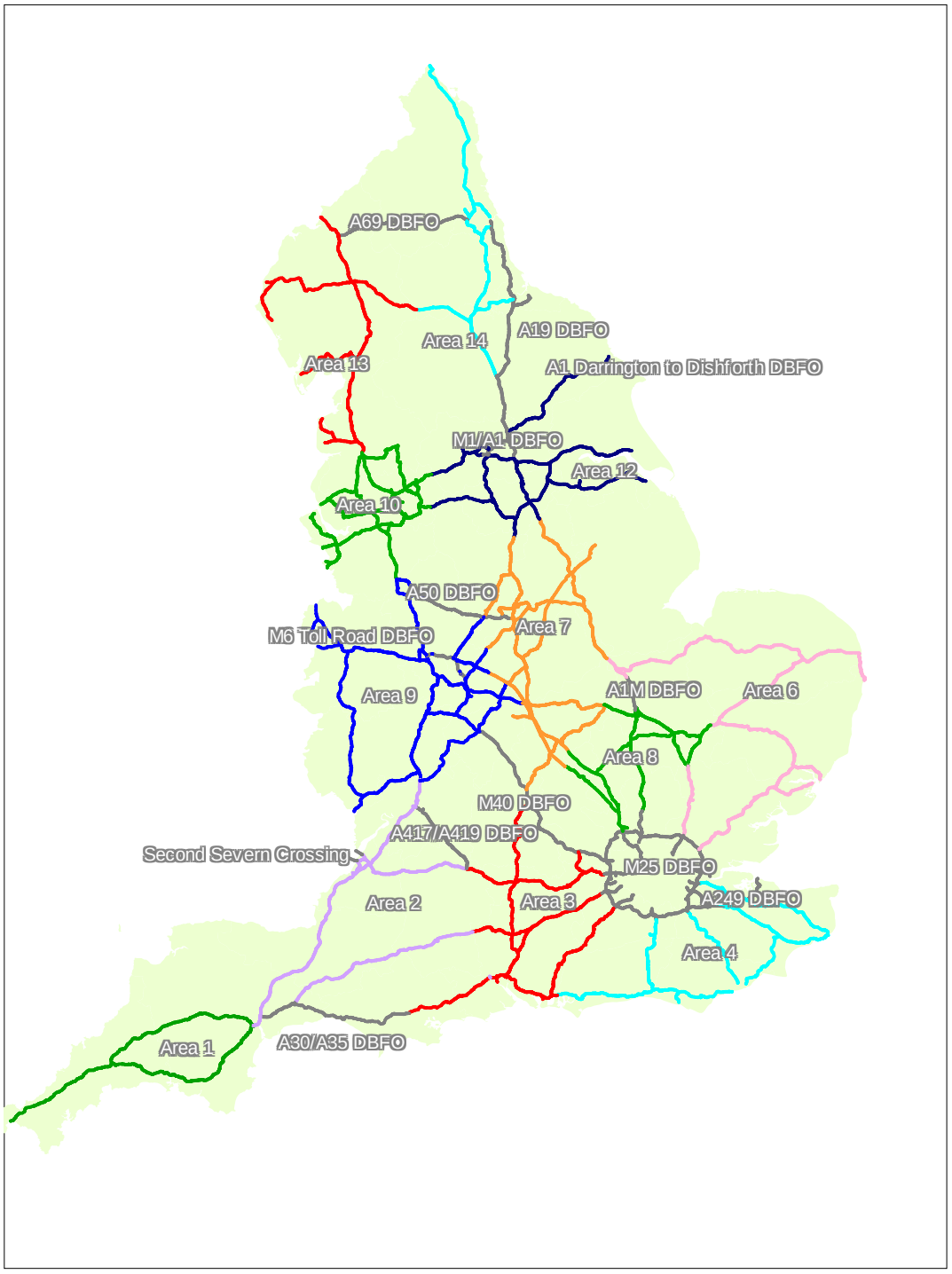
HIGHWAYS AGENCY

REPORTED ROAD CASUALTIES ON THE STRATEGIC NETWORK 2010

Area Map – 2006 Core network – areas as of September 2009



Area Map – 2010 network – areas as of August 2011

CONTENTS

1 The Agency's progress in road safety

1.1 2010 Targets

In 2000 a target was set by the then Government to reduce road collision casualties on all roads by the year 2010. The targets were:

- A 40% reduction in the number of people killed or seriously injured (KSI) in road collision;
- A 50% reduction in the number of children killed or seriously injured;
- A 10% reduction in the slight casualty rate, expressed as the number of people slightly injured per traffic volume.

In July 2002 a fourth target was added to address the significantly higher number of road collision casualties that occur in disadvantaged areas. It is:

- to secure a greater reduction in the overall number of road casualties in the 88 Neighbourhood Renewal Fund Areas in England than for England as a whole, comparing the figure with the average for 1999 to 2001 (see 'Tomorrows roads – safer for everyone – the first 3 year review' – published by DfT in 2004, for details)..

The Agency agreed to contribute to the new 2010 targets and instigated measures to deliver, on the strategic road network, reductions in fatal and serious casualties. The Agency's own targets for casualty reductions were:

- a one-third reduction in the number of people killed or seriously injured on trunk roads;
- a 10% reduction in the slight casualty rate;
- and will contribute to the child casualty reduction target and to tackling the significantly higher incidence of road casualties in disadvantaged communities than elsewhere.

The Agency's KSI target was lower than the national target because of the already low collision rates and the relatively greater increases in traffic on the strategic road network, compared with those on other roads.

1.2 Choice of network

When the 2010 target was set, it was based on the 1999 network, which was used for monitoring purposes, although the strategic road network was changing. In 2004, collision numbers from 1994 were recalculated based on the 2004 core network (an estimate of what the 2006 network was expected to be), and a new baseline and 2010 target were calculated. This network was known as the 2006 Trunk Road Network and is used in Section 1.3 to show the result of the Agency's 2010 safety targets.

1.3 Progress towards 2010 targets (2006 network)

Table 1-1 shows the number of reported road collision casualties by severity on the 2006 network for the 1994-98 baseline and for the last three years.

Table 1-1: Road collisions casualties by severity

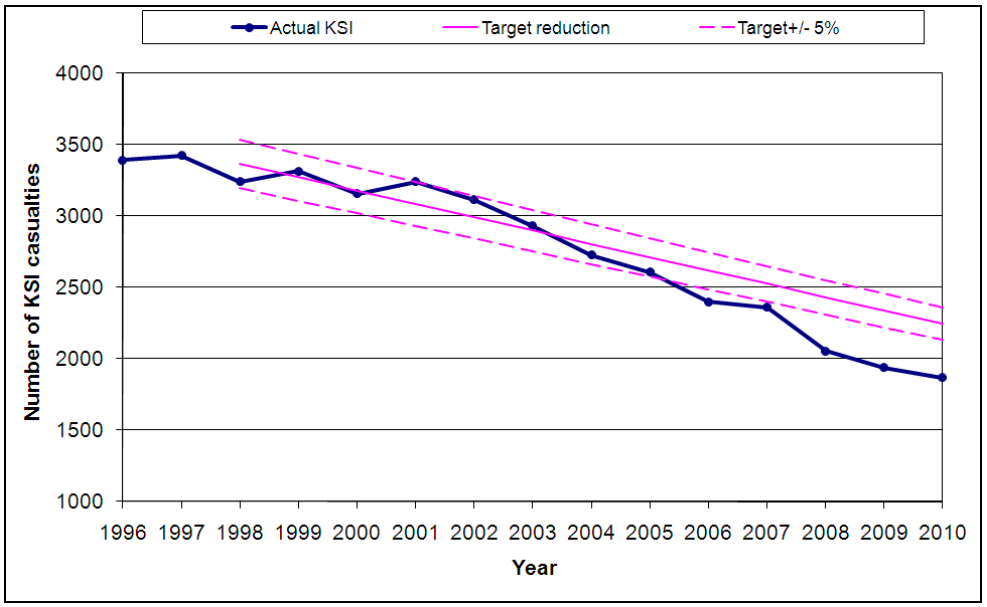
	Numbers				2010 Percentage change over:	
	1994-98 average	2008	2009	2010	2009	1994-98 average
Killed	**416**	**340**	**250**	**247**	**-1%**	**-40%**
of which children	**20**	**15**	**8**	**9**	**13%**	**-54%**
Seriously injured	2,950	1,713	1,689	1,622	-4%	-45%
of which children	162	65	67	73	9%	-55%
Killed or seriously injured	3,366	2,053	1,939	1,869	-4%	-44%
of which children	181	80	75	82	9%	-55%
Slightly injured	20,114	17,474	16,909	16,096	-5%	-20%
of which children	1,485	920	950	839	-12%	-44%
All severities	23,480	19,527	18,848	17,966	-5%	-23%
Traffic	679	825	822	818	0%	21%
KSI rate	5.0	2.5	2.4	2.3	-5%	-54%
Slight casualty rate	29.6	21.2	20.6	19.7	-5%	-34%

Traffic measured in 100 million veh-mile. Rate measured in casualties per 100 million veh-mile

1.3.1 KSI target

The Agency's 2010 KSI target was to reduce by one third the number of people killed or seriously injured against the 1994-98 average (3,366 casualties on the 2006 HA Network). There were 1,869 people killed or seriously injured in 2010, a reduction of 44% from the baseline of 3,366 (1994-98 average) and, as Figure 1-1 shows, this is a reduction greater that the 2010 target. The solid pink line indicates the trend required from 1998 to reach the target by 2010, assuming a linear reduction, and the dotted lines either side show the +/-5% of target

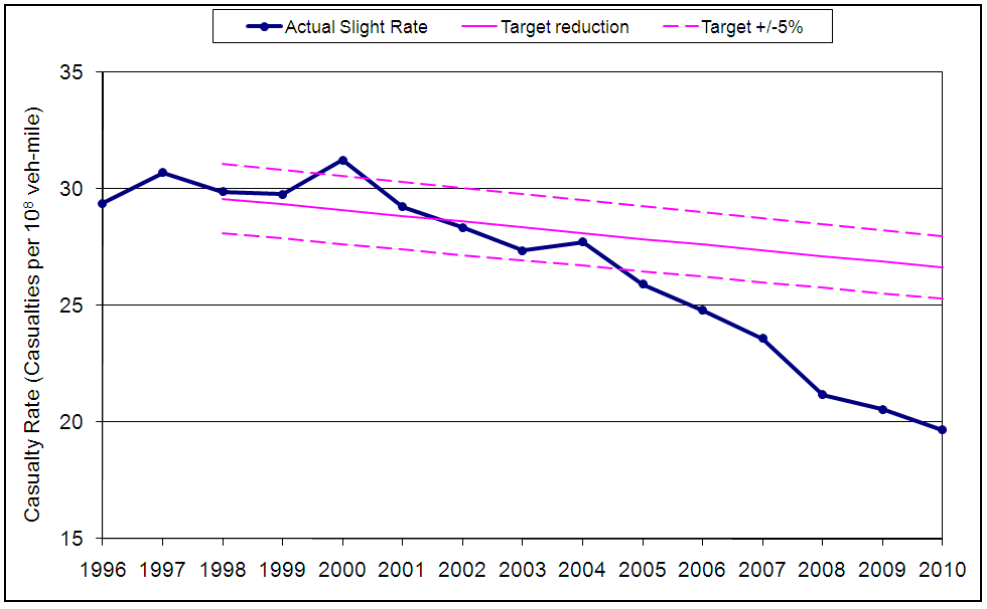
Figure 1-1: KSI target monitoring (2006 core network)



1.3.2 Slight injuries target

The Agency's target was to reduce by 10% the slight casualty rate, measured against the 1994-98 average (29.6 casualties per 10^8 vehicle-mile). Figure 1-2 shows the performance against this target. The slight casualty rate in 2010 was 19.7, a reduction of 34% from the baseline, and below the 2010 target value of 26.6.

Figure 1-2: Slight casualty rate target monitoring (2006 core network)

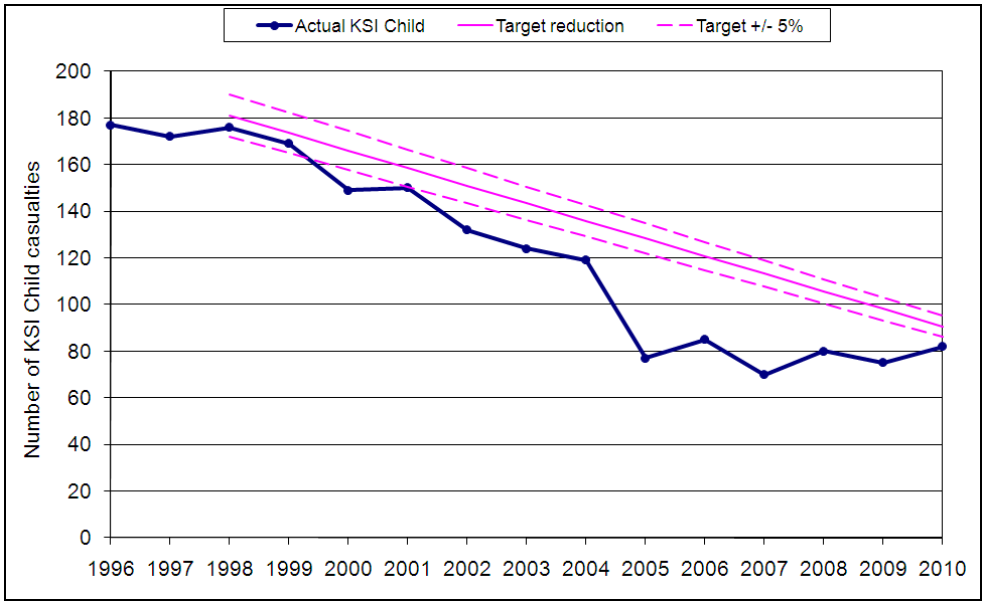


1.3.3 Child KSI target

The national target was to reduce by 50% the number of children killed or seriously injured in Great Britain. The Agency contributed to the achieving of this target, aiming to reduce the child casualties from the 1994-98 average of 181. The number

of child casualties is shown in Figure 1-3, monitored against a 50% reduction. The number of children killed or seriously injured on the trunk road network in 2010 was 82, an increase of 7 from the figure in 2009. The 2010 figure represents a reduction of 55%, which is lower than the 50% target reduction set for 2010.

Figure 1-3: Child KSI casualty monitoring (2006 core network)



1.3.4 Areas of deprivation target

The national target is to secure a greater reduction in the overall number of road casualties in the 88 Neighbourhood Renewal Fund (NRF) Areas in England, than for England as a whole, comparing the figure with the average for 1999 to 2001. The Agency will contribute to this target.

The sections of the network in the 88 NRF areas may not be accessible from the area itself, i.e. a motorway that passes through an area, but does not have a junction.

The table below shows the total number of casualties on the 2006 Trunk Road Network and in the 88 NRF councils. In 2010, the number of casualties reduced from those in 2009 over the whole network and for the sections of the network within the 88 NRF council areas. When compared with the 1999-2001 average, the reduction for the 88 NRF areas of 31.9% was a larger reduction than over the network as a whole (29.8%).

Table 1-2: Total Strategic Road Network Casualties (All Severities) for NRF councils and England (2006 network)

	1999-2001 Average	2005	2006	2007	2008	2009	2010	2010 % change from 1999-2001 average
88 NRF Councils (Total)	5,084	4,478	4,794	4,429	4,018	3,766	3,464	31.9%
Total strategic network	25,591	23,661	22,849	21,951	19,527	18,848	17,966	29.8%

1.4 Performance (2010 network)

The remainder of this document is based on the 2010 strategic road network, and performance is monitored against the 2005-09 average. The figures in this document are therefore not directly comparable with those in earlier editions of 'reported casualties on the HA network' or 'accidents on the network'.

Table 1-3 shows the number of casualties by severity for the 2005-09 average baseline and the last three years. The number of child casualties and the casualty rate are also shown.

Table 1-3: Road collisions casualties by severity

	Numbers				2010 Percentage change over:	
	2005-09 average	2008	2009	2010	2009	2005-09 average
Killed	**357.2**	**350**	**255**	**249**	**-2%**	**-30%**
of which children	**10.8**	**15**	**10**	**9**	**-10%**	**-17%**
Seriously injured	1,964.0	1,753	1,712	1,637	-4%	-17%
of which children	68.6	69	64	74	16%	7%
Killed or seriously injured	2,321.2	2,103	1,967	1,886	-4%	-19%
of which children	79.4	84	74	83	12%	5%
Slightly injured	19,381.6	17,800	17,073	16,136	-5%	-17%
of which children	1,037.4	919	960	841	-12%	-19%
All severities	21,702.8	19,903	19,040	18,022	-5%	-17%
Traffic	846	849	847	839	-1%	-1%
Fatality rate	0.4	0.4	0.3	0.3	-1%	-30%
KSI rate	2.7	2.5	2.3	2.2	-3%	-18%
Slight casualty rate	22.9	21.0	20.1	19.2	-4%	-16%

Traffic measured in 100 million vehicle-mile. Rate measured in casualties per 100 million vehicle-mile

There were 249 fatalities in 2010, a reduction of 2% from 2009 (255) and a reduction of 30% from the baseline (357). 9 of the fatalities were children.

There were 1,637 seriously injured casualties in 2010, a reduction of 4% from 2009 (1,712) and 17% from the baseline (1,964). 74 of the seriously injured casualties were children.

The traffic level has dropped slightly in the last few years.

The casualty rates in terms of casualties per vehicle-mile have shown good reductions from the baseline.

Table 1-4 shows the number of casualties by severity and road class for the 2005-09 baseline and the last three years.

Table 1-4: Road collisions casualties by road class and severity

	Numbers				2010 Percentage change over:	
	2005-09 average	2008	2009	2010	2009	2005-09 average
Killed	**357.2**	**350**	**255**	**249**	**-2%**	**-30%**
of which Motorways	**153.6**	**143**	**116**	**110**	**-5%**	**-28%**
of which A-roads	**203.6**	**207**	**139**	**139**	**0%**	**-32%**
Seriously injured	1,964.0	1,753	1,712	1,637	-4%	-17%
of which Motorways	859.4	783	755	716	-5%	-17%
of which A-roads	1,104.6	970	957	921	-4%	-17%
Slightly injured	19,381.6	17,800	17,073	16,136	-5%	-17%
of which Motorways	10,186.6	9,391	8,738	8,552	-2%	-16%
of which A-roads	9,195.0	8,409	8,335	7,584	-9%	-18%

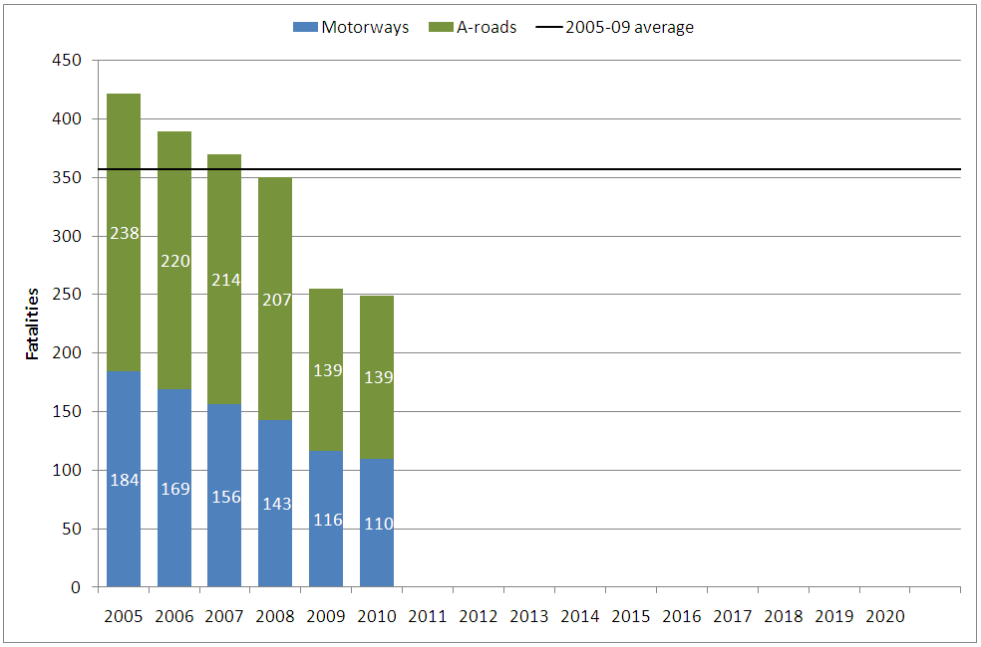
139 (56%) of the 249 fatalities in 2010 were on A-roads, the same figure as in 2009, and a 32% reduction from the baseline value of 203.6.

On motorways the 110 fatalities in 2010 represented a reduction of 28% from the baseline (153.6).

For serious injuries, the reduction from the baseline was 17% for both motorways and A-roads.

Figure 1-4 shows the number of fatalities on motorways and A-roads on the HA 2010 network from 2005 to 2010.

Figure 1-4: Motorway and A-road fatalities on 2010 strategic road network



2 Introduction

2.1 2000-2010 decade

The Agency's strategic plan for achieving casualty reductions was set out in 'Making The Network Safer: Highways Agency Road Safety Strategic Plan'.

