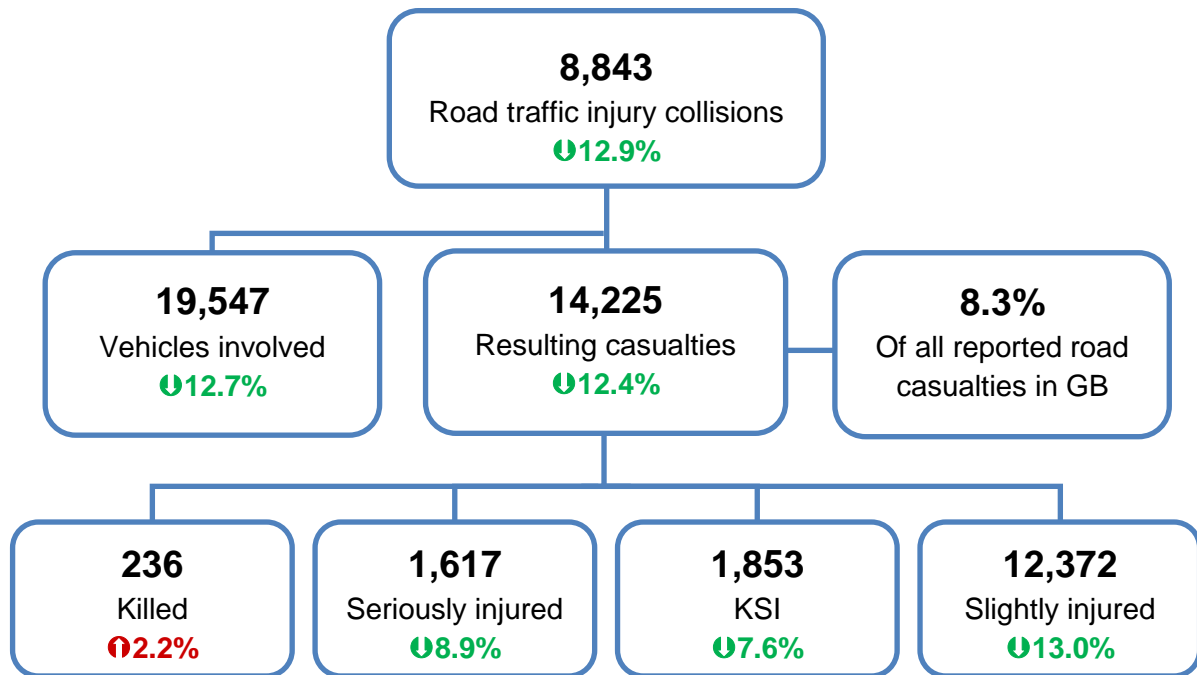


# Reported Road Casualties on the Strategic Network 2017



# High Level Summary

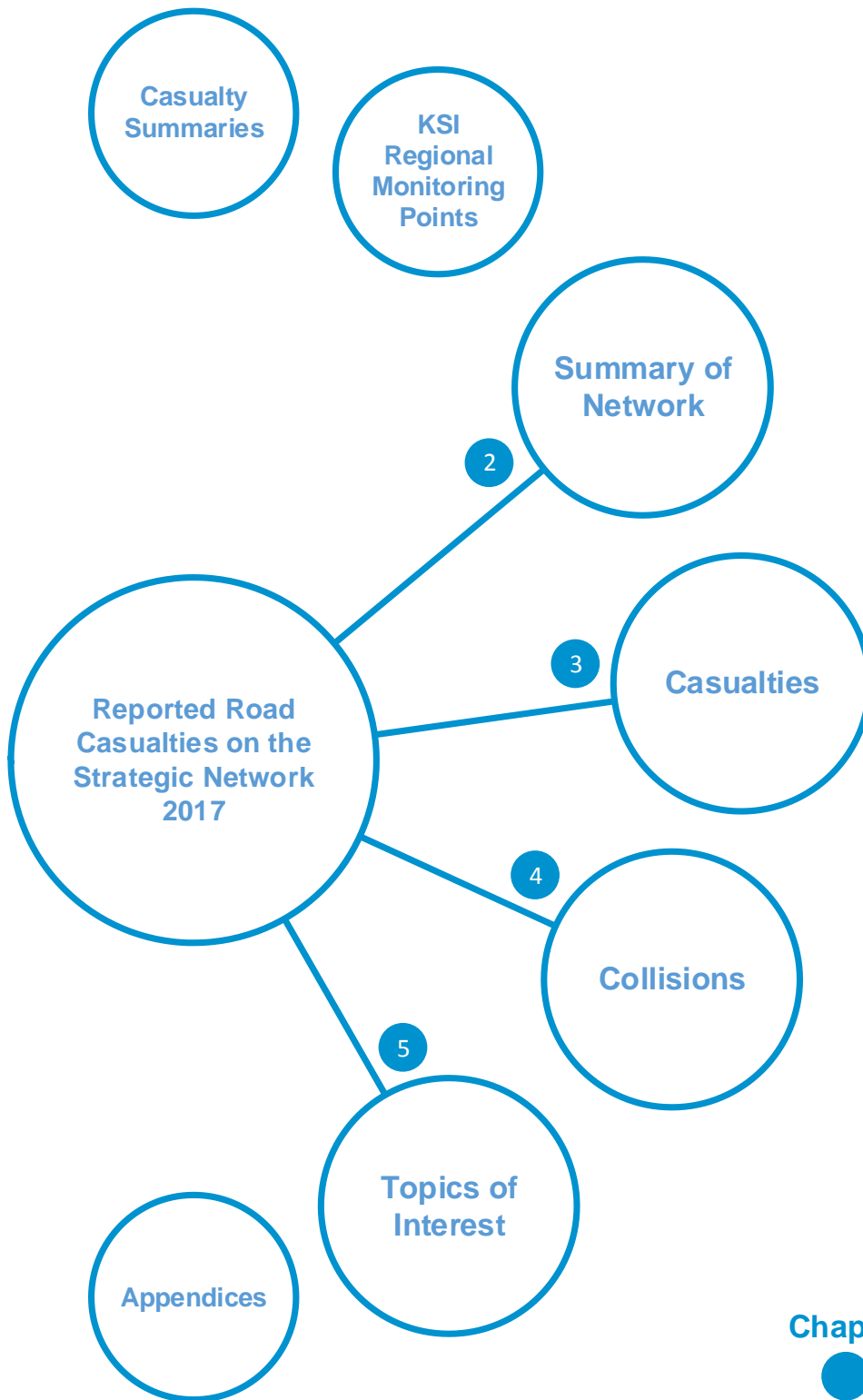
High level summary of the validated 2017 personal injury collision and casualty data is provided below. The percentages (together with the arrows) indicate the change from 2016.



		Motorway	A-road	A-road dual	A-road single
Collisions	KSI	619 ↑10.5%	923 ↑8.0%	605 ↑13.3%	318 ↓4.3%
	Total	4,180 ↑11.8%	4,663 ↑14.0%	3,453 ↑15.3%	1,210 ↑9.9%
Casualties	KSI	752 ↑6.7%	1,101 ↑8.2%	686 ↑15.7%	415 ↓7.8%
	Total	6,930 ↑11.1%	7,295 ↑13.6%	5,230 ↑15.9%	2,065 ↑7.2%
Traffic (provisional)	HMVM	608.5 ↓1.0%	335.5 ↓5.4%	281.5 ↓6.1%	54.1 ↓1.9%

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# Document Map



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# 1. Introduction

## 1.1. Background

Highways England launched the updated Health and Safety Five Year Plan in May 2017<sup>1</sup>, which details how improvements in health, safety and wellbeing for staff, suppliers and road users will be delivered. This is supported by the National Incident and Casualty Reduction Plan: Our approach to road safety (NICRP), which sets out the long term vision that no one should be harmed whilst travelling or working on the strategic road network (SRN). Meeting the objectives set out in these two documents will improve safety and help to achieve our overarching aim of 'everyone home safe and well every day'.

Following the principle of the Safe Systems Approach, the NICRP outlines how we are going to achieve the strategic outcomes as an organisation and what we need to do to deliver successful interventions on the ground. This includes the key performance indicator of reducing killed or seriously injured (KSI) casualties on the SRN by 40 per cent by 2020 from the 2005-2009 baseline as originally outlined in our Strategic Business Plan and as specified in the Operational Metrics Manual (OMM).

Annual analysis of personal injury collisions on the SRN is a key component of monitoring and evaluating progress toward the 40% target. In addition to monitoring trends, Highways England can use the data to identify road safety interventions, which are provided for in the Road Investment Strategy<sup>2</sup> and our Delivery Plan<sup>3</sup>.

This document forms part of the annual series Reported Road Casualties on the Strategic Network which follows on from the Accidents on the Trunk Road series. It provides a high level overview of personal injury collisions on the SRN, primarily based on STATS19 data, reported to or by the police, and supplemented by other sources to provide a more comprehensive picture.

Further information regarding the personal injury collision and casualty data can be obtained from **Highways England's Strategic Safety Team**<sup>4</sup>.

<sup>1</sup> [https://assets.publishing.service.gov.uk/government/Health\\_and\\_Safety\\_five\\_year\\_plan](https://assets.publishing.service.gov.uk/government/Health_and_Safety_five_year_plan)

<sup>2</sup> <https://www.gov.uk/government/collections/road-investment-strategy>

<sup>3</sup> <https://www.gov.uk/government/publications/highways-england-delivery-plan-2015-2020>

<sup>4</sup> For enquiries to the Strategic Safety Team, contact Kathrine Wilson-Ellis ([StrategicSafetyTeam@highwaysengland.co.uk](mailto:StrategicSafetyTeam@highwaysengland.co.uk)).



## 1.2. Purpose of Document

This document is intended for use by Highways England staff, service providers, supply chain and those in the public arena with an interest. 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:

- Assess the performance of the network in achieving the key performance indicator (KPI) of a 40 per cent reduction in KSI casualties by 2020 from the baseline (2005-2009)
- Identify opportunities to reduce the number of KSI casualties to contribute to the KPI
- Monitor and evaluate effectiveness of road safety actions under the Health and Safety Five Year Plan
- Monitor changes in safety on the network year on year and against the baseline
- Provide a national safety perspective for balancing needs across the SRN
- Answer safety queries from the Government, stakeholders and other external partners
- Make sound strategic and budgeting decisions concerning the future management and safety of the SRN
- 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.

The collision and casualty information in this document and the accompanying appendices are based only on STATS19 data. STATS19 is the national database of personal injury road collisions reported by, or to, the police. In this report percentage change values will not be given where the base value is lower than 15 to prevent misrepresentation caused by random fluctuations in values. Furthermore, a zero percentage is indicated where the base value is equal to or greater than 15 but has the same value of the year being compared.

### 1.3. Understanding changes in reporting systems

A key factor affecting road safety performance in recent years has been the change in recording practice by some police forces. The DfT reported that<sup>5</sup>:

“Approximately half of English police forces adopted the CRASH (**C**ollision **R**ecording **A**nd **S**Haring) system for recording reported road traffic collisions [STATS19] at the end of 2015 or the first part of 2016, although Surrey has been using the system since November 2012. In addition, the Metropolitan Police Service (MPS) switched to a new reporting system called COPA (**C**ase **O**verview **P**reparation **A**pplication), which went live to police officers from November 2016 [see Figure 1-1].

The remaining forces use a wide variety of systems to report accidents, in which police officers use their own judgement and guidance to determine directly the severity of a casualty ('slight' or 'serious').

In contrast CRASH and COPA are injury-based severity reporting systems where the officer records the most severe injury for the casualty...The injuries are then automatically converted to a severity level from 'slight' to 'serious'.

Eliminating the uncertainty in determining severity that arises from the officer having to make their own judgement means that the new severity level data observed from these systems using injury based methods are expected to be more accurate than the data from other systems.”

DfT has commissioned the Office for National Statistics (ONS), to estimate adjustment factors for historic KSI data. The work is ongoing, however a report<sup>6</sup> on the impact of this reporting change and indicative adjusted time series at the national level is available.

ONS is working on separate adjustments for the SRN. The SRN has a higher proportion of its casualties reported by police forces using CRASH, so the impact for the SRN is likely to be higher and this is evident from the provisional analysis.

In DfT's annual 2017 reported road casualties Great Britain report, analysis shows that the number of KSIs for forces using CRASH increased by 19% from 2015 to 2017 yet over the same period forces not using CRASH had a 5% decrease in KSIs.

Until the ONS work is completed, any year on year changes in KSIs need to be interpreted with caution. It is expected that the ONS work will be completed during summer 2019, however if further police forces adopt the new injury reporting methodology further adjustments will be necessary in due course.

This document shows the data as reported to the police and does not make any adjustments.

<sup>5</sup> DfT Reported road casualties in Great Britain: annual report 2017, pg. 31 - 31.

<sup>6</sup> <https://www.gov.uk/government/statistics/reported-road-casualties-great-britain-annual-report-2017>



Figure 1-1 Police forces by reporting system in 2017

## 1.4. Structure of Document

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

Chapter	Description
<b>2</b> Network	<ul style="list-style-type: none"> <li>• Overview of the SRN and its unique properties</li> <li>• Traffic estimates and economic factors</li> <li>• Estimation of usage by road classification and vehicle type</li> </ul>
<b>3</b> Casualties	<ul style="list-style-type: none"> <li>• Analysis of casualty and rate trends including by severity</li> <li>• Analysis by road classification including by severity</li> <li>• Snapshot of vehicle interactions, impact and defects</li> <li>• Understanding of casualty trends by type and age</li> <li>• Understanding the contributory factor influences on casualty numbers</li> </ul>
<b>4</b> Collisions	<ul style="list-style-type: none"> <li>• Analysis of collision and rate trends including by severity</li> <li>• Analysis by road classification including by severity</li> <li>• Snapshot of vehicle impact and defects</li> <li>• Snapshot of the types of drivers and riders involved in collisions</li> <li>• Understanding the contributory factor influences on collision numbers</li> </ul>
<b>5</b> Topics of Interest	<p>Evaluation of topics of interest, including:</p> <ul style="list-style-type: none"> <li>• Fatally injured casualties</li> <li>• Seriously injured casualties</li> <li>• Killed or seriously injured (KSI) casualties</li> <li>• Slightly injured casualties</li> <li>• Child casualties</li> <li>• Young motorists</li> <li>• Older and Elderly casualties</li> <li>• Lighting on the SRN</li> <li>• Weather effects on the SRN</li> <li>• Roadworks</li> <li>• Junctions</li> <li>• Tyres</li> <li>• Goods vehicles (HGVs and LGVs)</li> <li>• Motorcycle users</li> <li>• Hardshoulders and lay-bys</li> <li>• Collision type</li> <li>• Hotspot analysis</li> <li>• Vulnerable and non-motorised users</li> <li>• Journey purpose</li> <li>• Towing</li> </ul>

# A to AA

Appendices  
(provided as  
a separate  
document)

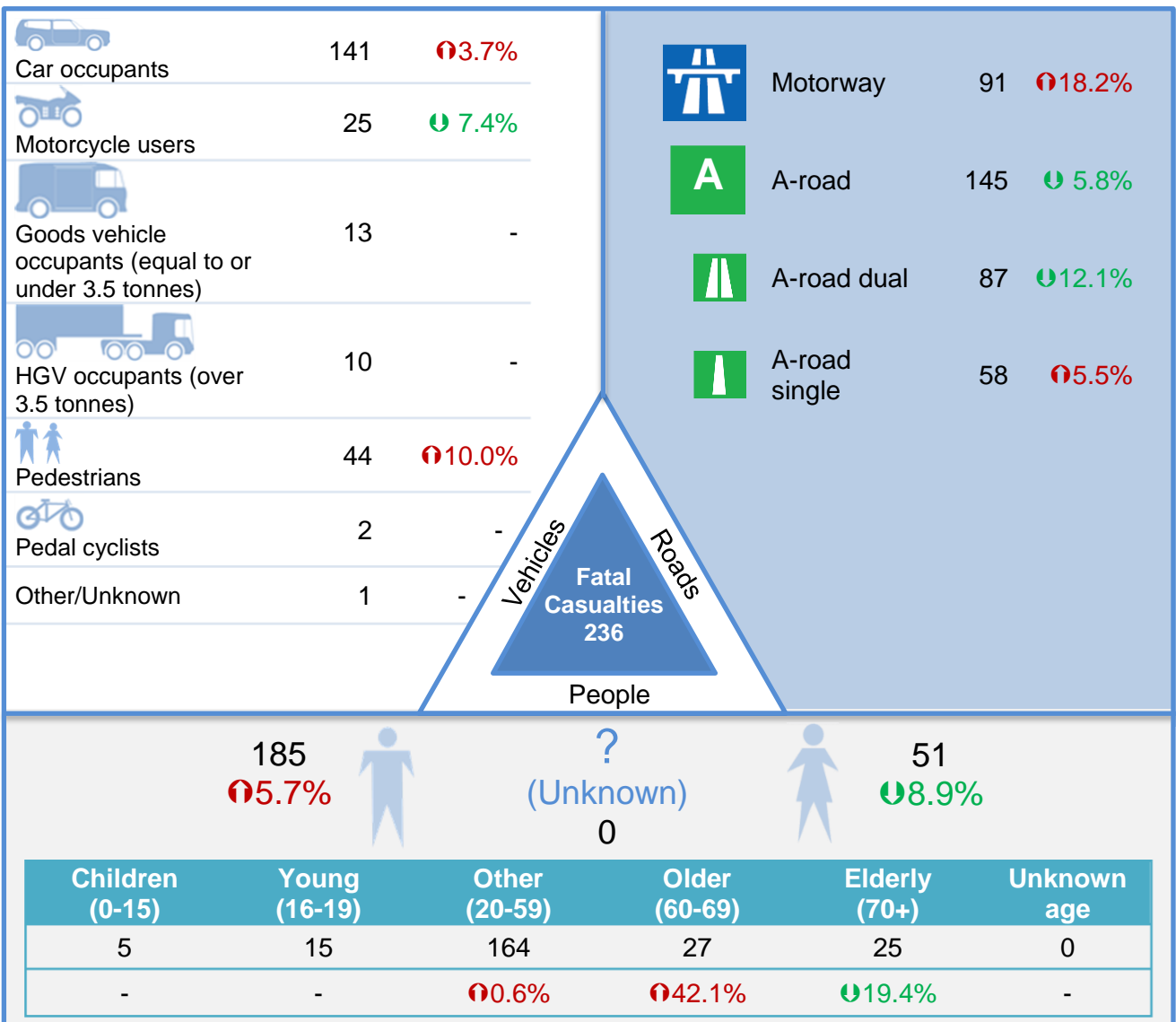
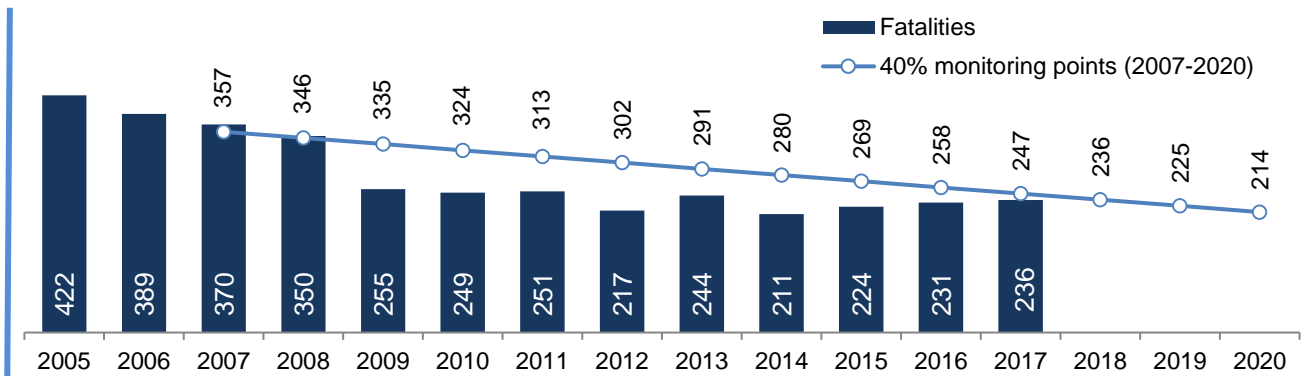
- Appendix A – Glossary of terms
- Appendix B – Collisions
- Appendix C – Casualties
- Appendix D – Traffic and collision/casualty rates
- Appendix E – Vehicles
- Appendix F – Contributory factors
- Appendix G to AA – Additional topics of interest statistics

## 1.5. Summary Sheet of Fatal

A summary of the 2017 fatally injured casualty data can be seen below. The percentages indicate the change from 2016; percentages are only given where the 2016 value is 15 or more.

**Estimated Cost: £399,151,284**

**Average Cost: £1,691,319**

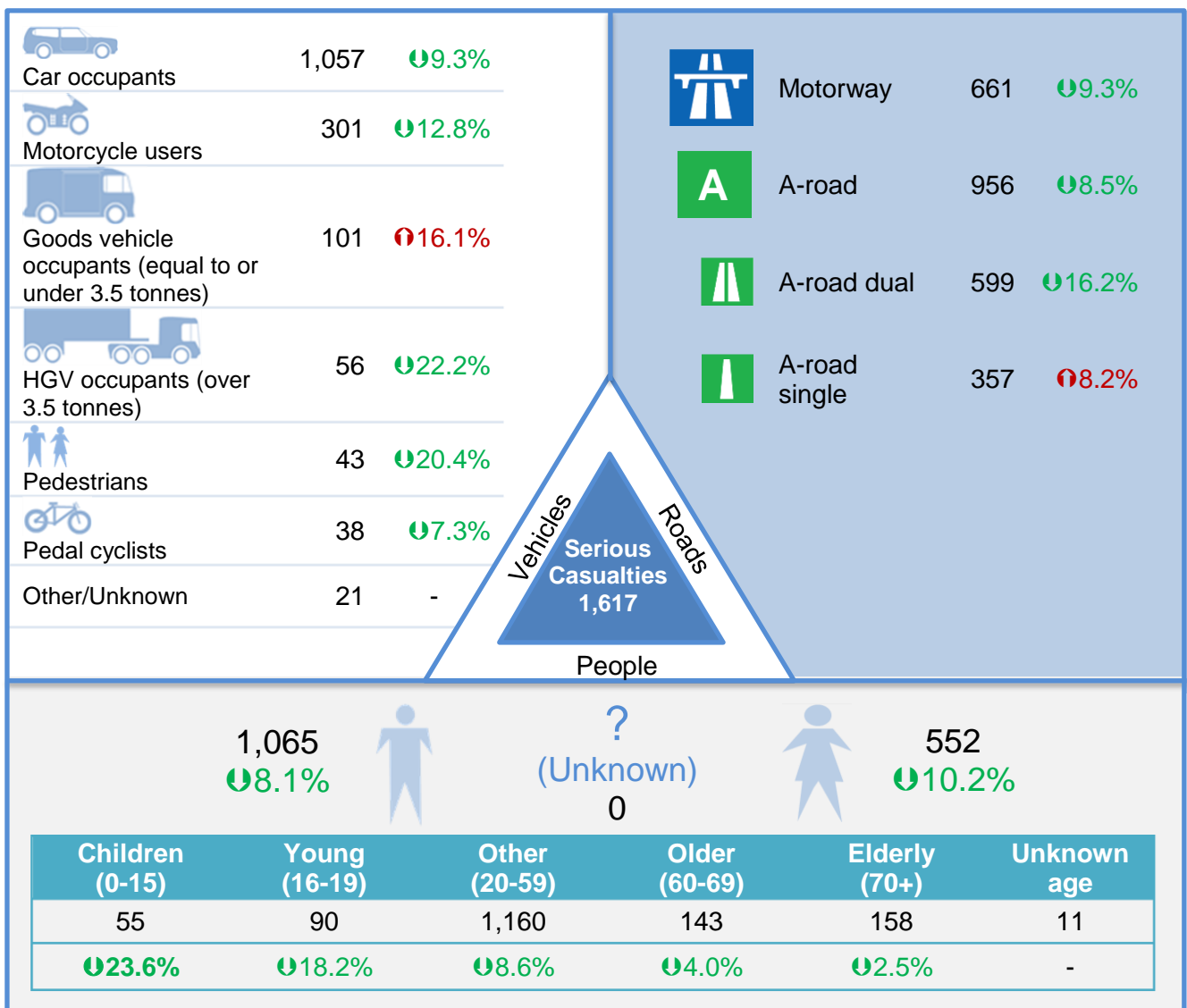
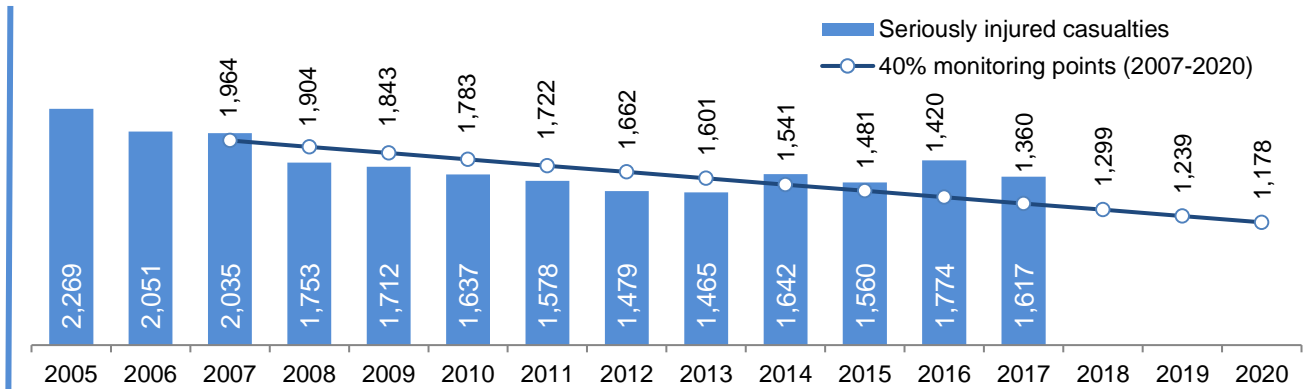


## 1.6. Summary Sheet of Serious

A summary of the 2017 seriously injured casualty data can be seen below. The percentages indicate the change from 2016; percentages are only given where the 2016 value is 15 or more.

**Estimated Cost: £307,322,169**

**Average Cost: £190,057**

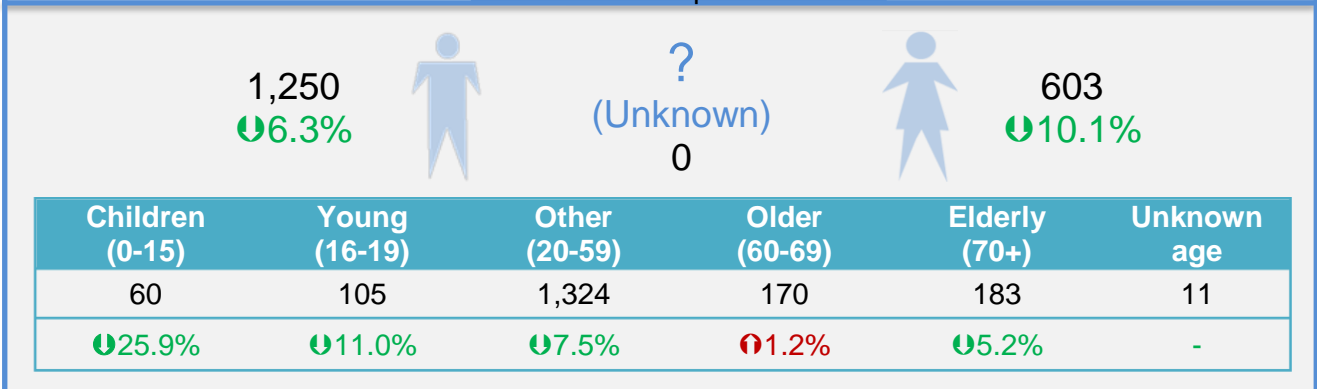
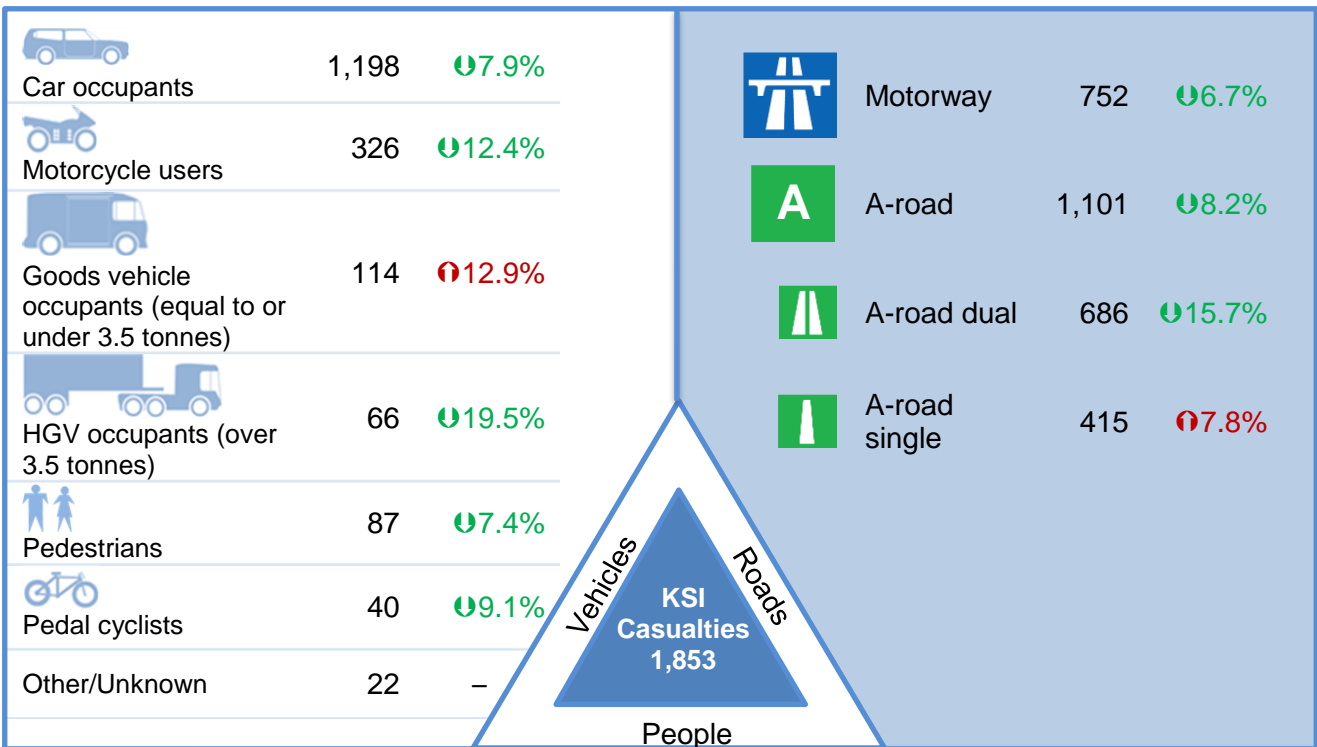
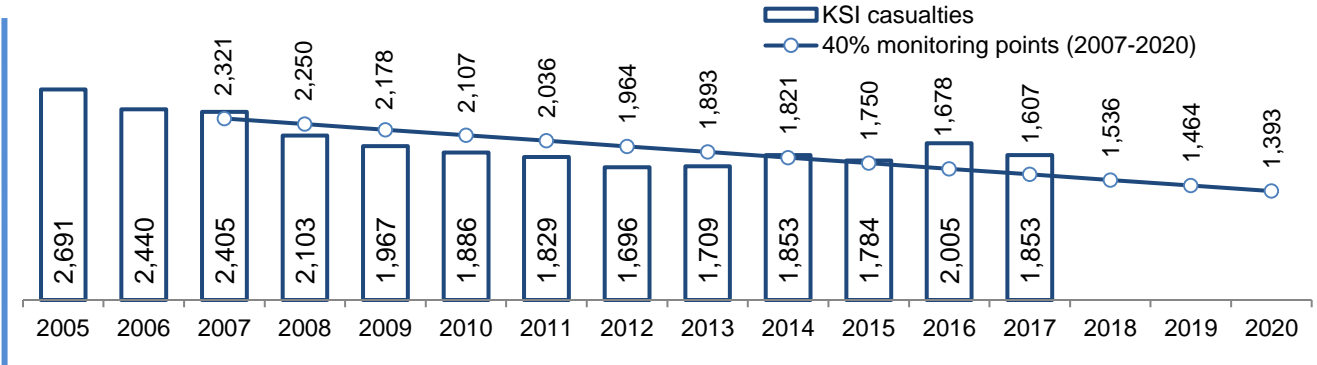


## 1.7. Summary Sheet of KSI

A summary of the 2017 killed or seriously injured (KSI) casualty data can be seen below. The percentages indicate the change from 2016; percentages are only given where the 2016 value is 15 or more.

**Estimated Cost: £706,473,453**

**Average Cost: £381,259**



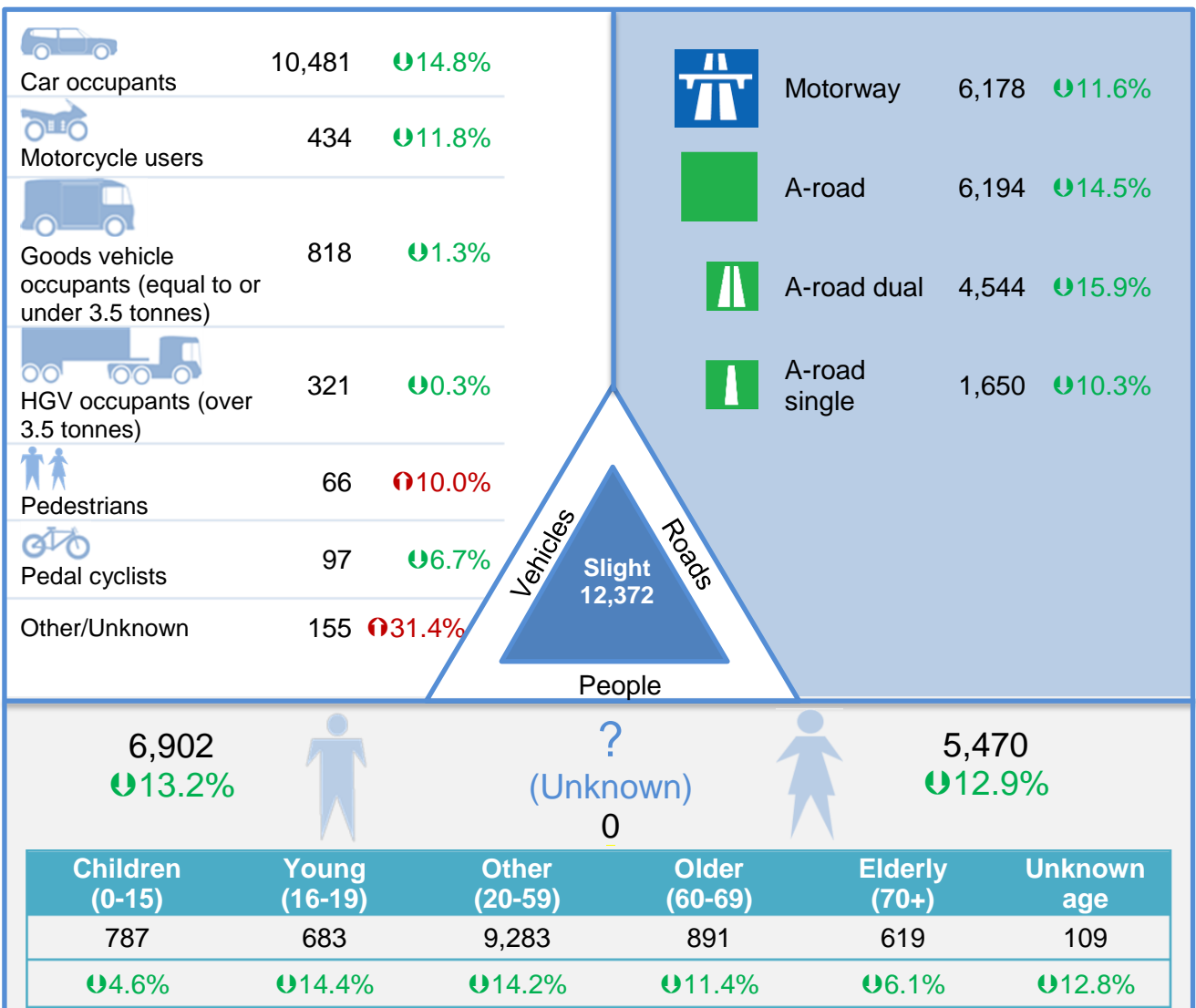
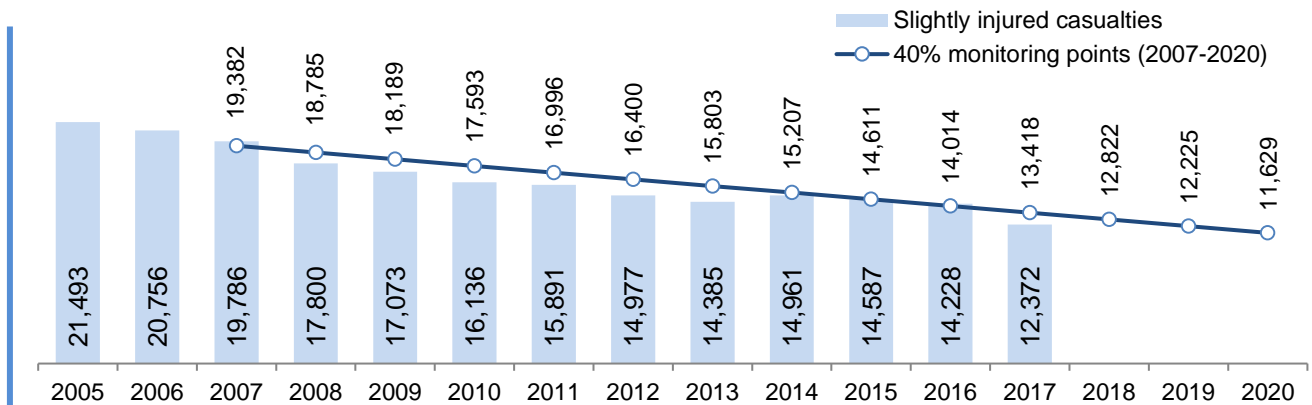


## 1.8. Summary Sheet of Slight

A summary of the 2017 slightly injured casualty data can be seen below. The percentages indicate the change from 2016; percentages are only given where the 2016 value is 15 or more.

**Estimated Cost: £181,262,172**

**Average Cost: £14,651**



## 1.9. Summary sheet of collision and casualty cost

### Estimated cost of casualties (£Millions)

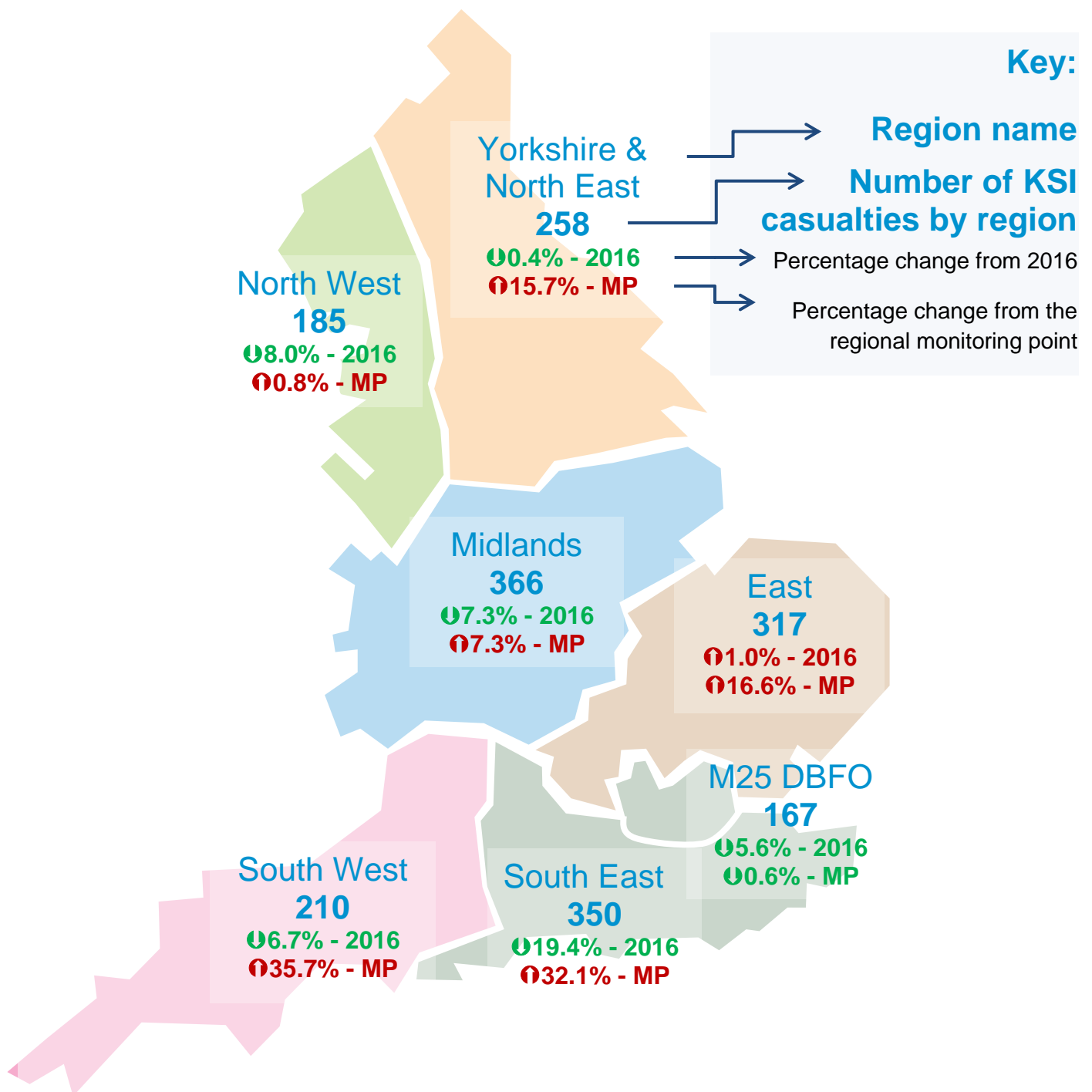
Killed	Seriously injured	Slightly injured	Total
£399.1	£307.3	£181.3	£887.7

### Estimated cost of collisions (£Millions)

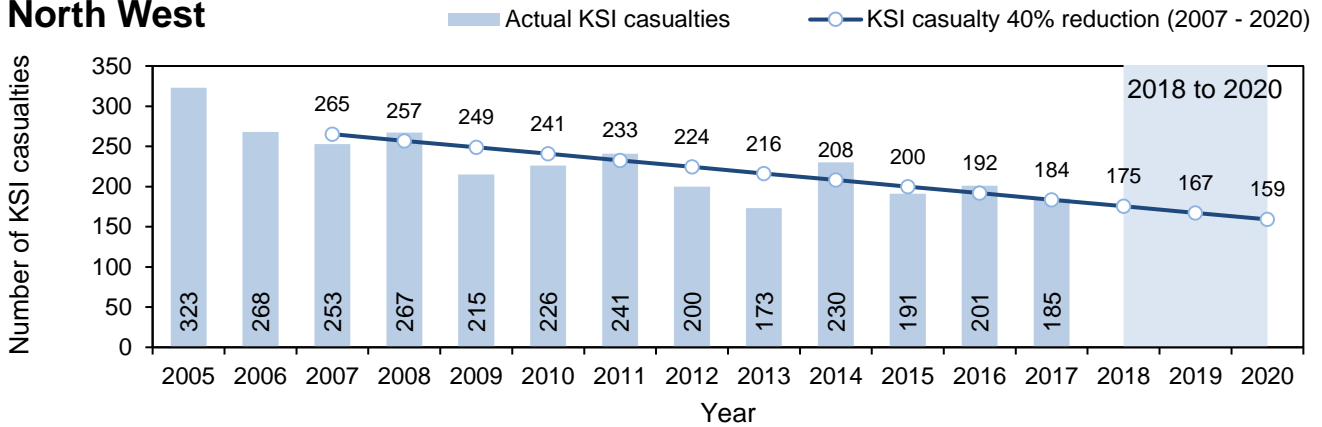
Collision Severity	Road Class	A-road		Total
	Motorway	Non-built-up	Built-up	
<b>Fatal</b>	£131.6	£248.0	£12.7	£392.3
<b>Serious</b>	£134.0	£162.4	£21.8	£318.2
<b>Fatal + Serious</b>	£265.6	£410.4	£34.5	£710.5
<b>Slight</b>	£112.3	£80.5	£14.5	£207.3
<b>Total</b>	£377.9	£490.9	£49.0	£917.8
<b>Damage only</b>	£85.8	£85.0	£26.7	£197.5
<b>Total inc. Damage only</b>	£463.7	£575.9	£75.6	£1,115.2

Note: Estimated costs outlined in Sections 1.5 to 1.9 are calculated using DfT WebTAG June 2018 release v1.10.1. and are based on the average value of prevention at 2010 prices and 2017 values. WebTAG guidance for damage only collisions is based on the work of Simpson and O'Reilly (1994) [Damage only collisions per PIC, Motorways = 7.6, Non-built-up= 7.8, Built-up 17.7].

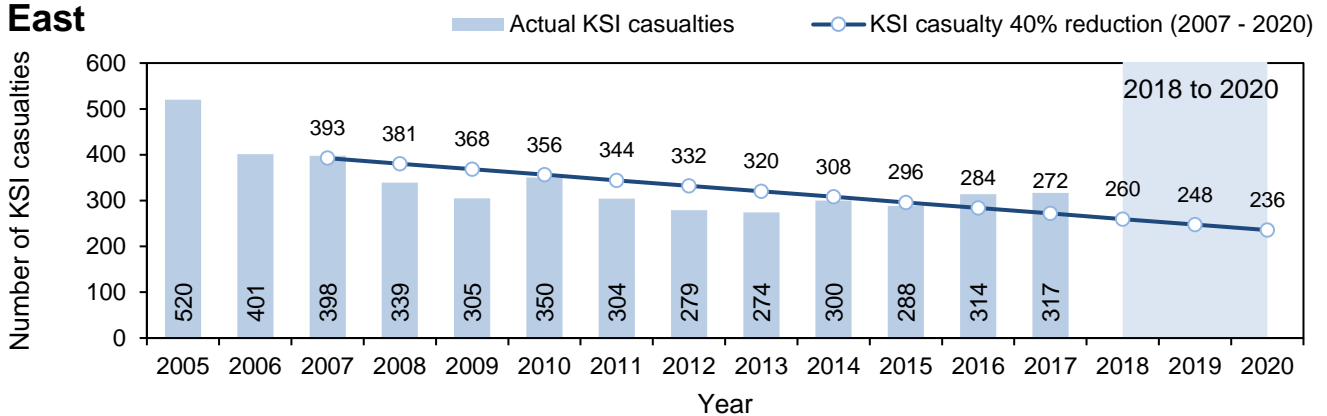
## 1.10. Regional KSI Values and Monitoring Points



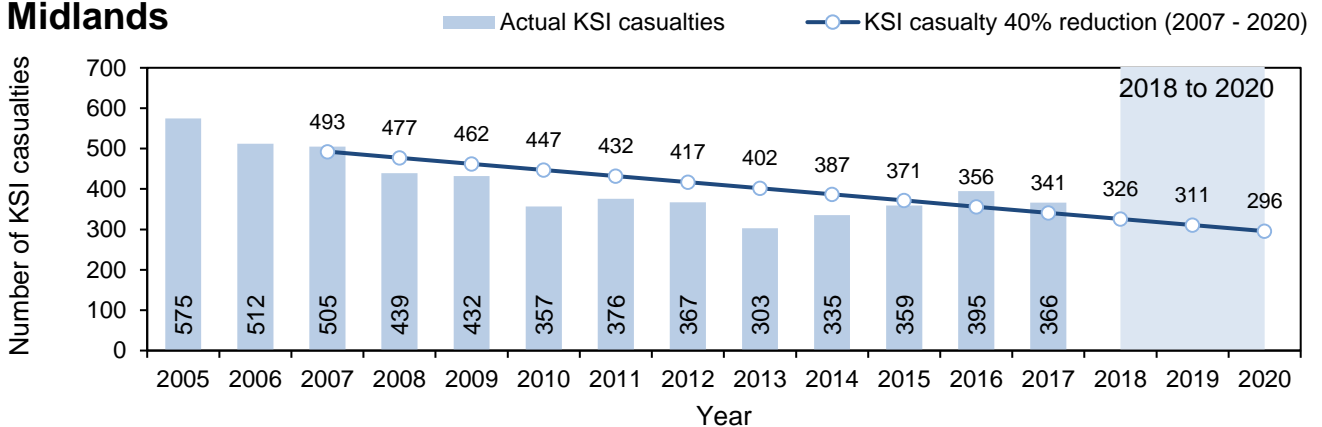
### North West



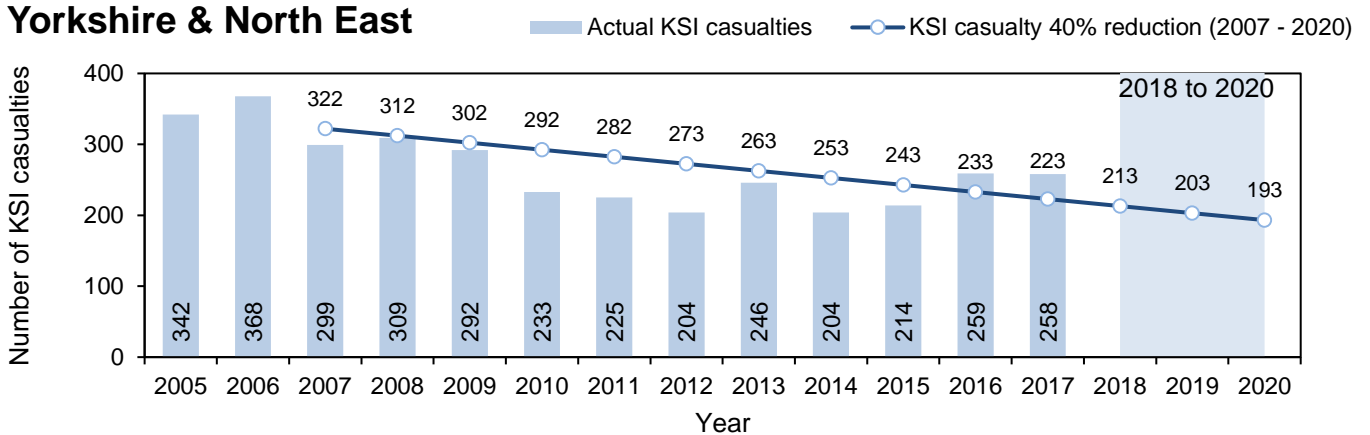
### East



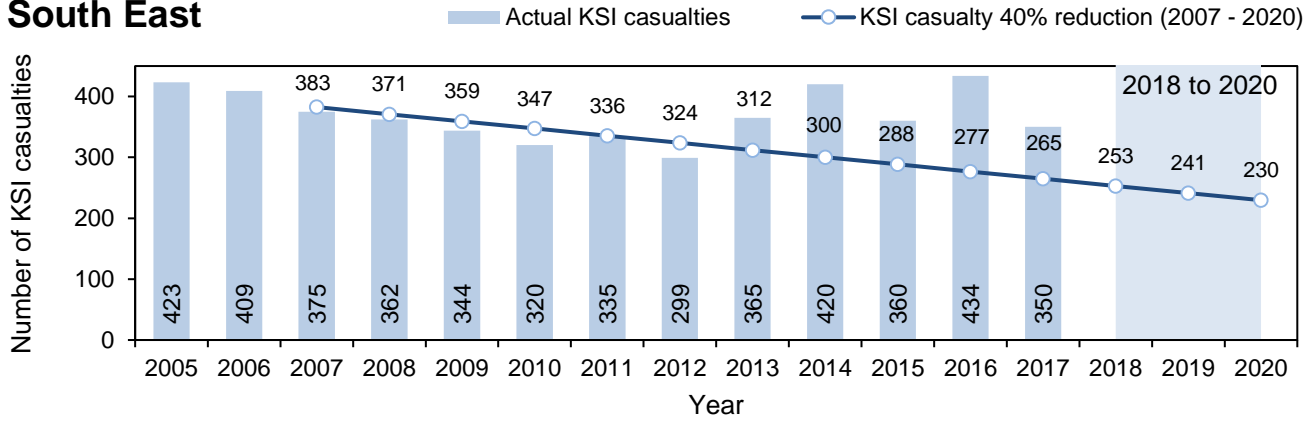
### Midlands



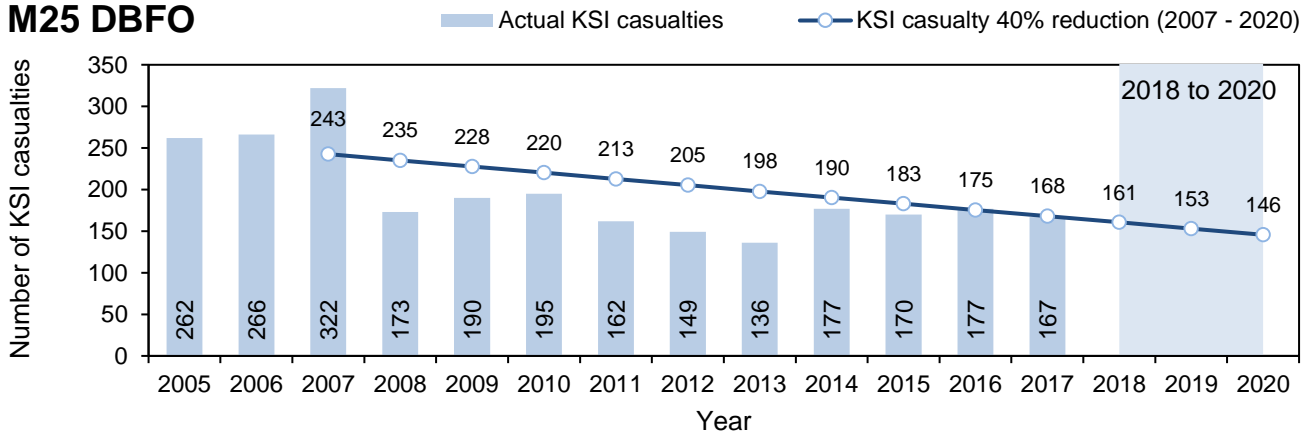
### Yorkshire & North East



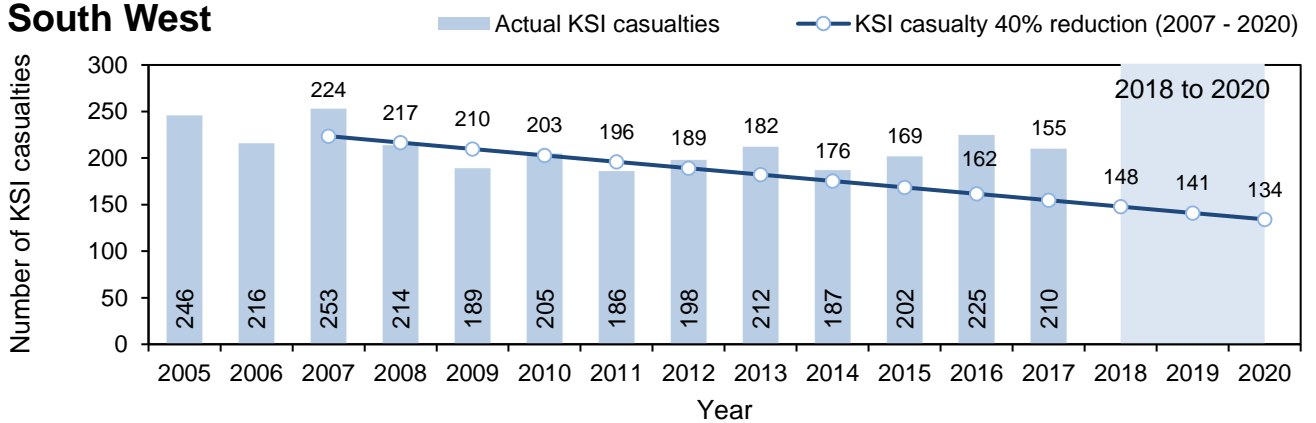
### South East



### M25 DBFO

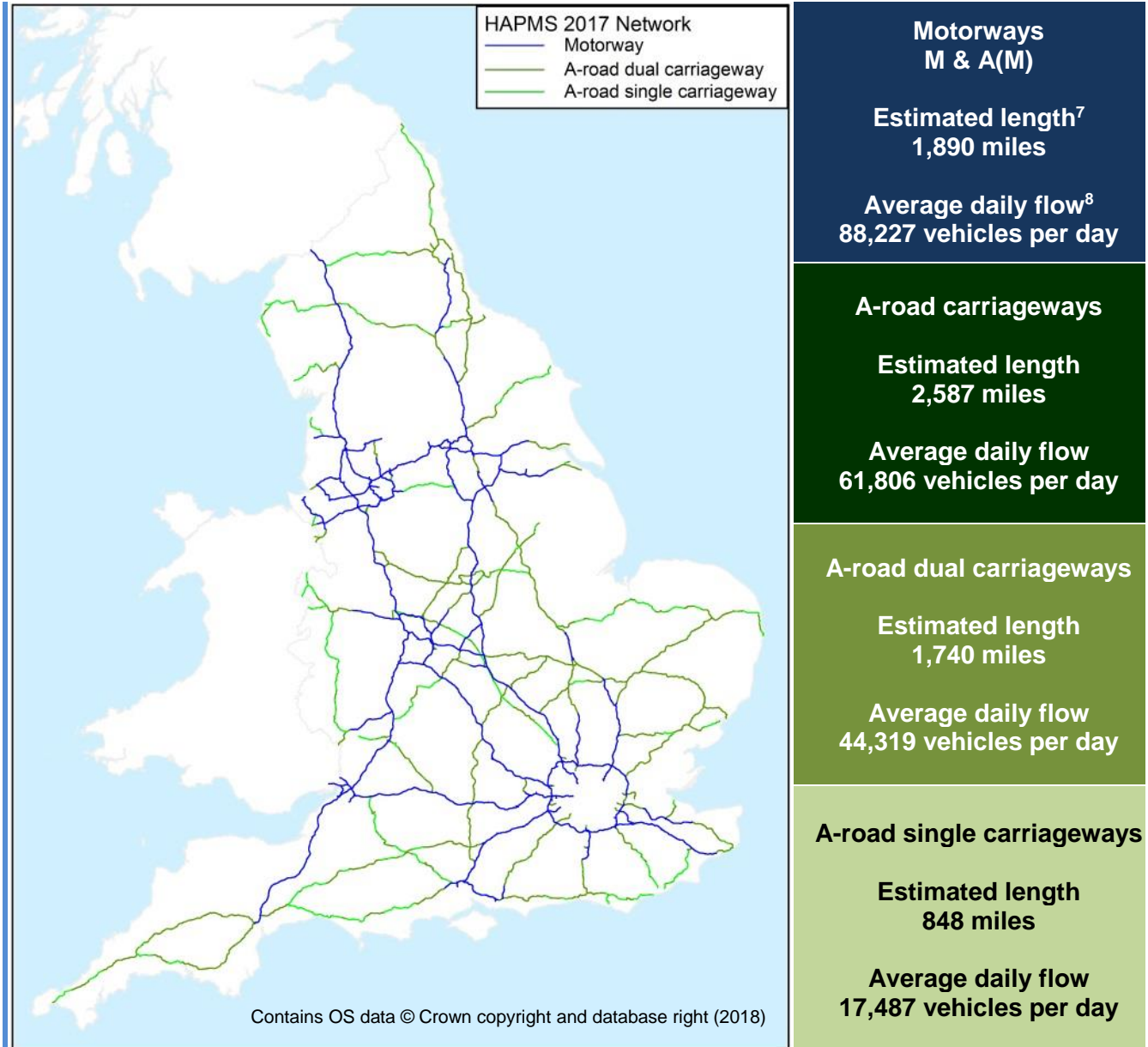


### South West



# 2. Network Summary

## 2.1. The SRN



**Figure 2-1 Highways England's 2017 Strategic Road Network**  
Based on the '2017 HAPMS' network

From 2016, the referenced network will be that at 1st January and will be updated annually to capture changes on the SRN in a timely manner. Pre-2016 was a fixed reference network taken in December 2010 ("2010 network").

