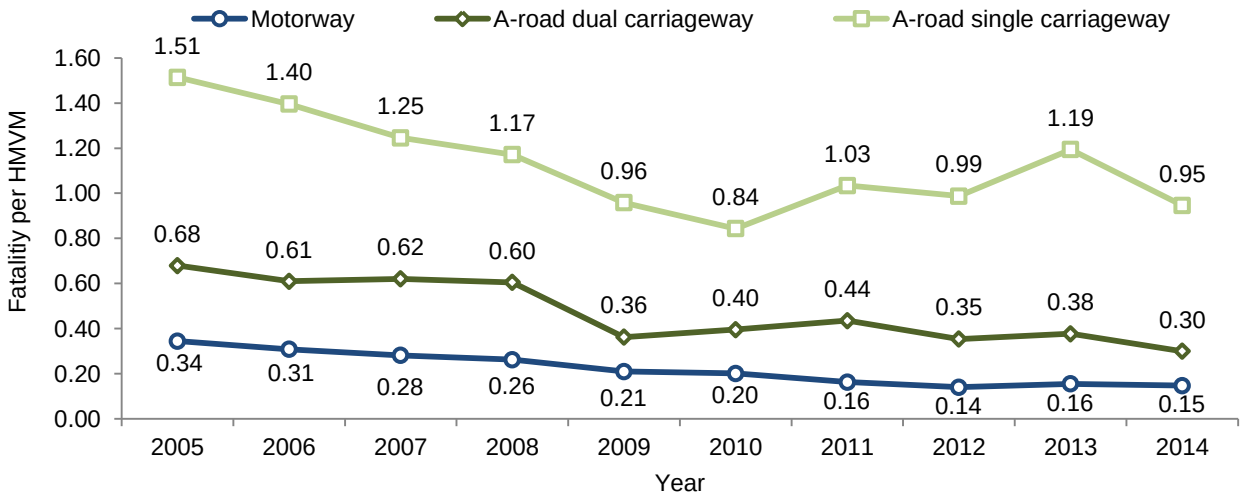


Figure 5-2 Fatality rates by road class and year

Table 5-3 shows fatalities by junction detail. From the figure it can it can be seen that 19.0 per cent of fatalities occurred at junctions in 2014, an increase on the 2013 value of 17.2 per cent. However the total number of fatalities occurring at junctions decreased to 40 in 2014 from 42 in 2013.

Table 5-3 Breakdown of fatalities by junction detail and year

40 fatalities at junctions

19.0 per cent of all fatalities (211)

Junction detail	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
T or staggered junction	23.2	15	18	17	-5.6
Slip road	26.2	13	12	13	-
Roundabout	5.8	3	5	3	-
Crossroads	4.6	0	1	3	-
Private drive or entrance	2.6	3	3	1	-
Junction - more than 4 arms (not roundabout)	1.8	2	0	0	-
Mini-roundabout	0.2	0	0	0	-
Other junction	7.2	8	3	3	-
Total at Junction	71.6	44	42	40	-4.8
Not at junction or within 20 metres	285.6	173	202	171	-15.3

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

5.1.3 Vehicles and objects hit off carriageway

Table 5-4 shows the number of fatalities where at least one of the vehicles specified was recorded as being involved. It can be seen that all vehicle types are below the baseline average, however fatalities involving at least one good vehicle (less than 3.5 tonnes or unknown weight) increased to 30 in 2014 from 28 in 2013.

Table 5-4 Breakdown of fatalities by vehicle type and year

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	297.0	164	182	167	-8.2
HGV	127.4	87	89	77	-13.5
PTW	45.4	23	37	33	-10.8
Goods vehicle	43.2	30	28	30	7.1
Pedal cycle	8.0	8	6	4	-
Bus or coach	5.2	4	2	2	-
Agricultural vehicle	2.6	1	4	1	-
Other	5.6	1	6	0	-

Notes:
(a) Values in the table report the number of fatalities where at least one of the vehicles specified was recorded as being involved.
(b) Percentages are only given for those values with a base value of 15 or more.
(c) "Goods vehicle" refers to less than 3.5 tonnes or unknown weight.
(d) "HGV" refers to 3.5 tonnes or over.

In 2014, 76 fatalities involved hitting an object off the carriageway. This is a decrease on the 2013 value of 89 and is 36.0 per cent of fatalities in 2014 (36.5 per cent in 2013). Of those fatalities that involved hitting an object off the carriageway; 50.0 per cent involved hitting a barrier of some kind and 26.3 per cent involved hitting a tree. This is equivalent to 18.0 per cent and 9.5 per cent of all fatalities respectively.

Objects hit off carriageway

36.0 per cent of fatalities (211) involved hitting an object off the carriageway

50.0 per cent of these (38 of 76) involved hitting a barrier of some kind;

26.3 per cent involved hitting a tree (20 of 76).

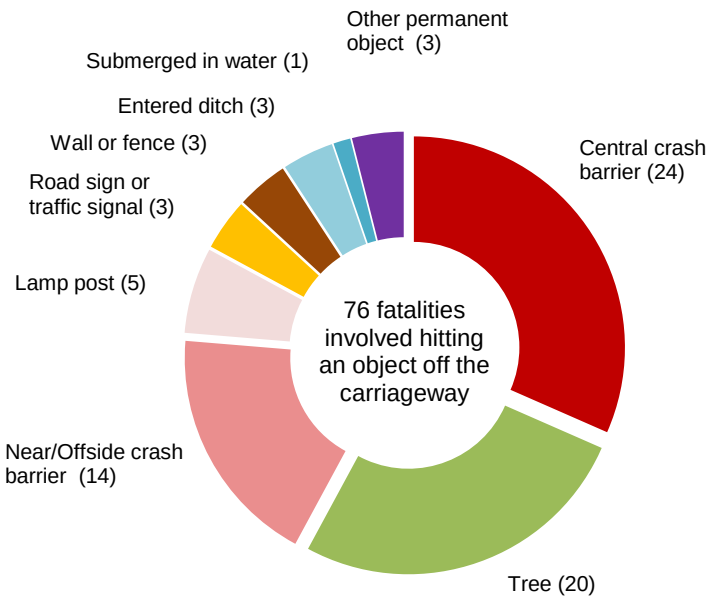


Figure 5-3 Fatalities by objects hit off carriageway, 2014

5.1.4 Assessment of fatalities and motorists

Table 5-5 shows fatalities by casualty type, it can be seen that in 2014:

- 54.5 per cent of fatalities were car occupants (115 of 211)
- 19.4 per cent of fatalities were pedestrians (41 of 211)
- 14.2 per cent of fatalities were PTW users (30 of 211)

Table 5-5 also shows the number of pedestrian fatalities increased by 7.9 per cent to 41 in 2014 from 38 in 2013. Although PTW users decreased by 18.9 per cent to 30 fatalities in 2014 from 37 in 2013, this is still above the 2011 and 2012 value of 23 fatalities.

115 Car occupant fatalities

54.5 per cent of all fatalities (211)

Table 5-5 Fatalities by casualty type and year

Casualty type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car occupant	221.4	122	133	115	-13.5
Pedestrian	46.4	36	38	41	7.9
PTW user	44.0	23	37	30	-18.9
Goods vehicle occupant	12.6	11	12	11	-
HGV occupant	22.4	16	14	10	-
Pedal Cyclist	8.0	8	6	4	-
Bus / Coach occupant	0.8	1	1	0	-
Other/Unknown	1.6	0	3	0	-

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-4 shows fatalities by casualty age in 2014 along with the baseline profile with Table 5-6 showing values by casualty age band and year. It can be seen that a majority of the 2014 values are below the baseline profile.

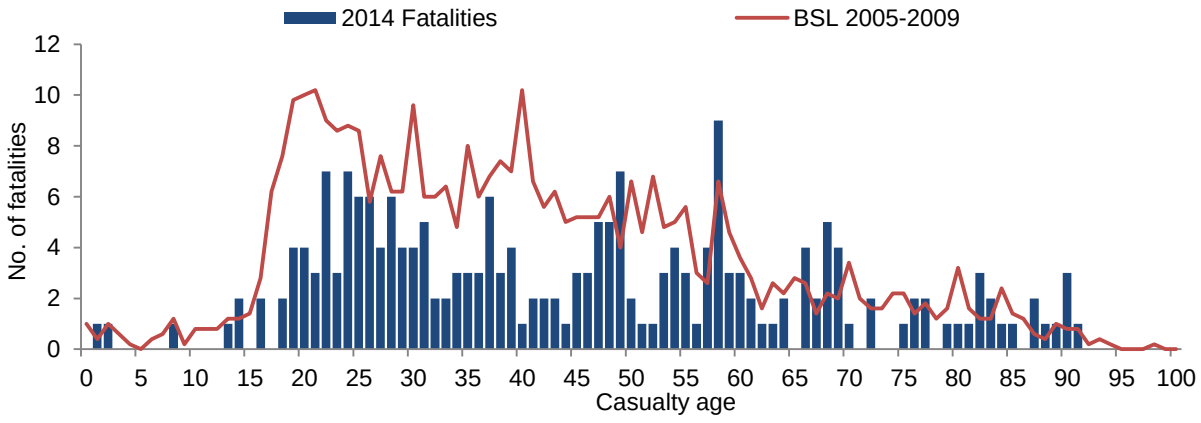


Figure 5-4 Breakdown of fatalities by age, 2014

Table 5-6 Breakdown of fatalities by casualty age band and year

24 fatalities aged 60-69

14.3 per cent from 2013 (21)

Casualty age band	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Children (0-15)	11.8	7	5	6	-
Young (16-19)	26.4	4	18	8	-55.6
Other (20-59)	258.4	151	164	147	-10.4
Older (60-69)	23.8	21	21	24	14.3
Elderly (70+)	35.8	34	36	26	-27.8
Unknown	1.0	0	0	0	-

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

Figure 5-5 shows the number of drivers (and riders) involved in fatal collisions by driver age in 2014 along with the baseline profile. The figure is accompanied by Table 5-7 which shows a breakdown of drivers involved in fatal collisions by driver age group. It can be seen that in general the 2014 values were below the baseline value, with young motorist (aged 17-24) being 67.1 per cent below the baseline value in 2014.

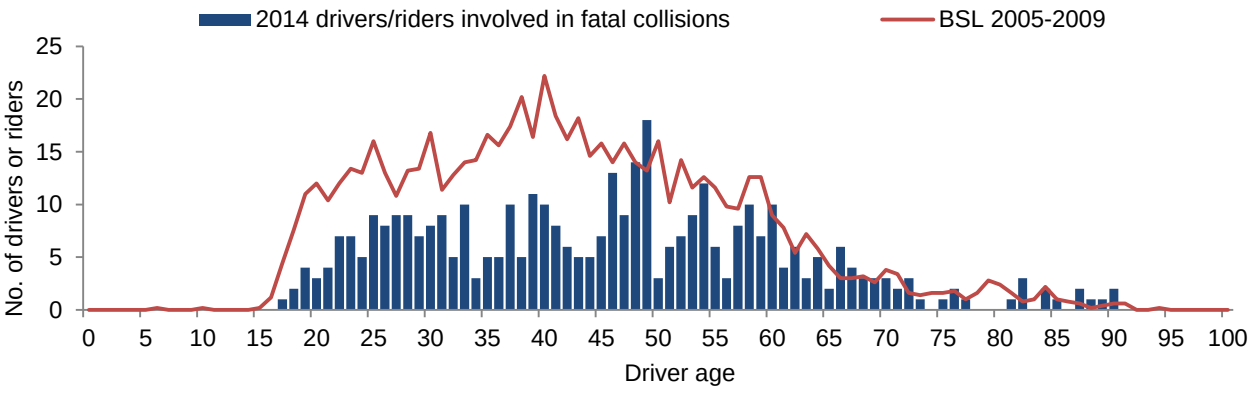


Figure 5-5 Breakdown of drivers or riders involved in fatal collisions, 2014

Table 5-7 Breakdown of fatalities by driver age group and year

Driver type	Driver age group	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Motorist	Underage motorist (0-16)	0.6	0	0	0	-
	Young motorist (17-24)	85.2	31	45	28	-37.8
	Other motorist (25-59)	281.4	187	186	170	-8.6
	Older motorist (60-69)	51.0	39	43	43	0.0
	Elderly motorist (70+)	33.8	32	31	29	-6.5
Rider	Young rider (16-19)	2.4	0	3	0	-
	Other rider (20-59)	39.4	22	32	31	-3.1
	Older rider (60-69)	2.4	0	2	3	-
	Elderly rider (70+)	1.6	1	1	0	-
Unknown	-	37.0	16	16	13	-18.8

Notes:
(a) Values in the table report the number of fatalities where at least one driver involved was reported with the specified driver age group.
(b) Percentages are only given for those values with a base value of 15 or more.

5.1.5 Single vehicle collisions

In 2014, 81 fatalities (38.4 per cent of all fatalities) involved a single vehicle collision. Although this is a slight decrease on the 2013 value of 82 fatalities, it is a 19.1 per cent increase on the 2012 value of 68 fatalities.

Table 5-8 shows a breakdown of fatalities involving single vehicle collisions by vehicle type. It can be seen that the number of fatalities involving single car collisions increased by 25.0 per cent to 60 in 2014 from 48 in 2013, however is still 29.9 per cent below the baseline average.

Table 5-8 Breakdown of fatalities involving single vehicle collisions by vehicle type

81 fatalities involved a single vehicle

38.4 per cent of all fatalities (211)

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	85.6	45	48	60	25.0
HGV	15.2	13	16	14	-12.5
PTW	12.0	5	12	6	-
Goods vehicle	4.8	4	4	1	-
Bus or coach	0.6	0	0	0	-
Pedal cycle	0.2	0	0	0	-
Other	0.4	1	2	0	-
Total	118.8	68	82	81	-1.2

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) "Goods vehicle" refers to less than 3.5 tonnes or unknown weight.
(c) "HGV" refers to 3.5 tonnes or over.

Figure 5-6 shows a breakdown of drivers (and riders) involved in fatal single vehicle collisions by driver age. It can be seen that in general drivers aged 45 or below were involved in less fatal single vehicle collisions in 2014 compared to the baseline profile. Drivers aged between 46 and 60 were involved in more fatal single vehicle collisions in 2014 compared to the baseline profile.

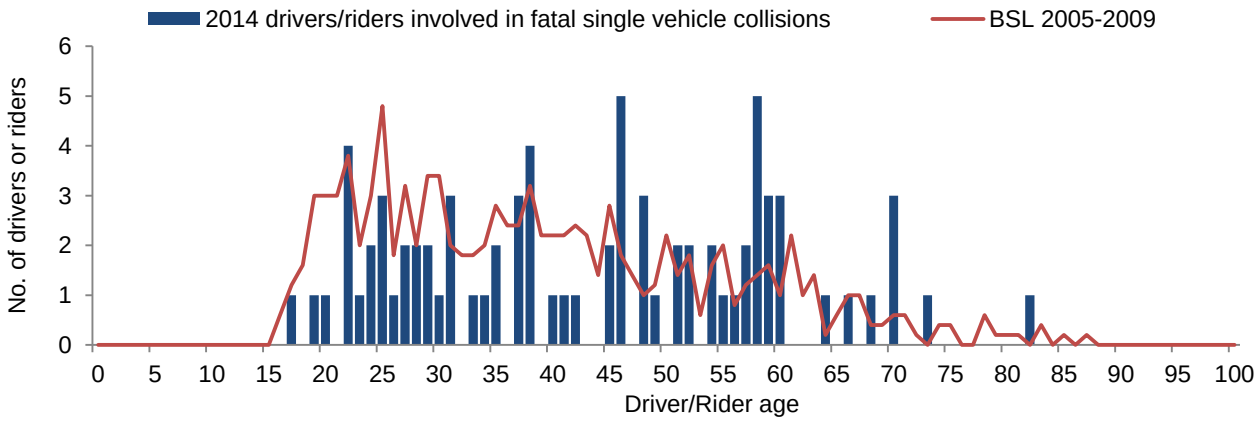


Figure 5-6 Breakdown of drivers or riders involved in fatal single vehicle collisions by driver age, 2014

Table 5-9 shows that five of the top ten contributory factors for fatal collisions involving single vehicles in 2014 were pedestrian codes (802, 805, 803, 806, 809). However the most attributed factor was loss of control which was attributed to 31 fatal single vehicle collisions in 2014.

Table 5-9 Top 10 contributory factors for fatal collisions involving single vehicles

No.	Contributory factor		2014	Percentage of fatal collisions involving a single vehicle, 2014
1	410	Loss of control	31	39.7%
2	802	Failed to look properly (pedestrian)	12	15.4%
3	805	Dangerous action in carriageway (eg. playing) (pedestrian)	10	12.8%
4	803	Failed to judge vehicle's path or speed (pedestrian)	8	10.3%
5	103	Slippery road (due to weather)	8	10.3%
6	306	Exceeding speed limit	8	10.3%
7	806	Impaired by alcohol (pedestrian)	7	9.0%
8	809	Pedestrian wearing dark clothing at night	7	9.0%
9	409	Swerved	7	9.0%
10	999	Other – Please specify below	7	9.0%

Key (CF groups):
Driver/Rider error or reaction
Injudicious action
Road environment
Pedestrian

Notes:
(a) Values in the table report the number of fatal collisions involving a single vehicle where at least one of the specified contributory factors was recorded.
(b) In 2014, there were a total of 78 fatal collisions involving a single vehicle.

5.1.6 Fatalities by time of day and month

It can be seen in Figure 5-7 that the number of fatalities in 2014 was generally below those of the baseline values, although fatalities were greatest during 0am and 6am on Mondays with 16 fatalities occurring during this period in 2014.

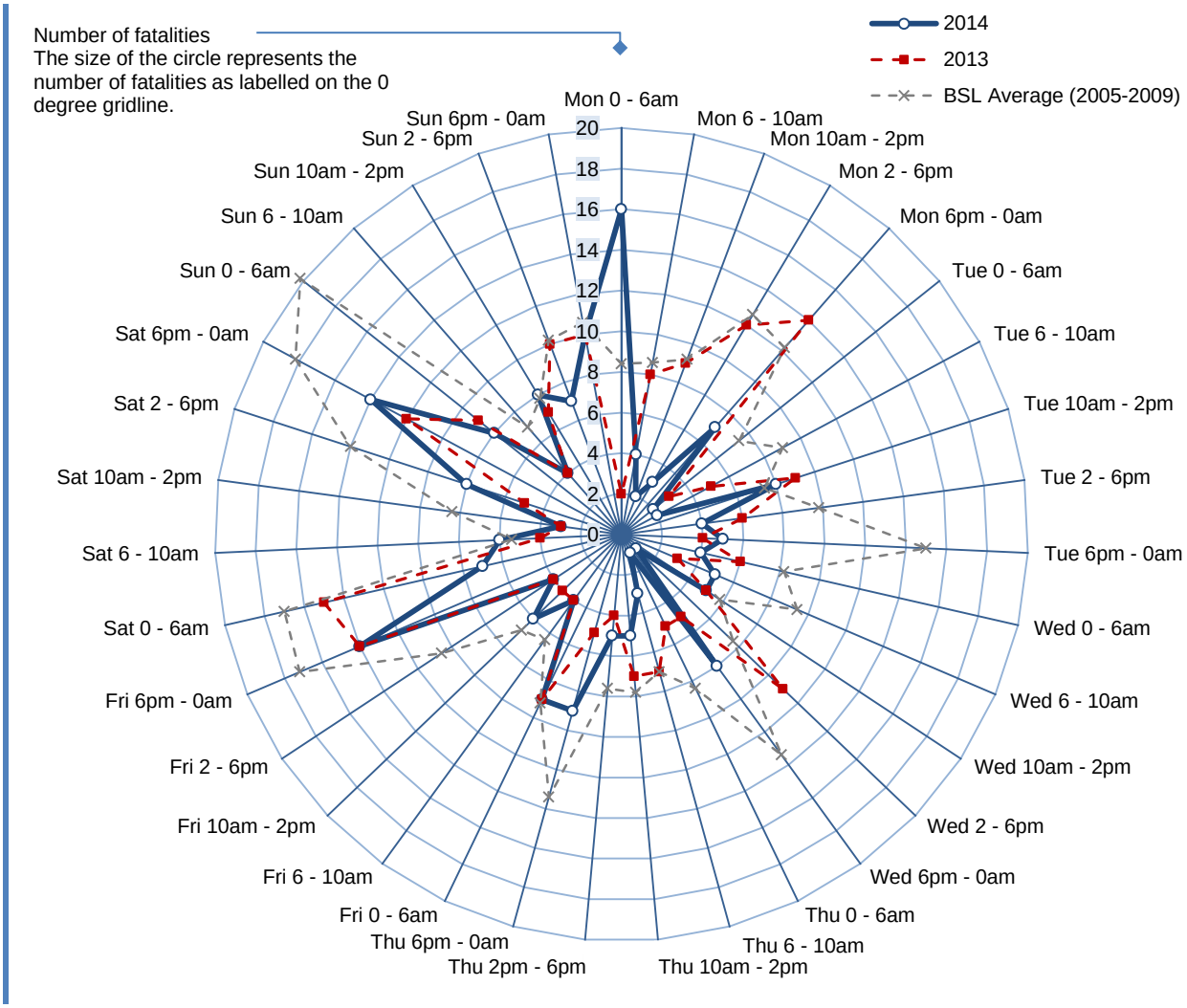


Figure 5-7 Breakdown of fatalities by time of day

Figure 5-8 shows that in 2014 July had the most fatalities with 26 (19 collisions) occurring within the month, this was closely followed by December which had 25 fatalities occurring (25 collisions) within the month.

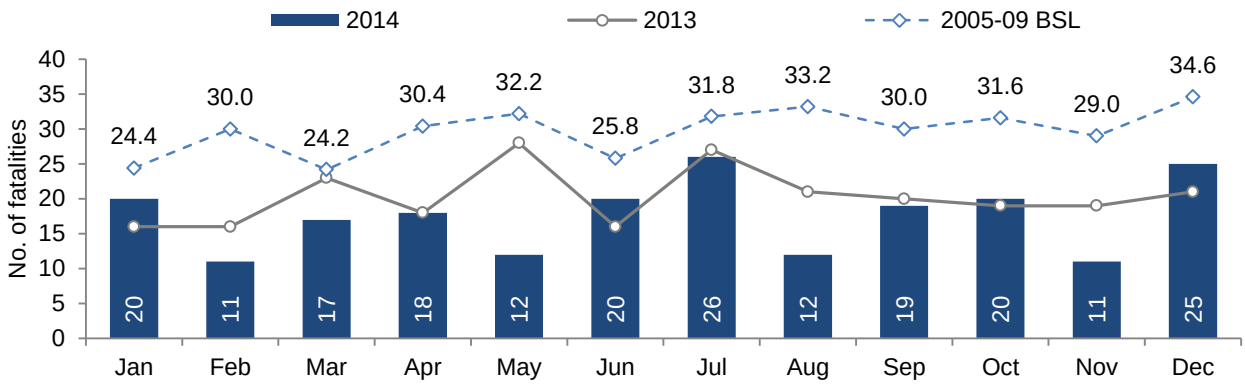


Figure 5-8 Breakdown of fatalities by month of year

5.1.7 Contributory factors

Table 5-10 shows that 4 of the top 5 contributory factors attributed to fatal collisions in 2014 were driver/rider error or reaction (410, 405, 406 and 403). "Loss of control" was the most attributed contributory factor in 2014 being attributed to 52 fatal collisions.

Table 5-10 Top 20 contributory factors for fatal collisions

No.	Contributory factor		2013	2014	Percentage of fatal collisions, 2014
1	410	Loss of control	58	52	27.1%
2	405	Failed to look properly	59	42	21.9%
3	406	Failed to judge other person's path or speed	32	26	13.5%
4	602	Careless, reckless or in a hurry	30	24	12.5%
5	403	Poor turn or manoeuvre	23	20	10.4%
6	306	Exceeding speed limit	19	19	9.9%
7	409	Swerved	19	18	9.4%
8	503	Fatigue	24	14	7.3%
9	509	Distraction in vehicle	16	14	7.3%
10	505	Illness or disability, mental or physical	15	14	7.3%
11	802	Failed to look properly (pedestrian)	9	14	7.3%
12	307	Travelling too fast for conditions	15	13	6.8%
13	103	Slippery road (due to weather)	13	13	6.8%
14	601	Aggressive driving	14	12	6.3%
15	805	Dangerous action in carriageway (eg. playing)	8	12	6.3%
16	999	Other – Please specify below	6	10	5.2%
17	806	Impaired by alcohol (pedestrian)	12	9	4.7%
18	809	Pedestrian wearing dark clothing at night	10	9	4.7%
19	803	Failed to judge vehicle's path or speed (pedestrian)	9	9	4.7%
20	501	Impaired by alcohol	19	7	3.6%

Key (CF groups):
Driver/Rider error or reaction
Impairment or distraction
Injudicious action
Behaviour or inexperience
Road environment
Pedestrian

Notes:
(a) Values in the table report the number of fatal collisions where at least one of the specified contributory factors was recorded.
(b) In 2014, there were a total of 192 fatal collisions.

5.2 Seriously Injured Casualties

This section provides an overview of seriously injured casualties on the SRN for 2014 along with comparisons to previous years and the baseline period (2005-2009).

5.2.1 Overview of seriously injured casualties

In 2014, there were 1,642 seriously injured casualties on the SRN; this is an increase of 177 seriously injured casualties from the 2013 value of 1,465 (Figure 5-9). This is the highest number of seriously injured casualties on the SRN since 2009, and is also above the 2014 monitoring point[4] of 1,541.0. The estimated cost of seriously injured on Highways England's network in 2014 was £314.7m[14].

1,642 seriously injured

12.1 per cent from 2013 (1,465)

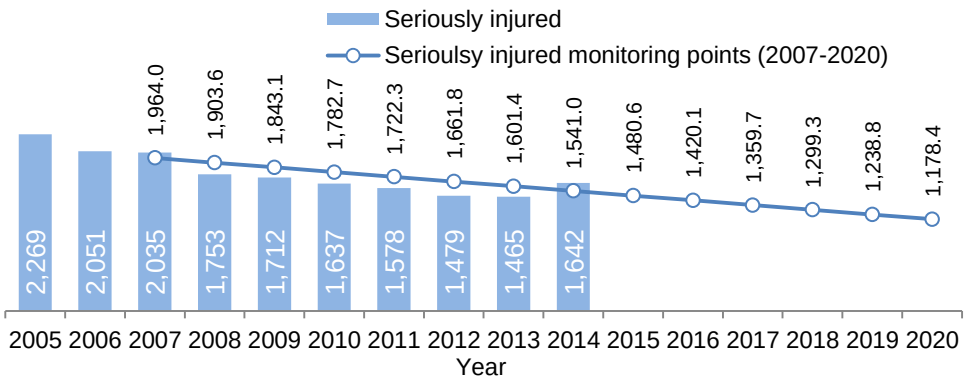


Figure 5-9 Breakdown of seriously injured by year, SRN

5.2.2 Route and road type performance

Table 5-11 gives a breakdown of seriously injured rates by motorway along with the average rate of motorways on the SRN for 2014; only motorways with traffic greater than 5 HMVM have been included. It can be seen that all of the top ten motorways in 2014 are above the average rate of 1.12 seriously injured casualties per HMVM. The M3 had the highest seriously injured rate of 2.35 seriously injured casualties per HMVM which is over twice that of the 2014 average rate.

Table 5-11 Seriously injured rates by road name (Motorways)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN M'way average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	M3	61.5	19.97	1.60	1.69	1.76	2.35	1.12	110.8	33.6
2	M2	26.6	6.63	1.84	1.98	0.90	1.96	1.12	75.7	119.2
3	M11	52.1	13.94	2.07	1.28	1.44	1.94	1.12	73.4	34.1
4	M20	51.4	12.21	2.14	0.83	1.60	1.80	1.12	61.3	12.8
5	M23	17.3	5.63	2.01	1.74	1.25	1.78	1.12	59.2	42.6
6	M61	24.3	7.40	1.80	1.42	1.52	1.35	1.12	20.9	-11.3
7	M25	118.2	59.53	1.83	1.10	1.23	1.21	1.12	8.3	-1.6
8	M62	96.2	31.55	1.56	1.11	1.57	1.17	1.12	5.0	-25.1
9	M40	91.1	28.70	1.72	1.57	1.08	1.15	1.12	3.0	6.6
10	M4	118.1	40.04	1.63	1.00	1.08	1.12	1.12	0.6	4.5

Notes:
(a) Only Motorways (M'ways) with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high seriously injured rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

Table 5-12 gives a breakdown of seriously injured rates by A-road along with the average rate of A-roads on the SRN for 2014. As with the table above, only A-roads with traffic greater than 5 HMVM have been included within Table 5-12. It can be seen that the top six A-roads are above the SRN average rate of 3.40 seriously injured casualties per HMVM in 2014, with the A27, A5 and A47 being over the SRN average A-road rate by more than 50.0 per cent with 6.32, 5.25 and 5.14 seriously injured casualties per HMVM respectively.

Table 5-12 Seriously injured rates by road name (A-roads)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN A-road average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	A27	70.2	11.08	4.31	3.62	4.29	6.32	3.40	85.8	47.3
2	A5	136.8	10.48	4.92	6.13	3.67	5.25	3.40	54.3	42.8
3	A47	107.3	8.76	5.04	2.16	3.32	5.14	3.40	51.1	54.7
4	A66	103.0	5.91	4.58	5.15	5.32	4.06	3.40	19.4	-23.8
5	A64	57.2	5.26	7.20	4.52	3.90	3.80	3.40	11.9	-2.4
6	A3	51.2	10.44	3.40	2.54	2.43	3.54	3.40	4.3	46.1
7	A2	38.8	7.33	3.27	0.79	3.79	3.27	3.40	-3.7	-13.7
8	A38	114.2	16.09	2.21	3.18	1.77	3.11	3.40	-8.6	75.3
9	A303	97.0	8.57	4.16	3.60	3.48	3.03	3.40	-10.8	-13.0
10	A11	54.8	5.73	2.88	3.82	3.61	2.79	3.40	-17.9	-22.6

Notes:
(a) Only A-roads with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high seriously injured rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

In 2014 seriously injured casualties per HMVM increased across all road classes (Figure 5-10) with:

- A-road single carriageways increased to 6.36 seriously injured per HMVM in 2014 from 5.92 seriously injured per HMVM in 2013, this is the second year running that A-road single carriageways have increased
- A-road dual carriageways increased to 2.64 seriously injured per HMVM from 2.25 seriously injured per HMVM in 2013, this is the first time A-roads dual carriageways have seen an increase since 2010
- Motorways increased to 1.12 seriously injured per HMVM in 2014 from 1.06 seriously injured per HMVM in 2013

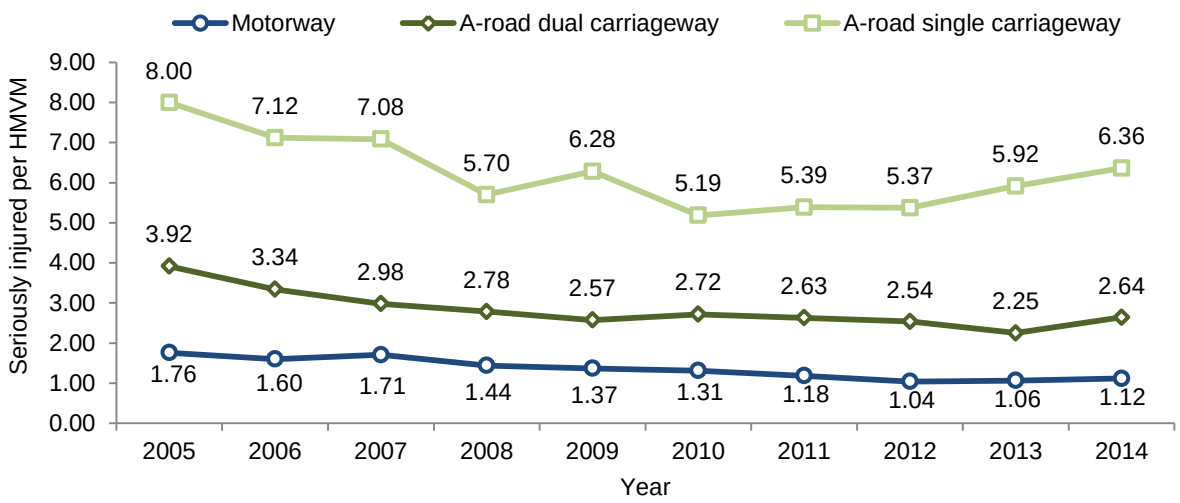


Figure 5-10 Seriously injured rates by road classification and year

Table 5-13 shows seriously injured casualties by junction detail. It can be seen that 26.4 per cent of seriously injured casualties occurred at junctions in 2014, a decrease on the 2013 value of 26.8 per cent. However the total number of seriously injured casualties occurring at junctions increased to 434 in 2014 from 393 in 2013.