Section 1.1 of this document provides the final review of performance towards the 2010 safety targets, based on the 2006 strategic road network

The remainder of this document includes performance tracking for the next decade, based on the 2010 strategic road network.

2.2 2010-2020 decade

In May 2011, the Department for Transport (DfT) published the Strategic Framework for Road Safety. This sets out DfT's approach to continuing to reduce killed and seriously injured casualties on Britain's roads.

The Agency has launched the Safety Framework for the Strategic Road Network. This supports the national strategy, setting out the Agency's approach for the strategic road network.

2.3 Beyond 2010

The safety framework supports the national strategy, setting out the Highways Agency's approach for the strategic road network. In support of the localism agenda, the Agency will work closely with partners and safety stakeholders to identify priority road user groups, targeted engineering interventions on specific roads and share best practice and technical expertise with other groups. Our Aiming for Zero vision, that no one is hurt as a result of working on the road network, is also an important aspect of the framework. With this safety framework, it is our intention to continue the downward trend in casualties and keep our roads amongst the safest in the world.

2.4 Purpose of this document

The document is intended for use by Agency staff, their Managing Agents and those in the public arena with an interest.

This document 'Reported Road Casualties on the Strategic Road Network- 2010' follows on from the series of 'Accidents on the trunk road' and 'Reported Casualties on the HA network' documents which have been published annually since 1999 that provided quantified road safety information and guidance that describes the current state of the Agency's reportable road network.

This information is designed to enable them to:

- answer safety queries from Government, colleagues and the public;
- provide a national safety perspective for balancing needs across the network;

- make sound strategic and budgeting decisions concerning the future management and safety of the network;
- monitor changes in safety on the network year on year;
- assist in developing and monitoring the safety statements prepared by agents;
- assist in the provision of requirements of the EU Directive on Road Infrastructure Safety Management.

2.5 Objectives and content of this document

The objectives of this document are to:

- provide a national overview of current road safety (Summary);
- provide an overview of the trunk road network's casualty trends, noting trends in severity (Section 4);
- provide a perspective of injury collisions by road type (Section 5);
- provide a perspective of injury collisions by Region and Area (Section 6);
- provide a perspective of injury collisions by customer group (Section 7);
- provide a perspective of the causes of collisions (Section 8).
- Provide national data for local comparison (Appendix B)
- provide information of selected topics (Appendix C)

3 Values of prevention of collisions

The Department for Transport produces estimates of the valuation of the benefits of prevention of road collisions and casualties. These include amounts to reflect pain, grief and suffering, the lost output and medical costs associated with road injuries.

The average value of prevention per collision by severity and road class in 2010 is shown in Table 3-1. It is important to highlight that the figures were based on the road collision data for 2010, but computed at the 2009 average values of prevention for casualties. The average values of prevention were not adjusted to reflect 2010 figures due to the late publication of 'United Kingdom National Accounts' for 2010, an annual report which contains the Gross Domestic Product (GDP) data used to adjust the cost figures. In addition, the Department for Transport is also in the process of updating the methodology used to value the cost of accidents/casualties. Updated values will be published in Transport Analysis Guidance – WebTAG unit 3.4.1[1]. The values for 2010, expressed at 2009 prices, are calculated from Reported Road Casualties Great Britain.

Table 3-1: Average value of prevention per collision on the strategic road network by severity and road class, 2010 (£ June 2009)

Collision severity	Built-up	Non built-up	Motorway	All HA roads
Fatal	**£1,688,018**	**£1,839,216**	**£1,731,545**	**£1,786,347**
Serious	£194,717	£219,725	£230,319	£222,592
Slight	£20,224	£23,950	£28,459	£26,008
All injury	£51,039	£97,362	£79,700	£84,800
Damage only	£1,770	£2,617	£2,517	£2,390

Table 3-2 shows the total value of prevention of collision on the HA network by severity and road class. This shows that the total value of prevention of all reported collisions on the HA network in 2010, expressed at 2009 prices, was about £968 million. This represents about 10% of all reported accidents in GB.

Table 3-2: Total value of prevention on the strategic road network by severity and road class, 2010 (£m June 2009)

Collision severity	Built-up	Non built-up	Motorways	All HA roads
Fatal	**£10**	**£221**	**£182**	**£413**
Serious	£19	£144	£137	£299
Slight	£16	£94	£146	£256

[1] The Transport Analysis Guidance can be found using the following link: http://www.dft.gov.uk/webtag/documents/exp[ert/unit3.4.1.php

All injury	£45	£459	£464	£968

4 Collisions and casualties on the network by severity

Note that for consistency, analyses for all years are based on the 2010 strategic road network. Previous annual safety reports are based on the 2006 network, and therefore the figures are not comparable.

4.1 Collision and casualty trends by severity

In 2010, there were 11,414 collisions on the strategic road network involving 24,283 vehicles and resulting in 18,022 casualties (of which 249 were killed, and 1,637 were seriously injured). These casualties accounted for 9.7% of all the reported road casualties in England.

Table 4-1 shows the number of collisions and Table 4-2 shows the number of casualties by injury for the 2005-09 baseline and 2008 to 2010. Table 4-1 shows that the total number of collisions in 2010 was 17.7% below the baseline, with reductions in fatal, serious and slight collisions.

The number of KSI casualties (1,886) has reduced by 18.7% from the baseline (2,321) with the highest reduction being in the number of casualties killed. The reduction in the number of seriously injured is broadly similar to the reduction in slightly injured casualties.

The total number of casualties has been reducing year on year since 2005.

The total value of prevention of the 2010 collisions (£ June 2009) by severity is also displayed in Table 4-1.

Table 4-1: Collisions by severity and year

Collision severity	2005-2009 average	2008	2009	2010	2010 % change from 2005-09 average	Value of prevention (2010) (£m June 2009)
Fatal	**314.0**	**309**	**227**	**231**	**-26.4%**	**£413**
Serious	1570.6	1,423	1,399	1,345	-14.4%	£299
Slight	11986.6	11,095	10,450	9,838	-17.9%	£256
Total collisions	13871.2	12,827	12,076	11,414	-17.7%	£968

Table 4-2: Casualties by injury and year

Casualty injury	2005-2009 average	2008	2009	2010	2010 % change from 2005-09 average
Killed	**357.2**	**350**	**255**	**249**	**-30.3%**
Seriously injured	1964.0	1,753	1,712	1,637	-16.6%
KSI	2321.2	2,103	1,967	1,886	-18.7%
Slightly injured	19381.6	17,800	17,073	16,136	-16.7%
Total casualties	21702.8	19,903	19,040	18,022	-17.0%

Figure 4-1 shows the trend in casualty numbers by injury, and Figure 4-2 shows the figures relative to the 2005-09 average. This allows all three injury trends to be compared more easily.

The number of killed, seriously injured and slightly injured casualties has reduced relative to the 2005-09 average since 2005.

This shows how the trends in fatalities and serious injuries were similar from the baseline to about 2008, but then the injuries started to show slightly different trends.

Figure 4-1: Casualties by casualty injury 2005-2010

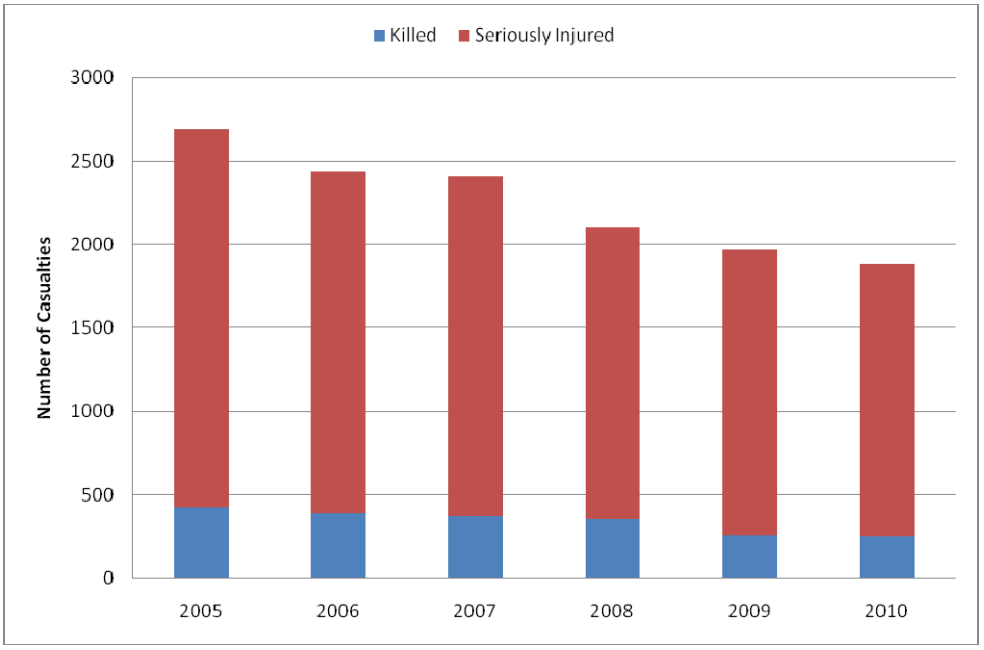
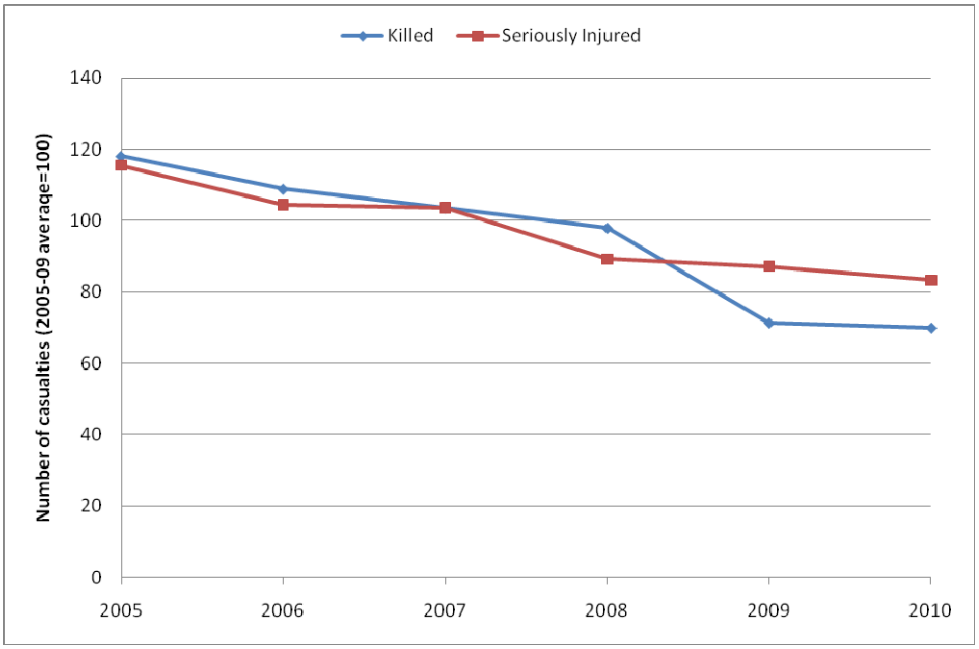


Figure 4-2: Casualties by casualty injury 2005-2010 relative to 2005-09 average



4.2 Casualty rate trends by injury

Table 4-3 gives the traffic and casualty rates (that is, the number of casualties per 10^8 vehicle-mile travelled) by injury. The strategic road network traffic has decreased by 0.9% from the baseline, and the killed and serious casualty rates have reduced by 30% and 16% respectively. The slight casualty rate has reduced by 16%. The trends in casualty rates are illustrated in Figure 4-3 and Figure 4-4.

Table 4-3: Casualty rates by year

	2005-2009 average	2008	2009	2010	2010 % change from 2005-09 average
Traffic (10^8 vehicle-miles)	846	849	847	839	-0.9%
Killed rate	**0.4**	**0.4**	**0.3**	**0.3**	**-29.7%**
Serious rate	2.3	2.1	2.0	2.0	-15.9%
KSI rate	2.7	2.5	2.3	2.2	-18.0%
Slight rate	22.9	21.0	20.1	19.2	-16.0%
All casualties rate	25.7	23.4	22.5	21.5	-16.2%

Casualty rate measured in casualties per 10^8 vehicle-mile.

Figure 4-3: Casualty rates by casualty injury 2005-2010

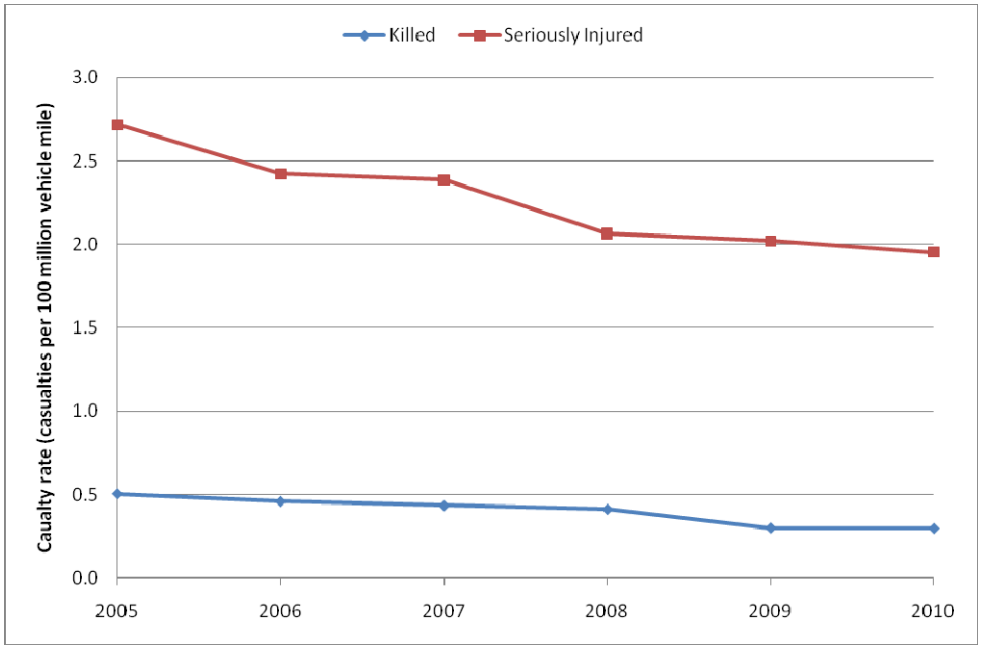
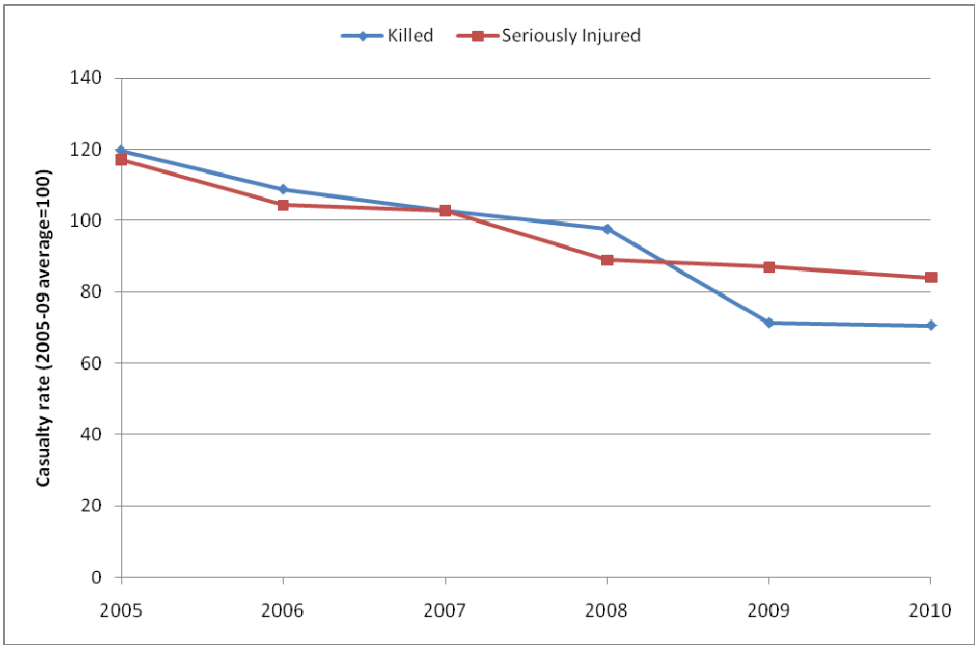


Figure 4-4: Casualty rates by severity relative to 2005-09 average



4.3 Comparison with all roads in Great Britain

Table 4-4 compares the HA network with all roads in Great Britain.

The table makes comparisons between 2010 and 2009 casualty figures. The number of casualties for each severity has decreased across both the strategic road network and all of GB from 2009 to 2010. The overall decrease was larger across all roads in GB than on the strategic road network (6% compared to 5%). Overall, the number of child casualties has reduced by a greater proportion on the strategic road network (reduction of 11% compared to only 5% across all roads in GB). However, the proportion of children killed or seriously injured has increased since 2009 on the strategic road. The overall casualty rate has reduced by similar amounts on all roads in GB and roads on the strategic road network (4.4% and 4.5% respectively).

Comparisons are also made between the 2010 figures and 1994-1998 average. The number of casualties in 2010 was lower than the 1994-98 baseline figure for all roads in GB and the strategic road network. The decrease from the baseline is greater for all roads in GB when compared to the strategic road network only (across all severities). For all roads in GB the largest decrease in casualty numbers occurs for child fatalities (a decrease of 79%). This compares to a decrease of just 25% on the strategic road network.

The final comparison made is by road user type. A greater proportion of fatalities are car occupants on the strategic road network than on all roads in Great Britain (53% compared to 45%). A smaller proportion of fatalities are pedestrians and motorcyclists on the strategic road network compared to all roads in GB.

Table 4-4: Comparison of casualties on the strategic road network with all roads in Great Britain

All roads in GB	2010 strategic road network
In 2010, there were 208,648 reported casualties on all roads in Great Britain, i.e. all major and minor roads in England, Wales and Scotland.	In 2010, there were 18,002 reported casualties on the 2010 strategic road network.
Compared with 2009: • This represents 6% fewer than in 2009; • 1,850 people were killed, 17% fewer than in 2009; • 22,660 people were seriously injured, 8% fewer than in 2009; • 184,138 people were slightly injured, 6% fewer than in 2009; • 19,569 children were injured, 5% fewer than in 2009 and 2,502 children were killed or seriously injured, 6% fewer than in 2009; • Provisional estimate of overall casualty rate of 677 per billion vehicle mile, 4.5% lower than in 2009.	Compared with 2009: • This represents 5% fewer than in 2009; • 249 people killed, 2% fewer than 2009; • 1,637 people were seriously injured, 4% fewer than 2009; • 16,136 people were slightly injured, 5% fewer than 2009; • 924 children were injured, 11% fewer than in 2009, however, 83 children were killed or seriously injured, 12% higher than in 2009; • Provisional estimate of overall casualty rate of 215 per billion vehicle mile, 4.4% lower than in 2009.
Compared with the baseline: • The number of people killed or seriously injured was 49% below the baseline; • The total number of people injured was 35% lower than the 1994-98 average, fatalities alone were 48% below the base period; • The number of children killed or seriously injured was 64% below the baseline, the total number of children injured was 56% lower than in the base period and the number of child fatalities was 79% lower; • The provisional estimate of the slight casualty rate was 39% below the baseline; • There were 154,414 reported road accidents, 35% fewer than the 1994-98 average, of these 24,510 involved death or serious injury, down 49% on the base period.	Compared with the baseline: • The number of people killed or seriously injured was 45% below the baseline; • The total number of people injured was 25% lower than the 1994-98 average, fatalities alone were 41% below the baseline period; • The number of children killed or seriously injured was 57% below the baseline, the total number of children injured was 46% lower than in the base period and the number of child fatalities was 25% lower; • The provisional estimate of the slight casualty rate was 33% below the baseline; • There were 11,414 reported road accidents, 24% fewer than the 1994-98 average, of these 1,576 involved death or serious injury, down 39% on the base period.