<sup>7</sup> Based on summation of length from DfT count points identified as part of the 2017 SRN.

<sup>8</sup> Based on 2017 Annual Average Daily Flow (AADF) values obtained from DfT count points identified as part of the 2017 SRN.

## 2.2. Traffic Estimates and Economic Factors

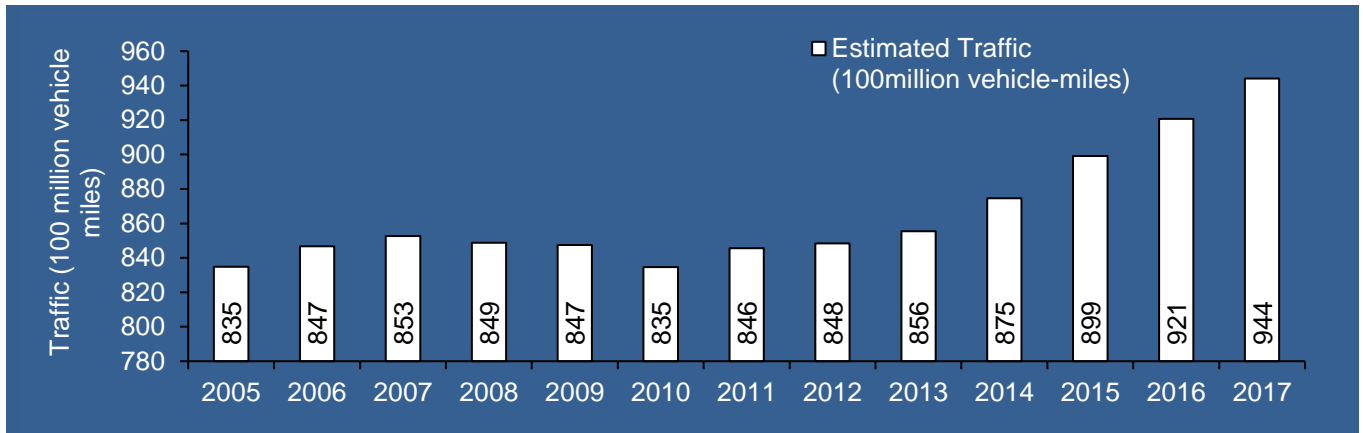


Figure 2-2 Historic traffic levels on the SRN

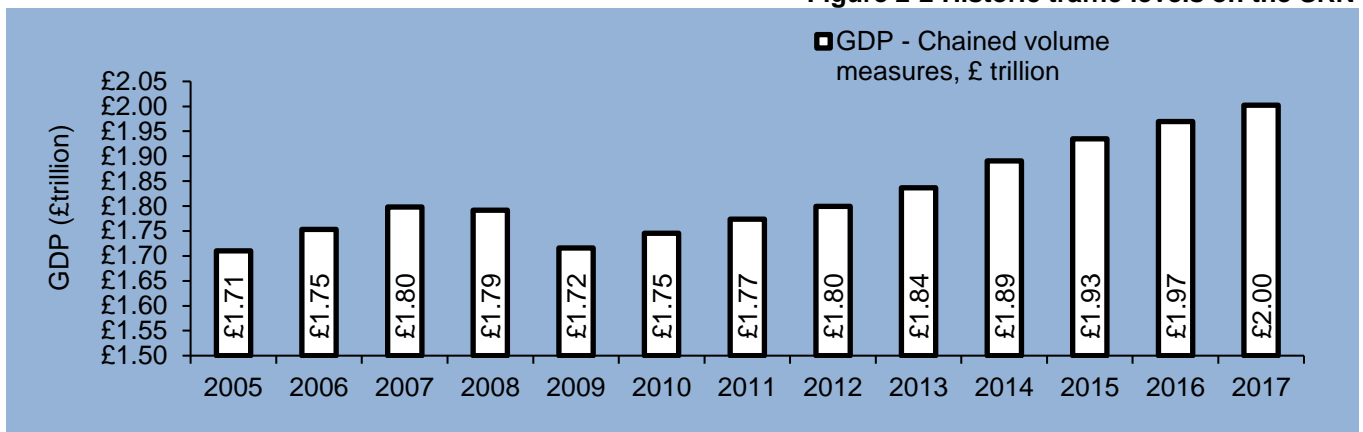


Figure 2-3 UK Gross Domestic Product between 2005 and 2017

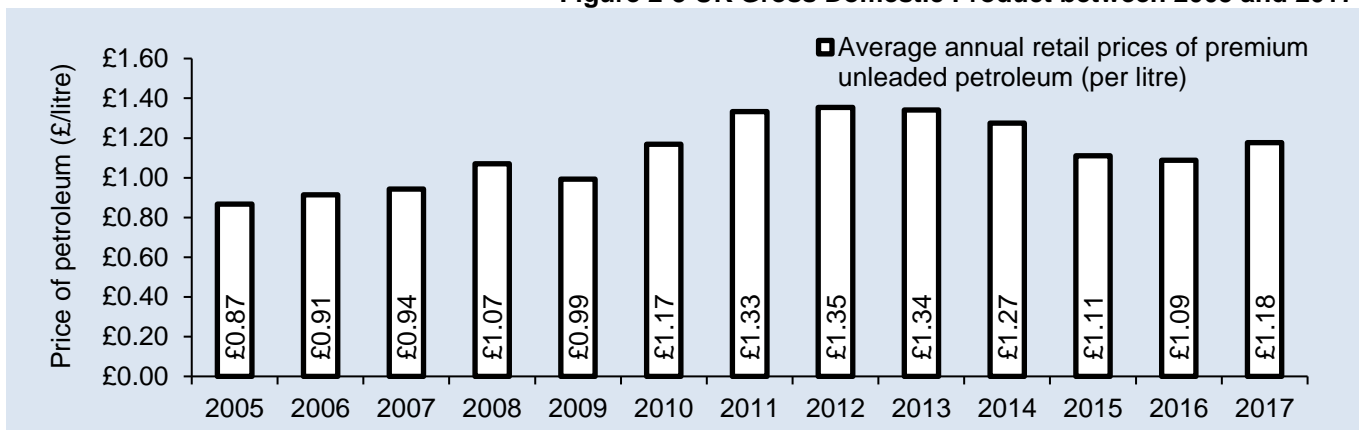


Figure 2-4 Average annual UK fuel prices between 2005 and 2017

Notes:

- (a) Traffic estimates based on 2017 AADF values obtained from DfT count points identified as part of the 2017 SRN.
- (b) UK GDP sourced from <https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/abmi/pn2>
- (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.

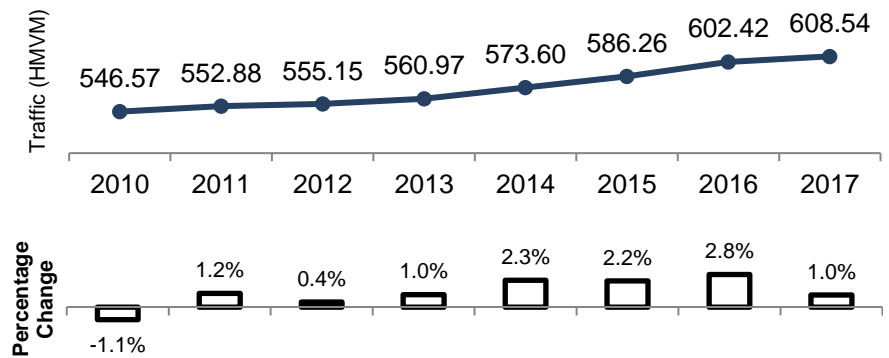
Figure 2-2 to Figure 2-4 show estimated traffic along with economic factors. Figure 2-2 shows that between 2007 and 2010, the SRN witnessed a decline in overall usage with headline traffic levels decreasing by 2.1 per cent from 853 hundred million vehicle miles (HMVM) to 835 HMVM.

Between 2010 and 2017, traffic levels increased 13.1 per cent from 835 HMVM to 944 HMVM, with the largest percentage traffic growth within this period (3.3 per cent) occurring between 2014 and 2015. In the same period (2010 to 2017), traffic on the Great Britain network (excluding estimates for the SRN) increased 5.9 per cent from 2,197 HMVM to 2,327 HMVM.

The increase in traffic on the SRN, since 2010, (Figure 2-2) correlates with the economic recovery from 2009 (Figure 2-3). The increase in traffic is also generally augmented by decreasing retail prices of premium unleaded petroleum, after 2012, as shown in Figure 2-4.



## 2.3. Traffic Estimates by Road Classification



### A-road

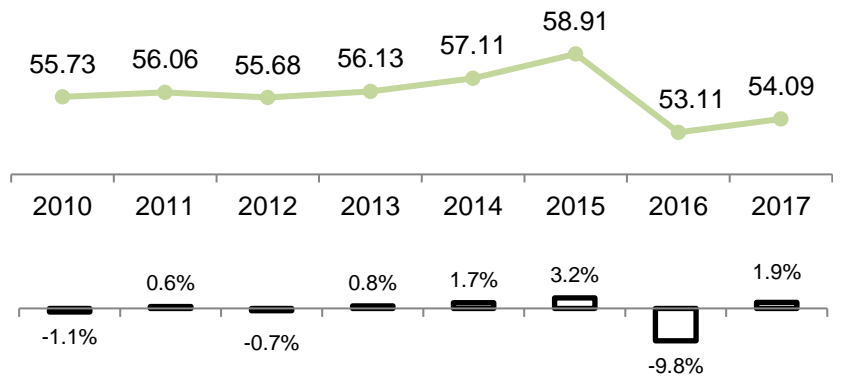
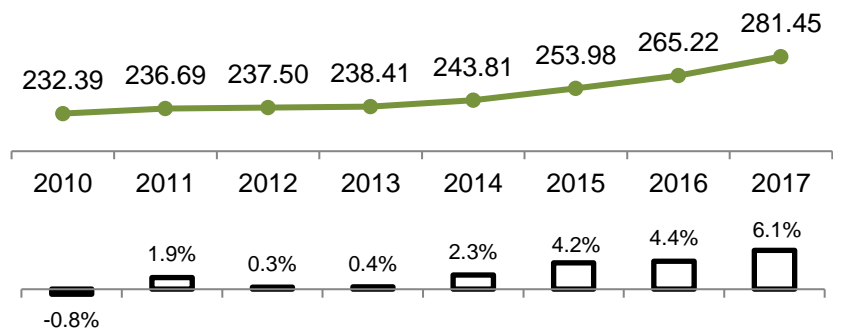
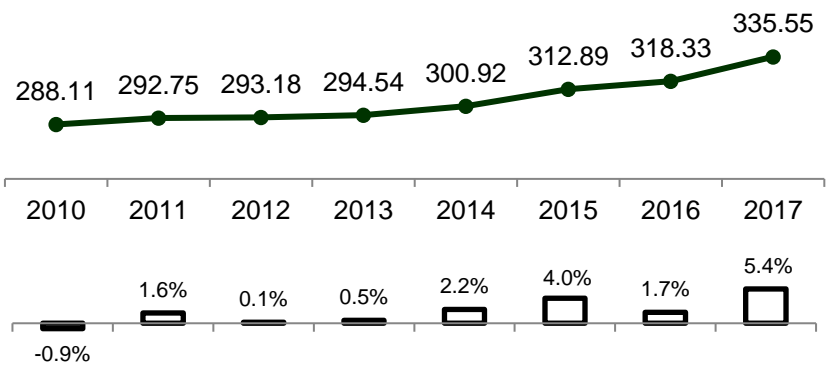


Figure 2-5 Traffic estimates by road classification

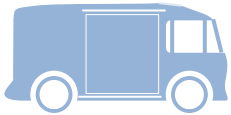
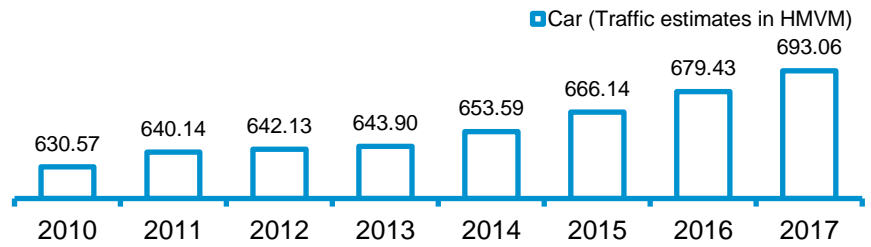
Estimates of traffic (measured in hundred million vehicle miles, HMVM) by road classification are provided in Figure 2-5. Between 2010 and 2017, there has been an 11.3 per cent increase in motorway traffic and a 21.1 per cent increase in A-road dual carriageway traffic on the SRN (based on the 2017 reference network). In contrast the traffic on A-road single carriageways decreased by 2.9 per cent over the same period (2010 and 2017). This could have been influenced by the corresponding 10.2 per cent reduction in A-road single carriageway length.

## 2.4. Traffic Estimates by Vehicle Type



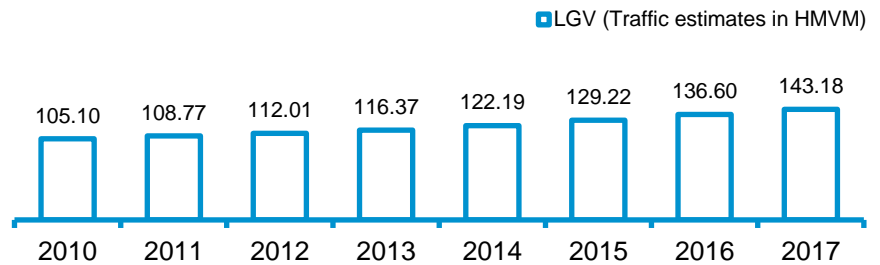
### Car

↑ 9.9% from 2010



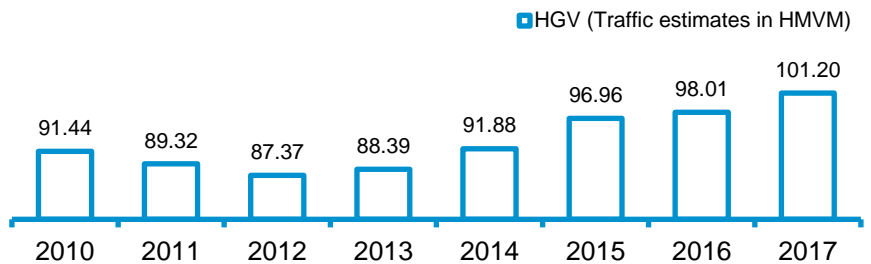
### LGV (other GV)

↑ 36.2% from 2010



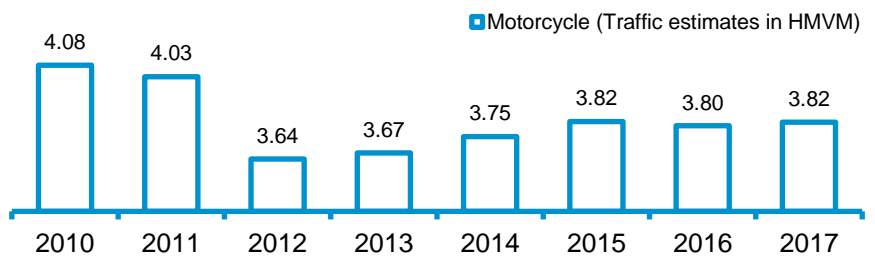
### HGV (over 3.5t)

↑ 10.7% from 2010



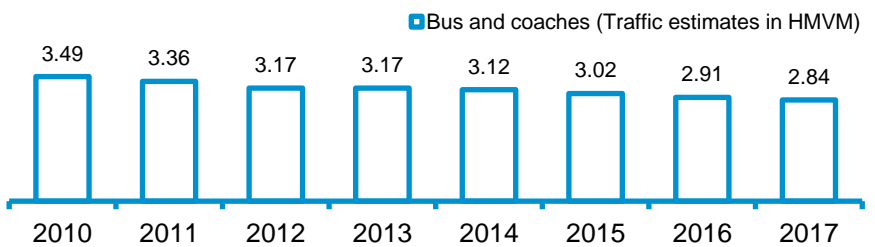
### Motorcycle

↓ 6.5% from 2010



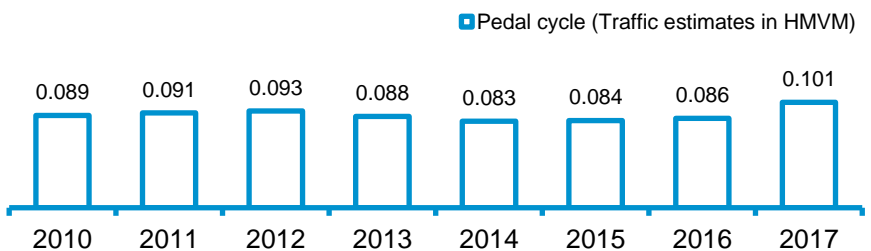
### Bus / coach

↓ 18.6% from 2010



### Pedal cycle

↑ 14.3% from 2010



Note: Measurement of the distance travelled by cyclists on the SRN is subject to considerable uncertainty

Figure 2-6 Traffic estimates by vehicle type

An estimate of vehicle traffic levels<sup>9</sup> on the SRN in 2017 is shown in Figure 2-6. As shown in the figure, the largest percentage of vehicle traffic on the SRN are cars (73.4 per cent) followed by LGVs (other goods vehicles<sup>10</sup>) with 15.2 per cent.

Between 2010 and 2017, out of the three major vehicle types (car, heavy goods vehicle (HGV) and light goods vehicle (LGV)), the largest increase was LGVs equivalent to 36.2 per cent; with a 4.8 per cent increase occurring between 2016 and 2017. As shown in Figure 2-6, LGV traffic increased steadily from 105.10 HMVM in 2010 to 143.18 HMVM in 2017. LGVs are further investigated in the goods vehicle topic of interest (Section 5.13).

In the same period, HGV traffic decreased till 2012 and subsequently increased to yield a net increase of 10.7 per cent over the period. Buses and coaches is the only vehicle type to show a continuous decrease (18.6 per cent) between 2010 and 2017.

---

<sup>9</sup> Vehicle traffic estimates were determined using count point 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 count points aligned with the corresponding reference network year were used in the calculation.

<sup>10</sup> For the purpose of reporting traffic estimates, where the vehicle type “other goods vehicle” has been recorded these are represented by light goods vehicles (LGV) as termed by the DfT.

# 3. Casualties

## 3.1. Roads

This section provides an overview of casualties linked to road classification by severity, year (including baseline (BSL)) and rates (i.e. number of casualties per HMVM). The rates provide an indication of the likelihood of being injured. The section also considers the influence of road environment.

Figure 3-1 to Figure 3-5 illustrate the casualty distribution on motorway, A-road dual carriageway and A-road single carriageway in terms of the number and rate. Comparison of data for the road classifications shows that for 2017:

- The most fatalities (91 out of 236) occurred on the motorways.
- The largest proportion of KSI (40.6 per cent) occurred on the motorways compared to A-road dual and A-road single carriageways. Also motorways showed the largest proportion of total casualties (48.7 per cent).
- The likelihood of being injured on motorways was the lowest of all three road classifications across all severities. Therefore, the data in Figure 3-1 is normalised to illustrate the ratio (based on casualty rate) between the likelihood of an injury occurring on a motorway, dual carriageway or single carriageway relative to the motorway.
- 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.

### 3.1.1. Casualties and likelihood of injury by road classification and severity

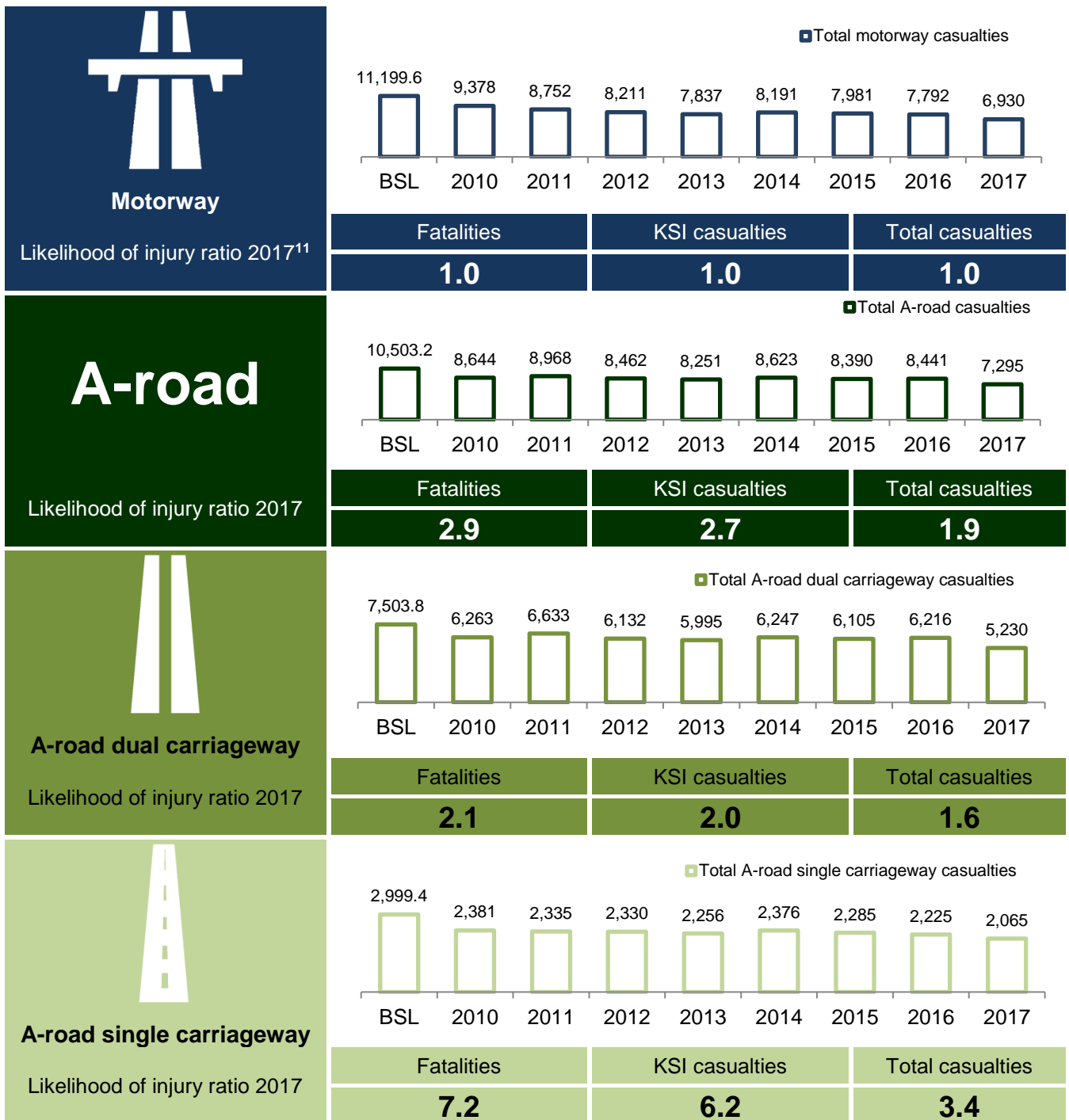


Figure 3-1 Casualties by road classification and likelihood of injury by road classification and severity

<sup>11</sup>'Likelihood of injury ratio' is the ratio between casualty rates; normalised to motorway data.

### 3.1.2. Motorway casualties and rates by severity

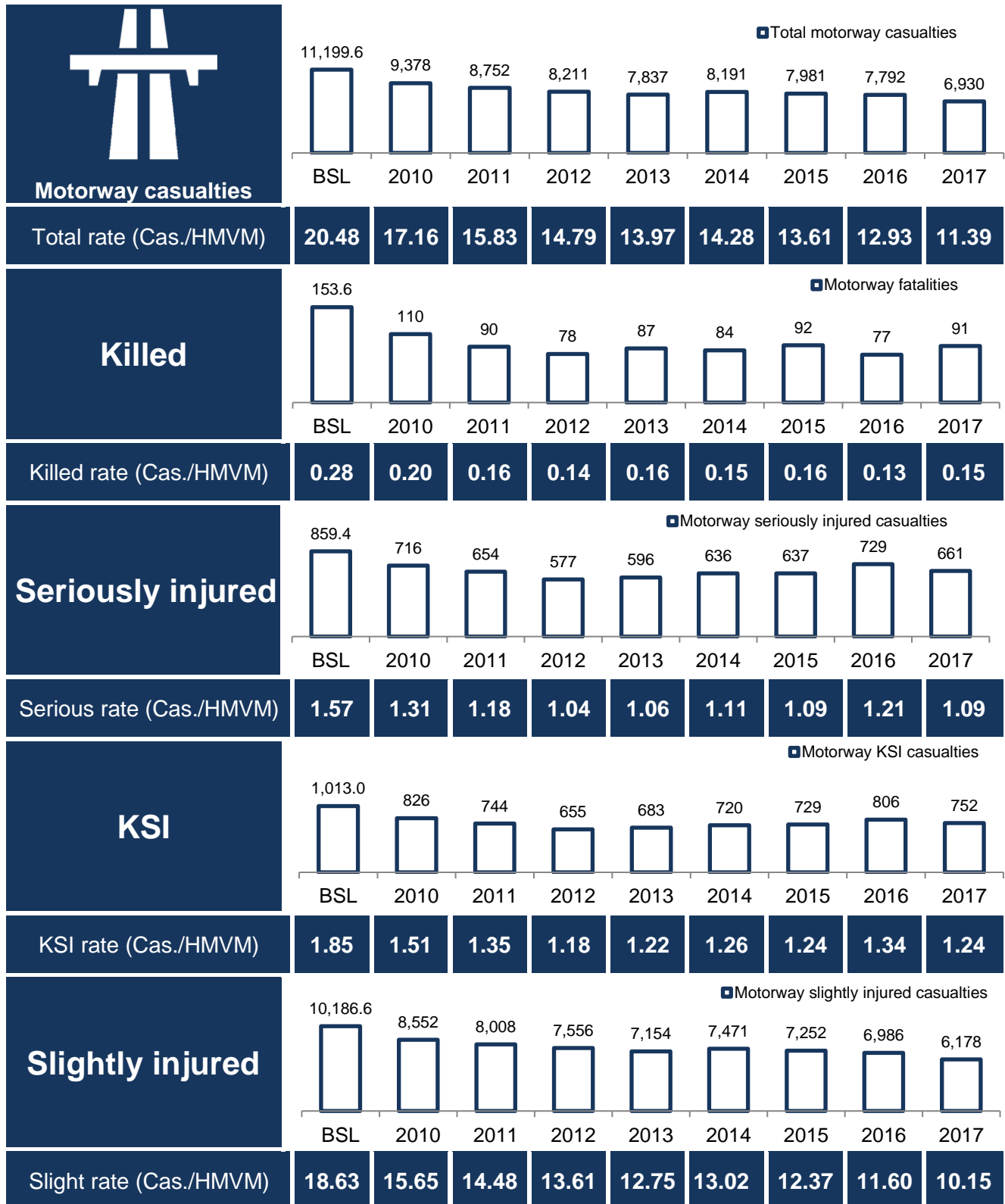


Figure 3-2 Motorway casualties and rates by severity

### 3.1.3. A-road casualties and rates by severity

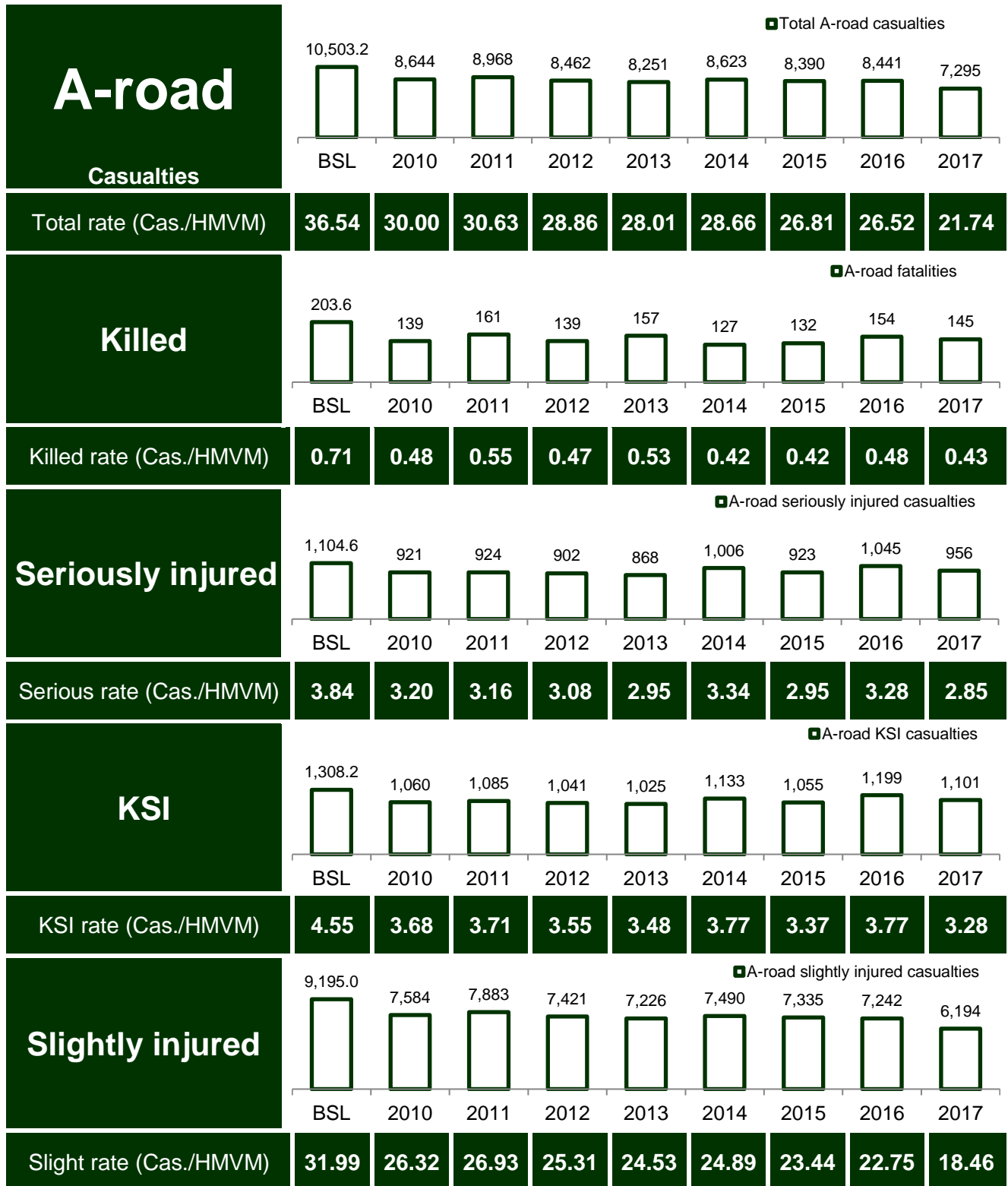


Figure 3-3 A-road casualties and rates by severity



### 3.1.4. A-road dual carriageway casualties and rates by severity

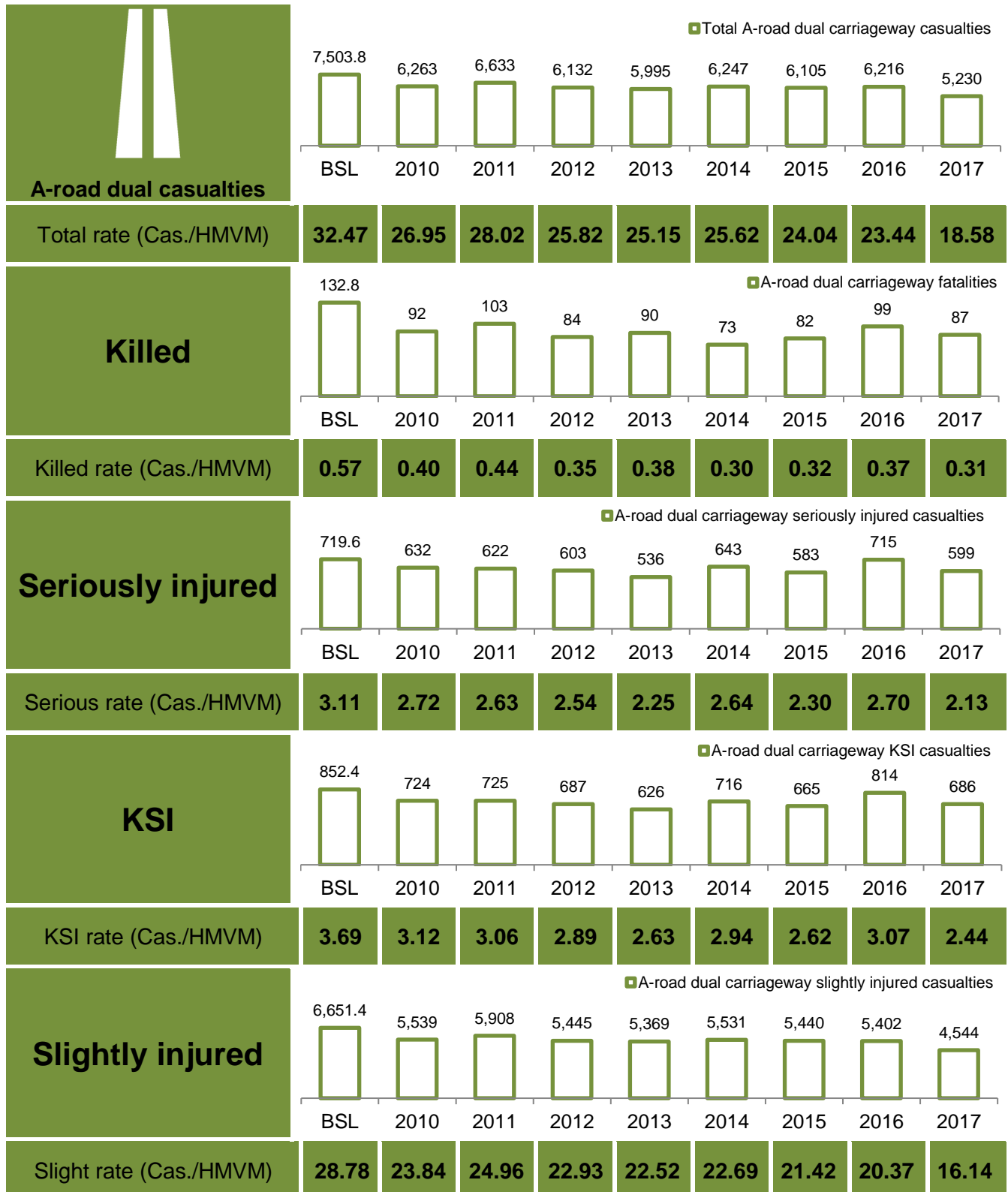


Figure 3-4 A-road dual carriageway casualties and rates by severity

### 3.1.5. A-road single carriageway casualties and rates by severity

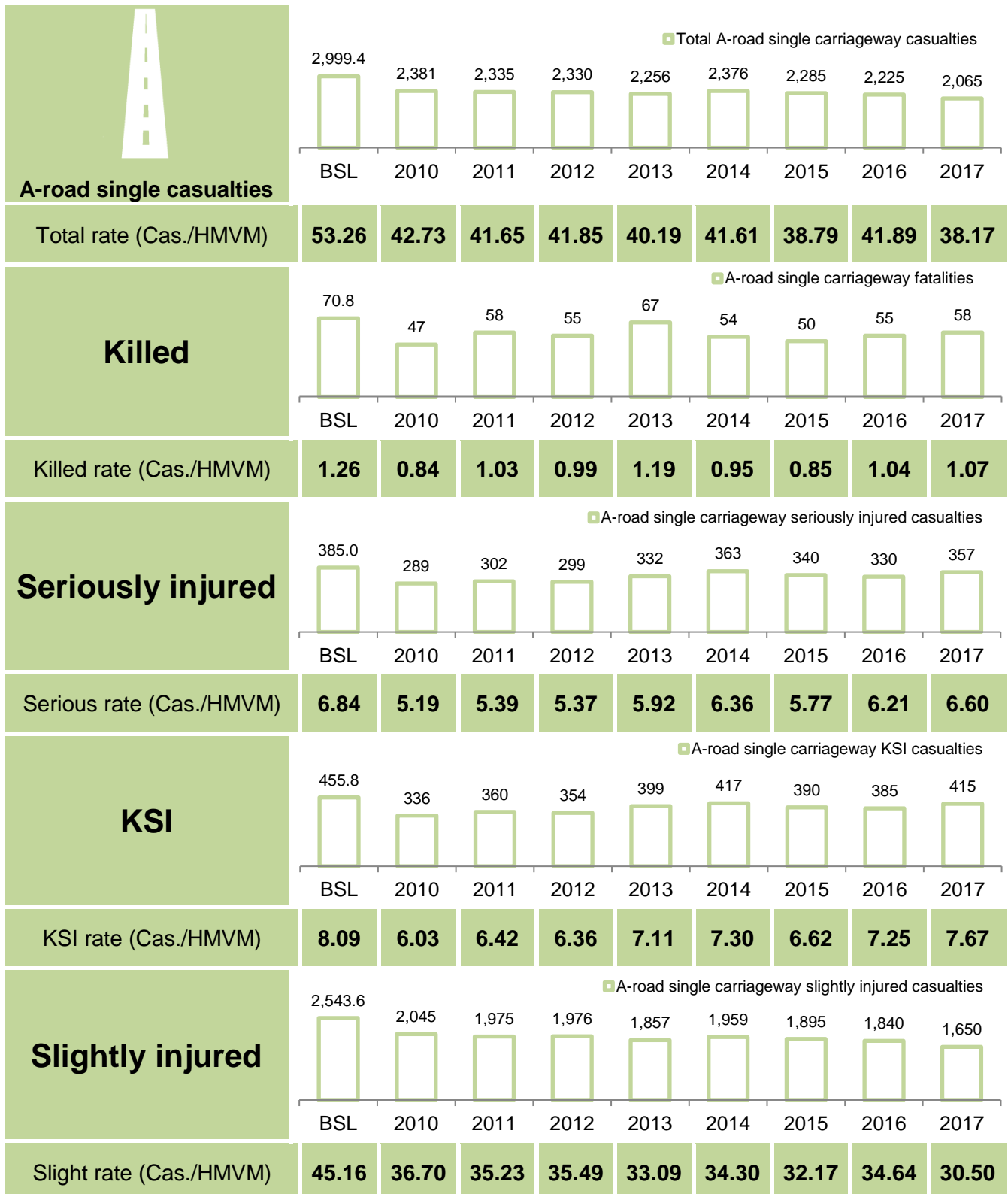


Figure 3-5 A-road single carriageway casualties and rates by severity

### 3.1.6. Casualties involving road environment

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

In 2017, the number of KSI casualties involving road environment factors was 160 and was equivalent to 8.6 per cent of the respective total KSI casualties (1,853). This is a 20.0 per cent decrease on the previous year, which was 200 and equivalent to 10.0 per cent in 2016.

Figure 3-6 summarises the number of KSI casualties involving at least one factor associated with the road environment from 2005 and 2017. The diagram depicting the split by road classification shows the trend in KSI casualties from 2005 to 2017, involving road environment factors, which indicates an overall downward trend with a continual fluctuation across all road classifications; particularly the motorways.

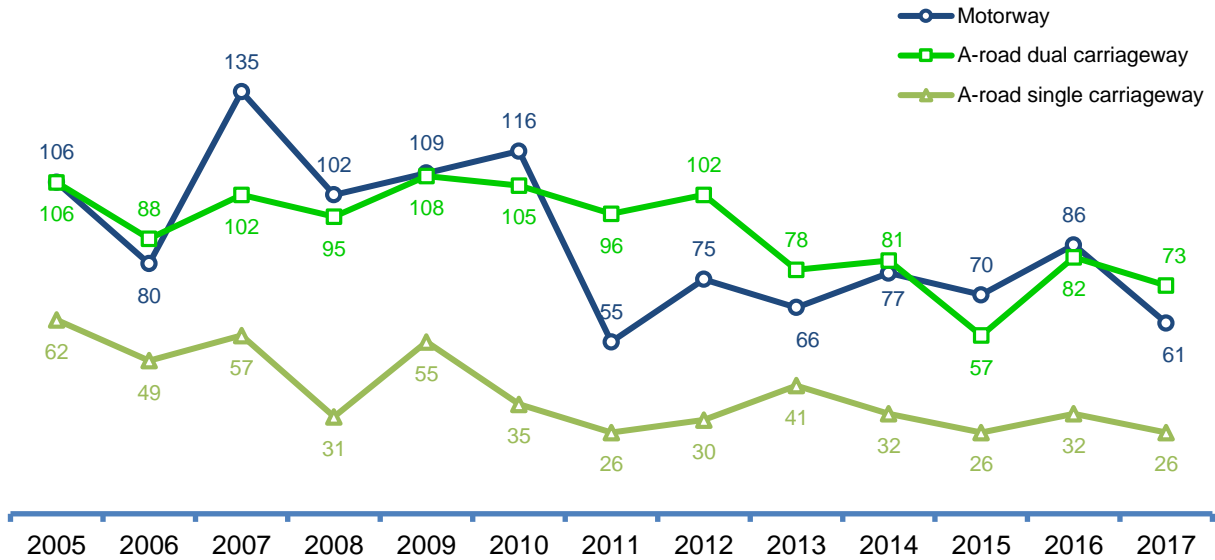
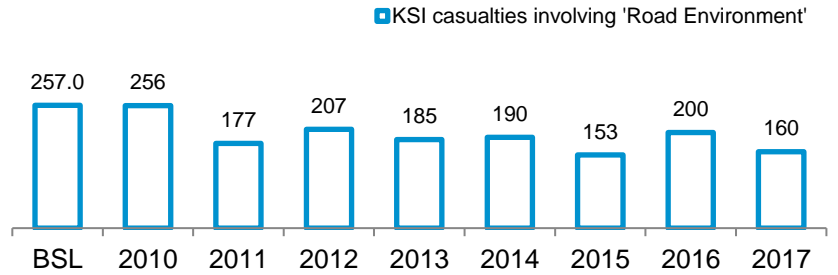
The primary contributory factor for road environment continues to be "Slippery road (due to weather)" which contributed to 112 of the KSI casualties in 2017. This is despite a 20.6 per cent decrease from 141 in 2016.

The number of casualties involving a poor or defective road surfacing on the SRN is also shown in Figure 3-6. This provides context on the potential human cost from defects in surfacing. From 2008 to 2011, England experienced harsh winters, with December 2010 being one of the coldest on record<sup>12</sup>. As a result, the occurrence of surface defects during and after this period became a significant concern for all stakeholders.


The graph depicting the trend of casualties involving poor or defective road surfacing (in Figure 3-6) shows that the number spiked in 2012; a 47.7 per cent increase from 44 in 2011 to 65 in 2012, followed by a 40.0 per cent decrease in 2013 to 39. The 2017 value is the lowest since the baseline period, with a decrease of 43.8 per cent from the 2016 value. 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.

<sup>12</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/4002/potholes-review-progress-report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4002/potholes-review-progress-report.pdf)

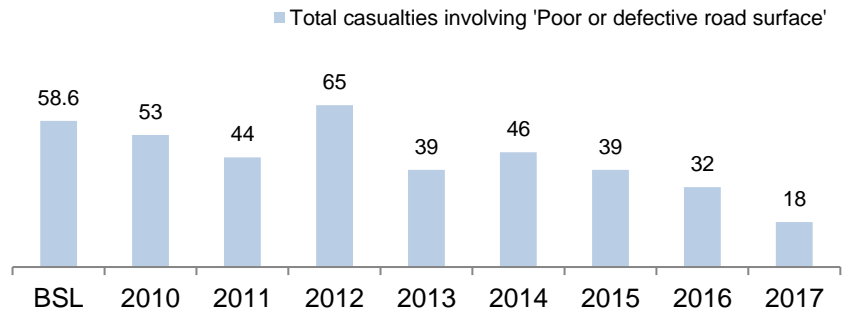
Road environment contributed to 160 KSI casualties in 2017  
 ↓ 20.0% on 2016



In 2017, 45.6% of KSI casualties where the road environment contributed were on A-road dual carriageways



'Poor or defective road surface' contributed to 18 casualties in 2017  
 ↓ 43.8% on 2016




Slippery road contributed to 112 KSI casualties in 2017  
 ↓ 20.6% on 2016

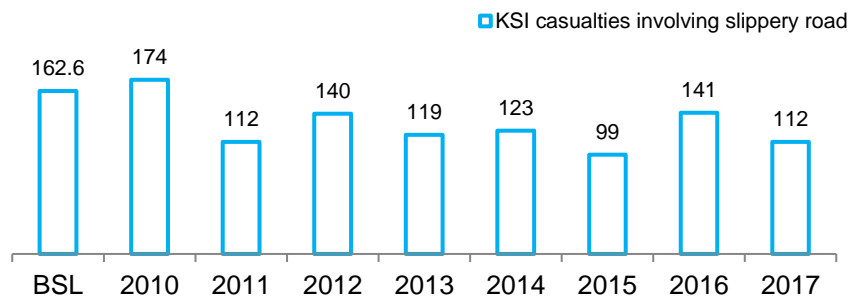


Figure 3-6 Summary of casualties where road environment contributed

## 3.2. Vehicles

This section briefly assesses the impact of vehicles on casualties occurring on the SRN.

The section primarily focuses on providing an overview of casualties based on first point of vehicle impact, different vehicle interactions and where vehicle defects contributed.

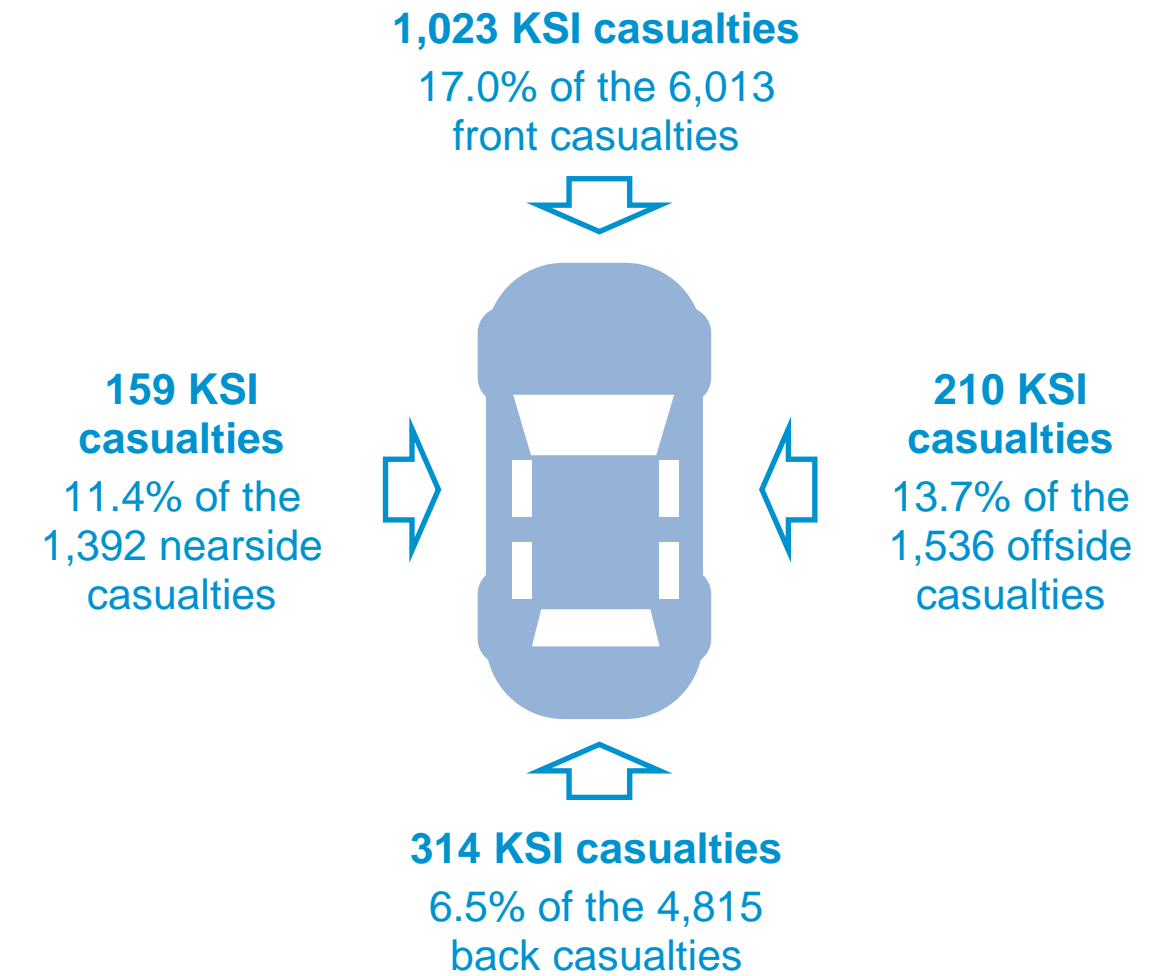
### 3.2.1. First point of impact

Figure 3-7 provides a breakdown of the number of KSI casualties by first point of vehicle impact. This represents the first point of impact recorded on the vehicle that the casualty is associated with.