From the table it can be seen that the majority of the increase in seriously injured casualties occurring at junctions can be attributed to either roundabouts or T or staggered junctions. Both have seen an increase on their respective 2013 values. Notably, the junction type, T or staggered junction was also 7.9 per cent above the baseline value (129.8) with 140 seriously injured casualties in 2014.

Table 5-13 Breakdown of seriously injured by junction detail and year

434 seriously injured casualties at junctions

26.4 per cent of seriously injured (1,642)

Junction detail	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
T or staggered junction	129.8	110	92	140	52.2
Roundabout	123.4	100	95	119	25.3
Slip road	169.6	117	139	117	-15.8
Crossroads	31.8	29	23	17	-26.1
Private drive or entrance	22.8	19	23	17	-26.1
Junction - more than 4 arms (not roundabout)	9.6	12	3	2	-
Mini-roundabout	0.8	0	0	0	-
Other junction	34.0	23	18	22	22.2
Total at Junction	521.8	410	393	434	10.4
Not at junction or within 20 metres	1,442.2	1,069	1,072	1,208	12.7

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

5.2.3 Vehicles and objects hit off carriageway

Table 5-14 shows the number of seriously injured where at least one of the vehicles specified was recorded as being involved. It can be seen that seriously injured casualties involving at least one pedal cycle increased by 69.0 per cent to 49 in 2014 from 29 in 2013. The number of seriously injured casualties involving at least one goods vehicle (under 3.5 tonnes or unknown weight) increased by 27.1 per cent to 225 in 2014 from 177 in 2013.

Table 5-14 Breakdown of seriously injured by vehicle type and year

225 seriously injured involved goods vehicles

27.1 per cent from 2013 (177)

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	1,634.0	1,255	1,199	1,350	12.6
PTW	340.6	280	287	331	15.3
HGV	428.6	290	349	324	-7.2
Goods vehicle	232.6	184	177	225	27.1
Pedal cycle	33.8	47	29	49	69.0
Bus or coach	29.0	21	44	20	-54.5
Agricultural vehicle	11.8	8	13	10	-
Other	33.2	15	30	15	-50.0

Notes:
(a) Values in the table report the number of seriously injured casualties where at least one of the vehicles specified was recorded as being involved.
(b) Percentages are only given for those values with a base value of 15 or more.
(c) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(d) “HGV” refers to 3.5 tonnes or over.

In 2014, 508 seriously injured casualties involved hitting an object off the carriageway (Figure 5-11). This is an increase on the 2013 value of 475 and is 30.9 per cent of seriously injured casualties in 2014 (32.4 per cent in 2013). Of those seriously injured casualties that involved hitting an object off the carriageway 48.0 per cent involved hitting a barrier of some kind and 17.1 per cent involved hitting a tree; this is 14.9 per cent and 5.3 per cent of all seriously injured casualties respectively.

Objects hit off carriageway

30.9 per cent of seriously injured (1,642) hit an object off the carriageway;

48.0 per cent of these (244 of 508) involved hitting a barrier of some kind;

17.1 per cent (87 of 508) involved hitting a tree.

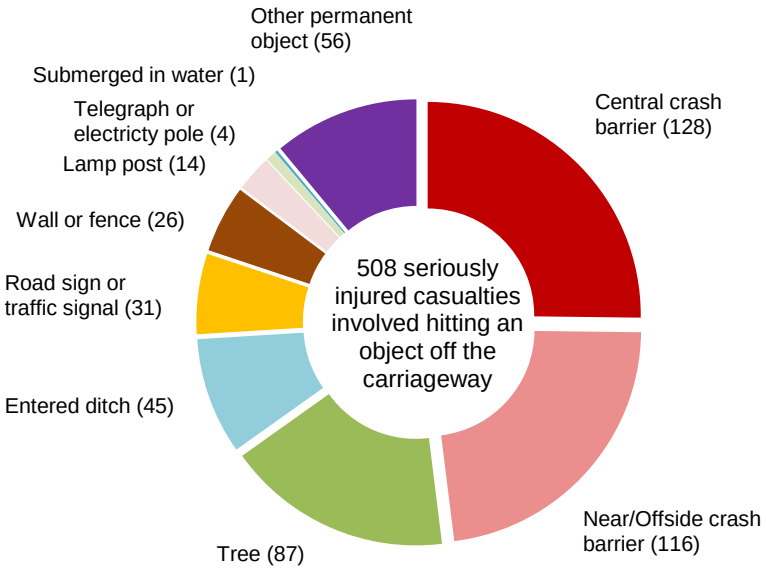


Figure 5-11 Seriously injured by objects hit off carriageway, 2014

5.2.4 Assessment of seriously injured and motorists

Table 5-15 shows seriously injured casualties by type, it can be seen that in 2014:

- 63.6 per cent of seriously injured were car occupants (1,044 of 1,642)
- 4.1 per cent of seriously injured were pedestrians (67 of 1,642)
- 19.2 per cent of seriously injured were PTW users (315 of 1,642)

Table 5-15 also shows the number of seriously injured pedal cyclists increased by 67.9 per cent to 47 in 2014 from 28 in 2013 which is also a 42.4 per cent increase on the baseline value.

Table 5-15 Seriously injured by casualty type and year

Casualty type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car occupant	1,293.2	969	931	1,044	12.1
PTW user	330.4	272	277	315	13.7
Goods vehicle occupant	94.0	67	52	76	46.2
HGV occupant	122.4	67	66	72	9.1
Pedestrian	62.6	46	52	67	28.8
Pedal cyclist	33.0	46	28	47	67.9
Bus / coach occupant	14.8	6	38	10	-73.7
Other/unknown	13.6	6	21	11	-47.6

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-12 shows seriously injured casualties by casualty age in 2014 along with the baseline profile. The figure is accompanied by Table 5-16 which shows values by casualty age band and year. Figure 5-12 shows that a majority of the number of seriously injured casualties less than 50 years of age in 2014 were below the baseline profile. Those aged older than 50 were in most cases above the baseline profile.

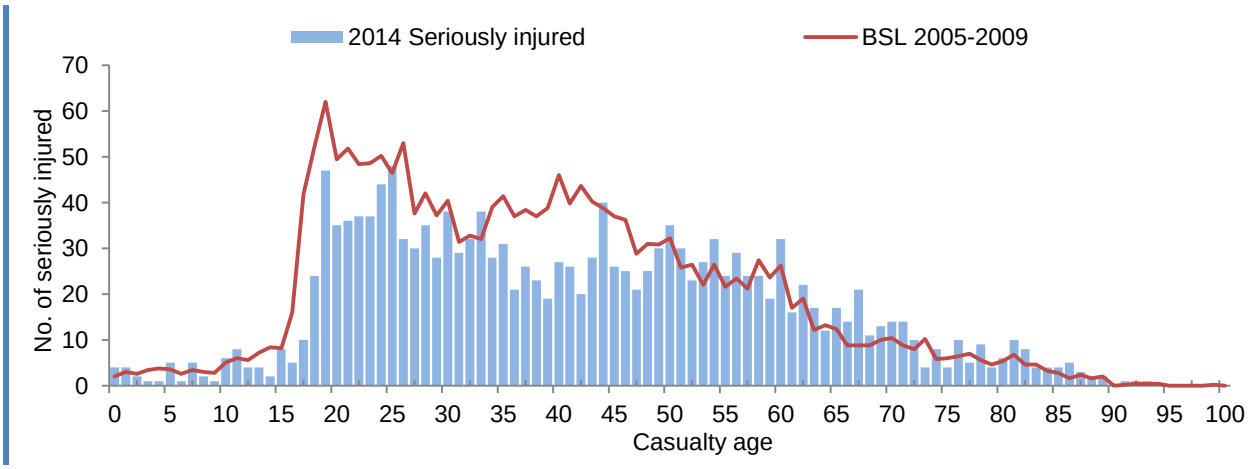


Figure 5-12 Breakdown of seriously injured by age, 2014

58 Children (aged 0-15) seriously injured

75.8 per cent from 2013 (33)

Table 5-16 Breakdown of seriously injured by casualty age band and year

Casualty age band	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Children (0-15)	70.6	53	33	58	75.8
Young (16-19)	172.2	75	85	86	1.2
Other (20-59)	1,455.0	1,02	1,059	1,182	11.6
Older (60-69)	136.4	130	128	175	36.7
Elderly (70+)	109.4	107	152	133	-12.5
Unknown	20.4	12	8	8	-

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

Figure 5-13 shows the number of drivers involved in serious collisions by driver age in 2014 along with the baseline profile. In addition Table 5-17 shows a breakdown of drivers involved in serious collisions by driver age group. Figure 5-13 shows that in general the number of serious collisions involving drivers older than 50 years of age was above the baseline profile in 2014. The number of serious collisions involving at least one older motorist (aged 60 to 69) increased by 20.5 per cent to 329 in 2014 from 273 in 2013.

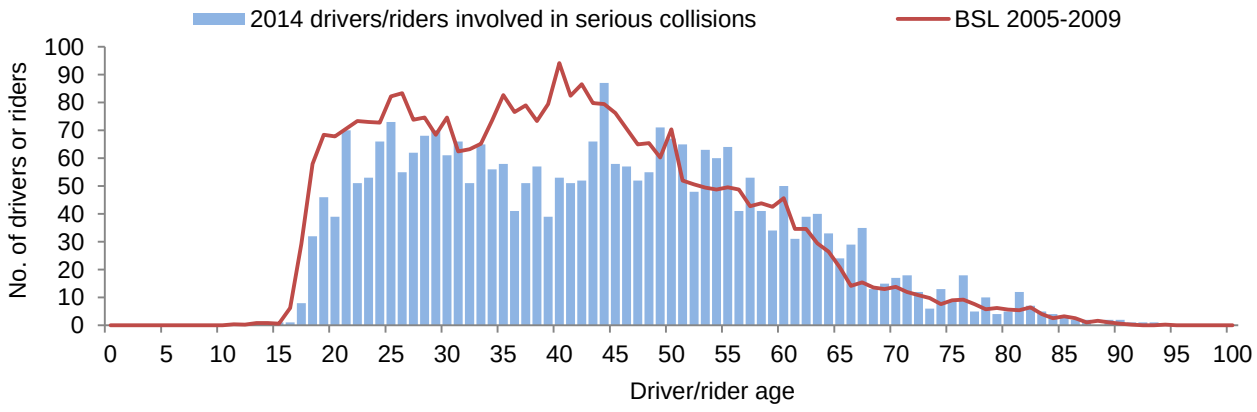


Figure 5-13 Breakdown of drivers or riders involved in serious collisions, 2014

Table 5-17 Breakdown of seriously injured by driver age group and year

Driver type	Driver age group	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Motorist	Underage motorist (0-16)	2.4	0	1	0	-
	Young motorist (17-24)	514.2	309	282	339	20.2
	Other motorist (25-59)	1,486.4	1,126	1,117	1,217	9.0
	Older motorist (60-69)	259.6	254	273	329	20.5
	Elderly motorist (70+)	144.8	123	174	179	2.9
Rider	Young rider (16-19)	0.2	0	0	0	-
	Other rider (20-59)	22.0	11	20	15	-25.0
	Older rider (60-69)	300.4	244	242	282	16.5
	Elderly rider (70+)	17.0	22	23	24	4.3
Unknown	-	4.2	4	3	8	-

Notes:
(a) Values in the table report the number of seriously injured where at least one driver involved was reported with the specified driver age group.
(b) Percentages are only given for those values with a base value of 15 or more.

5.2.5 Single vehicle collisions

In 2014, 495 seriously injured casualties (30.1 per cent of all seriously injured casualties) involved a single vehicle collision which is a 14.6 per cent increase on the 2013 value of 432 seriously injured casualties.

Table 5-18 shows a breakdown of seriously injured casualties involving single vehicle collisions by vehicle type. It can be seen that the number of seriously injured involving single car collisions increased by 15.7 per cent to 332 in 2014 from 287 in 2013, and seriously injured casualties involving a single PTW increased by 21.7 per cent to 101 in 2014 from 83 in 2013.

495 seriously injured casualties involved a single vehicle

30.1 per cent of seriously injured (1,642)

Table 5-18 Breakdown of seriously injured involving single vehicle collisions by vehicle type

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	453.2	343	287	332	15.7
PTW	102.2	97	83	101	21.7
HGV	45.2	22	38	26	-31.6
Goods vehicle	31.4	14	11	18	-
Pedal cycle	0.8	2	0	9	-
Bus or coach	11.6	1	8	6	-
Other	2.0	1	5	3	-
Total	646.4	480	432	495	14.6

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-14 shows a breakdown of drivers involved in serious single vehicle collisions by driver age. It can be seen that in general drivers aged below 45 were involved in less serious single vehicle collisions in 2014 compared to the baseline profile.

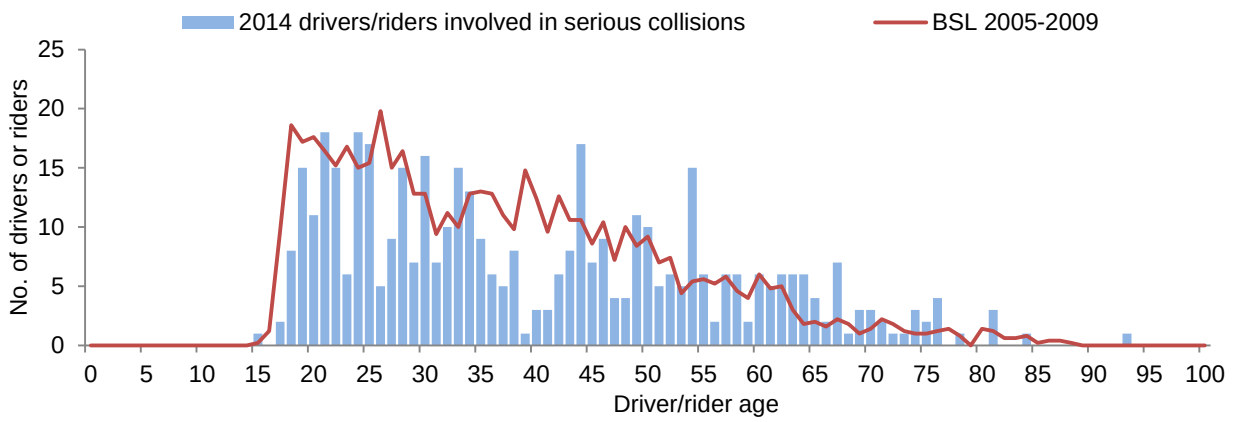


Figure 5-14 Breakdown of drivers or riders involved in serious single vehicle collisions by driver age, 2014

Table 5-19 shows the top 10 contributory factors for serious collisions involving single vehicles. It can be seen that fatigue was attributed to 61 serious single vehicle collisions in 2014, a 90.6 per cent increase on the 2013 value of 32 although this is still 7.0 per cent below the baseline value. In 2014, loss of control was the most attributed contributory factor in serious single vehicle collisions, being attributed to 184 serious single vehicle collisions, an increase of 12.9 per cent on the 2013 value of 163.

Table 5-19 Top 10 contributory factors for serious collisions involving single vehicles

No.		Contributory factor	2014	Percentage of serious collisions involving a single vehicle, 2014
1	410	Loss of control	184	41.3%
2	503	Fatigue	61	13.7%
3	103	Slippery road (due to weather)	47	10.6%
4	409	Swerved	45	10.1%
5	501	Impaired by alcohol	44	9.9%
6	602	Careless, reckless or in a hurry	42	9.4%
7	307	Travelling too fast for conditions	35	7.9%
8	505	Illness or disability, mental or physical	35	7.9%
9	999	Other – Please specify below	32	7.2%
10	403	Poor turn or manoeuvre	28	6.3%

Key (CF groups):
Driver/Rider error or reaction
Impairment or distraction
Injudicious action
Behaviour or inexperience
Road environment

Notes:
(a) Values in the table report the number of serious collisions involving single vehicles where at least one of the specified contributory factors was recorded.
(b) In 2014, there were a total of 445 serious collisions involving single vehicles.

5.2.6 Seriously injured by time of day and month

It can be seen in Figure 5-15 that the number of seriously injured casualties was greatest during 2pm and 6pm on Fridays in 2014 with 88 seriously injured casualties occurring during this time period.

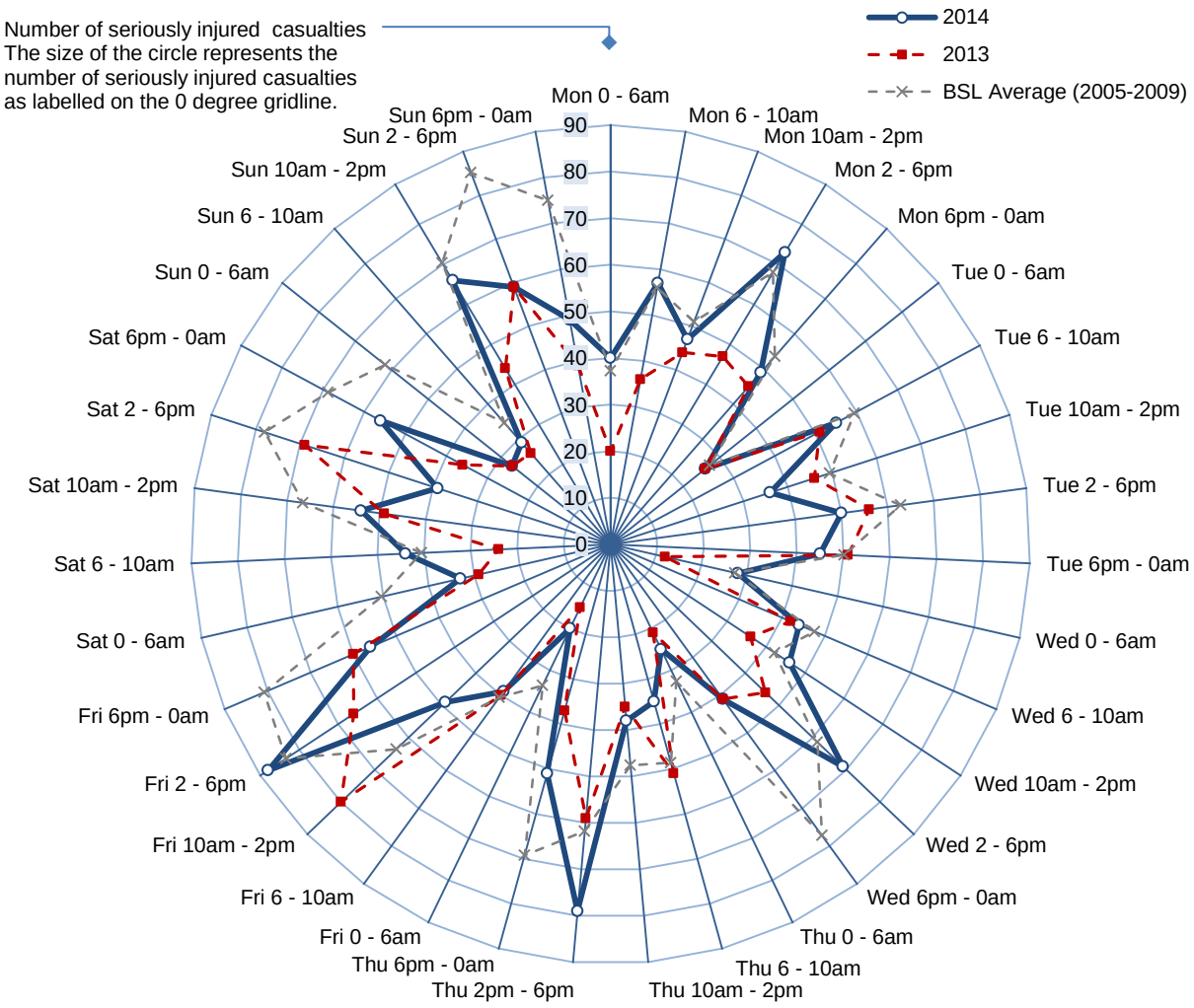


Figure 5-15 Breakdown of seriously injured by time of day

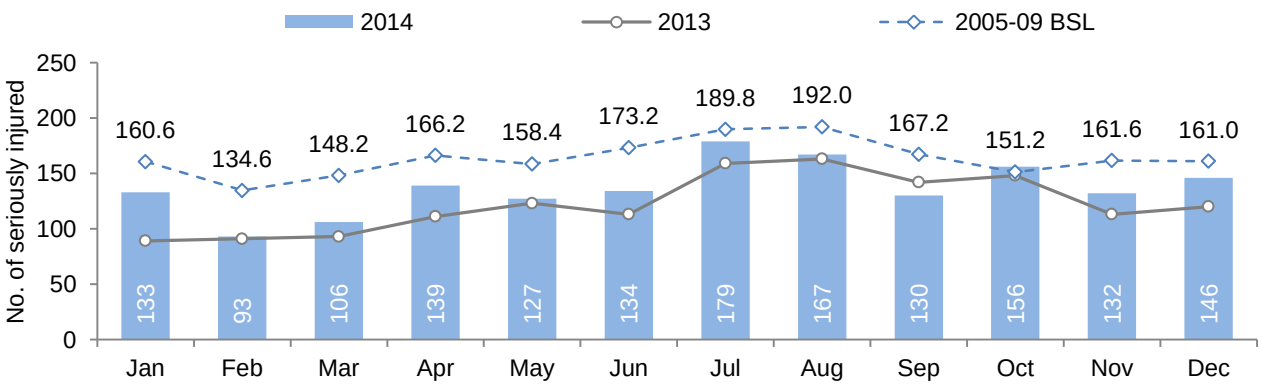


Figure 5-16 Breakdown of seriously injured by month of year

Figure 5-16 shows that in 2014 July had the most seriously injured casualties with 179 (153 collisions) occurring within the month. This was closely followed by August which had 167 seriously injured casualties (143 collisions) occurring within the month.

5.2.7 Contributory factors

Table 5-20 shows that in 2014, failed to look properly was the most frequently recorded contributory factor being attributed to 390 collisions involving seriously injured casualties. The table shows that a large proportion of the most common factors involved in collisions increased in 2014 compared to 2013. For example, fatigue increased by 28.0 per cent to 128 collisions in 2014 from 100 in 2013.

Table 5-20 Top 20 contributory factors for collisions involving seriously injured casualties

No.	Contributory factor		2013	2014	Percentage of serious collisions, 2014
1	405	Failed to look properly	369	390	28.4%
2	406	Failed to judge other person's path or speed	299	320	23.3%
3	410	Loss of control	274	316	23.0%
4	602	Careless, reckless or in a hurry	164	190	13.9%
5	403	Poor turn or manoeuvre	190	147	10.7%
6	503	Fatigue	100	128	9.3%
7	409	Swerved	112	114	8.3%
8	408	Sudden braking	106	109	8.0%
9	307	Travelling too fast for conditions	89	104	7.6%
10	308	Following too close	112	94	6.9%
11	103	Slippery road (due to weather)	97	93	6.8%
12	501	Impaired by alcohol	65	77	5.6%
13	505	Illness or disability, mental or physical	60	76	5.5%
14	306	Exceeding speed limit	40	72	5.3%
15	509	Distraction in vehicle	59	67	4.9%
16	999	Other – Please specify below	54	54	3.9%
17	605	Learner or inexperienced driver/rider	33	44	3.2%
18	601	Aggressive driving	33	39	2.8%
19	201	Tyres illegal, defective or under inflated	24	38	2.8%
20	707	Rain, sleet, snow, or fog	26	35	2.6%

Key (CF groups):

Driver/Rider error or reaction	Impairment or distraction	Injudicious action
Behaviour or inexperience	Road environment	Vehicle defect
Vision effected by		

Notes:

(a) Values in the table report the number of collisions with at least one seriously injured casualty where at least one of the specified contributory factors was recorded.

(b) In 2014, there were a total of 1,371 serious collisions.

5.3 KSI Casualties

This section provides an overview of KSI casualties on the SRN for 2014 along with comparisons to previous years and the baseline period (2005-2009).

5.3.1 Overview of KSI casualties

In 2014, there were 1,853 KSI casualties on the SRN; this is an increase of 144 KSI casualties from the 2013 value of 1,709. This is the highest number of KSI casualties on the SRN since 2010, and is also above the 2014 monitoring point[4] of 1,821.2. The estimated cost of KSI casualties on Highways England's network in 2014 was £674.6m[14].

1,853 KSI casualties

8.4 per cent from 2013 (1,709)

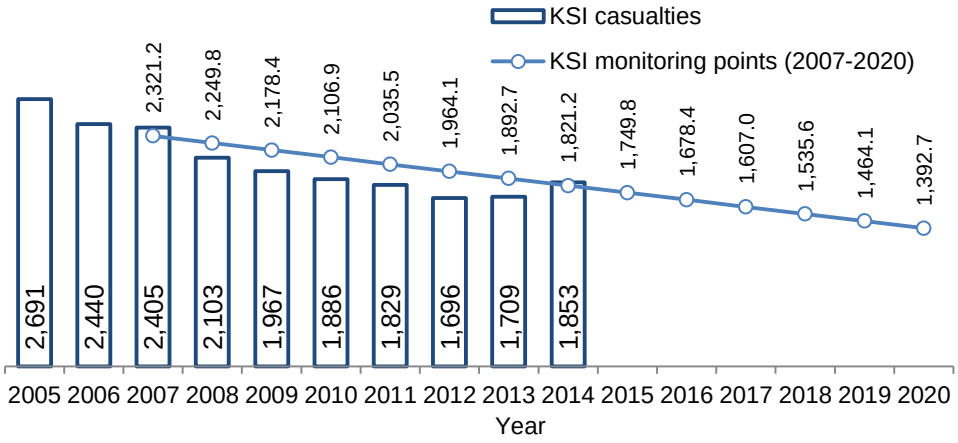


Figure 5-17 Breakdown of KSI casualties by year, SRN

5.3.2 Route and road type performance

Table 5-21 gives a breakdown of KSI rates by motorway along with the average rate of motorways on the SRN for 2014; only motorways with traffic greater than 5 HMVM have been included. It can be seen that all the top ten motorways in 2014 are above the SRN average rate of 1.26 KSI casualties per HMVM. The M3 had the highest KSI rate of 2.55 KSI casualties per HMVM which is over twice that of the SRN average motorway rate in 2014.

Table 5-21 KSI rates by road name (Motorways)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN M'way average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	M3	61.5	19.97	1.79	1.85	1.91	2.55	1.26	102.0	33.5
2	M11	52.1	13.94	2.48	1.36	1.52	2.15	1.26	70.2	41.6
3	M20	51.4	12.21	2.56	1.00	1.68	1.96	1.26	55.4	16.9
4	M2	26.6	6.63	2.17	2.29	1.04	1.96	1.26	55.2	87.9
5	M23	17.3	5.63	2.21	1.74	1.25	1.78	1.26	40.6	42.6
6	M61	24.3	7.40	2.15	1.56	1.52	1.76	1.26	38.9	15.3
7	M40	91.1	28.70	2.01	1.78	1.29	1.36	1.26	7.5	5.6
8	M25	118.2	59.53	2.09	1.23	1.35	1.31	1.26	3.6	-3.0
9	M4	118.1	40.04	1.92	1.17	1.18	1.27	1.26	0.7	8.4
10	M62	96.2	31.55	1.79	1.28	1.77	1.27	1.26	0.3	-28.2

Notes:
(a) Only Motorways (M'ways) with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high KSI rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

Table 5-22 gives a breakdown of KSI rates by A-road along with the average rate of A-roads on the SRN for 2014. As with the table above, only A-roads with traffic greater than 5 HMVM have been included within Table 5-22. It can be seen that the top 6 A-roads are above the SRN average rate of 3.83 KSI casualties per HMVM in 2014, with the A27, A5 and A47 all being over the SRN average A-road rate by more than 50.0 per cent with 6.59, 6.10 and 6.05 KSI casualties per HMVM respectively.

Table 5-22 KSI rates by road name (A-roads)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN A-road average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	A27	70.2	11.08	5.06	3.89	4.56	6.59	3.83	72.0	44.3
2	A5	136.8	10.48	5.79	6.71	4.64	6.10	3.83	59.4	31.6
3	A47	107.3	8.76	6.04	3.30	4.47	6.05	3.83	58.0	35.5
4	A64	57.2	5.26	8.15	4.91	4.29	4.95	3.83	29.2	15.4
5	A66	103.0	5.91	5.44	5.67	5.67	4.57	3.83	19.3	-19.4
6	A3	51.2	10.44	3.94	2.75	2.63	4.02	3.83	5.1	53.0
7	A38	114.2	16.09	2.79	3.68	2.28	3.42	3.83	-10.7	50.0
8	A11	54.8	5.73	3.29	4.35	3.95	3.31	3.83	-13.5	-16.1
9	A46	111.2	11.23	4.74	3.34	3.68	3.30	3.83	-13.9	-10.4
10	A2	38.8	7.33	3.62	0.92	4.88	3.27	3.83	-14.5	-32.9

Notes:
(a) Only A-roads with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high KSI rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

In 2014 KSI casualties per HMVM increased across all road classes (Figure 5-18) with:

- A-road single carriageways increasing to 7.31 KSI casualties per HMVM in 2014 from 7.11 KSI casualties per HMVM in 2013, this road class has generally increased since 2010
- A-road dual carriageways increased to 2.94 KSI casualties per HMVM from 2.63 KSI casualties per HMVM in 2013, this is the first time A-roads dual carriageways have seen an increase since 2010
- Motorways increased to 1.26 KSI casualties per HMVM in 2014 from 1.22 KSI casualties per HMVM in 2013

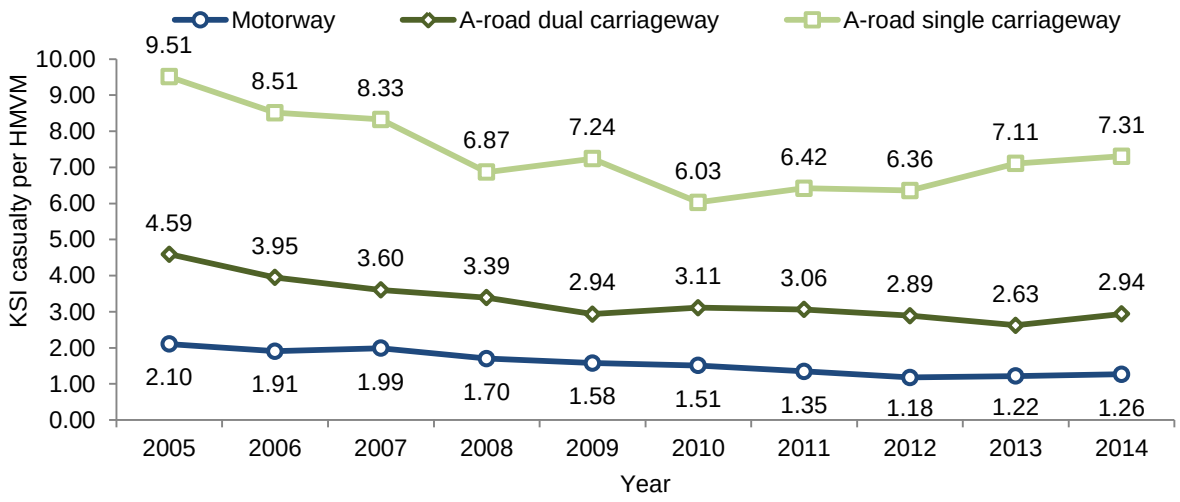


Figure 5-18 KSI casualty rates (HMVM) by road classification and year

Table 5-23 shows KSI casualties by junction detail. It can be seen that 25.6 per cent of KSI casualties occurred at junctions in 2014 an increase on the 2013 value of 25.5 per cent. In addition, the total number of KSI casualties occurring at junctions increased to 474 in 2014 from 435 in 2013.