By road user type: • 45% of all fatalities were car occupants, pedestrians and motorcyclists each accounted for 22%; • Car user fatalities were 21% lower than in 2009 and serious injuries amongst car users were 11% lower; • 405 pedestrians were fatality injured, 19 per cent fewer than in 2009 and the number of seriously injured pedestrians fell by 6%; • Pedal cyclist fatalities increased by 7%, serious injures by 2% and all injuries by 1% since 2009; • Motorcycle user fatalities fell by 15%, serious injuries by 11% and all motorcycle user casualties by 10% since 2009.	By road user type: • 53% of all fatalities were car occupants, pedestrians accounted for 17% and motorcyclists accounted for 12%; • Car user fatalities were 17% lower than in 2009 and serious injuries amongst car users were 5% lower; • 42 pedestrians were fatality injured, 7 more than in 2009, the number of seriously injured pedestrians increased by 3%; • Pedal cyclist fatalities increased from 8 in 2009 to 12 in 2010, serious injuries increased from 30 to 40 and all injuries increased by 10% since 2009; • Motorcycle user fatalities increased from 28 to 30, serious injuries fell by 8% and all motorcycle casualties fell by 6% since 2009.
Source: Reported Road Casualties in Great Britain: annual report 2010 Note: children includes ages 0-15	Source: TRL 2011 Note: children includes ages 1-15

4.4 Summary of trends in casualties and collisions

- Overall, the KSI casualties have reduced by 19% from the 2005-2009 baseline (reduced to 1,886 in 2010 from the baseline of 2,321).
- The number of fatalities shows more fluctuation than the serious casualties due to the smaller numbers, and in 2010 showed a reduction of 30% from the baseline (reduced to 249 from baseline of 357).
- The number of serious casualties has reduced by 17% from the baseline (reduced to 1,637 from baseline of 1,964).
- The slight casualties have decreased in numbers since 2005.
- Casualty rates for all severities have reduced from the baseline, the fatality rate by 30% (rate reduced to 0.3 from baseline of 0.4), the serious injury rate by 16% (reduced to 2.0 from the baseline of 2.3) and the slight casualty rate by 16% (reduced to 19.2 from the baseline of 22.9).

5 Collisions and casualties by location and road type

There are about 4,440 miles of road on the strategic road network (2.4% of all roads in England). The strategic road network services over 80 billion vehicle-mile of traffic (32% of all traffic in England).

5.1 Road characteristics by road type

The table below shows the road characteristics of the 2010 strategic road network, in terms of the length, traffic and average AADT for each road type.

Table 5-1: Road characteristics of the strategic road network by road type, 2010

Road type	Length (miles)	Traffic (10^8 vehicle-miles)	Average AADT
Motorway	1,854	547	80,826
Single carriageway A-road	952	57	16,329
Dual carriageway A-road	1,606	232	39,551
Total	4,436	839	51,792

5.2 Collisions and casualties by road type

The strategic road network comprises of motorways and All Purpose A-roads. A-roads are described as built-up (speed limit 40mph or less) or non-built-up (speed limits of 50mph or more), and also as dual carriageway or single carriageway.

Of all collisions on the strategic road network:

- 51% (5,826) were on motorways.
- 49% (5,588) were on All Purpose Trunk A-roads;
    - 41% (4,714) were on non-built-up A-roads;
    - 8% (874) were on built-up A-roads;

Alternatively,

- 36% (4,142) were on dual carriageway[2] A-roads;
- 13% (1,440) were on single carriageway A-roads.

Table 5-2 gives the number of collisions in 2010 by road type and collision severity. The percentage of collisions that resulted in KSI casualties (also called the severity ratio) is also given, which is the percentage of collisions on a particular road type that are fatal or serious. This shows that collisions on single carriageway or non built-up

[2] Figures for dual carriageways include accidents on roundabouts, one-way streets and slip roads

A-roads have the highest severity and collisions on built-up A-roads and motorways have the lowest severity. Table 5-3 gives the same information for casualties.

Table 5-2: Number of collisions by road type and collision severity, 2010

Road class	Type	Fatal	Serious	Slight	Total	% KSI
Motorways	All	**105**	593	5,128	5,826	12.0%
A-roads	All	**126**	752	4,710	5,588	15.7%
Total		**231**	1,345	9,838	11,414	13.8%
A-roads	Built-up	**6**	97	771	874	11.8%
	Non built-up	**120**	655	3,939	4,714	16.4%
A-roads	Dual carriageway[2]	**87**	535	3,520	4,142	15.0%
	Single carriageway	**39**	217	1,184	1,440	17.8%

Table 5-3: Number of casualties by road type and casualty injury, 2010

Road class	Type	Killed	Seriously injured	Slightly injured	Total	% KSI
Motorways	All	**110**	716	8,552	9,378	8.8%
A-roads	All	**139**	921	7,584	8,644	12.3%
Total		**249**	1,637	16,136	18,022	10.5%
A-roads	Built-up	**6**	103	1,107	1,216	9.0%
	Non built-up	**133**	818	6,477	7,428	12.8%
A-roads	Dual carriageway[2]	**92**	632	5,530	6,254	11.6%
	Single carriageway	**47**	289	2,045	2,381	14.1%

5.3 Casualty rates

The table below shows the casualty rates for each road type. The casualty rate is the number of casualties per vehicle-mile travelled, otherwise described as the likelihood of an individual being injured.

Table 5-4: Casualty rates by road type, 2010

Road type	Fatality rate (fatalities per 10^8 veh-mile)	KSI casualty rate (KSI casualties per 10^8 veh-mile)	All casualty rate (casualties per 10^8 veh-mile)
Motorway	**0.2**	1.5	17.1
Single carriageway A-road	**0.8**	5.9	42.0
Dual carriageway A-road	**0.4**	3.1	27.0
Total	**0.3**	2.2	21.5

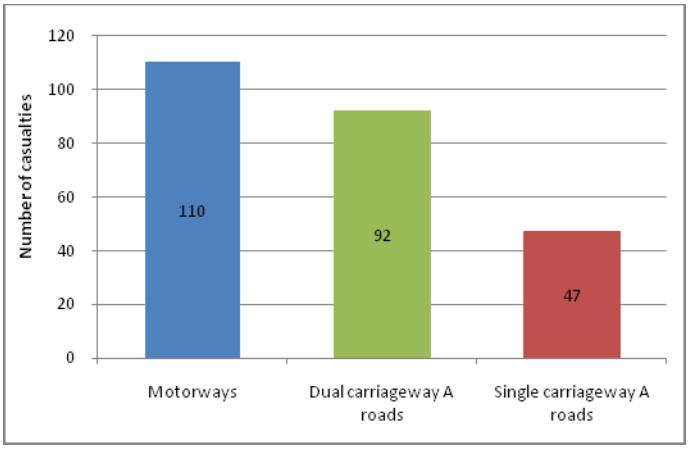
Figure 5-1 shows the number of casualties and likelihood of being injured by severity on motorways, dual and single A-roads for fatalities, KSI casualties and all casualties.

For example, 110 casualties were killed on motorways in 2010. The casualty rate (or likelihood of being injured) is the number of casualties per vehicle-mile travelled i.e. casualty rate = number of casualties/traffic (measured in 10^8 vehicle-miles). The corresponding casualty rate for motorways is 0.2 casualties per 10^8 vehicle-mile.

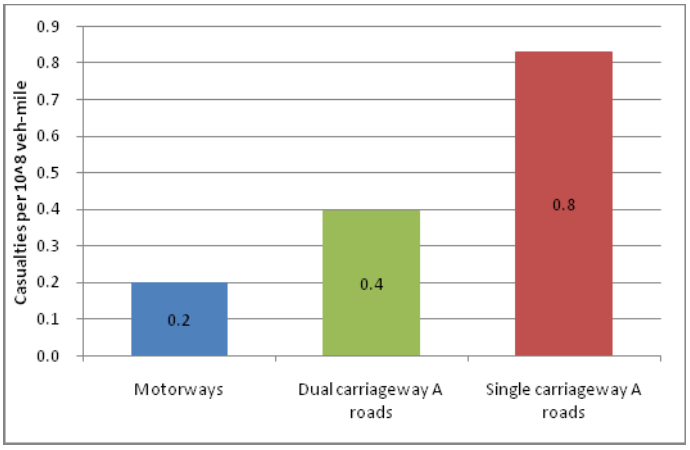
Although motorways have the greatest number of casualties (Figures (a), (c) and (e)) their casualty rates are the lowest (figures (b), (d) and (f)). The single carriageway A-roads, which account for a small proportion of the network, have a smaller number of casualties, but have the highest casualty rates.

Figure 5-1: English Trunk roads and casualties, 2010

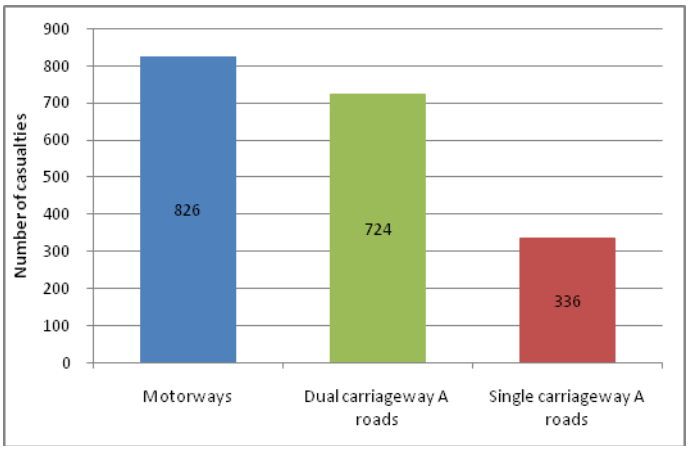
(a) Number of fatalities



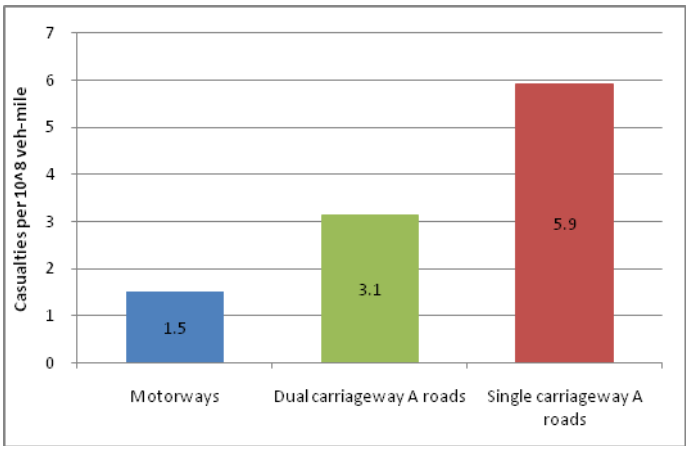
(b) Likelihood of being killed



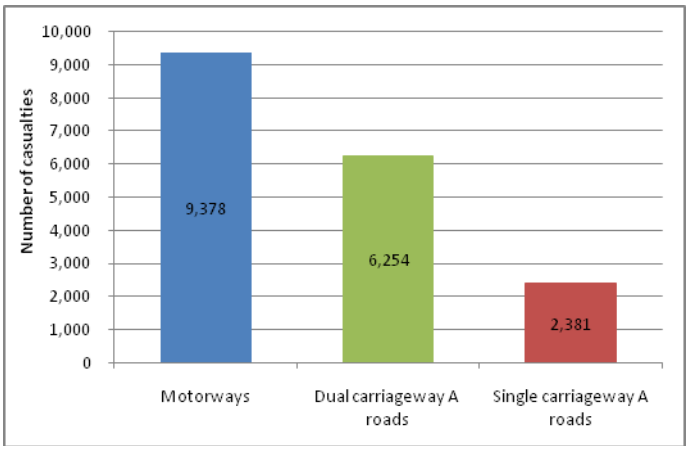
(c) Number of KSI casualties



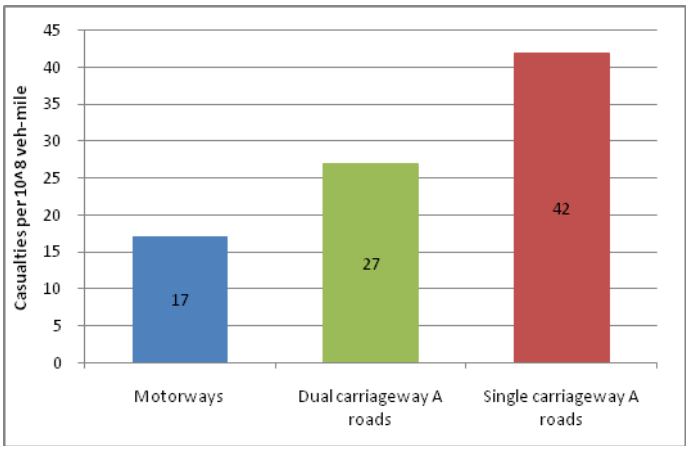
(d) Likelihood of being killed or seriously injured



(e) Number of casualties



(f) Likelihood of being injured



5.4 Casualty and casualty rate trends by injury and road class

Many of the differences between the types of collisions on motorways and Trunk A-roads arise largely because of the unique characteristics of motorways (e.g. high design standards, fewer junctions, hard shoulders etc.), differences in traffic volumes, vehicle mileage, and the smaller speed differentials between road users (largely because pedestrians and pedal cyclists are prohibited from motorways).

All these factors contribute to motorways having lower casualty rates than A-roads.

Just over one-third (92, 36%) of fatalities were on dual carriageway A-roads. The different design standards of these roads give different collision characteristics.

Comparing dual and single carriageways, single carriageway collisions tend to be more severe; 336 (14%) of all 2,381 casualties on single carriageways were killed or seriously injured compared with 724 (12%) of all 6,254 casualties on dual carriageways.

Table 5-5 and Table 5-6 show the number of casualties and casualty rates on the strategic road network by road class. On motorways, the number of fatalities showed a good reduction in 2009 and the number of seriously injured continued to reduce. On A-roads, the numbers of both fatalities and serious injuries have reduced substantially from the baseline.

Table 5-5: Motorway casualties and rates by year

	2005-2009 average	2008	2009	2010	2010 % change from 2005-09 average
Killed	**153.6**	**143**	**116**	**110**	**-28.4%**
Seriously injured	859.4	783	755	716	-16.7%
KSI	1013.0	926	871	826	-18.5%
Slightly injured	10186.6	9,391	8,738	8,552	-16.0%
All casualties	11199.6	10,317	9,609	9,378	-16.3%
Traffic (10^8 veh-mile)	552.6	555	553	547	-1.0%
Killed rate	**0.3**	**0.3**	**0.2**	**0.2**	**-27.7%**
Serious rate	1.6	1.4	1.4	1.3	-15.8%
KSI rate	1.8	1.8	1.6	1.5	-17.6%
Slight rate	18.4	16.9	15.8	15.6	-15.2%
All casualties rate	20.3	18.6	17.4	17.1	-15.4%

Casualty rate measured in casualties per 10^8 vehicle-mile.

Table 5-6: A-road casualties and rates by year

	2005-2009 average	2008	2009	2010	2010 % change from baseline
Killed	**203.6**	**207**	**139**	**139**	**-31.7%**
Seriously injured	1104.6	970	957	921	-16.6%
KSI	1308.2	1,177	1,096	1,060	-19.0%
Slightly injured	9195.0	8,409	8,335	7,584	-17.5%
All casualties	10503.2	9,586	9,431	8,644	-17.7%
Traffic (10^8 veh-mile)	293.5	294	294	292	-0.7%
Killed rate	**0.7**	**0.7**	**0.5**	**0.5**	**-31.3%**
Serious rate	3.8	3.3	3.3	3.2	-16.1%
KSI rate	4.5	4.0	3.7	3.6	-18.4%
Slight rate	31.3	28.6	28.3	26.0	-17.0%
All casualties rate	35.8	32.6	32.1	29.6	-17.2%

Casualty rate measured in casualties per 10^8 vehicle-mile.

The trends in the casualty rates for motorways and A-roads are illustrated in Figure 5-2, Figure 5-3 and Figure 5-4.

Figure 5-2: Killed and serious casualty rates by road class 2005-2010

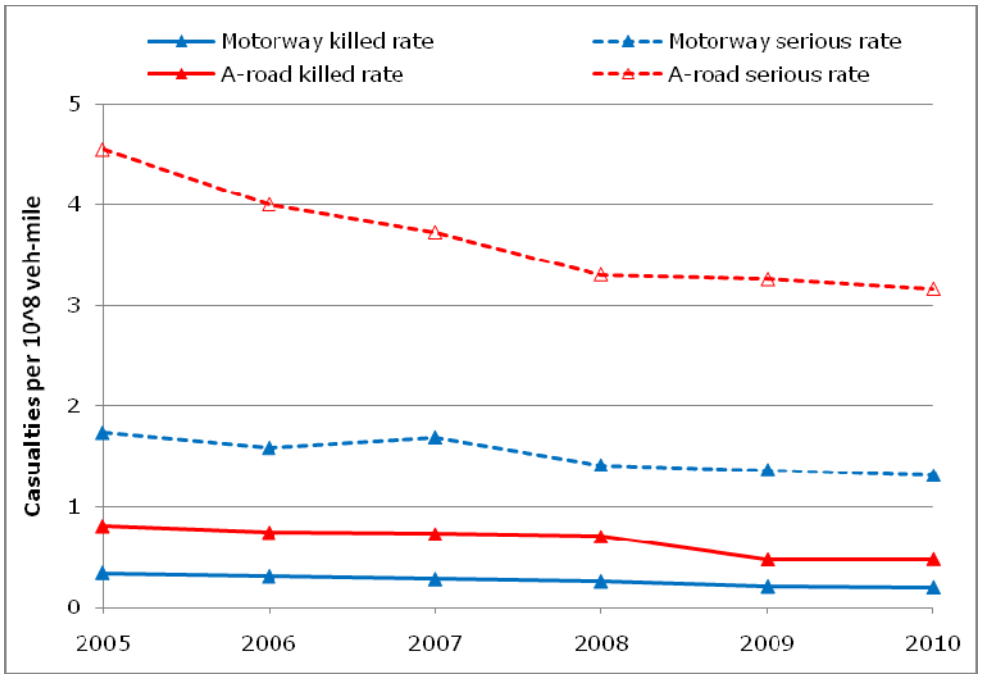


Figure 5-3: Killed casualty rates by road class relative to 2005-09 average

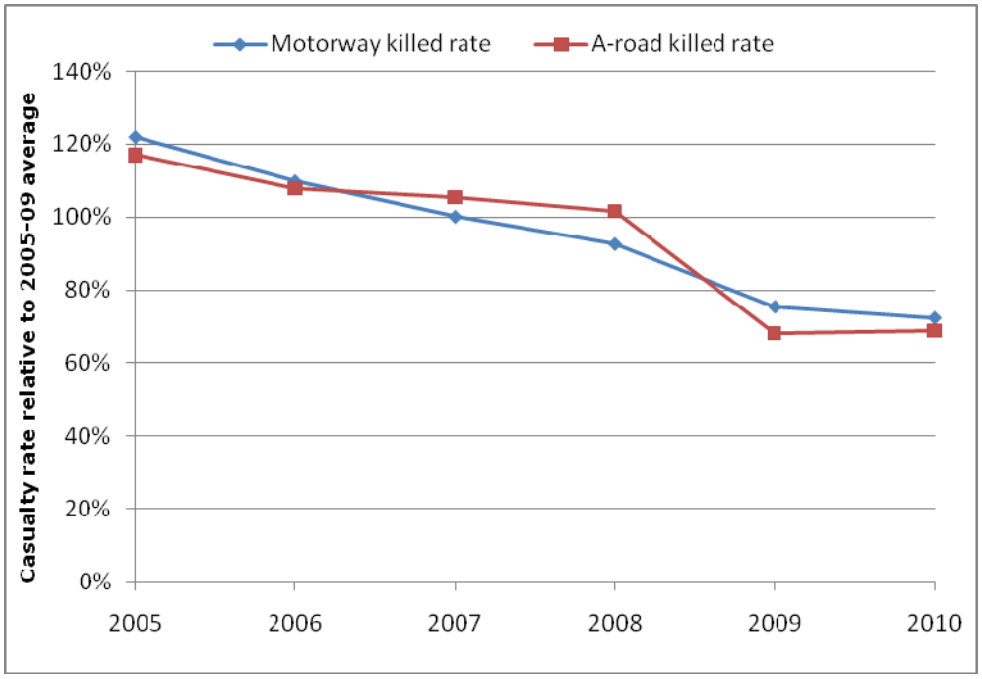
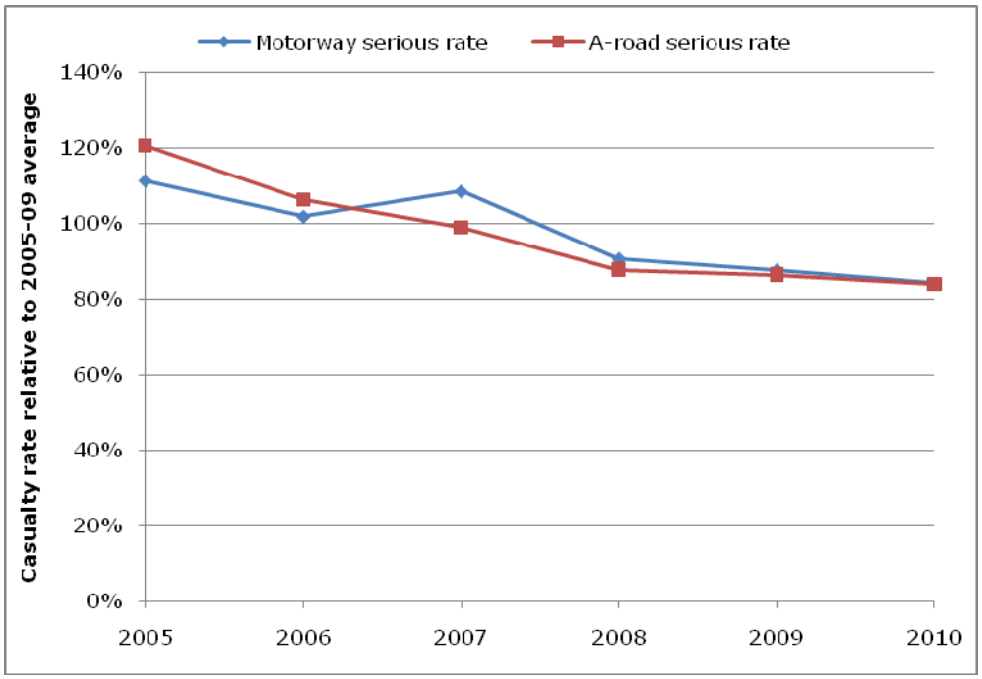


Figure 5-4: Serious casualty rates by road class relative to 2005-09 average



5.5 Collision by collision type and road class

Table 5-7 shows the number of collisions 2008-2010 by collision type and collision severity. Junction collisions account for 29% (10,440) of collisions on the strategic road network, although they account for a much lower 16% (122) of fatal collisions. Shunt collisions accounted for 26% (9,509) of all collisions and showed a similar pattern. On the contrary, collisions involving vulnerable road users accounted for 3% (1,022) of collisions of all severities but 19% (148) of fatal collisions.