Note: As part of STATS19, casualties are assigned to vehicles that they were occupying or riding at the time of the collision. Furthermore, pedestrians are assigned to the specific vehicle they collided with. This analysis, however, excludes pedestrian casualties as it is focussed only on vehicle occupants.

KSI casualties where the first point of vehicle impact was front (1,023) made up 57.9 per cent of KSI casualties in 2017 and the corresponding KSI severity ratio (KSI severity ratios are the percentage of KSI casualties to total casualties for each individual category) was 17.0 per cent. It can also be seen that both offside and nearside impacts resulted in similar number of casualties and KSI severity ratios, whilst the back impacts resulted in the lowest KSI severity ratio of 6.5 per cent.

**First point of impact:**



60 KSI casualties had no recorded first point of impact (57 in 2016)

*Note: Pedestrians excluded from analysis*

**Figure 3-7 Casualties by first point of impact**

### 3.2.2. Casualties from vehicle interactions

All collisions in 2017 are 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 by number of casualties and vehicles of all collision combination types where data were available are reported in Appendix Table E-9.

There can be 45 different combinations of vehicle type interactions involved in collisions. In the Appendix table(s) each collision interaction has been labelled with a reference letter (A to AS).

An evaluation of how specific vehicle interactions influence the numbers of casualties in 2017 by severity and type is provided in Figure 3-8 and Figure 3-9.

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.

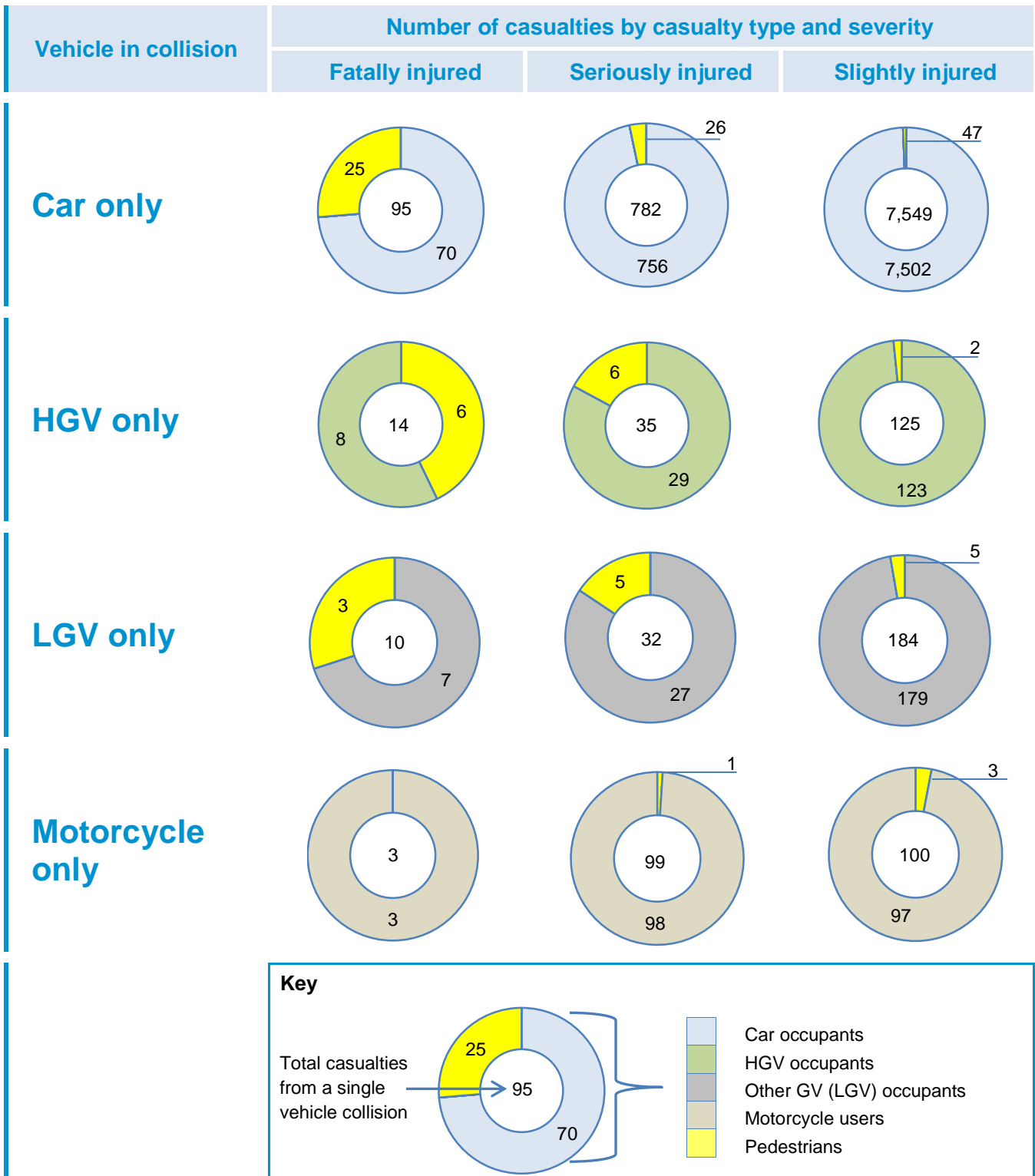


Figure 3-8 Casualty data for single vehicle



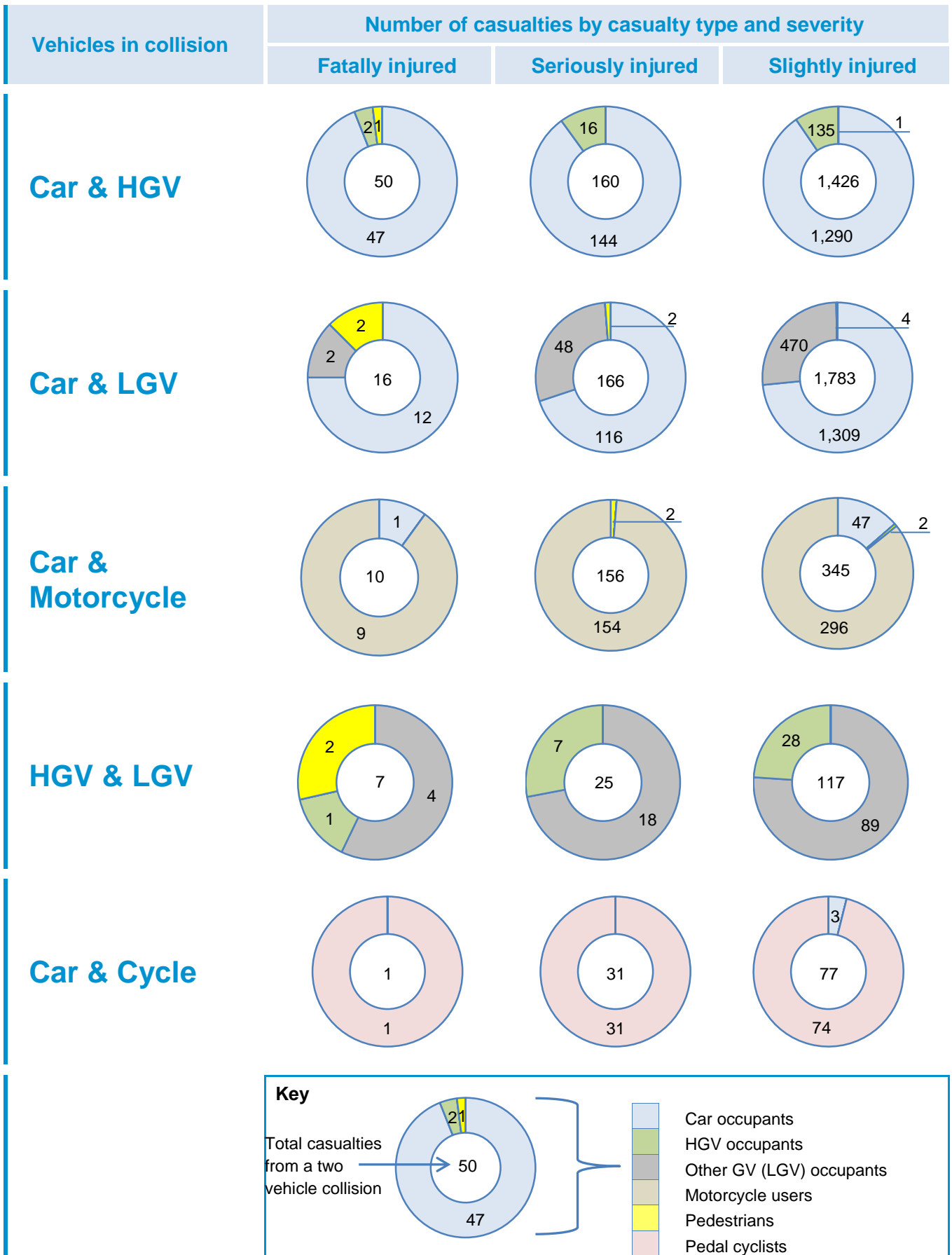


Figure 3-9 Casualty data by vehicle interaction

The most frequent interaction as shown in Figure 3-8 was car only collisions. Car only collisions resulted in 95 fatalities, equivalent to 40.3 per cent of the 236 total fatalities in 2017. In 2017, 25 pedestrian fatalities involved car only and 6 involved HGV only.

Where cars collide with vulnerable road users<sup>13</sup> such as motorcycle users and pedal cyclists, as shown in Figure 3-9, the vulnerable road users are at high risk of being fatally or seriously injured. In these two collision types, 99.5 per cent of the 198 KSI casualties were the vulnerable road user.

In collisions involving cars and HGVs, car occupants are disproportionately killed with 94.0 per cent of fatalities being car occupants. The corresponding KSI casualty value is 91.0 per cent. These values are above the corresponding 2016 values of 84.1 and 84.3 per cent respectively.

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<sup>13</sup> Vulnerable road users include motorcycle users, pedal cyclists and pedestrians.

### 3.2.3. Casualties involving vehicle defects

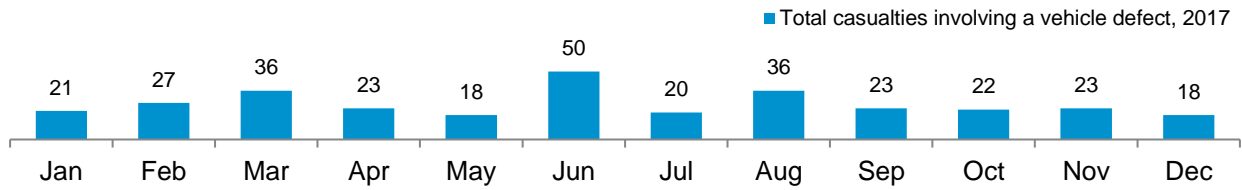
This section evaluates the number of casualties where at least one vehicle within a collision had a defect which was a contributory factor. As shown previously in Figure 2-3, it is apparent that the economic situation is recovering and hence this section also assesses the corresponding historic trends in vehicle defects.

Figure 3-10 provides a summary of casualties involving vehicle defects, including specific factors and their overall impact on KSI casualties for 2017. The latter indicates that the most common vehicle defect which contributed to 17 (37.0 per cent of) 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 5.12.

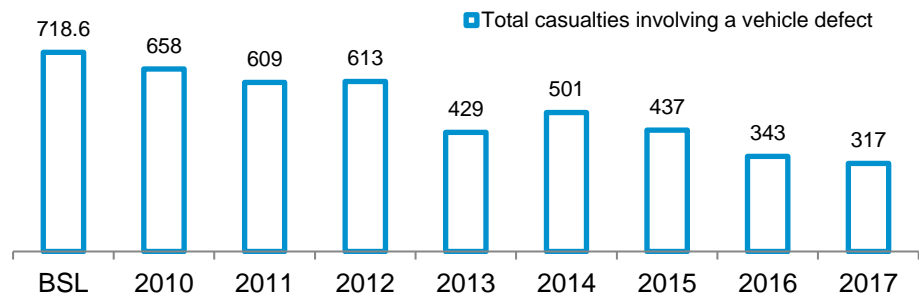
KSI casualties resulting from incidents involving vehicle defects decreased by 56.5 per cent from the baseline value of 105.8 to 46 in 2017. In comparison, overall KSI casualties decreased by 20.2 per cent from the baseline value of 2,321.2 to 1,853 in 2017. The most significant change over the period was between 2013 and 2014, which resulted in an increase in KSI casualties associated with vehicle defects by 78.7 per cent from 47 in 2013 to 84 in 2014. Since then the values have steadily decreased to be 46 in 2017.



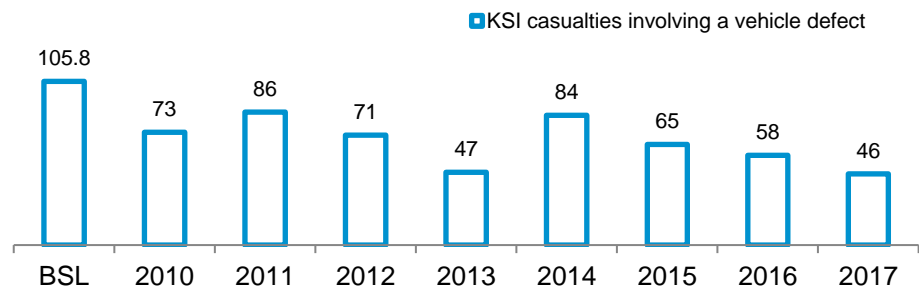
## Vehicle defect attributed to 317 casualties in 2017



## Vehicle defect attributed to 50 casualties in June 2017

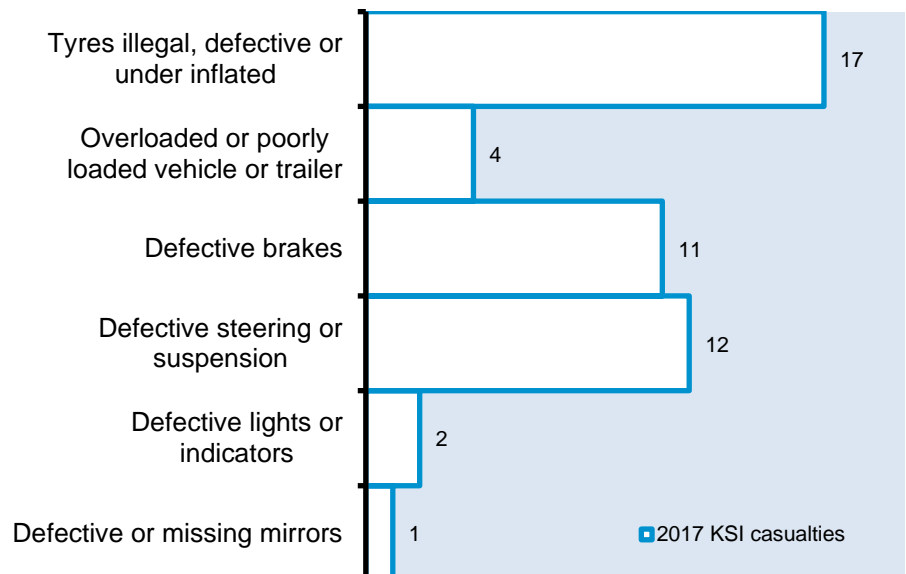


**Total casualties**  
 ↓ 7.6% from 2016



**KSI casualties**  
 ↓ 20.7% from 2016

**37.0% of KSI casualties associated with vehicle defects were attributed to 'Tyres illegal, defective or under inflated'**



As more than one contributory factor can be recorded per collision; defects will not sum to 46 KSI casualties

**Figure 3-10 Summary of casualty data involving a vehicle defect**

### 3.3. People

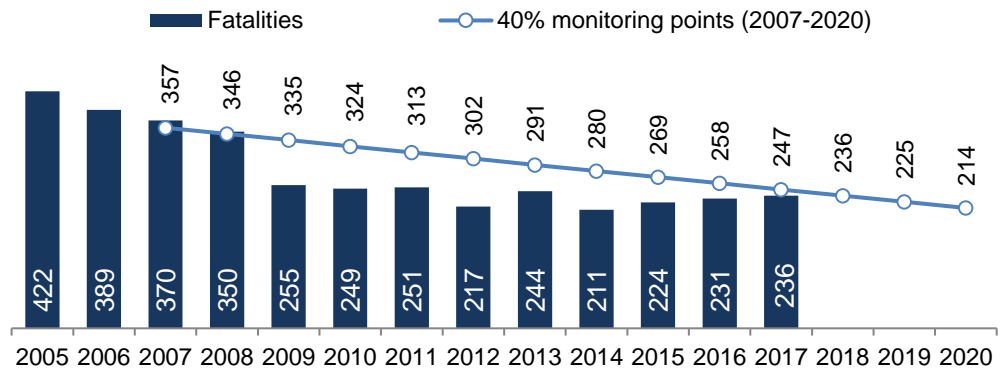
This section provides an assessment of the casualties on the SRN including an analysis of historic and future trends, casualty types and assessment of the drivers and riders including the human factors involved in collisions.

### 3.3.1. Casualty severity trends

This section identifies underlying trends in casualty data for each year, by severity, between 2005 and 2017. As explained in Section 1.3 the reporting of STATS19 via CRASH/COPA has had an impact on both seriously injured and slightly injured casualty data.

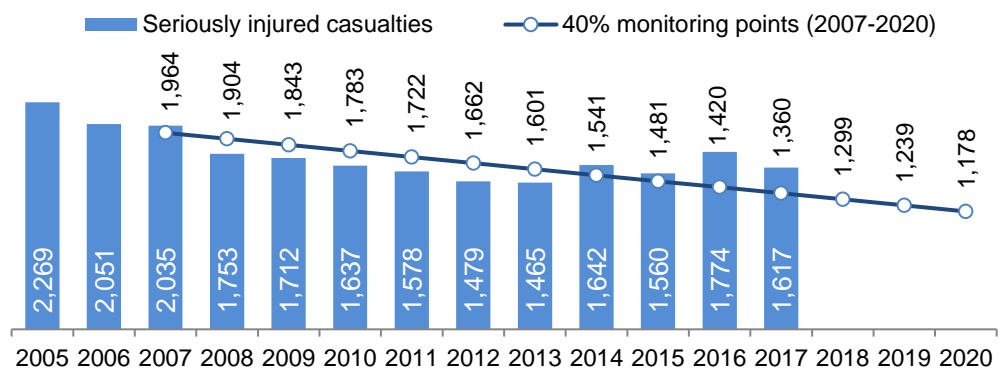
#### Fatalities

↑ 2.2 per cent from 2016



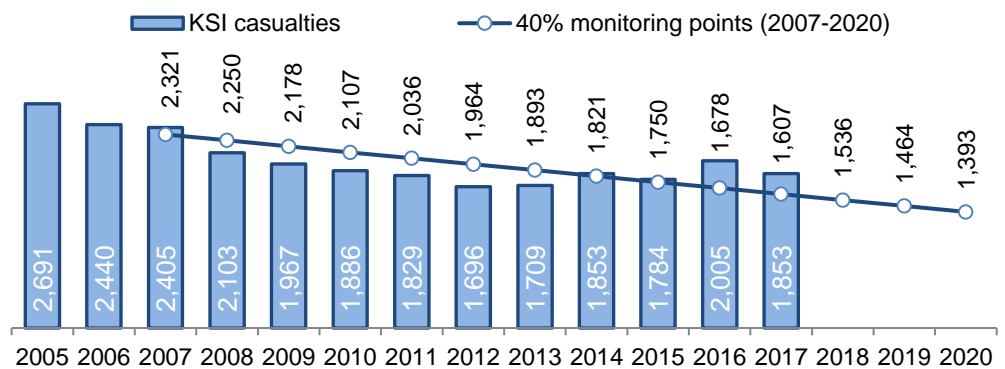
#### Seriously injured

↓ 8.9 per cent from 2016



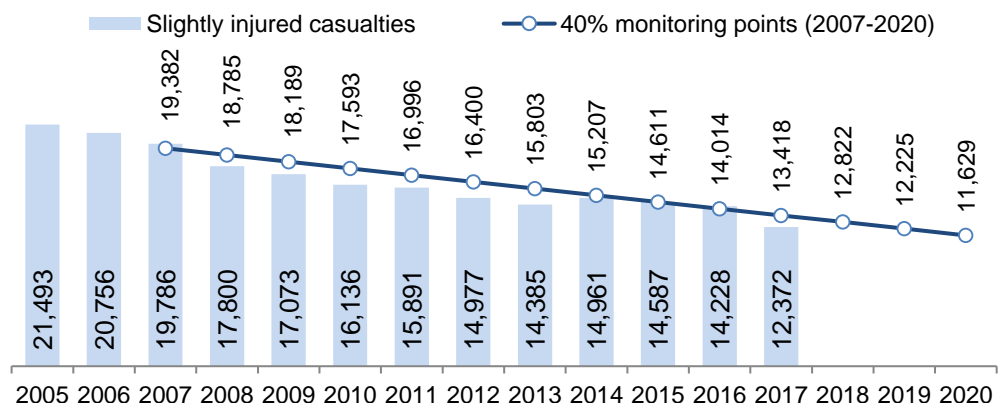
#### KSI

↓ 7.6 per cent from 2016



#### Slightly injured

↓ 13.0 per cent from 2016



## Total casualties

↓ 12.4 per cent from 2016

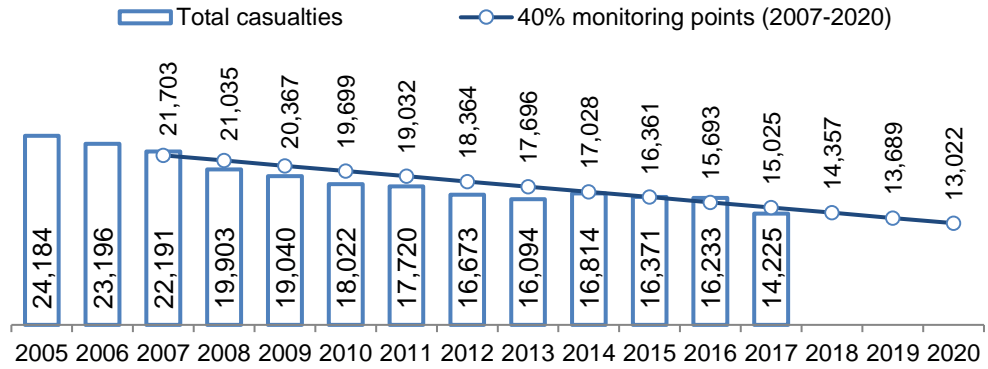


Figure 3-11 Casualty data trends by severity

Figure 3-11 provides an outline of historic casualty trends for fatally injured, seriously injured, KSI, slightly injured and total casualties between 2005 and 2017. It also provides the 40% monitoring points from 2007 to 2020.

All casualty severities apart from fatalities show a decrease in values from 2016 to 2017. The largest percentage reduction was the slightly injured casualties which decreased by 13.0 per cent (from 14,228 to 12,372). Fatalities slightly increased by 2.2 per cent (from 231 to 236).

Figure 3-12 indexes all severities against a base value of 100 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 3-12, the change in total casualties over time has been relatively steady (apart for 2008 and 2017) and the decrease on average was 3.8 index points per annum. The increase in the total number of casualties between 2013 and 2014 is the only increase since at least 2005. The fatalities profile plateaued at approximately 70 index points between 2009 and 2011 after which it fluctuated between approximately 60 and 70 index points. In 2017, fatalities increased from that of 2016 while KSI and total casualties decreased.

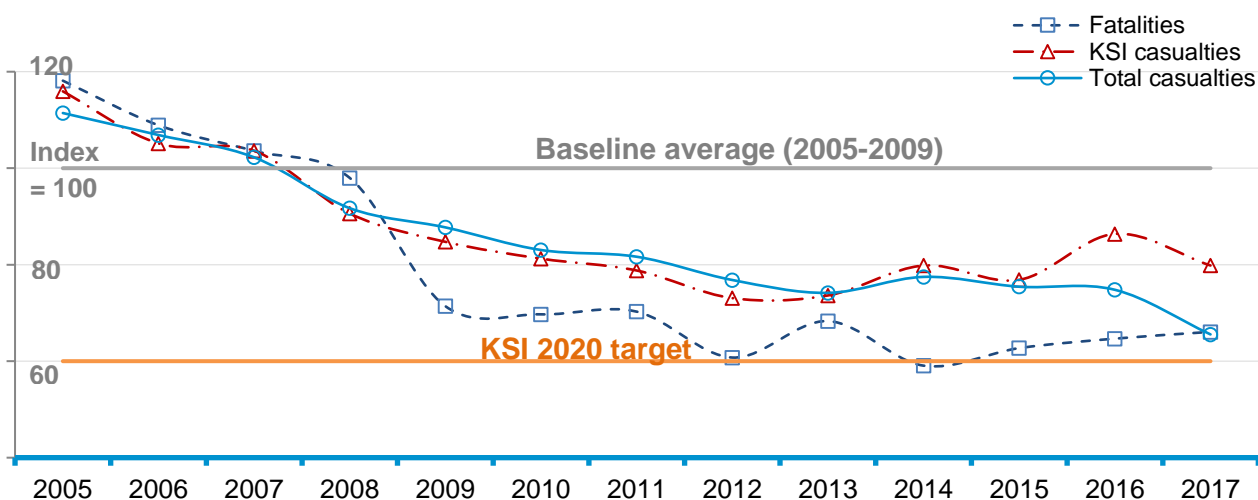
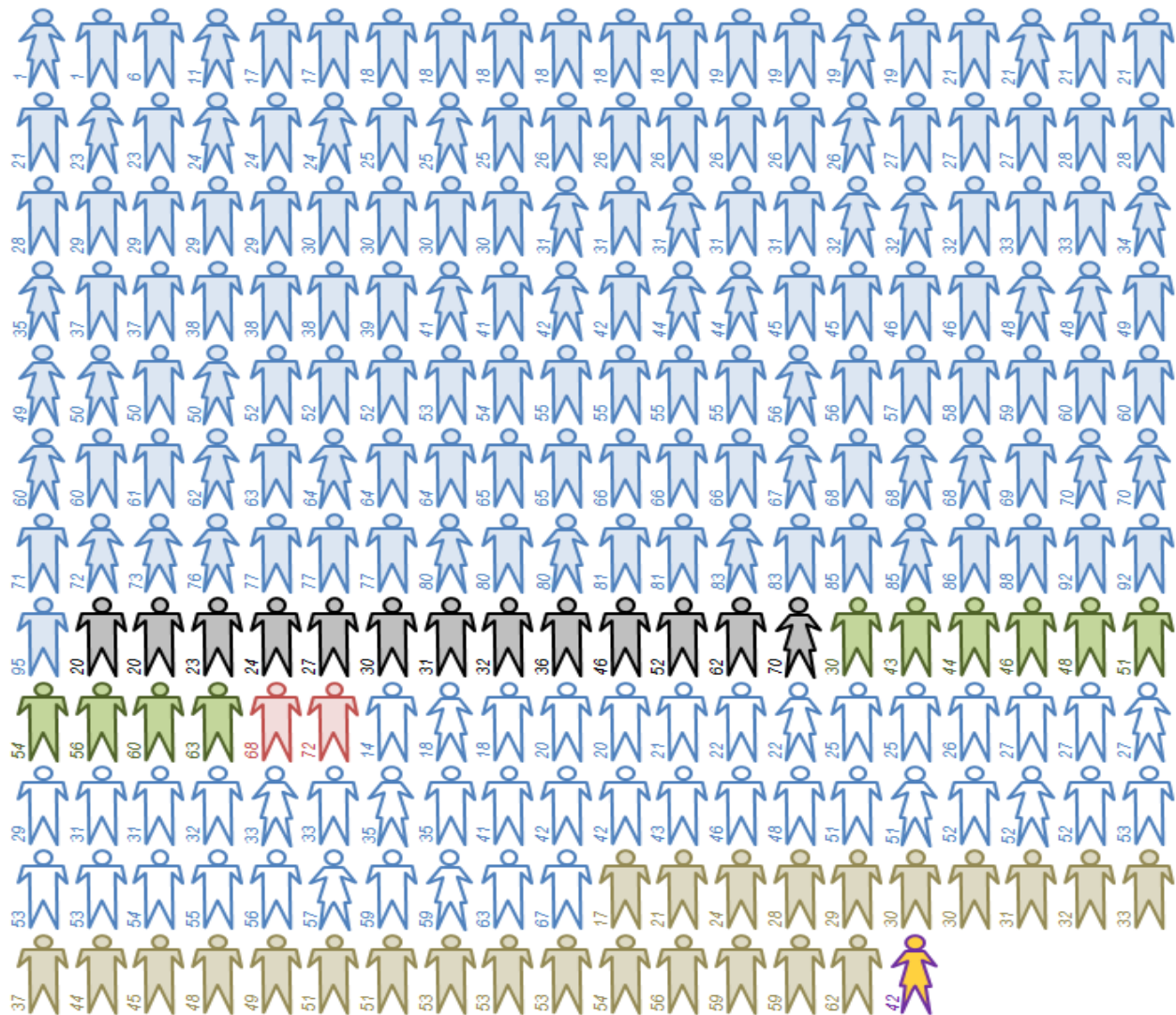


Figure 3-12 Index of changes in casualties by severity

### 3.3.2. Casualty by type and age

This section provides an overview of casualty types and ages involved in collisions on the SRN. Figure 3-13 illustrates all 236 fatalities in 2017 by casualty type, gender and age.



#### Notes and Key

Each complete row contains 20 fatalities  
 Gender indicated by shape; either male or female. Age indicated on left-leg.

	Pedestrian		Pedal cyclist		Car occupant		Motorcycle user
	HGV occupant		Other goods vehicle occupant		Other / unknown		

Figure 3-13 Pictogram of all SRN fatalities by casualty type, gender and age, 2017





Figure 3-13 shows that road users of multiple types, ages and gender were killed on the SRN in 2017; including two 1-year olds who were car occupants. No bus / coach occupants or horse riders were killed on the SRN in 2017.

Further data on casualty type, including trends, are provided in Appendix Table C-13. It shows that decreases in fatalities from 2016 to 2017 occurred in motorcycle users from 27 to 25, pedal cyclists from 3 to 2 and LGV occupants from 14 to 13. In contrast, pedestrians increased from 2016 to 2017 from 40 to 44 and car occupants from 136 to 141. However, HGV occupants remained unchanged from 2016 with 10 fatalities.

Similarly, the casualty age groups are provided in Appendix Table C-16. It highlights a decrease in Elderly (ages 70 years or over) fatalities from 31 in 2016 to 25 in 2017. Child (0-15) fatalities also showed a decrease; from 9 in 2016 to 5 in 2017. In contrast, the Young (16-19) and the Older (60-69) fatality values increased from 8 to 15 and 19 to 27 respectively.

Table 3-1 illustrates the number of KSI casualties by gender and age for 2017. For further details regarding casualties breakdown by gender and age see Appendix Table C-10. Comparing with 2016, only Older (60-69) males showed an increase of KSI casualties in 2017; Older (60-69) female KSI casualties decreased to 68 from 71 in 2016. In 2017 the number of Child (0-15), Young (16-19) and Older (60-69) male KSI casualties were circa. 50 per cent greater than that of the corresponding female KSI casualties. Elderly (70+) KSI casualties were comparable for males and females in 2017 (93 and 90 respectively).

**Table 3-1 Summary of KSI casualties by gender and age, 2017**

Gender	Children (0-15)	Young (16-19)	Other (20-59)	Older (60-69)	Elderly (70+)	Unknown age
 Male	36 ↑7.7%	66 ↑15.4%	946 ↑6.9%	102 ↑5.2%	93 ↑6.1%	7 -
 Female	24 ↑42.9%	39 ↑2.5%	378 ↑9.1%	68 ↑4.2%	90 ↑4.3%	4 -

Changes in casualty types and ages between 2010 and 2017 for KSI casualties are shown below in Figure 3-14 and Figure 3-15, and Figure 3-16.

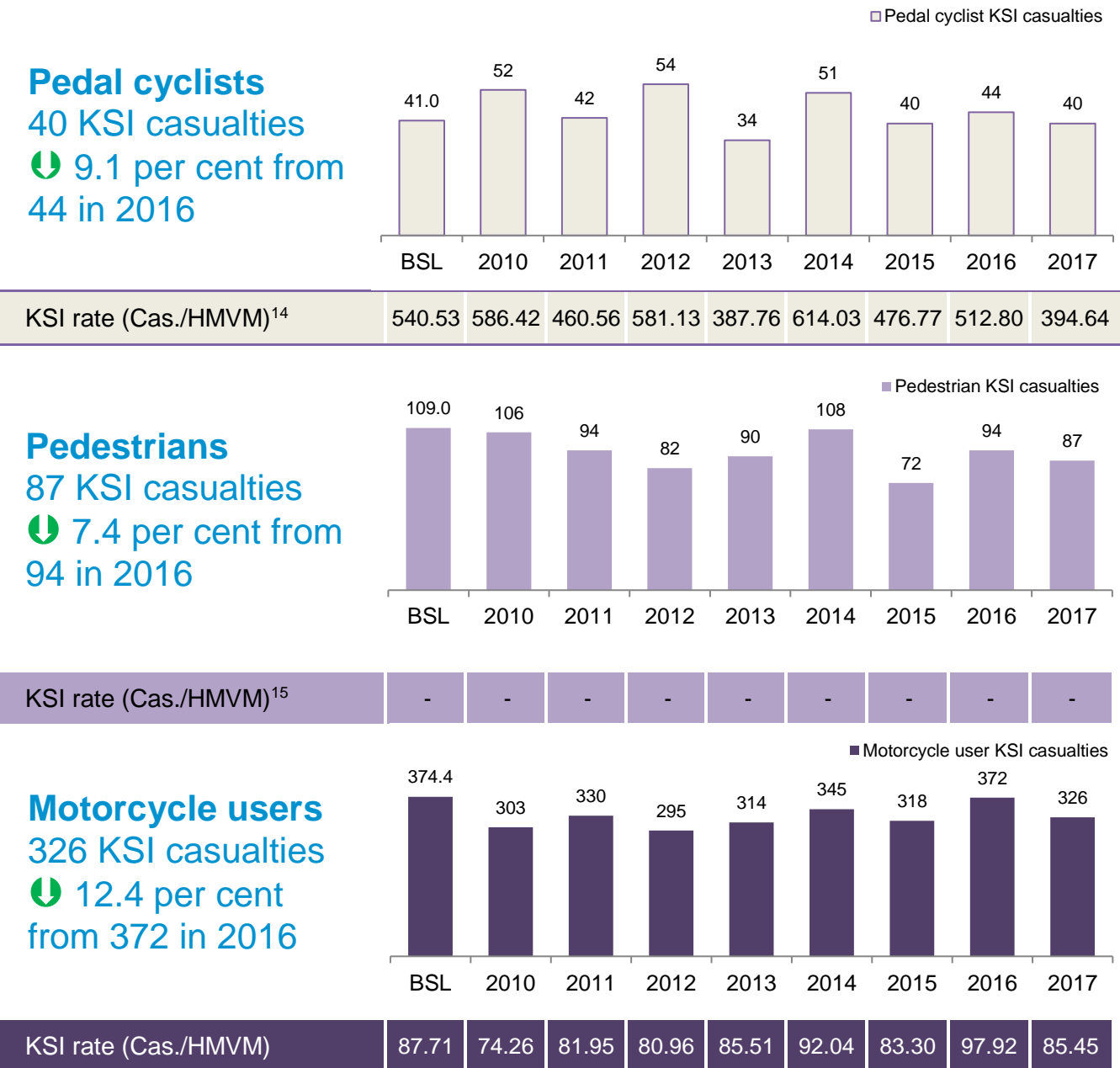


Figure 3-14 Vulnerable user KSI casualties and rates

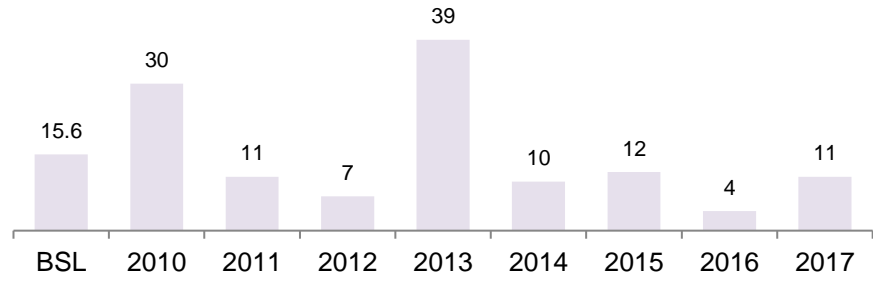
<sup>14</sup> It is known that pedal cyclist traffic data is difficult to estimate on the SRN and therefore it is unlikely that the rates shown are those actually experienced.

<sup>15</sup> Currently no traffic statistics for pedestrians on the SRN.

### Bus/ Coach occupants

11 KSI casualties  
⬆️ 175.0 per cent from 4 in 2016

■ Bus / Coach occupant KSI casualties



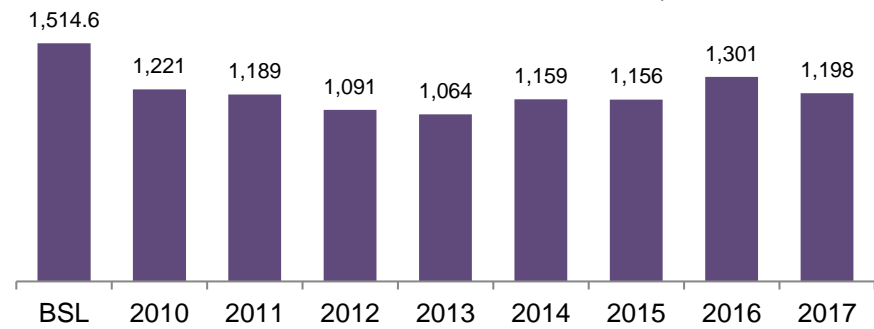
KSI rate (Cas./HMVM)

BSL	2010	2011	2012	2013	2014	2015	2016	2017
4.22	8.60	3.27	2.21	12.31	3.20	3.98	1.37	3.87

### Car occupants

1,198 KSI casualties  
⬇️ 7.9 per cent from 1,301 in 2016

■ Car occupants KSI casualties



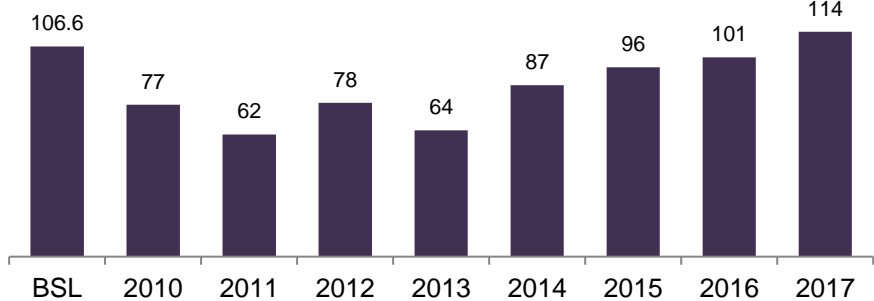
KSI rate (Cas./HMVM)

BSL	2010	2011	2012	2013	2014	2015	2016	2017
2.41	1.94	1.86	1.70	1.65	1.77	1.74	1.91	1.73

### Goods vehicle occupants

114 KSI casualties  
⬆️ 12.9 per cent from 101 in 2016

■ Goods vehicle occupant KSI casualties



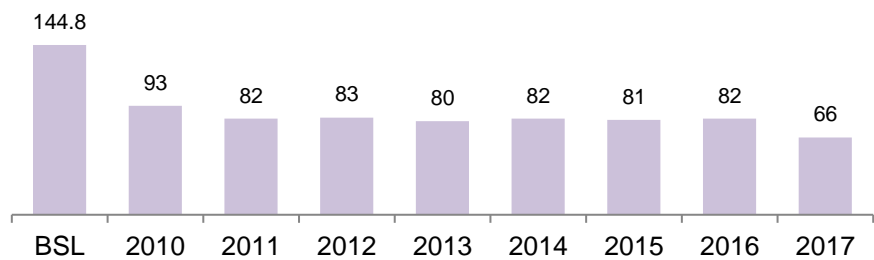
KSI rate (Cas./HMVM)

BSL	2010	2011	2012	2013	2014	2015	2016	2017
1.03	0.73	0.57	0.70	0.55	0.71	0.74	0.74	0.80

### HGV occupants

66 KSI casualties  
⬇️ 19.5 per cent from 82 in 2016

■ HGV occupant KSI casualties

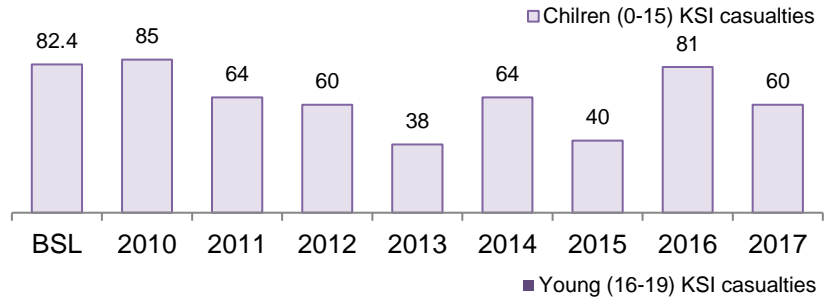


KSI rate (Cas./HMVM)

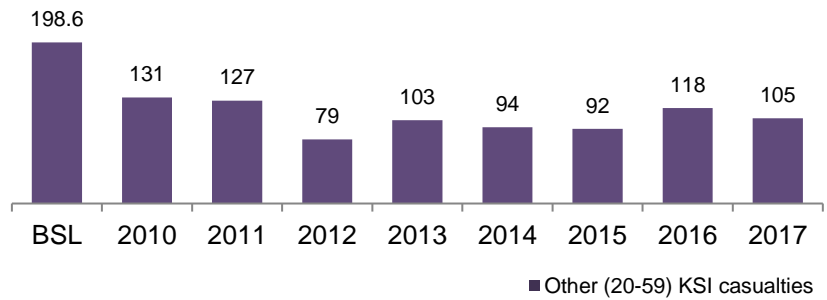
BSL	2010	2011	2012	2013	2014	2015	2016	2017
1.53	1.02	0.92	0.95	0.91	0.89	0.84	0.84	0.65

Figure 3-15 Non-vulnerable user KSI casualties

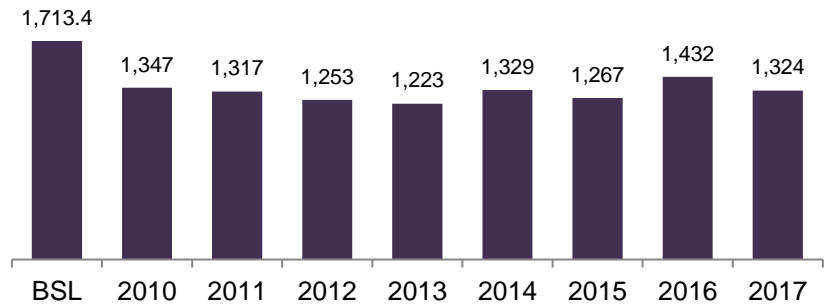
**Children (0-15)**  
60 KSI casualties  
↓ 25.9 per cent  
from 81 in 2016



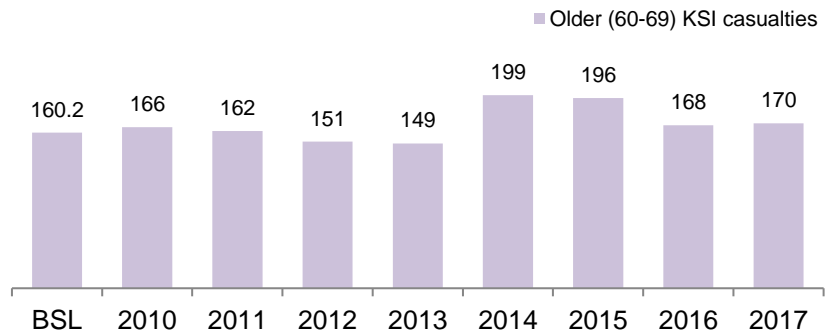
**Young (16-19)**  
105 KSI casualties  
↓ 11.0 per cent  
from 118 in 2016



**Other (20-59)**  
1,324 KSI casualties  
↓ 7.5 per cent  
from 1,432 in 2016



**Older (60-69)**  
170 KSI casualties  
↔ 1.2 per cent  
from 168 in 2016



**Elderly (70+)**  
183 KSI casualties  
↓ 5.2 per cent  
from 193 in 2016

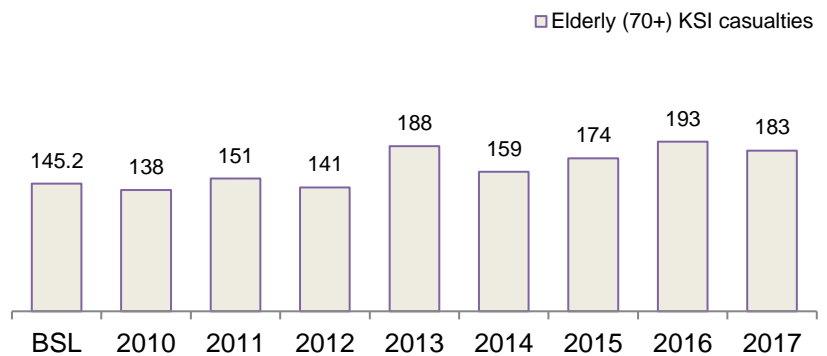


Figure 3-16 KSI casualties by age group

Figure 3-16 shows that Young (16-19) KSI casualties have decreased significantly compared to the 2005-09 baseline average, with a 47.1 per cent decrease. In contrast, the Older (60-69) and Elderly (70+) groups showed an increase in KSI casualties compared to the baseline, with the largest increase observed in Elderly (70+); a 26.0 per cent increase. Also, in 2017, Older (60-69) KSI casualties slightly increased following the notable drop reported in 2016; whilst Elderly (70+) showed a decrease after the increase reported in 2016.

Analysing changes in casualty type (linked to age), as provided in Appendix Table I-24, shows that in 2017 all major categories, other than Older Motorist (60-69), Elderly Motorist (70+) and Older Rider (60-69) showed a decrease in KSI casualties compared to the 2005-09 baseline average. Older Motorist (60-69), Elderly Motorist (70+) and Older Rider (60-69) KSI casualties have increased by 1.4, 36.6 and 70.1 per cent, respectively, against the baseline. Additionally the number of Elderly Motorist (70+) KSI casualties in 2017 is the greatest since at least 2010.

Further analysis of casualty age groups can be found in Sections 5.5 to 5.7.

### 3.3.3. Casualties where human factors contributed

Human factors remain the largest single cause of killed or seriously injured casualties on the SRN. In 2017, there were 1,423 KSI casualties resulting from at least one human factor representing 76.8 per cent of total KSI casualties.

Figure 3-17 is an assessment of the contributing human factors which result in KSI casualties on the SRN. These human factors broadly fall into four categories of contributory factors:

- Driver/rider error or reaction
- Impairment or distraction
- Injudicious action
- Behaviour or inexperience

The contributory factors within these groupings are provided in the table below<sup>16</sup>

**Table 3-2 Human factor contributory factors**

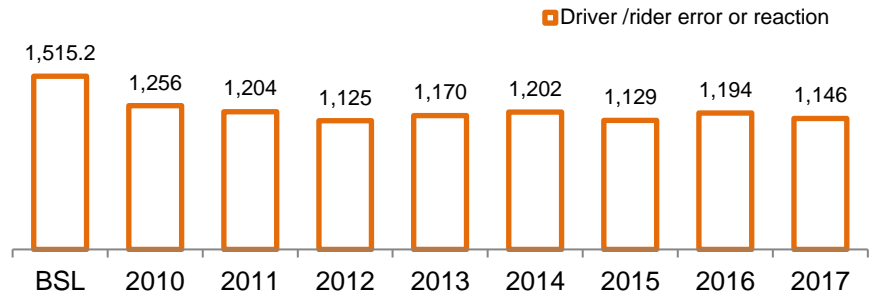
Injudicious action			
301	Disobeyed automatic traffic signal	306	Exceeding speed limit
302	Disobeyed 'Give Way' or 'Stop' sign or markings	307	Travelling too fast for conditions
303	Disobeyed double white lines	308	Following too close
304	Disobeyed pedestrian crossing facility	309	Vehicle travelling along pavement
305	Illegal turn or direction of travel	310	Cyclist entering road from pavement
Driver/Rider error or reaction			
401	Junction overshoot	406	Failed to judge other person's path or speed
402	Junction restart (moving off at junction)	407	Too close to cyclist, horse rider or pedestrian
403	Poor turn or manoeuvre	408	Sudden braking
404	Failed to signal or misleading signal	409	Swerved
405	Failed to look properly	410	Loss of control
Impairment or distraction			
501	Impaired by alcohol	506	Not displaying lights at night or in poor visibility
502	Impaired by drugs (illicit or medicinal)	507	Rider wearing dark clothing
503	Fatigue	508	Driver using mobile phone
504	Uncorrected, defective eyesight	509	Distraction in vehicle
505	Illness or disability, mental or physical	510	Distraction outside vehicle
Behaviour or inexperience			
601	Aggressive driving	605	Learner or inexperienced driver/rider
602	Careless, reckless or in a hurry	606	Inexperience of driving on the left
603	Nervous, uncertain or panic	607	Unfamiliar with model of vehicle
604	Driving too slow for conditions or slow veh (e.g. tractor)		

<sup>16</sup> Full listing of contributory factors of all groupings is provided in Appendix Table F-1.

## 1,423 KSI casualties where human factors were attributed 76.8 per cent of the 1,853 KSI casualties in 2017

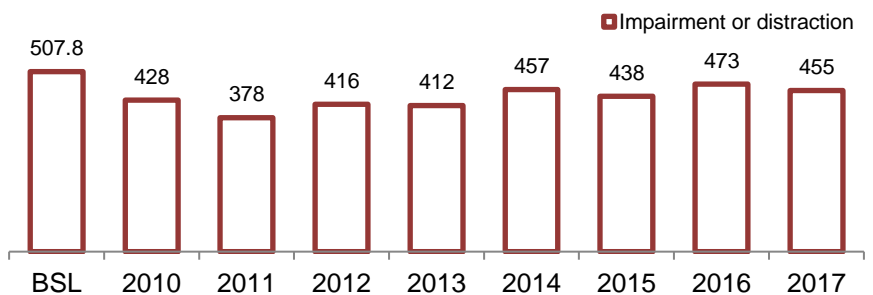
### Driver/Rider error or reaction

1,146 KSI casualties  
 ↓ 4.0 per cent from 1,194 in 2016



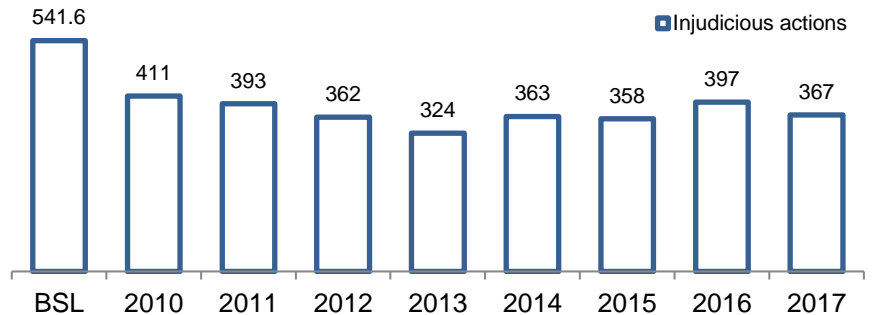
### Impairment or distraction

455 KSI casualties  
 ↓ 3.8 per cent from 473 in 2016



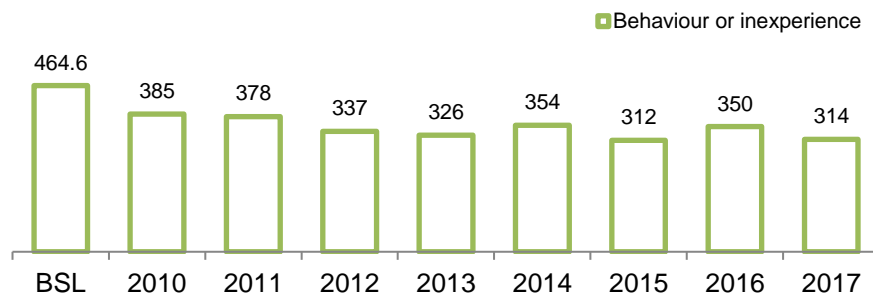
### Injudicious actions

367 KSI casualties  
 ↓ 7.6 per cent from 397 in 2016



### Behaviour or inexperience

314 KSI casualties  
 ↓ 10.3 per cent from 350 in 2016



Note:

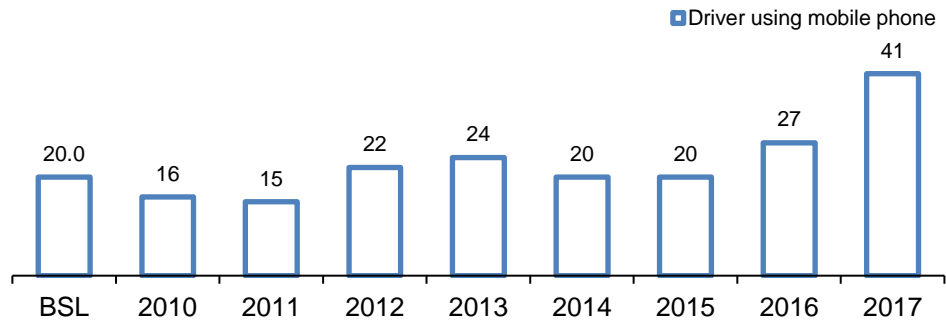
(a) Figures show the number of KSI casualties with at least one contributory factor from the relevant group. The listing of each group is provided in previous page.