Similar to trends evident in seriously injured casualties, the table shows that the increase in KSI casualties at junctions is primarily linked to roundabouts and T or staggered junctions. Both junction types increased between 2013 and 2014 (by 22.0 per cent and 42.7 per cent respectively). The 2014 value for T or staggered junction was also 2.6 per cent above the baseline value with 157 KSI casualties.

Table 5-23 Breakdown of KSI by junction detail and year

474 KSI casualties at junctions

25.6 per cent of all KSI casualties (1,853)

Junction detail	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
T or staggered junction	153.0	125	110	157	42.7
Slip road	195.8	130	151	130	-13.9
Roundabout	129.2	103	100	122	22.0
Crossroads	36.4	29	24	20	-16.7
Private drive or entrance	25.4	22	26	18	-30.8
Junction - more than 4 arms (not roundabout)	11.4	14	3	2	-
Mini-roundabout	1.0	0	0	0	-
Other junction	41.2	31	21	25	19.0
Total at Junction	593.4	454	435	474	9.0
Not at junction or within 20 metres	1,727.8	1,242	1,274	1,379	8.2

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

5.3.3 Vehicles and objects hit off carriageway

Table 5-24 shows the number of KSI casualties where at least one of the vehicles specified was recorded as being involved. It can be seen that KSI casualties involving at least one pedal cycle increased by 51.4 per cent to 53 in 2014 from 35 in 2013. The number of KSI casualties involving at least one goods vehicle (under 3.5 tonnes or unknown weight) increased by 24.4 per cent to 255 in 2014 from 205 in 2013.

Table 5-24 Breakdown of KSI casualties by vehicle type and year

255 KSI casualties involved goods vehicles

↑ 24.4 per cent from 2013 (205)

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	1,931.0	1,419	1,381	1,517	9.8
HGV	556.0	377	438	401	-8.4
PTW	386.0	303	324	364	12.3
Goods vehicle	275.8	214	205	255	24.4
Pedal cycle	41.8	55	35	53	51.4
Bus or coach	34.2	25	46	22	-52.2
Agricultural vehicle	14.4	9	17	11	-35.3
Other	38.8	16	36	15	-58.3

Note:
(a) Values in the table report the number of KSI casualties where at least one of the vehicles specified was recorded as being involved.
(b) Percentages are only given for those values with a base value of 15 or more.
(c) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(d) “HGV” refers to 3.5 tonnes or over.

In 2014, 584 KSI casualties involved hitting an object off the carriageway (Figure 5-19). This is an increase on the 2013 value of 564 and is 31.5 per cent of KSI casualties in 2014 (33.0 per cent in 2013). Of those KSI casualties that involved hitting an object off the carriageway; 48.3 per cent involved hitting a barrier of some kind and 18.3 per cent involved hitting a tree. This is equivalent to 15.2 per cent and 5.8 per cent of all KSI casualties respectively.

Objects hit off carriageway

31.5 per cent of KSI casualties (1,853) hit an object off the carriageway;

48.3 per cent of these (282 of 584) involved hitting a barrier of some kind;

18.3 per cent (107 of 584) involved hitting a tree.

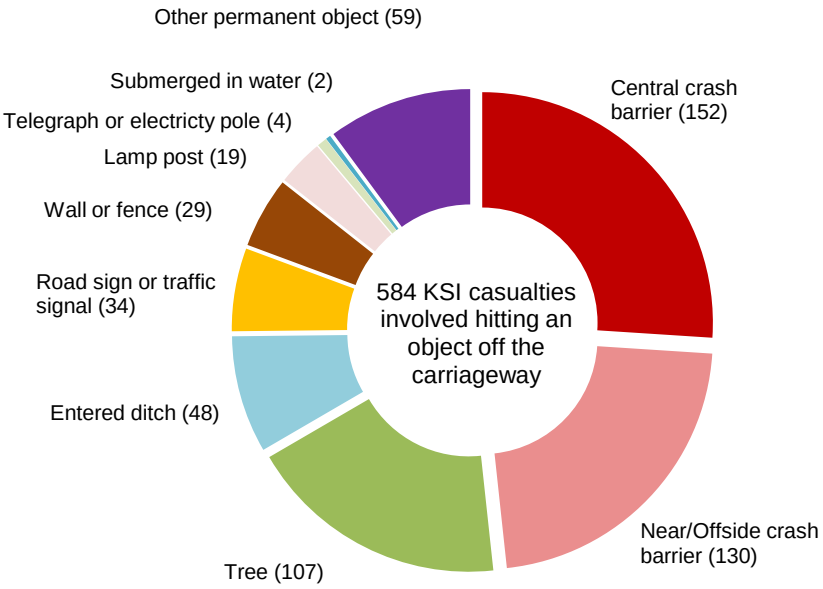


Figure 5-19 KSI casualties by objects hit off carriageway, 2014

5.3.4 Assessment of KSI casualties and motorists

Table 5-25 shows KSI casualties by type, it can be seen that in 2014:

- 62.5 per cent of KSI casualties were car occupants (1,159 of 1,853)
- 5.8 per cent of KSI casualties were pedestrians (108 of 1,853)
- 18.6 per cent of KSI casualties were PTW users (345 of 1,853)

Table 5-25 also shows the number of pedal cyclists KSI casualties increased by 50.0 per cent to 51 in 2014 from 34 in 2013 which is also a 24.4 per cent increase on the baseline value.

Table 5-25 KSI casualties by casualty type and year

Casualty type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car occupant	1,514.6	1,091	1,064	1,159	8.9
PTW user	374.4	295	314	345	9.9
Pedestrian	109.0	82	90	108	20.0
Goods vehicle occupant	106.6	78	64	87	35.9
HGV occupant	144.8	83	80	82	2.5
Pedal cyclist	41.0	54	34	51	50.0
Bus / coach occupant	15.6	7	39	10	-74.4
Other/Unknown	15.2	6	24	11	-54.2

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-20 shows KSI casualties by casualty age in 2014 along with the baseline profile. This is followed by Table 5-26 which shows values by casualty age band and year. Figure 5-20 shows that the majority of the number of KSI casualties less than 50 years of age was below the baseline profile. Those older than 50 years of age were above the baseline profile.

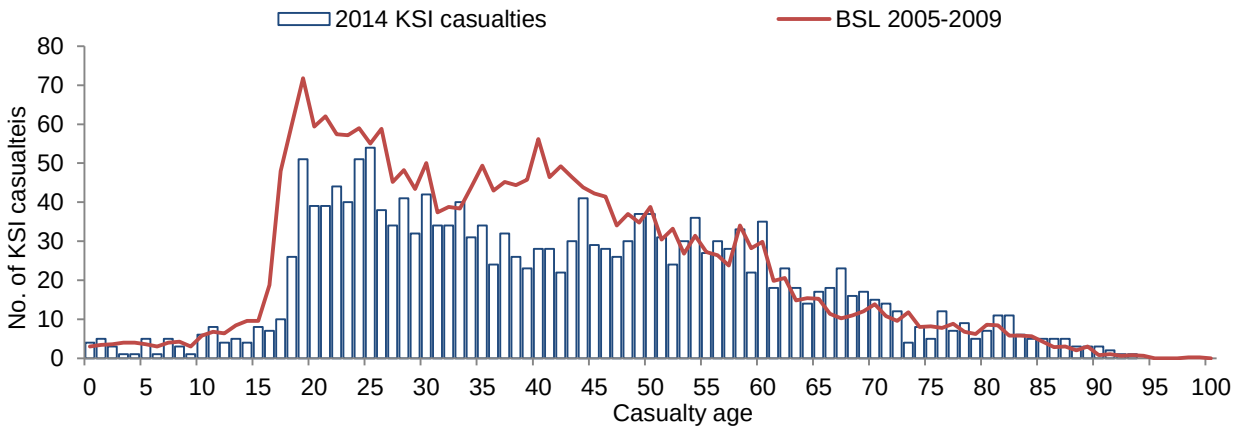


Figure 5-20 Breakdown of KSI casualties by age, 2014

Table 5-26 Breakdown of KSI casualties by casualty age band and year

64 Killed or seriously injured children (aged 0-15)

68.4 per cent from 2013 (38)

Casualty age band	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Children (0-15)	82.4	60	38	64	68.4
Young (16-19)	198.6	79	103	94	-8.7
Other (20-59)	1,713.4	1,253	1,223	1,329	8.7
Older (60-69)	160.2	151	149	199	33.6
Elderly (70+)	145.2	141	188	159	-15.4
Unknown	21.4	12	8	8	-

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

Figure 5-21 shows the number of drivers (or riders) involved in KSI severity collisions by driver age in 2014 along with the baseline profile. Figure 5-21 shows that in general the number of KSI severity collisions in 2014 involving drivers/riders aged older than 50 were above the baseline profile.

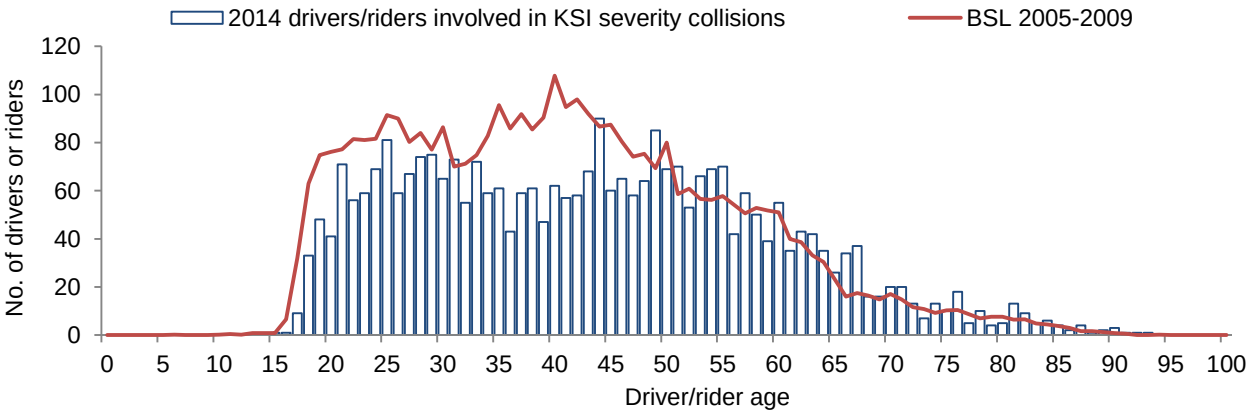


Figure 5-21 Breakdown of drivers or riders involved in KSI severity collisions, 2014

Table 5-27 shows a breakdown of drivers involved in KSI severity collisions by driver age group. The number of KSI severity collisions involving at least one older motorist (aged 60 to 69) increased by 17.7 per cent to 372 from 316 in 2013.

Table 5-27 Breakdown of KSI casualties by driver age group and year

Driver type	Driver age group	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Motorist	Underage motorist (0-16)	3.0	0	1	0	-
	Young motorist (17-24)	599.4	340	327	367	12.2
	Other motorist (25-59)	1,767.8	1,313	1,303	1,387	6.4
	Older motorist (60-69)	310.6	293	316	372	17.7
	Elderly motorist (70+)	178.6	155	205	208	1.5
Rider	Underage rider (0-15)	0.2	0	0	0	-
	Young rider (16-19)	24.4	11	23	15	-34.8
	Other rider (20-59)	339.8	266	274	313	14.2
	Older rider (60-69)	19.4	22	25	27	8.0
	Elderly rider (70+)	5.8	5	4	8	-
Unknown	-	262.4	168	174	176	1.1

Notes:
(a) Values in the table report the number of KSI casualties where at least one driver involved was reported with the specified driver age group.
(b) Percentages are only given for those values with a base value of 15 or more.

5.3.5 Single vehicle collisions

In 2014, 576 KSI casualties (31.1 per cent of all KSI casualties) involved a single vehicle collision which is a 12.1 per cent increase on the 2013 value of 514 KSI casualties.

Table 5-28 shows a breakdown of KSI casualties involving a single vehicle by vehicle type. It can be seen that the number of KSI casualties involving single car collisions increased by 17.0 per cent to 392 in 2014 from 335 in 2013, and KSI casualties involving single PTW collisions increased by 12.6 per cent to 107 in 2014 from 95 in 2013.

Table 5-28 Breakdown of KSI casualties involving single vehicle collisions by vehicle type

576 KSI casualties involved single vehicle collisions

31.1 per cent of all KSI casualties (1,853)

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	538.8	388	335	392	17.0
PTW	114.2	102	95	107	12.6
HGV	60.4	35	54	40	-25.9
Goods vehicle	36.2	18	15	19	26.7
Pedal cycle	1.0	2	0	9	-
Bus or coach	12.2	1	8	6	-
Other	2.4	2	7	3	-
Total	765.2	548	514	576	12.1

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-22 shows a breakdown of drivers involved in KSI single vehicle collisions by driver age. It can be seen that the majority of drivers aged below 45 were involved in less KSI single vehicle collisions in 2014 compared to the baseline profile.

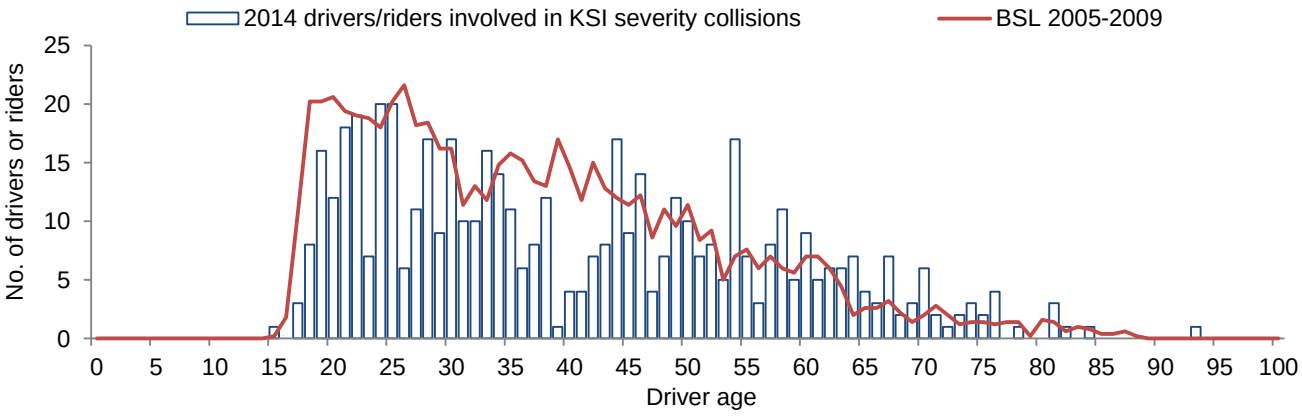


Figure 5-22 Breakdown of drivers or riders involved in KSI single vehicle collisions by driver age, 2014

Table 5-29 shows the top 10 contributory factors for KSI severity collisions involving single vehicles. It can be seen that fatigue was attributed to 65 KSI single vehicle collisions in 2014, a 62.5 per cent increase on the 2013 value of 40 although this is still 12.2 per cent below the baseline value. In 2014, loss of control was the most attributed contributory factor, being attributed to 210 KSI single vehicle collisions; an increase of 8.8 per cent on the 2013 value of 193.

Table 5-29 Top 10 contributory factors for KSI casualties involving single vehicles

No.	Contributory factor		2005-09 BSL average	2014	Percentage of KSI severity collisions involving a single vehicle, 2014
1	410	Loss of control	291.0	210	40.2%
2	503	Fatigue	74.0	65	12.4%
3	103	Slippery road (due to weather)	66.2	55	10.5%
4	409	Swerved	66.8	47	9.0%
5	602	Careless, reckless or in a hurry	53.2	46	8.8%
6	501	Impaired by alcohol	62.0	46	8.8%
7	505	Illness or disability, mental or physical	29.0	40	7.6%
8	307	Travelling too fast for conditions	73.0	39	7.5%
9	999	Other – Please specify below	49.0	39	7.5%
10	306	Exceeding speed limit	41.4	34	6.5%

Key (CF groups):

Driver/Rider error or reaction | Impairment of distraction | Injudicious action

Behaviour or inexperience | Road environment

Notes:

(a) Values in the table report the number of KSI collisions involving single vehicles where at least one of the specified contributory factors was recorded.

(b) In 2014, there were a total of 523 KSI collisions involving single vehicles.

5.3.6 KSI casualties by time of day and month

It can be seen in Figure 5-23 that the number of KSI casualties was greatest during 2pm and 6pm on Fridays in 2014 with 92 KSI casualties occurring during this time period.

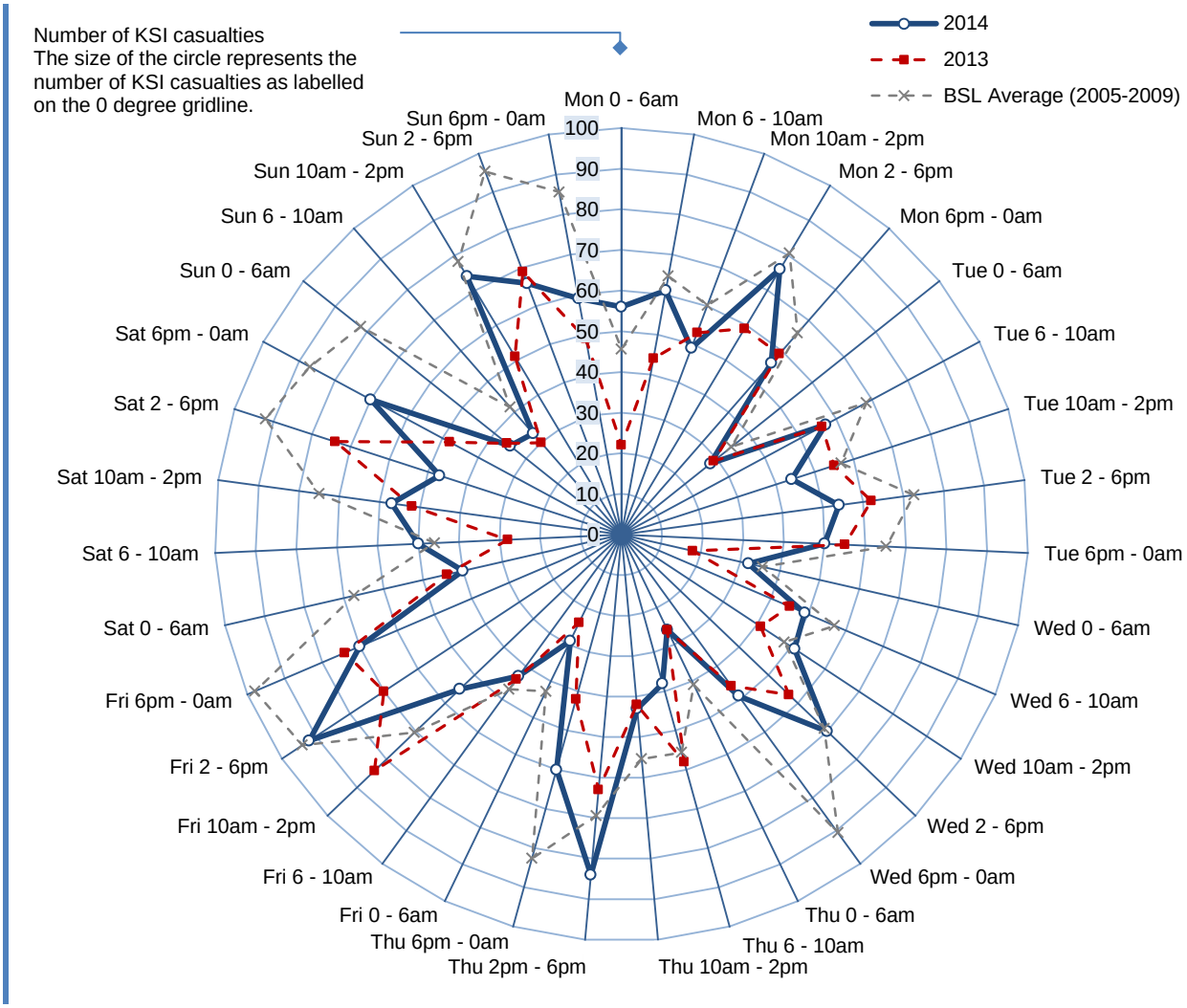


Figure 5-23 Breakdown of KSI casualties by time of day

It can be seen in Figure 5-24 that there is a general increase in the number of KSI casualties in the summer months of 2014. The peak month was July with 205 KSI casualties (167 collisions).

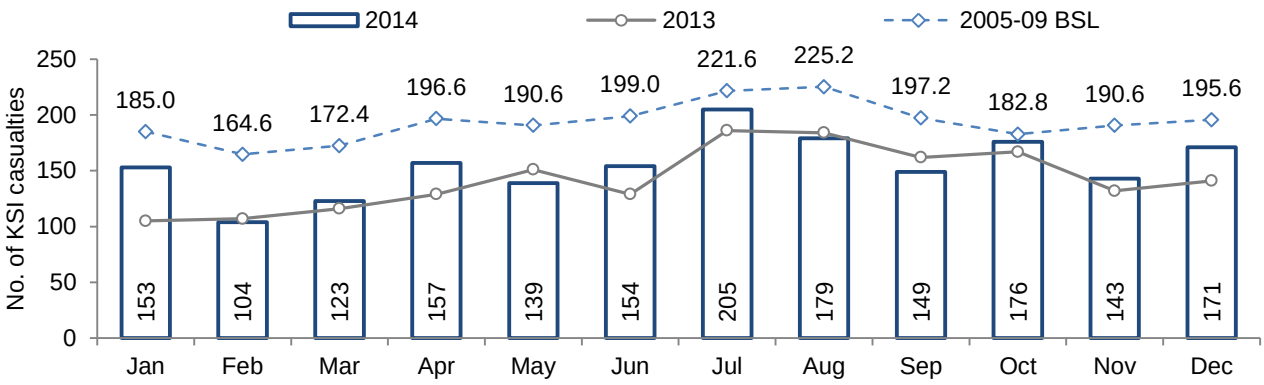


Figure 5-24 Breakdown of KSI casualties by month of year

5.3.7 Contributory factors

Table 5-30 shows that in 2014, failed to look properly was the most attributed contributory factor in KSI severity collisions, being attributed to 420 KSI severity collisions. A large proportion of the top 20 contributory factors were attributed to a higher number of KSI severity collisions in 2014 compared to 2013.

Table 5-30 Top 20 contributory factors for KSI severity collisions

No.	Contributory factor		2013	2014	Percentage of KSI collisions, 2014
1	405	Failed to look properly	412	420	26.9%
2	410	Loss of control	323	355	22.7%
3	406	Failed to judge other person's path or speed	322	336	21.5%
4	602	Careless, reckless or in a hurry	189	205	13.1%
5	403	Poor turn or manoeuvre	210	159	10.2%
6	503	Fatigue	117	137	8.8%
7	409	Swerved	129	124	7.9%
8	408	Sudden braking	113	113	7.2%
9	307	Travelling too fast for conditions	99	110	7.0%
10	103	Slippery road (due to weather)	107	105	6.7%
11	308	Following too close	115	96	6.1%
12	505	Illness or disability, mental or physical	73	88	5.6%
13	306	Exceeding speed limit	58	86	5.5%
14	501	Impaired by alcohol	79	84	5.4%
15	509	Distraction in vehicle	69	75	4.8%
16	999	Other – Please specify below	60	64	4.1%
17	601	Aggressive driving	46	48	3.1%
18	605	Learner or inexperienced driver/rider	37	48	3.1%
19	201	Tyres illegal, defective or under inflated	26	40	2.6%
20	802	Failed to look properly (pedestrian)	19	36	2.3%

Key (CF groups):

Driver/Rider error or reaction	Impairment or distraction	Injudicious action
Behaviour of inexperience	Pedestrian	Vehicle defect
Road environment		

Notes:
(a) Values in the table report the number of KSI collisions where at least one of the specified contributory factors was recorded.
(b) In 2014, there were a total of 1,563 KSI collisions.

5.4 Slightly Injured Casualties

This section provides an overview of slightly injured casualties and collisions on the SRN for 2014 along with comparisons to previous years and the baseline period (2005-2009).

5.4.1 Overview of slightly injured casualties

In 2014, there were 14,961 slightly injured casualties on the SRN (Figure 5-25). Although this is an increase of 576 slightly injured casualties from the 2013 value of 14,385, slightly injured casualties remains below the 2014 monitoring point[4] of 15,207.1. The total cost of slightly injured on Highways England's network in 2014 was £221.0m[14].

14,961 slightly injured

4.0 per cent from 2013 (14,385)

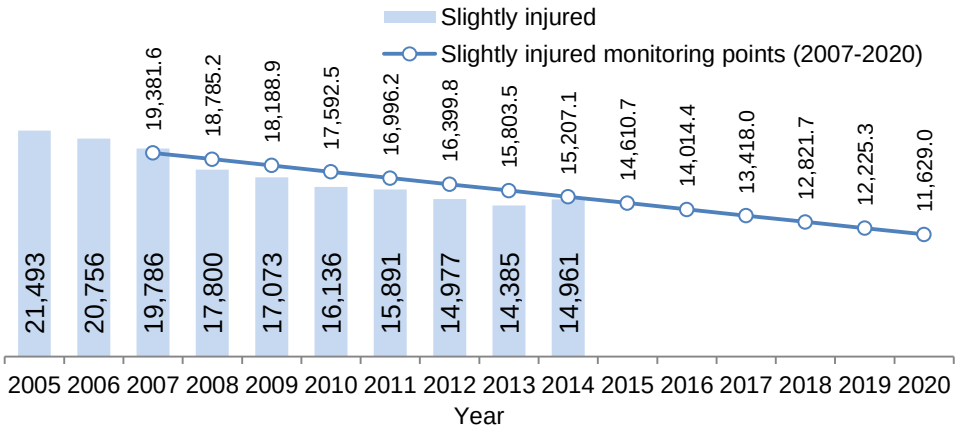


Figure 5-25 Breakdown of slightly injured by year, SRN

5.4.2 Route and road type performance

Table 5-31 gives a breakdown of slightly injured rates by motorway along with the average rate of motorways on the SRN for 2014; only motorways with traffic greater than 5 Hundred Million Vehicle Miles (HMVM) have been included. It can be seen that all top ten motorways in 2014 are above the average rate of 13.12 slightly injured casualties per HMVM. The M20 had the highest slightly injured rate of 21.12 slightly injured casualties per HMVM which is a 61.0 per cent increase of the SRN average motorway rate in 2014.

Table 5-31 Slightly injured rates by road name (Motorways)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN M'way average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	M20	51.4	12.21	21.20	20.40	16.89	21.12	13.12	61.0	25.1
2	M2	26.6	6.63	20.72	19.24	18.35	20.83	13.12	58.8	13.5
3	M23	17.3	5.63	25.22	15.50	17.81	18.84	13.12	43.6	5.8
4	M25	118.2	59.53	25.74	20.07	16.61	16.73	13.12	27.5	0.8
5	M18	29.9	6.43	14.46	13.01	14.64	16.64	13.12	26.8	13.6
6	M27	33.1	11.94	15.75	16.32	11.99	16.17	13.12	23.2	34.8
7	M6	241.2	75.36	19.58	13.23	14.70	14.49	13.12	10.5	-1.4
8	M3	61.5	19.97	16.73	14.47	15.71	14.27	13.12	8.8	-9.1
9	M4	118.1	40.04	16.27	14.45	13.90	14.26	13.12	8.7	2.6
10	M1	198.5	76.37	22.38	14.70	13.23	13.61	13.12	3.7	2.9

Notes:
(a) Only Motorways (M'ways) with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high slightly injured rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

Table 5-32 gives a breakdown of slightly injured rates by A-road along with the average rate of A-roads on the SRN for 2014. As with the table above, only A-roads with traffic greater than 5 HMVM have been included within Table 5-32. It can be seen that the top six A-roads are above the SRN average rate of 25.31 slightly injured casualties per HMVM in 2014. The A2 had the highest slightly injured rate of 36.68 slightly injured casualties per HMVM which is a 44.9 per cent increase of the SRN average A-road rate in 2014.

Table 5-32 Slightly injured rates by road name (A-roads)

No.	Road name	Length (miles)	2014 traffic (HMVM)	2005-09 BSL average	2012	2013	2014	SRN A-road average rate (2014)	2014 per cent change from SRN (2014)	2014 per cent change from 2013
1	A2	38.8	7.33	39.20	33.19	31.43	36.68	25.31	44.9	16.7
2	A5	136.8	10.48	38.71	33.47	35.96	35.58	25.31	40.6	-1.0
3	A27	70.2	11.08	37.18	27.77	33.31	28.24	25.31	11.6	-15.2
4	A64	57.2	5.26	27.11	22.41	24.36	27.01	25.31	6.7	10.9
5	A66	103.0	5.91	32.00	24.72	25.59	26.72	25.31	5.6	4.4
6	A38	114.2	16.09	28.75	27.30	24.57	26.11	25.31	3.2	6.3
7	A47	107.3	8.76	37.94	27.45	27.25	24.43	25.31	-3.5	-10.4
8	A30	133.5	11.54	27.86	22.76	21.59	24.10	25.31	-4.8	11.6
9	A3	51.2	10.44	33.43	25.51	21.03	23.47	25.31	-7.3	11.6
10	A19	69.0	11.91	28.47	23.50	19.63	22.76	25.31	-10.1	15.9

Notes:
(a) Only A-roads with traffic greater than 5 HMVM have been included in this table. This is due to some roads having a high slightly injured rate due to low traffic levels or being relatively short compared to others on the SRN.
(b) Roads have been ranked by 2014 values.

In 2014 slightly injured casualties per HMVM increased across all road classes (Figure 5-26) with:

- A-road single carriageways increased to 34.32 slightly injured per HMVM in 2014 from 33.09 slightly injured per HMVM in 2013
- A-road dual carriageways increased to 22.70 slightly injured per HMVM from 22.52 slightly injured per HMVM in 2013
- Motorways increased to 13.12 slightly injured per HMVM in 2014 from 12.75 seriously injured per HMVM in 2013, this is the first time motorways have seen an increase since at least 2005

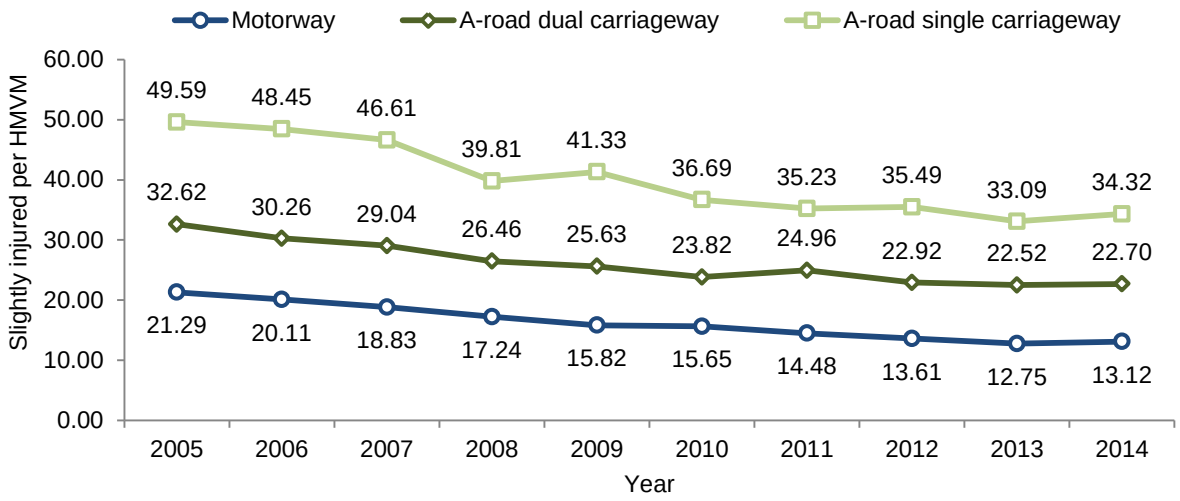


Figure 5-26 Slightly injured rates by road classification and year

Table 5-33 shows slightly injured casualties by junction detail, it can be seen that 28.7 per cent of slightly injured casualties occurred at junctions in 2014, a slight increase on the 2013 value of 28.5 per cent. The number of slightly injured casualties occurring at junctions increased by 4.6 per cent to 4,293 in 2014 from 4,103 in 2013 however remains 21.2 per cent below the baseline value.