Table 5-7: Collisions by severity and collision type 2008-2010

Collision type	Fatal		Serious		KSI		Slight		Total	
Vulnerable road users	**148**	**19%**	287	7%	435	9%	587	2%	1,022	3%
Junction	**122**	**16%**	1,079	26%	1,201	24%	9,239	29%	10,440	29%
Single vehicle run-off	**98**	**13%**	476	11%	574	12%	2,221	7%	2,795	8%
Head on	**87**	**11%**	222	5%	309	6%	801	3%	1,110	3%
Shunt	**127**	**17%**	836	20%	963	20%	8,546	27%	9,509	26%
Other	**185**	**24%**	1,267	30%	1,452	29%	9,989	32%	11,441	32%
Total	**767**	**100%**	4,167	100%	4,934	100%	31,383	100%	36,317	100%

The distribution of collision types varies greatly between road types because of the difference in conditions. For example, pedestrians are generally not allowed on motorways and when they are present they are particularly vulnerable. The three tables below show the differences in collision types between the different road types.

Table 5-8 shows the number of motorway collisions by collision severity and collision type. 60% (11,004) of all 18,204 collisions on motorways are covered by the five collision types, with shunts accounting for 32% (5,826) of collisions. 1% (179) of collisions of all severities on motorways involved vulnerable road users compared with 18% (59) of all 327 fatal collisions on motorways. 8% (1,449) of collisions of all severities involved a single vehicle leaving the carriageway compared with 15% (50) of fatal collisions.

Table 5-8: Collisions on motorways by severity and collision type 2008-2010

Collision type	Fatal		Serious		KSI		Slight		Total	
Vulnerable road users	**59**	**18%**	50	3%	109	5%	70	0%	179	1%
Junction	**25**	**8%**	253	14%	278	13%	2,782	17%	3,060	17%
Single vehicle run-off	**50**	**15%**	264	14%	314	15%	1,135	7%	1,449	8%
Head on	**18**	**6%**	60	3%	78	4%	412	3%	490	3%
Shunt	**76**	**23%**	514	28%	590	27%	5,236	33%	5,826	32%
Other	**99**	**30%**	697	38%	796	37%	6,404	40%	7,200	40%
Total	**327**	**100%**	1,838	100%	2,165	100%	16,039	100%	18,204	100%

Table 5-9 shows the number of dual carriageway A-road collisions by collision severity and collision type. 76% (10,071) of collisions on dual carriageway A-roads are covered by the five collision types with junctions accounting for 40% (5,321) of collisions, although these accounted for a much lower 22% (64) of fatal collisions on dual carriageway A-roads. 4% (553) of all collisions on dual carriageway A-roads involved vulnerable road users compared with 25% (72) of fatal collisions.

Table 5-9: Collisions on dual carriageway A-roads by severity and collision type 2008-2010

Collision Type	Fatal		Serious		KSI		Slight		Total	
Vulnerable road users	**72**	**25%**	158	10%	230	12%	323	3%	553	4%
Junction	**64**	**22%**	530	33%	594	32%	4,727	41%	5,321	40%
Single vehicle run-off	**42**	**14%**	180	11%	222	12%	918	8%	1,140	9%
Head on	**14**	**5%**	47	3%	61	3%	179	2%	240	2%
Shunt	**47**	**16%**	268	17%	315	17%	2,502	22%	2,817	21%
Other	**53**	**18%**	402	25%	455	24%	2,803	24%	3,258	24%
Total	**292**	**100%**	1,585	100%	1,877	100%	11,452	100%	13,329	100%

Table 5-10 shows the number of single carriageway A-road collisions by collision severity and collision type. 79% (3,776) of the 4,751 collisions on single carriageway A-roads were covered by the five collision types with junctions accounting for 43% (2,042) of collisions, and 22% (32) of the 147 fatal collisions. Head-on collisions were more common on single carriageway A-roads than dual carriageways and motorways as they have no median safety barrier, and accounted for 8% (380) of all collisions and 37% (55) of fatal collisions.

Table 5-10: Collisions on single carriageway A-roads by severity and collision type 2008-2010

Collision Type	Fatal		Serious		KSI		Slight		Total	
Vulnerable road users	**17**	**12%**	79	11%	96	11%	193	5%	289	6%
Junction	**32**	**22%**	296	40%	328	37%	1,714	44%	2,042	43%
Single vehicle run-off	**6**	**4%**	31	4%	37	4%	167	4%	204	4%
Head on	**55**	**37%**	115	16%	170	19%	210	5%	380	8%
Shunt	**4**	**3%**	53	7%	57	6%	804	21%	861	18%
Other	**33**	**22%**	167	23%	200	23%	775	20%	975	21%
Total	**147**	**100%**	741	100%	888	100%	3,863	100%	4,751	100%

The table below shows the number of KSI collisions of each collision type in the baseline period (2005-09 average) and in 2008-10. The largest reduction observed is for head-on collisions, which have reduced from the baseline by 26% Vulnerable road users on the other hand have increased by 6% from the 2005-09 baseline.

Table 5-11: Trend in KSI collisions by collision type

Collision Type	2005-09 average	2008	2009	2010	2010 % change from 2005-09 average
Vulnerable road users	146.2	146	134	155	6%
Junction	443.8	418	415	368	-17%
Single vehicle run-off	225.4	207	182	185	-18%
Head on	114.4	116	108	85	-26%
Shunt	369.6	348	311	304	-18%
Other	585.2	497	476	479	-18%
Total	1884.6	1,732	1,626	1,576	-16%

5.6 Collision conditions

5.6.1 Hard shoulder and lay-by collisions

Table 5-12 shows the number of collisions which involved a vehicle on, entering or leaving a lay-by or hard shoulder for the different road types. In general, this means lay-bys on A-roads and hard shoulders on motorways, although there will be some exceptions. On motorways, 1.0% (91) of collisions involved a vehicle on, entering or

leaving the hard shoulder, and 27% (25) of these were fatal or serious. 1.3% (114) of collisions on A-roads involved a vehicle on, entering or leaving a lay-by.

Table 5-12: Hard shoulder and lay-by collisions, 2010

Road class	Type	Collisions involving a vehicle on, entering or leaving lay-by or hard shoulder				% of road type collisions
		Fatal	Serious	Slight	Total	
Motorways	All	**8**	17	66	91	1.0%
A-roads	All	**11**	23	80	114	1.3%
Total		**19**	40	146	205	1.1%
A-roads	Built-up		1	3	4	0.3%
	Non built-up	**11**	22	77	110	1.5%
A-roads	Dual carriageway	**10**	19	62	91	1.5%
	Single carriageway	**1**	4	18	23	1.0%

5.6.2 Collisions at roadworks

Table 5-13 shows the number of collisions that were recorded with roadworks present. Overall, 4.8% (551) of all collisions in 2010 occurred at all roadwork sites, with 391 occurring on motorways and 160 occurring on A-roads. Overall, 8% (45) of collisions at roadworks were fatal or serious.

Table 5-13: Collisions at roadworks, 2010

Road class	Type	Fatal	Serious	Slight	Total	% of road type collisions
Motorways	All	**4**	26	361	391	6.7%
A-roads	All	**2**	13	145	160	2.9%
Total		**6**	39	506	551	4.8%
A-roads	Built-up	**0**	2	20	22	2.5%
	Non built-up	**2**	11	125	138	2.9%
A-roads	Dual carriageway	**2**	9	110	121	2.9%
	Single carriageway	**0**	4	35	121	8.4%

5.6.3 Close-following collisions

Since 2005 Stats19 has contained potential contributory factors which provide some insight into the 'why' and 'how' incidents occurred. These factors can be assigned to either the vehicle or casualty record and in rare instances they can be associated to an uninjured party. Among the contributory factors present is one for close following. Further information on contributory factors is reported in Section 8.

Table 5-14 shows the number of collisions that were recorded, in the opinion of the reporting police officer, with close following as a contributory factor. Overall, 11.0% (1,440) of collisions in 2010 involved close following, with a higher proportion (13.3%) on motorways. Overall, 7.2% (104 of 1,440) of close following collisions were fatal or serious.

Table 5-14: Collisions involving close following, 2010

Road class	Type	Fatal	Serious	Slight	Total	% of road type collisions
Motorways	All	**4**	50	816	870	13.3%
A-roads	All	**3**	47	520	570	8.6%
Total		**7**	97	1,336	1,440	11.0%
A-roads	Built-up	**0**	6	54	60	9.6%
	Non built-up	**3**	41	466	510	12.3%
A-roads	Dual carriageway	**2**	33	376	411	8.8%
	Single carriageway	**1**	14	144	159	8.3%

Note: % of road type collisions with at least 1 close following factor

5.7 Summary

- Motorways have a higher AADT than A-roads and carry higher traffic in terms of vehicle-km.
- About half (5,826) of collisions on the strategic road network occurred on motorways.
- The collision severity ratio is highest for non built-up and single carriageway A-roads.
- Motorways have a lower casualty rate than either single carriageway, or dual carriageway, A roads (casualties per vehicle-mile).
- The number of KSI casualties on A-roads has reduced from the baseline more than on motorways.
- In 2010, motorway fatalities of 110 were 28% below the baseline of 154

- On motorways, the number of serious injuries has reduced from the baseline and 2010 saw a figure of 716 which is 17% below the baseline of 859.
- On A-roads, the numbers of fatalities and seriously injured casualties have reduced steadily from the baseline by 32% (139 from a baseline of 204) and 17% (921 from a baseline of 1,105) respectively.
- The *all casualty rate* (casualties per 10^8 vehicle-mile) has reduced by 17% from 35.8 in the baseline period to 29.6 in 2010 on A-roads and by 15% from 20.3 to 17.1 in the same period on motorways.

6 Region and area data

The strategic road network is divided into Areas as shown in the area map located inside the front cover of this document; these were the areas in September 2010.

Casualty numbers for each are based on the area of the HAPMS section to which a collision is assigned (where available

Additional collision analysis for each Area can be found in the Operational State of the Network reports.

6.1 Collisions and casualties by area and region

Table 6-1 shows the number of casualties by severity, region and area in 2010. The Areas have different lengths, types of road and varying traffic conditions, giving different casualty numbers and casualty rates in each Area.

Table 6-1: Casualties and collisions by severity, region and Area[3], 2010

Region	Area	Casualties				Collisions			
		Killed	Seriously injured	Slightly injured	Total	Fatal	Serious	Slight	Total
SW	Area 1	**11**	39	431	481	**10**	30	243	283
	Area 2	**22**	100	744	866	**21**	84	471	576
	A30/A35 DBFO	**0**	20	128	148	**0**	15	66	81
	A417/A419 DBFO	**5**	6	64	75	**4**	6	41	51
	Second Severn Crossing	**0**	2	2	4	**0**	2	2	4
SW Total		**38**	167	1,369	1,574	**35**	137	821	993
SE	Area 3	**14**	151	1,298	1,463	**13**	136	808	957
	Area 4	**23**	130	1,258	1,411	**23**	112	808	943
	A249 DBFO	**0**	2	40	42	**0**	2	23	25
	M25 DBFO	**23**	172	2,038	2,233	**23**	141	1,285	1,449
SE Total		**60**	455	4,634	5,149	**59**	391	2,924	3,374

[3] Areas come from HAPMS wherever possible, and from Area polygons where not possible. Areas based on September 2010 mapping.

Region	Area	Casualties				Collisions			
		Killed	Seriously injured	Slightly injured	Total	Fatal	Serious	Slight	Total
E	Area 6	**26**	145	934	1,105	**24**	118	565	707
	Area 8	**13**	111	944	1,068	**11**	92	585	688
	A1M DBFO	**2**	4	20	26	**2**	3	11	16
	M40 DBFO	**7**	42	347	396	**7**	28	207	242
E Total		**48**	302	2,245	2,595	**44**	241	1,368	1,653
EM	Area 7	**20**	166	1,489	1,675	**19**	143	972	1,134
	A50 DBFO	**1**	10	93	104	**1**	8	60	69
EM Total		**21**	176	1,582	1,779	**20**	151	1,032	1,203
WM	Area 9	**23**	133	1,753	1,909	**19**	110	1,124	1,253
	M6 Toll Road DBFO	**0**	4	33	37	**0**	3	13	16
WM Total		**23**	137	1,786	1,946	**19**	113	1,137	1,269
NW	Area 10	**16**	124	1,662	1,802	**15**	102	877	994
	Area 13	**13**	73	502	588	**11**	47	288	346
NW Total		**29**	197	2,164	2,390	**26**	149	1,165	1,340
YNE	Area 12	**19**	96	1,293	1,408	**18**	78	757	853
	Area 14	**7**	44	501	552	**6**	35	315	356
	A1 Darrington to Dishforth DBFO	**3**	6	89	98	**3**	4	57	64
	A19 DBFO	**1**	29	292	322	**1**	26	168	195
	A69 DBFO	**0**	9	89	98	**0**	8	46	54
	M1/A1 DBFO	**0**	19	92	111	**0**	12	48	60
YNE Total		**30**	203	2,356	2,589	**28**	163	1,391	1,582
Total		**249**	1,637	16,136	18,022	**231**	1,345	9,838	11,414

6.2 KSI casualty trends by area and region

Table 6-2 gives the number of KSI casualties, the percentage of all casualties which are killed or seriously injured by area and the 2010 percentage change from the 2005-09 baseline. The 2005-09 average is reported to 1 decimal place since this is

an average over 5 years.. The 'unknown' Area refers to those collisions which did not fall within the England boundary.

The number of KSI casualties in 2010 was below the baseline in all regions. The number of KSI casualties has increased from the baseline in certain Areas: A417/A419 DBFO, Second Severn Crossing and A1M DBFO, although the number of collisions in these areas is low.

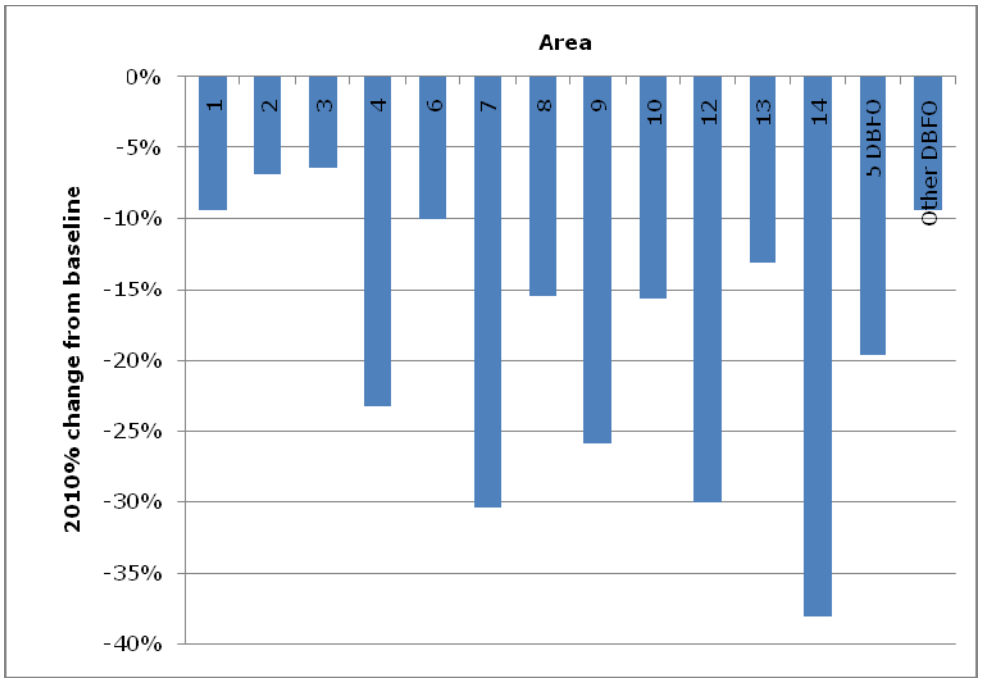
The percentage change from the baseline is illustrated in Figure 6-1.

Table 6-2: KSI Casualties 2005-2010 by Area and region

Region	Area	2005-09 average (1 dp)	2008	2009	2010	2010 KSI % of all casualties	2010 % change from 2005-09 average
SW	Area 1	55.2	66	45	50	10.4%	-9.4%
	Area 2	131.0	118	116	122	14.1%	-6.9%
	A30/A35 DBFO	27.4	24	22	20	13.5%	-27.0%
	A417/A419 DBFO	9.4	6	6	11	14.7%	17.0%
	Second Severn Crossing	0.6	0	0	2	50.0%	233.3%
SW Total		223.6	214	189	205	13.0%	-8.3%
SE	Area 3	176.4	173	162	165	11.3%	-6.5%
	Area 4	199.4	182	175	153	10.8%	-23.3%
	A249 DBFO	6.8	7	7	2	4.8%	-70.6%
	M25 DBFO	242.6	173	190	195	8.7%	-19.6%
SE Total		625.2	535	534	515	10.0%	-17.6%
E	Area 6	190.2	161	147	171	15.5%	-10.1%
	Area 8	146.8	122	118	124	11.6%	-15.5%
	A1M DBFO	5.6	6	2	6	23.1%	7.1%
	M40 DBFO	50.0	50	38	49	12.4%	-2.0%
E Total		392.6	339	305	350	13.5%	-10.9%
EM	Area 7	267.2	231	248	186	11.1%	-30.4%
	A50 DBFO	10.2	7	8	11	10.6%	7.8%
EM Total		277.4	238	256	197	11.1%	-29.0%

Region	Area	2005-09 average (1 dp)	2008	2009	2010	2010 KSI % of all casualties	2010 % change from 2005-09 average
WM	Area 9	210.4	197	170	156	8.2%	-25.9%
	M6 Toll Road DBFO	4.8	4	6	4	10.8%	-16.7%
WM Total		215.2	201	176	160	8.2%	-25.7%
NW	Area 10	166.0	181	143	140	7.8%	-15.7%
	Area 13	99.0	86	72	86	14.6%	-13.1%
NW Total		265.0	267	215	226	9.5%	-14.7%
YNE	Area 12	164.4	170	135	115	8.2%	-30.0%
	Area 14	82.4	69	93	51	9.2%	-38.1%
	A1 Darrington to Dishforth DBFO	14.6	13	11	9	9.2%	-38.4%
	A19 DBFO	37.8	34	33	30	9.3%	-20.6%
	A69 DBFO	14.0	14	14	9	9.2%	-35.7%
	M1/A1 DBFO	8.8	9	6	19	17.1%	115.9%
YNE Total		322.0	309	292	233	9.0%	-27.6%
Unknown		0.2	0	0	0	-	-100.0%
Total		2,321.2	2,103	1,967	1,886	10.5%	-18.7%

Figure 6-1 2010 % change in number of KSI casualties from 2005-09 average by Area



The large variation between the percentage changes in KSI casualties from the baseline in different areas may be due to the different road types in each area and different baseline casualty rates and traffic growths.

The Operational State of the Network report will include details of monitoring points for each region and area, which were designed to give a fairer comparison across the regions.

6.3 Casualty rates by area, region and road type

Table 6-3 shows the number of casualties, the traffic and the casualty rates by Area and road type. The traffic is the total amount of vehicle-mile in the Area in 2010, and depends on the flow (AADT) and the length of network. The casualty rate is the number of casualties per vehicle-mile travelled, otherwise described as the relative likelihood of an individual being injured.

Area 8 has the highest motorway casualty rates and A249 DBFO has the highest dual carriageway casualty rates.