Figure 3-17 KSI casualties involving human contributory factors by group and year

In 2017, Figure 3-17 shows that KSI casualties where at least one of the aforementioned human factors were attributed have decreased, with behaviour or inexperience factor showing the greatest decrease by 10.3 per cent from 2016.

Investigating the impairment or distraction human factor category further, Figure 3-18 shows the number of KSI casualties involving at least one driver using a mobile phone. From the figure it can be seen that the number of KSI casualties has increased by 51.9 per cent, from 27 in 2016, to 41 in 2017.

**Driver using mobile phone**  
**41 KSI casualties**  
**↑ 51.9 per cent from 27 in 2016**



**Figure 3-18 KSI casualties associated with mobile phones by year**

Table 3-3 highlights the top 20 human contributory factors by severity for 2017 (ranked by KSI casualties). The top three contributory factors attributed to KSI casualties were all driver/rider error or reaction. This category features heavily in all collisions as stated previously.

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, illness or disability, mental or physical and distraction in vehicle contributed to 154, 108, 101 and 88 KSI casualties respectively, in 2017.



**Table 3-3 Top 20 human contributory factors attributed to casualties by severity, 2017**

Rank	Contributory Factor	KSI	Killed	Seriously Injured	Slightly Injured	Total
1	405 Failed to look properly	483	56	427	3,811	4,294
2	406 Failed to judge other person's path or speed	431	49	382	3,451	3,882
3	410 Loss of control	385	53	332	1,362	1,747
4	602 Careless, reckless or in a hurry	214	24	190	1,324	1,538
5	403 Poor turn or manoeuvre	214	21	193	1,140	1,354
6	503 Fatigue	154	22	132	438	592
7	307 Travelling too fast for conditions	146	8	138	857	1,003
8	408 Sudden braking	126	7	119	1,300	1,426
9	308 Following too close	125	7	118	1,566	1,691
10	501 Impaired by alcohol	108	16	92	391	499
11	505 Illness or disability, mental or physical	101	20	81	281	382
12	409 Swerved	97	9	88	567	664
13	306 Exceeding speed limit	94	19	75	300	394
14	509 Distraction in vehicle	88	14	74	544	632
15	601 Aggressive driving	62	6	56	222	284
16	502 Impaired by drugs (illicit or medicinal)	45	11	34	101	146
17	605 Learner or inexperienced driver/rider	42	1	41	271	313
18	508 Driver using mobile phone	41	19	22	99	140
19	510 Distraction outside vehicle	31	3	28	193	224
20	401 Junction overshoot	21	3	18	95	116

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.

Table 3-4 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")
- Distraction (including use of mobile phone) (CFs 508, 509 and 510)
- Impaired by drink and drugs (CFs 501 and 502)

Note: For CF code definitions refer to Table 3-2

It can be seen from Table 3-4 that the number of fatalities and seriously injured casualties associated with restraints and distraction increased in 2017 with KSI casualties increasing by 24.6 and 6.1 per cent from 2016. The table shows that the number of slightly injured casualties for these two categories (and hence the total casualties) also increased from that in 2016.

Due to the recording of the use of seatbelts not being mandatory this category potentially shows the minimum number of casualties by severity. In terms of casualties, this means that in 2017 a minimum of 161 casualties were linked to improper use of or no restraints.

**Table 3-4 Casualties involving speeding, restraints, distractions and drink/drugs, 2017**

Category/ Severity	Speeding	Restraints <sup>(a)</sup>	Distractions	Drink/Drugs
Fatalities	<b>26</b> ↓ 16.1%	<b>21</b> ↑ 23.5%	<b>27</b> ↑ 22.7%	<b>24</b> ↑ 14.3%
Seriously injured	<b>190</b> ↓ 7.8%	<b>50</b> ↑ 25.0%	<b>112</b> ↑ 2.8%	<b>110</b> ↓ 17.9%
KSI	<b>216</b> ↓ 8.9%	<b>71</b> ↑ 24.6%	<b>139</b> ↑ 6.1%	<b>134</b> ↓ 13.5%
Slightly injured	<b>1,067</b> ↓ 4.3%	<b>90</b> ↑ 38.5%	<b>769</b> ↑ 1.6%	<b>448</b> ↓ 3.9%
<b>Total</b>	<b>1,283</b> ↓ 5.1%	<b>161</b> ↑ 32.0%	<b>908</b> ↑ 2.3%	<b>582</b> ↓ 6.3%

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 any large variation in 'Restraints' could at least in part be likely to come from the increase or decrease of the recording by police forces.
- (b) Percentages represent the per cent change of 2017 values from 2016 values; percentages are only shown where the base is 15 or more.

### 3.4. Contributory Factors

Table 3-5 illustrates the top 10 contributory factors related to people, vehicles<sup>17</sup> and roads. It is clear that contributory factors relating to people were attributed to the most casualties in 2017, compared to vehicles and roads. Vehicle related contributory factors were attributed to the fewest casualties. Failed to look properly was attributed to the majority of casualties (4,294); 30.2 per cent of all casualties in 2017. Slippery road (due to weather) was the most common road contributory factor, being attributed to 6.0 per cent (859) of casualties in 2017. The most common vehicle contributory factor was vehicle blind spot, which was attributed to 1.3 per cent (191) of casualties in 2017.

**Table 3-5 Top 10 contributory factors attributed to casualties, 2017**

	Rank	Contributory Factor	2017	Percentage of casualties, 2017
People	1	405 Failed to look properly	4,294	30.2%
	2	406 Failed to judge other person's path or speed	3,882	27.3%
	3	410 Loss of control	1,747	12.3%
	4	308 Following too close	1,691	11.9%
	5	602 Careless, reckless or in a hurry	1,538	10.8%
	6	408 Sudden braking	1,426	10.0%
	7	403 Poor turn or manoeuvre	1,354	9.5%
	8	307 Travelling too fast for conditions	1,003	7.1%
	9	409 Swerved	664	4.7%
	10	509 Distraction in vehicle	632	4.4%
Vehicles	1	710 Vehicle blind spot	191	1.3%
	2	201 Tyres illegal, defective or under inflated	136	1.0%
	3	203 Defective brakes	71	0.5%
	4	204 Defective steering or suspension	59	0.4%
	5	206 Overloaded or poorly loaded vehicle or trailer	35	0.2%
	6	705 Dazzling headlights	21	0.1%
	7	202 Defective lights or indicators	19	0.1%
	8	709 Visor or windscreen dirty, scratched or frosted etc.	4	0.0%
	9	205 Defective or missing mirrors	2	0.0%
Roads	1	103 Slippery road (due to weather)	859	6.0%
	2	707 Rain, sleet, snow, or fog	273	1.9%
	3	706 Dazzling sun	199	1.4%
	4	109 Animal or object in carriageway	148	1.0%
	5	108 Road layout (eg. bend, hill, narrow carriageway)	86	0.6%
	6	708 Spray from other vehicles	81	0.6%
	7	102 Deposit on road (eg. oil, mud, chippings)	73	0.5%
	8	701 Stationary or parked vehicle(s)	66	0.5%
	9	703 Road layout (eg. bend, winding road, hill crest)	44	0.3%
	10	107 Temporary road layout (eg. contraflow)	43	0.3%

Key (CF groups):

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

Notes:

(a) In 2017, there were a total of 14,225 casualties.




(b) There are only nine contributory factors associated with vehicles whereas only the top 10 contributory factors associated with people and roads are shown.

<sup>17</sup> Only nine contributory factors have been associated with vehicles.

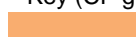



### 3.4.1. Top 10 contributory factors by road classification

Table 3-6 illustrates top 10 contributory factors attributed to casualties by road classification. For more details see Appendix Table F-6, Table F-7, Table F-10 and Table F-11. Note that further analysis and discussion regarding the per cent of collisions attended by police is illustrated in Section 4.4.1. As per past years “Failed to look properly” is shown as the highest factor attributed to casualties across all road classes in 2017. Four and three out of five contributory factors for the motorways and total A-road classes, respectively, are related to “Driver/Rider error or reaction”.

**Table 3-6 Top 10 contributory factors attributed to casualties by road classification, 2017**

	Rank	Contributory Factor	2017
 <b>Motorway</b> (82% of collisions attended by police)	1	405 Failed to look properly	2,003
	2	406 Failed to judge other person's path or speed	1,997
	3	308 Following too close	887
	4	410 Loss of control	882
	5	408 Sudden braking	746
	6	602 Careless, reckless or in a hurry	621
	7	403 Poor turn or manoeuvre	578
	8	307 Travelling too fast for conditions	542
	9	103 Slippery road (due to weather)	405
	10	409 Swerved	329
<b>A-road</b> (79% of collisions attended by police)	1	405 Failed to look properly	2,291
	2	406 Failed to judge other person's path or speed	1,885
	3	602 Careless, reckless or in a hurry	917
	4	410 Loss of control	865
	5	308 Following too close	804
	6	403 Poor turn or manoeuvre	776
	7	408 Sudden braking	680
	8	307 Travelling too fast for conditions	461
	9	103 Slippery road (due to weather)	454
	10	509 Distraction in vehicle	364
 <b>A-road dual carriageway</b> (78% of collisions attended by police)	1	405 Failed to look properly	1,543
	2	406 Failed to judge other person's path or speed	1,353
	3	602 Careless, reckless or in a hurry	618
	4	410 Loss of control	605
	5	308 Following too close	529
	6	408 Sudden braking	506
	7	403 Poor turn or manoeuvre	500
	8	103 Slippery road (due to weather)	338
	9	307 Travelling too fast for conditions	321
	10	409 Swerved	248
 <b>A-road single carriageway</b> (84% of collisions attended by police)	1	405 Failed to look properly	748
	2	406 Failed to judge other person's path or speed	532
	3	602 Careless, reckless or in a hurry	299
	4	403 Poor turn or manoeuvre	276
	5	308 Following too close	275
	6	410 Loss of control	260
	7	408 Sudden braking	174
	8	509 Distraction in vehicle	157
	9	307 Travelling too fast for conditions	140
	10	103 Slippery road (due to weather)	116

Key (CF groups):

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

Note:

(a) Further analysis and discussion regarding the per cent of collisions attended by police is illustrated in Section 4.4.1.

# 4. Collisions

## 4.1. Roads

This section provides an overview of personal injury collisions (PICs - but for the purpose of this document and the accompanying Appendices generally termed as 'collision') linked to road classification by severity, year (including BSL) and rates (i.e. number of collisions per HMVM). The rates discussed in this section provide an indication of the likelihood of getting involved in a collision.

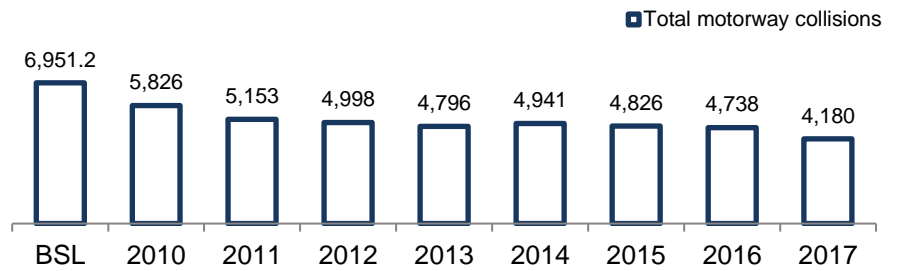
Figure 4-1 to Figure 4-5 illustrate the collision distribution on motorway, A-road dual carriageway and A-road single carriageway in terms of the number and rate. Comparison of data for the road classifications shows that for 2017:

- Despite the lower number of fatalities on A-road dual carriageways compared to motorways (87 vs. 91), the most fatal collisions (83 out of 203) occurred on A-road dual carriageways.
- The largest proportion of fatal and serious collisions (40.1 per cent) occurred on motorways but with A-road dual carriageways only slightly behind on 39.0 per cent.
- The largest proportion of total collisions (47.3 per cent) occurred on motorways.
- The likelihood of being involved in a collision on motorways was the lowest of all three road classifications across all severities of collision. Therefore, the data in Figure 4-1 is normalised to illustrate the ratio (based on collision rate) between the likelihood of a collision occurring on a motorway, dual carriageway or single carriageway relative to the motorway.
- The likelihood of being involved in a collision on A-road single carriageways was the highest of all three road classifications across all severities of collision, followed by A-road dual carriageways.

### 4.1.1. Collisions and likelihood of injury by road classification and severity

**Motorway**

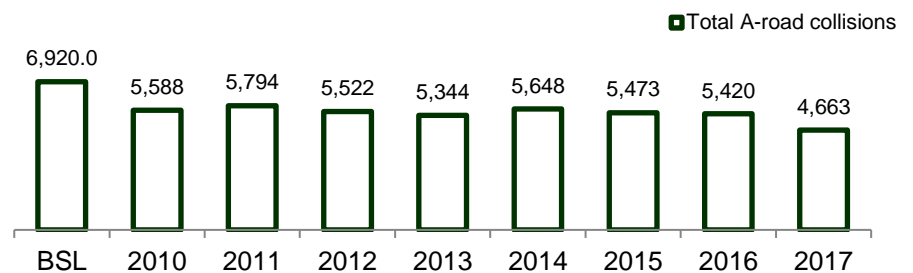
Likelihood of collision ratio 2017<sup>18</sup>



Fatal collisions	Fatal + Serious collisions	Total collisions
<b>1.0</b>	<b>1.0</b>	<b>1.0</b>

**A-road**

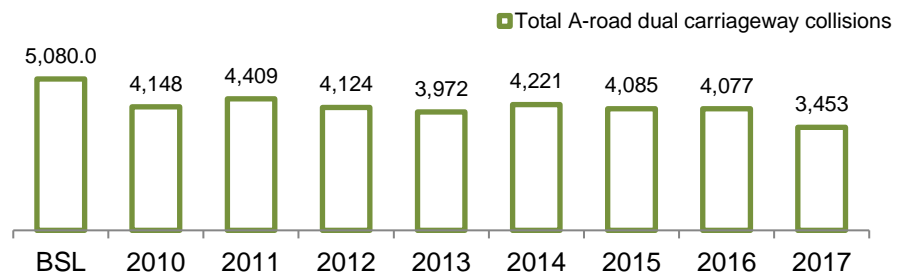
Likelihood of collision ratio 2017



Fatal collisions	Fatal + Serious collisions	Total collisions
<b>3.5</b>	<b>2.7</b>	<b>2.0</b>

**A-road dual carriageway**

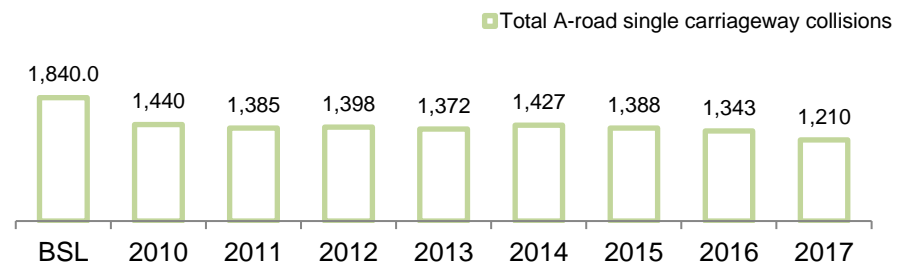
Likelihood of collision ratio 2017



Fatal collisions	Fatal + Serious collisions	Total collisions
<b>2.6</b>	<b>2.1</b>	<b>1.8</b>

**A-road single carriageway**

Likelihood of collision ratio 2017



Fatal collisions	Fatal + Serious collisions	Total collisions
<b>8.3</b>	<b>5.8</b>	<b>3.3</b>

**Figure 4-1 Collisions by road classification and likelihood of collision by road classification and severity**

<sup>18</sup>'Likelihood of collision ratio' is the ratio between collision rates; normalised to motorway data.

### 4.1.2. Motorway collisions and rates by severity

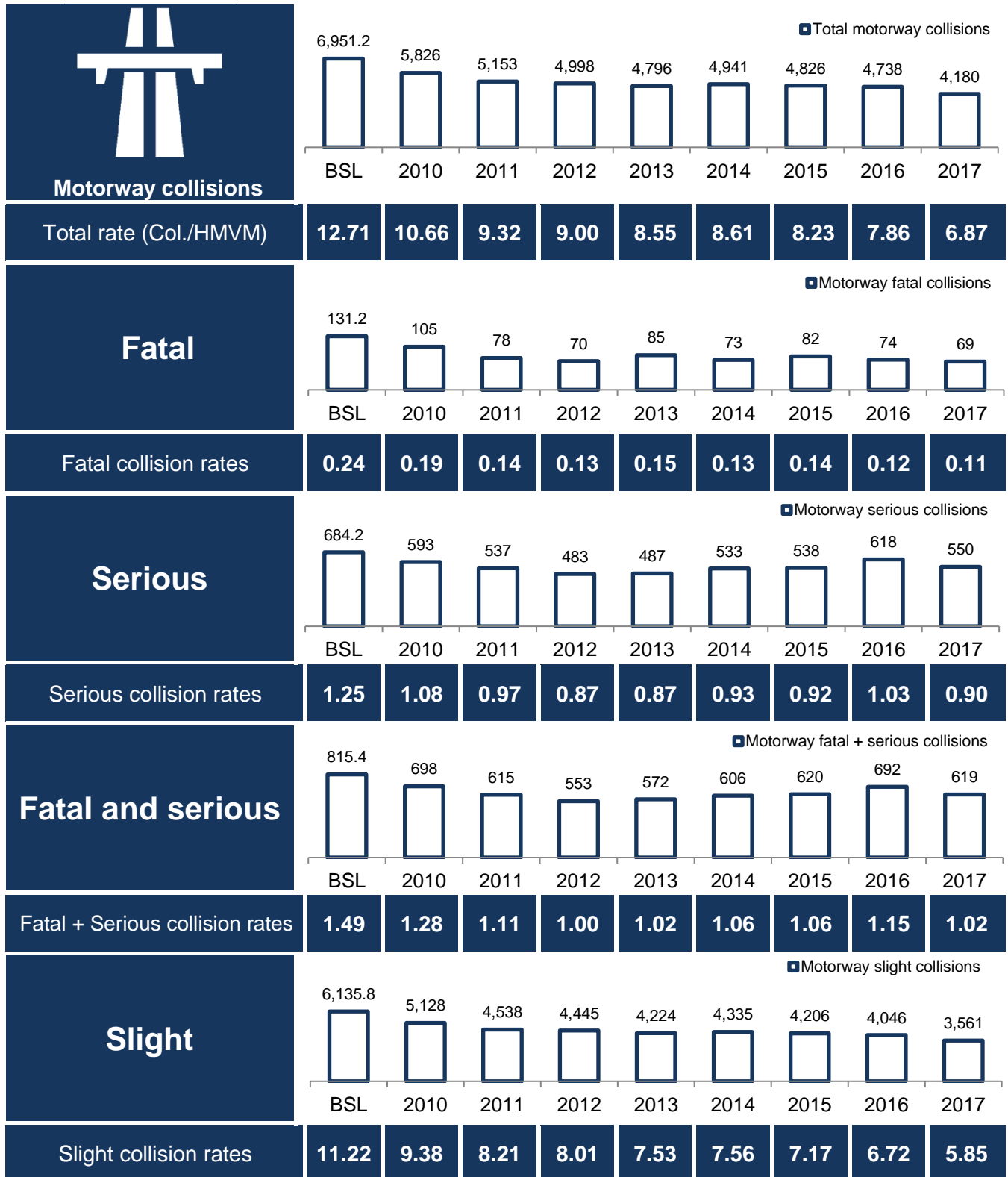


Figure 4-2 Motorway collisions and rates by severity



### 4.1.3. A-road collisions and rates by severity

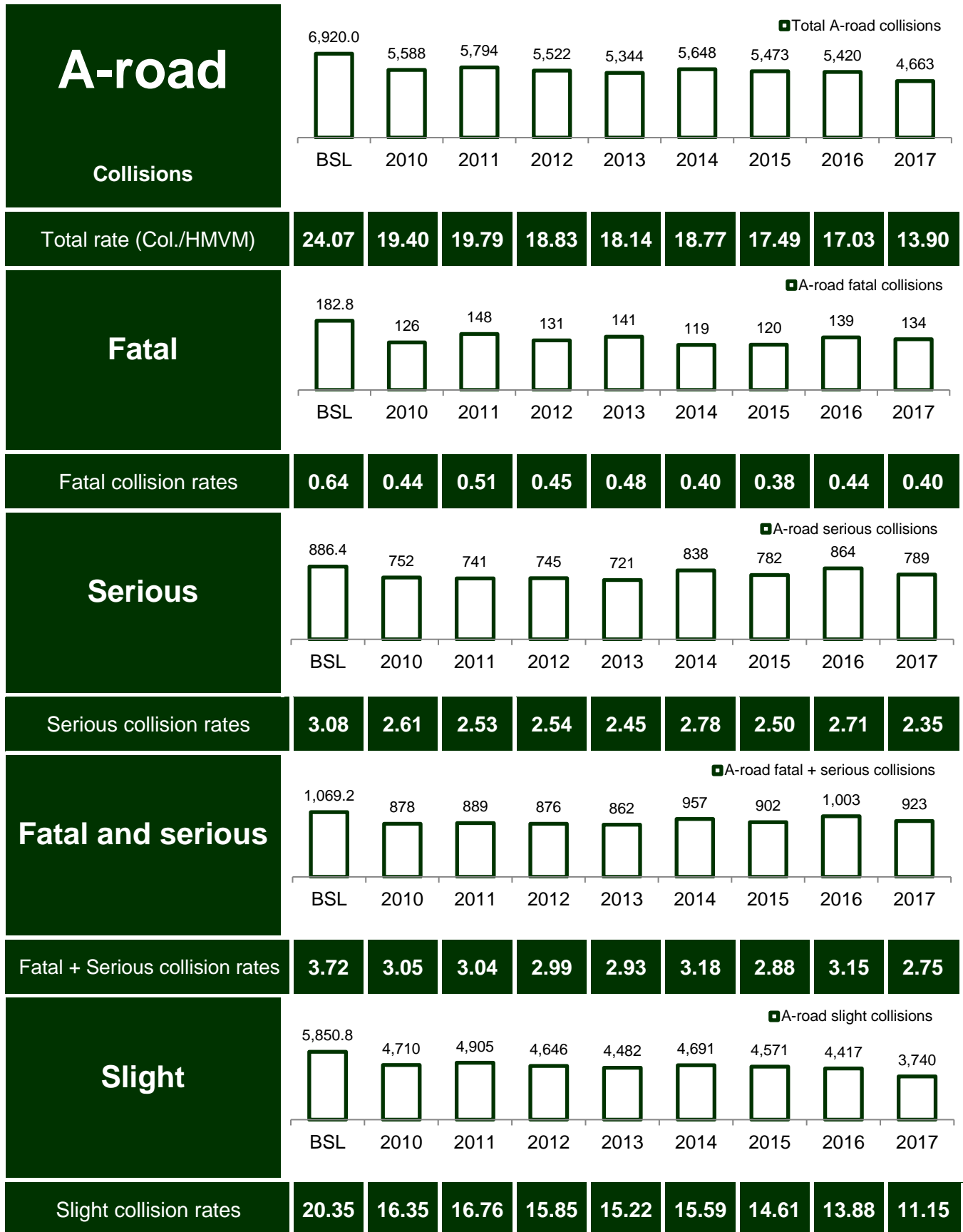


Figure 4-3 A-road collisions and rates by severity

#### 4.1.4. A-road dual carriageway collisions and rates by severity

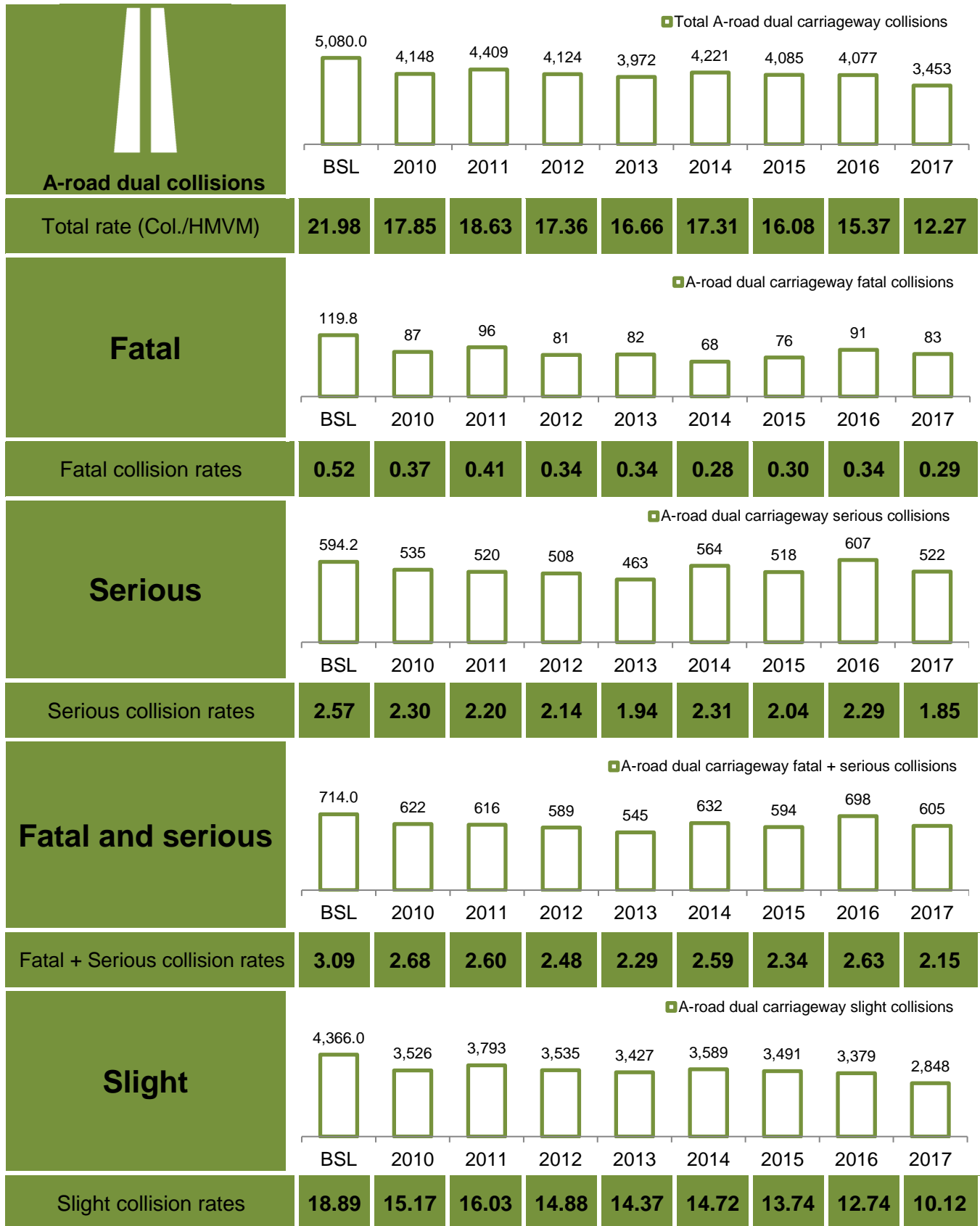


Figure 4-4 A-road dual carriageway collisions and rates by severity

### 4.1.5. A-road single carriageway collisions and rates by severity

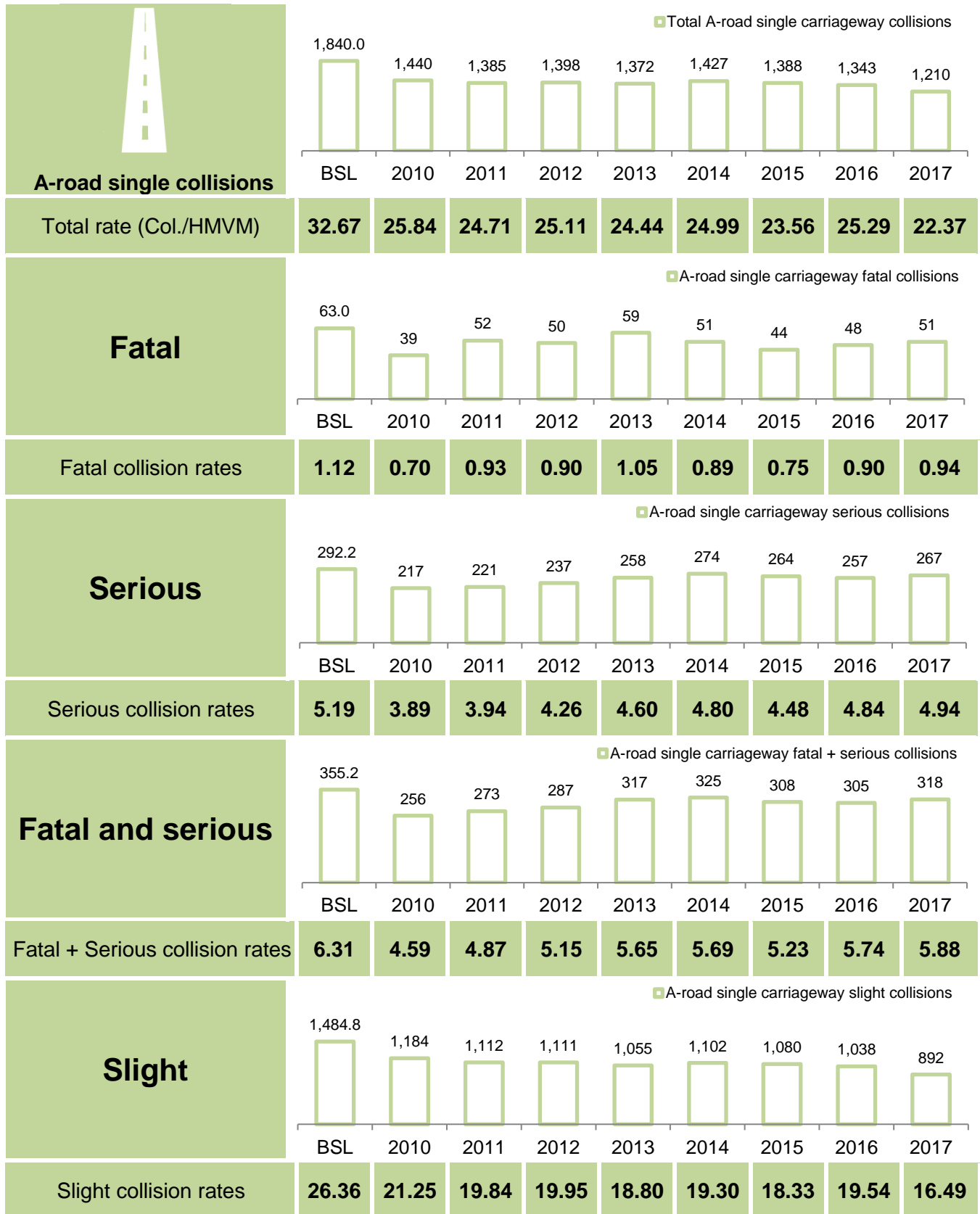


Figure 4-5 A-road single carriageway collisions and rates by severity

## 4.1.6. Collisions involving road environment

This section evaluates the number of collisions where the road environment is categorised as a contributory factor. Assessment of these factors gives an indication of how the SRN could be enhanced to mitigate further collisions where the road is a contributing factor.

In 2017, the number of fatal and serious collisions involving road environment factors was 137 and was equivalent to 8.9 per cent of the respective total fatal and serious collisions of 1,542. This is a 17.5 per cent decrease on the previous year, which was 166 and was equivalent to 9.8 per cent in 2016.

Figure 4-6 outlines the number of fatal and serious collisions associated with at least one road environment factor between 2010 and 2017. The diagram depicting the split by road classification shows the trend in fatal and serious collisions from 2005 to 2017, linked to road environment factors, fluctuates somewhat across all road classifications especially the motorways. The fluctuation is lower than observed for casualties.

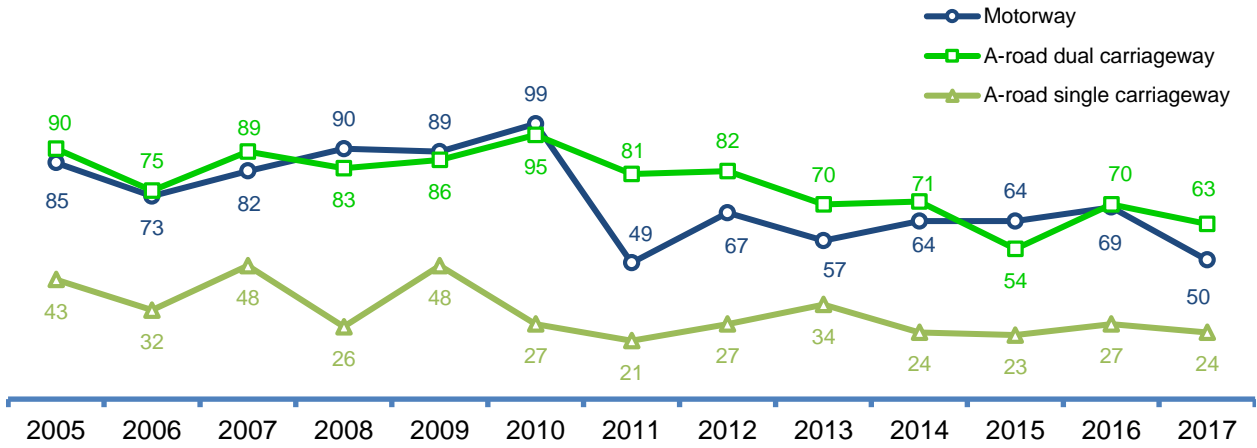
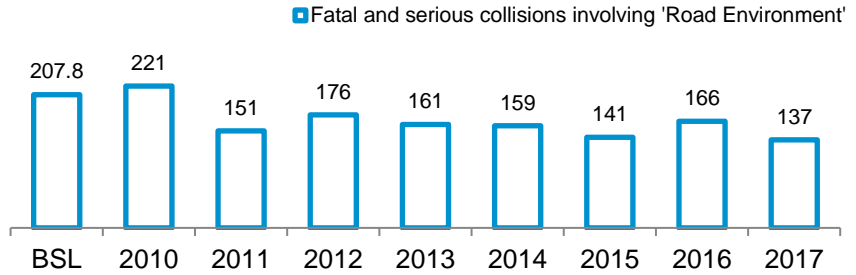
The primary contributory factor for road environment was "Slippery road (due to weather)" which contributed to 95 fatal and serious collisions in 2017, and it is a 17.4 per cent decrease from 2016.

An analysis of the number of collisions involving a poor or defective road surface on the SRN is also provided in Figure 4-6. This provides context on the potential collisions from defects in surfacing. From 2008 to 2011, England experienced harsh winters, with December 2010 being one of the coldest on record<sup>19</sup>. As a result, the occurrence of surface defects during and after this period became a significant concern for all stakeholders.

The graph in Figure 4-6 depicting the trend of collisions involving poor or defective road surfacing shows that the number of collisions peaked in 2012; a 20.0 per cent increase from 35 in 2011 to 42 in 2012, followed by a 28.6 per cent decrease in 2013. This decrease in related collisions continued through to 2017 to yield the lowest number (11) since 2010 (71.6 per cent decrease from the baseline).

<sup>19</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/4002/potholes-review-progress-report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4002/potholes-review-progress-report.pdf)

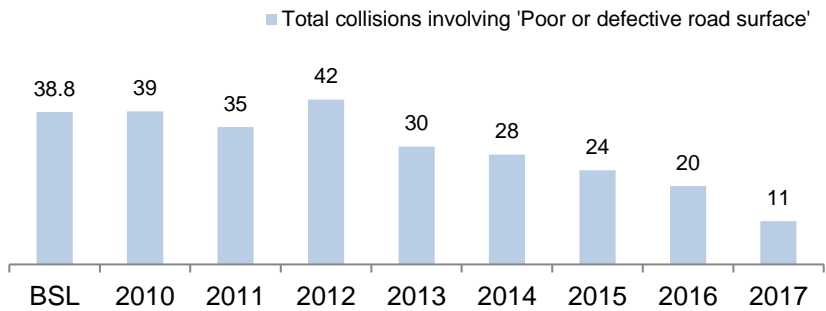
Road environment contributed to 137 fatal and serious collisions in 2017  
 ↓ 17.5% on 2016



46.0% of fatal and serious collisions where the road environment contributed occurred on A-road dual carriageways



'Poor or defective road surface' contributed to 11 collisions in 2017  
 ↓ 45.0% on 2016



Slippery road contributed to 95 fatal and serious collisions in 2017  
 ↓ 17.4% on 2016

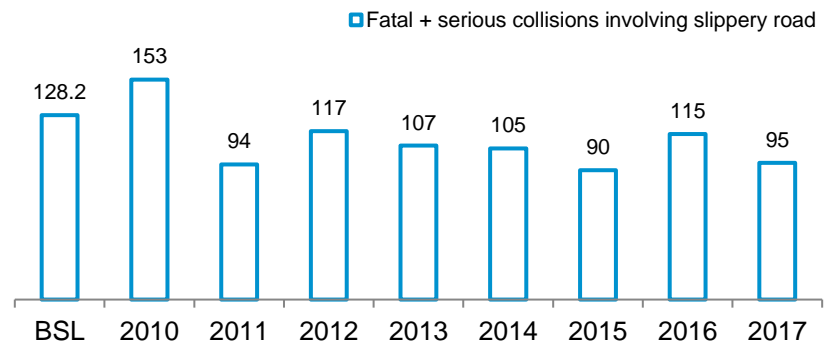


Figure 4-6 Summary of collisions where road environment contributed










## 4.2. Vehicles

This section briefly assesses the potential impact vehicles had towards collisions that occurred on the SRN. It focuses on providing an overview of collisions based on gender and vehicle type, first point of vehicle impact and where vehicle defects contributed to the collision.

### 4.2.1. Collisions by gender of driver

Table 4-1 illustrates male and female drivers involved in collisions by vehicle type. Female and male drivers involved in collisions decreased compared to 2016 across all stipulated vehicle types, apart for female pedal cyclists which had a notable increase from 14 in 2016 to 26 in 2017. The number of male car drivers involved in collisions account for 65.1 per cent of all car drivers and male cyclists 81.3 per cent (a decrease from last year's 90.6 per cent). The male drivers for other types of vehicles range from 93.2 to 98.4 per cent.

**Table 4-1 Drivers involved in collisions by gender and vehicle type, 2017**

							
Gender	Car	Motorcycle	Goods vehicle	HGV (over 3.5 tonnes)	Pedal cycle	Bus / coach	Other <sup>20</sup>
 Female	<b>4,985</b> ↓12.8%	<b>43</b> ↓17.3%	<b>60</b> ↓20.0%	<b>26</b> ↓3.7%	<b>26</b> -	<b>3</b> -	<b>10</b> -
 Male	<b>9,282</b> ↓14.3%	<b>715</b> ↓10.8%	<b>1,711</b> ↓0.5%	<b>1,584</b> ↓15.4%	<b>113</b> ↓16.3%	<b>67</b> ↓8.2%	<b>137</b> ↓15.4%

Notes:

- (a) Goods vehicles equal to or under 3.5 tonnes.
- (b) There were 785 vehicle records with unknown driver gender.
- (c) Percentage change is from 2016.

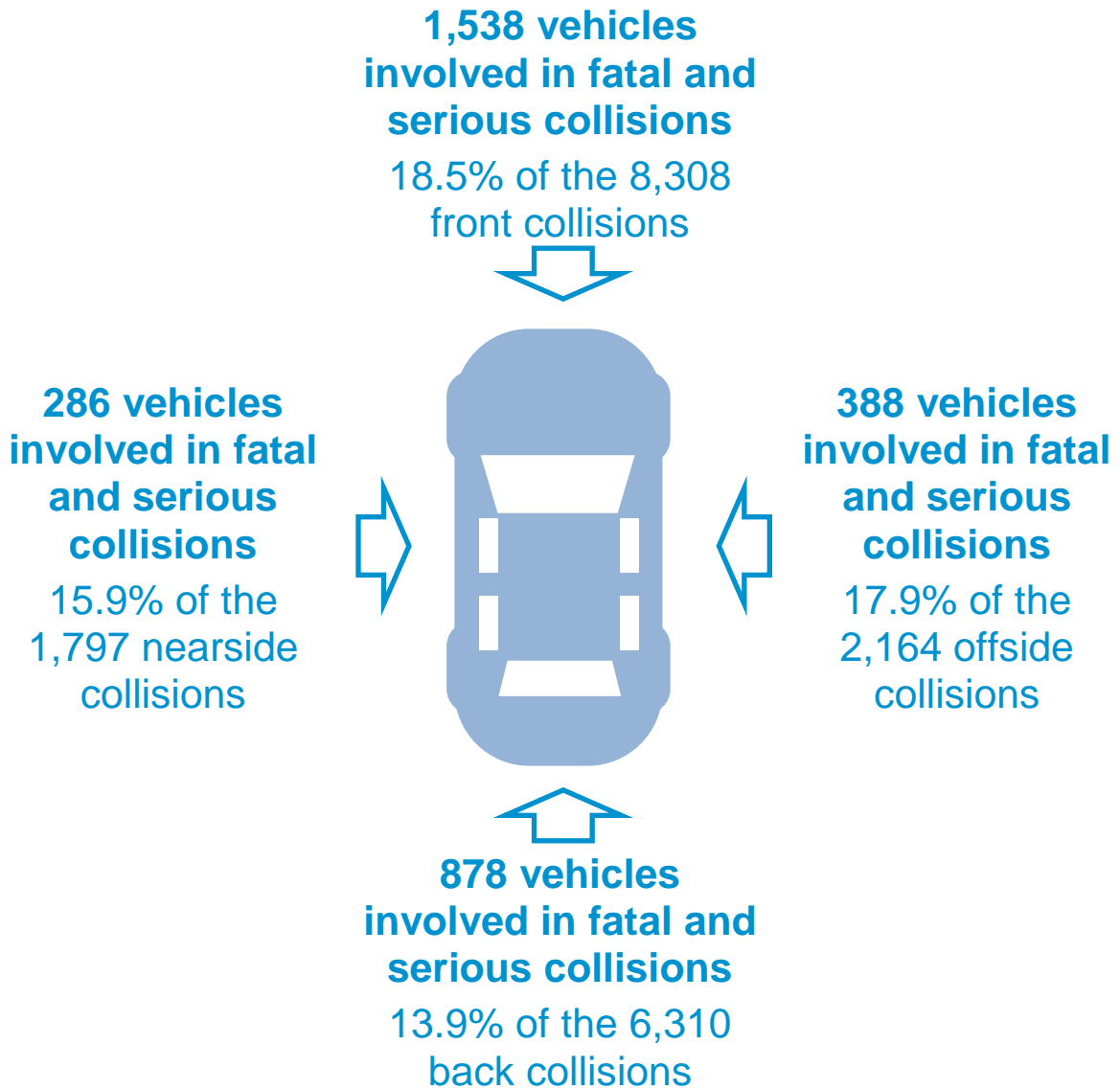
<sup>20</sup> Other includes where the vehicle has been recorded as others/unknown, ridden horse, or agricultural vehicle.

## 4.2.2. First point of impact

Figure 4-7 provides a breakdown of the number of vehicles involved in fatal and serious collisions by first point of vehicle impact.

Vehicles with a first point of impact as front, involved in fatal or serious collisions, made up 46.6 per cent of all vehicles involved in such collisions in 2017. The corresponding fatal and serious collision severity ratio (this is the percentage of vehicles involved in fatal and serious collisions to those in total collisions for each individual category) was 18.5 per cent. It can also be seen that, although in the similar ball-park, the offside impacts were slightly higher than the nearside impacts in terms of the vehicles involved in fatal and serious collisions and severity ratios.

**First point of impact:**



210 vehicles involved in fatal or serious collisions had no recorded first point of impact (193 in 2016)

**Figure 4-7 Vehicles by first point of impact**

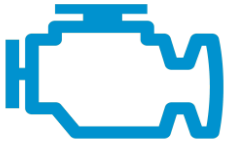


### 4.2.3. Collisions involving vehicle defects

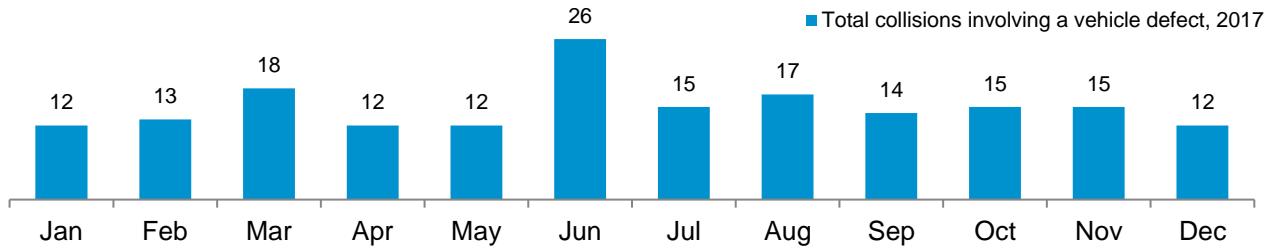
This section evaluates the number of collisions where at least one vehicle within a collision had a defect which was a contributory factor. As shown previously in Figure 2-3, it is apparent that the economic situation is recovering and hence this section also assesses the corresponding historic trends in vehicle defects.

Figure 4-8 provides a summary of collisions involving vehicle defects, including specific factors and their overall impact on fatal and serious collisions 2017. The trend over time of total collisions and to some extent the fatal and serious collisions indicate that collisions involving defective vehicles are on the decline. Total collisions have decreased by 59.3 per cent to 181 in 2017 compared to the baseline of 445.2. In comparison, overall collisions on the SRN decreased by 36.2 per cent from the baseline value of 13,871.2 to 8,843 in 2017.

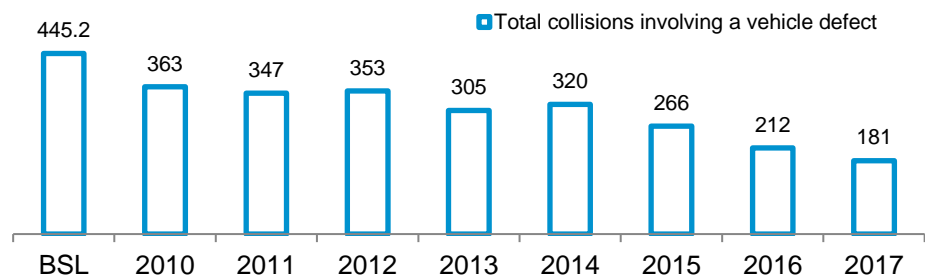
When considering the specific factors classed as vehicle defects, the most common continued to be tyres illegal, defective or under inflated and it contributed to 14 (35.9 per cent) of fatal and serious collisions involving a vehicle defect. It is, however, an improvement on 2016 where the corresponding values were 27 and 54.0 per cent.



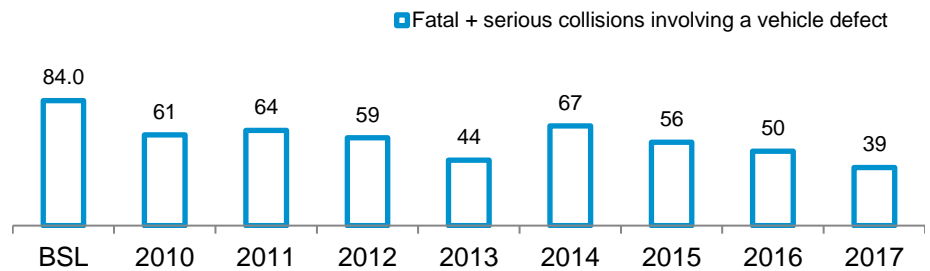
## Vehicle defect attributed to 181 collisions in 2017



## Vehicle defect attributed to 26 collisions in June 2017

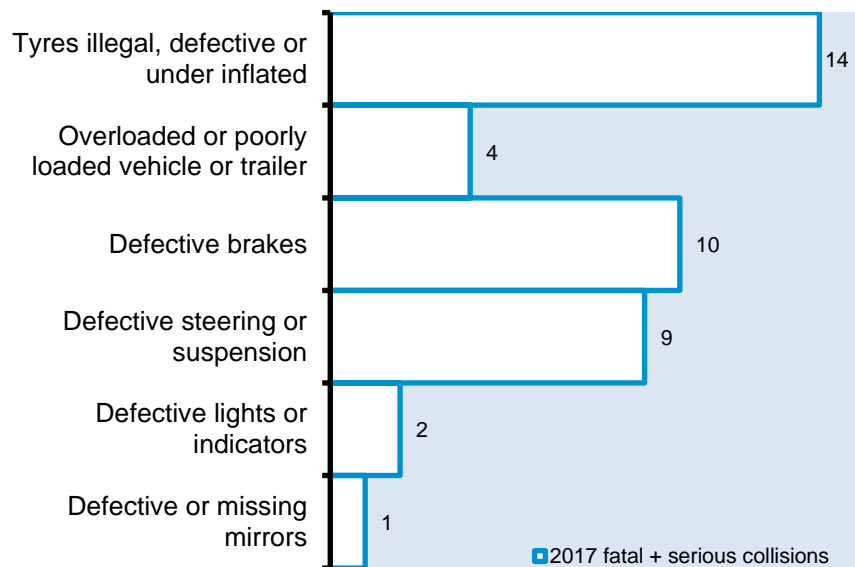


**Total collisions**  
↓ 14.6% from 2016



**Fatal and serious collisions**  
↓ 22.0% from 2016

35.9% of fatal and serious collisions associated with vehicle defects involved 'Tyres illegal, defective or under inflated'



As more than one contributory factor can be recorded per collision; defects will not sum to 39 fatal and serious collisions

Figure 4-8 Summary of collisions linked to a vehicle defect

## 4.3. People

An assessment of the collisions on the SRN has been undertaken in this section. This includes analysis of trends, collisions by casualty age groups involved and an assessment of the human factors linked to collisions.

### 4.3.1. Collision severity trends

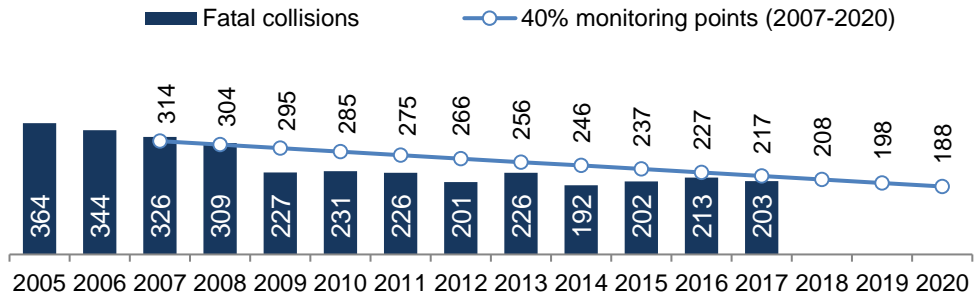
This section identifies underlying trends in the number of collisions occurring each year by severity between 2005 and 2017. As explained in Section 1.3 the reporting of STATS19 via CRASH/COPA has had an impact on both seriously injured and slightly injured collision data.

Figure 4-9 provides an outline of collision trends for fatal, serious, fatal and serious, slight and total collisions between 2005 and 2017.

In summary, there was a reduction in the number of collisions across all severities when compared to the corresponding 2016 values. The largest percentage change was observed in the slight collisions which decreased by 13.7 per cent (from 8,463 to 7,301). This is in comparison to the decrease of 9.6 per cent for serious collisions (from 1,482 to 1,339), 9.0 per cent for fatal and serious collisions (from 1,695 to 1,542) and 4.7 per cent for fatal collisions (from 213 to 203).