Table 5-33 Breakdown of slightly injured by junction detail and year

4,293 slightly injured casualties at junctions

28.7 per cent of all slightly injured (14,961)

Junction detail	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Roundabout	2,007.8	1,735	1,566	1,595	1.9
Slip road	1,700.4	1,482	1,287	1,389	7.9
T or staggered junction	931.4	769	731	782	7.0
Crossroads	246.8	199	171	211	23.4
Private drive or entrance	167.0	103	142	149	4.9
Junction - more than 4 arms (not roundabout)	93.6	126	39	19	-51.3
Mini-roundabout	8.4	3	6	17	-
Other junction	295.6	195	161	131	-18.6
Total at junction	5,451.0	4,612	4,103	4,293	4.6
Not at junction or within 20 metres	13,930.4	10,365	10,282	10,668	3.8

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

5.4.3 Vehicles and objects hit off carriageway

Table 5-34 shows the number of slightly injured where at least one of the vehicles specified was recorded as being involved. It can be seen that slightly injured casualties involving at least one goods vehicle (under 3.5 tonnes or unknown weight) increased by 18.4 per cent to 863 in 2014 from 729 in 2013. Slightly injured casualties involving at least one pedal cycle increased by 12.2 per cent to 129 in 2014 from 115 in 2013, this is also a 17.5 per cent increase of the baseline value.

863 Slightly injured casualties involved goods vehicles

↑ 18.4 per cent from 2013 (729)

Table 5-34 Breakdown of slightly injured by vehicle type and year

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	16,795.8	12,970	12,442	12,776	2.7
Goods vehicle	940.6	753	729	863	18.4
PTW	653.8	519	534	577	8.1
HGV	652.2	414	392	430	9.7
Pedal cycle	109.8	116	115	129	12.2
Bus or coach	137.4	130	112	129	15.2
Agricultural vehicle	9.4	5	13	11	-
Other	82.4	70	48	46	-4.2

Notes:
(a) Values in the table report the number of slightly injured casualties where at least one of the vehicles specified was recorded as being involved.
(b) Percentages are only given for those values with a base value of 15 or more.
(c) “Goods vehicle” refers to less than 3.5 tonnes or unknown weight.
(d) “HGV” refers to 3.5 tonnes or over.

The number of slightly injured casualties involving hitting an object off the carriageway decreased from 3,416 in 2013 to 3,359 in 2014 (Figure 5-27). This is equivalent to 22.5 per cent of slightly injured casualties in 2014 (23.7 per cent in 2013). Of those slightly injured casualties that involved hitting an object off the carriageway; 62.1 per cent involved hitting a barrier of some kind and 10.8 per cent involved hitting a tree. This is 13.9 per cent and 2.4 per cent of all seriously injured respectively.

Objects hit off carriageway

22.5 per cent of slightly injured (14,961) hit an object off the carriageway;

62.1 per cent of these (2,086 of 3,359) involved hitting a barrier of some kind;

10.8 per cent (363 of 3,359) involved hitting a tree.

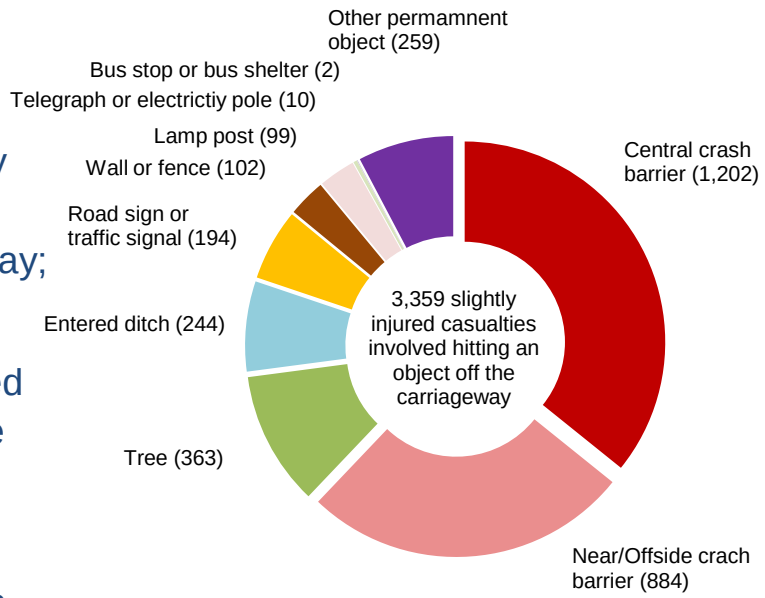


Figure 5-27 Slightly injured by objects hit off carriageway, 2014

5.4.4 Assessment of slightly injured casualties and motorists

Table 5-35 shows slightly injured casualties by type, it can be seen that in 2014:

- 85.0 per cent of slightly injured were car occupants (12,723 of 14,961);
- 5.7 per cent of slightly injured were good vehicle occupants (under 3.5 tonnes or unknown weight) (857 of 14,961);
- 3.8 per cent of slightly injured were PTW users (572 of 14,961).

Table 5-35 also shows the number of good vehicle occupants increased by 19.2 per cent to 857 in 2014 from 719 in 2013. Pedal cyclist increased by 11.3 per cent to 128 slightly injured casualties in 2014 from 115 in 2013, this is also a 17.2 per cent increase on the baseline value.

Table 5-35 Slightly injured by casualty type and year

Casualty type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car occupant	16,718.8	12,920	12,375	12,723	2.8
Goods vehicle occupant	930.4	742	719	857	19.2
PTW user	651.2	517	532	572	7.5
HGV occupant	639.2	412	382	421	10.2
Bus / coach occupant	135.8	130	109	129	18.3
Pedal cyclist	109.2	116	115	128	11.3
Pedestrian	107.2	66	93	74	-20.4
Other/Unknown	89.8	74	60	57	-5.0

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to under 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-28 shows slightly injured casualties by casualty age in 2014 along with the baseline profile accompanied by Table 5-36 which shows values by casualty age band and year. Figure 5-28 shows that in general the numbers of slightly injured casualties were below the baseline profile in 2014, with those aged between 15 and 50 showing the greatest deviation.

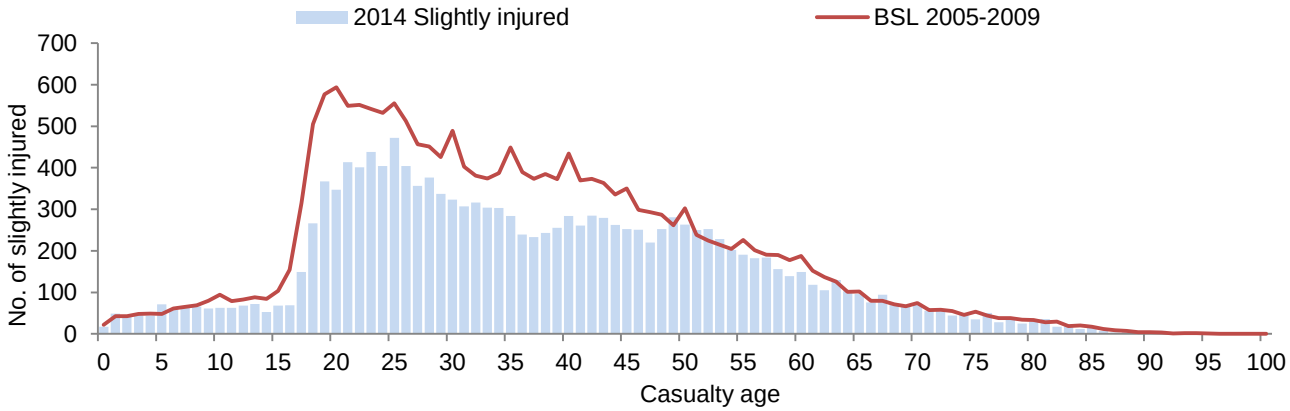


Figure 5-28 Breakdown of slightly injured by age, 2014

Table 5-36 Breakdown of slightly injured by casualty age band and year

908 Children (aged 0-15) slightly injured

17.2 per cent from 2013 (775)

Casualty age band	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Children (0-15)	1,059.2	802	775	908	17.2
Young (16-19)	1,551.0	961	851	851	0.0
Other (20-59)	14,705.8	11,466	10,936	11,429	4.5
Older (60-69)	1,101.4	994	1,008	1,011	0.3
Elderly (70+)	690.4	578	636	622	-2.2
Unknown	273.8	176	179	140	-21.8

Note:
(a) Percentages are only given for those values with a base value of 15 or more.

Figure 5-29 shows the number of driver involved in slight collisions by driver age in 2014 along with the baseline profile. Table 5-37 shows a breakdown of drivers involved in slight collisions by driver age group.

Figure 5-29 shows that overall the number of drivers involved in slight collisions was below the baseline profile across all ages. However all driver age groups other than underage motorist (aged 0 to 16) and unknown increased on their 2013 values.

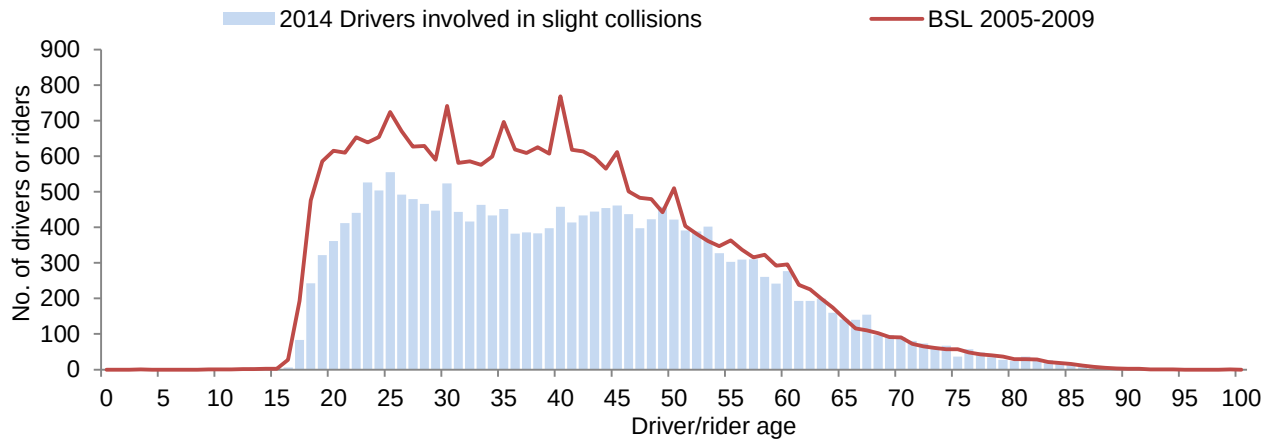


Figure 5-29 Breakdown of drivers or riders involved in slight collisions, 2014

Table 5-37 Breakdown of slightly injured by driver age group and year

Driver type	Driver age group	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Motorist	Underage Motorist (0-16)	11.6	1	9	0	-
	Young Motorist (17-24)	6,297.4	4,338	4,109	4,212	2.5
	Other Motorist (25-59)	16,436.2	12,762	12,355	12,879	4.2
	Older Motorist (60-69)	2,595.4	2,433	2,464	2,551	3.5
	Elderly Motorist (70+)	1,215.0	1,107	1,160	1,228	5.9
Rider	Underage Rider (0-15)	0.0	0	0	0	-
	Young Rider (16-19)	80.8	58	60	65	8.3
	Other Rider (20-59)	652.8	484	560	562	0.4
	Older Rider (60-69)	21.8	28	39	41	5.1
	Elderly Rider (70+)	4.8	6	14	18	-
Unknown	-	2,881.6	2,074	1,989	1,878	-5.6

Notes:
(a) Values in the table report the number of slightly injured where at least one driver involved was reported with the specified driver age group.
(b) Percentages are only given for those values with a base value of 15 or more.

5.4.5 Single vehicle collisions

In 2014, slightly injured casualties involving a single vehicle collision equated to 16.0 per cent of all slightly injured casualties. This is an increase on the number of casualties in 2013 by 4.2 per cent from 2,298 to 2,395 in 2014.

Table 5-38 shows a breakdown of slightly injured casualties involving single vehicle collision by vehicle type. It can be seen that the number of slightly injured involving single good vehicle collisions increased by 17.5 per cent to 121 in 2014 from 103 in 2013.

Table 5-38 Breakdown of slightly injured involving single vehicle collisions by vehicle type

2,395 slightly injured casualties involved a single vehicle

16.0 per cent of all slightly injured casualties (14,961)

Vehicle type	2005-09 BSL average	2012	2013	2014	2014 per cent change from 2013
Car	2,918.6	2,269	1,958	1,964	0.3
PTW	152.8	126	127	132	3.9
Goods vehicle	159.6	131	103	121	17.5
HGV	157.0	76	86	87	1.2
Bus or coach	24.6	6	11	69	-
Pedal cycle	3.4	3	1	7	-
Other	20.6	20	12	15	-
Total	3,436.6	2,631	2,298	2,395	4.2

Notes:
(a) Percentages are only given for those values with a base value of 15 or more.
(b) “Goods vehicle” refers to under 3.5 tonnes or unknown weight.
(c) “HGV” refers to 3.5 tonnes or over.

Figure 5-30 shows a breakdown of drivers (and riders) involved in slight single vehicle collisions by driver age. It can be seen that as a whole drivers aged below 45 were involved in less slight single vehicle collisions in 2014 compared to the baseline profile.

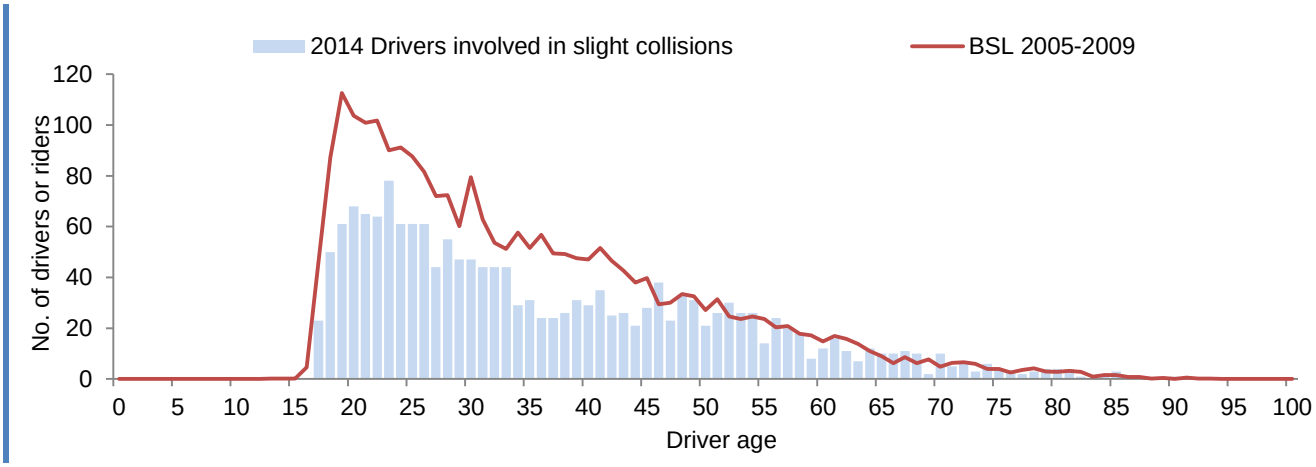


Figure 5-30 Breakdown of drivers or riders involved in slight single vehicle collisions by driver age, 2014

Table 5-39 shows the top 10 contributory factors for slight collisions involving single vehicles. It can be seen that loss of control was the most attributed contributory factor in single vehicle collisions being attributed to 838 slight collisions in 2014. This is a 7.4 per cent increase on the 2013 value of 780. The number of slight single vehicle collisions attributed to fatigue increased by 14.2 per cent to 201 in 2014 from 176 in 2013, although remained below the baseline value.

Table 5-39 Top 10 contributory factors for slight collisions involving single vehicles

No.	Contributory factor		2005-09 BSL average	2014	Percentage of slight collisions involving single vehicles, 2014
1	410	Loss of control	1192.4	838	47.5%
2	103	Slippery road (due to weather)	447.0	404	22.9%
3	409	Swerved	334.0	224	12.7%
4	307	Travelling too fast for conditions	318.2	212	12.0%
5	503	Fatigue	243.8	201	11.4%
6	602	Careless, reckless or in a hurry	181.2	148	8.4%
7	403	Poor turn or manoeuvre	177.4	138	7.8%
8	501	Impaired by alcohol	169.4	111	6.3%
9	505	Illness or disability, mental or physical	74.4	105	5.9%
10	509	Distraction in vehicle	112.2	98	5.6%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience; Road environment

Notes:
(a) Values in the table report the number of slight collisions involving single vehicles where at least one of the specified contributory factors was recorded.
(b) In 2014, there were a total of 1,765 slight collisions involving single vehicles.

5.4.6 Slightly injured by time of day and month

It can be seen in Figure 5-31 that the number of slightly injured casualties was greatest during 2pm and 6pm on Fridays in 2014, with 914 slight casualties occurring during this time period.

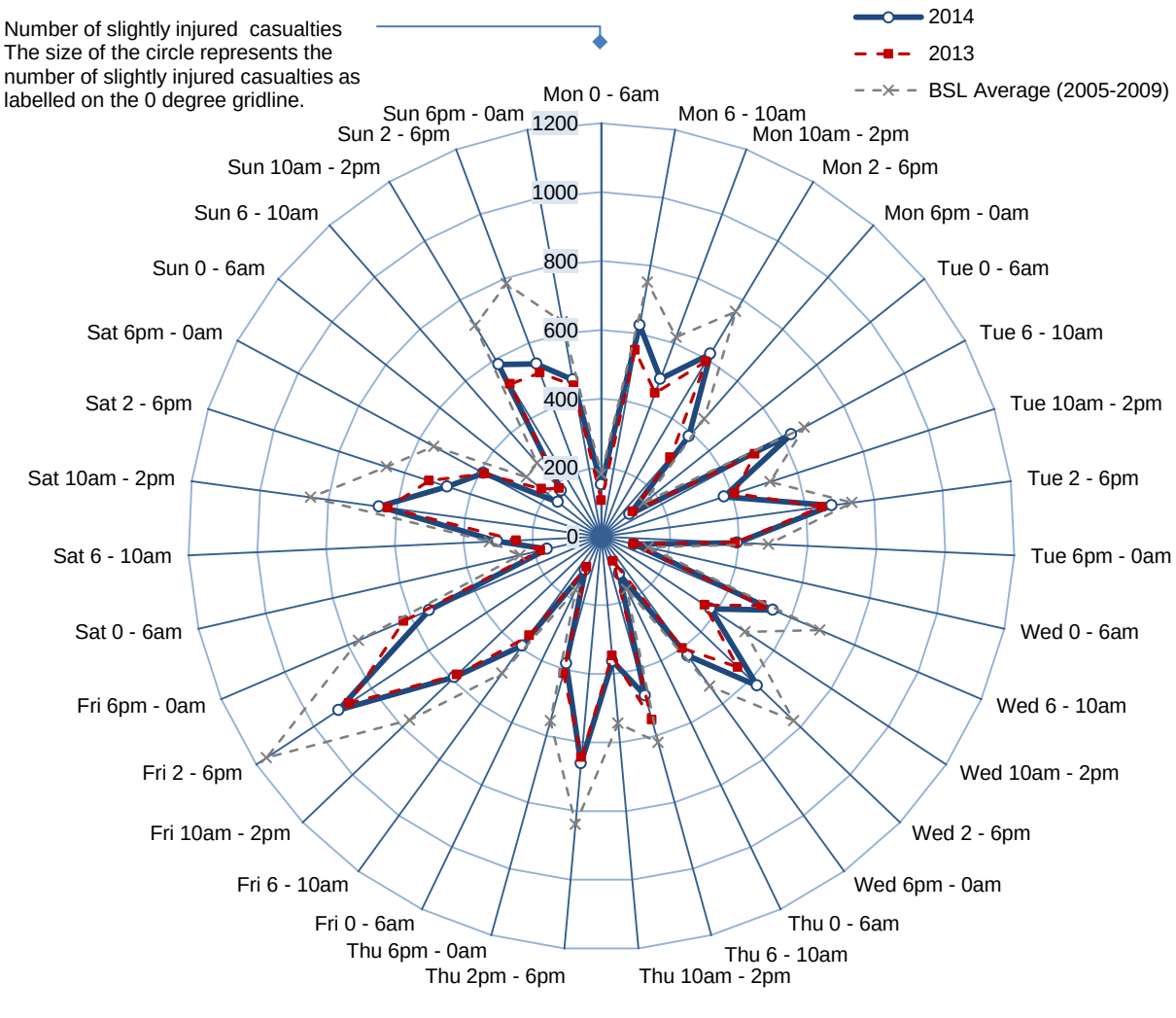


Figure 5-31 Breakdown of slightly injured by time of day

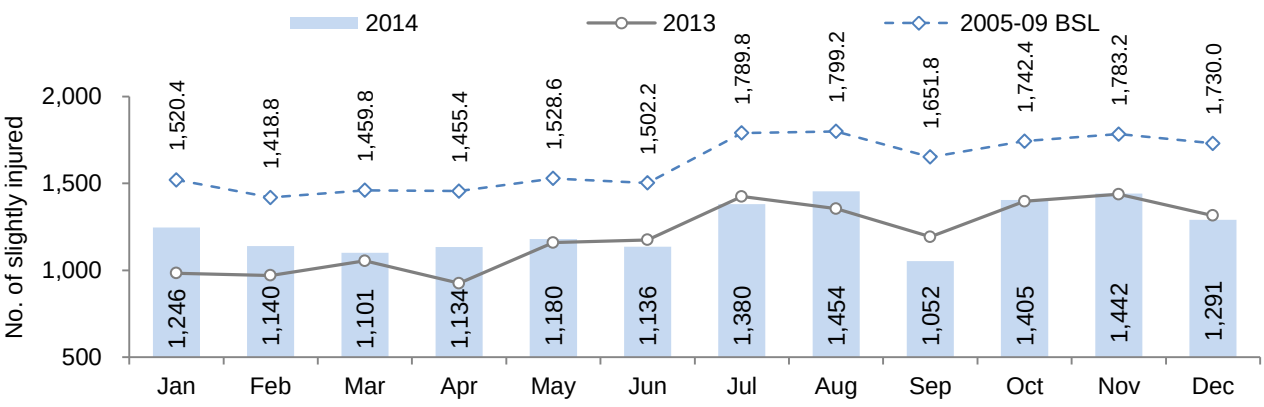


Figure 5-32 Breakdown of slightly injured by month of year

Figure 5-32 shows that in 2014 August had the most slightly injured casualties with 1,454 (849 collisions) occurring within the month, this was closely followed by November which had 1,442 slightly injured casualties (913 collisions) occurring within the month.

5.4.7 Contributory factors

Table 5-40 shows that in 2014, failed to look properly was the most attributed contributory factor being attributed to 3,020 collisions involving slightly injured casualties. Although a large proportion of the top 20 contributory factors were attributed to more collisions in 2014 compared to 2013, illness or disability, mental or physical and distraction in vehicle also increased above there corresponding baseline values by 38.6 and 11.7 per cent respectively.

Table 5-40 Top 20 contributory factors for collisions involving slightly injured casualties

No.		Contributory factor	2013	2014	Percentage of slight collisions, 2014
1	405	Failed to look properly	2,765	3,020	33.5%
2	406	Failed to judge other person's path or speed	2,391	2,698	29.9%
3	410	Loss of control	1,424	1,473	16.3%
4	308	Following too close	1,205	1,209	13.4%
5	408	Sudden braking	1,066	1,085	12.0%
6	403	Poor turn or manoeuvre	1,019	1,020	11.3%
7	602	Careless, reckless or in a hurry	940	960	10.6%
8	103	Slippery road (due to weather)	820	808	9.0%
9	307	Travelling too fast for conditions	609	661	7.3%
10	409	Swerved	617	577	6.4%
11	503	Fatigue	383	459	5.1%
12	509	Distraction in vehicle	365	368	4.1%
13	710	Vehicle blind spot	257	269	3.0%
14	605	Learner or inexperienced driver/rider	221	246	2.7%
15	501	Impaired by alcohol	265	239	2.6%
16	999	Other – Please specify below	248	230	2.5%
17	306	Exceeding speed limit	216	225	2.5%
18	505	Illness or disability, mental or physical	183	217	2.4%
19	707	Rain, sleet, snow, or fog	188	196	2.2%
20	601	Aggressive driving	190	179	2.0%

Key (CF groups):

Driver/Rider error or reaction	Impairment or distraction	Injudicious action
Behaviour or inexperience	Road environment	Vision effected by

Notes:
(a) Values in the table report the number of collisions with at least one slightly injured casualty where at least one of the specified contributory factors was recorded.
(b) In 2014, there were a total of 9,026 slight collisions.

5.5 Young Motorists

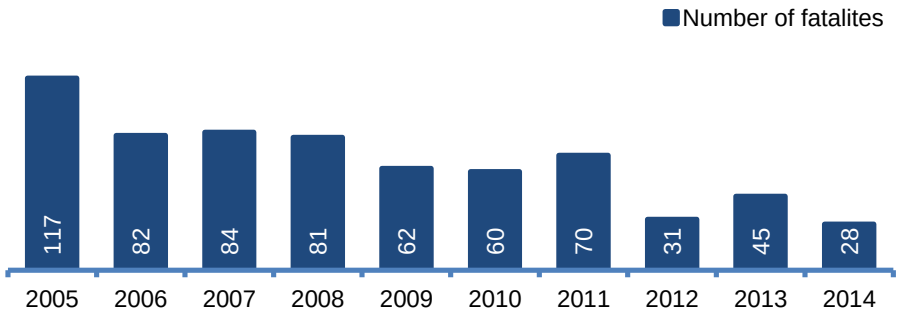
The young motorist section investigates casualty trends where a collision involved at least one young motorist aged between 17 and 24 years. The number of casualties involving a young motorist still remains at approximately one quarter of total casualties (4,579 out of 16,814), which is disproportionally high for a single age group.

5.5.1 Casualties involving young motorists by severity

The historic number of casualties by severity between 2005 and 2014 are shown in Figure 5-33 and Figure 5-34. As reported previously in Chapter 4, and shown in Figure 5-33, the number of young motorists involved in fatalities decreased significantly in 2014 from the previous year by 37.8 per cent. However the number of KSI casualties and total casualties did not follow the continuing decrease (year-on-year) that was maintained between 2007 and 2013 and increased by 12.2 and 3.2 per cent respectively.

28 Fatalities involving young motorists

37.8 per cent from 2013 (45)



367 KSI casualties involving young motorists

12.2 per cent from 2013 (327)

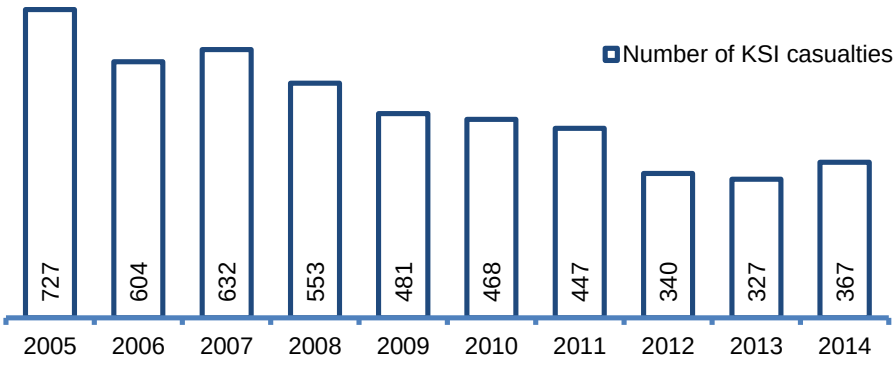


Figure 5-33 Historic fatalities and KSI casualties involving young motorists by severity between 2005 and 2014

4,579 Casualties involving young motorists

↑ 3.2 per cent from 2013 (4,436)

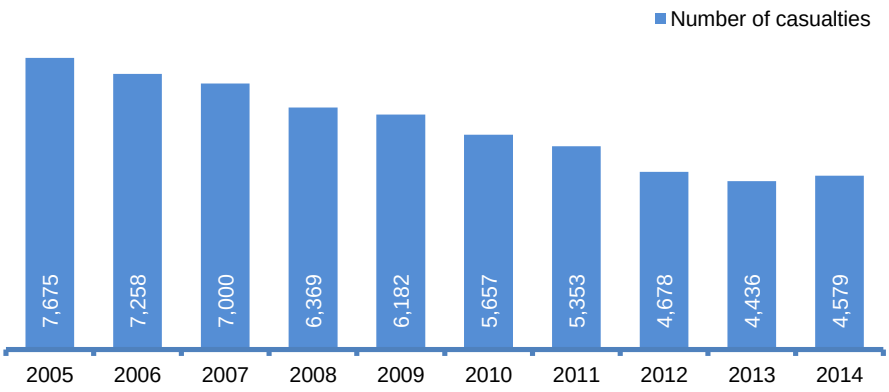


Figure 5-34 Historic casualties involving young motorists by severity between 2005 and 2014

5.5.2 Cost of motoring effect on casualties involving young motorists

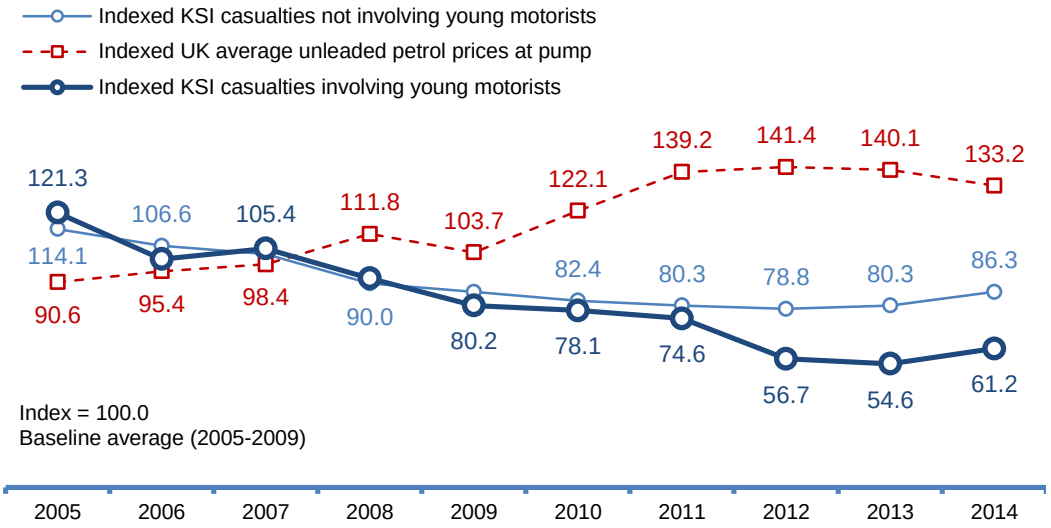
Figure 5-35 compares the change of UK average petrol prices and KSI casualties involving young motorists, indexed to their respective baseline averages (2005-2009). It can be observed that the two parameters potentially correlate, with an increase in petrol prices typically corresponding with a decrease in KSI casualties involving young motorists.

Figure 5-35 also shows that KSI casualties involving young motorist has decreased by 13.4 index points since 2011, however KSI casualties that didn't involve young motorist increased by 6.0 index points over the same period. Correlating the changes in petrol prices against the number of casualties involving young motorists shows that petrol prices may be influential in reducing this type of casualty. The figure shows that KSI casualties involving young motorists did increase in 2014 from 2013. This trend corresponds with falling petrol prices over the same period.

Between 2005 and 2014 the cost of one litre of petrol has increased by 42.6 index points from 86.7 pence in 2005 to 127.5 pence in 2014.

Average UK cost of petrol at pump

127.5 pence ↓ 47.0 per cent since 2005



Notes:

(a) KSI casualties not involving young motorists represent the number of KSI casualties where no young motorists were involved.

(b) Data sourced from gov.uk, Department of Energy & Climate Change[15].