Table 6-3: Casualties and Traffic, 2010, by region, Area and road class

Region	Area	Motorway			A-road					
					Dual carriageway			Single carriageway		
		Casualties	Traffic	*Casualty rate*	Casualties	Traffic	*Casualty Rate*	Casualties	Traffic	*Casualty rate*
SW	Area 1	-	-	-	375	16.0	*23.41*	106	2.6	*40.81*
	Area 2	526	49.4	*10.65*	133	5.6	*23.79*	207	5.0	*41.04*
	A30/A35 DBFO	-	-	-	32	1.4	*22.55*	116	2.8	*41.81*
	A417/A419 DBFO	-	-	-	51	4.0	*12.63*	24	0.3	*91.81*
	Second Severn Crossing	4	0.7	*6.12*	-	-	-	-	-	-
SW Total		530	50.0	*10.59*	591	27.1	*21.83*	453	10.7	*42.42*
SE	Area 3	872	54.4	*16.02*	492	28.6	*17.23*	99	1.6	*62.77*
	Area 4	374	21.3	*17.58*	722	18.6	*38.79*	312	5.7	*55.06*
	A249 DBFO	-	-	-	38	0.6	*62.24*	4	0.5	*7.46*
	M25 DBFO	1,848	75.2	*24.58*	371	8.6	*43.32*	11	-	-
SE Total		3,094	150.9	*20.51*	1,623	56.3	*28.81*	426	7.8	*54.69*
E	Area 6	88	7.8	*11.22*	733	33.4	*21.96*	284	6.3	*45.29*
	Area 8	538	21.8	*24.71*	411	15.5	*26.53*	119	3.9	*30.51*
	A1M DBFO	24	3.0	*7.99*	2	-	-	-	-	-
	M40 DBFO	396	24.4	*16.25*	-	-	-	-	-	-
E Total		1,046	57.0	*18.35*	1,146	48.9	*23.45*	403	10.2	*39.62*
EM	Area 7	605	39.7	*15.25*	822	31.1	*26.39*	248	8.9	*27.99*
	A50 DBFO	-	-	-	104	5.5	*18.88*	-	-	-
EM Total		605	39.7	*15.25*	926	36.7	*25.26*	248	8.9	*27.99*
WM	Area 9*	1,083	74.5	*14.54*	558	17.4	*32.08*	302	6.8	*44.21*
WM Total		1,083	74.5	*14.54*	558	17.4	*32.08*	302	6.8	*44.21*

NW	Area 10	1,561	87.1	*17.93*	222	5.2	*42.38*	19	0.6	*29.43*
	Area 13	242	21.6	*11.23*	99	2.4	*41.99*	247	5.1	*48.05*
NW Total		1,803	108.6	*16.60*	321	7.6	*42.26*	266	5.8	*45.98*
YNE	Area 12	917	46.2	*19.87*	345	9.2	*37.59*	146	2.6	*56.43*
	Area 14	93	7.6	*12.27*	379	13.6	*27.83*	80	2.1	*38.66*
	A1 Darrington to Dishforth DBFO	97	6.6	*14.70*	1	1.9	*0.51*	-	-	-
	A19 DBFO	-	-	-	314	11.9	*26.29*	8	-	-
	A69 DBFO	-	-	-	49	1.3	*38.82*	49	1.9	*25.65*
	M1/A1 DBFO	110	6.0	*18.29*	1	0.0	*41.71*	-	-	-
YNE Total		1,217	66.3	*18.34*	1,089	38.0	*28.68*	283	6.6	*42.82*
Total		9,378	547.0	*17.14*	6,254	231.9	*26.97*	2,381	56.7	*41.97*

Traffic is measured in 10^8 vehicle-mile. Casualty rate is measured in casualties per 10^8 vehicle-mile. Dual carriageway includes roundabout, 1-way and slip road. Casualties on A-roads with unknown road type are not included. Casualties on roads in unknown areas are included in the total for each road type.

* M6 Toll Road DBFO casualties are included in Area 9

7 Customer groups

7.1 Casualties by customer group

In the documents ‘Making the Network Safer: 'Highways Agency Road Safety Strategic Plan' and the ‘Strategic Safety Action Plan’, the Agency has identified 10 customer groups with specific requirements for using the network. The Agency is committed to develop and deliver safety objectives tailored to these customer groups to make the network safer for all road users. The actions proposed to achieve these objectives are also given in the documents.

The customer groups and their contributions to the casualty picture on the strategic road network in 2010 are given in Table 7-1.

85% (15,220) of casualties on the network were car drivers and passengers. The vulnerable road user groups (Pedestrians, cyclists and equestrians) had a high percentage of KSI casualties, as did Powered Two Wheeler (PTW) users. 35% (303) of PTW users involved in collisions were killed or seriously injured. In 2010, no casualties were recorded as equestrians.

Table 7-1: Customer group casualties, 2010

Customer group casualties	Killed	Seriously injured	Slightly injured	Total Casualties	% of all casualties[4]	% KSI[5]
Pedestrians	**42**	64	93	199	1.1%	53.3%
Cyclists	**12**	40	96	148	0.8%	35.1%
Equestrians	**0**	0	0	0	0.0%	-
PTW riders and passengers	**30**	273	559	862	4.8%	35.2%
Car drivers and passengers	**133**	1,088	13,999	15,220	84.5%	8.0%
Bus/coach drivers & passengers	**2**	28	106	136	0.8%	22.1%
Goods vehicle drivers and passengers	**30**	140	1,192	1,362	7.6%	12.5%
Casualties aged 1-15	**9**	74	841	924	5.1%	9.0%
Casualties aged 16-19	**16**	115	1,205	1,336	7.4%	9.8%
Casualties aged 70+	**30**	108	606	744	4.1%	18.5%
Casualties in collisions with goods vehicles	**110**	472	4,691	5,273	29.3%	11.0%
Casualties in single vehicle (non pedestrian) collisions	**50**	484	2,753	3,287	18.2%	16.2%
Total	**249**	1,637	16,136	18,022	100%	10.5%

[4] Percentages sum to more than 100% as some casualties fall into more than one group. E.g. a young driver in the 'high risk' age group may be injured on a motorcycle.

[5] The % KSI gives the percentage of casualties of each customer group that were killed or seriously injured.

Table 7-2 shows the number of KSI casualties 2008-2010 in each of the customer groups. The customer groups are not exclusive, and the table shows how the customer groups overlap.

Table 7-2: 2008-2010 KSI casualties by customer group

Customer group	1-15	16-19	70+	Collisions with GV	SVA	Total
Pedestrian	32	34	16	114	0	319
Pedal cycle	3	6	6	25	7	126
PTW	2	50	10	140	312	990
Car	182	354	344	927	1,239	3,890
Bus/coach	16	6	2	4	12	45
Goods vehicle occupants	4	13	4	553	162	553
Other vehicle occupants	2	0	3	17	1	33
Collisions with goods vehicles	57	90	82	1,780	162	1,780
Single vehicle collisions	69	178	79	162	1,733	1,733
Total	241	463	385	1,780	1,733	5,956

Note total is not sum of rows or columns of customer group.

For example, there were 990 PTW KSI casualties in the three-year period, of which 2 were children, 50 were aged 16-19, and 10 were aged 70+. 140 were in collisions with goods vehicles and 312 were in single vehicle (non-pedestrian) collisions.

7.2 KSI casualties by customer group

Table 7-3 shows the number of KSI casualties by customer group, and the 2010 reduction from the baseline. Those groups with high severity show a greater proportion of KSI casualties, for example pedestrians accounted for 1.1% (199) of all casualties (Table 7-1), but 4.7% (106) of KSI casualties.

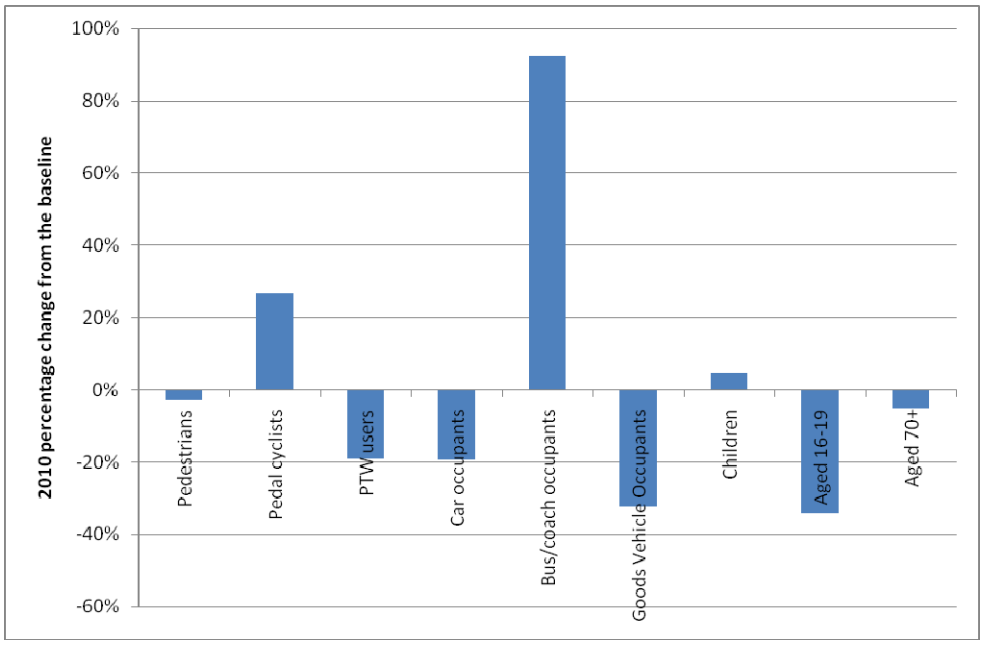
There has been a reduction in KSI casualties in 2010 from the baseline for pedestrians, PTW users, car occupants, goods vehicle occupants, those aged 16-19, and those aged 70 or more. There were increases in KSI casualties in 2010 from the baselines for pedal cyclists (26.8%), bus/coach occupants (92.3%) and children (4.5%). The substantial increase of 92.3% from the baseline for bus/coach occupants represents an increase from 16 KSI casualties to 30 KSI casualties, of which many casualties resulted from one collision.

Table 7-3: KSI Casualties by customer group, 2005-2010

Customer group	2005-09 average	2008	2009	2010	2010 % of KSI casualties	2010 % change from 2005-09 average
Pedestrians	109.0	116	97	106	5.6%	-2.8%
Pedal cyclists	41.0	36	38	52	2.8%	26.8%
PTW users	374.2	362	325	303	16.1%	-19.0%
Car occupants	1,515.0	1,361	1,308	1,221	64.7%	-19.4%
Bus/Coach occupants	15.6	8	7	30	1.6%	92.3%
Goods Vehicle occupants	251.2	209	174	170	9.0%	-32.3%
Ages 1-15	79.4	84	74	83	4.4%	4.5%
Ages 16-19	198.6	163	169	131	6.9%	-34.0%
Ages 70+	145.2	123	124	138	7.3%	-5.0%
Total	2,321.2	2,103	1,967	1,886	100%	-18.7%

Figure 7-1 shows the percentage change in the number of KSI casualties from the baseline by customer group.

Figure 7-1: 2010 % change in KSI casualties from baseline by customer group



7.3 Casualties by customer group and road type, 2010

Table 7-4 shows the number of fatal, KSI and total casualties by customer group and road type. Each customer group has a different amount of traffic on each of the road types, and hence the numbers of casualties do not give the risk to that road user.

About 42% (83) of injured pedestrians were in collisions on dual carriageway A-roads. On all roads the severity of injured pedestrians was high, with about half of pedestrians receiving fatal or serious injuries.

About 66% (98) of pedal cyclists and 42% (366) of motorcyclists were injured in collisions on dual carriageway A-roads. The percentages of motorcyclist casualties and pedal cyclists which were KSI were similar.

54% (8,176) of car user casualties were in collisions on motorways. 7.0% (573) of these casualties were killed or seriously injured compared with 8.6% (443) on dual carriageways and 10.9% (205) on single carriageways.

1-15 year olds, and 70+ year olds, were both more severely injured on single carriageway A-roads than on dual carriageway A-roads and motorways. 16-19 year olds were more severely injured on single carriageway A-roads than on motorways, but less severely injured than on dual carriageway A-roads.

Table 7-4: Casualties by customer group and road type, 2010

	Motorways			
Customer group	**Fatal**	**KSI**	**Total**	**%KSI**
Pedestrians	**22**	39	67	58.2%
Pedal cyclists	**0**	0	0	-
PTW users	**12**	115	315	36.5%
Car occupants	**57**	573	8,176	7.0%
Bus/coach occupants	**0**	8	37	21.6%
Goods vehicle occupants	**19**	91	745	12.2%
Ages 1-15	**2**	28	452	6.2%
Ages 16-19	**3**	52	602	8.6%
Ages 70+	**12**	50	323	15.5%
Total	**110**	826	9,378	8.8%

Customer group	A Dual			
	Fatal	**KSI**	**Total**	**%KSI**
Pedestrians	**13**	45	83	54.2%
Pedal cyclists	**10**	37	98	37.8%
PTW users	**10**	125	366	34.2%
Car occupants	**49**	443	5,153	8.6%
Bus/coach occupants	**0**	2	44	4.5%
Goods vehicle occupants	**10**	69	470	14.7%
Ages 1-15	**3**	28	317	8.8%
Ages 16-19	**7**	59	535	11.0%
Ages 70+	**11**	53	266	19.9%
Total	**92**	724	6,254	11.6%

Customer group	A Single			
	Fatal	**KSI**	**Total**	**%KSI**
Pedestrians	**7**	22	49	44.9%
Pedal cyclists	**2**	15	50	30.0%
PTW users	**8**	63	181	34.8%
Car occupants	**27**	205	1,883	10.9%
Bus/coach occupants	**2**	20	54	37.0%
Goods vehicle occupants	**1**	10	147	6.8%
Ages 1-15	**4**	27	154	17.5%
Ages 16-19	**6**	20	199	10.1%
Ages 70+	**7**	35	155	22.6%
Total	**47**	336	2,381	14.1%

7.4 Casualty rate trends by customer group

Table 7-5 shows the traffic and casualty rates for PTW, car, LGV and HGV casualties. Rate data for the other customer groups are not readily available because of the difficulty of determining appropriate traffic flow break downs. The casualty rate for PTWs in 2010 was 11% lower than the baseline and was 211 casualties per 10^8 vehicle-mile, more than eight times that of car casualties, which had a reduction of 16% in their rate since the baseline (24 casualties in 2010 compared to the baseline of 29). The PTW KSI casualty rate was 38 times that of cars in 2010, and has shown a smaller reduction since the baseline than the KSI car casualty rate (14% compared to 19%).

Table 7-5: Traffic and casualty rates by customer group, 2005-2009

		2005-09 average	2008	2009	2010	2010 % change from 2005-09 average
Traffic (10^8 veh-mile)	PTW	4.3	4.4	4.4	4.1	-5.4%
	Car	637.3	636.7	643.1	633.4	-0.6%
	LGV	104.3	106.9	106.3	105.6	1.3%
	HGV	96.5	97.4	90.3	91.9	-4.8%
Casualty rate	PTW	237.0	224.3	210.0	210.6	-11.1%
	Car	28.6	26.1	25.2	24.0	-16.0%
	LGV	9.9	9.2	8.3	7.7	-14.7%
	HGV	8.1	6.9	5.5	5.9	-27.0%
KSI casualty rate	PTW	86.5	83.0	74.5	74.0	-14.4%
	Car	2.4	2.1	2.0	1.9	-18.9%
	LGV	1.0	0.9	0.9	0.7	-19.0%
	HGV	1.5	1.2	0.9	1.0	-32.6%

Casualty rate measured in casualties per 10^8 vehicle-mile.

7.5 Summary

- 85% (15,220) of casualties in 2010 were car drivers and passengers.
- 35% (303) of motorcyclist casualties were killed or seriously injured.
- Goods vehicles' occupants accounted for 7.6% (1,362) of all casualties, although 29.3% (5,273) of casualties were involved in collisions with goods vehicles.
- There were increases in KSI casualties in 2010 from the baseline for pedal cyclists (26.8%), bus/coach occupants (92.3%) and children (4.5%). The

substantial increase of 92.3% from the baseline for bus/coach occupants represents an increase from 16 KSI casualties to 30 KSI casualties.

- The number of child KSI casualties has increased by 4.5% from the baseline of 79 up to 83.
- The PTW casualty rate was more than eight times that of car occupants.
- The casualty rates and KSI casualty rates for PTW, car, LGV and HGV users have reduced from the baseline. Rate data for the other customer groups is not readily available.

8 Contributory factors

Since 2005, contributory factors have been recorded nationally as part of Stats19.

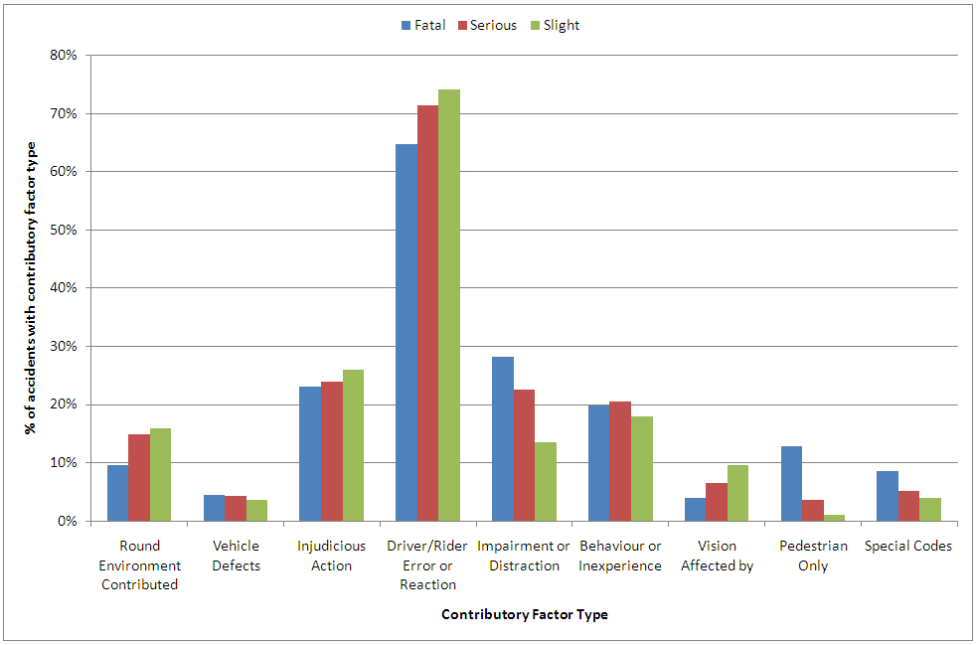
Each collision can have up to six contributory factors. They are not recorded in any order, but an indication is given as to whether each factor is very likely or possible. The vehicle or casualty to which the factor applies is also given. One contributory factor can be recorded for more than one vehicle/casualty, and each vehicle/casualty can have none, one, or more contributory factors. These factors reflect the opinion of the reporting officer at the time of reporting and may not be the result of extensive investigation.

8.1 2008-2010 overview

Overall, 31,296 out of the 32,399 (97%) collisions on the strategic road network, where a police officer had attended the scene and obtained the details for the report, were given at least one contributory factor (2008-2010). Twelve police forces completed contributory factors for all collisions over the latest three year period, but contributory factor data were available for only 81% (724) of collisions from Avon and Somerset Police (although this is a large increase from 2007-2009 when 73% of collisions had contributory factors).

There are nine categories of contributory factors. The chart below shoes the percentage of collisions in each category. The 'driver/rider error or reaction' category (codes 401 to 410 in table below) was the most frequent, recorded for 73.6% (23,042) of collisions where at least one contributory factor was present.

Figure 8-1: Contributory Factor Type by collision severity, 2008-2010



Note: The individual percentages sum to more than 100% as collisions can have up to six Contributory Factors.

On average, the 31,296 collisions with contributory factors, 2008-2010, had just over two contributory factors recorded per collision, as shown in the table below. Fatal collisions with factors had, on average, somewhat more factors per collision than slight collisions with factors (2.53 factors per collision compared with 2.32); however, a larger percentage of fatal collisions had no contributory factors recorded at all (8.8% compared with 3.2% of slight collisions).

Table 8-1: Number of collisions with different numbers of factors by severity 2008-2010

No. of factors	Fatal		Serious		Slight		Total	
	Number	%	Number	%	Number	%	Number	%
0	**67**	**9%**	146	4%	890	3%	1,103	3%
1	**181**	**24%**	1,083	27%	7,811	28%	9,075	28%
2	**205**	**27%**	1,295	32%	9,367	34%	10,867	34%
3	**162**	**21%**	771	19%	5,269	19%	6,202	19%
4	**84**	**11%**	413	10%	2,532	9%	3,029	9%
5	**28**	**4%**	168	4%	1,005	4%	1,201	4%
6	**34**	**4%**	131	3%	757	3%	922	3%
Total number of collisions	**761**	**100%**	4,007	100%	27,631	100%	32,399	100%
Av. factors per acc with CFs		**2.53**		2.40		2.32		2.33

Table 8-2 overleaf shows the number of collisions and percentage of collisions (2008-10) coded with each contributory factor.

Most frequent Contributory Factors were:

- Failed to look properly (31%)
- Failed to judge other person's path or speed (26%)
- Loss of control (21%)
- Following too close (14%)
- Sudden braking (13%)
- Poor turn or manoeuvre (12%)
- Slippery road due to weather (11%)
- Careless, reckless or in a hurry (11%)
- Travelling too fast for conditions (10%)

Fatigue was contributory in 5.2% of collisions. Alcohol or drugs were contributory in 4.4% of collisions. Vehicle defects (defective tyres, lights, brakes, steering, suspension or mirrors) were contributory in 3.9% of collisions.