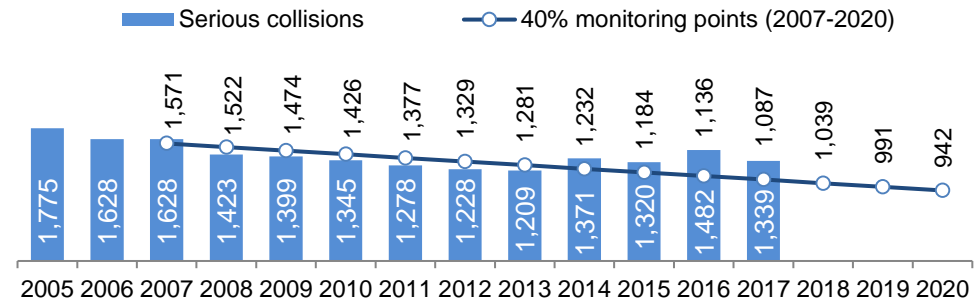
### Fatal

↓ 4.7 per cent from 2016



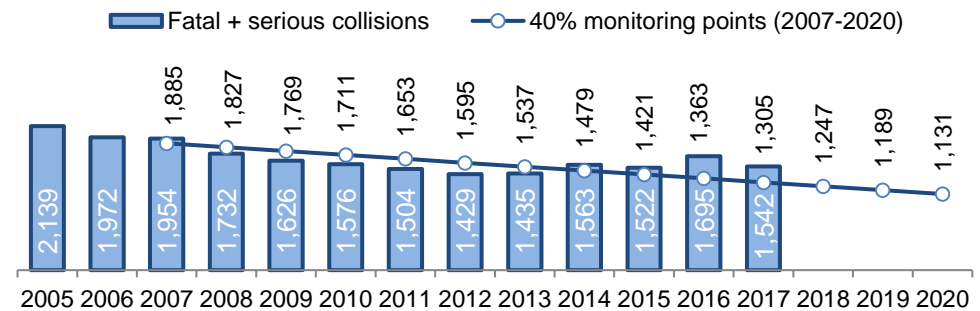
### Serious

↓ 9.6 per cent from 2016



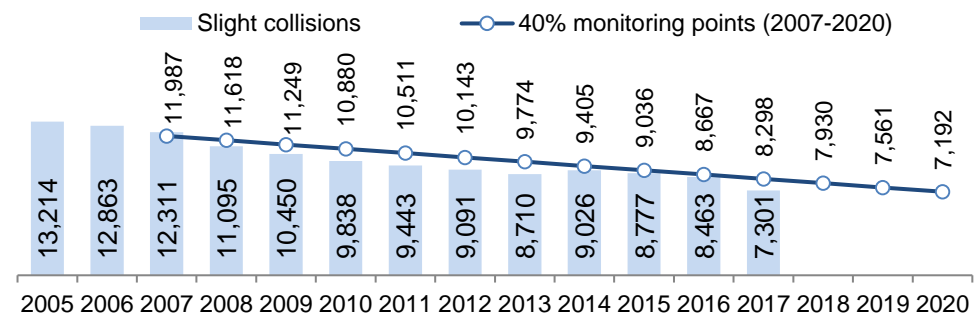
### Fatal and serious

↓ 9.0 per cent from 2016



### Slight

↓ 13.7 per cent from 2016



### Total collisions

↓ 12.9 per cent from 2016

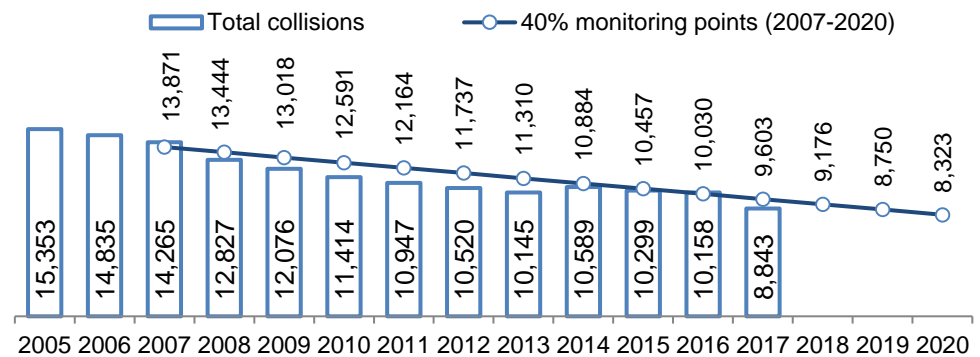


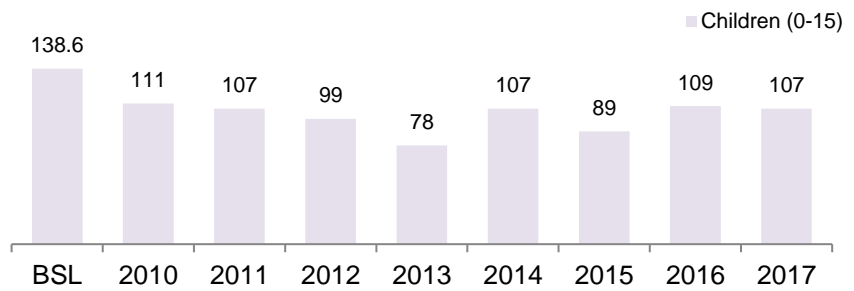
Figure 4-9 Collision trends by severity

### 4.3.2. Collision by age of casualties involved

#### Children (0-15)

107 fatal and serious collisions

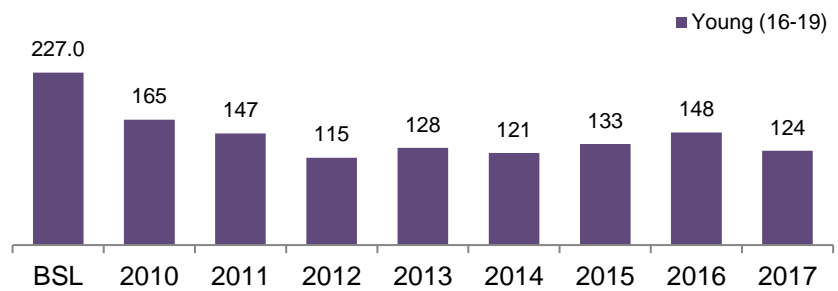
↓ 1.8 per cent from 109 in 2016



#### Young (16-19)

124 fatal and serious collisions

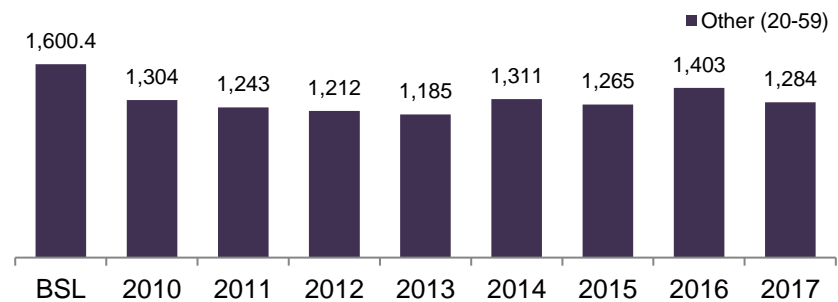
↓ 16.2 per cent from 148 in 2016



#### Other (20-59)

1,284 fatal and serious collisions

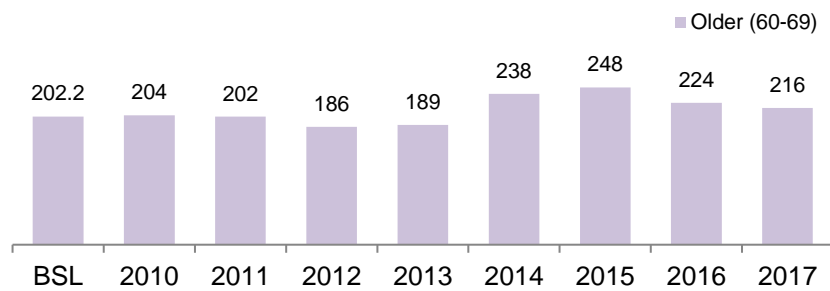
↓ 8.5 per cent from 1,403 in 2016



#### Older (60-69)

216 fatal and serious collisions

↓ 3.6 per cent from 224 in 2016



#### Elderly (70+)

193 fatal and serious collisions

↑ 1.6 per cent from 190 in 2016

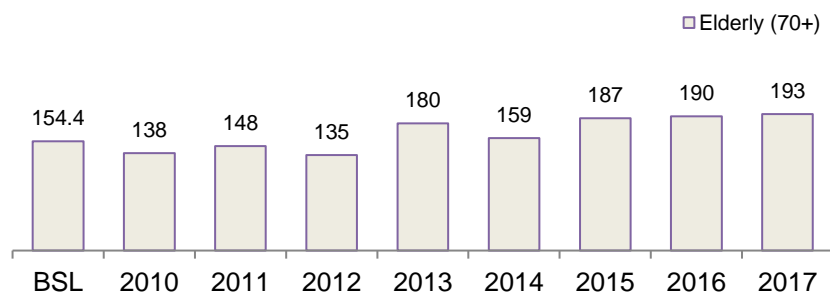


Figure 4-10 Fatal and serious collisions by age group and year

Figure 4-10 shows that fatal and serious collisions in all age groups, except Elderly (70+), have decreased from the corresponding 2016 values. Compared to the 2005-09 baseline average, younger age groups have decreased significantly with Young (16-19) group decreasing by 45.4 per cent. In contrast, the Older (60-69) and Elderly (70+) groups showed an increase in fatal and serious collisions against the 2005-09 baselines with the largest increase observed in Elderly (70+) group (25.0 per cent).

### 4.3.3. Collisions where human factors contributed

Human factors remain the largest single cause of fatal and serious collisions on the SRN. In 2017, there were 1,169 fatal and serious collisions involving at least one human factor representing 75.8 per cent of total fatal and serious collisions.

Figure 4-11 is an assessment of the contributing human factors which result in fatal and serious collisions on the SRN. These human factors broadly fall into four categories of contributory factors:

- Driver/rider error or reaction
- Impairment or distraction
- Injudicious action
- Behaviour or inexperience

The contributory factors within these groupings are provided in the table below<sup>21</sup>

**Table 4-2 Human factor contributory factors**

Injudicious action			
301	Disobeyed automatic traffic signal	306	Exceeding speed limit
302	Disobeyed 'Give Way' or 'Stop' sign or markings	307	Travelling too fast for conditions
303	Disobeyed double white lines	308	Following too close
304	Disobeyed pedestrian crossing facility	309	Vehicle travelling along pavement
305	Illegal turn or direction of travel	310	Cyclist entering road from pavement
Driver/Rider error or reaction			
401	Junction overshoot	406	Failed to judge other person's path or speed
402	Junction restart (moving off at junction)	407	Too close to cyclist, horse rider or pedestrian
403	Poor turn or manoeuvre	408	Sudden braking
404	Failed to signal or misleading signal	409	Swerved
405	Failed to look properly	410	Loss of control
Impairment or distraction			
501	Impaired by alcohol	506	Not displaying lights at night or in poor visibility
502	Impaired by drugs (illicit or medicinal)	507	Rider wearing dark clothing
503	Fatigue	508	Driver using mobile phone
504	Uncorrected, defective eyesight	509	Distraction in vehicle
505	Illness or disability, mental or physical	510	Distraction outside vehicle
Behaviour or inexperience			
601	Aggressive driving	605	Learner or inexperienced driver/rider
602	Careless, reckless or in a hurry	606	Inexperience of driving on the left
603	Nervous, uncertain or panic	607	Unfamiliar with model of vehicle
604	Driving too slow for conditions or slow veh (e.g. tractor)		

<sup>21</sup> Full listing of contributory factors of all groupings is provided in Appendix Table F-1.

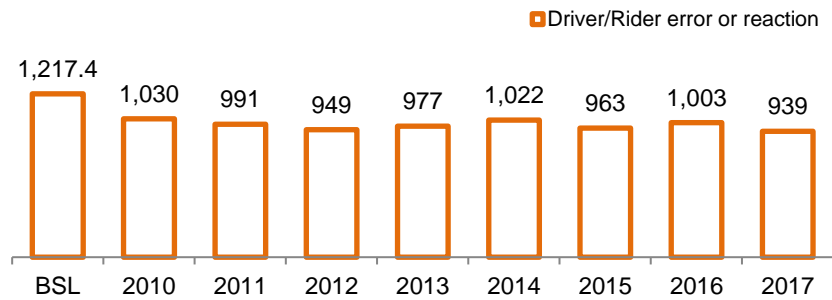
## 1,169 fatal and serious collisions where human factors were attributed

75.8 per cent of the 1,542 fatal and serious collisions in 2017

### Driver/Rider error or reaction

939 fatal and serious collisions

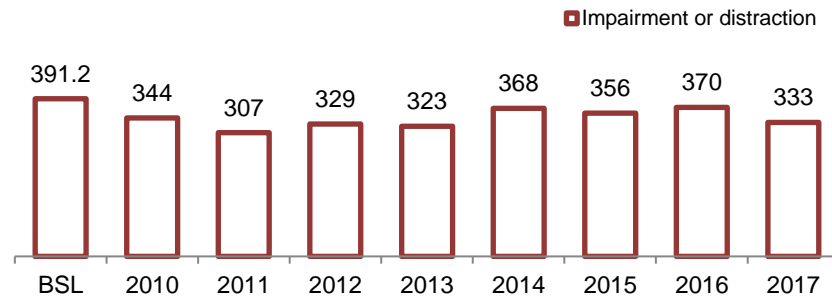
↓ 6.4 per cent from 1,003 in 2016



### Impairment or distraction

333 fatal and serious collisions

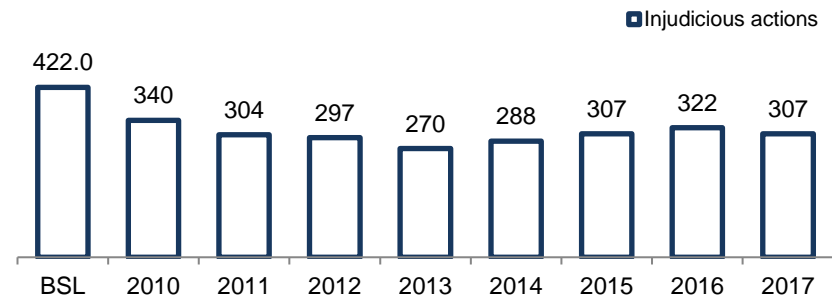
↓ 10.0 per cent from 370 in 2016



### Injudicious actions

307 fatal and serious collisions

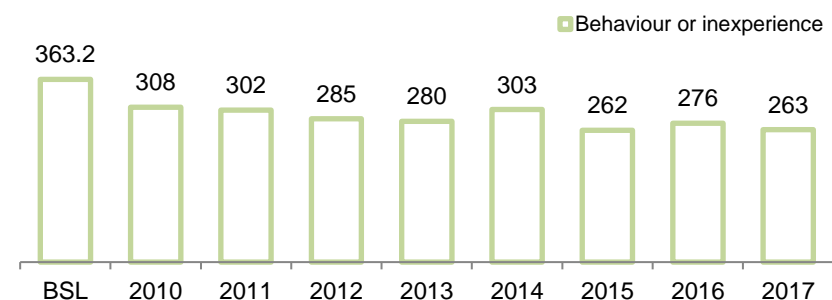
↓ 4.7 per cent from 322 in 2016



### Behaviour or inexperience

263 fatal and serious collisions

↓ 4.7 per cent from 276 in 2016



Note:

(a) Figures show the number of fatal and serious collisions involving at least one contributory factor from the relevant group. The listing of each group is provided in previous page.

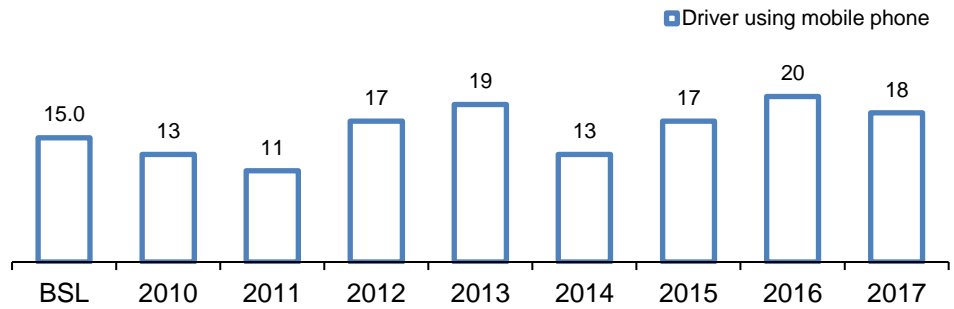
Figure 4-11 Fatal and serious collisions associated with human contributory factors by group and year



Figure 4-11 shows that fatal and serious collisions where at least one of the aforementioned human factors was attributed have decreased, with impairment or distraction decreasing by 10.0 per cent from 370 in 2016 to 333 in 2017.

Investigating the impairment or distraction human factor category further, Figure 4-12 details the number of fatal and serious collisions involving at least one driver using a mobile phone. The number of fatal and serious collisions has increased by 20.0 per cent from the baseline (of 15.0) to 18 in 2017.

**Driver using mobile phone**  
**18 fatal and serious collisions**  
**↓ 10.0 per cent from 2016**



**Figure 4-12 Fatal and serious collisions where mobile phone use attributed by year**

Table 4-3 highlights the top 20 human contributory factors by severity linked to collisions for 2017 (ranked by fatal and serious collisions). The top three contributory factors involved in fatal and serious collisions were all from the driver/rider error or reaction group. This group features heavily in all collisions.

From the table, it is evident that the impairment or distraction human factor category also remains a major issue. Individual factors such as fatigue; illness or disability, mental or physical; impaired by alcohol; and distraction in vehicle contributed to 112, 79, 74, and 62 fatal and serious collisions respectively in 2017. This has followed a similar profile as that for the corresponding casualties apart from few subtle variations in the ranking.

**Table 4-3 Top 20 human contributory factors attributed to collisions by severity, 2017**

Rank	Contributory Factor	Fatal + serious	Fatal	Serious	Slight	Total
1	405 Failed to look properly	407	46	361	2,129	2,536
2	406 Failed to judge other person's path or speed	342	39	303	1,833	2,175
3	410 Loss of control	308	48	260	785	1,093
4	602 Careless, reckless or in a hurry	181	24	157	677	858
5	403 Poor turn or manoeuvre	171	20	151	670	841
6	307 Travelling too fast for conditions	123	8	115	432	555
7	308 Following too close	112	6	106	837	949
8	503 Fatigue	112	19	93	266	378
9	408 Sudden braking	108	6	102	710	818
10	409 Swerved	82	8	74	310	392
11	505 Illness or disability, mental or physical	79	19	60	158	237
12	501 Impaired by alcohol	74	9	65	211	285
13	306 Exceeding speed limit	68	18	50	159	227
14	509 Distraction in vehicle	62	10	52	267	329
15	601 Aggressive driving	47	6	41	116	163
16	605 Learner or inexperienced driver/rider	38	1	37	157	195
17	502 Impaired by drugs (illicit or medicinal)	32	11	21	48	80
18	510 Distraction outside vehicle	25	2	23	100	125
19	401 Junction overshoot	19	3	16	56	75
20	508 Driver using mobile phone	18	9	9	28	46

Key (CF groups):

	Driver/Rider error or reaction		Impairment or distraction		Injudicious action
	Behaviour or inexperience				

Notes:

- (a) Table reports number of collisions.
- (b) Table ranked by fatal and serious collisions.
- (c) As more than one contributory factor can be recorded per collision; columns will not sum to their respective totals.

Table 4-4 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")
- Distraction (including use of mobile phone) (CFs 508, 509 and 510)
- Impaired by drink and drugs (CFs 501 and 502)

Note: For CF code definitions refer to Table 4-2

It can be seen from Table 4-4 that collisions involving 'improper use of or no restraints' increased in all severities in 2017. Fatal collisions linked to restraints have increased by 5.9 per cent.

Due to the recording of the use of seatbelts not being mandatory this category potentially shows the minimum number of collisions by severity of the collision. In terms of collisions, the table does show that in 2017 a minimum of 131 total collisions had recorded 'improper use of or no restraints' this is a 28.4 per cent increase from the value recorded in 2016. The number of fatal and serious collisions showed an increase of 36.5 per cent and slight collisions showed an increase of 20.0 per cent compared to values in 2016.

Speeding, distractions, impaired by drink and drugs showed a decrease across all severities compared to 2016.

**Table 4-4 Collisions involving speeding, restraints, distractions and drink/drugs, 2017**

Category/ Severity	Speeding	Restraints <sup>(a)</sup>	Distractions	Drink/Drugs
Fatal	<b>25</b> ↓ 16.7%	<b>18</b> ↑ 5.9%	<b>16</b> ↓ 15.8%	<b>17</b> ↓ 15.0%
Serious	<b>153</b> ↓ 5.6%	<b>53</b> ↑ 51.4%	<b>78</b> ↓ 14.3%	<b>77</b> ↓ 20.6%
Fatal + Serious	<b>178</b> ↓ 7.3%	<b>71</b> ↑ 36.5%	<b>94</b> ↓ 14.5%	<b>94</b> ↓ 19.7%
Slight	<b>546</b> ↓ 9.3%	<b>60</b> ↑ 20.0%	<b>368</b> 0.0%	<b>241</b> ↓ 3.6%
Total	<b>724</b> ↓ 8.8%	<b>131</b> ↑ 28.4%	<b>462</b> ↓ 3.3%	<b>335</b> ↓ 8.7%

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 collision severities-and hence any large variation in 'Restraints' is likely come, at least in part, from the increase or decrease of the recording by police forces.
- (b) Percentages represent the per cent change of 2017 values from 2016 values; percentages are only shown where the base is 15 or more including if unchanged.

## 4.4. Contributory Factors

### 4.4.1. Overview

Based on STATS20<sup>22</sup> contributory factors should only be recorded in STATS19 data for collisions attended by a police officer. This is due in part because contributory factors are subjective and depend on the police officer's experience and their skill of investigating. For any collision attended by a police officer up to six contributory factors can be recorded, these give an indication as to what may have occurred.

Figure 4-13 shows the number and percentage of collisions on the SRN which were attended by a police officer between 2005 and 2017.

It can be seen that from 2005 to 2015 the percentage of collisions attended by police officers varied between the lowest value of 88.5 per cent and the highest value of 91.1 per cent. However, the figure shows a significant decrease in the number and percentage of collisions attended by a police officer in 2016 and 2017. This reduction should be taken into consideration by the reader when analysing contributory factor tables.

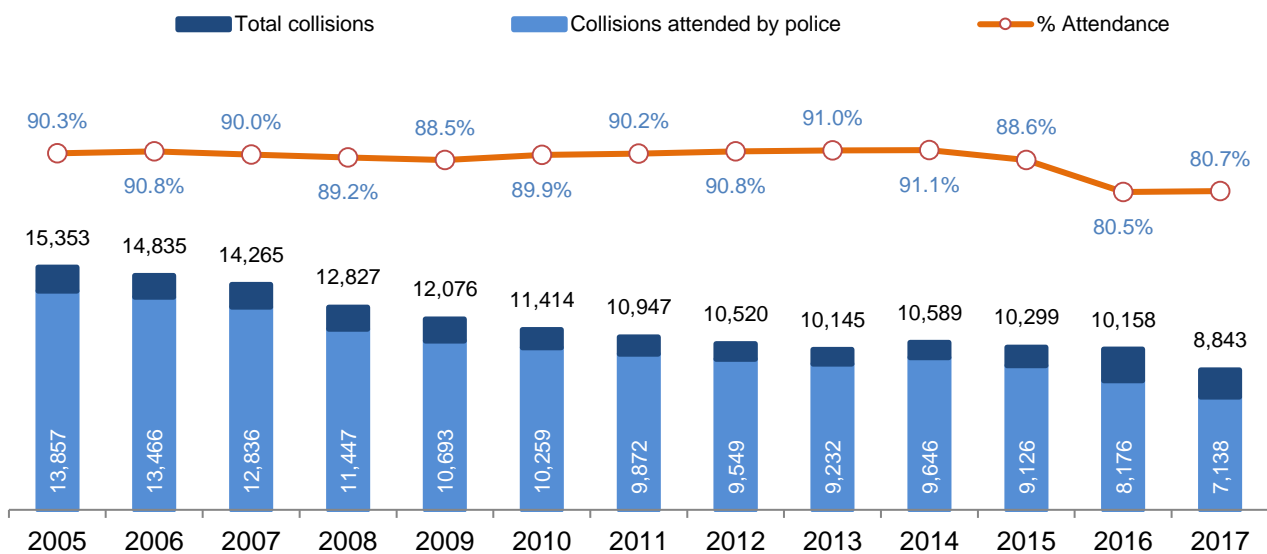


Figure 4-13 Number and percentage of collisions where police attended (2005-2017)

<sup>22</sup> STATS20 "Instructions for the Completion of Road Accident Reports from non-CRASH Sources" Department for Transport, September 2011.

## 4.4.2. Contributory factors attributed to collisions

Table 4-5 illustrates the top 10 contributory factors related to people, vehicles and roads. It is clear that contributory factors relating to people were attributed to the most collisions compared to vehicle and road related contributory factors. Failed to look properly was attributed to the majority of collisions 28.7 per cent (2,536) in 2017. Slippery road (due to weather) was the most common road contributory factor, being attributed to 6.3 per cent (557) of collisions in 2017. The most common vehicle contributory factor was vehicle blind spot which was attributed to 1.6 per cent (141) of collisions in 2017.

**Table 4-5 Top 10 contributory factors attributed to collisions, 2017**

	Rank	Contributory Factor	2017	Percentage of collisions, 2017
People	1	405 Failed to look properly	2,536	28.7%
	2	406 Failed to judge other person's path or speed	2,175	24.6%
	3	410 Loss of control	1,093	12.4%
	4	308 Following too close	949	10.7%
	5	602 Careless, reckless or in a hurry	858	9.7%
	6	403 Poor turn or manoeuvre	841	9.5%
	7	408 Sudden braking	818	9.3%
	8	307 Travelling too fast for conditions	555	6.3%
	9	409 Swerved	392	4.4%
	10	503 Fatigue	378	4.3%
Vehicles	1	710 Vehicle blind spot	141	1.6%
	2	201 Tyres illegal, defective or under inflated	79	0.9%
	3	204 Defective steering or suspension	36	0.4%
	4	203 Defective brakes	35	0.4%
	5	206 Overloaded or poorly loaded vehicle or trailer	21	0.2%
	6	705 Dazzling headlights	13	0.1%
	7	202 Defective lights or indicators	11	0.1%
	8	205 Defective or missing mirrors	2	0.0%
	9	709 Visor or windscreen dirty, scratched or frosted etc.	2	0.0%
Roads	1	103 Slippery road (due to weather)	557	6.3%
	2	707 Rain, sleet, snow, or fog	146	1.7%
	3	706 Dazzling sun	115	1.3%
	4	109 Animal or object in carriageway	87	1.0%
	5	108 Road layout (eg. bend, hill, narrow carriageway)	54	0.6%
	6	102 Deposit on road (eg. oil, mud, chippings)	47	0.5%
	7	708 Spray from other vehicles	46	0.5%
	8	701 Stationary or parked vehicle(s)	36	0.4%
	9	703 Road layout (eg. bend, winding road, hill crest)	29	0.3%
	10	107 Temporary road layout (eg. contraflow)	28	0.3%

Key (CF groups):

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

Note:

(a) In 2017, there were a total of 8,843 collisions.




(b) There are only nine contributory factors associated with vehicles whereas only the top 10 contributory factors associated with people and roads are shown.

### 4.4.3. Top 10 contributory factors by road classification




Table 4-6 illustrates top 10 contributory factors attributed to collisions by road classification. For more details see Appendix Table F-4, Table F-5, Table F-8 and Table F-9.

Based on the results shown in Table 4-6, “Failed to look properly” was the top contributory factor attributed to collisions across all road classes in 2017. Four out of the top five contributory factors across most road classes are in relation to “Driver/Rider error or reaction”; the exception being A-road single carriageway where it was three of the top five.

**Table 4-6 Top 10 contributory factors attributed to collisions by road classification, 2017**

	Rank	Contributory Factor	2017
 <p><b>Motorway</b> (82% of collisions attended by police)</p>	1	405 Failed to look properly	1,164
	2	406 Failed to judge other person's path or speed	1,099
	3	410 Loss of control	551
	4	308 Following too close	502
	5	408 Sudden braking	432
	6	403 Poor turn or manoeuvre	350
	7	602 Careless, reckless or in a hurry	335
	8	307 Travelling too fast for conditions	287
	9	103 Slippery road (due to weather)	257
	10	409 Swerved	200
<p><b>A-road</b> (79% of collisions attended by police)</p>	1	405 Failed to look properly	1,372
	2	406 Failed to judge other person's path or speed	1,076
	3	410 Loss of control	542
	4	602 Careless, reckless or in a hurry	523
	5	403 Poor turn or manoeuvre	491
	6	308 Following too close	447
	7	408 Sudden braking	386
	8	103 Slippery road (due to weather)	300
	9	307 Travelling too fast for conditions	268
	10	409 Swerved	192
 <p><b>A-road dual carriageway</b> (78% of collisions attended by police)</p>	1	405 Failed to look properly	942
	2	406 Failed to judge other person's path or speed	782
	3	410 Loss of control	402
	4	602 Careless, reckless or in a hurry	371
	5	403 Poor turn or manoeuvre	344
	6	308 Following too close	302
	7	408 Sudden braking	284
	8	103 Slippery road (due to weather)	226
	9	307 Travelling too fast for conditions	195
	10	409 Swerved	151
 <p><b>A-road single carriageway</b> (84% of collisions attended by police)</p>	1	405 Failed to look properly	430
	2	406 Failed to judge other person's path or speed	294
	3	602 Careless, reckless or in a hurry	152
	4	403 Poor turn or manoeuvre	147
	5	308 Following too close	145
	6	410 Loss of control	140
	7	408 Sudden braking	102
	8	103 Slippery road (due to weather)	74
	9	307 Travelling too fast for conditions	73
	10	509 Distraction in vehicle	60

Key (CF groups):

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

# 5. Topics of Interest

The purpose of this section is to provide analysis for a range of topics of interest. The topics are themes that affect the SRN and hence include more detailed analysis than the overall assessment of casualty (and collision) trends in the previous sections.

This section includes the following topics of interest:

- Fatally injured casualties
- Seriously injured casualties
- Killed or seriously injured (KSI) casualties
- Slightly injured casualties
- Child casualties
- Young motorists
- Older and Elderly casualties
- Lighting on the SRN
- Weather effects on the SRN
- Roadworks
- Junctions
- Tyres
- Goods vehicles (HGVs and LGVs)
- Motorcycle users
- Hardshoulders and lay-bys
- Collision type
- Hotspot analysis
- Vulnerable and non-motorised users
- Journey purpose
- Towing



## 5.1. Fatally Injured Casualties

This section provides an overview of fatalities on the SRN for 2017 along with comparisons to previous years as required.

In 2017, there were 236 fatalities on the SRN; this is an increase of 5 fatalities from the 2016 value of 231. This is an increase in the number of fatalities by 2.2 per cent from 2016 but remains below the 2017 monitoring point 247 albeit only by 9 and is equal to the 2018 monitoring point (Figure 5-1). The estimated cost of fatalities on the SRN in 2017 was £399.2m<sup>23</sup>.

Figure 5-2 shows that in 2017, May and September had the most fatalities with 28 in the month. This was closely followed by December which had 25 fatalities and then by July and August each of which had 24 fatalities.

Table 5-1 shows fatalities by casualty type, it can be seen that in 2017:

- 59.7 per cent of fatalities were car occupants (141 of 236)
- 18.6 per cent of fatalities were pedestrians (44 of 236)
- 10.6 per cent of fatalities were motorcycle users (25 of 236)

Table 5-1 also shows the number of pedestrian fatalities increased by 10.0 per cent to 44 in 2017 from 40 in 2016 and motorcycle user fatalities decreased by 7.4 per cent to 25 in 2017 from 27 in 2016.

Table 5-2 provides a breakdown of fatalities by casualty age. There was a reduction in the number of fatalities for the age group 70+ years; 19.4 per cent from 2016, while fatalities for the age groups 60-69 and 16-19 years have increased by 42.1 and 87.5 per cent, respectively.

Figure 5-3 shows fatalities by road classification in 2017 and it can be seen that:

- A-road single carriageway fatalities increased by 5.5 per cent to 58, from 55 in 2016
- A-road dual carriageway fatalities decreased by 12.1 per cent to 87, from 99 in 2016
- A-road fatalities, as a whole, decreased by 5.8 per cent to 145, from 154 in 2016
- Motorway fatalities increased by 18.2 per cent to 91, from 77 in 2016

Figure 5-4 illustrates that hitting an object off the carriageway was attributed to 69 fatalities, and is 29.2 per cent of all fatalities in 2017. This is a slight increase on the 2016 value of 64. Of those fatalities that involved hitting an object off the carriageway in 2017, 33.3 per cent were attributed to hitting a tree and 36.2 per cent were attributed to hitting a barrier of some kind. This is equivalent to 9.7 per cent and 10.6 per cent of all fatalities (236) respectively.

Table 5-3 shows fatalities by junction detail, overall 21.2 per cent of fatalities occurred at junctions in 2017. The total number of fatalities occurring at junctions increased to 50 in 2017 from 40 in 2016; an increase of 25.0 per cent.

<sup>23</sup> Based on the average value of prevention per casualty at 2010 prices and 2017 values, DfT WebTAG: Unit A 4.1.1, June 2018.

### 5.1.1. Fatal casualty infographics

**236 fatally injured casualties**

**↑ 2.2 per cent from 2016**

**28 fatally injured casualties occurred in May and September**

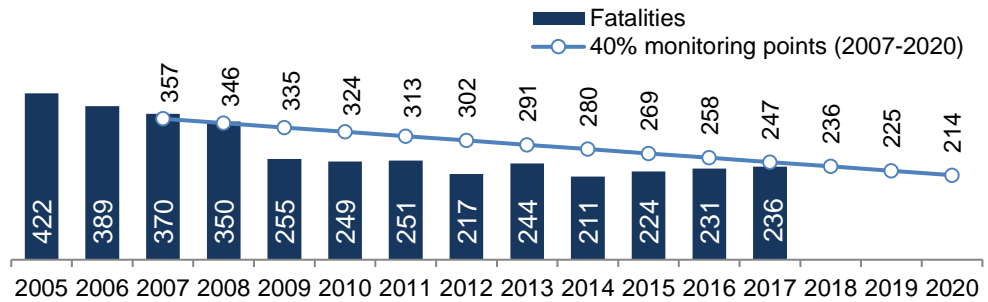


Figure 5-1 Fatally injured casualties by year, SRN

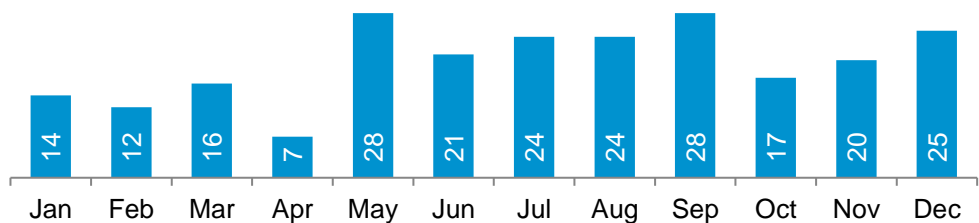


Figure 5-2 Fatally injured casualties by month, 2017

Table 5-1 Fatally injured casualties by type, 2017

Casualty type	2017	% change from 2016
Car occupants	141	↑3.7%
Motorcycle users	25	↓7.4%
Goods vehicle occupants (equal to or under 3.5 tonnes)	13	-
HGV occupants (over 3.5 tonnes)	10	-
Pedestrians	44	↑10.0%
Pedal cyclists	2	-

**59.7 per cent of total fatally injured casualties involved car occupants**

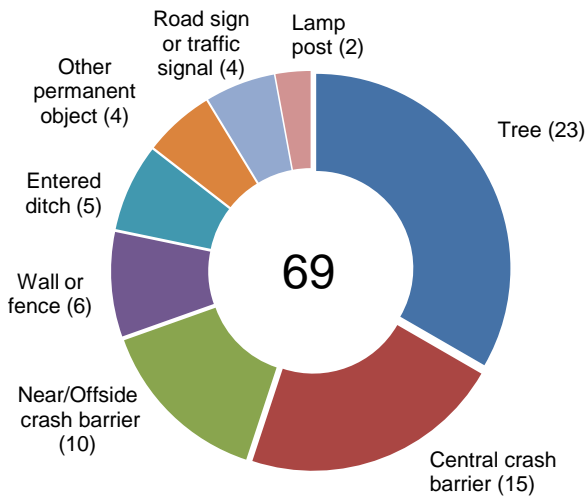
Table 5-2 Fatally injured casualties by age group, 2017

Children (0-15)	Young (16-19)	Other (20-59)	Older (60-69)	Elderly (70+)
5	15	164	27	25
-	-	↓0.6%	↑42.1%	↓19.4%

## 61.4 per cent of all fatally injured casualties occurred on A-roads

145 ↓5.8%	87 ↓12.1%
A-road	A-road dual carriageway
91 ↑18.2%	58 ↑5.5%
Motorway	A-road single carriageway

Figure 5-3 Fatally injured casualties by road classification, 2017



## 69 fatally injured casualties involved hitting an object off the carriageway in 2017

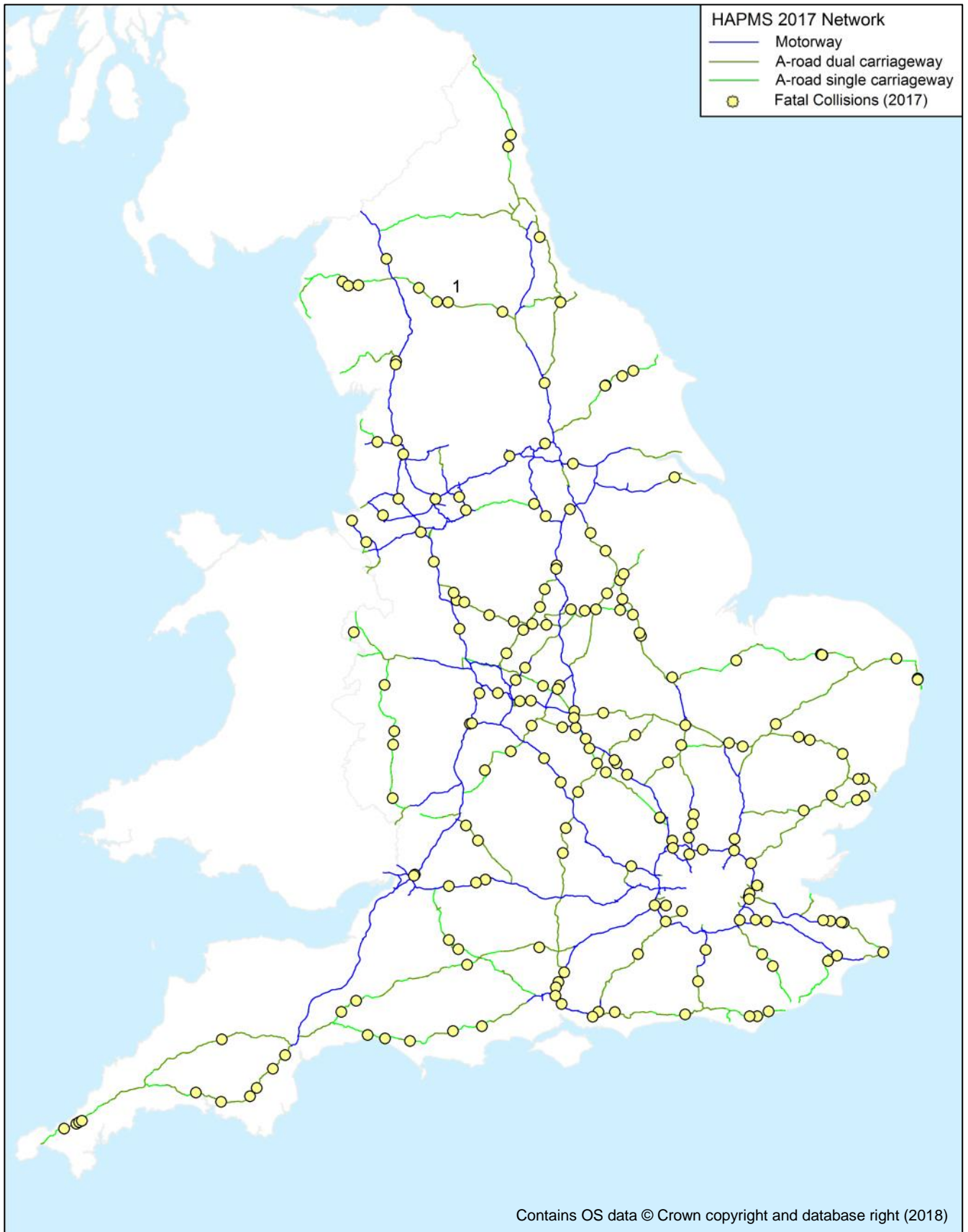
## 10.6 per cent of all fatally injured casualties (236) involved hitting a crash barrier of some kind (25)

Figure 5-4 Fatally injured casualties by objects hit off carriageway, 2017

Table 5-3 Fatally injured casualties by junction detail, 2017

Junction detail	2017	% change from 2016
Slip road	24	↑9.1%
T or staggered	13	-
Crossroad	4	-
Roundabout	3	-
Private drive or entrance	3	-
More than 4 arms (not roundabout)	0	-
Mini-roundabout	0	-
Other	3	-
Not at junction	186	↓2.6%

## 21.2 per cent of fatally injured casualties were at a junction



**Figure 5-5 Fatal collision locations across the SRN**

*Due to the number of serious and slight being higher it is not practical to represent them on a map. Therefore there is no HAPMS 2017 Network figure in the corresponding sections for these severities.*

## 5.2. Seriously Injured Casualties

This section provides an overview of seriously injured casualties on the SRN for 2017 along with comparisons to previous years as required. As explained in Section 1.3 the reporting of STATS19 via CRASH/COPA has had an impact on both seriously injured and slightly injured collision and casualty data.

In 2017, there were 1,617 seriously injured casualties on the SRN; this is a decrease of 157 seriously injured casualties from the 2016 value of 1,774 (Figure 5-6). Despite this decrease, the number of seriously injured casualties remains above the corresponding monitoring point; which is 1,360 in 2017. The estimated cost of seriously injured casualties on the SRN in 2017 was £307.3m<sup>23</sup>.

Figure 5-7 shows that in 2017 August had the most seriously injured casualties with 171 in the month. This was followed by July and December with 164 and 161 seriously injured casualties respectively.

Table 5-4 shows seriously injured casualties by type, it can be seen that in 2017:

- 65.4 per cent of seriously injured were car occupants (1,057 of 1,617)
- 18.6 per cent of seriously injured were motorcycle users (301 of 1,617)
- 2.7 per cent of seriously injured were pedestrians (43 of 1,617)

Table 5-4 also shows the number of seriously injured pedestrians decreased by 20.4 to 43 in 2017 from 54 in 2016, and number of seriously injured motorcycle users decreased by 12.8 per cent over this period.

Table 5-5 shows a breakdown of seriously injured by casualty age. It can be seen that the number of serious injuries decreased across all of the age groups, with Children (0-15) having the greatest decrease by 23.6 per cent from 2016.

In 2017, the only increase in seriously injured casualties was recorded on A-road single carriageways (Figure 5-8). The changes to seriously injured casualties by road classification are:

- A-road single carriageway serious injuries increased by 8.2 per cent to 357, from 330 in 2016
- A-road dual carriageway serious injuries decreased by 16.2 per cent to 599, from 715 in 2016
- A-road serious injuries, as a whole, decreased by 8.5 per cent to 956, from 1,045 in 2016
- Motorway serious injuries decreased by 9.3 per cent to 661, from 729 in 2016

In 2017, hitting an object off the carriageway was associated with 399 seriously injured casualties (Figure 5-9), and is 24.7 per cent of all seriously injured casualties in 2017. This is a decrease on the 2016 value of 463. Of those seriously injured casualties that involved hitting an object off the carriageway 46.6 per cent were attributed to hitting a barrier of some kind and 22.3 per cent were attributed to hitting a tree; this is 11.5 per cent and 5.5 per cent of all seriously injured casualties (1,617) respectively.

Table 5-6 shows seriously injured casualties by junction detail, overall 24.6 per cent of serious injuries occurred at junctions in 2017. The total number of seriously injured casualties at junctions decreased to 397 in 2017 from 457 in 2016; a decrease of 13.1 per cent. The majority of seriously injured casualties at junctions were attributed to slip roads, roundabouts, and T or staggered junctions. Only slip roads have seen an increase from 2016 value. Cross roads showed the greatest decrease (60.7 per cent).

## 5.2.1. Seriously injured casualty infographics

**1,617**  
seriously  
injured  
casualties  
↓ 8.9 per  
cent from  
2016

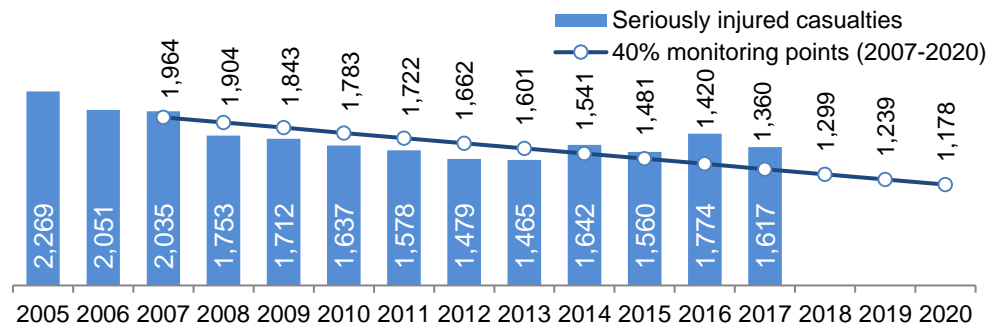


Figure 5-6 Seriously injured casualties by year, SRN

**171**  
seriously  
injured  
casualties  
occurred in  
August

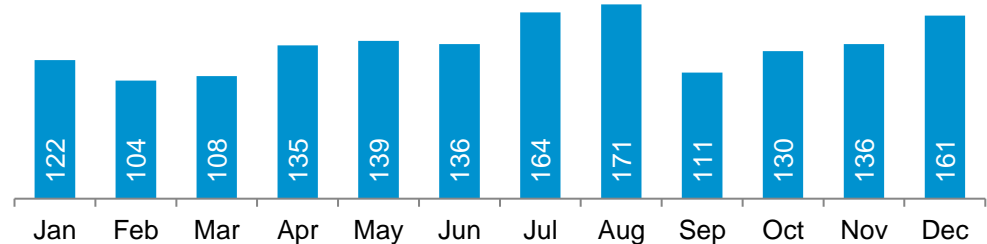


Figure 5-7 Seriously injured casualties by month, 2017

Table 5-4 Seriously injured casualties by type, 2017

Casualty type	2017	% change from 2016
Car occupants	1,057	↓9.3%
Motorcycle users	301	↓12.8%
Goods vehicle occupants (equal to or under 3.5 tonnes)	101	↑16.1%
HGV occupants (over 3.5 tonnes)	56	↓22.2%
Pedestrians	43	↓20.4%
Pedal cyclists	38	↓7.3%

**Goods vehicle occupants (non-HGV) seriously injured casualties increased by 16.1 per cent**

Table 5-5 Seriously injured casualties by age group, 2017

Children (0-15)	Young (16-19)	Other (20-59)	Older (60-69)	Elderly (70+)	Unknown age
55	90	1,160	143	158	11
↓23.6%	↓18.2%	↓8.6%	↓4.0%	↓2.5%	-

**59.1 per cent of all seriously injured casualties occurred on A-roads**

**A-road single carriageway - the only road class to have an increase in seriously injured casualties**

<b>956</b> ↓8.5%	<b>599</b> ↓16.2%
<b>A-road</b>	 A-road dual carriageway
<b>661</b> ↓9.3%	<b>357</b> ↑8.2%
 Motorway	 A-road single carriageway

Figure 5-8 Seriously injured casualties by road classification, 2017

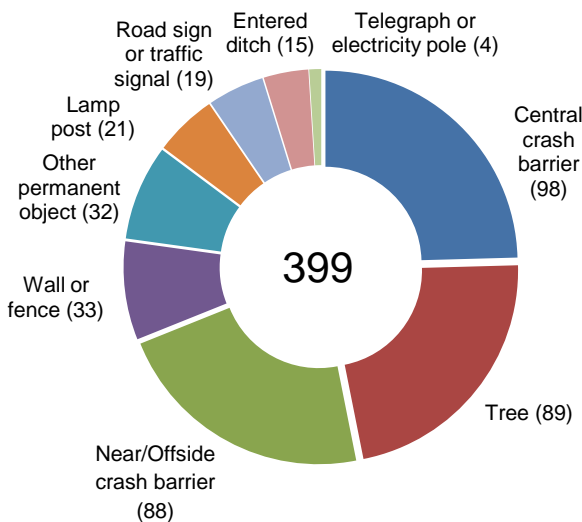


Figure 5-9 Seriously injured casualties by objects hit off carriageway, 2017

**399 seriously injured casualties involved hitting an object off the carriageway in 2017**

**11.5 per cent of all seriously injured casualties involved in hitting a crash barrier of some kind**

Table 5-6 Seriously injured casualties by junction detail, 2017

Junction detail	2017	% change from 2016
Slip road	131	↓10.1%
Roundabout	117	↓10.7%
T or staggered	110	↓16.0%
Private drive or entrance	12	↓20.0%
Crossroad	11	↓60.7%
More than 4 arms (not roundabout)	1	-
Mini-roundabout	1	-
Other	14	↓51.7%
Not at junction	1,220	↓7.4%

**24.6 per cent of seriously injured casualties were at junctions**

### 5.3. Killed or Seriously Injured Casualties

This section provides an overview of killed or seriously injured (KSI) casualties on the SRN for 2017 along with comparisons to previous years as required. As explained in Section 1.3 the reporting of STATS19 via CRASH/COPA has had an impact on seriously injured and slightly injured collision and casualty data.

In 2017, there were 1,853 KSI casualties on the SRN; a decrease of 152 KSI casualties from the 2016 value of 2,005. Despite the decrease, the number of KSI casualties remains above the corresponding monitoring point; which is 1,607 in 2017 (Figure 5-10). The estimated cost of KSI casualties on the SRN in 2017 was £706.5m<sup>23</sup>.

Figure 5-11 shows that August, with 195, had the most number of KSI casualties followed by July with 188 and then December with 186.

Table 5-7 shows KSI casualties by type, it can be seen that in 2017:

- 64.7 per cent of KSI casualties were car occupants (1,198 of 1,853)
- 17.6 per cent of KSI casualties were motorcycle users (326 of 1,853)
- 4.7 per cent of KSI casualties were pedestrians (87 of 1,853)

Table 5-7 also shows the number of pedestrian KSI casualties decreased by 7.4 per cent to 87 in 2017, from 94 in 2016 and that motorcycle user KSI casualties decreased by 12.4 per cent to 326 in 2017, from 372 in 2016.

Table 5-8 shows a breakdown of KSI casualties by age. The number of KSI casualties for most of the age groups decreased, with Children (0-15) having the greatest decrease of 25.9 per cent from 2016. The exception is the Older (60-69) age group where the KSI casualties increased slightly by 1.2 per cent from 2016.

In 2017, the only increase in KSI casualties was recorded on A-road single carriageways (Figure 5-12). The changes to KSI casualties by road classification are:

- A-road single carriageway KSI casualties increased by 7.8 per cent to 415, from 385 in 2016
- A-road dual carriageway KSI casualties decreased by 15.7 per cent to 686, from 814 in 2016
- A-road KSI casualties, as a whole, decreased by 8.2 per cent to 1,101, from 1,199 in 2016
- Motorway KSI casualties decreased by 6.7 per cent to 752, from 806 in 2016

In 2017, hitting an object off the carriageway was associated with 468 KSI casualties (Figure 5-13), and is 25.3 per cent of all KSI casualties. This is a decrease on the 2016 value of 527. Of those KSI casualties that involved hitting an object off the carriageway 45.1 per cent were attributed to hitting a barrier of some kind and 23.9 per cent attributed to hitting a tree. This is equivalent to 11.4 per cent and 6.0 per cent of all KSI casualties (1,853) respectively.

In 2017, 24.1 per cent of KSI casualties were at junctions, with the total number decreasing to 447 from 497 in 2016; a decrease of 10.1 per cent. Table 5-9 shows KSI casualties by junction detail. Similar to trends evident in seriously injured casualties, the table shows that only slip roads had a notable increase in KSI casualties of 9.9 per cent from the 2016 value; with the most KSI casualties also at slip roads in 2017.



### 5.3.1. KSI casualty infographics

**1,853 KSI casualties**

**7.6 per cent from 2016**

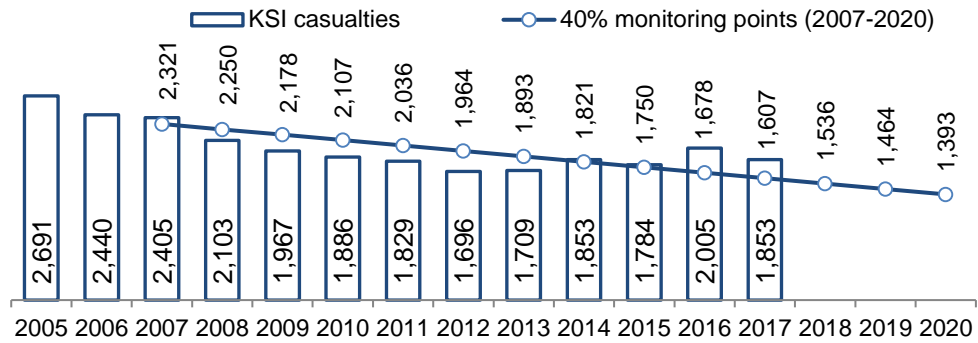


Figure 5-10 KSI casualties by year, SRN

**195 KSI casualties in August**

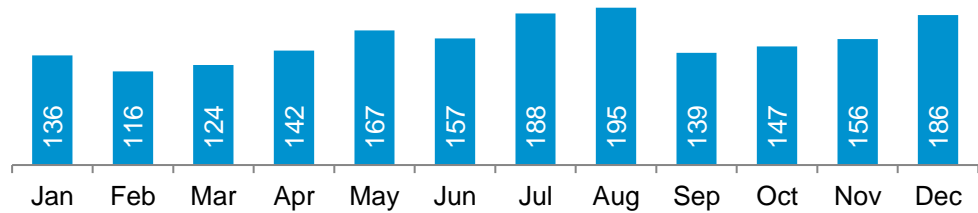


Figure 5-11 KSI casualties by month, 2017

Table 5-7 KSI casualties by type, 2017

Casualty type	2017	% change from 2016
Car occupants	1,198	7.9%
Motorcycle users	326	12.4%
Goods vehicle occupants (equal to or under 3.5 tonnes)	114	12.9%
HGV occupants (over 3.5 tonnes)	66	19.5%
Pedestrians	87	7.4%
Pedal cyclists	40	9.1%

**Goods vehicle occupant (non-HGV) KSI casualties increased by 12.9 per cent**

Table 5-8 KSI casualties by age group, 2017

Children (0-15)	Young (16-19)	Other (20-59)	Older (60-69)	Elderly (70+)	Unknown age
60	105	1,324	170	183	11
25.9%	11.0%	7.5%	1.2%	5.2%	-

**59.4 per cent of all KSI casualties were on A-roads**

**A-road single carriageway - the only road class to have an increase in KSI casualties**

<b>1,101</b> ↓8.2%	<b>686</b> ↓15.7%
<b>A-road</b>	A-road dual carriageway
<b>752</b> ↓6.7%	<b>415</b> ↑7.8%
<b>Motorway</b>	A-road single carriageway

Figure 5-12 KSI casualties by road classification, 2017

**468 KSI casualties involved hitting an object off the carriageway in 2017**

**11.4 per cent of all KSI casualties involved hitting a barrier of some kind**

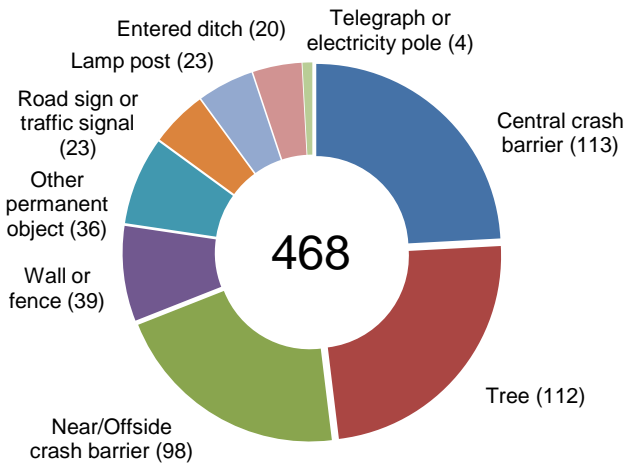


Figure 5-13 KSI casualties by objects hit off carriageway, 2017

**24.1 per cent of KSI casualties were at a junction**

Table 5-9 KSI casualties by junction detail, 2017

Junction detail	2017	% change from 2016
Slip road	155	↑9.9%
T or staggered	123	↓13.4%
Roundabout	120	↓10.4%
Crossroad	15	↓50.0%
Private drive or entrance	15	0.0%
More than 4 arms (not roundabout)	1	-
Mini-roundabout	1	-
Other	17	↓45.2%
Not at junction	1,406	↓6.8%

## 5.4. Slightly Injured Casualties

This section provides an overview of slightly injured casualties on the SRN for 2017 along with comparisons to previous years as required. As explained in Section 1.3 the reporting of STATS19 via CRASH/COPA has had an impact on both seriously injured and slightly injured collision and casualty data.