Figure 5-35 Index of changes in UK average petrol price and KSI casualties involving/not involving young motorists between 2005 and 2014

5.5.3 Casualties involving young motorists by road classification

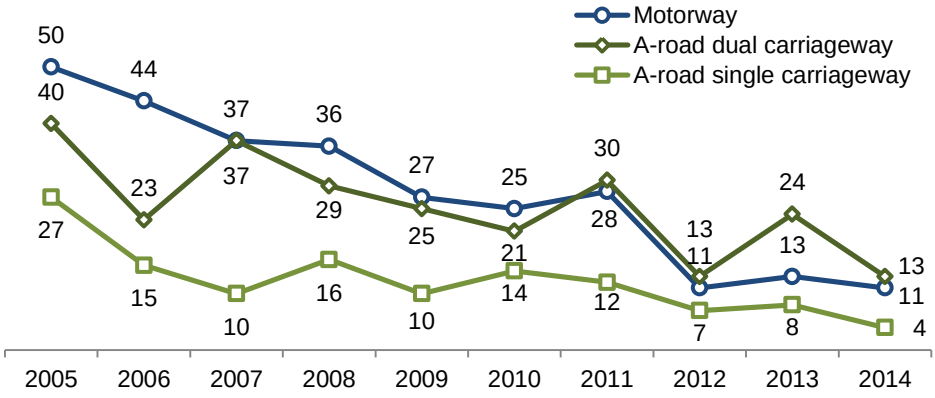
Appendix K Table K-2 shows the number of casualties involving young motorists by road classification and severity between 2010 and 2014. The changes in the number of casualties tabulated in Appendix K Table K-2 are additionally presented in Figure 5-36 by road classification and severity between 2005 and 2014.

The figure shows that there was a decrease of 11 fatalities occurring on A-road dual carriageways. However on the same road classification there was an increase of 16 KSI casualties. The figure also shows that the number of total casualties involving young motorists across all road classifications has typically increased between 2013 and 2014.

[15] UK fuel prices sourced from Table 4.1.2 Average annual retail prices of petroleum products and a crude oil price index UK

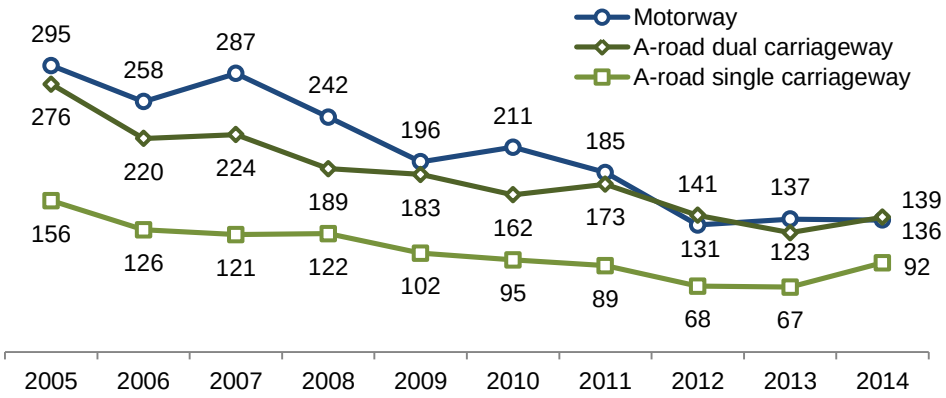
Fatalities involving young motorist

37.8 per cent since 2013 (45)



KSI casualties involving young motorist

12.2 per cent since 2013 (327)



Casualties involving young motorist

3.2 per cent since 2013 (4,436)

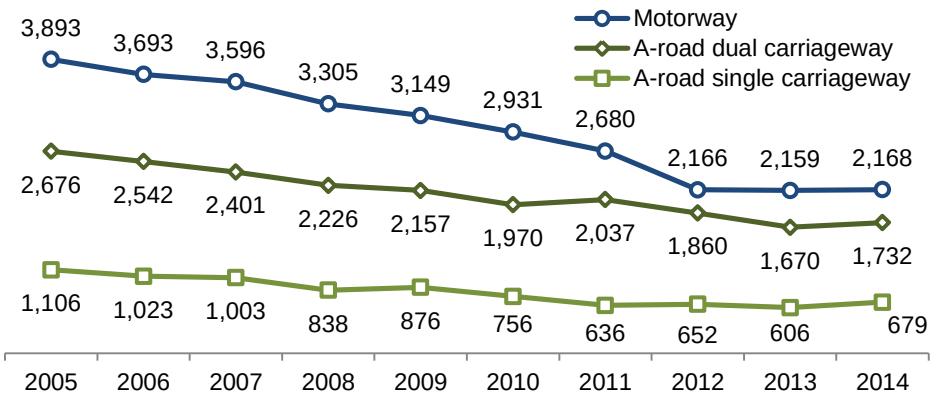


Figure 5-36 Casualties involving young motorist by severity and road class

5.5.4 Contributory factors associated with young motorists

Contributory factors involved in collisions with young motorists are shown in Appendix K Table K-7**.** Of note; the factors listed in the appendix table are the total number of collisions where at least one of the factors was present in the collision and are not necessarily attributed directly to the young motorist. From the table it can be seen that the top five factors recorded at least once in a collision involving a young motorists are:

- failed to look properly
- failed to judge other person's path or speed
- loss of control
- following too close
- sudden braking

The number of KSI casualties involving young motorists for the top 10 contributory factors are highlighted in Table 5-41. The top 10 contributory factors include factors from the "injudicious action", "driver/rider error or reaction", "impairment or distraction" and "behaviour or inexperience" groupings[13].

The two contributory factors that contributed to the highest number of KSI casualties involving young motorists were "loss of control" or "careless, reckless or in a hurry" which contributed to 74 and 55 KSI casualties respectively.

Of note, 7 of the top 10 contributory factors listed in Table 5-41 also appear in the top 10 contributory factors attributed to all collisions in 2014 (Appendix K, Table K-7) with the exceptions being:

- Fatigue
- Exceeding speed limit
- Learner or inexperienced driver/rider

Table 5-41 Top 10 contributory factors for KSI casualties involving young motorists, 2014

No.	Contributory factor		2014	Percentage of KSI casualties
1	410	Loss of control	74	20.2%
2	602	Careless, reckless or in a hurry	55	15.0%
3	405	Failed to look properly	54	14.7%
4	406	Failed to judge other person's path or speed	42	11.4%
5	503	Fatigue	32	8.7%
6	306	Exceeding speed limit	32	8.7%
7	409	Swerved	31	8.4%
8	307	Travelling too fast for conditions	31	8.4%
9	605	Learner or inexperienced driver/rider	29	7.9%
10	403	Poor turn or manoeuvre	28	7.6%

Key (CF groups):
Driver/Rider error or reaction | Impairment or distraction | Injudicious action | Behaviour or inexperience

Notes:
(a) Table reports the number of KSI casualties involving at least one young motorist where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 367 KSI casualties involving young motorists.

5.6 Lighting on the SRN

This topic of interest provides data for monitoring the effect of lighting on road safety. Since 2010[16], parts of the SRN (generally excluding junctions) which previously were designed with lighting are now operating without lights during the hours of darkness.

Appendix L Table L-1 to Table L-5 provide an overview of historic trends against lighting levels. These trends include; collisions and casualties by lighting condition, road name, road classification, contributory factors, and severity.

5.6.1 Comparison between historic casualties and lighting levels

The proportion of casualties in 2014 occurring within unlit sections of the SRN during darkness was relatively low. In total, there were 177 casualties reported in unlit sections during darkness out of the total 16,814 casualties. In comparison, the number of casualties reported occurring in lit sections during darkness was over 11 times greater at 2,101.

Figure 5-37 shows that casualties on lit sections during darkness follow a similar trend to those in Figure 4-1 for total casualties. However, the number of casualties on unlit sections during darkness has been steadily rising since 2010. Between 2010 and 2014, the number of casualties on unlit sections during darkness has increased by 90.3 per cent from 93 to 177 casualties.

As shown in Table L-2 in Appendix L, the number of motorway casualties occurring within unlit sections has increased by 16.0 per cent from 106 to 123 between 2013 and 2014. Between 2010 and 2014, the increase was equivalent to 215.4 per cent (39 to 123 casualties).

[16] Midnight Switch-Off for Motorway Lighting, Highways Agency, Accessed via http://webarchive.nationalarchives.gov.uk/20120810121037/http://www.highways.gov.uk/knowledge/30236.aspx

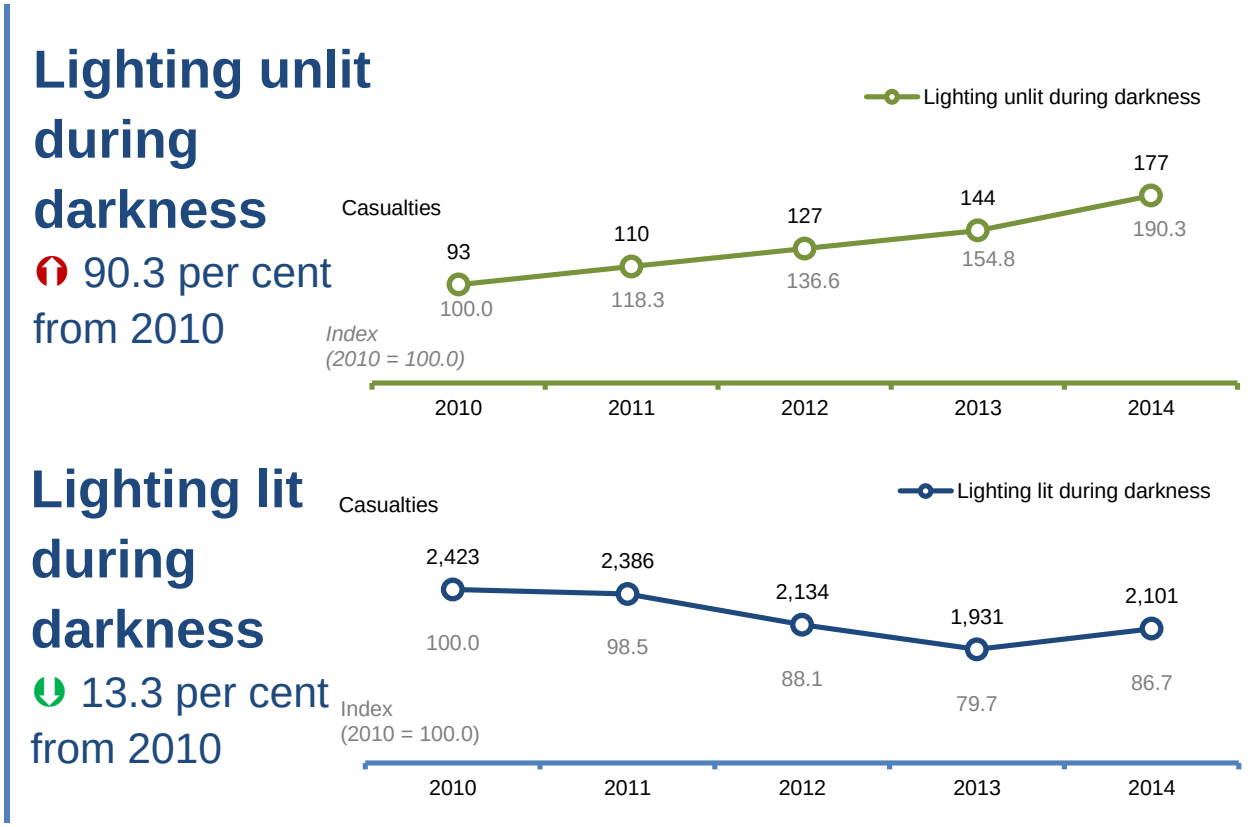


Figure 5-37 Casualties by lighting conditions between 2010 and 2014

5.6.2 Casualties on specific roads during darkness

An extract of the number of casualties occurring in darkness (all categories of darkness including sections of road that are lit and unlit) on specific roads are detailed in Table 5-42 along with an expanded list in Table L-5 in Appendix L. As shown in, casualties increased on several roads with the greatest increase, 75.0 per cent, reported on the M20; 133 casualties in 2014 from 76 in 2013. Other notable increases were on the M6 and A38 where the increase was 11.1 and 25.6 per cent respectively.

Table 5-42 Casualties during darkness by top 10 road names between 2010 and 2014

No.	Road name	2010	2011	2012	2013	2014	2014 per cent change from 2013
1	M6	340	362	253	297	330	11.1
2	M1	427	356	363	326	321	-1.5
3	M25	354	367	371	305	306	0.3
4	M4	184	202	182	192	176	-8.3
5	A38	116	104	125	121	152	25.6
6	M20	63	59	64	76	133	75.0
7	A1	219	146	160	190	128	-32.6
8	A5	112	119	141	135	128	-5.2
9	M40	161	157	167	125	117	-6.4
10	M62	151	125	158	113	114	0.9

5.7 Weather Effects on the SRN

The weather topic of interest analyses the effects of weather on Highways England's network. The number of casualties in 2014 recorded as occurring during weather events (rain, snow, and fog or mist) equalled 2,814 and was equivalent to approximately 16.7 per cent of the total 16,814 casualties on the SRN. Fine weather conditions were recorded in over 80.9 per cent of casualties.

For additional data, Appendix M Table M-1 to Table M-7 provide breakdowns of collisions and casualties by weather group, road classification, contributory factors, severity, age group, vehicle type and skidding.

5.7.1 Casualties by weather type

Table 5-43 shows the historic number of KSI and total casualties by weather group between 2005 and 2014. Between 2013 and 2014, the following changes occurred in KSI and total casualty numbers during weather events:

- The weather category with an increase in total casualties was rainfall, which increased by 24.6 per cent from 2,062 in 2013 to 2,570 in 2014
- The only increase in KSI casualties was also during rainfall, which increased by 44.5 per cent from 182 in 2013 to 263 in 2014
- The largest decrease in total casualties was during snowfall, which decreased by 80.2 per cent from 348 in 2013 to 69 in 2014
- The largest decrease in KSI casualties was also during snowfall, which decreased by 86.2 per cent from 29 in 2013 to 4 in 2014

Table 5-43 KSI and total casualties by weather group between 2005 and 2014

Weather Group / Year	Fog or mist		Rain		Snow	
	KSI	Total	KSI	Total	KSI	Total
2005	33	288	258	3,195	35	295
2006	41	279	298	3,369	14	133
2007	41	262	351	3,456	11	111
2008	31	235	275	3,142	17	212
2009	23	170	238	2,759	21	253
2010	22	230	204	2,275	44	409
2011	20	127	204	2,306	7	62
2012	24	211	309	2,900	11	129
2013	25	197	182	2,062	29	348
2014	24	175	263	2,570	4	69

5.7.2 Casualties by road classification

Appendix M Table M-2 provides breakdowns of casualties by weather groups and road classifications by year.

Analysis of Appendix M Table M-2 shows that the number of total casualties occurring during rainfall on motorways increased by 262 casualties from 1,079 in 2013 to 1,341 in 2014.

The distribution of motorway casualties during rainfall by month in 2014 by the top 5 road names is shown in Table 5-44. It is apparent that the M25, as one of the busiest motorways on the SRN was the worst affected by rainfall with a total of 177 casualties during rainfall in 2014.

As seen in Figure 5-38 there is a fair correlation with Figure 5-41 which shows the mean UK rainfall by month in 2014.

Table 5-44 Motorway casualties during rainfall by month and top 5 road names, 2014

		Month of Year, 2014											
	Road name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	All motorways	239	146	65	71	95	38	66	105	21	159	208	128
Top 5 road names	M25	28	20	6	13	9	1	11	14	-	29	32	14
	M1	43	16	14	10	10	7	5	9	6	20	23	13
	M6	32	15	8	5	18	2	3	11	4	17	18	28
	M62	8	12	11	-	13	5	7	10	-	4	2	17
	M4	15	14	3	7	2	-	2	9	-	7	10	-

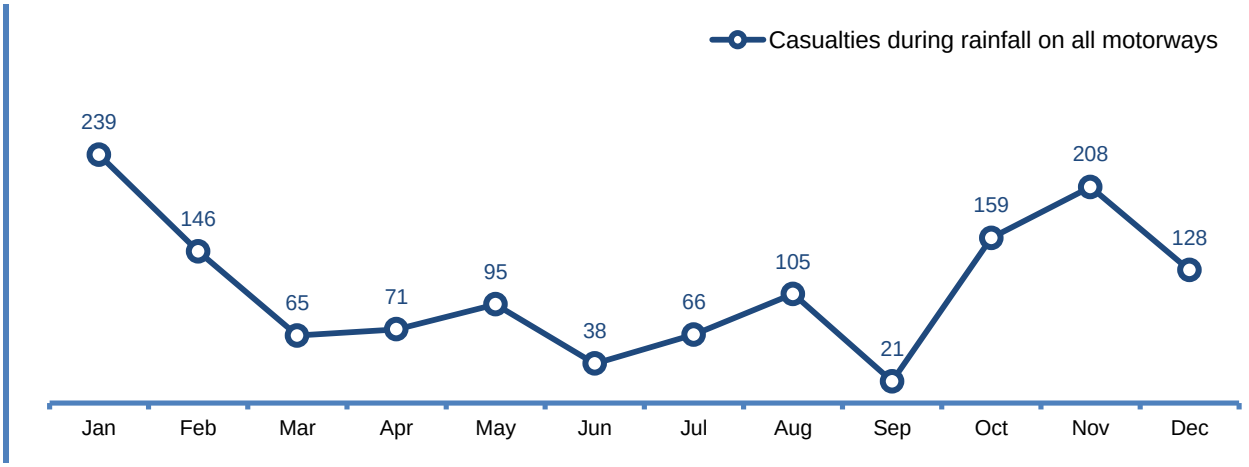


Figure 5-38 Total number of casualties on motorways during rainfall by month, 2014

5.7.3 Casualties against measured temperature and rainfall

The assessment of casualties against measured air temperature and rainfall is provided in Figure 5-39, Figure 5-40 and Figure 5-41.

Figure 5-39 shows the total number of casualties by month for 2014, and additionally the mean number of casualties by month between 2005 and 2014. Similarly, Figure 5-40 and Figure 5-41 show the monthly mean UK air temperature and rainfall in degrees Celsius and millimetres respectively including the average of the monthly means[17] between 2005 and 2014. From the figures it can be observed that in 2014:

- **Quarter 1 (Jan to Mar)** – typically casualty values were at their lowest annually (*approx.* 1,290 per month) corresponding with low temperatures (4^{o}C to 6^{o}C) and high rainfall
- **Quarter 2 (Apr to Jun)** – typically casualty values remain low (*approx.* 1,300 per month) through increasing air temperature and decreasing rainfall
- **Quarter 3 (Jul to Sep)** – typically casualty values are at their highest (*approx.* 1,600 per month although significantly fell during September) corresponding with high temperatures (14^{o}C to 17^{o}C) and low/moderate rainfall, the period corresponds with the school summer holiday
- **Quarter 4 (Oct to Dec)** – typically casualty values remain high (*approx.* 1,550 per month) following Quarter 3 corresponding with declining temperatures (reducing from approximately 11^{o}C in October to 4^{o}C in December) with high rainfall

The distribution of casualties by month in 2014, although offset, does not significantly deviate from the 2005 to 2014 average trend; apart from September where the number of casualties is over 400 fewer than the average.

[17] The average of the monthly mean will not represent the true average, which is only obtained from averaging all the daily values, however is provided to give an indication of the magnitude for all years based on the data available.

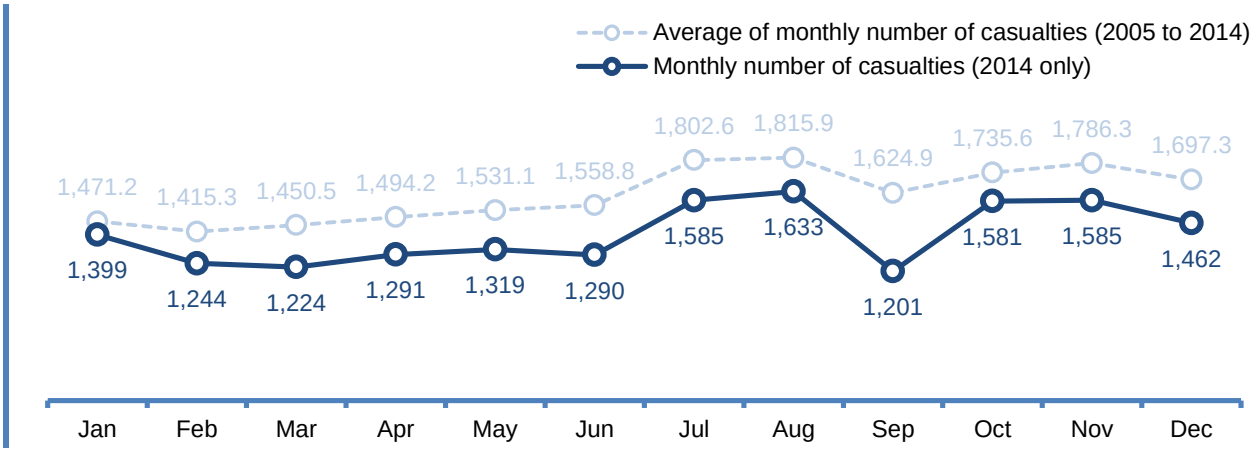
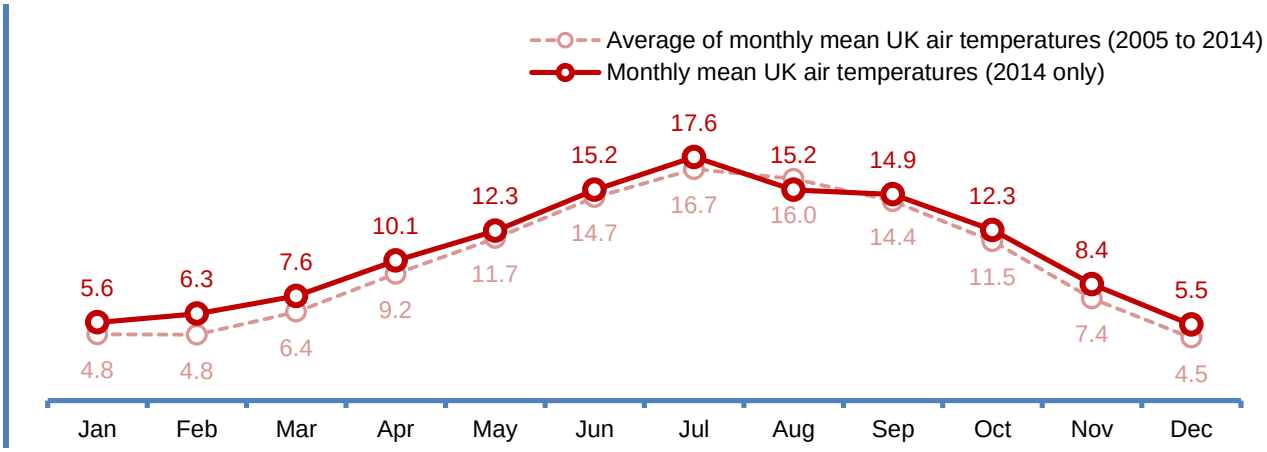
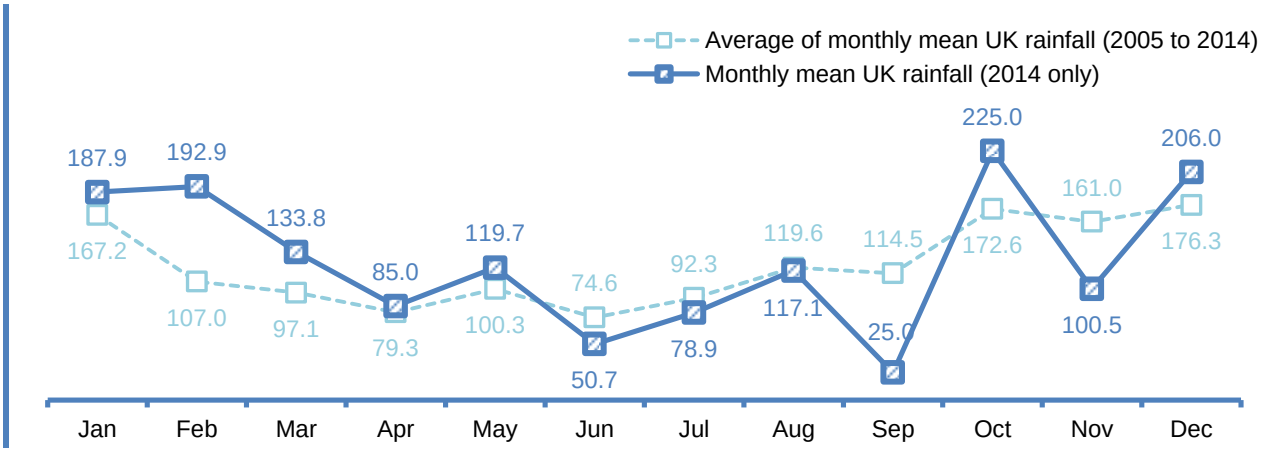


Figure 5-39 Number of total casualties by month



Notes:
(a) Temperature data sourced from DECC Energy Weather: Digest of United Kingdom energy statistics (DUKES).
(b) Accessed from https://www.gov.uk/government/statistics/weather-digest-of-united-kingdom-energy-statistics-dukes

Figure 5-40 Mean UK air temperatures (degrees Celsius) by month



Notes:
(a) Rainfall data sourced from DECC Energy Trends Statistics.
(b) Accessed from https://www.gov.uk/government/statistics/energy-trends-section-7-weather

Figure 5-41 Mean UK rainfall (millimetres) by month

5.7.4 Collisions by weather related contributory factors

Appendix M Table M-6 shows that other than “Slippery road (due to weather)”, the number of collisions involving specific weather related contributory factors have all increased between 2013 and 2014. The percentage changes for each factor are shown in Table 5-45.

Table 5-45 Number of collisions involving specific weather related contributory factors between 2013 and 2014

Contributory factor		2013	2014	2014 per cent change from 2013
103	Slippery road (due to weather)	892	878	1.6
307	Travelling too fast for conditions	674	726	7.7
706	Dazzling sun	145	168	15.9
707	Rain, sleet, snow, or fog	205	217	5.9
708	Spray from other vehicles	83	102	22.9

5.8 Roadworks

This section provides historical data on the changes in casualties at roadworks between 2005 and 2014. Table N-1 to Table N-9 in Appendix N provide breakdowns of collisions and casualties involving roadworks by road classification, junction detail, vehicle type, driver age, pedestrian involvement, contributory factors, severity and severity ratios.

Roadworks are essential to the SRN as they ensure roads are safe and serviceable during their lifetimes, as well as increase capacity, through additional lanes or easing of bottlenecks.

In the past decade, Highways England has sought methods to keep road users and road workers safe within roadworks. One example is the introduction of average speed cameras to enforce a safe speed limit through works to protect road users and road workers.

5.8.1 Historic trends in casualties at roadworks

Historic trends of casualties within roadworks on the SRN between 2005 and 2014 are highlighted in Figure 5-42. Evident in the figure is that the levels of casualties up until 2010 were typically around 900 casualties per year (albeit 727 in 2009).

However, post 2010 the numbers of casualties at roadworks indicate a drop by 33.6 per cent from 900 to 598 between 2010 and 2011 and a further 20.7 per cent between 2011 and 2012. Despite recent falls, the number of casualties increased by 3.8 per cent from 474 in 2012 to 492 in 2013 and by 39.4 per cent from 492 in 2013 to 686 in 2014.

Casualties at roadworks

↑ 39.4 per cent from 2013 (492 to 686)

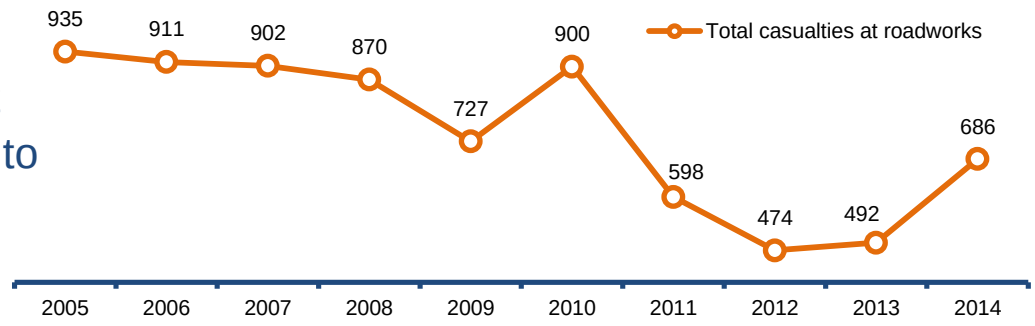


Figure 5-42 Historic trend in casualties at roadworks between 2005 and 2014

5.8.2 Comparison of casualties at roadworks against roads spending

A comparison between casualties occurring at roadworks against capital and current expenditure on national roads[18] is highlighted in Figure 5-43 for May 2006 to April 2014[19].

From the figure it can be seen that since May 2009, the number of casualties occurring in roadworks follows closely the amount of capital and current expenditure on national roads as would typically be expected.

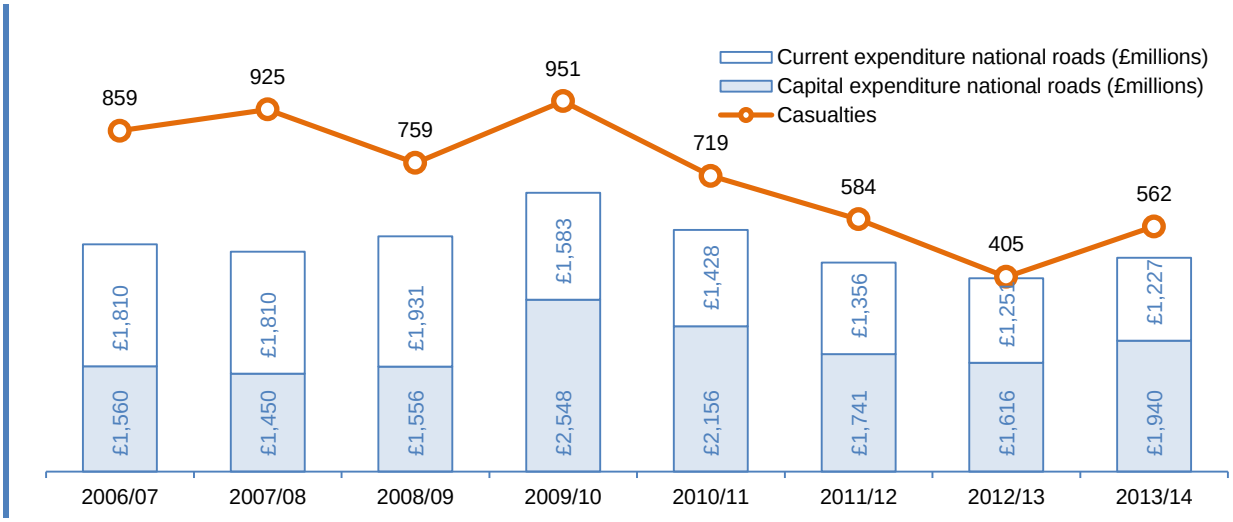


Figure 5-43 Historic casualties at roadworks against expenditure on national roads (£millions) between 2006/07 to 2013/14

It is anticipated the spending profile on construction activities will continue to increase over the next four years as a number of smart motorway schemes and other major projects commence construction. Therefore, casualties resulting from collisions within roadworks could also continue to increase as seen in the financial year 2013/14.

5.8.3 Contributory factors in collisions at roadworks

The top 10 contributory factors involved in collisions in roadworks during 2014 are listed in Table 5-46**.** The figure highlights the number of collisions where a specific factor is reported at least once. In 2014, the most common factor reported was “Failed to look properly”, which was reported in 169 collisions.

[18] For this report, annual values of capital and current expenditure on “national roads” is used as an approximation of overall national roadworks activity on major routes of which the SRN is assumed to constitute the vast majority. Values obtained from Table TSGB1303 “UK Public Expenditure on Transport by function”, sourced from DfT, 2014.

[19] Values based on end of financial year therefore casualty data year adjusted to start in May and finish in April the following year.