Table 8-2: Collisions recorded with each contributory factor (2008-10)

Factor	Description	No.	%
101	Poor or defective road surface	116	0.4%
102	Deposit on road	326	1.0%
103	Slippery road (due to weather)	3,586	11.5%
104	Inadequate or masked signs or road markings	73	0.2%
105	Defective traffic signals	16	0.1%
106	Traffic calming	13	0.0%
107	Temporary road layout	257	0.8%
108	Road layout	291	0.9%
109	Animal or object in carriageway	565	1.8%
201	Tyres illegal - defective or under-inflated	656	2.1%
202	Defective lights or indicators	31	0.1%
203	Defective brakes	160	0.5%
204	Defective steering or suspension	135	0.4%
205	Defective or missing mirrors	6	0.0%
206	Overloaded/poorly loaded vehicle or trailer	220	0.7%
301	Disobeyed automatic traffic signal	146	0.5%
302	Disobeyed - Give Way - or - Stop - sign or markings	241	0.8%
303	Disobeyed double white lines	76	0.2%
304	Disobeyed pedestrian crossing facility	11	0.0%
305	Illegal turn or direction of travel	188	0.6%
306	Exceeding speed limit	959	3.1%
307	Travelling too fast for conditions	3,134	10.0%
308	Following too close	4,442	14.2%
309	Vehicle travelling along pavement	14	0.0%
310	Cyclist entering road from pavement	17	0.1%
401	Junction overshoot	374	1.2%
402	Junction restart (moving off at junction)	345	1.1%
403	Poor turn or manoeuvre	3,728	11.9%
404	Failed to signal or misleading signal	464	1.5%
405	Failed to look properly	9,606	30.7%
406	Failed to judge other person's path or speed	8,151	26.0%
407	Passing too close to cyclist - horse rider or pedestrian	93	0.3%
408	Sudden braking	3,922	12.5%
409	Swerved	2,541	8.1%
410	Loss of control	6,519	20.8%

Factor	Description	No.	%
501	Impaired by alcohol	1,216	3.9%
502	Impaired by drugs (illicit or medicinal)	157	0.5%
503	Fatigue	1,623	5.2%
504	Uncorrected/defective eyesight	53	0.2%
505	Illness or disability – mental/physical	574	1.8%
506	Not displaying lights at night or in poor visibility	43	0.1%
507	Cyclist wearing dark clothing at night	29	0.1%
508	Driver using mobile phone	130	0.4%
509	Distraction in vehicle	997	3.2%
510	Distraction outside vehicle	556	1.8%
601	Aggressive driving	820	2.6%
602	Careless, reckless or in a hurry	3,485	11.1%
603	Nervous - uncertain or panic	611	2.0%
604	Driving too slow for conditions or slow vehicle	98	0.3%
605	Learner or inexperienced driver/rider	1,020	3.3%
606	Inexperience of driving on the left	237	0.8%
607	Unfamiliar with model of vehicle	268	0.9%
701	Vision: Stationary or parked vehicle	152	0.5%
702	Vision: Vegetation	13	0.0%
703	Vision: Road layout	129	0.4%
704	Vision: Buildings, road signs, street furniture	15	0.0%
705	Vision: Dazzling headlights	40	0.1%
706	Vision: Dazzling sun	478	1.5%
707	Vision: Rain - sleet - snow or fog	789	2.5%
708	Vision: Spray from other vehicles	346	1.1%
709	Visor or windscreen dirty or scratched	27	0.1%
710	Vehicle blind spot	1,153	3.7%
801	Pedestrian Crossing road masked by stationary or parked vehicle	29	0.1%
802	Pedestrian Failed to look properly	250	0.8%
803	Pedestrian Failed to judge vehicle's path or speed	160	0.5%
804	Pedestrian Wrong use of pedestrian crossing facility	24	0.1%
805	Pedestrian dangerous action in c'way	95	0.3%
806	Pedestrian Impaired by alcohol	118	0.4%
807	Pedestrian Impaired by drugs	18	0.1%
808	Pedestrian careless, reckless, in a hurry	105	0.3%
809	Pedestrian wearing dark clothing at night	64	0.2%
810	Pedestrian Disability or illness - mental or physical	61	0.2%

Factor	Description	No.	%
901	Stolen vehicle	98	0.3%
902	Vehicle in course of crime	40	0.1%
903	Emergency vehicle on a call	83	0.3%
904	Vehicle door opened or closed negligently	9	0.0%
999	Other - please specify below	1,108	3.5%

8.2 Contributory factors in collisions by collision severity

Table 8-3 below shows the most common 10 factors in collisions (in red) for fatal, serious and slight collisions.

Table 8-3: Most common contributory factors in collisions by collision severity (2008-2010)

CF	Description	Fatal		Serious		Slight		Total		Severity ratio
		No.	%	No.	%	No.	%	No.	%	
410	Loss of control	**214**	**30.8%**	1,055	27.3%	5,250	19.6%	6,519	20.8%	19.5%
405	Failed to look properly	**160**	**23.1%**	1,042	27.0%	8,404	31.4%	9,606	30.7%	12.5%
406	Failed to judge other person's path or speed	**121**	**17.4%**	831	21.5%	7,199	26.9%	8,151	26.0%	11.7%
602	Careless. reckless or in a hurry	**88**	**12.7%**	496	12.8%	2,901	10.8%	3,485	11.1%	16.8%
503	Fatigue	**83**	**12.0%**	334	8.7%	1,206	4.5%	1,623	5.2%	25.7%
403	Poor turn or manoeuvre	**75**	**10.8%**	516	13.4%	3,137	11.7%	3,728	11.9%	15.9%
306	Exceeding speed limit	**68**	**9.8%**	192	5.0%	699	2.6%	959	3.1%	27.1%
307	Travelling too fast for conditions	**64**	**9.2%**	411	10.6%	2,659	9.9%	3,134	10.0%	15.2%
409	Swerved	**60**	**8.6%**	365	9.5%	2,116	7.9%	2,541	8.1%	16.7%
501	Impaired by alcohol	**59**	**8.5%**	259	6.7%	898	3.4%	1,216	3.9%	26.2%
103	Slippery road (due to weather)	**46**	**6.6%**	378	9.8%	3,162	11.8%	3,586	11.5%	11.8%
408	Sudden braking	**16**	**2.3%**	340	8.8%	3,566	13.3%	3,922	12.5%	9.1%
308	Following too close	**23**	**3.3%**	327	8.5%	4,092	15.3%	4,442	14.2%	7.9%

The percentages shown are the percentage of each collision severity where at least one participant was recorded with a given factor.

The severity ratio gives the percentage of collisions with each contributory factor which resulted in fatal or serious injuries.

For all severities, the most common three factors are the same (although in a different order). For fatal and serious collisions, the most common factor was 'loss of control' whereas for slight collisions 'loss of control' was the third most common, after 'failed to look properly' and 'failed to judge other person's path or speed'.

Fatigue was the fifth most common contributory factor in fatal collisions, recorded in 12.0% of fatal collisions, significantly higher than recorded in serious (8.7%) and slight (4.5%) collisions.

8.3 Contributory factors by road class

Table 8-4 below shows the most common 10 factors in collisions (in red) for motorways, dual carriageway and single carriageway A-roads.

Table 8-4: Most common contributory factors by road class (2008-2010)

CF	Description	Motorway		Dual		Single	
		No	%	No	%	No	%
405	Failed to look properly	4,621	28.1%	3,462	29.6%	1,510	35.5%
406	Failed to judge other person's path or speed	4,111	25.0%	2,891	24.7%	1,141	26.9%
410	Loss of control	3,546	21.6%	2,343	20.0%	626	14.7%
308	Following too close	2,570	15.6%	1,337	11.4%	532	12.5%
408	Sudden braking	2,084	12.7%	1,363	11.7%	471	11.1%
403	Poor turn or manoeuvre	1,684	10.2%	1,393	11.9%	647	15.2%
307	Travelling too fast for conditions	1,679	10.2%	1,091	9.3%	362	8.5%
103	Slippery road (due to weather)	1,623	9.9%	1,496	12.8%	465	10.9%
602	Careless, reckless or in a hurry	1,526	9.3%	1,326	11.3%	629	14.8%
409	Swerved	1,443	8.8%	878	7.5%	220	5.2%

The top ten factors in collisions on each road type are the same, although the order within the top ten differs. The two most common factors are shared by all three road classes, 'failed to look properly' (405) and 'failed to judge other person's path or speed' (406). However, the third most common factor for motorways and dual carriageway A roads, is 'loss of control' while for the third most common for single carriageway A roads, is 'careless, reckless, or in a hurry' (very closely followed by 'loss of control'.

8.4 Contributory factors in pedestrian collisions

Between 2008 and 2010 there were 528 pedestrian collisions where a police officer had attended the scene and obtained the details for the report, of which 494 had at least one contributory factor.

Approximately half of the collisions had contributory factors assigned to only pedestrians in the collision, suggesting that the vehicle was not contributory to the collision, and approximately one third had contributory factors assigned to only vehicles, suggesting that the pedestrian did not contribute to the collision.

The table below shows the most common contributory factors in pedestrian collisions.

Table 8-5: Most common contributory factors in pedestrian collisions

Ped factor	CF	Description	Fatal	Serious	Slight	Total	% of pedestrian collisions
♠	805	Dangerous action in carriageway (e.g. playing)	**37**	26	25	88	18%
♠	806	Impaired by alcohol	**28**	38	30	96	19%
♠	802	Failed to look properly	**26**	61	84	171	35%
♠	810	Disability or illness, mental or physical	**25**	18	10	53	11%
♠	809	Pedestrian wearing dark clothing at night	**23**	22	17	62	13%
	999	Other	**22**	17	13	52	11%
♠	803	Failed to judge vehicle's path or speed	**18**	30	37	85	17%
♠	808	Careless, reckless or in a hurry	**15**	23	34	72	15%
	405	Failed to look properly	**11**	23	37	71	14%
	602	Careless, reckless or in a hurry	**7**	18	14	39	8%
	103	Slippery road (due to weather)	**3**	10	15	28	6%
♠	804	Wrong use of pedestrian crossing facility	**1**	9	14	24	5%

The most common factor in pedestrian collisions was ‘pedestrian failed to look properly’, recorded in 35% of pedestrian collisions. The most common non-pedestrian factor was ‘driver failed to look properly’, recorded in 14% of pedestrian collisions.

8.5 Contributory factors for pedal cyclists

Between 2008 and 2010 there were 316 pedal cyclist collisions where a police officer had attended the scene and obtained the details for the report, of which 302 had at least one contributory factor. In pedal cyclist collisions where a police officer attended the scene and at least one contributory factor was recorded, there were 313 pedal cyclists.

The table below shows the most common contributory factors recorded for pedal cyclists. The most common 20 factors are shown, and compared with the occurrence of the factor for other vehicles in all road injury collisions. Where the occurrence is significantly higher, it is shown in red text, where it is significantly lower in grey text.

Table 8-6: Most common contributory factors for pedal cyclists

CF	Description	No. of pedal cyclists	% of pedal cyclists	% of other vehicles in all collisions
405	Failed to look properly	45	14.4%	15.1%
507	Cyclist wearing dark clothing at night	19	6.1%	0.0%
406	Failed to judge other person's path or speed	16	5.1%	13.2%
310	Cyclist entering road from pavement	15	4.8%	0.0%
403	Poor turn or manoeuvre	14	4.5%	5.8%
506	Not displaying lights at night or in poor visibility	14	4.5%	0.0%
409	Swerved	9	2.9%	3.9%
410	Loss of control	9	2.9%	9.9%
602	Careless - reckless or in a hurry	9	2.9%	5.4%
103	Slippery road (due to weather)	6	1.9%	5.9%
102	Deposit on road (eg. oil - mud - chippings)	4	1.3%	0.5%
301	Disobeyed automatic traffic signal	4	1.3%	0.2%
309	Vehicle travelling along pavement	4	1.3%	0.0%
701	Stationary or parked vehicle(s)	4	1.3%	0.3%
109	Animal or object in carriageway	3	1.0%	0.9%
302	Disobeyed 'Give Way' or 'Stop' sign or markings	3	1.0%	0.4%
304	Disobeyed pedestrian crossing facility	3	1.0%	0.0%
501	Impaired by alcohol	3	1.0%	1.8%
999	Other	3	1.0%	1.7%
101	Poor or defective road surface	2	0.6%	0.2%

The most commonly recorded contributory factor for pedal cyclists was 'failed to look properly', recorded for 14.4% of pedal cyclists. 'Cyclist wearing dark clothing at night' was the second most common (6.1%); this was recorded significantly more frequently for pedal cyclists compared with other vehicles.

Where contributory factors are available, the 302 pedal cycle collisions can be split into the following four groups of collisions:

- Single vehicle pedal cycle collisions (none)
- Multi-vehicle pedal cycle collisions where all factors were assigned to the pedal cycle (23%)
- Multi-vehicle pedal cycle collisions where all factors were assigned to vehicles other than pedal cycles (61%)
- Multi-vehicle pedal cycle collisions where factors were assigned to both pedal cycle and other vehicles (16%)

The most common factors assigned to other vehicles in pedal cycle collisions were 'failed to look properly', recorded for 45% (141) of non pedal cycles, and significantly more than for all vehicles in all collisions (31%). The second most common was 'passing too close to cyclist, horse rider or pedestrian', recorded for 18% (57) of other vehicles in pedal cycle collisions, and significantly more than for all vehicles in all collisions (0%). 'Failed to judge other person's path or speed' was the third most common and was recorded for 14% (43) of other vehicles in pedal cycle collisions significantly more than for all vehicles in all collisions (26%).

8.6 Contributory factors for PTW riders

Between 2008 and 2010 there were 2,413 PTW collisions where a police officer had attended the scene and obtained the details for the report, of which 2,330 had at least one contributory factor. In PTW collisions where a police officer attended the scene and at least one contributory factor was recorded, there were 2,429 PTWs.

The table below shows the most common contributory factors recorded for PTWs. The most common 20 factors are shown, and compared with the occurrence of the factor for other vehicles in all road injury collisions. Where the occurrence is significantly higher, it is shown in red text, where it is significantly lower in grey text.

Table 8-7: Most common contributory factors for PTWs

CF	Description	No. of PTWs	% of PTWs	% of other vehicles in all collisions
410	Loss of control	437	18.0%	9.5%
406	Failed to judge other person's path or speed	372	15.3%	13.0%
405	Failed to look properly	276	11.4%	15.1%
403	Poor turn or manoeuvre	229	9.4%	5.6%
408	Sudden braking	220	9.1%	6.6%
308	Following too close	181	7.5%	7.9%
103	Slippery road (due to weather)	148	6.1%	5.9%
602	Careless - reckless or in a hurry	137	5.6%	5.3%
307	Travelling too fast for conditions	134	5.5%	4.9%
605	Learner or inexperienced driver/rider	118	4.9%	1.4%
102	Deposit on road (eg. oil - mud - chippings)	97	4.0%	0.4%
306	Exceeding speed limit	83	3.4%	1.4%
999	Other	67	2.8%	1.6%
409	Swerved	62	2.6%	3.9%
201	Tyres illegal - defective or under-inflated	49	2.0%	0.9%
501	Impaired by alcohol	37	1.5%	1.8%
607	Unfamiliar with model of vehicle	34	1.4%	0.4%
109	Animal or object in carriageway	31	1.3%	0.9%
510	Distraction outside vehicle	30	1.2%	0.9%
601	Aggressive driving	30	1.2%	1.3%

The most commonly recorded contributory factor for PTWs was ‘loss of control’, recorded for 18.0% of PTWs, significantly higher than that recorded for other vehicles (9.5%). ‘Failed to judge other person’s path or speed’ was the second most common (15.3%) and also recorded significantly more frequently for PTWs compared with other vehicles.

Where contributory factors are available, PTW collisions can be split into the following four groups of collisions:

- Single vehicle PTW collisions (27%)
- Multi-vehicle PTW collisions where all factors were assigned to the PTW (24%)
- Multi-vehicle PTW collisions where all factors were assigned to vehicles other than PTWs (29%)
- Multi-vehicle PTW collisions where factors were assigned to both PTW and other vehicles (19%)

The most common factors assigned to other vehicles in PTW collisions were 'failed to look properly', recorded for 33% (686) of non PTWs, and significantly higher than for all vehicles in all collisions (15%). The second most common was 'failed to judge other person's path or speed', recorded for 15% (325) of other vehicles in PTW collisions. 'Poor turn or manoeuvre' was the third most common and was recorded for 14% (289) of other vehicles in PTW collisions compared with only 6% of vehicles in all collisions.

8.7 Contributory factors for Goods vehicle drivers

Between 2008 and 2010 there were 9,745 goods vehicle collisions where a police officer had attended the scene and obtained the details for the report, of which 9,423 had at least one contributory factor. In goods vehicle collisions where a police officer attended the scene and at least one contributory factor was recorded, there were 11,519 goods vehicles.

The table below shows the most common contributory factors for goods vehicles. Values in red text show where a figure is significantly higher than the corresponding figure for other vehicles in all road injury collisions, and those in grey text show where it is significantly lower.

Table 8-8: Most common contributory factors for Goods vehicles

CF	Description	No. of GV	% of GVs	% of other vehicles in all collisions
405	Failed to look properly	2,554	22.2%	13.5%
406	Failed to judge other person's path or speed	1683	14.6%	12.8%
710	Vehicle blind spot	955	8.3%	0.4%
308	Following too close	913	7.9%	7.9%
403	Poor turn or manoeuvre	895	7.8%	5.4%
602	Careless - reckless or in a hurry	622	5.4%	5.3%
410	Loss of control	560	4.9%	10.9%
408	Sudden braking	544	4.7%	7.1%
307	Travelling too fast for conditions	408	3.5%	5.2%
103	Slippery road (due to weather)	364	3.2%	6.5%
503	Fatigue	342	3.0%	2.3%
409	Swerved	296	2.6%	4.2%
999	Other	234	2.0%	1.6%
509	Distraction in vehicle	145	1.3%	1.5%
206	Overloaded or poorly loaded vehicle or trailer	126	1.1%	0.2%
606	Inexperience of driving on the left	123	1.1%	0.2%
707	Rain, sleet, snow or fog	120	1.0%	1.4%
404	Failed to signal or misleading signal	103	0.9%	0.7%
601	Aggressive driving	100	0.9%	1.4%
505	Illness or disability, mental or physical	86	0.7%	0.9%

Four of the top five contributory factors recorded for goods vehicle were all significantly more common than for other vehicles.

The most commonly recorded contributory factor for goods vehicles was ‘failed to look properly’, recorded for 22% of goods vehicles. ‘Vehicle blind spot’ was recorded for 8.3% of goods vehicles, much greater than for all other vehicles (0.4%).

Where contributory factors are available, goods vehicle (GV) collisions can be split into the following four groups of collisions:

- Single vehicle GV collisions (8%)
- Multi-vehicle GV collisions where all factors were assigned to the GV (46%)
- Multi-vehicle GV collisions where all factors were assigned to vehicles other than GVs (30%)
- Multi-vehicle GV collisions where factors were assigned to both PTW and other vehicles (15%)

The most common contributory factors recorded for other vehicles in collisions with goods vehicles were 'failed to judge other person's path or speed' and 'failed to look'.

8.8 Contributory factors for children (1-15 year olds)

Between 2008 and 2010 there were 1,989 collisions involving a child where a police officer had attended the scene and obtained the details for the report, of which 1,917 had at least one contributory factor recorded. In collisions involving a child where a police officer attended the scene and at least one contributory factor was recorded, there were 2,616 children injured.

Contributory factors are only assigned to casualties if they are pedestrians. Of the collisions involving a child where a police officer attended the scene 97% (1,855) only had a contributory factor assigned a vehicle in the collision. In 3% (49) of collisions the contributory factors were assigned only to the child. 11 collisions had a contributory factor assigned to both the child casualty and a vehicle in the accident. In 2 collisions the contributory factor was not assigned to the child casualty or vehicle in the collision – in these cases the factor was assigned to another casualty in the accident or an uninjured pedestrian.

Table 8-9 shows the most common contributory factors assigned to the child in collisions involving a child aged 1-15 years.

Table 8-9: Most common contributory factors for children aged 1-15 years

Ped factor	CF	Description	No. of children	% of children
♠	802	Failed to look properly	46	1.8%
♠	808	Careless, reckless or in a hurry	22	0.8%
♠	803	Failed to judge other person's speed or path	20	0.8%
♠	804	Wrong use of pedestrian crossing facility	12	0.5%
♠	801	Crossing road masked by stationary or parked vehicle	7	0.3%
♠	805	Dangerous action in carriageway (e.g. playing)	5	0.2%
♠	809	Pedestrian wearing dark clothing at night	3	0.1%
♠	806	Impaired by alcohol	2	0.1%
♠	810	Disability or illness, mental or physical	2	0.1%
	405	Failed to look properly	1	0.0%
	999	Other	1	0.0%

The most common factor recorded for children was the pedestrian factor: 'failed to look properly' recorded for 1.8% of children.

The table below shows the most common contributory factors for vehicles with an injured child occupant. Values in red text show where a figure is significantly higher than the corresponding figure for vehicles with no child occupant and those in grey text show where it is significantly lower.