In 2017, there were 12,372 slightly injured casualties on the SRN; a significant decrease of 1,856 slightly injured casualties from the 2016 value of 14,228 and now 7.8 per cent below the 2017 monitoring point of 13,418 (Figure 5-14). The total cost of slightly injured casualties on the SRN in 2017 was £181.3m<sup>23</sup>.

Figure 5-15 shows that in 2017 August had the most slightly injured casualties with 1,174 whilst March had the fewest with 877.

Table 5-10 shows slightly injured casualties by type, it can be calculated that in 2017:

- 84.7 per cent of slightly injured were car occupants (10,481 of 12,372)
- 6.6 per cent of slightly injured were goods vehicle occupants (under 3.5 tonnes or unknown weight) (818 of 12,372)
- 3.5 per cent of slightly injured were motorcycle users (434 of 12,372)

Table 5-11 shows the number of slightly injured casualties by age group in 2017. All the age groups show a decrease in the number of slightly injured casualties from that in 2016, with Young (16-19) having the greatest reduction of 14.4 per cent.

In 2017, the number of slightly injured casualties decreased across all road classes (Figure 5-16). The changes to slightly injured casualties by road classification are:

- A-road single carriageway slightly injured casualties decreased by 10.3 per cent to 1,650, from 1,840 in 2016
- A-road dual carriageway slightly injured casualties decreased by 15.9 per cent to 4,544, from 5,402 in 2016
- A-road slightly injured casualties, as a whole, decreased by 14.5 per cent to 6,194, from 7,242 in 2016
- Motorway slightly injured casualties decreased by 11.6 per cent to 6,178, from 6,986 in 2016

In 2017, hitting an object off the carriageway was associated with 1,931 slightly injured casualties (Figure 5-17), and is 15.6 per cent of all slightly injured casualties. This is a decrease on the 2016 value of 2,285. Of those slightly injured casualties that involved hitting an object off the carriageway 59.9 per cent were attributed to hitting a barrier of some kind and 12.4 per cent attributed to hitting a tree. This is equivalent to 9.4 per cent and 1.9 per cent of all slightly injured casualties (12,372) respectively.

Table 5-12 shows slightly injured casualties by junction detail, overall 25.3 per cent of slightly injured casualties were at junctions in 2017. The total number of slightly injured casualties at junctions decreased to 3,130 in 2017 from 3,728 in 2016; a decrease of 16.0 per cent. Roundabouts and slip roads both had significantly more slightly injured casualties compared to other junction types in 2017 with 1,097 and 1,063 respectively. However, for both of these junction types slightly injured casualties decreased from the corresponding 2016 values by 19.5 and 9.4 per cent respectively.

### 5.4.1. Slightly injured casualty infographics

**12,372** slightly injured casualties  
 ↓ 13.0 per cent from 2016

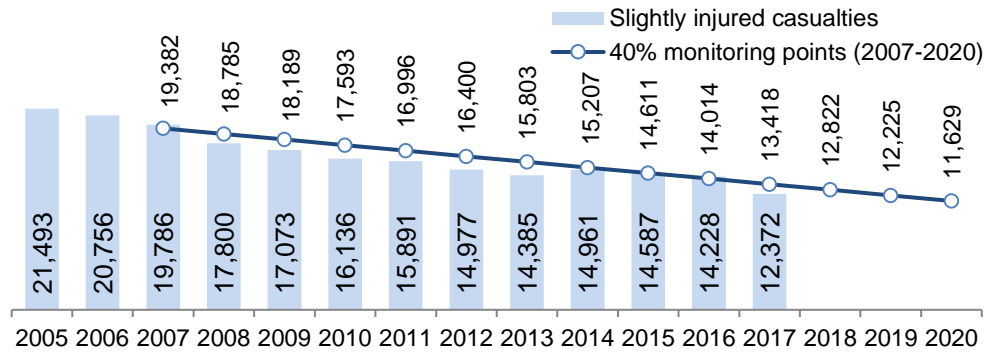


Figure 5-14 Slightly injured casualties by year, SRN

**1,174** slightly injured casualties in August

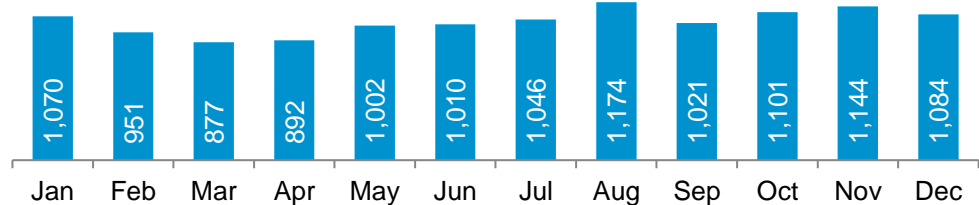


Figure 5-15 Slightly injured casualties by month, 2017

Table 5-10 Slightly injured casualties by type, 2017

Casualty type	2017	% change from 2016
Car occupants	10,481	↓14.8%
Motorcycle users	434	↓11.8%
Goods vehicle occupants (equal to or under 3.5 tonnes)	818	↓1.3%
HGV occupants (over 3.5 tonnes)	321	↓0.3%
Pedestrians	66	↓10.0%
Pedal cyclists	97	↓6.7%

**84.7 per cent** of the slightly injured casualties involved car occupants

Table 5-11 Slightly injured casualties by age group, 2017

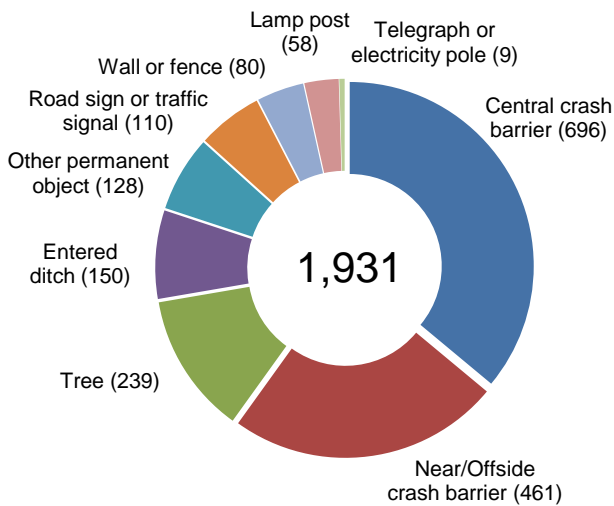
Children (0-15)	Young (16-19)	Other (20-59)	Older (60-69)	Elderly (70+)	Unknown age
787	683	9,283	891	619	109
↓4.6%	↓14.4%	↓14.2%	↓11.4%	↓6.1%	↓12.8%

**50.1 per cent of all slightly injured casualties were on A-roads**

**All the road classes had a reduction in slightly injured casualties**

<b>6,194</b> ↓14.5%	<b>4,544</b> ↓15.9%
<b>A-road</b>	 A-road dual carriageway
<b>6,178</b> ↓11.6%	<b>1,650</b> ↓10.3%
 Motorway	 A-road single carriageway

**Figure 5-16 Slightly injured casualties by road classification, 2017**



**1,931 slightly injured casualties involved hitting an object off the carriageway in 2017**

**9.4 per cent of all slightly injured casualties involved hitting a barrier of some kind**

**Figure 5-17 Slightly injured casualties by objects hit off carriageway, 2017**

**Table 5-12 Slightly injured casualties by junction detail, 2017**

Junction detail	2017	% change from 2016
Roundabout	1,097	↓19.5%
Slip road	1,063	↓9.4%
T or staggered	600	↓12.3%
Crossroad	178	↓7.8%
Private drive or entrance	61	↓52.7%
More than 4 arms (not roundabout)	21	↓43.2%
Mini-roundabout	0	-
Other	110	↓25.2%
Not at junction	9,239	↓12.0%

**25.3 per cent of slightly injured casualties were at a junction**

## 5.5. Child Casualties

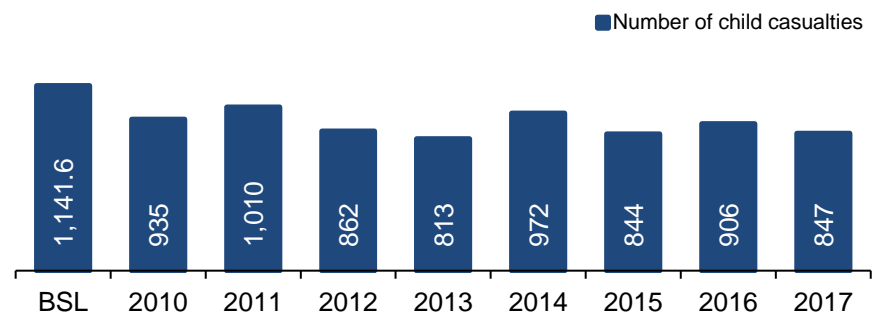
This section investigates child (ages 0-15) casualties and KSI casualties by year, road class and gives a breakdown of KSI casualties by type.

### 5.5.1. Child casualty summary

Figure 5-18 shows child casualties and KSI casualties by year. It can be seen that there were 847 child casualties in 2017, a decrease of 6.5 per cent on the 2016 value of 906. Child KSI casualties also decreased from 2016 to 2017, from 81 to 60 a 25.9 per cent reduction.

#### 847 child casualties in 2017

↓ 6.5 per cent from 2016 (906)



#### 60 child KSI casualties in 2017

↓ 25.9 per cent from 2016 (81)

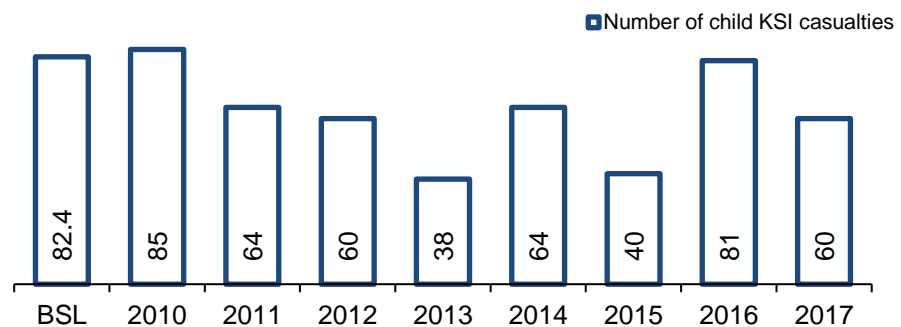


Figure 5-18 Total and KSI child casualties by year

Figure 5-19 shows a breakdown of 2017 child KSI casualties by casualty type. It can be seen that 46 of the 60 (76.7 per cent) child KSI casualties were car occupants. The next highest type was pedestrians which accounted for 7 child KSI casualties.

#### 76.7% of child casualties were car occupants in 2017

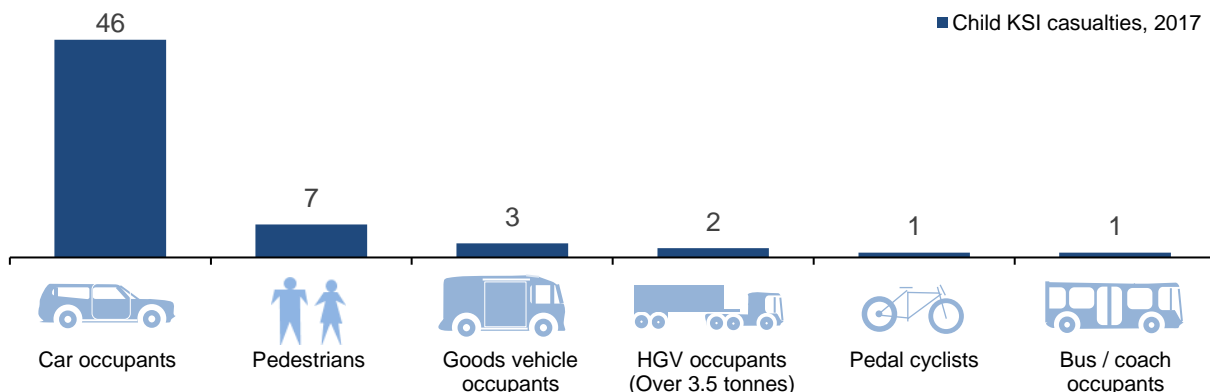
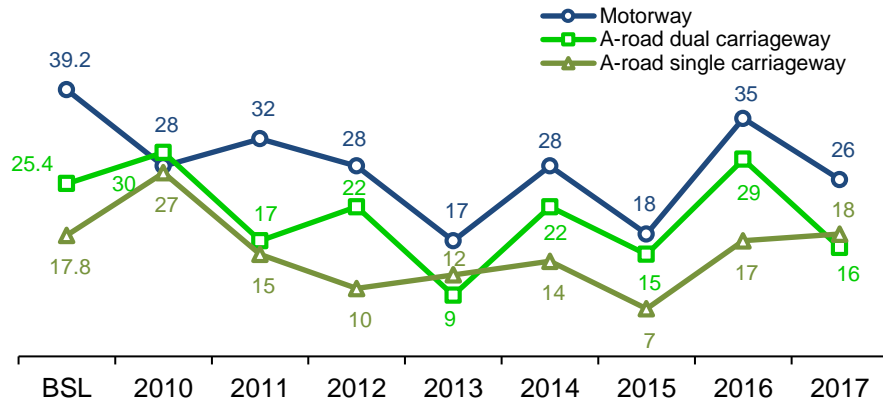


Figure 5-19 Child KSI casualties by type, 2017

Figure 5-20 gives a breakdown of child casualties and KSI casualties by road class. It can be seen that child KSI casualties on both motorways and A-road dual carriageways decreased, by 25.7 and 44.8 per cent respectively, from 2016 to 2017. However child KSI casualties on A-road single carriageways increased by 1, from 17 in 2016 to 18 in 2017. It can also be seen that for the third consecutive year child casualties have decreased on motorways with 400 in 2017. However, in 2017, child casualties on A-road single carriageways increased by 25.0 per cent to 145 from 116 in 2016.

### Child KSI casualties



### Child casualties

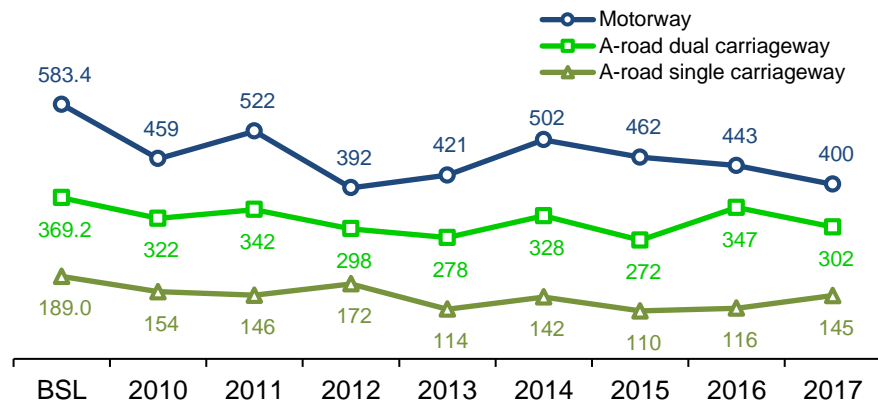


Figure 5-20 Child casualties by severity and road class

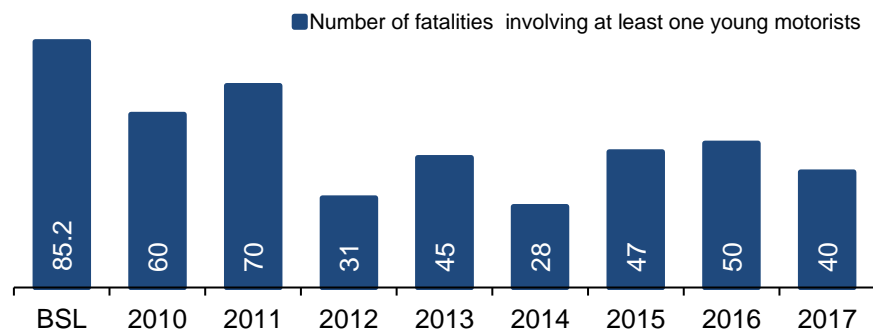
## 5.6. Young Motorist

This 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 (3,848 out of 14,225).

### 5.6.1. Casualties involving young motorists by severity

The historic number of casualties by severity between 2010 and 2017 together with the baseline average are shown in Figure 5-21 and Figure 5-22. As shown in Figure 5-21 the number of young motorists involved in fatalities decreased in 2017 (40) from 2016 (50); a decrease of 20.0 per cent. However, the number of KSI casualties (Figure 5-21) and total casualties (Figure 5-22) decreased by 1.2 and 14.1 per cent respectively.

**40 fatalities involving young motorists**  
 ↓ 20.0 per cent from 2016 (50)



**415 KSI casualties involving young motorists**  
 ↓ 1.2 per cent from 2016 (420)

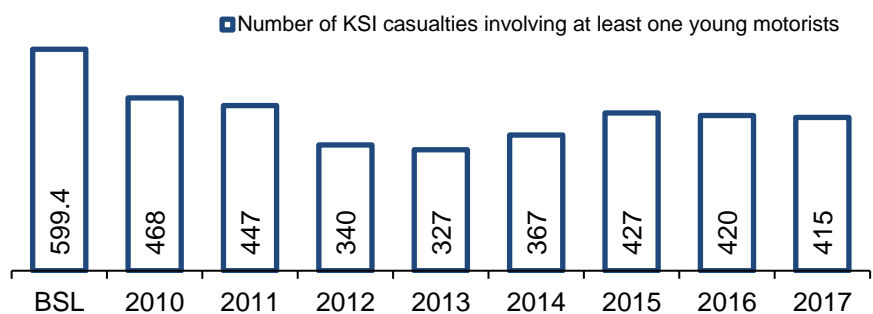


Figure 5-21 Fatalities and KSI casualties involving young motorists

**3,848 casualties involving young motorists**  
 ↓ 14.1 per cent from 2016 (4,481)

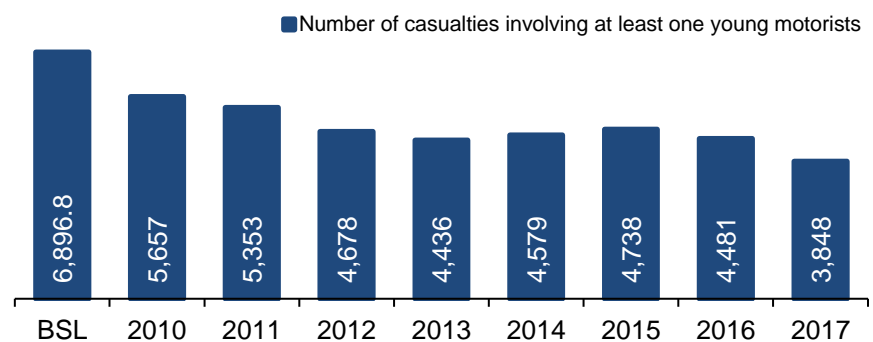


Figure 5-22 Casualties involving young motorists

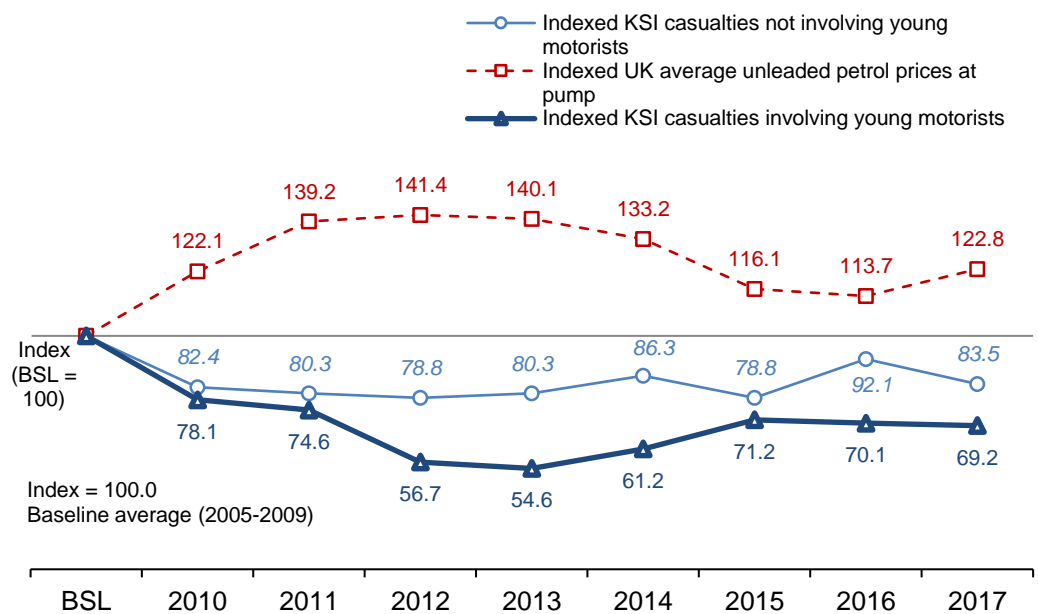


## 5.6.2. Cost of motoring effect on casualties involving young motorists

Figure 5-23 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 5-23 also shows that KSI casualties involving young motorists have decreased by 0.9 index points from 2016; which follows the decrease of 1.1 index point from the previous period (2015 to 2016). The KSI casualties not involving young motorists also decreased by 8.6 index points between the years (2016 to 2017) but its trajectory is not as closely correlated to fuel prices.

**Average UK cost of petrol at pump**  
**117.6 pence**  
**⬆️ 22.8 per cent since the BSL**



**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<sup>24</sup>.

**Figure 5-23 Index of changes in UK average petrol price and KSI casualties involving/not involving young motorists**

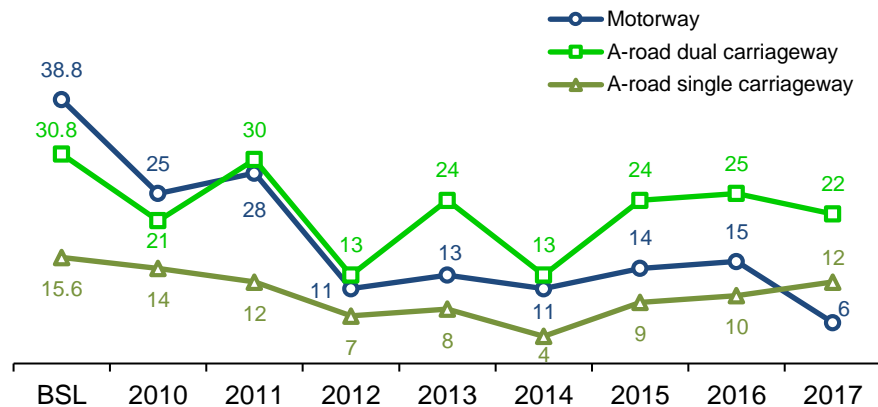
<sup>24</sup> UK fuel prices sourced from Table 4.1.2 average annual retail prices of petroleum products and a crude oil price index UK

### 5.6.3. Casualties involving young motorists by road classification

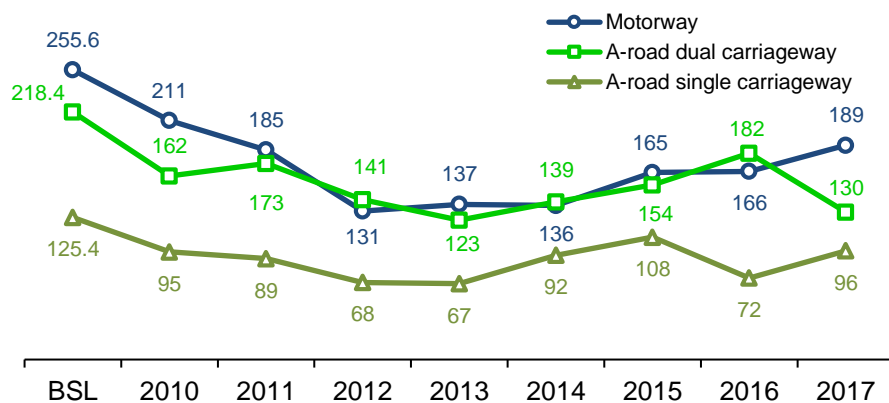
Appendix Table K-3 provides the number of casualties involving young motorists by road classification and severity. The trend over time of the number of casualties, tabulated in Appendix Table K-3, is presented in Figure 5-24 by road classification and severity.

Figure 5-24 shows that there was an increase of 2 fatalities, and 24 KSI casualties involving young motorist on A-road single carriageways in 2017, compared to 2016. The figure also shows that the number of fatalities and KSI casualties involving young motorists on A-road dual carriageways decreased to 22 and 130 from 25 and 182, respectively, between 2016 and 2017.

#### Fatalities involving young motorists



#### KSI casualties involving young motorists



#### Casualties involving young motorists

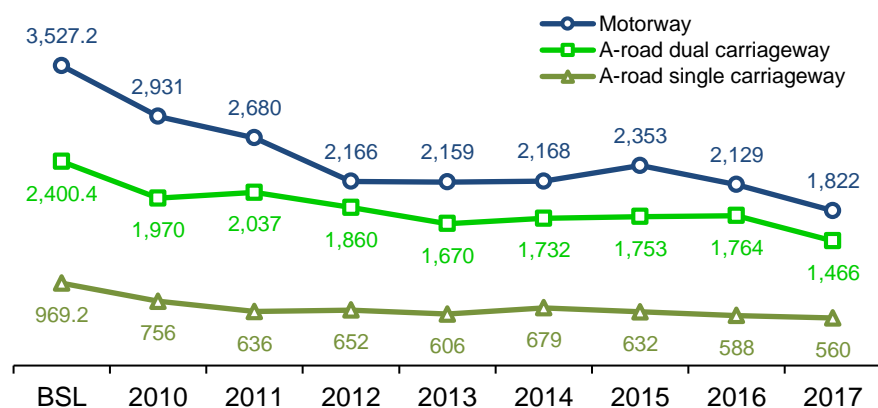


Figure 5-24 Casualties involving young motorists by severity and road class

### 5.6.4. Contributory factors associated with young motorists

The number of KSI casualties involving young motorists for the top 10 contributory factors are highlighted in Table 5-13. The top 10 contributory factors are grouped under “injudicious action”, “driver/rider error or reaction”, “behaviour or inexperience” and “road environment” groupings.





The contributory factor related to the highest number of KSI casualties involving young motorists was “loss of control” which contributed to 80 KSI casualties.

Of note, seven of the top 10 contributory factors listed in Table 5-13 also appear in the top 10 contributory factors attributed to all KSI casualties in 2017 (Appendix Table I-5); the exceptions were “exceeding speed limit”, “swerved” and “learner or inexperienced driver/rider”.

**Table 5-13 Top 10 contributory factors for KSI casualties involving young motorists, 2017**

Rank	Contributory Factor	2017	Percentage of KSI casualties
1	410 Loss of control	80	19.3%
2	406 Failed to judge other person’s path or speed	62	14.9%
3	405 Failed to look properly	54	13.0%
4	307 Travelling too fast for conditions	39	9.4%
5	602 Careless, reckless or in a hurry	34	8.2%
6	403 Poor turn or manoeuvre	31	7.5%
7	103 Slippery road (due to weather)	29	7.0%
8	306 Exceeding speed limit	23	5.5%
9	409 Swerved	22	5.3%
10	605 Learner or inexperienced driver/rider	22	5.3%

Key (CF groups):

	Driver/Rider error or reaction		Injudicious action		Behaviour or inexperience
	Road environment				

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 2017, there was a total of 415 KSI casualties involving young motorists.

Contributory factors attributed to collisions with young motorists are provided in Appendix Table K-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 and are not necessarily attributed directly to the young motorist. The top five factors recorded at least once in a collision involving a young motorist are:

- Failed to look properly
- Failed to judge other person’s path or speed
- Following too close
- Loss of control
- Sudden braking

## 5.7. Older and Elderly Casualties

This section gives an overview of Older (60-69) and Elderly (70+) KSI casualties.

### 5.7.1. Summary of older and elderly casualties

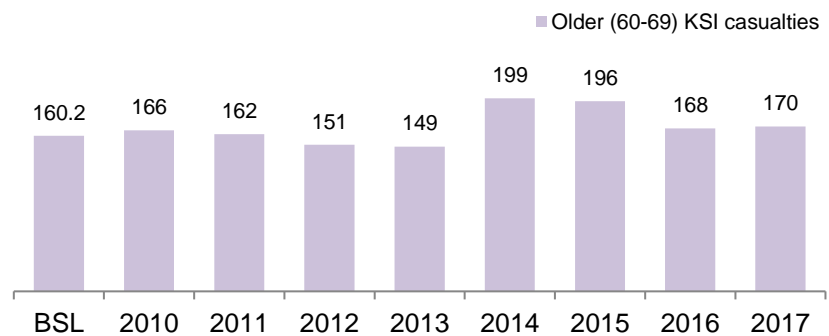
From Section 3.3.2 it can be seen that of the casualty age groups only Older (60-69) and Elderly (70+) had more KSI casualties in 2017 than the baseline period, this is reiterated in Figure 5-25.

Figure 5-26 shows the percentage change in population from the baseline period (2005 to 2009) to 2017 by age groups. It can be seen that the Older and Elderly are the only groups above the average increase for England. This additional increase in population for these age groups may, in part, be the reason for increased KSI casualties.

#### Older (60-69)

170 KSI casualties

↑ 6.1 per cent from 160.2 in BSL



#### Elderly (70+)

183 KSI casualties

↑ 26.0 per cent from 145.2 in BSL

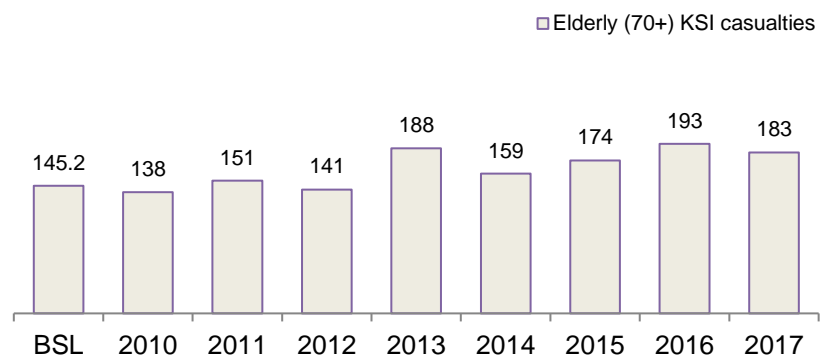


Figure 5-25 Older and Elderly KSI casualties by year

■ % population growth from BSL (2005-2009) to 2017

— Average % increase in population across England from BSL to 2017

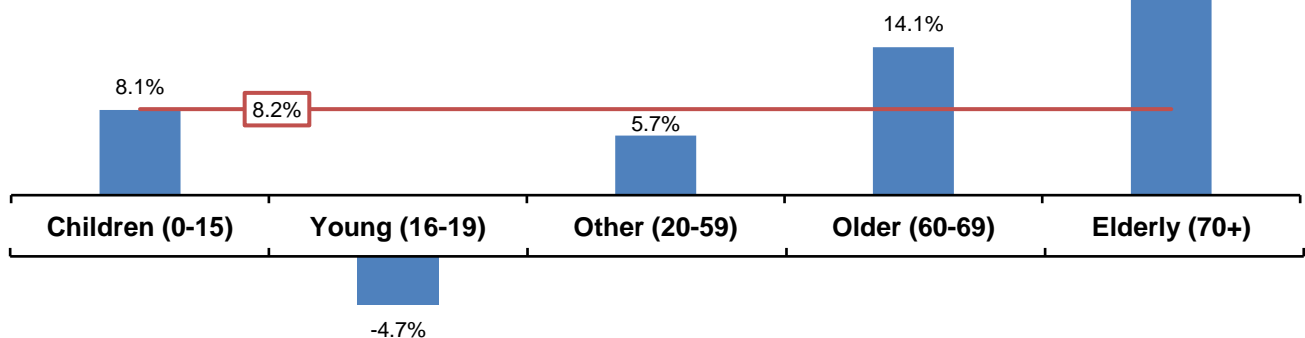


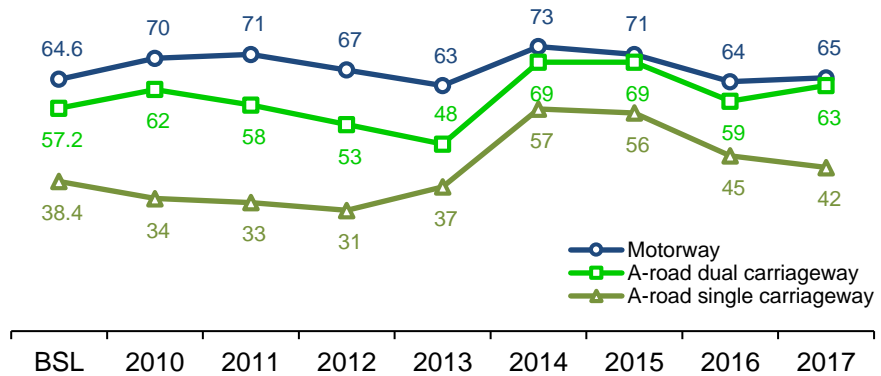
Figure 5-26 Percentage change in population from BSL to 2017 by age groups

Figure 5-27 shows the Older and Elderly KSI casualties by road class. It can be seen that motorway had the most (65) Older KSI casualties but the fewest (48) Elderly in 2017. It can also be seen that for the third year in a row the number of Older KSI casualties decreased on A-road single carriageway, from 45 in 2016 to 42 in 2017. The opposite can be said for Elderly KSI casualties on A-road single carriageway which increased for the third year in row, from 64 in 2016 to 71 in 2017. Elderly KSI casualties on A-road dual carriageway decreased the most out of all the categories, 22.9 per cent from 83 in 2016 to 64 in 2017.

Figure 5-28 shows Older and Elderly KSI casualties in 2017 by casualty type. It can be seen that for both Older and Elderly the majority of KSI casualties were car occupants in 2017, 105 and 154 respectively.

### 65 Older (60-69) KSI casualties involving on Motorways

↑ 1.6 per cent from 2016 (64)



### 64 KSI casualties involving Elderly (70+) on A-road dual carriageways

↓ 22.9 per cent from 2016

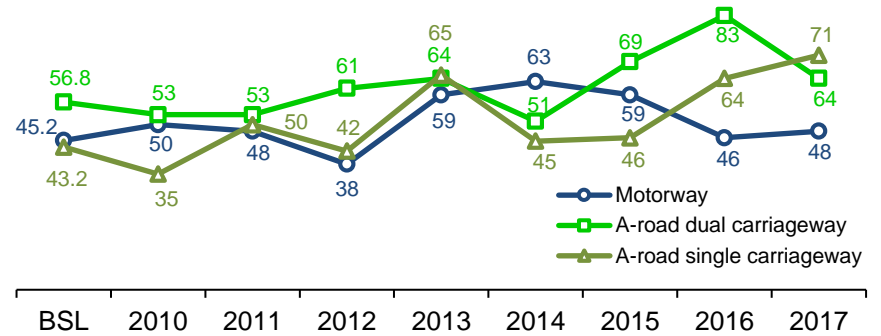


Figure 5-27 Older and Elderly KSI casualties by road class

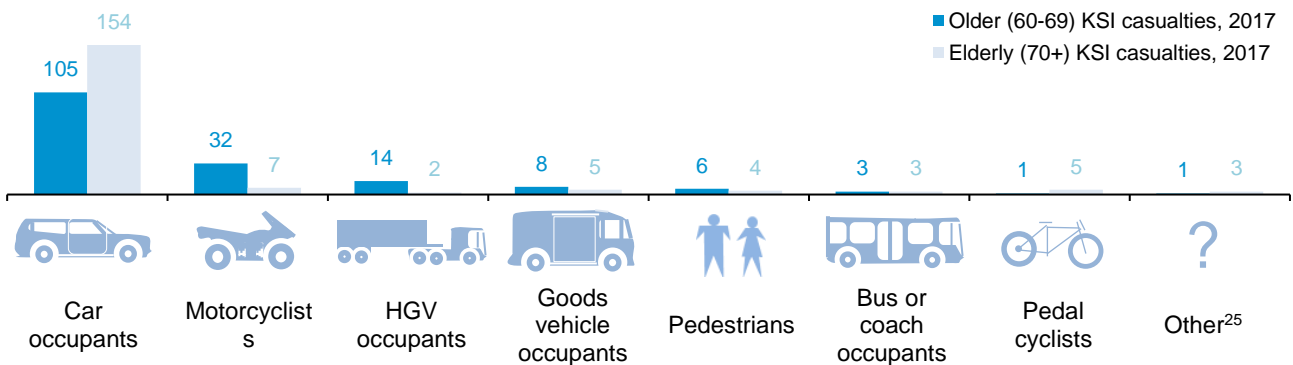


Figure 5-28 Older and Elderly KSI casualties by type, 2017

<sup>25</sup> Other includes ridden horse, and occupants of other vehicles, and unknown

## 5.8. Lighting

This topic of interest provides data for monitoring the effect of lighting on road safety. Since 2010<sup>26</sup>, parts of the SRN (generally excluding junctions) which previously were designed with lighting are now operating without lights during the hours of darkness.

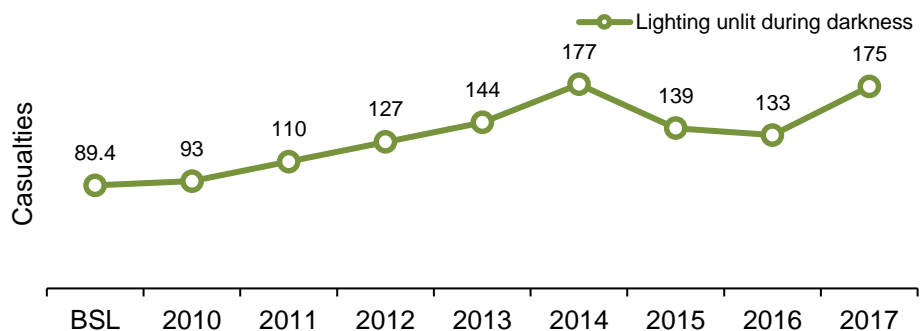
Appendix Table L-1 to Table L-8 provides an overview of historic trends against lighting levels. These trends include; collisions and casualties by lighting condition, road name, road classification, contributory factors and severity.

### 5.8.1. Comparison between number of casualties and lighting levels

The proportion of casualties in 2017 (Figure 5-29) associated with lighting unlit sections of the SRN during darkness remained relatively low. In total, there were 175 (up from 133 in 2016) reported casualties on lighting unlit sections during darkness out of the total 14,225 casualties. In comparison, the number of casualties in lit sections during darkness was over 11 times greater at 1,977.

Figure 5-29 shows that casualties on lit sections during darkness follow a similar trend to those in Figure 3-11 for total casualties. However, this is not the case for the trend in the number of casualties on unlit sections during darkness.

**Lighting unlit during darkness**  
 ⬆️ 88.2 per cent from 2010



**Lighting lit during darkness**  
 ⬇️ 18.4 per cent from 2010

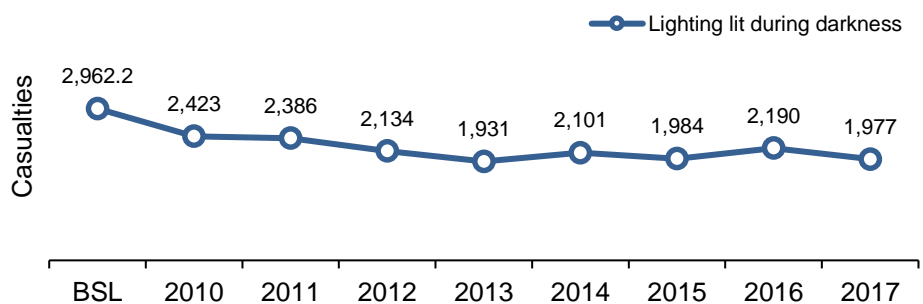


Figure 5-29 Casualties by lighting conditions between 2010 and 2017

<sup>26</sup> Midnight Switch-Off for Motorway Lighting, Highways Agency (now Highways England), Accessed via <http://webarchive.nationalarchives.gov.uk/20120810121037/http://www.highways.gov.uk/knowledge/30236.aspx>

## 5.8.2. Casualties on specific roads during darkness

An extract of the number of casualties in all categories of darkness, (including sections of road that are lit and unlit) on specific roads are shown in Table 5-14. The expanded list (top 20) is provided in Appendix Table L-5.

It can be seen from Table 5-14 that five out of the top 10 roads had more casualties occurring during darkness in 2017 than 2016. Of these the M62 had the largest percentage change of 46.9 per cent with the A27 having the second largest at 35.8 per cent. In contrast, the M25 had greatest decrease which was 41.6 per cent.

**Table 5-14 Casualties during darkness by top 10 road names**

Rank	Road name	BSL	2010	2011	2012	2013	2014	2015	2016	2017	2017 per cent change from	
											2016	2016
1	M1	569.6	427	356	363	326	321	344	318	351	↑	10.4
2	M6	434.0	340	362	253	297	330	309	343	317	↓	7.6
3	M25	464.8	354	367	371	305	306	322	437	255	↓	41.6
4	A1	274.4	219	146	160	190	128	155	149	166	↑	11.4
5	M62	198.8	151	125	158	113	114	140	113	166	↑	46.9
6	M4	233.4	184	202	182	192	176	176	170	155	↓	8.8
7	A27	125.8	96	91	91	102	95	100	95	129	↑	35.8
8	A1(M)	123.6	116	119	114	143	109	125	118	127	↑	7.6
9	A38	138.6	116	104	125	121	152	124	116	116	-	0.0
10	M5	187.0	149	118	122	124	94	105	139	102	↓	26.6

## 5.9. Weather

This topic of interest analyses the effects of weather on the SRN. Weather events (rain, snow and fog or mist) recorded along with the casualties, in 2017, equalled 2,050 and was equivalent to 14.4 per cent of the total 14,225 casualties on the SRN; fine weather conditions were recorded in 83.0 per cent of casualties.

Appendix Table M-1 to Table M-12 provide additional breakdowns of collisions and casualties by weather group, road classification, contributory factors, severity, vehicle type and skidding.

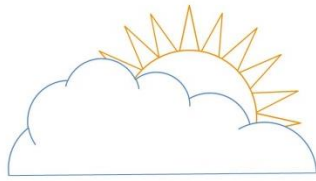
### 5.9.1. Casualties by weather type

Figure 5-30 shows the number of total casualties by weather group for the years 2010 to 2017. Between 2015 and 2017, the following changes occurred in total casualty numbers during weather events:

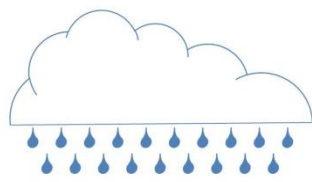
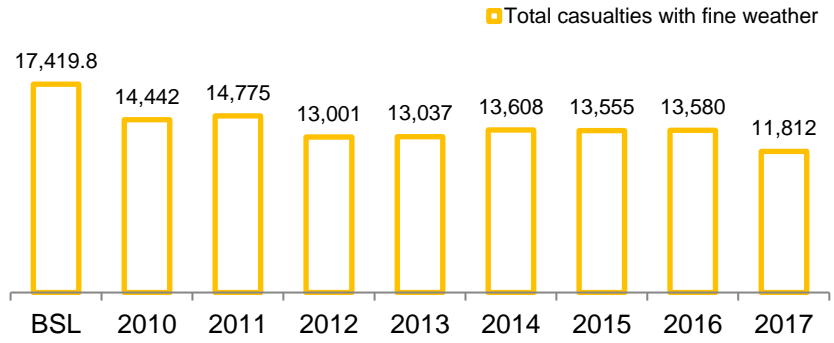
- The number of casualties during snow increased by 33.3 per cent (to 120 from 90)
- The number of casualties during rain decreased by 11.1 per cent (to 1,823 from 2,051)
- The number of casualties during fog or mist decreased by 2.7 per cent (to 107 from 110)

Appendix Table M-1 shows a further breakdown by severity.

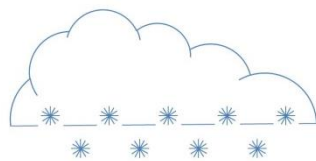
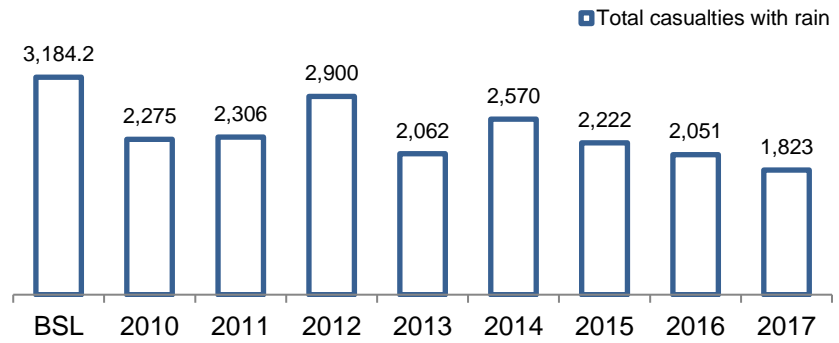




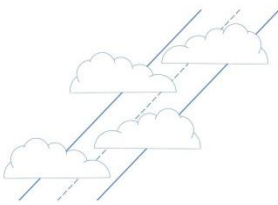
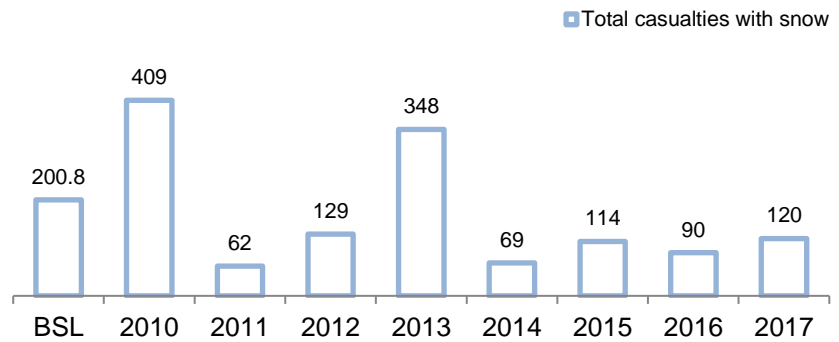
Fine



Rain



Snow



Fog or mist

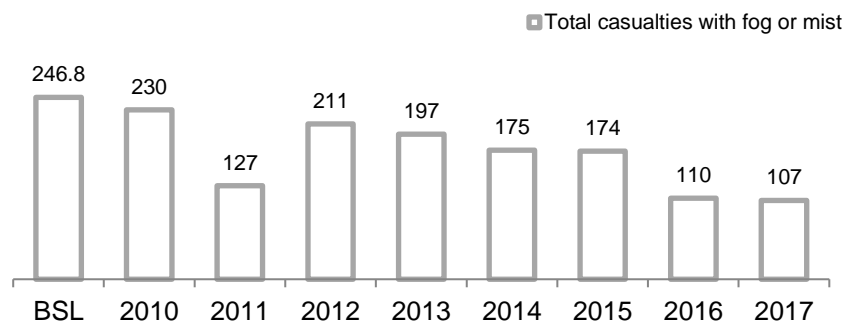


Figure 5-30 Casualties by weather group and year

## 5.9.2. Casualties against measured temperature and rainfall

The distribution of casualties during rainfall by month in 2017 is shown in Figure 5-32. It can be seen that January has the highest number of casualties with 221.

Figure 5-32 and Figure 5-34 show that there is not a strong correlation between the two values, except for April which had the lowest number of casualties during rainfall and the lowest average UK monthly rainfall.

The casualty data along with measured air temperature and rainfall for 2017 are provided in Figure 5-31, Figure 5-33 and Figure 5-34. From the figures it can be observed that in 2017:

- **Quarter 1 (Jan to Mar)** – casualty values were at their lowest annually (*average of 1,091 per month*) corresponding with low temperatures (4°C to 8.5°C) and high/moderate rainfall
- **Quarter 2 (Apr to Jun)** – casualty values remained low (*average of 1,123 per month*) through increasing air temperature and lowest rainfall
- **Quarter 3 (Jul to Sep)** – casualty values were high (*average of 1,254 per month*) corresponding with the highest temperatures (13.5°C to 16.5°C) and high/moderate rainfall; this period corresponds with the school summer holiday
- **Quarter 4 (Oct to Dec)** – casualty values were at their highest (*average of 1,273 per month*) with declining temperatures and highest average rainfall

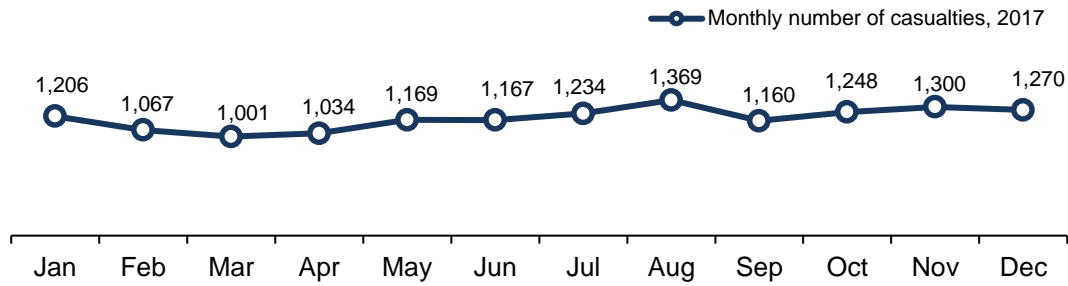


Figure 5-31 Number of total casualties by month, 2017

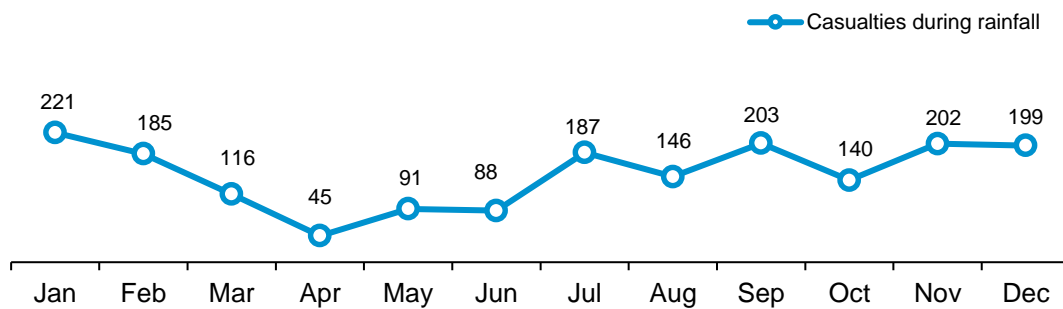


Figure 5-32 Total number of casualties during rainfall by month, 2017

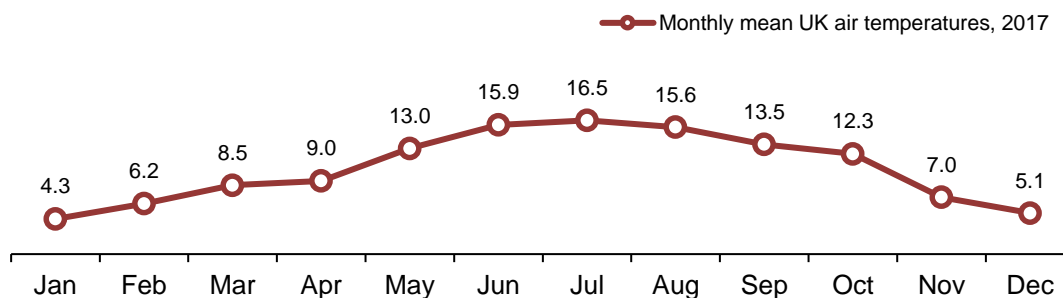


Figure 5-33 Mean UK air temperatures (degrees Celsius) by month, 2017

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>

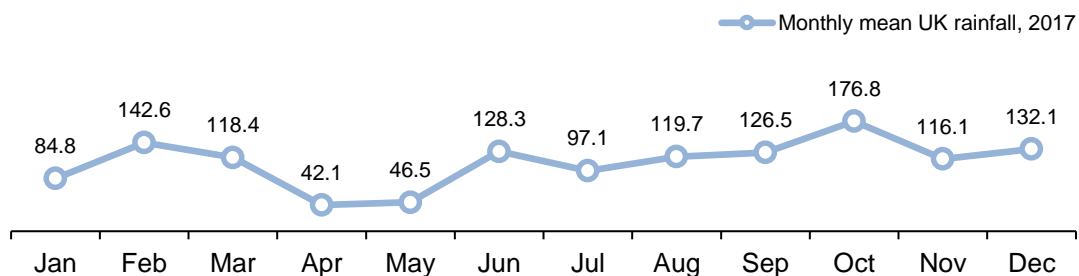


Figure 5-34 Mean UK rainfall (millimetres) by month, 2017

Notes:

(a) Rainfall data sourced from DECC Energy Trends Statistics.