Out of the top 10 contributory factors for collisions at roadworks, 3 were not listed in the top 10 contributory factors reported for collisions on the SRN overall:

- Following too close
- Temporary road layout (e.g. contraflow)
- Vehicle blind spot

The remaining factors are all in the top 10 factors reported for collisions on the SRN overall.

Table 5-46 Top 10 contributory factors for collisions at roadworks, 2014

No.	Contributory factor		2014	Percentage of collisions at roadworks, 2014
1	405	Failed to look properly	169	38.9%
2	406	Failed to judge other person's path or speed	142	32.7%
3	308	Following too close	66	15.2%
4	408	Sudden braking	48	11.1%
5	602	Careless, reckless or in a hurry	43	9.9%
6	107	Temporary road layout (e.g. contraflow)	43	9.9%
7	403	Poor turn or manoeuvre	36	8.3%
8	710	Vehicle blind spot	28	6.5%
9	410	Loss of control	25	5.8%
10	307	Travelling too fast for conditions	21	4.8%

Key (CF groups):
Driver/Rider error or reaction; Injudicious action; Behaviour or inexperience; Road environment; Vision effected by

Notes:
(a) Table reports the number of collisions at roadworks where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 434 collisions at roadworks.

Figure 5-44 displays the number of collisions involving either excess speed or tailgating between 2005 and 2014. These contributory factors are more specifically reported as "Exceeding speed limit", "Travelling too fast for conditions" and "Following too close". The figure shows that the post 2010 values are significantly better than the pre-2010 values. However, the figure shows there was an increase of 11 collisions between 2013 and 2014.

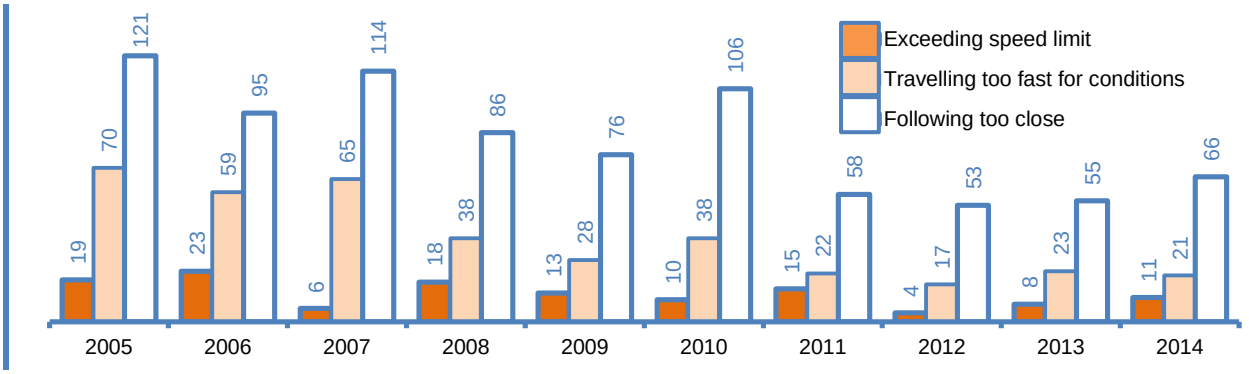


Figure 5-44 Historic collisions at roadworks involving excess speed and tailgating by year

5.9 Objects Hit On and Off the Carriageway

An assessment of collisions and casualties resulting from hitting objects on and off the carriageway is included in this section. Appendix O**,** Table O-1 to Table O-6 provide breakdowns of collisions and casualties involving objects hit on and off carriageways by objects hit, road classification, contributory factors and severity.

Object hit on carriageway

129 KSI casualties from objects hit on carriageway

10.3 per cent from 2013 (117)

Object hit off carriageway

584 KSI casualties from objects hit off carriageway

3.5 per cent from 2013 (564)

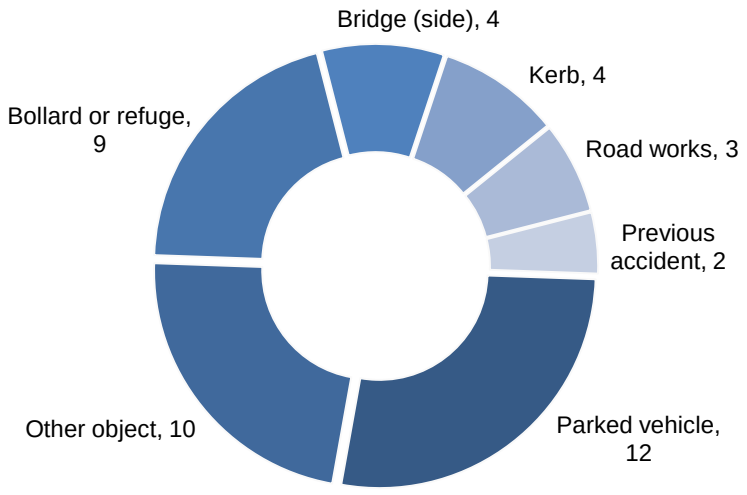
5.9.1 Casualties resulting from hitting objects on carriageway

Figure 5-45 highlights the number of KSI casualties resulting from hitting objects on the carriageway by road classification. As shown in the figure, the number of KSI casualties has decreased on motorways and A-road single carriageways. However the number of KSI casualties on A-road dual carriageways has increased by 29.8 per cent from 57 in 2013 to 74 in 2014. Of note, the object hit on carriageway for motorways which resulted in the most KSI casualties was parked vehicles; this could be the result of vehicles driving in to the back of stationary traffic in queues, slips etc. For historic data between 2005 and 2014, refer to Appendix O Table O-1.

Motorways

44 KSI casualties from objects hit on carriageway

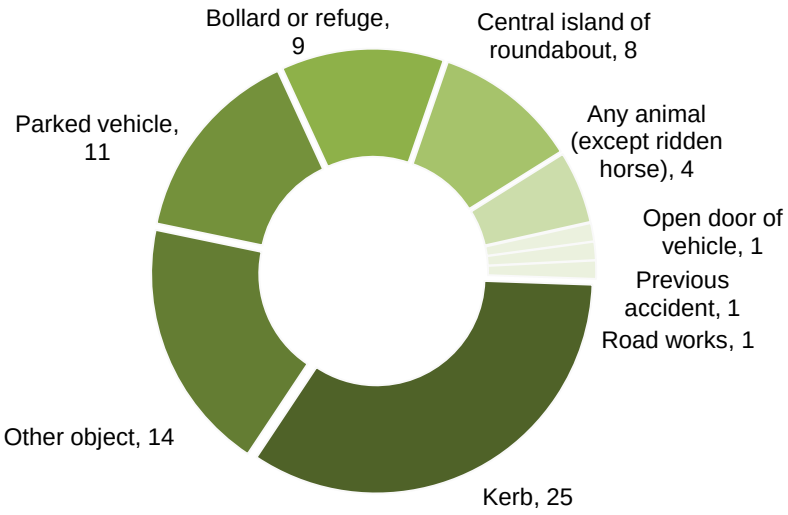
2.2 per cent from 2013 (45)



A-road Dual

74 KSI casualties from objects hit on carriageway

29.8 per cent from 2013 (57)



A-road Single

11 KSI casualties from objects hit on carriageway

26.7 per cent from 2013 (15)

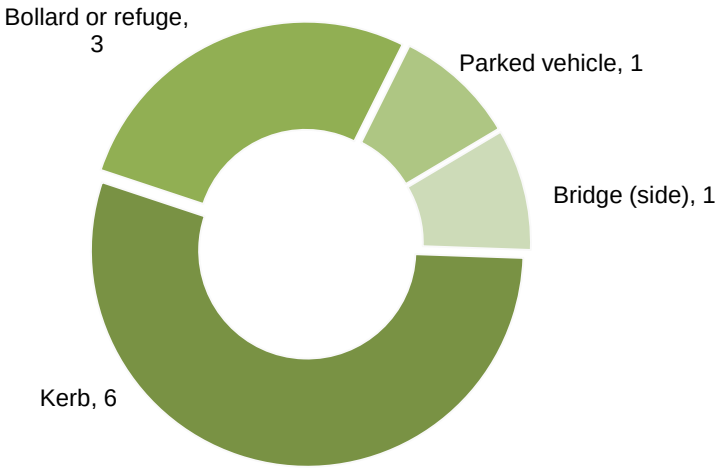


Figure 5-45 Number of KSI casualties resulting from hitting objects on the carriageway by road class, 2014

Assessing the contributory factors involved in collisions where vehicles have hit objects on the carriageway shows that the top 5 factors by number of collisions in 2014 are:

- Loss of control
- Failed to look properly
- Poor turn or manoeuvre
- Careless, reckless or in a hurry
- Failed to judge the other person's path or speed

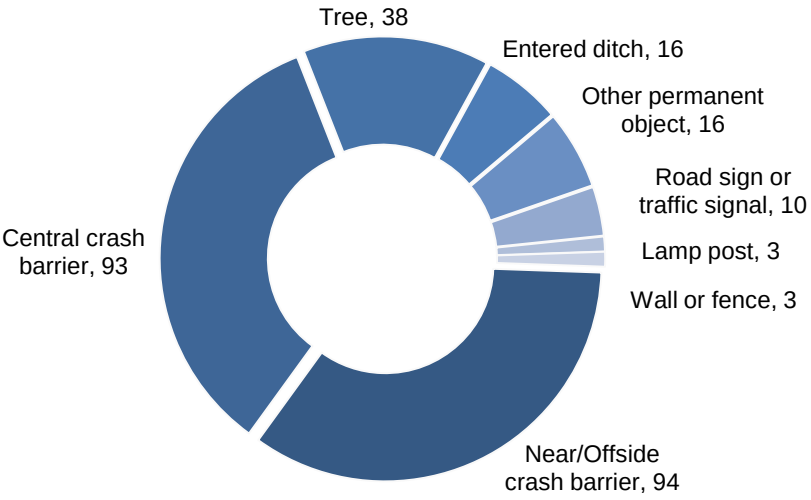
Historic data between 2005 and 2014 listing the top 20 contributory factors attributed to collisions are available in Appendix O Table O-5.

5.9.2 Casualties resulting from hitting objects off carriageway

Motorways

273 KSI casualties from objects hit off carriageway

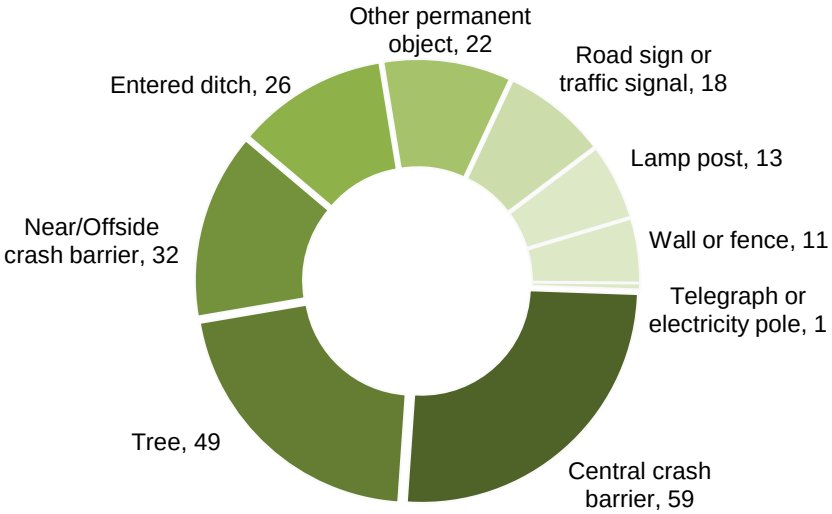
↓ 6.8 per cent from 2013 (293)



A-road Dual

231 KSI casualties from objects hit off carriageway

↑ 10.0 per cent from 2013 (210)



A-road Single

80 KSI casualties from objects hit off carriageway

↑ 31.1 per cent from 2013 (61)

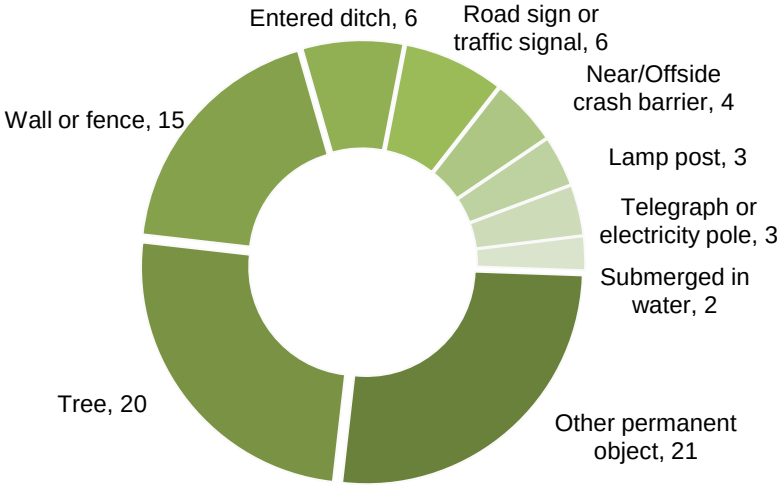


Figure 5-46 Number of KSI casualties resulting from hitting objects off the carriageway by road class, 2014

Figure 5-46 highlights the number of KSI casualties resulting from hitting objects off the carriageway.

The figure shows that safety barriers are involved in a high number of KSI casualties, especially for motorways and A-road dual carriageways. In 2014, the number of KSI casualties resulting from hitting objects off carriageway (584) was nearly one third (31.5 per cent) compared to total KSI casualties (1,853). For historic data between 2005 and 2014, refer to Appendix O Table O-3.

Assessing the contributory factors involved in collisions where vehicles have hit objects off the carriageway shows that the top 5 factors by number of collisions in 2014 are:

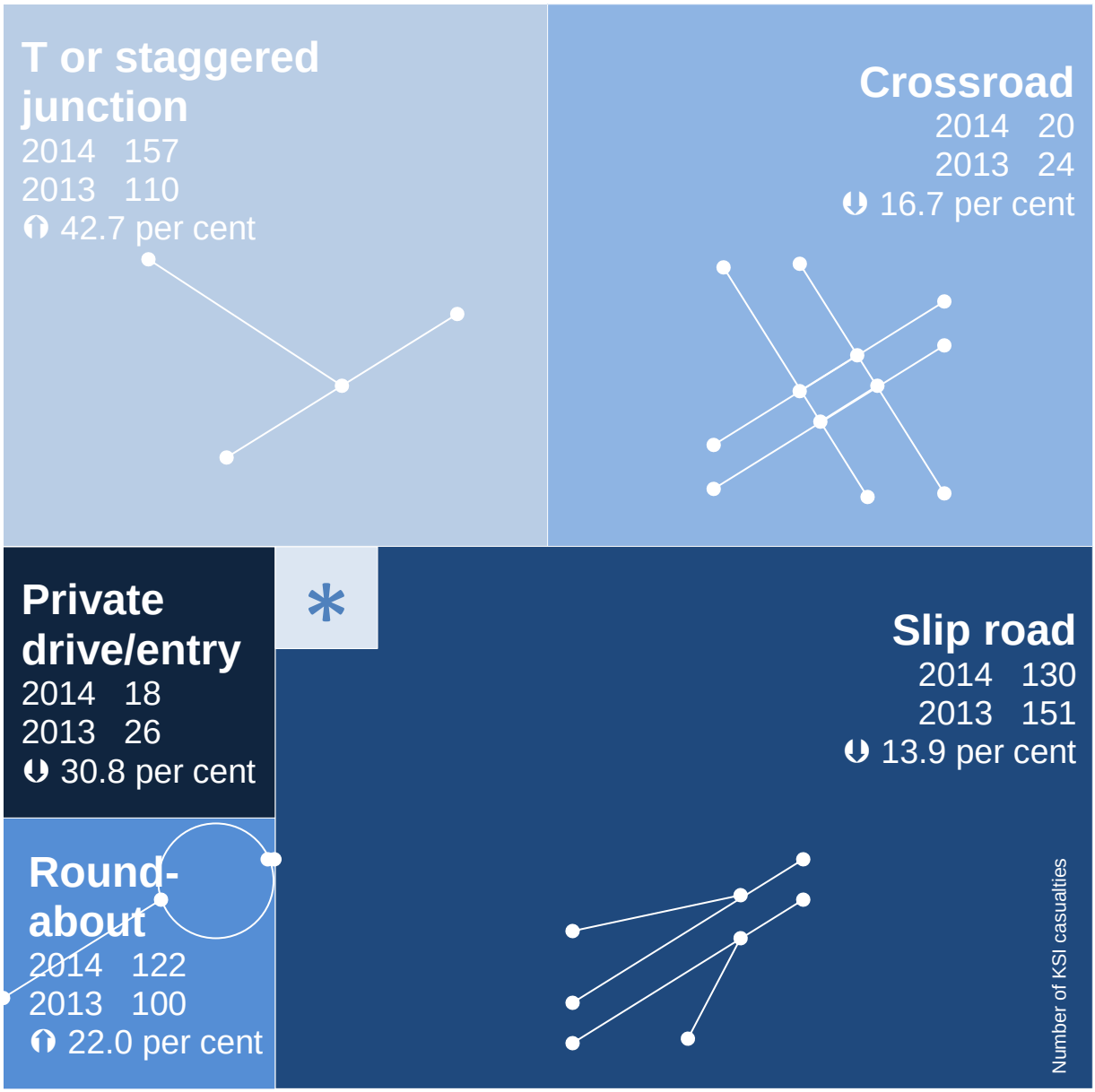
- Loss of control
- Failed to look properly
- Slippery road (due to weather)
- Failed to judge other person's path or speed
- Swerved

Historic data between 2005 and 2014 listing the top 20 contributory factors attributed to collisions are available in Appendix O Table O-6.

5.10 Junctions

This section focuses on collisions and casualties occurring at or in the proximity of junctions. For additional statistics on junctions refer to Table P-1 to Table P-7 in Appendix P which provide breakdowns of collisions and casualties by junction detail, junction control, road name, road classification, vehicle type, driver age, contributory factors and severity.

5.10.1 KSI casualties by junction detail



Notes:
(a) * denotes "junction - more than 4 arms (not roundabout)" – 2013 (3), 2014 (2).
(b) figure reports the number of KSI casualties

Figure 5-47 Number of KSI casualties by junction detail between 2013 and 2014

From Figure 5-47 it can be observed that the number of casualties occurring on roundabouts and T or staggered junctions have increased by 22.0 and 42.7 per cent respectively since 2013. For additional historic data refer to Appendix P Table P-3.

5.10.2 Motorway collision proximity to slip road junctions

This subsection investigates the influence of collision proximity to motorway slip road junctions on the SRN in 2014. Currently only collisions that are within 20 metres of a junction are recorded as “at a junction” and this covers all types of junctions and road classes. However it is anticipated that the sphere of influence of motorway slip roads on collisions could be much larger in distance than 20 metres due to higher speeds and hence could be underestimated in current statistics.

The analysis involved calculating each collision’s distance from its position to a specific point defining the position of the closest associated junction. Each junction was designated as either a merge point (where an on-slip joins the main carriageway) or a diverge point (where an off-slip splits from the main carriageway). Both types are illustrated in Figure 5-48. Note: distance is expressed as chainage in kilometres (refer to note 20 for definition).

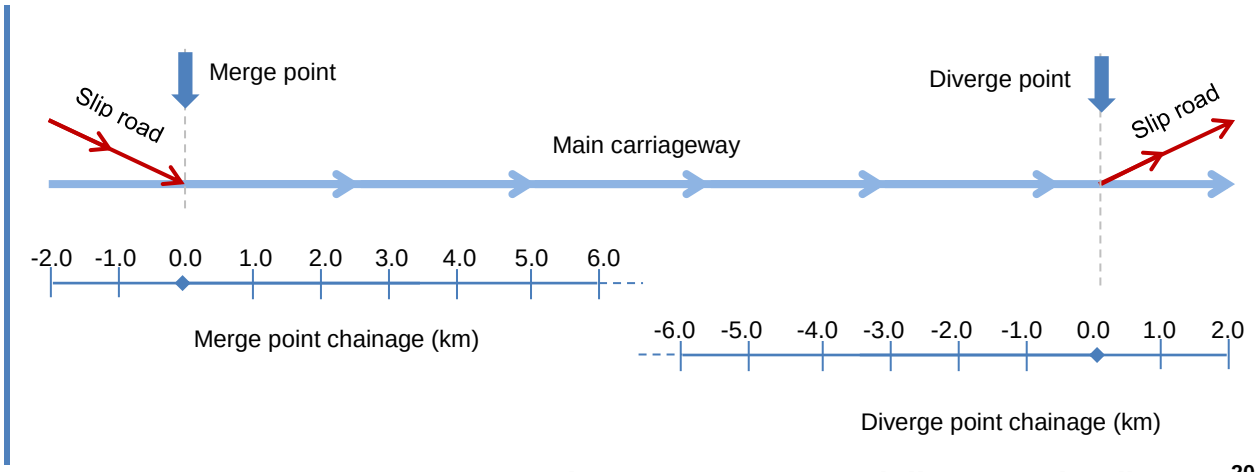


Figure 5-48 Merge and diverge point diagram[20]

The analysis includes collisions that occurred on main carriageway or slip road sections of motorways in 2014, however excludes collisions occurring at complex interchanges, for example the famous ‘spaghetti junction’. As a result the number of collisions in the sample being analysed totalled 2,404 (48.7 per cent of all motorway collisions). With regards to junction point type, 1,057 were associated with merge points and 1,347 were associated with diverge points.

[20] Chainage is the distance (in kilometres) between any two points along the road and is typically measured along the centre line of the road. This measure accounts for the curvature of the road.

Figure 5-49 shows the distribution by percentage of sampled motorway collisions from their respective merge points (at 0.0km) combined into a single figure. It can be seen from Figure 5-49 that the frequency of collisions increases from approximately 1.0km before a merge point and peaks directly after between the merge point and 0.5km.

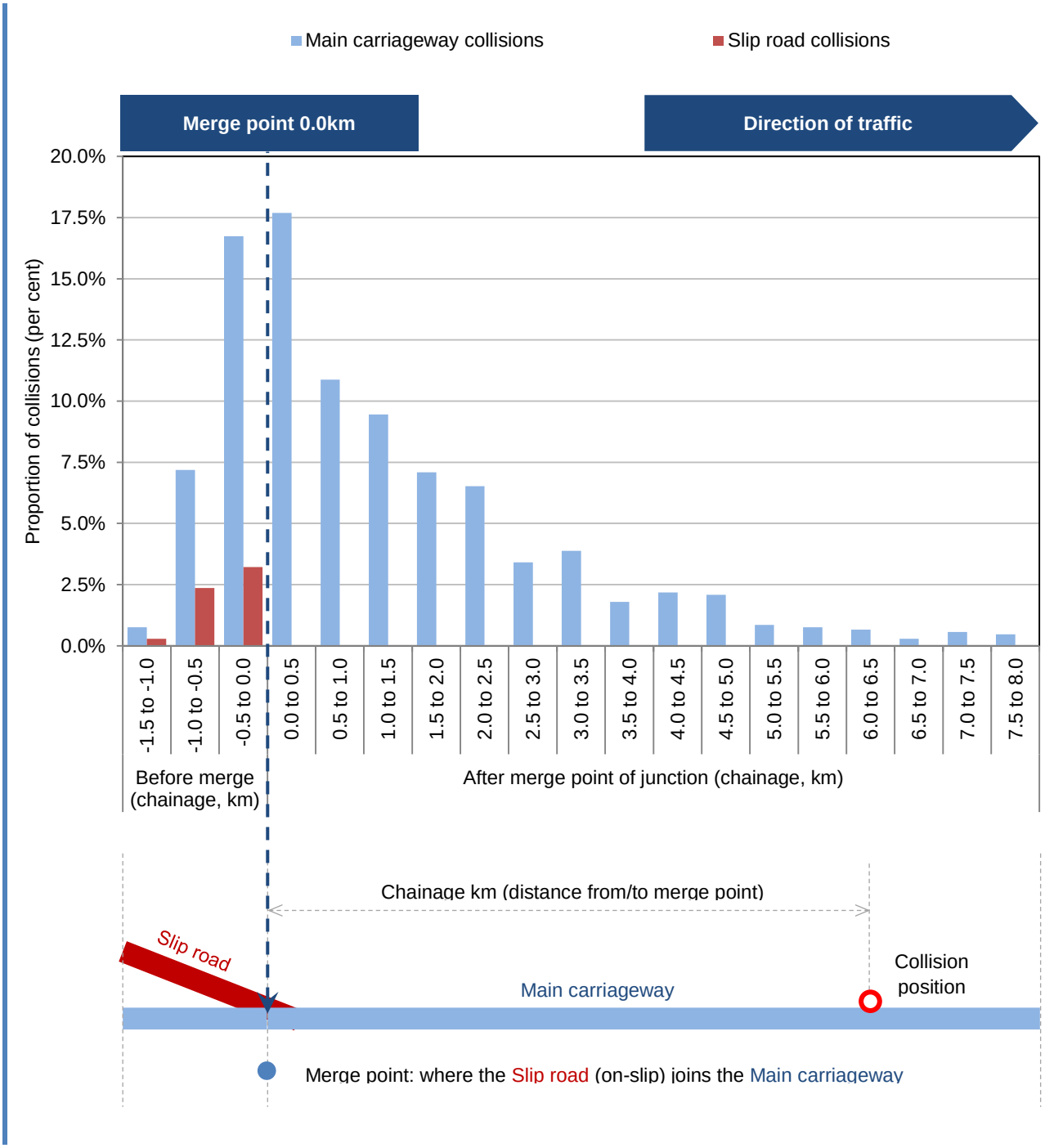


Figure 5-49 Combined distribution of collisions from respective merge points

Assessment of the whole distribution reveals that the frequency of collisions remains high until approximately 3.0km after the merge point; with 84.6 per cent of collisions associated with merge points occurring between -1.0km and 3.0km.

Directly before (-0.5km to 0.0km) and after (0.0km to 0.5km) the merge point there appears to be a significant influence from slip road junctions with 16.7 per cent and 17.7 per cent of the sampled collisions occurring on main carriageways respectively including 3.2 per cent occurring on the slip road. In this area, only 18.6 per cent of the 398 sampled collisions were actually recorded with a junction type suggesting that there is a potential shortfall in the number of collisions reported affected by merging slip road junctions.

The frequency of the combined collisions occurring between 3km to 6km from merge points in 2014 was equivalent to 20 collisions per 0.5km section. If sections of motorway between -1.0km and 3.0km from the merge point were to be improved to the same combined rate, based on the sample collisions alone this would result in an estimated saving of 691 collisions and 131 KSI casualties in the vicinity of slip road merge points.

It can be seen from Table 5-47 that the majority of the top 10 contributory factors for casualties that occur between -1.0km and 3.0km of a merge point are from the "Driver/Rider error or reaction" grouping. It can also be seen that "Following too close" and "Travelling too fast for conditions" were associated with 15.0 per cent and 6.8 per cent of casualties in the sample that occurred between -1.0km and 3.0km of a merge point respectively.

Table 5-47 Top 10 contributory factors for casualties associated with collisions within -1.0km and 3.0km of a junction merge point

No.	Contributory factor		2014	Percentage of casualties between -1.0km and 3.0km, 2014
1	406	Failed to judge other person's path or speed	472	32.3%
2	405	Failed to look properly	445	30.4%
3	410	Loss of control	292	20.0%
4	308	Following too close	220	15.0%
5	408	Sudden braking	202	13.8%
6	403	Poor turn or manoeuvre	148	10.1%
7	602	Careless, reckless or in a hurry	122	8.3%
8	409	Swerved	117	8.0%
9	103	Slippery road (due to weather)	102	7.0%
10	307	Travelling too fast for conditions	99	6.8%

Key (CF groups):
Driver/Rider error or reaction
Injudicious action
Road environment
Behaviour or inexperience

Notes:
(a) Table reports the number of casualties associated with merge points with a chainage between -1.0km and 3.0km where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 1,462 casualties associated with merge points with a chainage between -1.0km and 3.0km.

Similarly, Figure 5-50 shows the distribution by percentage of sampled motorway collisions from their respective diverge points (at 0.0km) combined into a single figure. Figure 5-50 shows that the frequency of collisions increases from approximately 3.0km before a diverge point and peaks significantly (20.0 per cent of sample collisions) between 0.5km before the diverge point and the diverge point itself. The frequency of collisions remains high until approximately 1.0km after the diverge point; with 87.7 per cent of collisions associated with diverge points occurring between -3.0km and 1.0km.

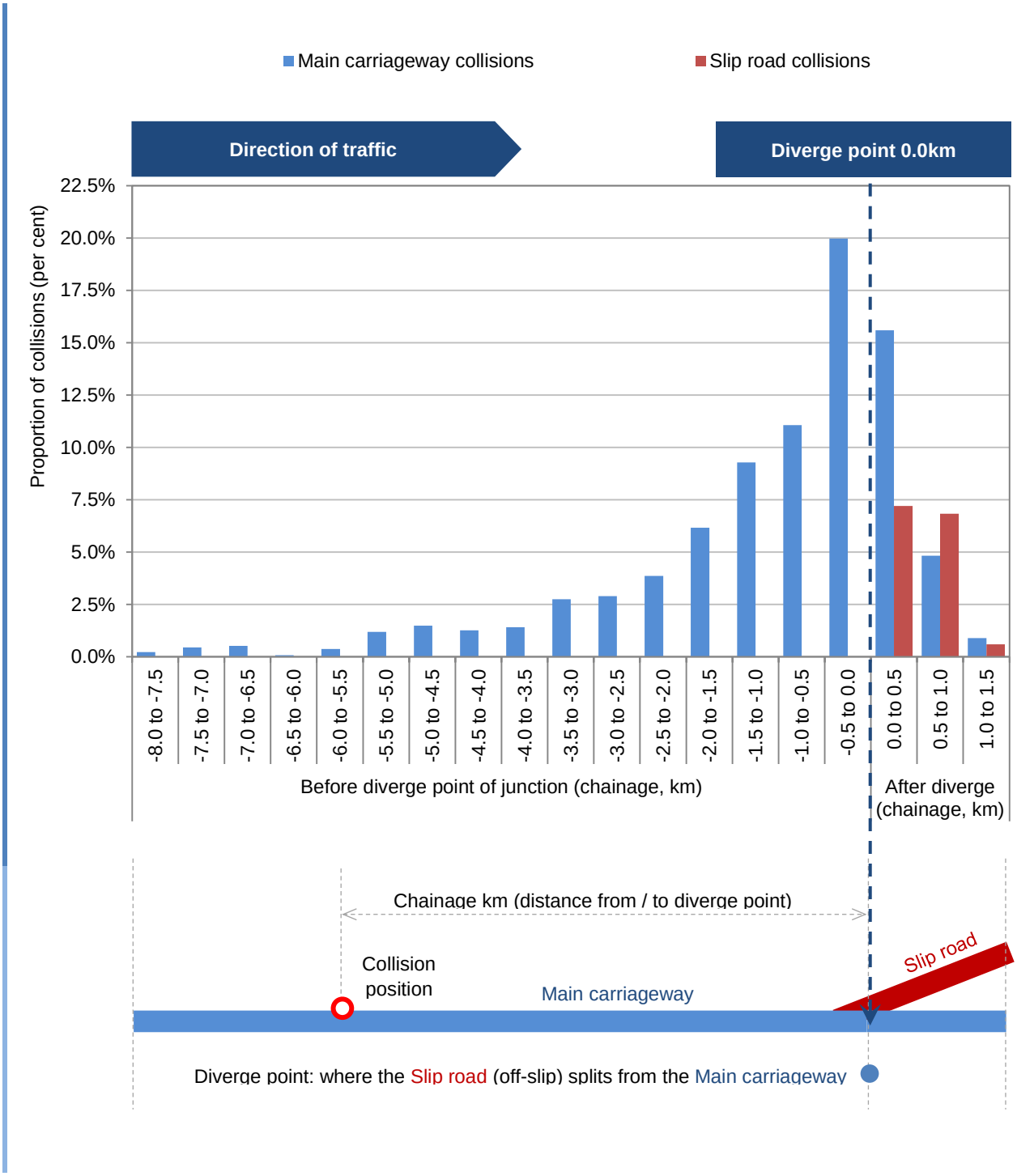


Figure 5-50 Combined distribution of collisions from respective diverge points

Between -0.5km and 0.5km from the diverge point, only 21.2 per cent of collisions have a recorded junction type which again suggests underestimation of the impact of slip road diverge points on motorway collisions.