Table 8-10: Most common contributory factors for vehicles with child occupants

CF	Description	No. of vehicles	% of vehicles	% of vehicles with no child occupant casualties in all collisions
405	Failed to look properly	593	13.4%	15.1%
406	Failed to judge other person's path or speed	578	13.0%	13.2%
308	Following too close	438	9.9%	7.9%
410	Loss of control	397	9.0%	9.9%
408	Sudden braking	336	7.6%	6.7%
602	Careless - reckless or in a hurry	218	4.9%	5.4%
103	Slippery road (due to weather)	217	4.9%	6.0%
403	Poor turn or manoeuvre	212	4.8%	5.9%
307	Travelling too fast for conditions	194	4.4%	5.0%
409	Swerved	177	4.0%	3.9%
509	Distraction in vehicle	104	2.3%	1.4%
503	Fatigue	83	1.9%	2.4%
999	Other	77	1.7%	1.7%
710	Vehicle blind spot	58	1.3%	1.8%
306	Exceeding speed limit	57	1.3%	1.5%
601	Aggressive driving	55	1.2%	1.3%
605	Learner or inexperienced driver/rider	51	1.2%	1.6%
707	Rain, sleet, snow or fog	49	1.1%	1.3%
201	Tyres illegal, defective or under-inflated	48	1.1%	1.0%
501	Impaired by alcohol	43	1.0%	1.9%

8.9 Contributory factors for 16-19 year olds

Between 2008 and 2010 there were collisions 3,063 involving a driver aged 16 to 19 where a police officer had attended the scene and obtained the details for the report, of which 2,959 had at least one contributory factor. In collisions where a police officer attended the scene and at least one contributory factor was recorded, there were 3,070 injured drivers.

Table 8-11 shows the most common contributory factors for drivers/riders aged 16 to 19. Values in red show where a figure is significantly higher than the corresponding figure for other vehicles in all road injury collisions (vehicles not driven by those aged 16 to 19).

Table 8-11: Most common contributory factors for drivers aged 16 to 19

CF	Description	Drivers aged 16-19	% of drivers aged 16-19	% of other vehicles in all collisions
410	Loss of control	626	20.4%	9.7%
605	Learner or inexperienced driver/rider	552	18.0%	0.8%
406	Failed to judge other person's path or speed	498	16.2%	12.8%
405	Failed to look properly	483	15.7%	14.4%
308	Following too close	316	10.3%	7.9%
103	Slippery road (due to weather)	306	10.0%	5.9%
307	Travelling too fast for conditions	280	9.1%	4.8%
408	Sudden braking	274	8.9%	6.6%
602	Careless - reckless or in a hurry	253	8.2%	4.9%
403	Poor turn or manoeuvre	217	7.1%	5.2%
409	Swerved	214	7.0%	3.7%
306	Exceeding speed limit	124	4.0%	1.3%
503	Fatigue	111	3.6%	2.4%
509	Distraction in vehicle	97	3.2%	1.5%
501	Impaired by alcohol	83	2.7%	1.8%
601	Aggressive driving	79	2.6%	0.9%
603	Nervous - uncertain or panic	66	2.1%	0.8%
707	Rain - sleet - snow or fog	59	1.9%	1.3%
999	Other	57	1.9%	1.6%
201	Tyres illegal - defective or under-inflated	51	1.7%	1.0%

The most common factors recorded for drivers aged 16 to 19 were ‘loss of control’ and ‘learner or inexperienced driver or rider’, recorded for 20% and 18% of drivers respectively, both significantly higher than for other drivers/riders.

Where contributory factors are available, 16-19 year old driver collisions can be split into the following four groups of collisions:

- Single vehicle collisions involving a 16-19 year old driver (24%)
- Multi vehicle collisions, with all factors assigned to drivers aged 16-19 (40%)
- Multi vehicle collisions, with all factors assigned to drivers not aged 16-19 (21%)
- Multi vehicle collisions, with factors assigned to both drivers aged 16-19 and other ages (16%)

The most common factors for other drivers in collisions with drivers aged 16-19 were similar to the most common factors overall; failing to look properly and failing to judge other person's path or speed.

8.10 Contributory factors for 70+ year olds

Between 2008 and 2010 there were collisions 2,134 involving a driver aged over 70 where a police officer had attended the scene and obtained the details for the report, of which 2,049 had at least one contributory factor. In collisions where a police officer attended the scene and at least one contributory factor was recorded, there were 2,108 injured drivers.

The table below shows the most common contributory factors for drivers aged 70+. Values in red text show where a figure is significantly higher than the corresponding figure for other vehicles in all injury collisions (vehicles not driven by those aged 70+), and those in grey text show where it is significantly lower.

Table 8-12: Most common contributory factors for drivers aged 70+

CF	Description	Drivers aged 70+	% of drivers aged 70+	% of other vehicles in all collisions
405	Failed to look properly	535	25.4%	14.1%
406	Failed to judge other person's path or speed	439	20.8%	12.7%
410	Loss of control	202	9.6%	10.2%
403	Poor turn or manoeuvre	202	9.6%	5.1%
308	Following too close	134	6.4%	8.1%
408	Sudden braking	107	5.1%	6.8%
505	Illness or disability - mental or physical	90	4.3%	0.8%
503	Fatigue	86	4.1%	2.4%
602	Careless - reckless or in a hurry	84	4.0%	5.1%
409	Swerved	78	3.7%	3.9%
103	Slippery road (due to weather)	67	3.2%	6.2%
307	Travelling too fast for conditions	54	2.6%	5.1%
603	Nervous - uncertain or panic	50	2.4%	0.9%
706	Dazzling sun	38	1.8%	0.8%
302	Disobeyed 'Give Way' or 'Stop' sign or markings	33	1.6%	0.3%
999	Other - please specify below	33	1.6%	1.6%
401	Junction overshoot	32	1.5%	0.5%
504	Uncorrected, defective eyesight	30	1.4%	0.0%
510	Distraction outside vehicle	28	1.3%	0.9%
402	Junction restart (moving off at junction)	27	1.3%	0.5%

The most common factors recorded for drivers/riders age 70+ were 'failed to look properly' and 'failed to judge other person's path or speed'. These are the same factors that are most common for other drivers, but were recorded significantly more frequently for this age group. 'Illness, disability – mental or physical' was recorded much more commonly for this age group, 4.3% compared with 0.8% for all other drivers.

Where contributory factors are available, 70+ year old driver collisions can be split into the following four groups of collisions:

- Collisions with 70+ year old drivers only (11%)
- Collisions involving at least one other aged driver, with all factors assigned to 70+ year olds (33%)
- Collisions involving at least one other aged driver, with all factors assigned to drivers other than 70+ year olds (41%)
- Collisions involving at least one other aged driver, with factors assigned to both drivers aged 70+ and other ages (15%)

The most common factors for other drivers in collisions with drivers aged 70+ were similar to the most common factors overall; 'failing to look properly' and 'failing to judge other person's path or speed'.

8.11 Trends in contributory factors between 2005-07 and 2008-2010

The table below shows the most common contributory factors in 2008-10 and the corresponding number of collisions recorded with these factors in 2005-07. The top 10 factors were the same in both periods with 'failed to look properly' as the most common factor.

All accidents with contributory factors recorded reduced by 14% over the period. Changes in the frequency of individual factors may be changes in collision characteristics and driver behaviours, but may also be due to changes in reporting practices.

The number of collisions with the top two factors 'failed to look properly' and 'failed to judge other person's path or speed' have both reduced, but have shown smaller reductions than overall.

In the top ten list, one factor 'slippery road (due to weather) has shown an increase over the period (12% increase). This may be due to different weather conditions in the two periods.

Table 8-13: Most common contributory factors for 2005-07 and 2008-10

Contributory factor		2005-07		2008-2010		% change between 2005-07 and 2008-10
		No.	%	No.	%	
All accidents attended by the police with CFs		36,207	100%	31,296	100%	-14%
405	Failed to look properly	9,707	27%	9,606	31%	-1%
406	Failed to judge other person's path or speed	8,907	25%	8,151	26%	-8%
410	Loss of control	7,332	20%	6,519	21%	-11%
308	Following too close	5,398	15%	4,442	14%	-18%
408	Sudden braking	4,488	12%	3,922	13%	-13%
403	Poor turn or manoeuvre	4,420	12%	3,728	12%	-16%
103	Slippery road (due to weather)	3,216	9%	3,586	11%	12%
602	Careless, reckless or in a hurry	4,274	12%	3,485	11%	-18%
307	Travelling too fast for conditions	4,004	11%	3,134	10%	-22%
409	Swerved	2,855	8%	2,541	8%	-11%

The table below shows the ten factors with the smallest percentage reduction (or an increase) in collisions between 2005-07 and 2008-10 (where there were at least 100 accidents in the later period).

The largest increase was in the number of collisions recorded with 'driver using mobile phone' (18% increase).

Table 8-14: Contributory factor with smallest % reduction (or an increase) between 2005-07 and 2008-10 (factors with at least 100 collisions)

Contributory factor		2005-07		2008-2010		% change between 2005-07 and 2008-10
		No.	%	No.	%	
All accidents attended by the police with CFs		36,207	100%	31,296	100%	-14%
508	Driver using mobile phone	110	0%	130	0%	18%
103	Slippery road (due to weather)	3,216	9%	3,586	11%	12%
101	Poor or defective road surface	110	0%	116	0%	5%
505	Illness or disability, mental or physical	567	2%	574	2%	1%
405	Failed to look properly	9,707	27%	9,606	31%	-1%
502	Impaired by drugs (illicit or medicinal)	160	0%	157	1%	-2%
301	Disobeyed automatic traffic signal	155	0%	146	0%	-6%
806	Pedestrian impaired by alcohol	127	0%	118	0%	-7%
708	Vision affected by spray from other vehicles	374	1%	346	1%	-7%
206	Overloaded or poorly loaded vehicle	240	1%	220	1%	-8%

9 Useful sources of information

9.1 Reported Road casualties/Accidents on the network

In each previous issue of this report collision problems articles on the following topics were included:

- Scattered accidents and potential for route or mass action treatments (1999)
- Close-following accidents (1999, 2001, 2002)
- Speed-related accidents (1999)
- Pedestrian accidents on motorways (1999)
- Accidents involving light or heavy goods vehicles (2000, 2004)
- Accident causation attributed to driver fatigue (2000, 2001)
- Accidents involving child casualties (2000, 2004)
- Casualty trends (2001)
- Single-vehicle accidents (2001)
- Roundabout accidents (2001)
- Fatal accidents (2002, 2003)
- High speed pedestrian crossing accidents (2002)
- Shunt accidents (2003)
- Accidents involving powered two-wheelers (2002, 2003, 2004)
- Accidents involving cars (2003, 2004)
- Vulnerable road users (pedestrians, cyclists and equestrians) (2004)
- High risk age groups (Children, 16-19 and 70+) (2004)
- Accidents involving vehicle hitting objects off the carriageway (2004, 2007)
- Accidents at roadworks (2006, 2008)
- Accidents on hard shoulders (2006, 2007, 2008)
- Contributory factors in accidents (2006, 2007)
- Speed-related accidents (2008)

This year, five topics have been produced, in Appendix C

- Speed-related
- Single vehicle (non-ped)
- Collisions involving a goods vehicle
- Children
- Pedal cyclists

9.2 Comparative data for the strategic road network

9.2.1 National data for local comparison

Appendix B contains tables of national data 2007-2009 for motorways, built-up and non built-up A-roads, which can be used for comparison with local data. The national data is used to establish expected levels of collisions or casualties of a given type on the whole network. Corresponding data at a local level are available using HAPMS (Highway Agency Pavement Management System). See Appendix B for further explanation.

9.2.2 Strategic road investigatory levels

The strategic road network investigatory level tables are in Appendix B, and also available as a spreadsheet tool. These are based on average figures for collisions and casualties 2007-2009. They give information about more collision types than the national data for local comparison, and can be used for purposes of comparing local values with national values and so identifying local problems to investigate.

9.3 Highways Agency contact points

The Agency welcomes comment and consultation. If you have any matters you wish to raise with respect to the content of this document please contact:

- Stuart Lovatt stuart.lovatt@highways.gsi.gov.uk
- Louisa Cliffe (louisa.cliffe@highways.gsi.gov.uk)

If you have a road safety issue which is specific to a location on the strategic road network please direct your enquiry to the appropriate Area or Route manager. A list of those staff can be found on the Agency's web site at: www.highways.gov.uk

Appendix A Glossary

Adults: Persons aged 16 years and over (except where otherwise stated).

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

Buses and Coaches: Vehicles equipped to carry 17 or more passengers regardless of use.

Commercial Vehicle: LGV or HGV

Cars: Includes Taxis, estate cars, invalid tricycles, three and four wheel cars, minibuses and motor caravans except where otherwise stated.

Darkness: From half an hour after sunset to half an hour before sunrise, i.e. "lighting-up time".

Daylight: Total of categories Daylight: street lights present, Daylight: no street lighting, Daylight: street lighting unknown.

Dual Carriageway: Includes roundabouts and one way streets, and slip roads for 2005 data

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

Flooded: Surface water over 3cm deep

HGV: Heavy Goods Vehicle, combined category of vehicles over 3.5 tonnes maximum permissible gross vehicle weight (mgw) but under 7.5 tonnes mgw and those vehicles 7.5 tonnes gmw and over.

Junction Detail: Junction is defined as a place where two or more roads meet (excluding where one of the roads crosses the other by a bridge or flyover) whatever the angle of the axes of the road. The meeting point of a public highway and private drive (in use at time of accident) is a junction for this purpose.

> *At a junction:* Within 20 metres of a junction
>
> *Roundabout:* Includes the whole of the circular highway and sections of the roads leading into it (within 20metres of the circular highway). Roundabout also includes sections of large gyratory systems which are within 20 metres of entrance/exit points
>
> *Slip Roads:* Road joining grade separated roads (i.e. roads at different levels); minor similar roads (e.g. filter lanes) are not included
>
> *Multiple Junction:* Junction with more than 4 arms (except roundabouts)
>
> *Private drive:* Private drive or entrance, only coded when in use by a vehicle involved in the accident.

Killed: Human casualties who sustained injuries which caused death less than 30 days (before 1954 about two months) after the accident. Confirmed suicides are excluded.

KSI: Killed or seriously injured.

LGV: Light Goods Vehicle, Goods vehicles not over 3.5 tonnes maximum permissible gross vehicle weight.

Motorcycle: Unless otherwise stated, Up to 2004 *motorcycles* includes Mopeds, Motor cycles 125cc and under and motor cycles over 125cc. From 2005, *motorcycles* includes the three Stats 19 categories: motorcycle 50cc and under, 50cc to 125cc, 125cc to 500cc and over 500cc.

Motorways: Motorway and A(M) roads.

Non Built-up roads: Accidents on 'non built-up roads' are those which occur on roads with speed limits of 50 mph or more.

Other Vehicles: Other motor vehicles includes ambulances, fire engines, trams, refuse vehicles, road rollers, agricultural vehicles, excavators, mobile cranes, tower wagons, army tanks, pedestrian-controlled vehicles with a motor etc. *Other non motor vehicles* include those drawn by animals, ridden horses, invalid carriages without a motor, street barrows etc.

PTW (Powered two-wheeler): Motorcycle or moped, also called 'two wheeled motor vehicle' (TWMV)'

Rural Roads: Major roads and minor roads outside urban areas and having a population of fewer than 10 thousand.

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

Serious injury: An injury for which a person is detained in hospital as an "in-patient", or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts and lacerations, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident.

Severity: Of a collision; the severity of the most severely injured casualty (either *fatal, serious* or *slight*). Of a casualty*; killed, seriously injured* or *slightly injured*.

Severity Ratio: Accident Severity ratio is the number of KSI accidents divided by the total number of accidents. Casualty Severity Ratio is the number of KSI casualties divided by the total number of casualties.

Skidded: Includes overturned and jack-knifed vehicle.

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

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

Traffic: The number of vehicle-miles of traffic. Normally measured in 100 million vehicle miles. Annual traffic=AADT*length*365

TWMV (Two wheeled motor vehicle): Motorcycle, also called PTW (powered two-wheeler)'

Urban Roads: Major and minor roads within an urban area with a population of 10 thousand or more. The definition is based on the 1991 Office of the Deputy Prime Minister definition of urban settlements. The urban areas used for this document are based on 2001 census data.

Vehicles involved in collisions: Vehicles whose drivers or passengers are injured, which hit and injure a pedestrian or another vehicle whose driver or passengers are injured, or which contributes to the collision. Vehicles which collide, after the initial accident which caused injury, are not included unless they aggravate the degree of injury or lead to further casualties. Includes pedal cycles ridden on the footway.

Vehicle Manoeuvres: Manoeuvre of vehicle immediately before the collision occurred.

Ahead Other: Vehicle travelling freely along carriageway

Waiting to go Ahead: Vehicle waiting in a queue of traffic which would otherwise be travelling along the carriageway

Waiting to turn left: Vehicle waiting in a queue of traffic which would otherwise be turning left

Waiting to turn right: Vehicle waiting in a queue of traffic which would otherwise be turning right

Overtaking: Total of categories, overtaking moving vehicle on its offside, overtaking stationary vehicle on its offside and overtaking vehicle on its nearside

Appendix B National data for local comparison

B.1 National data for local comparisons (2008-2010)

Tables B.1.1 to B.1.8 show the national data 2008-2010 for motorways, dual and single carriageway A-roads, which can be used for comparison with local data. The national data are used to establish expected levels of casualties or accidents on the strategic road network. Corresponding summary data at a local level is now available using HAPMS (Highways Agency Pavement Management System).

Each Table gives data for one Stats19 variable – the full list of categories for each variable can be found in the Glossary of this document (Appendix A). The data within each table are given separately for the three key road types: single carriageway A-roads, dual carriageway A-roads and motorways. Tables B.1.1 to B.1.4 contain collision data. B.1.5 and B.1.6 contain data relating to the vehicles involved, and B.1.7 and B.1.8 contain data relating to the casualties resulting from the collisions. Within each road type there are 4 columns of data; the first column gives the number of:

- fatal collisions (B.1.1 to B.1.4);
- vehicles involved in fatal collisions (B.1.5 and B.1.6);
- fatalities (B.1.7 and B.1.8).

Similarly:

- the second column gives the numbers of fatal or serious collisions (B.1.1 to B.1.4) etc.;
- the third column gives the total number of collisions/vehicles/casualties;
- the fourth column gives the percentage of all collisions/vehicles/casualties in that category and road type that were in fatal or serious collisions/casualties – i.e. the value in the second column divided by the value in the third column .

Example:

B.1.3 column 8 shows that, over the whole network of dual carriageway trunk A-roads 3,953 of the 13,329 collisions in the 3 year period (2008-2010) occurred on wet or damp roads. This means that about 30% of collisions on dual carriageway trunk A-roads were on wet or damp roads. Supposing that on some local stretch of dual carriageway trunk road 50% of all the collisions were on wet or damp roads, this would suggest that this is a problem that requires further investigation as the number of collisions is greater than one would expect. It is, of course, possible that there was a particularly high rainfall on this road compared with the national average rainfall but, if not, then further studies should be undertaken – for example into where the collisions are occurring, the types of vehicles and manoeuvres involved, the incidence of skidding etc. If however, the percentage of collisions that were on wet or damp roads was close to or less than 30% this would be unlikely to warrant further investigation.