(b) Accessed from <https://www.gov.uk/government/statistics/energy-trends-section-7-weather>

### 5.9.3. Collisions by weather related contributory factors

Table 5-15 shows the number of collisions during specific weather related contributory factors. It shows that the number of collisions during specific weather related contributory factors have all decreased from 2016 to 2017. 'Rain, sleet, snow, or fog' showed the largest decrease compared to 2016 with a 17.0 per cent reduction.

**Table 5-15 Number of collisions involving specific weather related contributory factors, 2016 and 2017**

Contributory Factor	2016	2017	2017 per cent change from 2016	
103 Slippery road (due to weather)	661	557	↓	15.7
307 Travelling too fast for conditions	579	555	↓	4.1
706 Dazzling sun	122	115	↓	5.7
707 Rain, sleet, snow, or fog	176	146	↓	17.0
708 Spray from other vehicles	53	46	↓	13.2

Appendix Table M-9 and Table M-10 provide further breakdown of the number of casualties and collisions attributed to the weather related contributory factors.

## 5.10. Roadworks

This topic of interest provides a summary of changes to the number of casualties at roadworks. Further details of collisions and casualties at roadworks by road classification, junction detail, vehicle type, driver age, pedestrian involvement, contributory factors, severity and severity ratios is provided in Appendix Table N-1 to Table N-20.

Roadworks are essential to the SRN as they ensure roads are safe and serviceable during their lifetime, 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 facilitate compliance with a safe speed limit through works to protect road users and road workers.

### 5.10.1. Trends in casualties at roadworks

The trends of the number of casualties within roadworks on the SRN between 2005 and 2010 had levels typically around 900 casualties per year (2005-09 baseline average of 869.0). However, as seen in Figure 5-35, the number of casualties at roadworks in 2017 was 442, a 49.1 per cent reduction on the baseline.

#### Casualties at roadworks

↓ 24.8 per cent  
from 2016 (588 to 442)

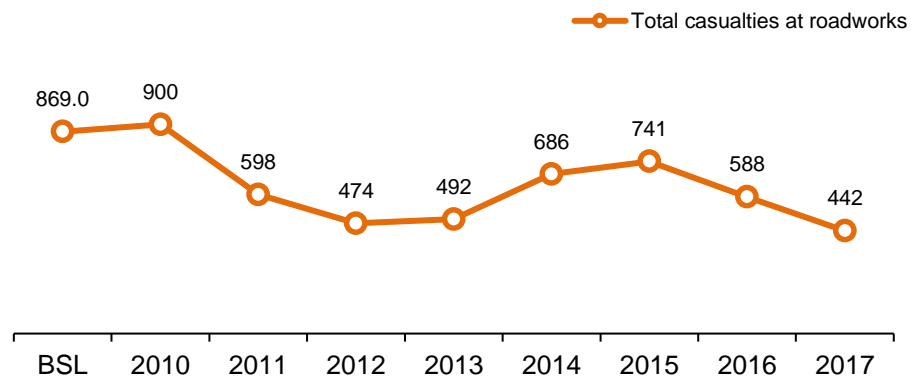
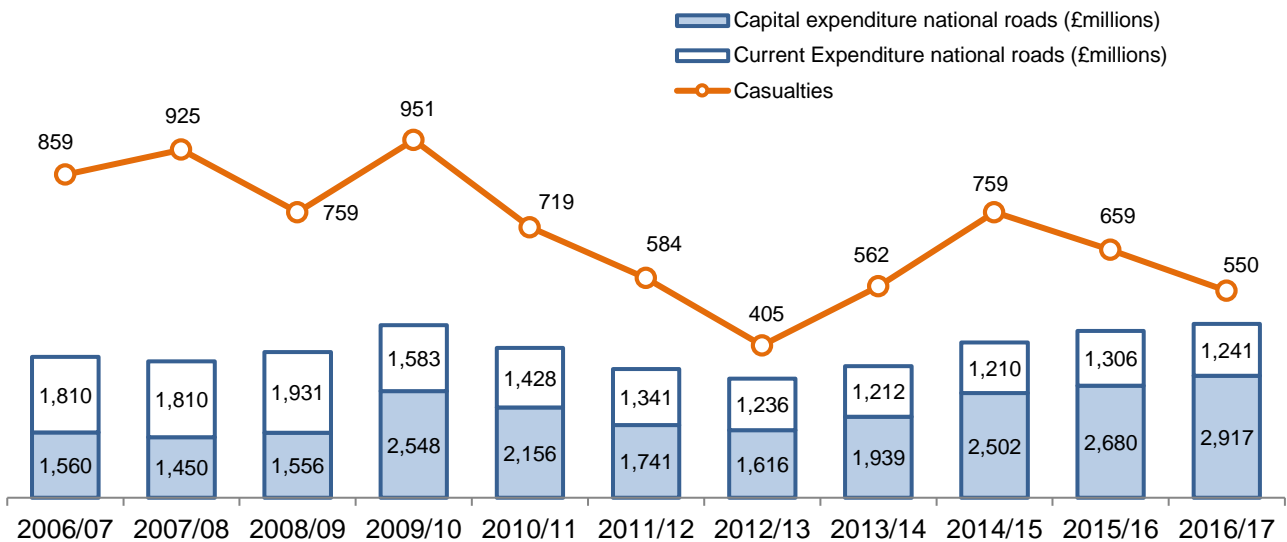


Figure 5-35 Trend in casualties at roadworks

### 5.10.2. Comparison of casualties at roadworks against roads spending

A comparison between casualties occurring at roadworks against capital and current expenditure on national roads<sup>27</sup> is highlighted in Figure 5-36 for May 2006 to April 2017<sup>28</sup>.

From the figure it can be seen that since May 2012 the amount of capital and current expenditure on national roads has increased. It is anticipated that this spending profile on construction activities will continue to increase over the coming years as a number of smart motorway schemes and other major projects are planned.



**Figure 5-36 Casualties at roadworks against expenditure on national roads (£millions) between 2006/07 to 2016/17**

### 5.10.3. Contributory factors in collisions at roadworks

The top 10 contributory factors attributed to collisions in roadworks during 2017 are listed in Table 5-16. The table indicates the number of collisions where a specific factor is reported at least once. In 2017, the most reported factor was ‘Failed to look properly’, which was attributed to 95 collisions.

Out of the top 10 contributory factors attributed to collisions at roadworks, only two were not listed in the top 10 contributory factors reported for overall collisions on the SRN. One was ‘Temporary road layout (e.g. contraflow)’ which has an obvious linkage to roadworks and was attributed to 8.1 per cent of these collisions in 2017.

<sup>27</sup> For this report, annual values of capital and current expenditure on “national roads” are 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 TSG1303 “UK Public Expenditure on Transport by function”, sourced from DfT, 2017.

<sup>28</sup> Casualty numbers adjusted to match the May to April timeline.

**Table 5-16 Top 10 contributory factors for collisions at roadworks, 2017**

Rank.	Contributory Factor	2017	Percentage of collisions at roadworks, 2017
1	405 Failed to look properly	95	34.9%
2	406 Failed to judge other person's path or speed	84	30.9%
3	308 Following too close	39	14.3%
4	403 Poor turn or manoeuvre	29	10.7%
5	107 Temporary road layout (eg. contraflow)	22	8.1%
6	408 Sudden braking	21	7.7%
7	602 Careless, reckless or in a hurry	19	7.0%
8	410 Loss of control	17	6.3%
9	501 Impaired by alcohol	13	4.8%
10	503 Fatigue	13	4.8%

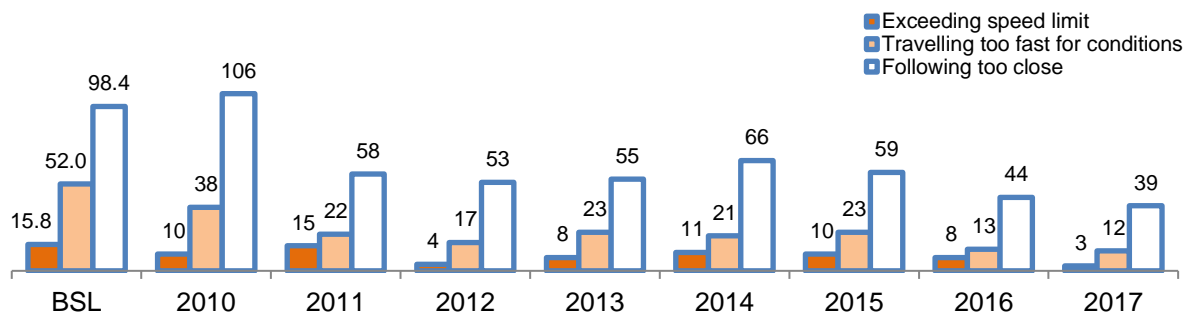
Key (CF groups):

<span style="display:inline-block; width:15px; height:15px; background-color:orange;"></span> Driver/Rider error or reaction	<span style="display:inline-block; width:15px; height:15px; background-color:lightblue;"></span> Injudicious action	<span style="display:inline-block; width:15px; height:15px; background-color:lightcoral;"></span> Impairment or distraction
<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen;"></span> Road environment	<span style="display:inline-block; width:15px; height:15px; background-color:lightyellow;"></span> Behaviour or inexperience	

Notes:

- (a) Table reports the number of collisions at roadworks where the specified contributory factor was recorded at least once.
- (b) In 2017, there was a total of 272 collisions at roadworks.

Figure 5-37 displays the number of collisions involving either excess speed or tailgating. These contributory factors are more specifically reported as “Exceeding speed limit”, “Travelling too fast for conditions” and “Following too close”. The figure shows that values post 2010 are fewer than the baseline and 2010 values. From the figure it can be seen that there were 39 collisions involving Following too close; 12 collisions involving Travelling too fast for conditions; and 3 collisions involving Exceeding speed limit at roadworks in 2017. All of these values are below their corresponding 2016 values.



**Figure 5-37 Collisions at roadworks involving excess speed and tailgating by year**

## 5.11. Junctions

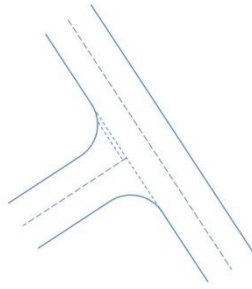
This topic of interest focuses on collisions and casualties occurring at or in the proximity of junctions. For additional statistics on junctions refer to Appendix Table P-1 to Table P-14 which provide breakdowns of collisions and casualties by junction detail, junction control, road name, vehicle type, driver age, contributory factors and severity.

### 5.11.1. Junction summary

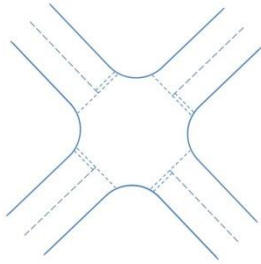
Figure 5-38 shows a breakdown of KSI casualties by junction type and year. It can be seen that the only junction type to increase in 2017 from 2016 was slip road (to 155 from 141). Crossroads had the largest percentage decrease (50.0 per cent) of KSI casualties; decreased to 15 in 2017 from 30 in 2016. T or staggered junctions decreased to 123 in 2017 from 142 in 2016. These values, however, remain significantly higher to those of the crossroads.

Figure 5-39 gives a summary of casualties reported at junctions. It can be seen that 3,577 casualties were recorded at junctions in 2017. Of the 447 KSI casualties at junctions, 155 were recorded at slip roads, 123 at T or staggered junctions and 120 at roundabouts; which equates to 89.0 per cent.

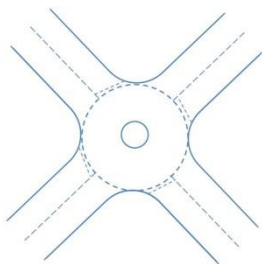




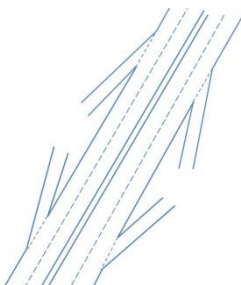
T or staggered



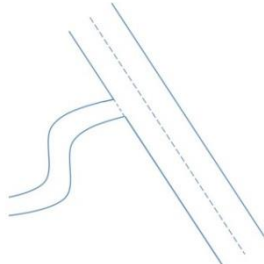
Crossroad



Roundabout



Slip road



Private drive

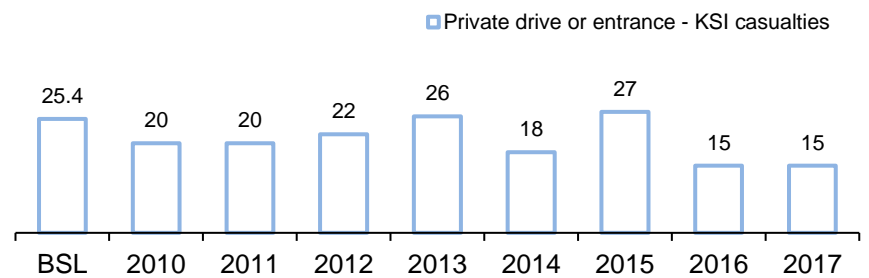
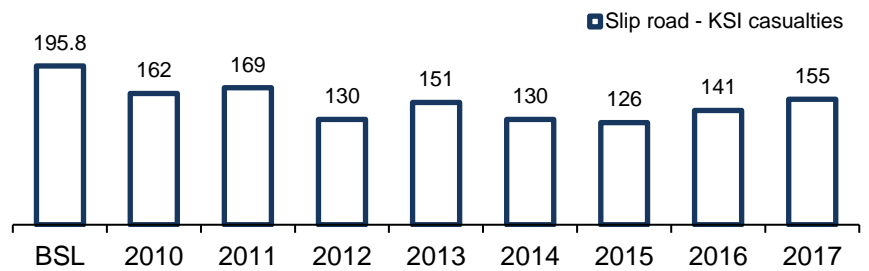
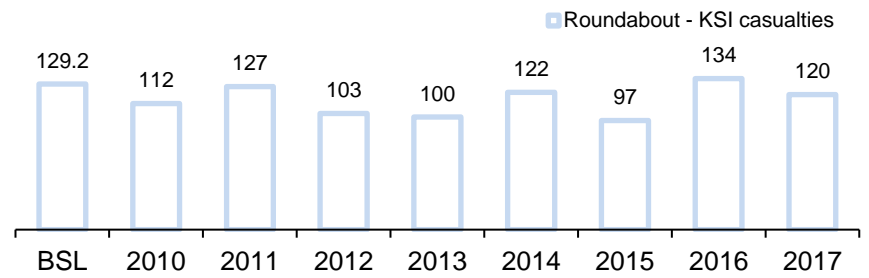
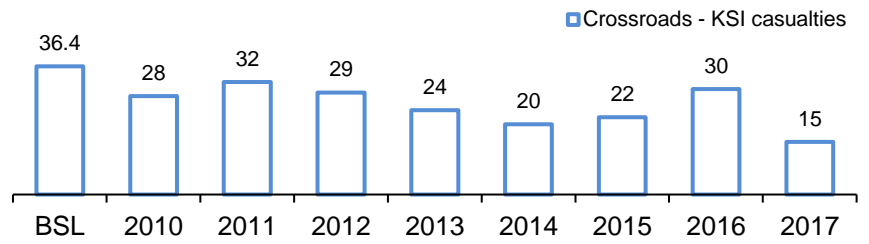
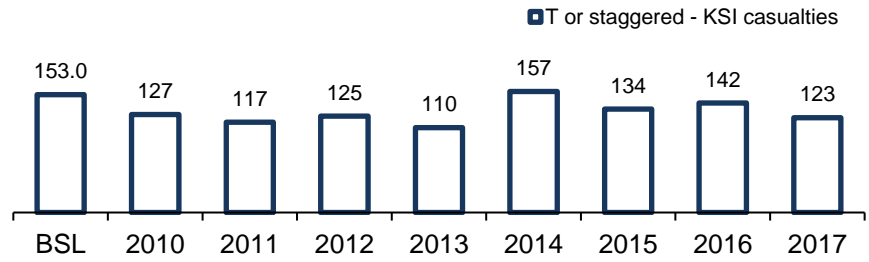
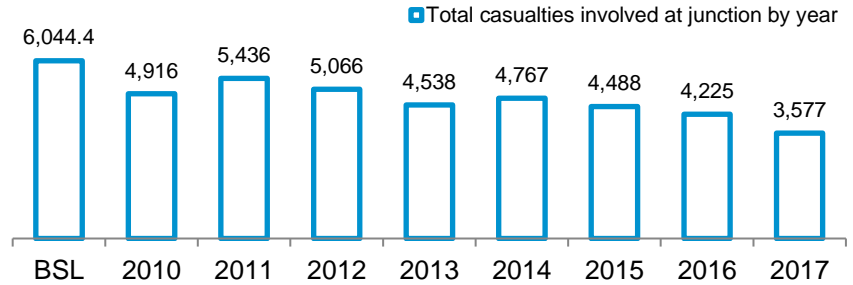


Figure 5-38 KSI casualties by junction detail and year

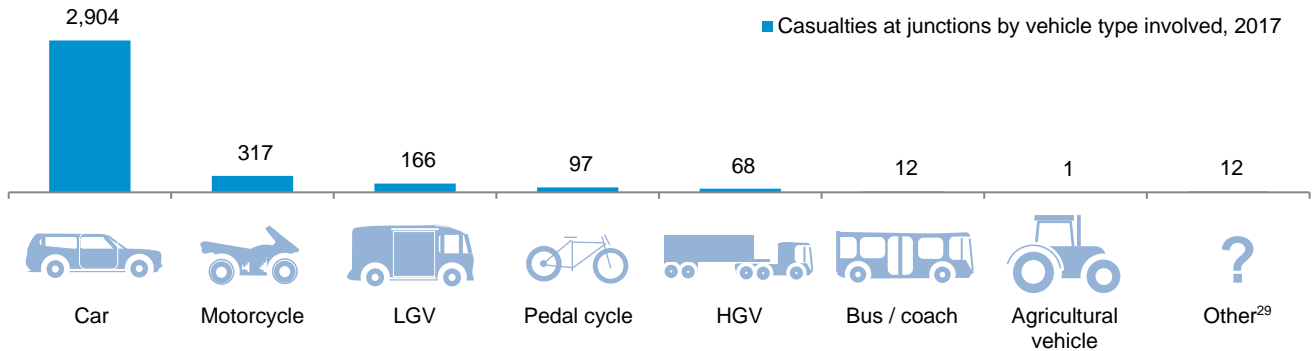


## 3,577 casualties recorded at junctions in 2017

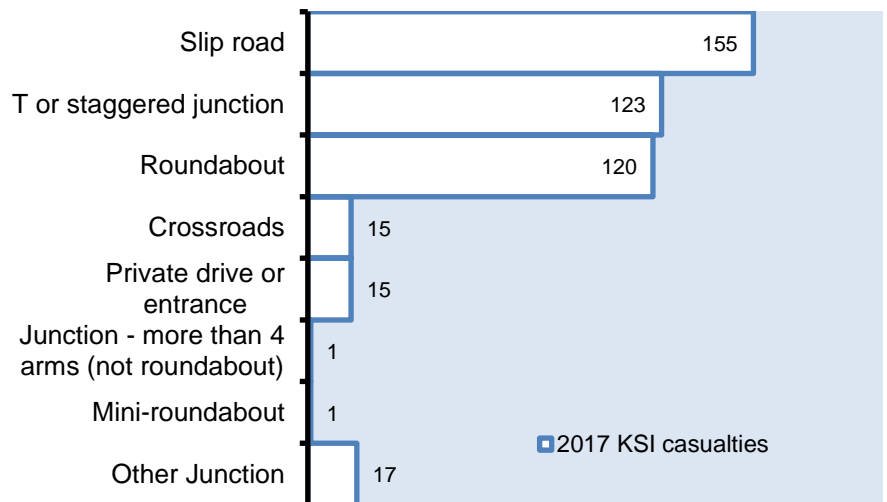
**Total casualties**  
 ↓ 15.3% from 2016



## 2,904 of the 3,577 casualties at junctions in 2017 assigned to cars



## 447 KSI casualties recorded at junctions in 2017



KSI casualties	Young motorist (17-24)	Other motorist (25-59)	Older motorist (60-69)	Elderly motorist (70+)	Young rider (16-19)	Other rider (20-59)	Older rider (60-69)	Elderly rider (70+)
		44 ↓10.0%	174 ↑16.3%	22 ↓4.8%	53 ↑10.2%	2 -	106 ↑8.6%	13 -

Figure 5-39 Summary of casualties reported at junctions

<sup>29</sup> Other includes ridden horse, tram, mobility scooter and other vehicles

## 5.12. Tyres

This topic of interest 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 brevity). 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.

Appendix Table Q-1 to Table Q-10 provide additional breakdowns of collisions and casualties involving illegal, defective or under inflated tyres by road name, weather condition, casualty type, contributory factors and severity.

### 5.12.1. Casualties resulting from illegal, defective or under-inflated tyres

The number of total casualties resulting from illegal, defective or under inflated tyres by year is reported in Figure 5-40. The number of reported casualties related to illegal, defective or under inflated tyres has generally reduced since the baseline period; with a reduction of 67.2 per cent in 2017 to 136.

Figure 5-41 shows the number of KSI casualties related to illegal, defective or under inflated tyres has fluctuated since the baseline period; the 2017 value of 17 was a decrease of 71.9 per cent from the baseline of 60.4.

**136 casualties involving illegal, defective or under inflated tyres**  
 ↓ 25.3 per cent from 2016 (182)

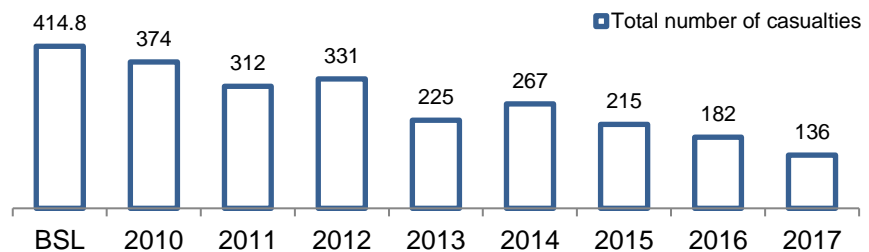


Figure 5-40 Casualties involving illegal, defective or under-inflated tyres by year

**17 KSI casualties involving illegal, defective or under inflated tyres**  
 ↓ 46.9 per cent from 2016 (32)

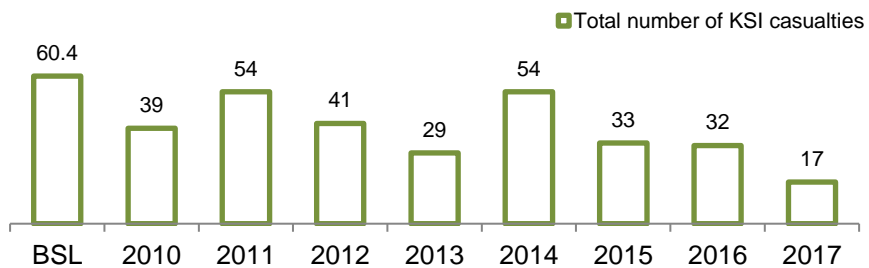


Figure 5-41 KSI casualties involving illegal, defective or under-inflated tyres by year

## 5.13. Goods Vehicles

This section considers the traffic and casualty statistics associated with goods vehicles. Heavy Goods Vehicles (HGVs) and Other Goods Vehicles (Other GV 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 purpose of this report, goods vehicles with unclassified gross weight are also classed under LGVs (or Other GVs).

Appendix Table R-1 to Table R-18 provides additional breakdowns of collisions and casualties involving HGVs and LGVs by road name, casualty age, contributory factors and severity.

### 5.13.1. Changes in HGV and LGV traffic levels

Figure 5-42 outlines the change in traffic levels of HGVs and LGVs by year. The table shows that in 2017, the amount of HGV traffic (101.20 HMVM) was significantly less than that of LGV traffic (143.18 HMVM). The difference between HGV and LGV traffic levels has tripled from 13.66 HMVM in 2010 to 41.98 HMVM in 2017.

#### LGV

#### Estimated traffic (HMVM)

**↑ 4.8 per cent from 2016 (136.60 to 143.18)**

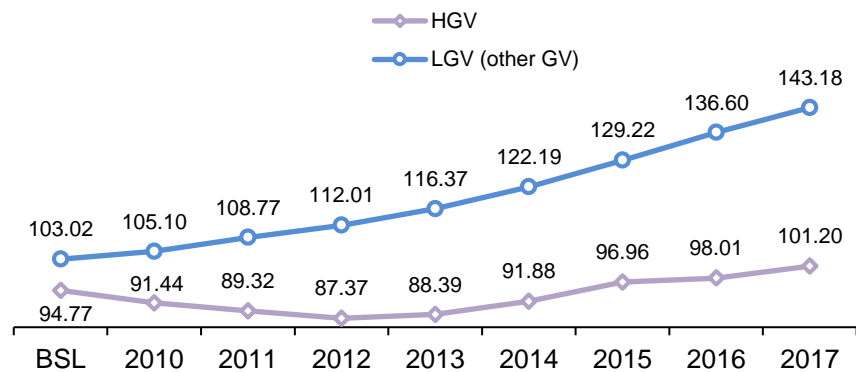
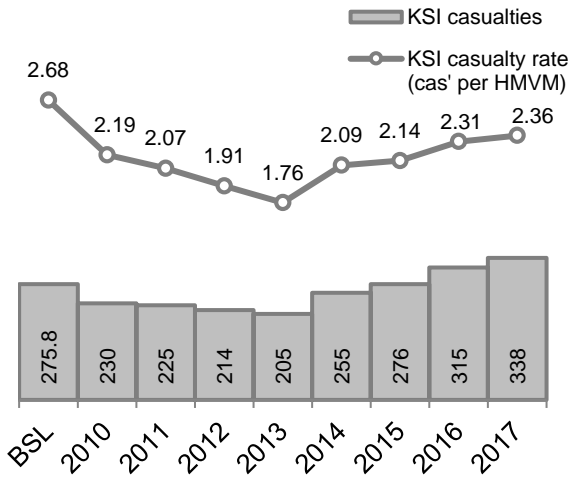


Figure 5-42 Estimated traffic levels for HGV and LGV (Other GV) on the SRN

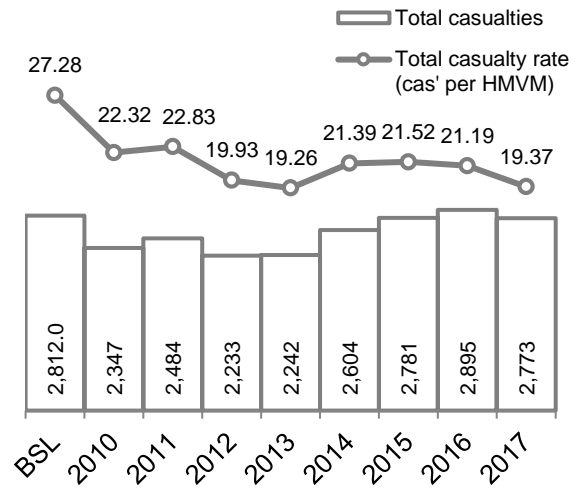
### 5.13.2. Comparison of casualties and casualty rates involving goods vehicles

Comparison of casualties and casualty rates involving either LGVs or HGVs is provided in Figure 5-43 and Figure 5-44 respectively. As shown by the figures, the likelihood of KSI or total casualties involving a HGV is greater than that for LGV. Comparing KSI casualty rates for 2017 shows that the KSI casualty rate for HGVs (3.49 KSI casualties per HMVM) is approximately one and a half times that of the value for LGVs (2.36 KSI casualties per HMVM).

It can be seen from Figure 5-43 that KSI casualty rates involving LGVs increased for the fourth time (2014 – 2017), whereas the total casualty rate generally decreased over the same period. The corresponding KSI casualties and total casualties also followed a similar trend.



(a) KSI casualties and KSI rate involving LGVs

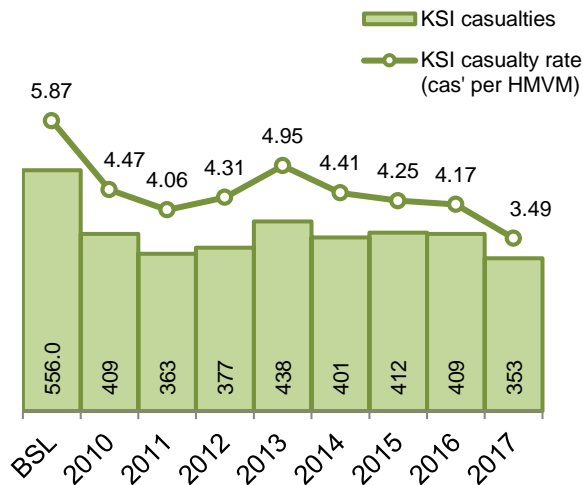


(b) Total casualties and total rate involving LGVs

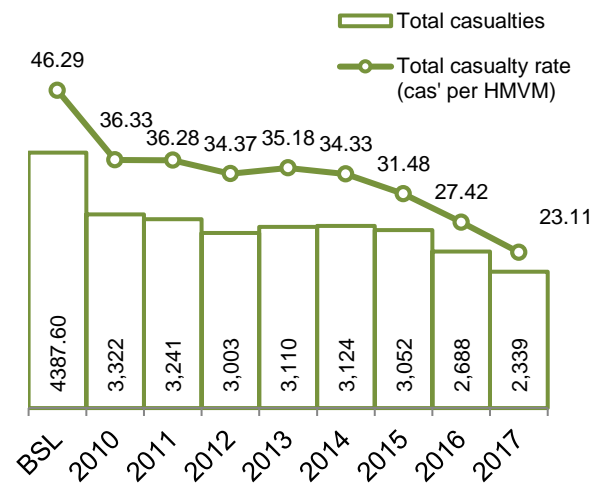
Notes:

- (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 Figure 5-42.

**Figure 5-43 Number of KSI and total casualties involving at least one LGV**



(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 Figure 5-42

**Figure 5-44 Number of KSI and total casualties involving at least one HGV**

### 5.13.3. HGV and LGV casualties by road classification and name

As seen in Figure 5-45 the number of KSI casualties involving at least one LGV increased on motorways and A-road single carriageways in 2017. The number of KSI casualties on A-road dual carriageways has been increasing since 2013; however, in 2017 A-road dual carriageway showed a significant decrease in the number of KSI casualties involving at least one LGV (from 138 to 113).

As seen in Figure 5-46, the number of KSI casualties involving at least one HGV on motorways slightly increased from 185 in 2016 to 187 in 2017 (a 1.1 per cent increase). However, the number of KSI casualties on A-road dual and single carriageways decreased by 29.4 and 14.8 per cent from 170 and 54 in 2016 to 120 and 46 in 2017, respectively.

**161 KSI casualties involving LGVs on Motorways**  
 ⬆️ 24.8 per cent from 2016 (129)

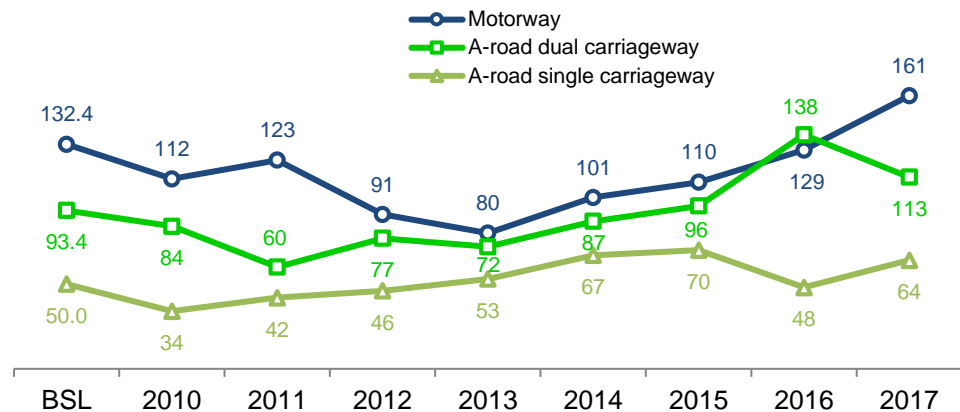


Figure 5-45 Number of KSI casualties involving at least one LGV

**120 KSI casualties involving HGVs on A-road dual carriageways**  
 ⬇️ 29.4 per cent from 2016

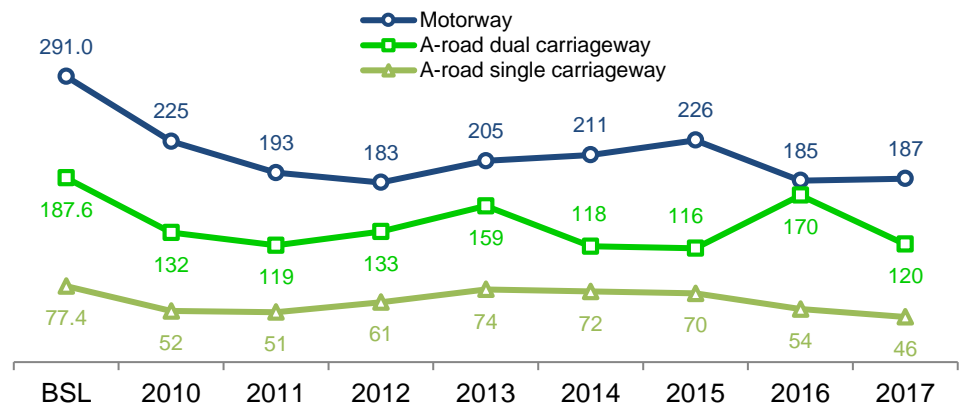


Figure 5-46 Number of KSI casualties involving at least one HGV

Table 5-17 shows the number of casualties involving LGVs by top 10 roads; the M25 had the most casualties involving LGVs in 2017 (231), but is a decrease of 21.4 per cent, from 294 in 2016. In addition there were notable rises in casualties involving LGVs between 2016 and 2017 on the M20 (130.0 per cent) and A2 (128.6 per cent) followed by the M6 (12.5 per cent) and the M62 (11.6 per cent).

Casualties involving LGVs by top 20 road names are provided in Appendix Table R-3.

Similarly, Table 5-18 shows the number of casualties involving HGVs by top 10 roads. It can be seen that considerably more casualties involving HGVs occurred on the M25, M6 and M1 than any other road on the SRN. In addition, the M25 and M6 had an increase in casualties in 2017. The casualties on the M1, on the other hand, decreased by 15.4 per cent, from 254 in 2016 to 215 in 2017.

Casualties involving HGVs by top 20 road names are provided in Appendix Table R-5.

**Table 5-17 Casualties involving LGVs by top 10 roads**

Rank	Road Name	BSL (2005-2009)									2017 change from		
		2010	2011	2012	2013	2014	2015	2016	2017	BSL (2005-2009)	2015	2016	
1	M25	192.2	155	202	185	143	180	219	294	231	20.2%	5.5%	-21.4%
2	M6	244.4	190	216	162	157	232	237	200	225	-7.9%	-5.1%	12.5%
3	M1	275.4	183	192	216	169	171	163	210	216	-21.6%	32.5%	2.9%
4	A1	149.8	101	107	79	90	106	118	117	120	-19.9%	1.7%	2.6%
5	M4	87.0	84	94	73	92	86	100	106	101	16.1%	1.0%	-4.7%
6	A14	78.6	65	49	67	49	39	59	92	90	14.5%	52.5%	-2.2%
7	M62	113.4	88	194	90	53	79	89	69	77	-32.1%	-13.5%	11.6%
8	A27	66.6	64	64	51	85	60	69	67	69	3.6%	0.0%	3.0%
9	M20	28.2	22	12	31	23	30	27	30	69	144.7%	155.6%	130.0%
10	A2	37.4	19	28	31	22	34	34	28	64	71.1%	88.2%	128.6%

Notes:

(a) Table reports the number of casualties involving at least one LGV.

(b) Ranked by 2017.

(c) Values may be skewed by amount of LGV traffic on a road.

**Table 5-18 Casualties involving HGVs by top 10 roads**

Rank	Road Name	BSL (2005-2009)									2017 change from		
		2010	2011	2012	2013	2014	2015	2016	2017	BSL (2005-2009)	2015	2016	
1	M25	522.4	351	377	331	376	322	315	259	286	-45.3%	-9.2%	10.4%
2	M6	468.6	382	323	321	334	337	314	233	267	-43.0%	-15.0%	14.6%
3	M1	494.8	358	292	315	292	333	336	254	215	-56.5%	-36.0%	-15.4%
4	M5	136.8	89	151	124	57	62	69	88	91	-33.5%	31.9%	3.4%
5	M62	151.2	170	110	117	103	112	128	103	87	-42.5%	-32.0%	-15.5%
6	A1	205.0	146	151	118	152	112	130	107	84	-59.0%	-35.4%	-21.5%
7	A14	174.6	144	118	98	86	98	104	103	78	-55.3%	-25.0%	-24.3%
8	M40	132.4	105	83	60	77	66	90	50	59	-55.4%	-34.4%	18.0%
9	A5	70.2	61	56	64	56	76	52	73	54	-23.1%	3.8%	-26.0%
10	M4	119.4	112	94	100	85	101	73	79	51	-57.3%	-30.1%	-35.4%

Notes:

(a) Table reports the number of casualties involving at least one HGV.

(b) Ranked by 2017.

(c) Values may be skewed by amount of HGV traffic on a road.

### 5.13.4. Contributory factors

Table 5-19 shows that the most common contributory factor assigned to LGV drivers (in terms of the resulting casualties) was “Failed to look properly”. Of note, for the 2,773 casualties involving a LGV driver, 9.4 per cent of the LGV drivers were recorded as “Following too close”.

As shown in Table 5-20, the contributory factor “Vehicle blind spot” which is in the “Vision affected by” group was in the top five contributory factors assigned to HGV drivers (in terms of the resulting casualties) in 2017. “Failed to look properly” was assigned to 26.7 per cent of HGV drivers in 2017.

**Table 5-19 Top 10 contributory factors assigned to LGV drivers by casualty, 2017**

Rank	Contributory Factor	2017	Percentage of casualties involving LGVs, 2017
1	405 Failed to look properly	550	19.8%
2	406 Failed to judge other person’s path or speed	462	16.7%
3	308 Following too close	262	9.4%
4	602 Careless, reckless or in a hurry	207	7.5%
5	408 Sudden braking	196	7.1%
6	403 Poor turn or manoeuvre	129	4.7%
7	410 Loss of control	86	3.1%
8	307 Travelling too fast for conditions	72	2.6%
9	509 Distraction in vehicle	72	2.6%
10	103 Slippery road (due to weather)	68	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 2017, there was a total of 2,773 casualties involving at least one LGV.

**Table 5-20 Top 10 contributory factors assigned to HGV drivers by casualty, 2017**

Rank	Contributory Factor	2017	Percentage of casualties involving HGVs, 2017
1	405 Failed to look properly	624	26.7%
2	406 Failed to judge other person’s path or speed	389	16.6%
3	308 Following too close	168	7.2%
4	403 Poor turn or manoeuvre	159	6.8%
5	710 Vehicle blind spot	126	5.4%
6	602 Careless, reckless or in a hurry	103	4.4%
7	307 Travelling too fast for conditions	94	4.0%
8	509 Distraction in vehicle	84	3.6%
9	410 Loss of control	80	3.4%
10	508 Driver using mobile phone	71	3.0%

Key (CF groups):

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

Notes:

- (a) Table reports the number of casualties where the specified contributory factor was recorded against at least one HGV driver.
- (b) In 2017, there was a total of 2,339 casualties involving at least one HGV.



## 5.14. Motorcycle Users

This topic of interest analyses the number of motorcycle rider and/or passenger (motorcycle user) casualties occurring on the SRN. Additional data on this topic is provided in Appendix Table S-1 to Table S-10.

In 2017, motorcycle users accounted for 10.6 per cent of fatalities (25 of 236) and 17.6 per cent of KSI casualties (326 of 1,853) on the SRN.

### 5.14.1. Motorcycle user casualties by severity

Figure 5-47 highlights the changes in motorcycle user fatalities and KSI casualties since 2010. From the figure it can be seen that the number of fatalities and KSI casualties have decreased in 2017 relative to the baseline. The change from 2016 is:

- 7.4 per cent decrease in fatalities to 25 in 2017, from 27 in 2016
- 12.4 per cent decrease in KSI casualties to 326 in 2017, from 372 in 2016

Assessing the trends in the figure below indicates that the number of motorcycle user KSI casualties has been fluctuating since the baseline.

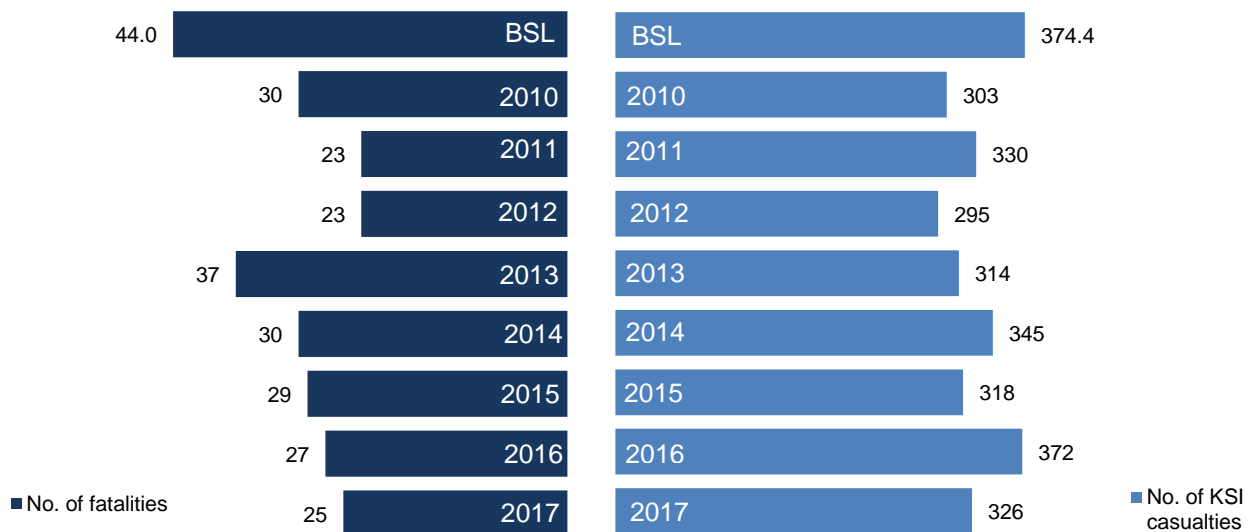


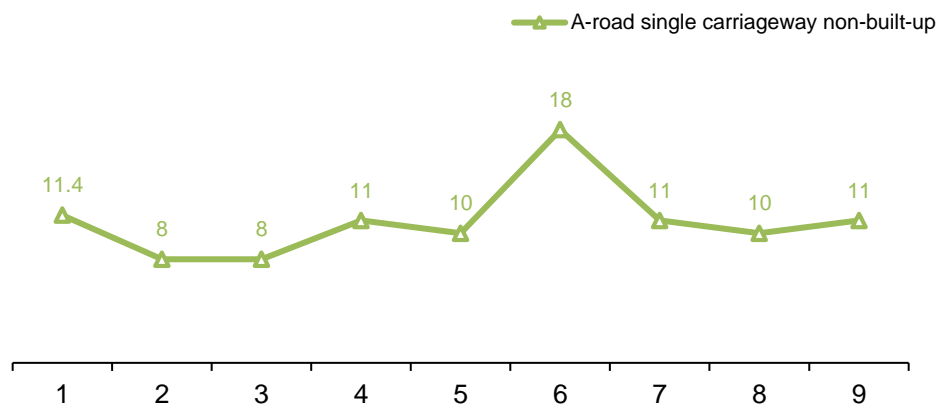
Figure 5-47 Number of motorcycle user fatalities and KSI casualties by year

### 5.14.2. Casualties involving motorcycles by road classification and name

The trends for the number of fatalities involving motorcycle users on non-built-up (NBU) A-road single carriageways and non-built-up A-road dual carriageways are shown in Figure 5-48. The figure shows that the number of fatalities involving motorcycle users on NBU A-road single carriageways increased to 11 in 2017 from 10 in 2016. The number of fatalities involving motorcycle users on NBU A-road dual carriageways decreased to 9 in 2017 from 10 in 2016. The trend indicates that the number of fatalities for this road type is fluctuating around an average of 10 since 2010.

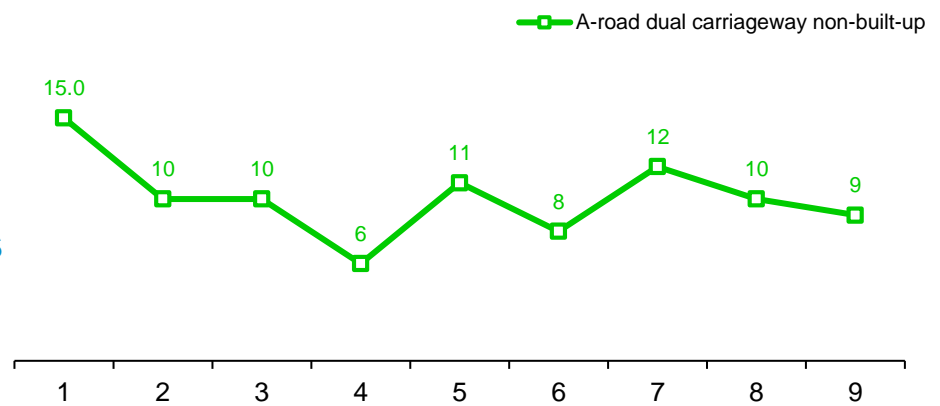
#### Fatalities involving motorcycle users on NBU A-road single carriageways

11 fatalities  
 ↑ 1 from 2016 (10)



#### Fatalities involving motorcycle users on NBU A-road dual carriageways

9 fatalities  
 ↓ 1 from 2016 (10)



Note: There were six fatalities involving motorcycle users on motorways and none on built-up A-roads.

Figure 5-48 Fatalities involving motorcycle users on non-built-up A-road single and dual carriageways by year

Figure 5-49 shows the number of KSI casualties involving motorcycle users by road classification. Each road type had a decrease in the number of KSI casualties from 2014 to 2015 followed by an increase in 2016 and a decrease in 2017. From the figure it can be calculated that 331 KSI casualties involved a motorcycle. When this value is compared to that in Figure 5-47 (326) it can be seen that the majority of KSI casualties involving a motorcycle are actually motorcycle users.

**154 KSI casualties involving motorcycle users on A-road dual carriageways**  
 ↓ 16.8 per cent from 2016 (185)

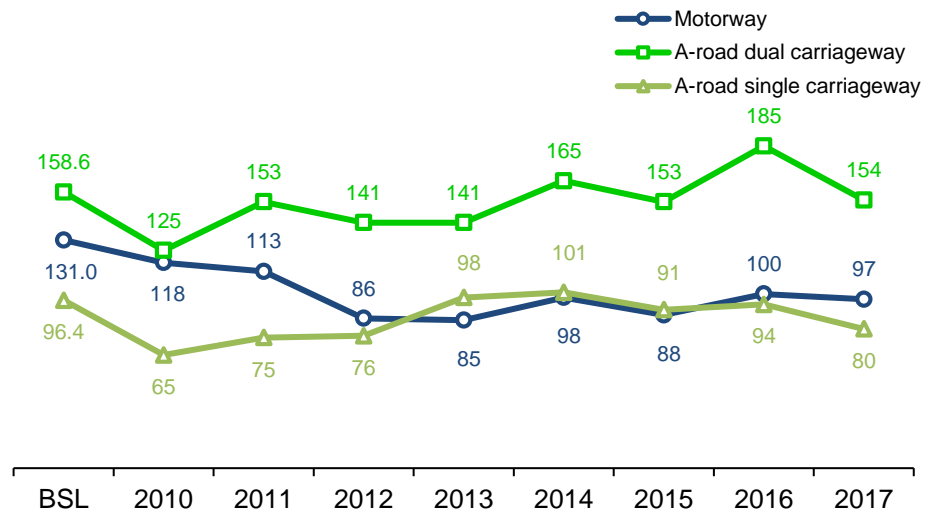


Figure 5-49 KSI casualties involving motorcycle users by road class and year

Table 5-21 lists casualties involving motorcycle users by top 10 roads. It can be seen that although the A5, which has less than half the motorcycle traffic of the M25, has 5 more casualties than M25.

Table 5-21 Casualties involving motorcycle users by top 10 roads

Rank	Road Name	BSL (2005-2009)	2010	2011	2012	2013	2014	2015	2016	2017	2017 change from		
											BSL (2005-2009)	2015	2016
1	A5	57.2	53	63	44	54	60	67	47	46	-19.6	-31.3	-2.1
2	A27	44.0	38	46	28	51	54	62	51	42	-4.5	-32.3	-17.6
3	M25	68.6	62	73	45	35	52	44	37	41	-40.2	-6.8	10.8
4	A46	31.4	22	21	24	18	24	37	34	32	1.9	-13.5	-5.9
5	A38	33.6	27	35	45	30	38	33	44	25	-25.6	-24.2	-43.2
6	A47	30.2	25	28	28	33	25	15	21	24	-20.5	60.0	14.3
7	A1	42.2	29	29	27	28	30	16	24	22	-47.9	37.5	-8.3
8	M4	36.8	27	27	27	27	23	21	30	20	-45.7	-4.8	-33.3
9	A14	19.2	19	19	16	18	22	16	25	20	4.2	25.0	-20.0
10	A2	21.8	18	18	23	24	34	29	23	20	-8.3	-31.0	-13.0

Note:

- (a) Values in the table report the number of casualties where at least one motorcycle user was recorded as being involved.
- (b) Ranked by 2017.

## 5.15. Hardshoulders

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

Appendix Table T-1 to Table T-14 provide further statistics relating to collisions and casualties involving hardshoulders and lay-bys by road name, road classification, vehicle location, casualty age, contributory factors and severity.

### 5.15.1. Comparison between hardshoulders and lay-bys

Figure 5-50 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.

In 2017, 100 casualties occurred on motorways and 143 casualties occurred on A-roads, of which 121 were on A-road dual carriageways.

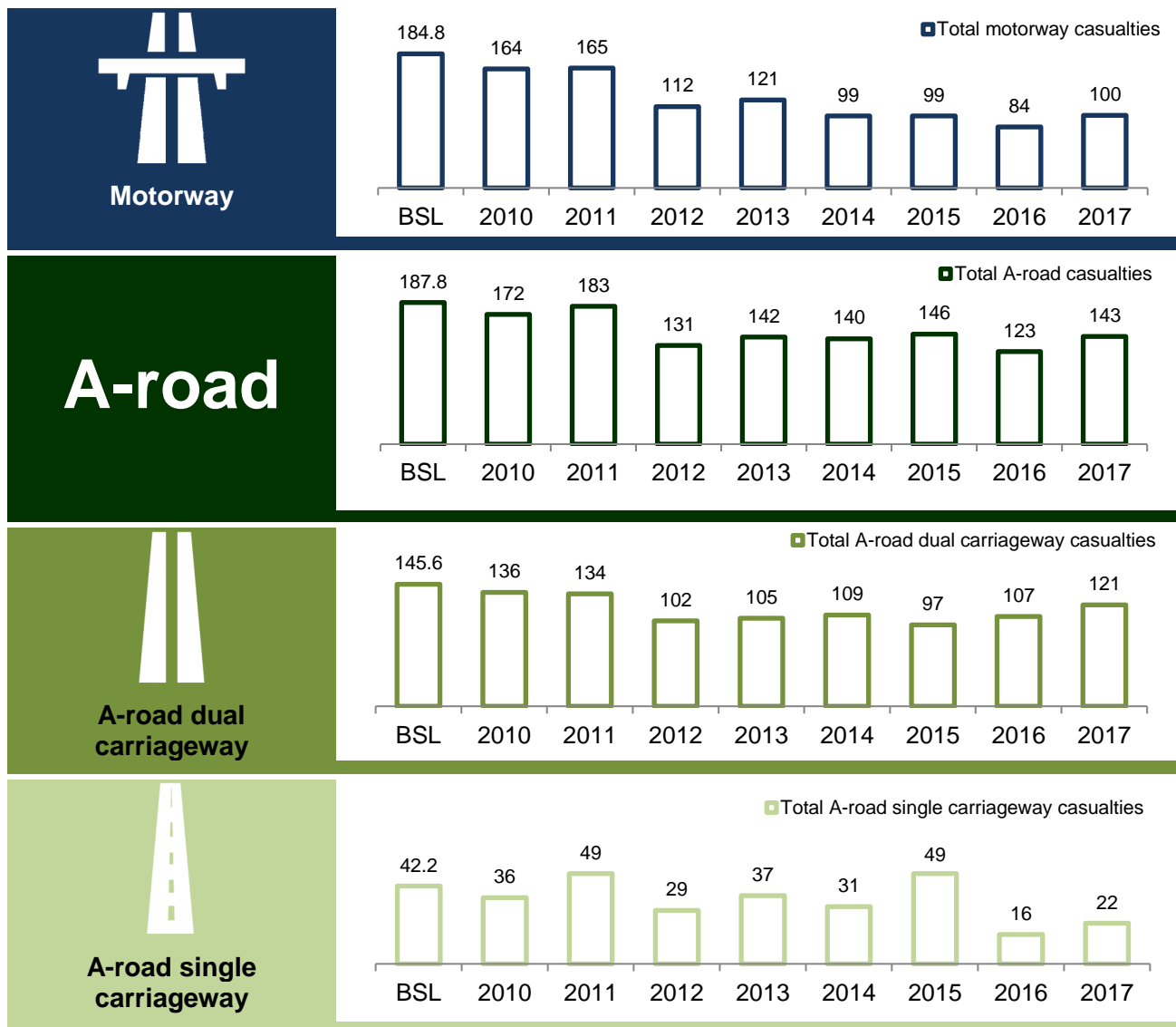


Figure 5-50 Casualties involving either a hardshoulder or lay-by by road classification and year

## 5.15.2. Hardshoulder and lay-by casualties resulting from fatigue or distraction

The top 20 contributory factors ranked by 2017 total casualties involving hardshoulders and lay-bys are provided in Appendix Table T-13.

Figure 5-51 focuses specifically on the number of casualties involving hardshoulders and lay-bys linked to fatigue and distraction inside the vehicle. In the Appendix table, these factors are ranked sixth and sixteenth 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.

Figure 5-51 shows that the number of casualties involving hardshoulders or lay-bys resulting from fatigue has increased to 25 in 2017 from 10 in 2016, a significant increase of 150 per cent.

The number of casualties where distraction was involved has decreased, by 27.3 per cent, to 8 in 2017 from 11 in 2016.