The frequency of the combined collisions occurring between -6.0km to -3.0km from diverge points in 2014 was equivalent to 19 collisions per 0.5km section. If sections of motorway between -3.0km and 1.0km from the diverge point were to be improved to the same combined rate, based on the sample collisions alone this would result in an estimated saving of 997 collisions and 111 KSI casualties in the vicinity of slip road diverge points.

Table 5-48 shows the top contributory factors for casualties associated with diverge points that have a chainage between -3.0km and 1.0km. It can be seen from the table that 5 out of the top 10 are from the “Driver/Rider error or reaction” grouping. It can also be seen that “Following too close”, “Travelling too fast for conditions” and “Fatigue” were associated with 18.2 per cent, 6.8 per cent and, 6.7 per cent of casualties in the sample respectively.

Table 5-48 Top 10 contributory factors for casualties associated with collisions within -3.0km and 1.0km of a junction diverge point

No.	Contributory factor		2014	Percentage of casualties between -3.0km and 1.0km, 2014
1	405	Failed to look properly	662	33.1%
2	406	Failed to judge other person’s path or speed	605	30.2%
3	308	Following too close	365	18.2%
4	408	Sudden braking	277	13.8%
5	410	Loss of control	257	12.8%
6	602	Careless, reckless or in a hurry	193	9.6%
7	403	Poor turn or manoeuvre	147	7.3%
8	307	Travelling too fast for conditions	137	6.8%
9	503	Fatigue	135	6.7%
10	103	Slippery road (due to weather)	119	5.9%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience; Road environment

Notes:
(a) Table reports the number of casualties associated with diverge points with a chainage between -3.0km and 1.0km where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 2,002 casualties associated with diverge points with a chainage between -3.0km and 1.0km.

5.11 Tyres

The tyres section examines collisions and casualties where 'Tyre illegal, defective or under inflated' is listed as at least one of the contributory factors (also referred to as tyres in this section for ease). This indicates a lack of preparation or carelessness on the part of the driver or rider to ensure the roadworthiness of their vehicle, and therefore casualties associated with it as the main factor can be considered as preventable.

For additional statistics, Table Q-1 to Table Q-5 in Appendix Q provides the breakdown of collisions and casualties involving illegal, defective or under inflated tyres by road name, road surface condition, weather condition, casualty type, contributory factors and severity.

5.11.1 Casualties resulting from illegal, defective or under-inflated tyres

The number of total casualties resulting from tyres by year is reported in Figure 5-51. The number of reported casualties related to tyres has generally improved since 2010 with a reduction of 28.6 per cent from 374 to 267 in 2014.

267 Casualties involving tyres

↑ 18.7 per cent from 2013 (225)

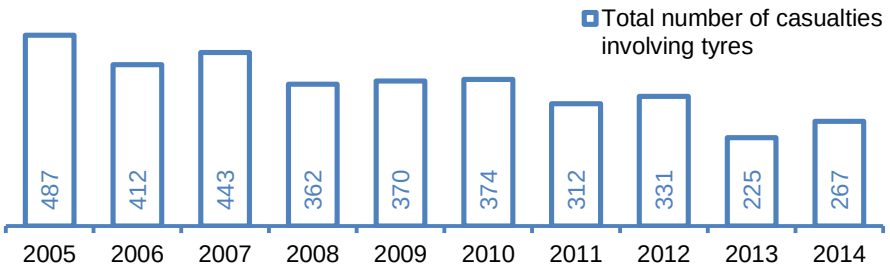


Figure 5-51 Historic casualties involving illegal, defective or under-inflated tyres by year

Figure 5-52 shows the number of KSI casualties related to tyres had been decreasing since 2011; however there has been an increase of 86.2 per cent from 2013 to 2014. This increase is roughly ten times the general increase in KSI casualties (8.4 per cent) seen across the network over the same period.

54 KSI casualties involving tyres

↑ 86.2 per cent from 2013 (29)

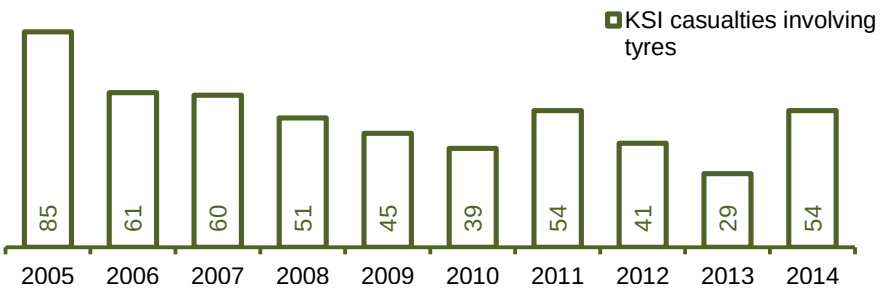


Figure 5-52 Historic KSI casualties involving illegal, defective or under-inflated tyres by year

5.12 Goods vehicles – HGVs and LGVs

This section considers the traffic and casualty statistics associated with goods vehicles. Heavy Goods Vehicles (HGVs) and Other Goods Vehicles (Other GVs or LGVs) rely heavily on the SRN to deliver goods to businesses in the UK and for export and import goods to and from foreign markets.

HGVs are classified and generally reported as goods vehicles where the vehicle gross weight is greater than 3.5 tonnes, whereas LGVs are those with the gross weight equal to or less than 3.5 tonnes. For the purposes of this report goods vehicles with unclassified gross weight are also classed under LGVs (or Other GVs).
Table R-1 to Table R-7 in Appendix R provides the breakdowns of collisions and casualties involving HGVs and LGVs by road name, casualty age, contributory factors and severity.

5.12.1 Changes in HGV and LGV traffic levels

Table 5-49 outlines the change in traffic levels of HGVs and LGVs by year. The table shows that in 2014, the amount of HGV traffic (91.00 HMVM) was significantly less than LGVs (121.73 HMVM). The difference between HGV and LGV traffic levels has more than doubled from 13.68 HMVM in 2010 to 30.73 HMVM in 2014.

Table 5-49 Estimated traffic levels for HGV and LGV (Other GV) on the SRN between 2010 and 2014

HGV

Estimated traffic (HMVM)

2.9 per cent from 2013 (88.40 to 91.00)

Year	HGV	LGV (other GV)	
2010	91.45	105.13	Estimated traffic (HMVM)
2011	89.33	108.80	
2012	87.38	112.04	
2013	88.40	116.40	
2014	91.00	121.73	

Furthermore, analysing the percentage changes from 2010 as presented in Figure 5-53 highlights that LGV traffic is growing steadily year on year at least since 2010. Assessing the index percentages in the figure shows that traffic levels for LGVs are increasing typically 3 to 5 index points per year respectively. In contrast, the level of HGV traffic has decreased between 2010 and 2012, but increased by 4 index points since to be almost in par with the 2010 level.

LGV (other GV) traffic

15.8 per cent since 2010 (105.13 to 121.73)

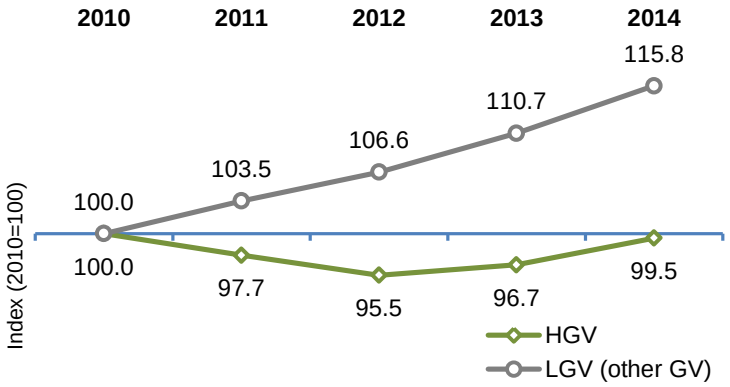


Figure 5-53 Index changes of estimated traffic levels for HGV and LGV (Other GV) on the SRN between 2010 and 2014

It was anticipated, that due to the mandatory Driver Certificate of Professional Competence (CPC)[21] which came into force in September 2014, the levels of HGV traffic would fall further however this was not evident. LGV traffic levels are expected to increase further and since LGVs can be driven by less experienced and less qualified drivers who do not require the CPC there is a road safety concern.

5.12.2 Comparison of casualties and casualty rates involving either HGVs or LGVs

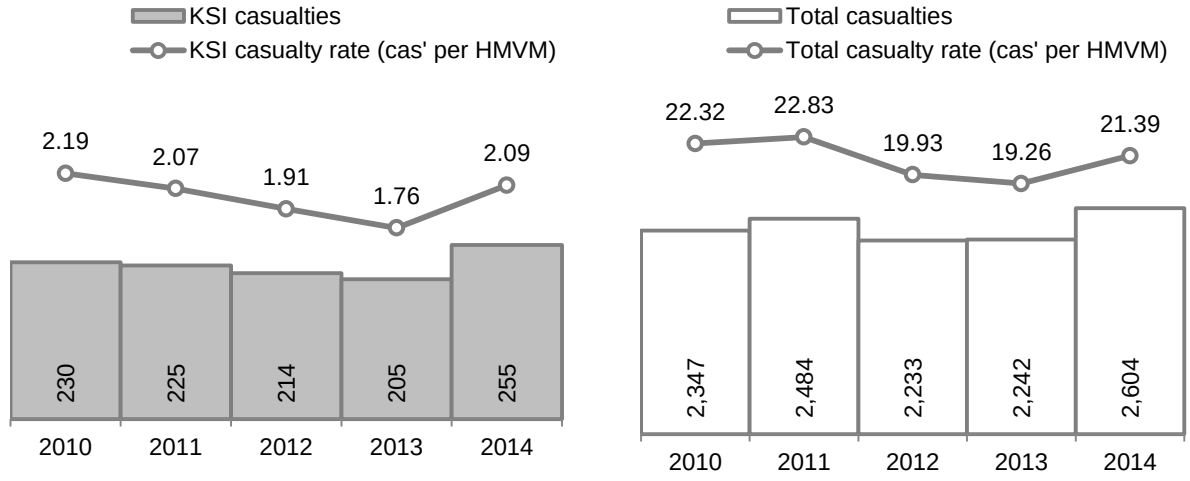
Comparison of casualties and casualty rates involving either LGVs or HGVs is provided in Figure 5-54 and Figure 5-55 respectively.

As shown by the figures, the likelihood of KSI or total casualties involving a HGV is greater than where the casualty involves a LGV. Comparing KSI casualty rates for 2014 shows that the KSI casualty rate for HGVs (4.41 KSI casualties per HMVM) is over 2 times that of the value for LGVs (2.09 KSI casualties per HMVM). For context, in 2014 the SRN KSI casualty rate was approximately 2.13 KSI casualties per HMVM and 19.32 casualties per HMVM for total casualties.

Based on evidence provided in the two figures, it appears that casualties associated with LGVs still require monitoring as they continue to increase. HGV casualty rates decreased from 2013 to 2014 however will be continued to be monitored for future trends.

Additional statistics on casualties involving either HGVs or LGVs by severity and year can be found in Table R-1 in Appendix R.

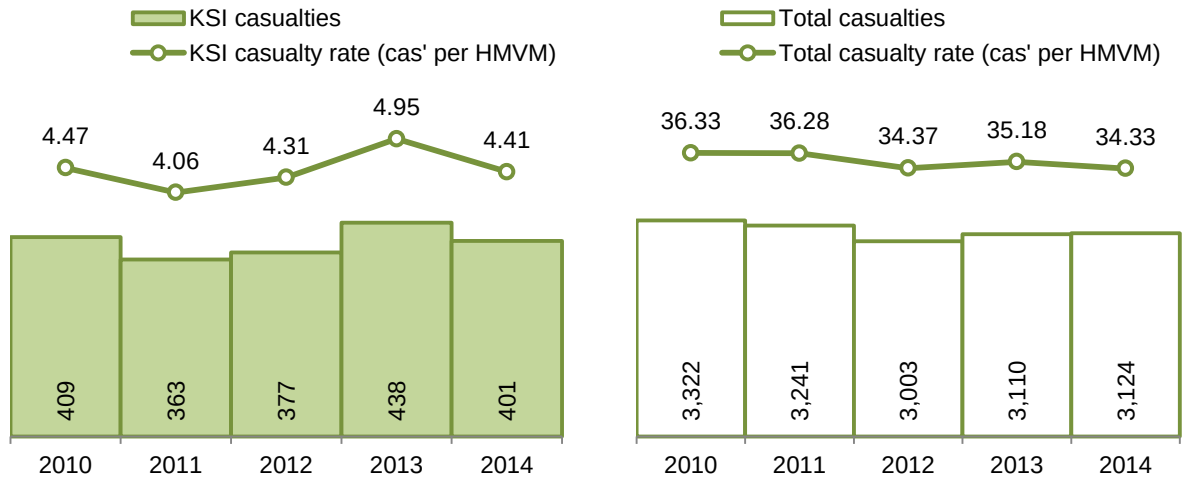
[21] https://www.gov.uk/driver-certificate-of-professional-competence-cpc/overview



(a) KSI casualties and KSI rate involving LGVs (b) Total casualties and total rate involving LGVs

Notes:
(a) Figure reports number of KSI and total casualties involving at least one LGV in a collision.
(b) Casualty rates based on traffic values provided in Table 5-49.

Figure 5-54 Number of KSI and total casualties involving at least one LGV between 2010 and 2014



(a) KSI casualties and KSI rate involving HGVs (b) Total casualties and total rate involving HGVs

Notes:
(a) Figure reports number of KSI and total casualties involving at least one HGV in a collision.
(b) Casualty rates based on traffic values provided in Table 5-49**.**

Figure 5-55 Number of KSI and total casualties involving at least one HGV between 2010 and 2014

5.12.3 HGV and LGV casualties by road classification and name

As seen in Figure 5-56 the number of KSI casualties involving at least one LGV increased over all road classifications from 2013 to 2014. The number of KSI casualties on A-road single carriageways has been increasing since 2010; the increase of 26.4 per cent from 53 in 2013 to 67 in 2014 continued to follow this trend.

101 KSI casualties involving LGVs on motorways

↑ 26.3 per cent from 2013 (80)

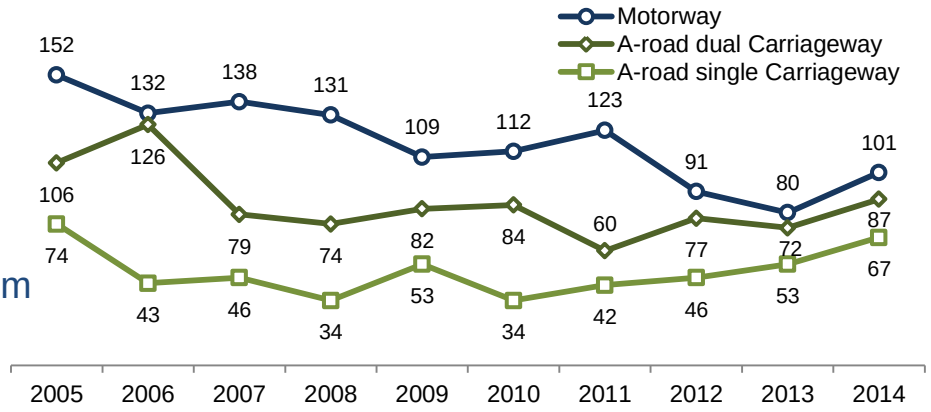


Figure 5-56 Number of KSI casualties involving at least one LGV

Figure 5-57 shows that the number of KSI casualties involving at least one HGV on A-roads steadily decreased between 2005 and 2011 since which it has seen a slight increase.

The number of KSI casualties on motorways has increased by 15.3 per cent since 2012 from 183 to 211); however the increase of 2.9 per cent from 205 in 2013 to 211 in 2014 is below the overall increase of 8.4 per cent in the total number of KSI casualties across the SRN in 2014.

118 KSI casualties involving HGVs on A-road dual carriageways

↓ 25.8 per cent from 2013 (159)

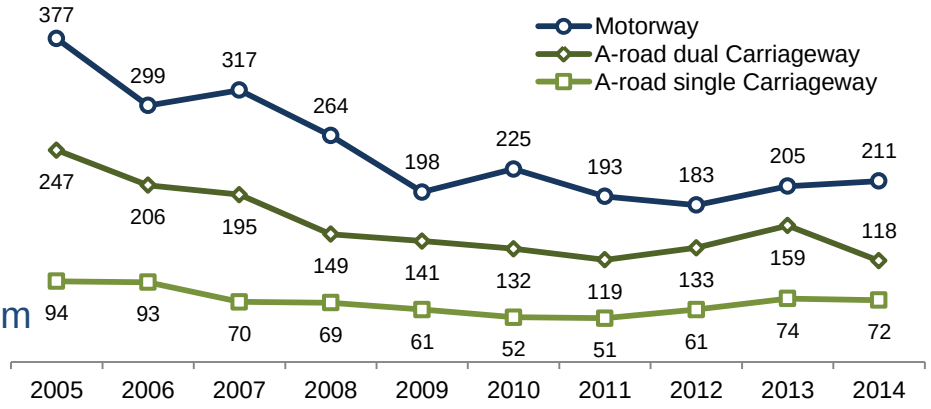


Figure 5-57 Number of KSI casualties involving at least one HGV

Table 5-50 shows the number of casualties involving LGVs by top 10 roads; the M6 had the most casualties in 2014 involving LGVs (232) up 47.8 per cent from 157 in 2013. In addition there were notable rises in casualties involving LGVs between 2013 and 2014 on the M25 (25.9 per cent), M62 (49.1 per cent) and M40 (61.7 per cent).

Casualties involving LGVs by top 20 road names can be found in Table R-2 in Appendix R.

Table 5-50 Casualties involving LGVs by top 10 roads

No.	Road name	LGV traffic (HMVM) 2014	2005-2009 BSL average	2010	2011	2012	2013	2014	2014 per cent change from 2013
1	M6	10.22	244.4	190	216	162	157	232	47.8
2	M25	9.07	192.2	155	202	185	143	180	25.9
3	M1	10.82	275.4	183	192	216	169	171	1.2
4	A1	4.13	149.8	101	107	79	90	106	17.8
5	M4	4.76	87.0	84	94	73	92	86	-6.5
6	M62	4.64	113.4	88	194	90	53	79	49.1
7	M40	3.34	64.8	49	47	34	47	76	61.7
8	A38	2.46	45.2	43	39	57	65	71	9.2
9	A5	1.53	49.6	53	71	52	63	64	1.6
10	A27	1.78	66.6	64	64	51	85	60	-29.4

Notes:
(a) Table reports the number of casualties involving at least one LGV.
(b) Ranked by 2014.

From Table 5-51 it can be seen that considerably more casualties involving HGVs happen on the M6, M1 and the M25 than any other road on the SRN. For each of these roads over 28.0 per cent of all casualties were in an accident involving a HGV, however on the entire SRN, only 18.6 per cent of casualties involved a HGV. The M25 has slightly more than half the HGV traffic of the M6 however a similar number of casualties involving HGVs occurred on the M25 to the M6.

Casualties involving HGVs by top 20 road names can be found in Table R-3 in Appendix R.

Table 5-51 Casualties involving HGVs by top 10 roads

No.	Road name	HGV traffic (HMVM) 2014	2005-2009 BSL average	2010	2011	2012	2013	2014	2014 per cent change from 2013
1	M6	11.53	468.6	382	323	321	334	337	0.9
2	M1	10.00	494.8	358	292	315	292	333	14.0
3	M25	6.52	522.4	351	377	331	376	322	-14.4
4	A1	3.90	205.0	146	151	118	152	112	-26.3
5	M62	4.89	151.2	170	110	117	103	112	8.7
6	M4	3.07	119.4	112	94	100	85	101	18.8
7	A14	3.60	174.6	144	118	98	86	98	14.0
8	M20	1.60	103.6	47	52	88	80	98	22.5
9	A5	0.84	70.2	61	56	64	56	76	35.7
10	A1(M)	4.15	90.0	78	71	67	66	75	13.6

Notes:
(a) Table reports the number of casualties involving at least one HGV.
(b) Ranked by 2014.

5.12.4 Contributory factors

From Table 5-52 we can see that the most common contributory factor that was assigned to LGV drivers was “failed to look properly”. Of note, for the 2,604 casualties where a LGV was involved 12.1 per cent of the LGV drivers were recorded as “following to close”.

The top 10 contributory factors for casualties involving LGVs can be found in Table R-6 in Appendix R.

Table 5-52 Top 10 contributory factors assigned to LGV drivers by casualties involved, 2014

No.		Contributory factor	2014	Percentage of casualties involving LGVs, 2014
1	405	Failed to look properly	570	21.9%
2	406	Failed to judge other person’s path or speed	543	17.4%
3	308	Following too close	316	10.1%
4	408	Sudden braking	192	6.1%
5	602	Careless, reckless or in a hurry	146	4.7%
6	307	Travelling too fast for conditions	139	4.4%
7	410	Loss of control	123	3.9%
8	503	Fatigue	118	3.8%
9	403	Poor turn or manoeuvre	107	3.4%
10	103	Slippery road (due to weather)	77	2.5%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience; Road environment

Notes:
(a) Table reports the number of casualties where the specified contributory factor was recorded against at least one LGV driver.
(b) In 2014, there were a total of 2,604 casualties involving at least one LGV.

The contributory factor “vehicle blind spot” which is in the “vision affected by” group was in the top three contributory factors assigned to HGV drivers in 2014 as seen in Table 5-53. “Failed to look properly” was assigned to 33.1 per cent of HGV drivers in 2014.

The top 10 contributory factors for casualties involving HGVs can be found in Table R-7 in Appendix R.

Table 5-53 Top 10 contributory factors assigned to HGV drivers by casualties involved, 2014

No.	Contributory factor		2014	Percentage of casualties involving HGVs, 2014
1	405	Failed to look properly	1,033	33.1%
2	406	Failed to judge other person’s path or speed	640	20.5%
3	710	Vehicle blind spot	316	10.1%
4	403	Poor turn or manoeuvre	289	9.3%
5	308	Following too close	266	8.5%
6	602	Careless, reckless or in a hurry	183	5.9%
7	408	Sudden braking	133	4.3%
8	307	Travelling too fast for conditions	96	3.1%
9	410	Loss of control	93	3.0%
10	503	Fatigue	76	2.4%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience; Vision effected by

Notes:
(a) Table reports the number of casualties where the specified contributory factor was recorded against at least one HGV driver.
(b) In 2014, there were a total of 3,124 casualties involving at least one HGV.

5.13 Motorcycles (PTW)

This topic of interest analyses the number of motorcycle occupant casualties occurring on the SRN. For this topic of interest section only, the term “motorcycle” also refers to all powered two wheelers (PTWs) and is interchangeable.

For additional data, refer to Appendix S Tables S-1 to S-5.

In 2014, PTW occupants accounted for 14.2 per cent of all 211 fatalities and 18.6 per cent of all 1,853 KSI casualties on the SRN.

5.13.1 Casualties by severity

Figure 5-58 highlights the changes in PTW occupant fatalities and KSI casualties since 2005. From the figure it can be seen that in 2014, the number of fatalities has decreased whilst the number of KSI casualties has increased for PTWs from their respective values in 2013.

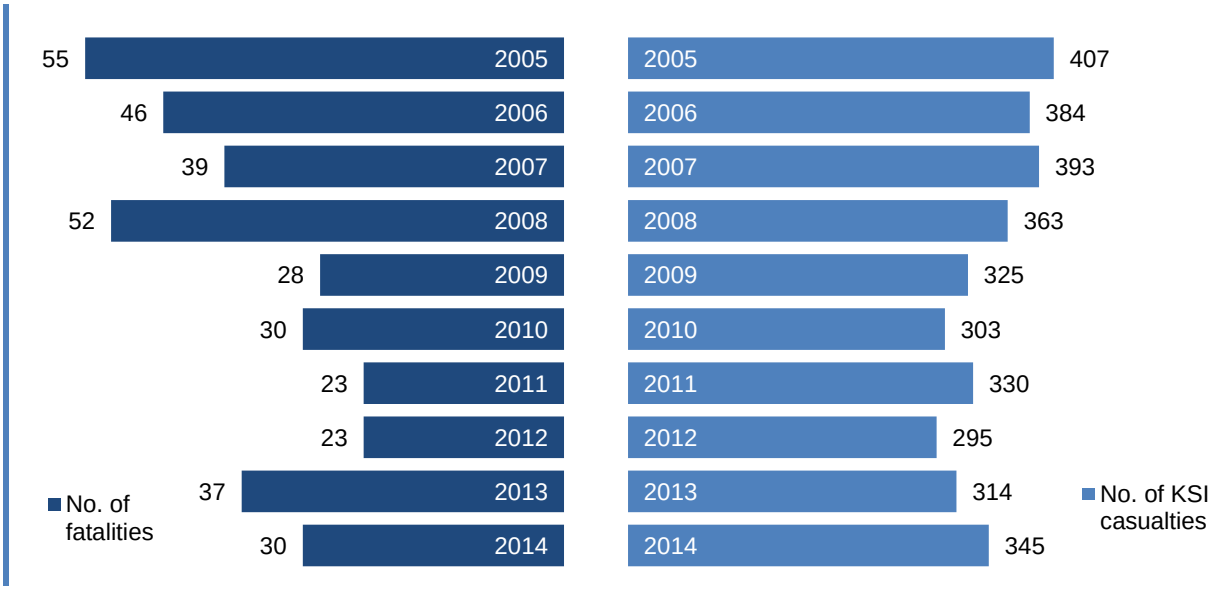


Figure 5-58 Historic number of PTW occupant fatalities and KSI casualties between 2005 and 2014

The PTW occupant casualties between 2013 and 2014 included:

- 18.9 per cent decrease in fatalities from 37 in 2013 to 30 in 2014
- 9.9 per cent increase in KSI casualties from 314 in 2013 to 345 in 2014

Assessing the historic trends in the above figure shows that the number of PTW occupant fatalities and KSI casualties, although on a downward trend overall, is volatile in nature.

5.13.2 Casualties by road classification and name

The road classifications most affected by the increases in fatalities involving PTWs between 2013 and 2014 included non-built-up A-road single carriageways and non-built-up A-road dual carriageways. These two road classifications are highlighted in Figure 5-59.

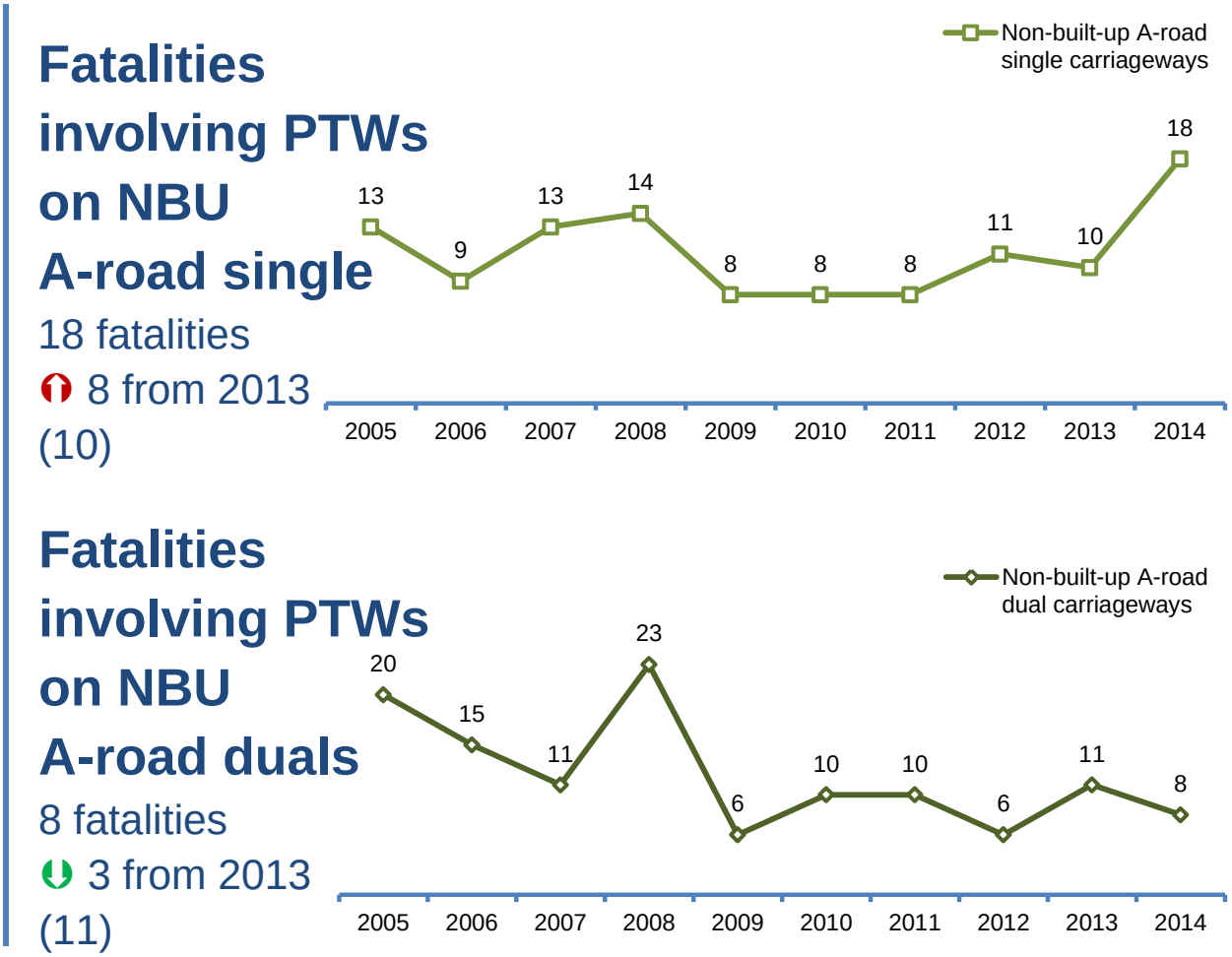


Figure 5-59 Historic number of fatalities involving PTWs on non-built-up A-road dual and single carriageways 2005 and 2014

As shown by Figure 5-59, the number of fatalities involving PTWs on non-built-up A-road single carriageways increased by 80.0 per cent to 18 fatalities in 2014 from 10 in 2013. However, the number of fatalities involving PTWs on non-built-up A-road dual carriageways decreased by 27.3 per cent to 8 in 2014 from 11 in 2013.

The number of total casualties involving PTWs occurring on non-built-up A-road dual carriageways decreased by 7.1 per cent from 451 in 2013 to 419 in 2014 (Appendix S, Table S-4). As shown in Appendix S Table S-1, the number of fatalities involving PTWs was equivalent to 33 in 2014, highlighting that 90.9 per cent of fatalities in these collisions were PTW occupants.

165 KSI casualties involving PTWs on A-road dual carriageways

17.0 per cent from 2013 (141)

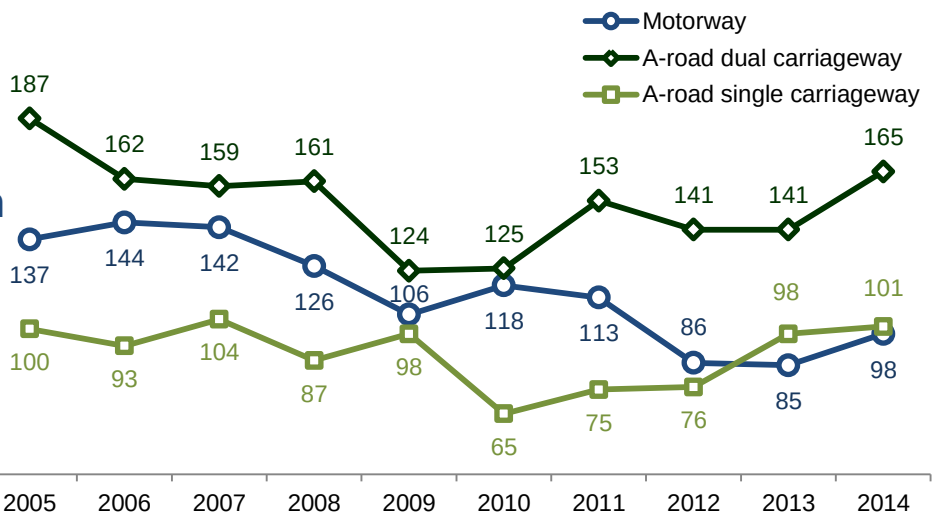


Figure 5-60 KSI casualties involving PTWs by road class and year

Figure 5-60 shows the number of KSI casualties involving PTWs by road classification. As seen in the figure there was an increase of 17.0 per cent in the number of KSI casualties involving PTWs on A-road dual carriageways. This is due to an increase in the number of seriously injured casualties seen throughout the SRN in 2014.