### Fatigue

↓ 50.0 per cent from BSL (50.0)

### Distraction in vehicle

↓ 49.4 per cent from BSL (15.8)

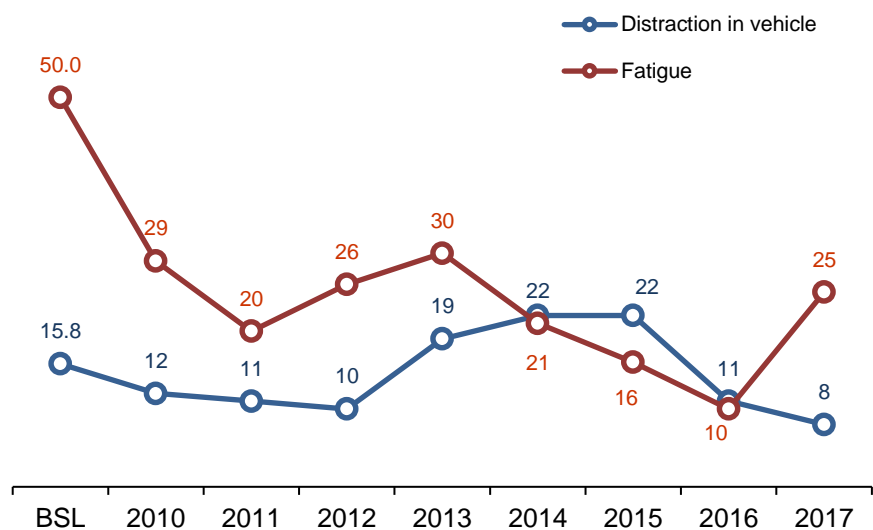


Figure 5-51 Casualties involving either a hardshoulder or lay-by resulting from fatigue or distraction inside the vehicle by year

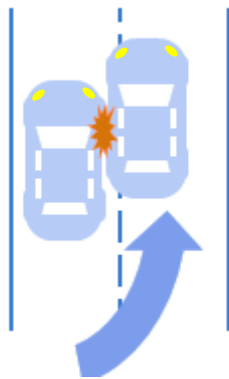
## 5.16. Collisions Type

This topic of interest analyses the number of collisions occurring on the SRN by collision type. Additional statistics on this are provided in Appendix Table U-1 to Table U-26.

The four most common types of collision are:

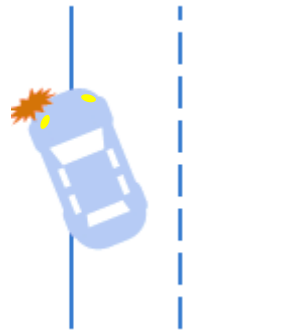
- Shunt
- Single vehicle run off
- Overtake
- Head on

A brief description of each of the four most common types of collision can be found in Figure 5-52.



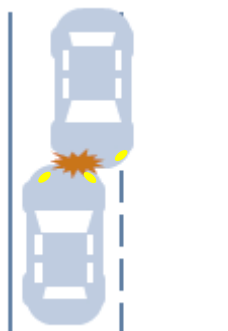
### Overtake:

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 direction at point of impact, where one vehicle's first point of impact was recorded as "Front" and the other vehicle's as "Back". Vehicles that were parked, or where the vehicle movement was unknown are not included.

Figure 5-52 Diagrams of collision types

### 5.16.1. Casualties by collision type and severity

Table 5-22 provides a breakdown of the number of casualties by severity and collision type. When considering fatalities, associated with the four collision types, only head on showed a decrease from 2016 to 2017; a 15.4 per cent decrease. However, the number of casualties across the other severities of this collision type increased over this period.

The figure shows that the majority of casualties are involved in shunt collisions. However, when considering the severity ratio (i.e. percentage of casualty severity to total casualty ratio) shunt collisions have the least KSI severity ratio (7.9 per cent), whilst head on collisions have the highest (36.8 per cent), which could indicate this is the more severe collision type when they occur.

**Table 5-22 Casualties by collision type, 2017**

Severity/ Collision type	Killed	Seriously injured	KSI	Slightly injured	Total
Head on	<b>33</b> ↓ 15.4%	<b>121</b> ↑ 13.1%	<b>154</b> ↑ 5.5%	<b>265</b> ↑ 4.3%	<b>419</b> ↑ 4.8%
Shunt	<b>49</b> ↑ 8.9%	<b>468</b> ↓ 5.3%	<b>517</b> ↓ 4.1%	<b>6,047</b> ↓ 15.4%	<b>6,564</b> ↓ 14.6%
Overtake	<b>24</b> -	<b>94</b> ↓ 9.6%	<b>118</b> ↑ 1.7%	<b>479</b> ↓ 9.3%	<b>597</b> ↓ 7.3%
Single vehicle run off	<b>40</b> ↑ 2.6%	<b>271</b> ↓ 23.0%	<b>311</b> ↓ 20.5%	<b>1,230</b> ↓ 13.2%	<b>1,541</b> ↓ 14.8%

Notes:

- (a) Percentages represent the per cent change of 2017 values from 2016 values.
- (b) Casualties may fall within more than one collision type and hence may be counted more than once.
- (c) See Figure 5-52 for definitions of collisions types.

## 5.16.2. KSI casualties by collision type and road classification

A breakdown of KSI casualties by collision type and road classification can be found in Table 5-23. It can be seen that motorway and A-road dual carriageway have greater numbers of KSI casualties involved in shunt collisions, 295 and 176 respectively, with A-road single carriageway having 46 KSI casualties in 2017.

**Table 5-23 KSI casualties by road class and collision type, 2017**

Road classification/ Collision type	Motorway	A-road	A-road dual carriageway	A-road single carriageway
Head on	<b>22</b> –	<b>132</b> 0.0%	<b>11</b> ↓ 52.2%	<b>121</b> ↑ 11.0%
Shunt	<b>295</b> ↑ 11.7%	<b>222</b> ↓ 19.3%	<b>176</b> ↓ 26.7%	<b>46</b> ↑ 31.4%
Overtake	<b>26</b> ↓ 3.7%	<b>92</b> ↑ 3.4%	<b>39</b> ↓ 13.3%	<b>53</b> ↑ 20.5%
Single vehicle run off	<b>129</b> ↓ 36.8%	<b>182</b> ↓ 2.7%	<b>144</b> ↓ 5.3%	<b>38</b> ↑ 8.6%

Notes:

- (a) Percentages represent the per cent change of 2017 values from 2016 values.
- (b) Casualties may fall within more than one collision type and hence may be counted more than once.
- (c) See Figure 5-52 for definitions of collisions types.



## 5.17. Hotspot Analysis

This section provides a summary of hotspot analyses<sup>30</sup> carried out on collisions between 2015 and 2017. Figure 5-53 along with Table 5-24 shows the locations of the top 20 hotspots by road class. Appendix Table Y-2 to Table Y-4 provide more detailed maps of each hotspot.

Figure 5-53 shows that the majority of motorway hotspots are located in the South East or M25 DBFO regions whereas hotspots for both A-road dual carriageway and single carriageway are somewhat more spread out across the SRN. The information in the Appendix also shows 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 the hotspot Appendix (Table Y-1). 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.

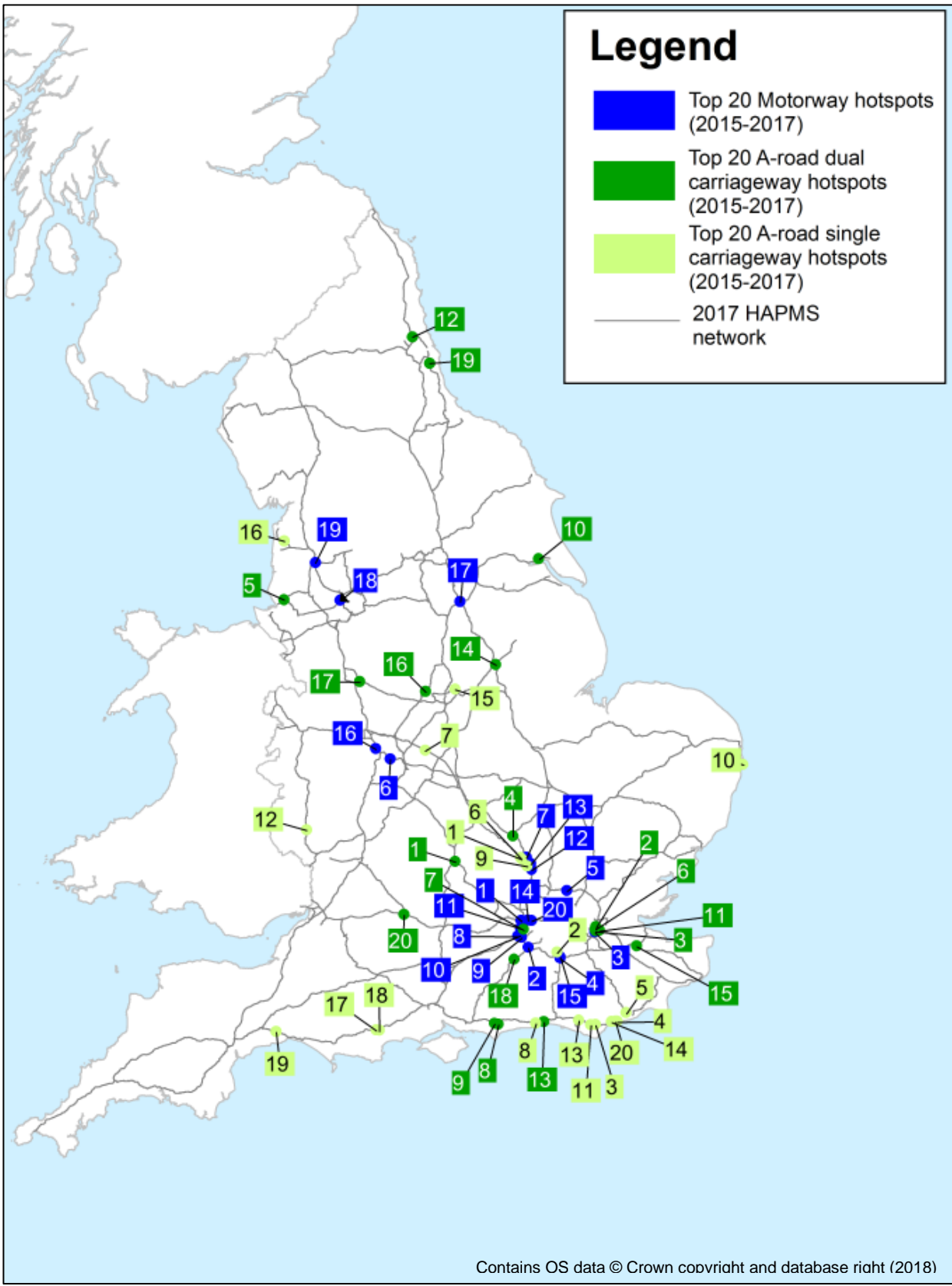
**Table 5-24 Top 20 hotspots for collisions between 2015 and 2017 by road class**

No.	Road class		
	Motorway	A-road dual carriageway	A-road single carriageway
1	M4 east of J5	A34 Wendlebury Interchange	A5 Dunstable (South)
2	M25 J10	A282 Junction 1A	A23 Hooley
3	M25 J2	A2 Darenth	A27 Polegate
4	M23 south of J8	A421 Ridgmont	A259 Bexhill
5	M25 J25	A5036 Switch Island	A21 Kent Street
6	M6 J6	A282 Princes Rd Interchange	A5 Dunstable (North)
7	M1 J11	A30 Stains-upon-Thames	A5 Watling Street
8	M3 west of J2	A27 Chichester Bypass	A27 Broadwater
9	M25 south of J12	A27 Fishbourne Roundabout	A5 Markyate
10	M25 J12	A63 Mytongate	A12 Lowestoft
11	M25 J13	A2 Bean Interchange	A27 Wilmington
12	M1 J9	A19 Seaton Burn Interchange	A49 Hereford
13	M1 J10	A27 Adur Interchange	A27 Glynde
14	M4 J4	A46 Winthorpe	A259 Barnhorn Road
15	M25 J7	A249 Maidstone Road	A52 Nottingham
16	M6 J10	A38 Derby	A585 Mains Lane
17	A1M J35	A50 Britannia Link Road	A31 Mill Street
18	M60 J12	A3 Guildford	A31 Wimborne Bypass
19	M61 J9	A19 Sunderland	A35 Kilmington
20	M4 J3	A419 Liden	A259 Little Common

Note:

(a) Locations of hotspots can be seen in Figure 5-53

<sup>30</sup> Hotspot analysis finds the locations with the highest amount of collisions within a 0.5km radius.



Location descriptions for hotspots can be found in Table 5-24

**Figure 5-53 Top 20 hotspots for collisions between 2015 and 2017 by road class**

Table 5-25 shows the top 10 contributory factors for motorway collision hotspots between 2015 and 2017. It can be seen from Table 5-25 that “Failed to look properly” was the top contributory factor in 2017 for casualties within the top 10 motorway hotspots.

**Table 5-25 Top 10 contributory factors for casualties involved in collisions within the top 10 motorway hotspots**

Rank	Contributory Factor	2015	2016	2017	Percentage of casualties in top 10 hotspots, 2017
1	405 Failed to look properly	161	188	137	44.2%
2	406 Failed to judge other person’s path or speed	164	171	80	25.8%
3	308 Following too close	80	58	64	20.6%
4	403 Poor turn or manoeuvre	55	58	32	10.3%
5	408 Sudden braking	71	48	30	9.7%
6	602 Careless, reckless or in a hurry	48	38	27	8.7%
7	509 Distraction in vehicle	25	22	23	7.4%
8	307 Travelling too fast for conditions	26	20	15	4.8%
9	103 Slippery road (due to weather)	11	18	11	3.5%
10	501 Impaired by alcohol	5	6	10	3.2%

Key (CF groups):

	Driver/Rider error or reaction		Injudicious action		Impairment or distraction
	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 2017, there was a total of 310 casualties involved in collisions within the top 10 motorway hotspots.

Table 5-26 shows the top 10 contributory factors for A-road dual carriageway collision hotspots between 2015 and 2017. “Failed to look properly” is the most common contributory factor and was attributed to 33.2 per cent of casualties involved in collisions within the top 10 A-road dual carriageway hotspots.

**Table 5-26 Top 10 contributory factors for casualties involved in collisions within the top 10 A-road dual carriageway hotspots**

Rank	Contributory Factor	2015	2016	2017	Percentage of casualties in top 10 hotspots, 2017
1	405 Failed to look properly	144	140	123	33.2%
2	406 Failed to judge other person’s path or speed	127	101	103	27.8%
3	408 Sudden braking	27	28	38	10.3%
4	308 Following too close	72	46	34	9.2%
5	602 Careless, reckless or in a hurry	45	38	34	9.2%
6	509 Distraction in vehicle	9	4	26	7.0%
7	403 Poor turn or manoeuvre	27	45	18	4.9%
8	410 Loss of control	19	19	12	3.2%
9	307 Travelling too fast for conditions	17	15	11	3.0%
10	605 Learner or inexperienced driver/rider	2	8	10	2.7%

Key (CF groups):

	Driver/Rider error or reaction		Injudicious action		Impairment or distraction
	Behaviour or inexperience				

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 2017, there was a total of 370 casualties involved in collisions within the top 10 A-road dual carriageway hotspots.

Table 5-27 shows the top 10 contributory factors for A-road single carriageway collision hotspots between 2015 and 2017. The top two contributory factors were the same for all three road classifications. However, the fourth most common contributory factor for A-road single carriageway is “Careless reckless or in a hurry” which was attributed to 13.2 per cent of casualties.

**Table 5-27 Top 10 contributory factors for casualties involved in collisions within the top 10 A-road single carriageway hotspots**

Rank	Contributory Factor	2015	2016	2017	Percentage of casualties in top 10 hotspots, 2017
1	405 Failed to look properly	92	77	58	38.4%
2	406 Failed to judge other person's path or speed	68	45	32	21.2%
3	403 Poor turn or manoeuvre	18	20	22	14.6%
4	602 Careless, reckless or in a hurry	27	23	20	13.2%
5	308 Following too close	14	12	11	7.3%
6	410 Loss of control	7	13	10	6.6%
7	503 Fatigue	3	13	9	6.0%
8	409 Swerved	2	1	7	4.6%
9	605 Learner or inexperienced driver/rider	7	4	6	4.0%
10	501 Impaired by alcohol	1	2	6	4.0%

Key (CF groups):

	Driver/Rider error or reaction		Injudicious action		Impairment or distraction
	Behaviour or inexperience				

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 2017, there was a total of 151 casualties involved in collisions within the top 10 A-road single carriageway hotspots.

## 5.18. Vulnerable and Non-motorised Users

This section provides KSI casualty information involving vulnerable<sup>31</sup> and non-motorised<sup>32</sup> users including contributory factors associated with the individual user groups.

### 5.18.1. Vulnerable and non-motorised KSI casualties by year

Figure 5-54 shows the distribution of vulnerable and non-motorised user KSI casualties by year including the baseline. It can be seen that vulnerable user KSI casualties decreased by 11.2 per cent to 453 in 2017, from 510 in 2016; and is 13.6 per cent below the baseline. It can also be seen that non-motorised user KSI casualties decreased by 8.0 per cent to 127 in 2017, from 138 in 2016; and is 15.3 per cent below the baseline.

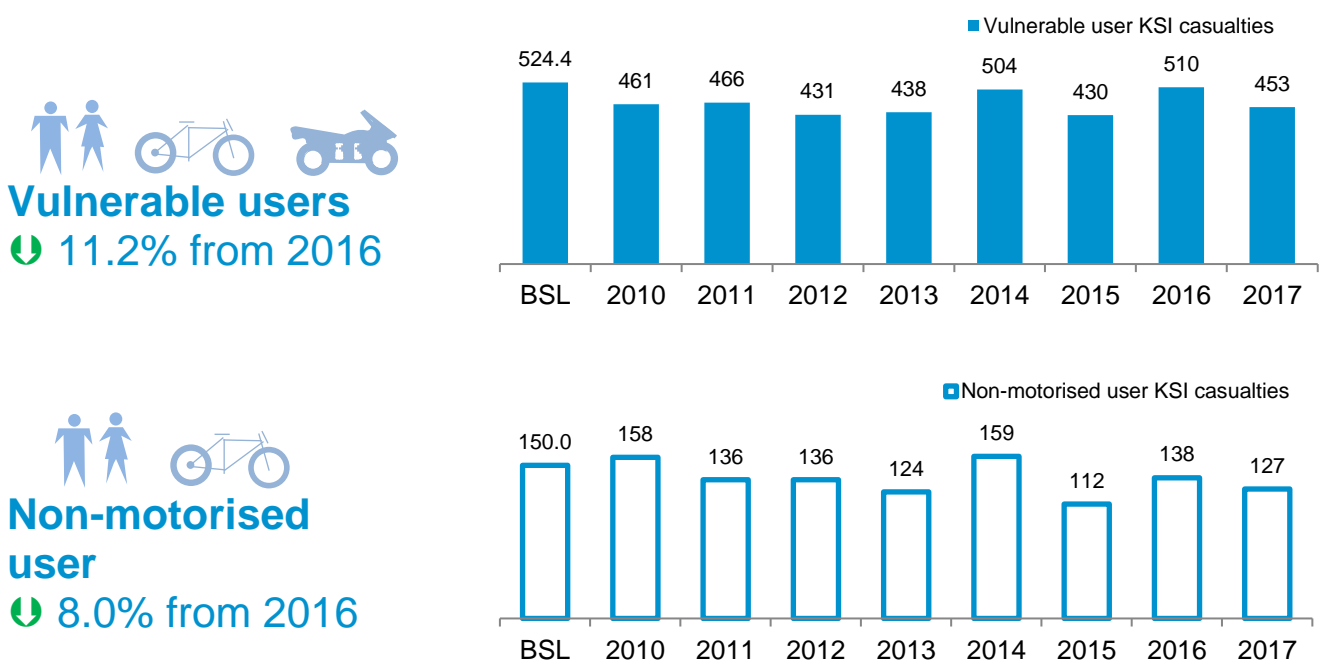
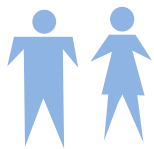


Figure 5-54 Vulnerable and non-motorised user KSI casualties by year

<sup>31</sup> Vulnerable users include pedestrians, pedal cyclists and motorcycle users (and also equestrians, which however had no recorded KSI casualties).

<sup>32</sup> Non-motorised users include pedestrians, pedal cyclists and equestrians (no recorded KSI casualties).

Figure 5-55 shows the distribution of KSI casualties across the vulnerable and non-motorised user categories. It can be seen that out of the vulnerable user categories motorcycle users make up the largest proportion with 326 KSI casualties in 2017; this is 72.0 per cent of all vulnerable user KSI casualties in 2017. From Figure 5-55 it can also be seen that the number of pedal cyclist KSI casualties has fluctuated from the baseline period, with 40 in 2017.



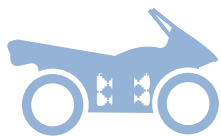
### Pedestrians

↓ 7.4% from 2016



### Pedal cyclists

↓ 9.1% from 2016



### Motorcycle users

↓ 12.4% from 2016

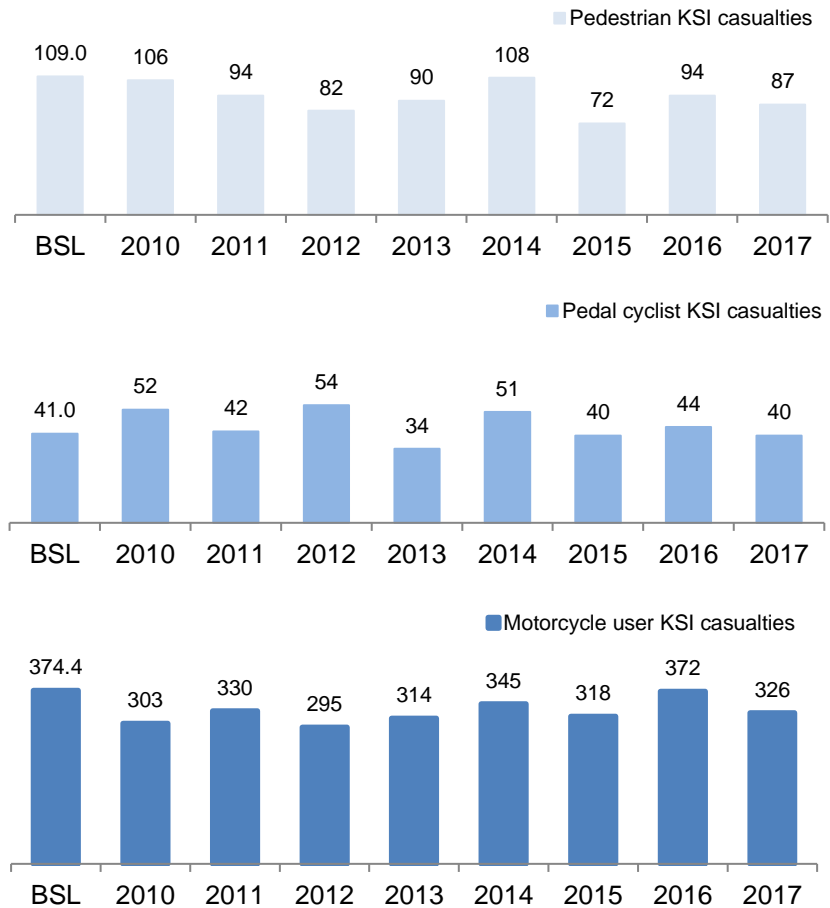





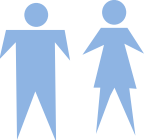

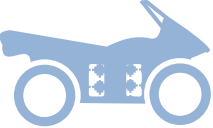


Figure 5-55 Vulnerable and non-motorised user KSI casualties by subordinate categories by year

#### 5.18.2. Vulnerable and non-motorised KSI casualties by road type

Figure 5-56 shows the distribution of the 2017 vulnerable and non-motorised user KSI casualties along with their subordinate categories by road classification. It can be seen that the majority of both vulnerable and non-motorised user KSI casualties occurred on A-roads in 2017; with 72.6 per cent of vulnerable and 78.0 per cent of non-motorised user KSI casualties occurring on A-roads in 2017. It can also be seen from Figure 5-56 that there was a decrease in vulnerable and non-motorised user KSI casualties across motorways and A-road dual carriageways in 2017.

2017 KSI casualties (% change from 2016)	 Motorway	<b>A-road</b>	 A-road dual carriageway	 A-road single carriageway
 <b>Vulnerable users</b>	124 ↓ 8.1%	329 ↓ 12.3%	215 ↓ 14.0%	114 ↓ 8.8%
 <b>Non-motorised users</b>	28 ↓ 22.2%	99 ↓ 2.9%	62 ↓ 10.1%	37 ↑ 12.1%
 <b>Pedestrians</b>	27 ↓ 22.9%	60 ↑ 1.7%	36 ↓ 10.0%	24 ↑ 26.3%
 <b>Pedal cyclists</b>	1 –	39 ↓ 9.3%	26 ↓ 10.3%	13 –
 <b>Motorcycle users</b>	96 ↓ 3.0%	230 ↓ 15.8%	153 ↓ 15.5%	77 ↓ 16.3%

Note: Pedestrian casualties include people who have alighted vehicles and road workers.

Figure 5-56 Vulnerable and non-motorised user KSI casualties by road classification

### 5.18.3. Contributory factors

Table 5-28 provides the top 10 contributory factors assigned to pedestrian casualties. The values represent the number of KSI casualties where the specified contributory factor was recorded against at least one pedestrian casualty. Table 5-29 and Table 5-30 provide the same information but for where the record is against at least one pedal cyclist and motorcycle user respectively.

**Table 5-28 Top 10 contributory factors assigned to pedestrian casualties by KSI casualties involved**

Rank	Contributory Factor	2015	2016	2017
1	802 Failed to look properly	18	21	26
2	806 Impaired by alcohol	13	15	16
3	805 Dangerous action in carriageway (eg. playing)	12	19	15
4	808 Careless, reckless or in a hurry	9	9	13
5	809 Pedestrian wearing dark clothing at night	11	17	12
6	810 Disability or illness, mental or physical	9	13	12
7	803 Failed to judge vehicle's path or speed	7	13	9
8	807 Impaired by drugs (illicit or medicinal)	5	6	6
9	804 Wrong use of pedestrian crossing facility	2	3	5
10	801 Crossing road masked by stationary or parked vehicle	3	1	2

Key (CF groups):

  Pedestrian

Notes:

- (a) Table reports the number of KSI casualties where the specified contributory factor was recorded against at least one pedestrian casualty.
- (b) Table sorted by 2017 values.

**Table 5-29 Top 10 contributory factors assigned to pedal cyclists by KSI casualties involved**

Rank	Contributory Factor	2015	2016	2017
1	405 Failed to look properly	7	3	6
2	406 Failed to judge other person's path or speed	4	8	5
3	507 Rider wearing dark clothing	4	2	3
4	310 Cyclist entering road from pavement	3	6	2
5	410 Loss of control	2	2	2
6	602 Careless, reckless or in a hurry	1	1	2
7	409 Swerved	0	1	1
8	102 Deposit on road (eg. oil, mud, chippings)	0	0	1
-	505 Illness or disability, mental or physical	0	0	1
10	403 Poor turn or manoeuvre	2	2	0

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 where the specified contributory factor was recorded against at least one pedal cyclist.
- (b) Table sorted by 2017 values.



**Table 5-30 Top 10 contributory factors assigned to motorcycle users by KSI casualties involved**

Rank	Contributory Factor	2015	2016	2017
1	406 Failed to judge other person's path or speed	56	61	57
2	410 Loss of control	52	61	56
3	405 Failed to look properly	53	62	54
4	602 Careless, reckless or in a hurry	34	26	38
5	403 Poor turn or manoeuvre	41	29	29
6	408 Sudden braking	21	16	24
7	307 Travelling too fast for conditions	24	20	23
8	308 Following too close	18	20	20
9	306 Exceeding speed limit	19	23	18
10	103 Slippery road (due to weather)	9	14	15

Key (CF groups):

<span style="display:inline-block; width:15px; height:10px; background-color:orange;"></span>	Driver/Rider error or reaction	<span style="display:inline-block; width:15px; height:10px; background-color:lightgreen;"></span>	Behaviour or inexperience	<span style="display:inline-block; width:15px; height:10px; background-color:lightblue;"></span>	Injudicious action
<span style="display:inline-block; width:15px; height:10px; background-color:lightgrey;"></span>	Road environment				

Notes:

- (a) Table reports the number of KSI casualties where the specified contributory factor was recorded against at least one motorcycle users.  
 (b) Table sorted by 2017 values.

Table 5-31 provides the top 10 contributory factors for KSI casualties where the collision involved at least one pedestrian casualty. Table 5-32 and Table 5-33 provide the same information but for where the collision involved at least one pedal cyclist and motorcycle user respectively.

“Failed to look properly” was the top contributory factor(s) for KSI casualties across all three vulnerable user categories. The majority (7 of 10) of the top 10 contributory factors involving pedestrian casualties were in the pedestrian contributory factor group. Driver/Rider error or reaction is the common grouping across all three user categories and make up half the top 10 contributory factors involving pedal cyclists and motorcycle users.

**Table 5-31 Top 10 contributory factors for KSI casualties involving pedestrian casualties**

Rank	Contributory Factor	2015	2016	2017
1	802 Failed to look properly	20	21	26
2	806 Impaired by alcohol	13	15	16
3	805 Dangerous action in carriageway (eg. playing)	12	19	15
4	808 Careless, reckless or in a hurry	9	9	13
5	809 Pedestrian wearing dark clothing at night	11	17	12
6	810 Disability or illness, mental or physical	9	13	12
7	803 Failed to judge vehicle's path or speed	8	13	9
8	406 Failed to judge other person's path or speed	1	2	9
9	503 Fatigue	8	2	8
10	807 Impaired by drugs (illicit or medicinal)	7	5	6

Key (CF groups):

<span style="display:inline-block; width:15px; height:10px; background-color:orange;"></span>	Driver/Rider error or reaction	<span style="display:inline-block; width:15px; height:10px; background-color:lightcoral;"></span>	Impairment or distraction	<span style="display:inline-block; width:15px; height:10px; background-color:lightpurple;"></span>	Pedestrian
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Notes:

- (a) Table reports the number of KSI casualties involving at least one pedestrian casualty where at least one of the specified contributory factors was recorded.  
 (b) Table sorted by 2017 values.

**Table 5-32 Top 10 contributory factors for KSI casualties involving pedal cyclists**

Rank	Contributory Factor	2015	2016	2017
1	405 Failed to look properly	22	12	17
2	407 Too close to cyclist, horse rider or pedestrian	7	4	9
3	406 Failed to judge other person's path or speed	9	12	7
4	602 Careless, reckless or in a hurry	6	3	6
5	507 Rider wearing dark clothing	4	2	3
6	501 Impaired by alcohol	3	2	3
7	410 Loss of control	2	2	3
8	310 Cyclist entering road from pavement	3	7	2
9	409 Swerved	1	1	2
-	706 Dazzling sun	1	1	2

Key (CF groups):

	Driver/Rider error or reaction		Impairment or distraction		Injudicious action
	Behaviour or inexperience		Vision affected by		

Notes:

- (a) Table reports the number of KSI casualties involving at least one pedal cyclist where at least one of the specified contributory factors was recorded.
- (b) Table sorted by 2017 values.

**Table 5-33 Top 10 contributory factors for KSI casualties involving motorcycle users**

Rank	Contributory Factor	2015	2016	2017
1	405 Failed to look properly	127	149	122
2	406 Failed to judge other person's path or speed	86	100	82
3	403 Poor turn or manoeuvre	71	49	58
4	410 Loss of control	54	61	56
5	602 Careless, reckless or in a hurry	53	44	56
6	408 Sudden braking	30	20	34
7	307 Travelling too fast for conditions	28	20	23
8	308 Following too close	22	23	21
9	306 Exceeding speed limit	22	25	20
10	103 Slippery road (due to weather)	10	16	15

Key (CF groups)

	Driver/Rider error or reaction		Behaviour or inexperience		Injudicious action
	Road environment				

Notes:

- (a) Table reports the number of KSI casualties involving at least one motorcycle user where at least one of the specified contributory factors was recorded.
- (b) Table sorted by 2017 values.

## 5.19. Journey Purpose

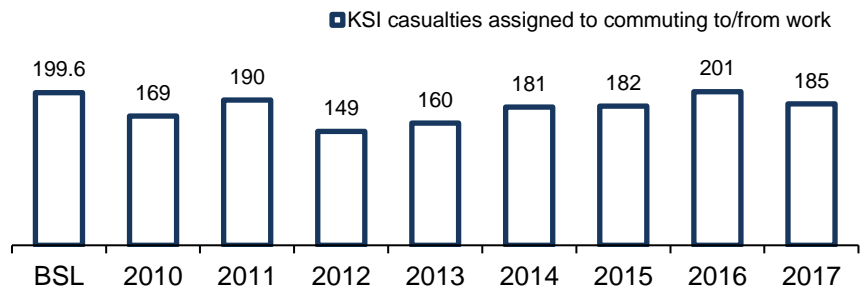
This topic of interest provides a summary of journey purpose. For this section casualties are assigned their journey purpose based upon the vehicle they are associated with. This section excludes pedestrians from the analysis as the journey purpose for these casualties is unclear.

### 5.19.1. Journey purpose summary

The trends from Figure 5-57 show that the majority of KSI casualties are recorded with either the journey purpose missing or with a journey purpose other than those listed within STATS19. Of the categories within STATS19, journey as part of work accounted for 277 KSI casualties in 2017; commuting to/from work had a lower value of 185 KSI casualties. These two categories combined (462 KSI casualties) account for 24.9 per cent of all KSI casualties (1,853) in 2017.

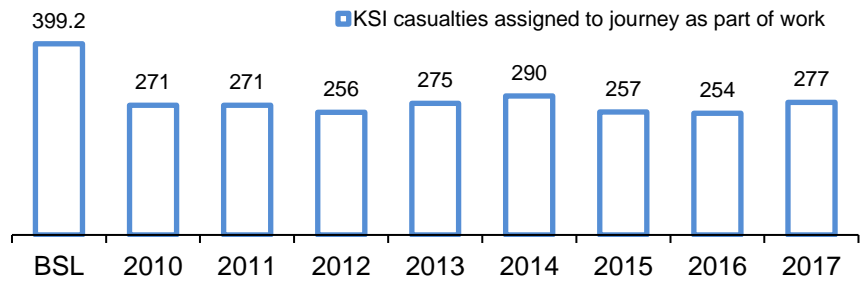
### Commuting to/from work

185 KSI casualties  
 ↓ 8.0 per cent from 201 in 2016



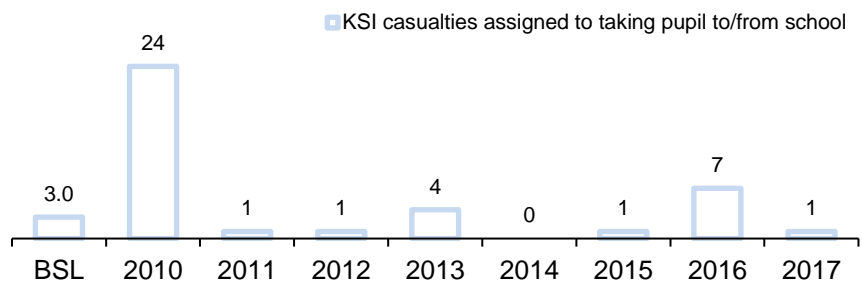
### Journey as part of work

277 KSI casualties  
 ↑ 9.1 per cent from 254 in 2016



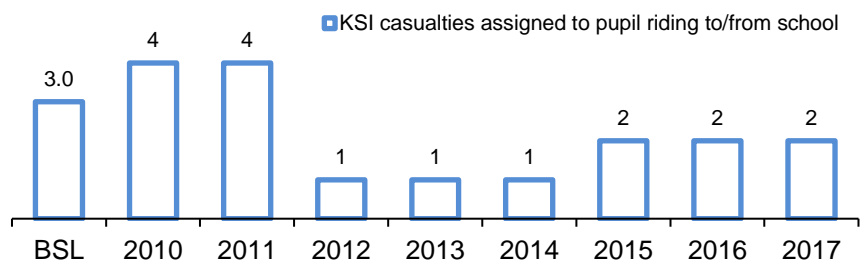
### Taking pupil to/from school

1 KSI casualty  
 ↓ 6 KSIs from 7 in 2016



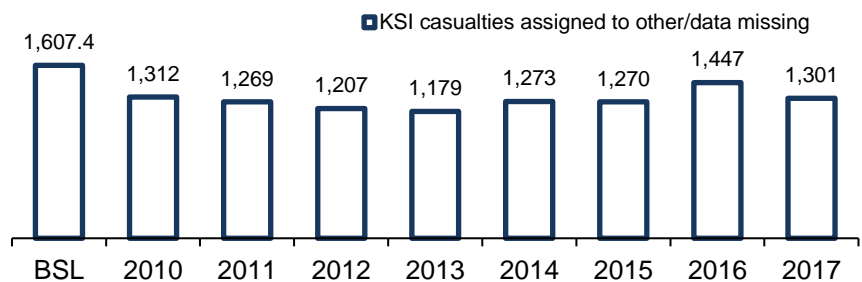
### Pupil riding to/from school

No change from 2016



### Other or data missing

1,301 KSI casualties  
 ↓ 10.1 per cent from 1,447 in 2016



Note: Analysis excludes pedestrians due to journey purpose of pedestrians being unclear. However, there were 87 pedestrian KSI casualties in 2017

Figure 5-57 KSI casualties by journey purpose and year

## 5.19.2. Journey as part of work

Where the journey purpose is specified the highest number of KSI casualties are against journey as part of work. The KSI casualties involved in collisions on a journey as part of work by casualty type is shown in Figure 5-58.

Figure 5-58 shows that of the 277 KSI casualties 86 were car occupants (31.0 per cent) 70 were goods vehicle occupants and 56 were HGV occupants.

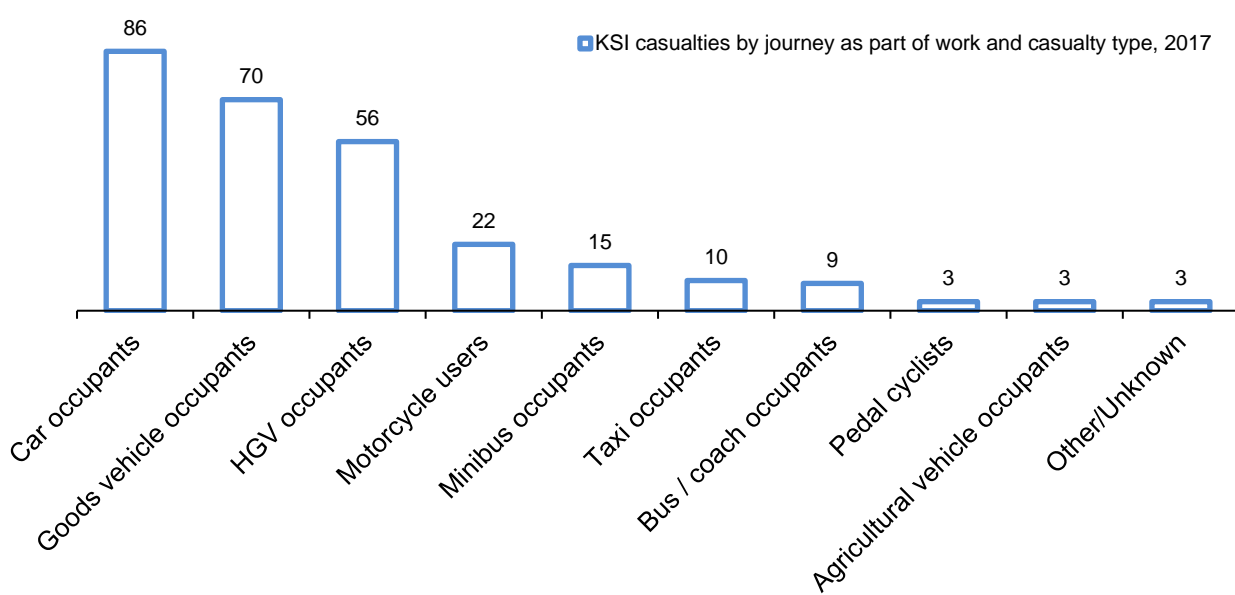


Figure 5-58 KSI casualties by journey as part of work and casualty type, 2017

## 5.20. Towing

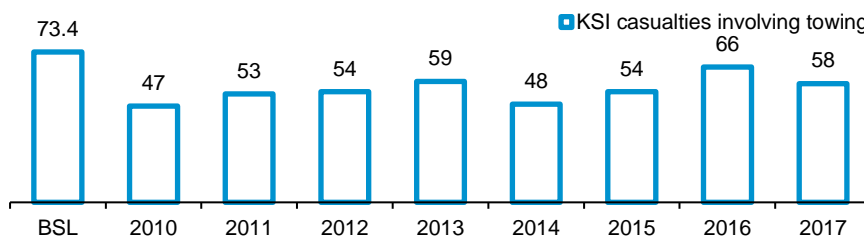
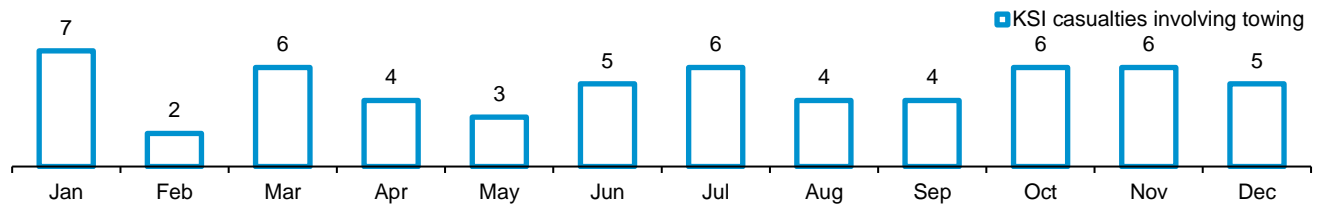
This topic of interest focuses on casualties involving at least one vehicle towing. This section excludes articulated vehicles from the towing category.

### 5.20.1. Towing summary

Figure 5-59 and Figure 5-60 give a summary of KSI and total casualties respectively involving at least one vehicle towing. In 2017, it can be seen that 331 casualties involved at least one vehicle towing, which is a decrease of 18.3 per cent on the 2016 value (405). Of these casualties, 39 occurred in August, the most of any month. However, January had the most KSI casualties in 2017, with 7 of the 58 that occurred. It can also be seen that the East region had the highest number of casualties involving towing with 76, which accounts for 23.0 per cent of towing casualties in 2017. Both the South West and East regions had 3.2 per cent of casualties involving towing.

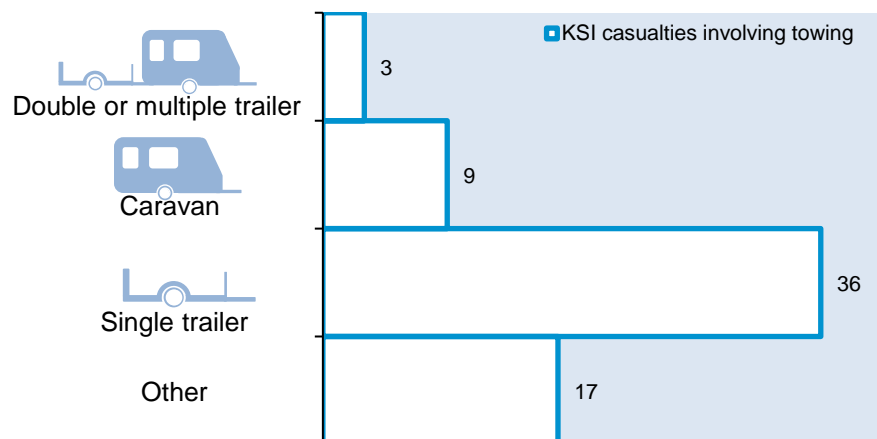
Figure 5-61 gives a summary of towed vehicles involved in collisions in 2017 along with tow type. It can be seen that 217 vehicles were recorded as towing in 2017. Of the vehicles recorded as towing 115 (53.0 per cent of vehicles recorded as towing) were recorded with a journey purpose of 'Journey as part of work', with 88 of these recorded with a tow type of 'Single trailer'.

### 58 KSI casualties involved a vehicle towing in 2017



**KSI casualties**  
 ↓ 12.1 from 2016

**62.1% of KSI towing casualties involved at least one single trailer in 2017**

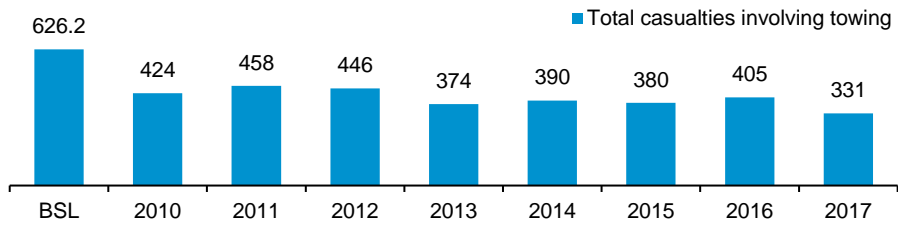
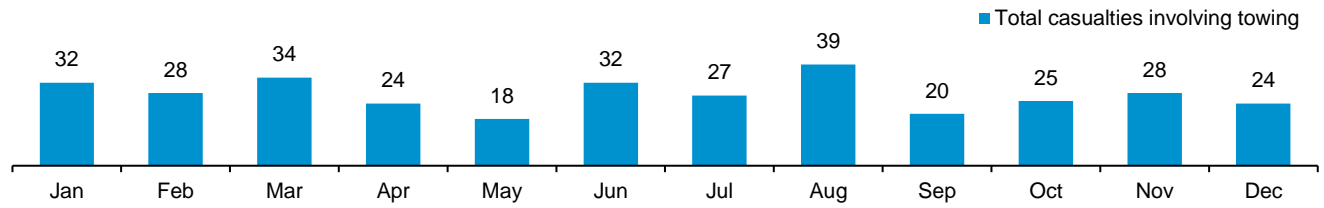


Note: Excludes articulated and data missing

**Figure 5-59 Summary of KSI casualties involving towing**



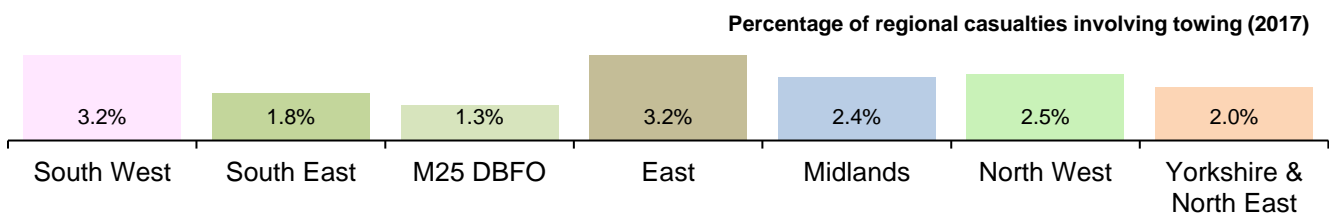
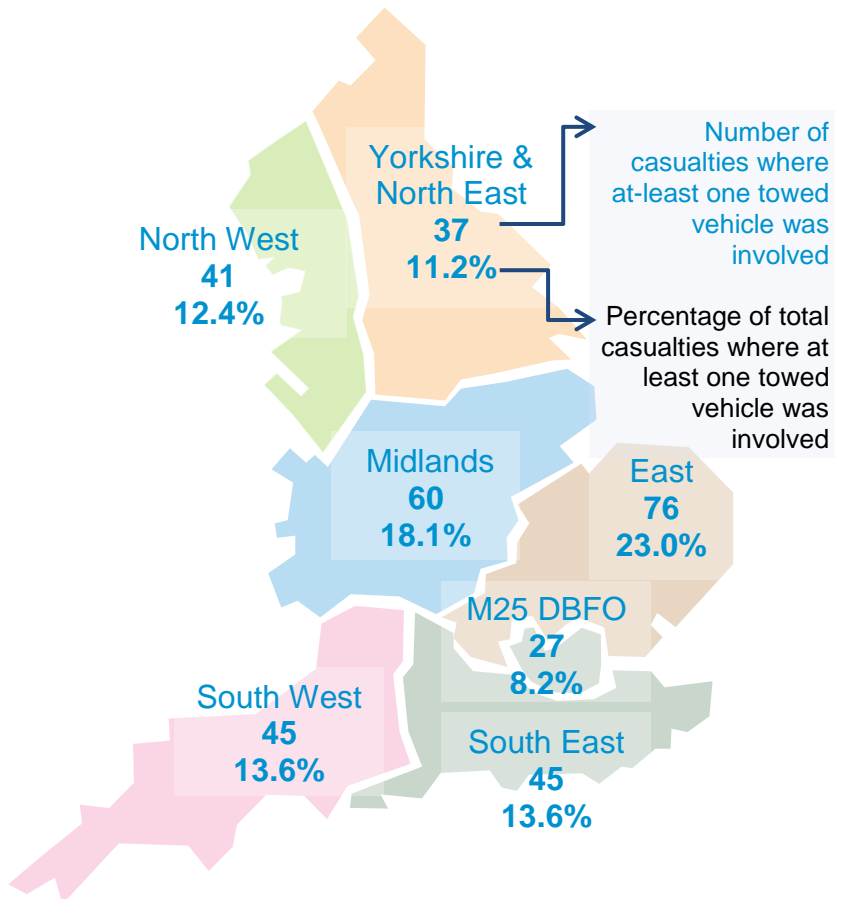
## 331 casualties involved a vehicle towing in 2017



**Total casualties**  
 ↓ 18.3 from 2016

**23.0% of casualties involving towing in 2017 occurred in the East region.**

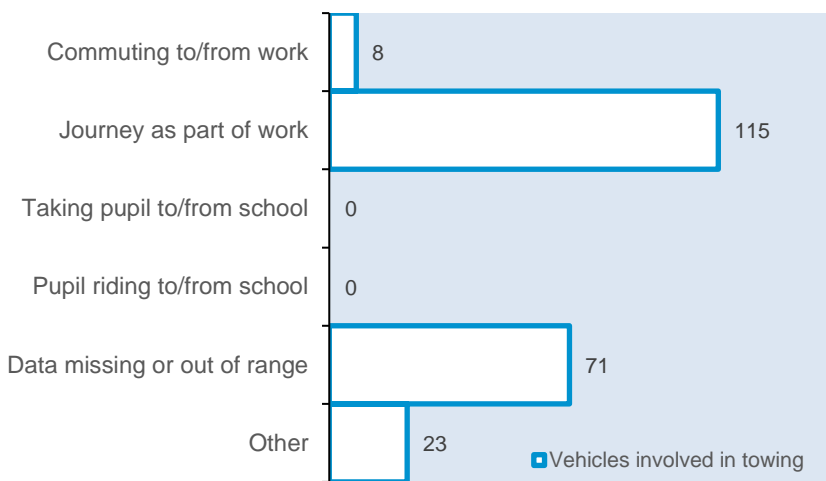
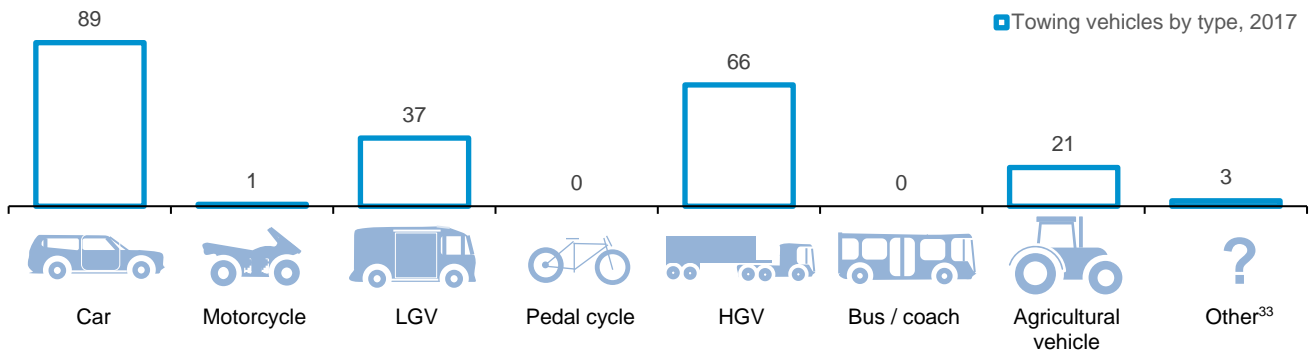
**3.2% of East and South West casualties involved towing in 2017**



Note: Excludes articulated and data missing  
**Figure 5-60 Summary of casualties involving towing**

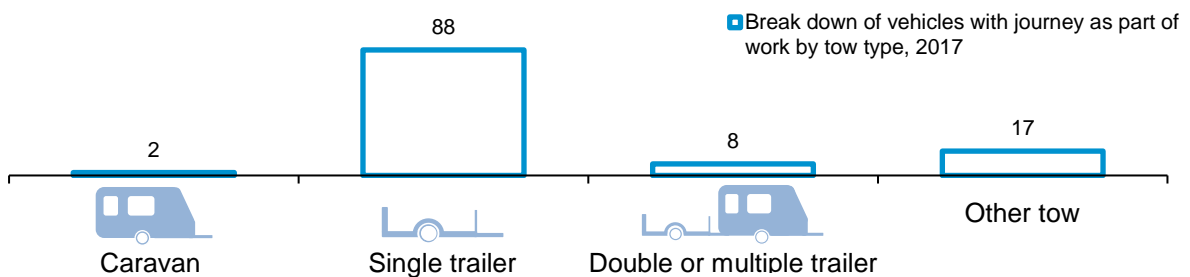


## 217 vehicles recorded as towing in 2017



**Journey as part of work accounted for 53.0% of vehicles involved in towing in 2017**

## 88 of the 115 towed vehicles recorded as journey as part of work were single trailers



Note: Excludes articulated and data missing

**Figure 5-61 Summary of towing vehicles by type**

<sup>33</sup> Other includes ridden horse, tram, mobility scooter and other vehicles