Table 5-54 Casualties involving PTWs by top 10 roads

No.	Road name	PTW traffic (HMVM) 2014	2005-09 BSL average	2010	2011	2012	2013	2014	2014 per cent change from 2013
1	A5	0.07	57.2	53	63	44	54	60	11.1
2	A27	0.10	44.0	38	46	28	51	54	5.9
3	M25	0.26	68.6	62	73	45	35	52	48.6
4	A38	0.11	33.6	27	35	45	30	38	26.7
5	M1	0.21	54.2	49	21	24	23	38	65.2
6	A2	0.08	21.8	18	21	23	24	34	41.7
7	A1	0.12	42.2	29	29	27	28	30	7.1
8	A12	0.08	33.6	23	27	14	21	26	23.8
9	A47	0.05	30.2	25	28	28	33	25	-24.2
10	A46	0.07	31.4	22	21	24	18	24	33.3

Notes: (a) Table reports the number of casualties involving at least one PTW.
(b) Ranked by 2014.

Table 5-54 lists casualties involving PTWs by top ten roads, it can be seen that whilst the A27 has less than half the PTW traffic of the M25, the two roads almost have a similar amount of casualties in 2014. The same is true when considering A38 and M1.

5.13.3 Collisions by rider age

From Figure 5-61 it can be seen that the number of PTW riders involved in collisions in 2014 aged between 30 and 45 is generally higher than that of the 2005 – 2009 baseline average. This is followed by those aged between 45 and 62 being below the respective baseline.

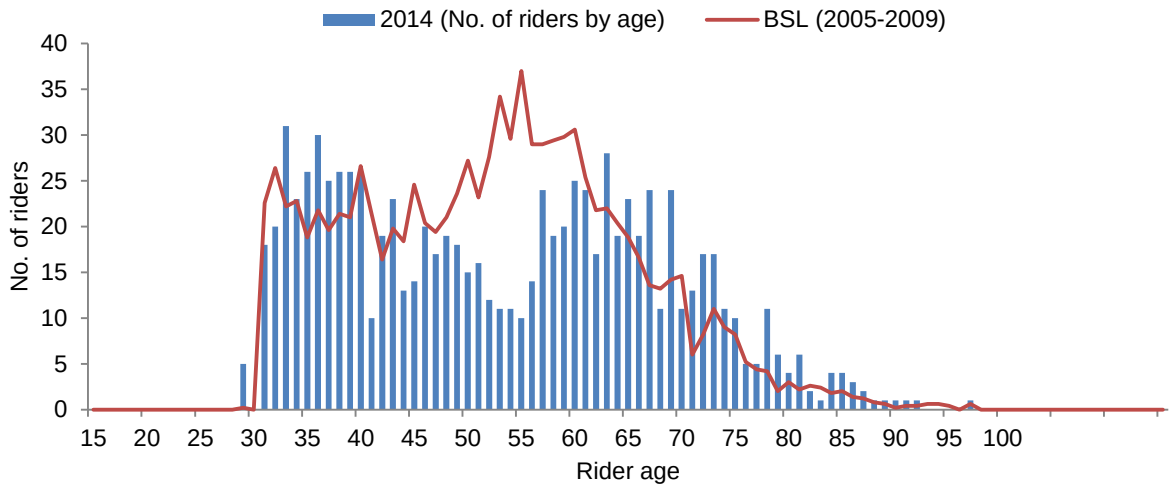
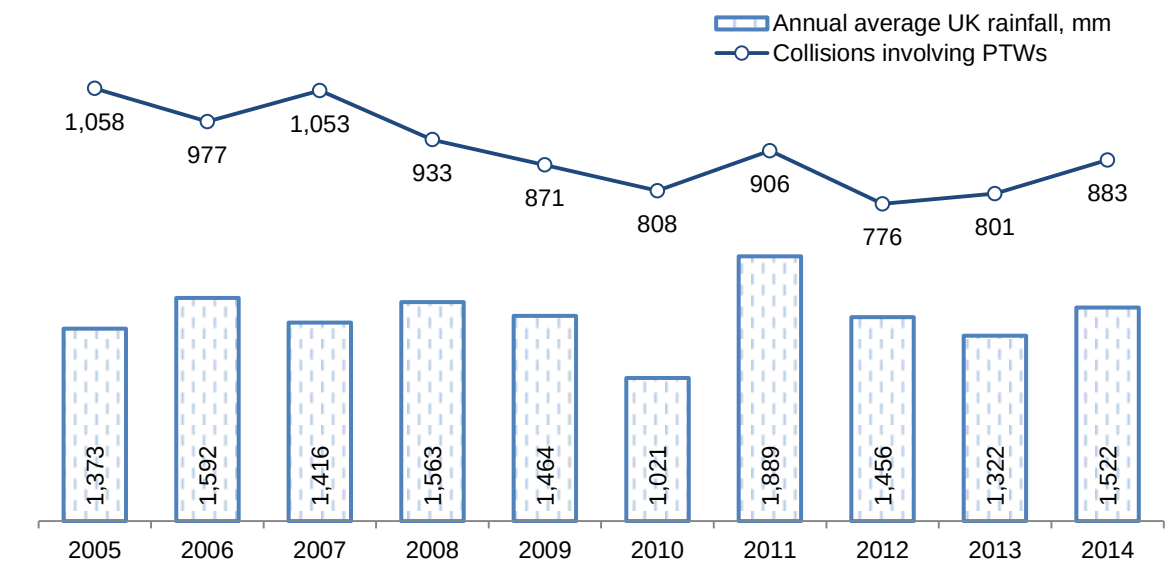


Figure 5-61 Number of PTW riders involved in collisions by age

5.13.4 Collisions involving rainfall

Figure 5-62 illustrates the incidence collisions involving PTWs during rainfall against annual average UK rainfall, in mm, between 2005 and 2014. The figure shows there is partial correlation between the two parameters and is most evident between 2010 and 2014.



Annual average rainfall sourced from DECC Energy Trends Statistics. Accessed from https://www.gov.uk/government/statistics/energy-trends-section-7-weather

Figure 5-62 Collisions involving PTWs against annual average UK rainfall between 2005 and 2014

5.13.5 Casualties by contributory factor involved

Table 5-55 highlights the number of casualties involving the top 10 contributory factors attributed directly to riders in 2014. This table differs slightly to that of Appendix S Table S-5**,** as Table 5-55 also includes the percentage of casualties from collisions which involved at least one PTW for which the relevant contributory factor was recorded.

As shown by the table below, the most common factor directly attributed to riders in 2014 was “Failed to judge other person’s path or speed”. This factor was connected with 170 casualties which was 16.2 per cent of casualties that involved at least one PTW in 2014. The table also shows that factors that are classified as rider error found within Appendix F Table F-1i are the most prevalent type. The eighth most common factor was rider inexperience, assigned to riders in 53 casualties involving a PTW.

Table 5-55 Top 10 contributory factors assigned to PTWs, 2014

No.	Contributory factor		2014	Percentage of casualties involving PTWs, 2014
1	406	Failed to judge other person’s path or speed	170	16.2%
2	410	Loss of control	152	14.5%
3	405	Failed to look properly	151	14.4%
4	403	Poor turn or manoeuvre	103	9.8%
5	408	Sudden braking	81	7.7%
6	308	Following too close	65	6.2%
7	103	Slippery road (due to weather)	64	6.1%
8	605	Learner or inexperienced driver/rider	53	5.0%
9	307	Travelling too fast for conditions	53	5.0%
10	602	Careless, reckless or in a hurry	51	4.9%

Key (CF groups):
Driver/Rider error or reaction | Injudicious action | Behaviour or inexperience | Road environment

Notes:
(a) Table reports the number of casualties involving at least one PTW where the specified contributory factor was assigned to at least one PTW.
(b) In 2014, there were a total of 1,050 casualties involving at least one PTW.

5.14 Hardshoulders and Lay-bys

This section provides collision and resulting casualty information involving motorway hardshoulders and A-road lay-bys.

Appendix T, Table T-1 to Table T-5 provide further statistics relating to collisions and casualties involving hardshoulders and lay-bys by road name, road classification, casualty age, contributory factors and severity.

5.14.1 Comparison between motorway hardshoulders and A-road lay-bys

Table 5-56 below shows the total number of casualties directly located on either motorway hardshoulders or A-road lay-bys at point of impact by road classification and year.

Table 5-56 Number of casualties involved in either motorway hardshoulders or A-road lay-bys by vehicle location, road classification and year

Refuge type	Hardshoulder		Lay-by		Lay-by	
Road classification	Motorway		A-road dual carriageway		A-road single carriageway	
	On HS only	All involved	On LB only	All involved	On LB only	All involved
2005	88	218	33	149	4	33
2006	64	139	42	163	1	55
2007	86	184	38	145	5	50
2008	77	207	52	157	3	38
2009	86	176	30	114	8	35
2010	66	164	37	136	5	36
2011	85	165	34	134	7	49
2012	64	112	25	102	2	29
2013	48	121	29	105	3	37
2014	50	99	29	109	4	31

Year

Notes:
(a) Table reports the number of casualties who were associated with vehicles located on a motorway hardshoulder or A-road lay-by only where specified as “On HS only” or “On LB only”. Casualties involving a vehicle entering, leaving or on the hardshoulder or lay included are included within “All involved”.
(b) It is assumed that in the majority of cases if the road classification was recorded as “motorway” and the vehicle location was reported as “On lay-by or hard shoulder” then the vehicle was located on a motorway hardshoulder at the time of the collision. In contrast, if the road classification was denoted as “A-road” and the vehicle location was reported as “On lay-by or hard shoulder”, then the vehicle was located on an A-road lay-by.

Table 5-56 shows that 50.5 per cent of casualties involving motorway hard shoulders occurred on the refuge (on the hard shoulder) in 2014, when this is compared to the value for A-roads (23.6 per cent) it is evident that motorway hardshoulders are relatively unsafe in comparison to lay-bys. This is particularly true when compared to A-road single carriageway lay-bys. In 2014, there were 50 casualties on motorway hardshoulders compared to 4 casualties on A-road single carriageway lay-bys.

5.14.2 Hardshoulder and lay-by casualties resulting from fatigue or distraction inside the vehicle

The top 20 contributory factors ranked by 2014 total casualties involving hardshoulders and lay-bys are reported in Table T-5, Appendix T.

Figure 5-63 focuses specifically on the number of casualties involving hardshoulders and lay-bys linked to distraction inside the vehicle and fatigue. In the appendix table, these factors are ranked 6th and 7th respectively. These factors are potentially attributed to the driver of the vehicle inadvertently drifting into the hardshoulder or lay-by and colliding with a stationary vehicle.

Fatigue

69.6 per cent from 2005 (69 to 21)

Distraction in vehicle

10.0 per cent from 2005 (20 to 22)

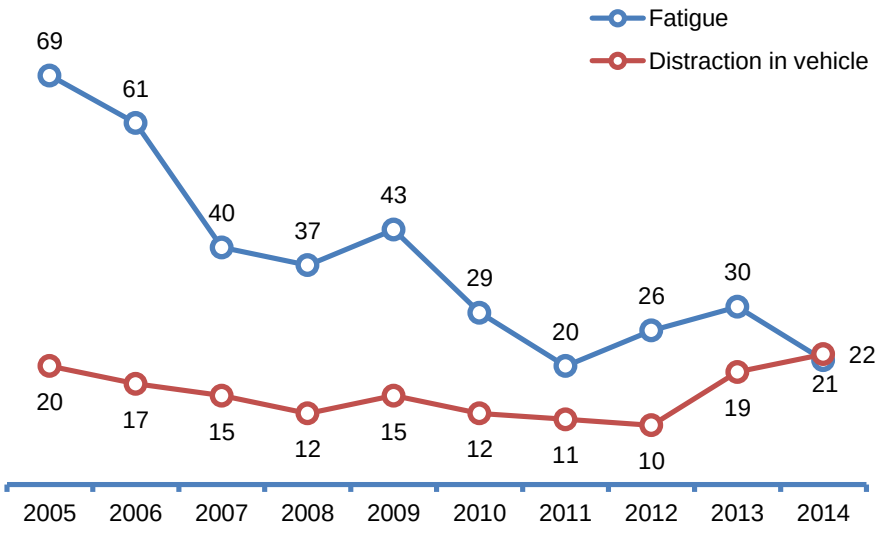


Figure 5-63 Historic casualties involving either a hardshoulder or lay-by resulting from fatigue or distraction inside the vehicle by years

As shown in Figure 5-63, it can be seen that the number of casualties involving hardshoulders or lay-bys resulting from fatigue has decreased by 30.0 per cent from 30 in 2013 to 21 in 2014.

The number of casualties where distraction was involved increased to 22 casualties in 2014 from 19 in 2013 (15.8 per cent).

The year 2014 is the first time since at least 2005 that more casualties have been attributed to a distraction inside a vehicle than fatigue.

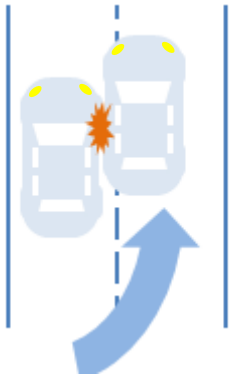
5.15 Collision Type

This topic of interest analyses the number of collisions occurring on the SRN by collision type. For additional data, refer to Appendix U Tables U-1 to U-12.

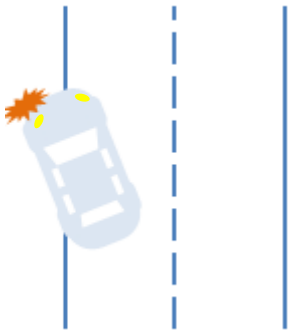
The four most common types of collision are:

- Shunt
- Single vehicle run off
- Overtakes
- Head on

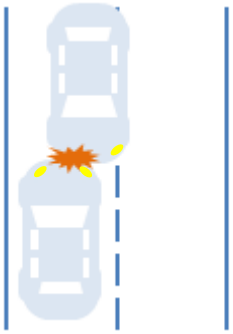
A brief description of each of the four most common types of collision can be found in Figure 5-64.



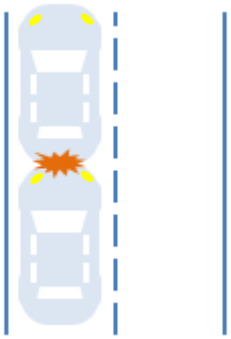
Overtake collision:
A collision involving at least one vehicle recorded as overtaking another vehicle.



Single vehicle run off:
A collision involving a single vehicle (excludes collisions involving pedestrians).



Head on:
A collision involving at least two vehicles moving in opposite directions at point of impact, where both vehicles first point of impact was recorded as “Front”. Vehicles that were parked, or where the vehicle movement was unknown are not included.



Shunt:
A collision involving at least two vehicles moving in the same directions at point of impact, where one vehicles first point of impact was recorded as “Front” and the other vehicles as “Back”. Vehicles that were parked, or where the vehicle movement was unknown are not included.

Figure 5-64 Diagrams of collision types

5.15.1 Casualties by collision type and severity

Table 5-57 provides a breakdown of the number of casualties by severity and collision type. For all four types of collision, the number of fatalities decreased from 2013 to 2014. This reflects the overall decrease in fatalities across the SRN from 2013 to 2014.

Shunting collisions are the most common type of collision, representing 45.0 per cent of collisions in 2014; however this was the only collision type that the number of casualties decreased across all severities in 2014. “Single vehicle run off” collisions resulted in 21.5 per cent of KSI casualties in 2014 and were the only collision type that the total casualties increased from 2013 to 2014.

Table 5-57 Casualties by collision type, 2014

Severity/ Collision type	Killed	Seriously injured	KSI	Slightly injured	Total
Head on	**17** ↓ 37.0%	**125** ↑ 17.9%	**142** ↑ 6.8%	**223** ↓ 25.4%	**365** ↓ 15.5%
Shunt	**33** ↓ 29.8%	**388** ↓ 10.6%	**421** ↓ 12.5%	**7,137** ↓ 0.6%	**7,558** ↓ 1.3%
Overtake	**15** ↓ 16.7%	**124** ↑ 22.8%	**139** ↑ 16.8%	**660** ↓ 9.6%	**799** ↓ 5.9%
Single vehicle run off	**45** ↓ 18.2%	**354** ↑ 13.8%	**399** ↑ 9.0%	**1,907** ↑ 3.1%	**2,306** ↑ 4.1%

Notes:
(a) Percentages represent the per cent change of 2014 values from 2013 values.
(b) Casualties may fall within more than one collision type and hence may be counted more than once.
(c) See Figure 5-64 for definitions of collisions types.

5.15.2 KSI casualties by collision type and road classification

A breakdown of KSI casualties by collision type and road classification can be found in Table 5-58.

KSI casualties from head on collisions increased by 6.8 per cent overall, this increase is wholly due to the increase in the number of KSI casualties on A-road single carriageways from 109 in 2013 to 127 in 2014.

The number of KSI casualties from overtaking collisions increased over every road classification.

Table 5-58 KSI casualties by road class and collision type

Road classification/ collision type	Motorway	A-road dual carriageways	A-road single carriageways
Head on	**7** -	**8** ↓ 46.7%	**127** ↑ 16.5%
Shunt	**241** ↓ 8.0%	**141** ↓ 16.6%	**39** ↓ 22.0%
Overtake	**43** ↑ 38.7%	**32** ↑ 3.2%	**64** ↑ 12.3%
Single vehicle run off	**179** ↑ 4.1%	**181** ↑ 21.5%	**39** ↓ 13.3%

Notes:
(a) Percentages represent the per cent change of 2014 values from 2013 values.
(b) Casualties may fall within more than one collision type and hence may be counted more than once.
(c) See Figure 5-64 for definitions of collisions types.

5.15.3 Contributory factors

The overall contributory factors by collision type are shown in Appendix U Table U-9 to Table U-12. Of note; the factors listed in the appendix table are the total number of collisions where at least one of the factors was present in the collision.

The number of KSI casualties by collision type for the top 10 contributory factors are highlighted in Table 5-59, Table 5-60, Table 5-61 and Table 5-62.

The top 10 contributory factors include factors from the “injudicious action”, and “driver/rider error or reaction” groupings[22].

[22] Refer to Appendix Table F-1 for contributory factor groupings.

The number of KSI casualties resulting from shunting collisions that were attributed to "failed to judge other person's path or speed" decreased by 12.6 per cent from 215 in 2013 to 188 in 2014. This percentage decrease closely matches the overall 12.5 per cent decrease in KSI casualties from shunting collisions from 2013 to 2014.

Table 5-59 Top 10 contributory factors for KSI casualties resulting from shunting collisions, 2014

No.		Contributory factor	2014	Percentage of casualties involving shunting, 2014
1	406	Failed to judge other person's path or speed	188	44.7%
2	405	Failed to look properly	169	40.1%
3	308	Following too close	70	16.6%
4	408	Sudden braking	63	15.0%
5	602	Careless, reckless or in a hurry	61	14.5%
6	307	Travelling too fast for conditions	38	9.0%
7	410	Loss of control	30	7.1%
8	509	Distraction in vehicle	29	6.9%
9	503	Fatigue	21	5.0%
10	103	Slippery road (due to weather)	19	4.5%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action
Behaviour or inexperience; Road environment

Notes:
(a) Table reports the number of KSI casualties from shunting collisions where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 421 KSI casualties involved in shunting collisions.

Of note "loss of control" contributed to almost half of all KSI casualties involved in single vehicle run off collisions as seen in Table 5-60.

Table 5-60 Top 10 contributory factors for KSI casualties resulting from single vehicle run off collisions, 2014

No.		Contributory factor	2014	Percentage of casualties involving single vehicle run off, 2014
1	410	Loss of control	189	47.4%
2	503	Fatigue	67	16.8%
3	103	Slippery road (due to weather)	54	13.5%
4	409	Swerved	51	12.8%
5	501	Impaired by alcohol	47	11.8%
6	505	Illness or disability, mental or physical	41	10.3%
7	307	Travelling too fast for conditions	39	9.8%
8	306	Exceeding speed limit	39	9.8%
9	602	Careless, reckless or in a hurry	38	9.5%
10	403	Poor turn or manoeuvre	33	8.3%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action
Behaviour or inexperience; Road environment

Notes:
(a) Table reports the number of KSI casualties from single vehicle run off collisions where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 399 KSI casualties involved in single vehicle run off collisions.

Unlike KSI casualties from shunting or single vehicle run off collisions, no single contributory factor was attributed to more than 40.0 per cent of the total number of KSI casualties in overtaking or head on collisions as seen in Table 5-61 and Table 5-62.

Table 5-61 Top 10 contributory factors for KSI casualties resulting from overtaking collisions, 2014

No.	Contributory factor		2014	Percentage of casualties involving overtaking, 2014
1	405	Failed to look properly	47	33.8%
2	410	Loss of control	37	26.6%
3	403	Poor turn or manoeuvre	32	23.0%
4	602	Careless, reckless or in a hurry	30	21.6%
5	406	Failed to judge other person's path or speed	27	19.4%
6	307	Travelling too fast for conditions	17	12.2%
7	601	Aggressive driving	14	10.1%
8	409	Swerved	12	8.6%
9	707	Rain, sleet, snow, or fog	10	7.2%
10	306	Exceeding speed limit	9	6.5%

Key (CF groups):
Driver/Rider error or reaction; Injudicious action; Behaviour or inexperience; Vision effected by

Notes:
(a) Table reports the number of KSI casualties from overtaking collisions where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 139 KSI casualties involved in overtaking collisions.

Table 5-62 Top 10 contributory factors for KSI casualties resulting from head on collisions, 2014

No.	Contributory factor		2014	Percentage of casualties involving head on collisions , 2014
1	410	Loss of control	53	37.3%
2	409	Swerved	38	26.8%
3	602	Careless, reckless or in a hurry	32	22.5%
4	503	Fatigue	25	17.6%
5	405	Failed to look properly	20	14.1%
6	505	Illness or disability, mental or physical	17	12.0%
7	509	Distraction in vehicle	17	12.0%
8	403	Poor turn or manoeuvre	16	11.3%
9	406	Failed to judge other person's path or speed	13	9.2%
10	307	Travelling too fast for conditions	12	8.5%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience

Notes:
(a) Table reports the number of KSI casualties from head on collisions where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 142 KSI casualties involved in head on collisions.

5.16 Hotspot Analysis

This section provides a summary of hotspot analyses[23] carried out on collisions between 2012 and 2014. Figure 5-65 shows the locations of the top 20 hotspots by road class. The figure is supported by Table V-1 to Table V-3 in Appendix V which provides more detailed maps of each hotspot.

From Figure 5-65 it can be seen that the majority of motorway hotspots are located in the south east whereas hotspots for both A-road dual carriageway and single carriageway are distributed more evenly across the SRN. From Appendix V it can also be seen that the majority of hotspots are located in the proximity of junctions.

The basic principles behind the hotspot analysis are provided in the notes section of Appendix V. Evaluation of the method shows that hotspots are more likely to be identified in areas of the network where the road layout contains multiple converging and diverging routes.

[23] Hotspot analysis finds the locations with the highest amount of collisions within a 0.5km radius.

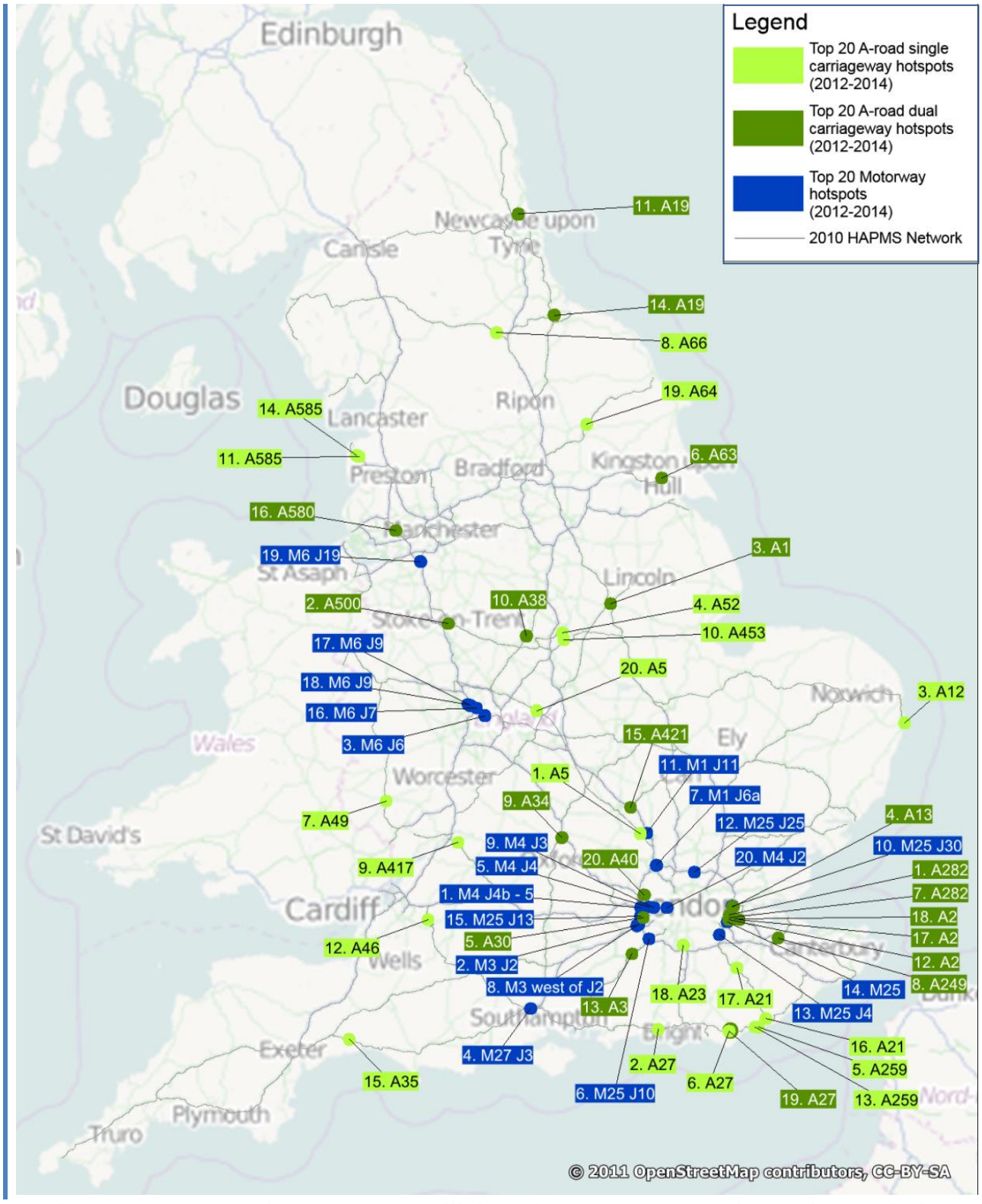


Figure 5-65 Top 20 hotspots for collisions between 2012 and 2014 by road class

Table 5-63 shows the top ten contributory factors for collisions in motorway hotspots between 2012 and 2014. “Following too close” is the only contributory factor found in Table 5-63 that does not also appear in the top 10 contributory factors for collisions across the SRN found in Appendix F Table F-2. It can be seen from Table 5-63 that “Failed to judge other person’s path or speed” was the top contributory factor in 2014 for casualties within the top 10 motorway hotspots.

Table 5-63 Top 10 contributory factors for casualties involved in collisions within the top 10 motorway hotspots

No.	Contributory factor		2012	2013	2014	Percentage of casualties in top 10 hotspots, 2014
1	406	Failed to judge other person’s path or speed	52	43	57	18.6%
2	405	Failed to look properly	80	44	49	16.0%
3	408	Sudden braking	34	23	27	8.8%
4	308	Following too close	40	26	24	7.8%
5	602	Careless, reckless or in a hurry	17	14	22	7.2%
6	410	Loss of control	24	16	20	6.5%
7	403	Poor turn or manoeuvre	17	18	18	5.9%
8	307	Travelling too fast for conditions	30	12	14	4.6%
9	103	Slippery road (due to weather)	20	10	12	3.9%
10	409	Swerved	7	7	9	2.9%

Key (CF groups):
Driver/Rider error or reaction | Injudicious action | Behaviour or inexperience | Road environment

Notes:
(a) Table reports the number of casualties involved in collisions on the top 10 motorway hotspots where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 306 casualties involved in collisions within the top 10 motorway hotspots.

Table 5-64 Top 10 contributory factors for casualties involved in collisions within the top 10 A-road dual carriageway hotspots

No.	Contributory factor		2012	2013	2014	Percentage of casualties in top 10 hotspots, 2014
1	405	Failed to look properly	73	50	56	23.7%
2	406	Failed to judge other person’s path or speed	50	45	55	23.3%
3	403	Poor turn or manoeuvre	24	21	21	8.9%
4	308	Following too close	22	14	20	8.5%
5	602	Careless, reckless or in a hurry	29	17	19	8.1%
6	408	Sudden braking	21	15	17	7.2%
7	307	Travelling too fast for conditions	9	3	9	3.8%
8	103	Slippery road (due to weather)	8	10	7	3.0%
9	410	Loss of control	14	8	6	2.5%
10	603	Nervous, uncertain or panic	2	3	6	2.5%

Key (CF groups):
Driver/Rider error or reaction | Injudicious action | Behaviour or inexperience | Road environment

Notes:
(a) Table reports the number of casualties involved in collisions on the top 10 A-road dual carriageway hotspots where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 236 casualties involved in collisions within the top 10 A-road dual carriageway hotspots.

Table 5-64 shows the top ten contributory factors for collisions in A-road dual carriageway hotspots between 2012 and 2014. Again “Following too close” is the fourth most common contributory factor and was attributed to 8.5 per cent of casualties involved in collisions within the top 10 A-road dual carriageway hotspots. “Failed to look properly” was the most common contributory factor and was attributed to 23.7 per cent of casualties in 2014.

The following three contributory factors found in Table 5-65 do not appear in the top 10 contributory factors for all collisions across the SRN found in Appendix F Table F-2:

- Following too close
- Failed to look properly (pedestrian)
- Learner or inexperienced driver

Interestingly the contributory factor “failed to look properly (pedestrian)” was attributed to 4.7 per cent of casualties in 2014 that were within the top 10 A-road single carriageway hotspots. However across all road types this contributory factor is typically less prevalent. This is highlighted by Appendix F Table F-2 which shows that this factor was only attributed to 0.3 per cent of all collisions across the SRN in 2014.

Table 5-65 Top 10 contributory factors for casualties involved in collisions within the top 10 A-road single carriageway hotspots

No.	Contributory factor		2012	2013	2014	Percentage of casualties in top 10 hotspots, 2014
1	405	Failed to look properly	30	24	16	18.8%
2	406	Failed to judge other person’s path or speed	25	19	14	16.5%
3	403	Poor turn or manoeuvre	9	8	10	11.8%
4	410	Loss of control	3	2	7	8.2%
5	308	Following too close	8	7	7	8.2%
6	602	Careless, reckless or in a hurry	11	10	7	8.2%
7	802	Failed to look properly (pedestrian)	4	2	4	4.7%
8	409	Swerved	4	1	3	3.5%
9	503	Fatigue	1	1	3	3.5%
10	605	Learner or inexperienced driver/rider	3	4	3	3.5%

Key (CF groups):
Driver/Rider error or reaction; Impairment or distraction; Injudicious action; Behaviour or inexperience; Pedestrian

Notes:
(a) Table reports the number of casualties involved in collisions on the top 10 A-road single carriageway hotspots where the specified contributory factor was recorded at least once.
(b) In 2014, there were a total of 85 casualties involved in collisions within the top 10 A-road single carriageway hotspots.