B.1.1 Collisions by collisions severity and junction detail (2008-2010)

Junction detail	'A' Single				'A' Dual				Motorway			
	Fatal	KSI	Total	% KSI	Fatal	KSI	Total	% KSI	Fatal	KSI	Total	% KSI
Not at or within 20m of junction	**112**	528	2,570	20.5%	**215**	1,197	7,709	15.5%	**295**	1,875	15,115	12.4%
Roundabout	**0**	13	190	6.8%	**13**	246	2,953	8.3%	**3**	76	1,139	6.7%
Mini roundabout	**0**	0	6	0.0%	**0**	0	10	0.0%	**0**	0	2	0.0%
T/staggered junction	**30**	237	1,210	19.6%	**15**	114	537	21.2%	**2**	9	102	8.8%
Slip road	**0**	8	61	13.1%	**30**	201	1,507	13.3%	**23**	180	1,639	11.0%
Crossroads	**4**	46	269	17.1%	**9**	40	215	18.6%	**0**	1	6	16.7%
Multiple junction	**1**	7	53	13.2%	**3**	15	84	17.9%	**2**	5	41	12.2%
Private drive/entrance	**0**	28	213	13.1%	**1**	19	83	22.9%	**0**	0	3	0.0%
Other / Unknown	**0**	21	179	11.7%	**6**	45	231	19.5%	**2**	19	157	12.1%
Total collisions	**147**	888	4,751	18.7%	**292**	1,877	13,329	14.1%	**327**	2,165	18,204	11.9%

B.1.2 Collisions by collision severity and year (2008-2010)

Year	'A' Single				'A' Dual				Motorway			
	Fatal	KSI	Total	% KSI	Fatal	KSI	Total	% KSI	Fatal	KSI	Total	% KSI
2008	**59**	300	1,636	18.3%	**126**	663	4,716	14.1%	**123**	765	6,462	11.8%
2009	**49**	332	1,675	19.8%	**79**	592	4,471	13.2%	**99**	702	5,916	11.9%
2010	**39**	256	1,440	17.8%	**87**	622	4,142	15.0%	**105**	698	5,826	12.0%
Total collisions	**147**	888	4,751	18.7%	**292**	1,877	13,329	14.1%	**327**	2,165	18,204	11.9%

B.1.3 Collisions by collisions severity and road surface condition (2008-2010)

Road surface condition	'A' Single				'A' Dual				Motorway			
	Fatal	KSI	Total	% KSI	Fatal	KSI	Total	% KSI	Fatal	KSI	Total	% KSI
Dry	**95**	635	3,121	20.3%	**201**	1,261	8,604	14.7%	**228**	1,500	12,106	12.4%
Wet or damp	**48**	231	1,431	16.1%	**87**	528	3,953	13.4%	**86**	563	5,341	10.5%
Snow	**0**	2	30	6.7%	**0**	27	205	13.2%	**5**	31	221	14.0%
Frost or ice	**3**	17	148	11.5%	**3**	51	491	10.4%	**8**	63	447	14.1%
Flood (more than 30mm)	**1**	3	11	27.3%	**1**	9	53	17.0%	**0**	8	81	9.9%
Unknown	**0**	0	10	0.0%	**0**	1	23	4.3%	**0**	0	8	0.0%
Total collisions	**147**	888	4,751	18.7%	**292**	1,877	13,329	14.1%	**327**	2,165	18,204	11.9%

B.1.4 Collisions by collision severity and lighting condition (2008-2010)

Lighting condition	'A' Single				'A' Dual				Motorway			
	Fatal	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**
Daylight	**89**	630	3,596	17.5%	**152**	1,227	9,597	12.8%	**167**	1,341	12,827	10.5%
Darkness, street lights lit	**9**	69	406	17.0%	**45**	237	1,747	13.6%	**62**	383	2,843	13.5%
Darkness, street lights unlit	**0**	1	18	5.6%	**3**	13	77	16.9%	**3**	12	87	13.8%
Darkness, no street lighting	**49**	183	688	26.6%	**91**	386	1,771	21.8%	**94**	410	2,227	18.4%
Darkness, street lighting unknown	**0**	5	43	11.6%	**1**	14	137	10.2%	**1**	19	220	8.6%
Total collisions	**147**	888	4,751	18.7%	**292**	1,877	13,329	14.1%	**327**	2,165	18,204	11.9%

B.1.5 Vehicles by collision severity and vehicle manoeuvre (2008-2010)

	'A' Single				'A' Dual				Motorway			
Vehicle manoeuvre	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**
Reversing	1	5	27	18.5%	0	4	33	12.1%	1	10	34	29.4%
Parked	**4**	17	120	14.2%	**49**	168	557	30.2%	**36**	118	370	31.9%
Waiting to go ahead, held up	**3**	91	1,108	8.2%	**6**	166	2,577	6.4%	**37**	275	3,479	7.9%
Stopping	**1**	58	1,219	4.8%	**32**	247	3,322	7.4%	**69**	539	6,060	8.9%
Starting	**2**	26	210	12.4%	**6**	61	651	9.4%	**2**	20	318	6.3%
U-turn	**1**	27	125	21.6%	**6**	18	67	26.9%	**0**	2	4	50.0%
Turning left	**2**	21	156	13.5%	**1**	78	523	14.9%	**0**	15	167	9.0%
Waiting to turn left	**0**	6	53	11.3%	**1**	3	152	2.0%	**0**	0	85	0.0%
Turning right	**16**	170	806	21.1%	**15**	93	586	15.9%	**0**	3	56	5.4%
Waiting to turn right	**2**	40	299	13.4%	**0**	6	80	7.5%	**0**	0	23	0.0%
Changing lane to left	**0**	3	24	12.5%	**12**	104	890	11.7%	**19**	198	1,647	12.0%
Changing lane to right	**2**	11	44	25.0%	**12**	113	1,172	9.6%	**18**	236	2,538	9.3%
Overtaking moving veh. on its o/s	**27**	124	380	32.6%	**12**	96	610	15.7%	**17**	115	917	12.5%
Overtaking stationary veh. on its o/s	**1**	18	73	24.7%	**2**	10	66	15.2%	**2**	4	48	8.3%
Overtaking on nearside	**3**	9	33	27.3%	**2**	23	123	18.7%	**6**	26	152	17.1%
Going ahead - LH bend	**32**	113	347	32.6%	**20**	146	737	19.8%	**28**	140	745	18.8%
Going ahead - RH bend	**35**	120	387	31.0%	**14**	102	610	16.7%	**21**	86	503	17.1%
Going ahead - other	**187**	1,021	4,939	20.7%	**410**	2,133	14,357	14.9%	**504**	3,076	22,943	13.4%
Unknown	**4**	4	6	66.7%	**0**	1	2	50.0%	**0**	0	2	0.0%
Total vehicles	323	1,884	10,356	18.2%	600	3,572	27,115	13.2%	760	4,863	40,091	12.1%

B.1.6 Vehicles by collision severity and vehicle group (2008-2010)

	'A' Single				'A' Dual				Motorway			
Vehicle type	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**
Pedal cycle	**3**	32	128	25.0%	**25**	100	315	31.7%	**0**	1	1	100.0%
PTW	**39**	246	592	41.6%	**44**	409	1,226	33.4%	**42**	355	894	39.7%
Car	**198**	1,297	8,123	16.0%	**362**	2,333	20,922	11.2%	**467**	3,220	31,286	10.3%
Bus or coach	**5**	13	74	17.6%	**1**	11	121	9.1%	**6**	20	132	15.2%
LGV	**17**	107	675	15.9%	**42**	207	1,645	12.6%	**62**	314	2,624	12.0%
HGV	**55**	169	658	25.7%	**115**	458	2,583	17.7%	**174**	759	4,821	15.7%
Other and unknown	**6**	20	106	18.9%	**11**	54	303	17.8%	**9**	47	315	14.9%
Total vehicles	**323**	1,884	10,356	18.2%	**600**	3,572	27,115	13.2%	**760**	4,716	40,073	11.8%

B.1.7 Casualties by casualty injury and casualty class (2008-2010)

	'A' Single				'A' Dual				Motorway			
Casualty class	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**
Driver/rider	**123**	809	5,250	15.4%	**200**	1,536	13,816	11.1%	**209**	1,707	19,266	8.9%
Vehicle/pillion passenger	**30**	256	2,331	11.0%	**69**	523	5,768	9.1%	**100**	801	9,838	8.1%
Pedestrian	**14**	66	167	39.5%	**48**	138	262	52.7%	**60**	115	200	57.5%
Total casualties	**167**	1,131	7,748	14.6%	**317**	2,197	19,846	11.1%	**369**	2,623	29,304	9.0%

B.1.8 Casualties by casualty injury and casualty user group – as defined in the HA Strategic Safety Plan - (2008-2010)

	'A' Single				'A' Dual				Motorway			
Customer group	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**	**Fatal**	**KSI**	**Total**	**% KSI**
Pedestrians	**14**	66	167	39.5%	**48**	138	262	52.7%	**60**	115	200	57.5%
Pedal cyclists	**3**	29	120	24.2%	**24**	96	303	31.7%	**0**	1	1	100.0%
PTW riders and passengers	**33**	239	600	39.8%	**41**	405	1,244	32.6%	**36**	346	911	38.0%
Car drivers and passengers	**112**	721	6,206	11.6%	**177**	1,330	16,309	8.2%	**224**	1,835	25,500	7.2%
Bus or Coach drivers and passengers	**2**	27	122	22.1%	**0**	6	103	5.8%	**1**	12	133	9.0%
LGV drivers and passengers	**2**	27	313	8.6%	**10**	87	839	10.4%	**21**	148	1,527	9.7%
HGV drivers and passengers	**1**	18	178	10.1%	**15**	121	656	18.4%	**26**	151	879	17.2%
Equestrians	**0**	0	0	-	**0**	0	0	-	**0**	0	0	-
Ages 1-15	**6**	53	461	11.5%	**12**	79	996	7.9%	**16**	109	1,502	7.3%
Ages 16-19	**16**	91	724	12.6%	**28**	199	1,829	10.9%	**16**	171	1,946	8.8%
Ages 70+	**23**	111	487	22.8%	**34**	139	829	16.8%	**27**	134	983	13.6%
Casualties in collisions involving a single vehicle (and no pedestrian)	**17**	142	819	17.3%	**83**	726	4,277	17.0%	**101**	863	5,421	15.9%
Casualties in collisions involving an HGV	**68**	276	1,820	15.2%	**117**	593	5,132	11.6%	**162**	908	9,707	9.4%
Total Casualties	**167**	1,131	7,748	14.6%	**317**	2,197	19,846	11.1%	**369**	2,623	29,304	9.0%

Note that the customer groups are not exclusive; hence the sum of casualties in all customer groups is more than the total number of casualties. For example, a casualty can be a car driver and aged 16-19

B.2 Strategic road network investigatory levels (2008-2010)

The investigatory level tables below give the average values for strategic road network, averaged over the three year period 2008-2010. They give information about more collision types than just those in Section B.1 above and can be used for purposes of comparing local values with national values and so identifying local problems. Table B.2.1 gives actual collision rates by road type and collision and casualty severity ratio values[6]. B.2.2 gives percentages for categories of collisions, and B.2.3 gives percentages for categories of vehicles. For example in B.2.2 column 4, 12.7% of all motorway collisions occurred at night on an unlit road. Values relating specifically to Vulnerable Road Users are shown in red text. Additional definitions can be found in the glossary in Appendix A.

[6] Collision KSI severity ratio for a particular road type = number of collisions involving death or serious injury/total number of collisions – for that road type

Casualty KSI severity ratio for a particular road type = number of fatal or serious casualties/total number of casualties - for that road type

B.2.1 Strategic road network investigatory levels (2008-2010 average) by road class and type

INVESTIGATORY LEVEL CATEGORY		Road class / type				
		Trunk A road				
		Single carriageway	Dual carriageway	All A roads	Motorway	All trunk roads
3 year average	Length (miles)	947	1,607	2,577	1,855	4,432
	Traffic (10^8 veh-mile)	57	233	293	552	845
Collisions per year	Number of collisions	1,584	4,443	6,038	6,068	12,106
	Number of fatal collisions	**49**	**97**	**147**	**109**	**256**
	Number of serious collisions	247	528	776	613	1,389
	Number of slight collisions	1,288	3,817	5,115	5,346	10,461
Collision rate	All collisions per 10^8 veh-mile	27.8	19.1	20.6	11.0	14.3
	Fatal collisions per 10^8 veh-mile	**0.9**	**0.4**	**0.5**	**0.2**	**0.3**
	Serious collisions per 10^8 veh-mile	4.3	2.3	2.6	1.1	1.6
	Slight collisions per 10^8 veh-mile	22.6	16.4	17.4	9.7	12.4
Accident density	All accidents per 100mile	167	277	234	327	273
	Non-junction accidents per 100mile	90	160	133	272	191
Collision KSI ratio	Collision KSI severity ratio	0.19	0.14	0.15	0.12	0.14
Casualties KSI ratio	Casualty KSI severity ratio	0.15	0.11	0.12	0.09	0.10

It should be noted that where the carriageway type was recorded as 'Roundabout' or 'one way' (all years) or 'slip road' (2005 data onwards), that collision was allocated to the dual-carriageway data set.

B.2.2 Percentage of all collisions of various types on the strategic road network (2008-2010), by road class and type

INVESTIGATORY LEVEL CATEGORY		Road Class/type				
		Trunk A road				
		Single carriageway %	Dual carriageway %	All A-roads %	Motorway %	All trunk roads %
Pedestrians	Involved at least one	3.5	1.9	2.3	1.0	1.6
Age of casualty	Involved at least one child	6.9	5.5	5.9	6.2	6.0
No. of vehicles involved	Only involved one vehicle	16.9	26.0	23.6	22.4	23.0
	Involved three or more vehicles	25.3	18.8	20.5	25.8	23.2
HGV / LGV	Involved at least one HGV/LGV	23.3	26.3	25.5	33.6	29.5
Road Surface	Dry	65.7	64.6	64.8	66.5	65.7
	Wet/Flood	30.4	30.1	30.1	29.8	30.0
	Ice/Snow	3.7	5.2	4.8	3.7	4.3
Lighting	Occurred in daylight	75.7	72.0	73.0	70.5	71.7
	Occurred at night on an unlit	14.9	13.9	14.1	12.7	13.4
Junction types	Not at a junction	54.1	57.8	56.8	83.0	70.0
	At or within 20m of a junction	45.9	42.2	43.2	17.0	30.0
	At a private drive junction	4.5	0.6	1.6	0.0	0.8
	At a T/Y junction	25.5	4.0	9.7	0.6	5.1
	At a crossroads	5.7	1.6	2.7	0.0	1.4
	At a roundabout[8]	4.1	22.2	17.5	6.3	11.9
	At a slip road junction	1.3	11.3	8.7	9.0	8.8
All collisions	At least one vehicle skidded[9]	34.0	41.4	39.5	43.6	41.5
Wet/Flood collisions[10]	At least one vehicle skidded	41.5	48.9	46.9	50.3	48.6

It should be noted that where the carriageway type was recorded as 'Roundabout' or 'one way' (all years) or 'slip road' the collision was allocated to the dual-carriageway data set.

[7] Collisions involving casualties aged less than 16 years
[8] Roundabout includes mini roundabout
[9] Accident involving at least one vehicle with skidding category other than "no skidding, jack-knifing, overturning"
[10] Accidents on wet, damp or flooded roads

B.2.3 Percentage of all vehicles involved in all collisions of various types on the strategic road network (2008-2010), by road class and type

INVESTIGATORY LEVEL CATEGORY		Road class/type				
		Trunk A road				
		Single carriageway %	Dual carriageway %	All A roads %	Motorway %	All trunk roads %
Vehicle types	Pedal cycle	1.2	1.2	1.2	0.0	0.6
	Powered two-wheelers (PTW)	5.7	4.5	4.8	2.2	3.5
	Light goods vehicle	6.5	6.1	6.2	6.5	6.4
	Heavy goods vehicle	6.4	9.5	8.6	12.0	10.4
	Bus or coach	0.7	0.4	0.5	0.3	0.4
Driver age and sex	Male drivers/riders (all ages)	69.2	67.4	67.9	70.5	69.2
	Male drivers/riders under 25 years	10.7	10.4	10.5	9.3	9.9
	Male drivers/riders over 59 years old	10.6	8.0	8.7	6.8	7.7
	Female drivers/riders under 25 years	5.5	6.8	6.4	5.8	6.1
	Female drivers/riders over 59 years	3.2	2.2	2.5	1.5	2.0
Vehicle manoeuvre	Parked	1.2	2.1	1.8	0.9	1.4
	Waiting to go ahead	10.7	9.5	9.8	8.7	9.2
	Stopping	11.8	12.3	12.1	15.1	13.7
	Turning right	7.8	2.2	3.7	0.1	1.9
	Waiting to turn right	2.9	0.3	1.0	0.1	0.5
	Overtaking a moving vehicle on its	3.7	2.2	2.6	2.3	2.5
	Going ahead on a bend (left or right)	7.1	5.0	5.5	3.1	4.3
	Going ahead - other	47.7	52.9	51.5	57.2	54.5
	Changing lane (left or right)	0.7	7.6	5.7	10.4	8.1
Skidding	Skidded, jack-knifed or overturned	17.8	23.7	22.1	24.0	23.1
Leaving carriageway	Vehicle left carriageway	14.0	20.9	19.0	21.0	20.0

It should be noted that where the carriageway type was recorded as 'Roundabout' or 'one way' (all years) or 'slip road' (2005 data onwards), that collision was allocated to the dual-carriageway data set.

Appendix C Additional topics

C.1 Speed-related collisions

Since 2005, contributory factors have been recorded nationally as part of Stats19.

The following tables are based on the Stats19 database of reported injury collisions on the 2010 strategic road network, between 2008 and 2010.

As with DfT statistics, collisions which had no contributory factors recorded or were not attended by a police officer should not be included when considering percentages of collisions with a given contributory factor

Each collision can have up to six contributory factors. They are not recorded in any order, but an indication is given as to whether each factor is very likely or possible. The vehicle or casualty to which the factor applies is also given. One contributory factor can be recorded for more than one vehicle or casualty, and each vehicle or casualty can have none, one, or more contributory factors. These factors reflect the opinion of the reporting officer at the time of the collision and may not be the result of extensive investigation.

There are three factors that are related to speed:

- 306: Exceeding speed limit;
- 307: Travelling too fast for conditions;
- 602: Careless, reckless or in a hurry.

Injudicious action codes 301-310 should be used, mainly, in cases where a driver has performed a manoeuvre or driven in such a manner as to contribute to the collision, and should be used regardless of whether or not the police propose taking further action against the driver. These codes, which describe the driver/rider's actions, can be used in conjunction with other factors which provide further detail on why these actions were taken.

Factor 306, exceeding speed limit, specifically indicates that the driver/rider caused, or contributed to the collision, by exceeding the posted speed limit. This code should also be used in cases where the actions of another road user were the immediate cause of the collision but a speeding vehicle also contributed to causing the collision.

It includes exceeding variable speed limits (e.g. on motorways) and speed limits based on vehicle type (including towing). This code to be used (and not code 307) where driver/rider had been exceeding the speed limit and was travelling too fast for the conditions.

Factor 307, travelling too fast for conditions, specifically indicates driver/rider was travelling within the speed limit, but their speed was not appropriate for the road conditions and/or vehicle type (including towing), and contributed to the collision.

Codes 601 - 607 help explain why a driver/rider's actions contributed the collision.

Factor 602, Careless, reckless or in a hurry, specifically indicates that the driver/rider either behaved in a negligent or thoughtless manner or was in a hurry and, therefore, behaved in an unsafe manner. This covers cases where the person shows lack of concern about the possible consequences of their actions (careless), acts in spite of

the likely consequences (reckless), or fails to consider the consequences of their actions as a result of being in a hurry.

Since each vehicle or collision can have multiple contributory factors, figures for separate contributory factors cannot be summed.

C.1.1 Collisions

The following tables show the numbers of accidents, 2008-2010, given various contributory factor scenarios.

C.1.1.1 Number of collisions (2008-2010)

Collision Specification	Fatal	Serious	Slight	Total
Total number of collisions	**767**	4,167	31,383	36,317
Collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**694**	3,861	26,741	31,296
Collisions with 306 as a factor	**68**	192	699	959
Collisions with 307 as a factor	**64**	411	2,659	3,134
Collisions with 306 or 307 as a factor	**117**	559	3,216	3,892
Collisions with 602 as a factor	**88**	496	2,901	3,485
Collisions with 306 or 307 or 602 as a factor	**182**	943	5,587	6,712

- In 3% of collisions (959/31,296) at least one of the vehicles had factor 306 (Exceeding speed limit) recorded as a contributory factor to the accident
- 10% (3,134) of accidents had at least one vehicle recorded as travelling too fast for conditions (factor 307)
- 11% (3,485) of collisions had at least one vehicle recorded as careless, reckless or in a hurry (factor 602)
- There were 21% (6,712) of collisions where factor 306, 307 or 602 was recorded for at least one vehicle (note this is less than the sum of the individual values since more than one factor can be recorded for a vehicle and collision).

The table below shows the equivalent figures for motorways.

C.1.1.2 Number of motorway collisions (2008-2010)

Collision Specification	Fatal	Serious	Slight	Total
Total number of collisions	**327**	1,838	16,039	18,204
Collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**293**	1,700	13,897	15,890
Collisions with 306 as a factor	**19**	76	329	424
Collisions with 307 as a factor	**27**	194	1,458	1,679
Collisions with 306 or 307 as a factor	**41**	251	1,720	2,012
Collisions with 602 as a factor	**34**	210	1,282	1,526
Collisions with 306 or 307 or 602 as a factor	**67**	414	2,752	3,233

- 3% (424) of motorway collisions involved a vehicle recorded as exceeding the speed limit
- 11% (1,679) of motorway collisions involved a vehicle recorded as travelling too fast for conditions
- 10% (1,526) of motorway collisions involved a vehicle recorded as careless, reckless or in a hurry
- 20% (3,233) of motorway collisions involved at least one vehicle with one of the three speed-related factors above.

The table below shows the equivalent figures for single carriageway A-roads.

C.1.1.3 Number of collisions on single carriageway A-roads (2008-2010)

Collision Specification	Fatal	Serious	Slight	Total
Total number of collisions	**147**	741	3,863	4,751
Collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**136**	691	3,255	4,082
Collisions with 306 as a factor	**17**	50	114	181
Collisions with 307 as a factor	**15**	64	283	362
Collisions with 306 or 307 as a factor	**27**	102	375	504
Collisions with 602 as a factor	**20**	109	500	629
Collisions with 306 or 307 or 602 as a factor	**43**	184	785	1,012

- 4% (181) of single carriageway collisions involved a vehicle recorded as exceeding the speed limit
- 9% (362)of single carriageway collisions involved a vehicle recorded as travelling too fast for conditions
- 15% (629) of single carriageway collisions involved a vehicle recorded as careless, reckless or in a hurry
- 25% (1,012) of single carriageway collisions involved at least one vehicle with one of the three speed-related factors above.

The table below shows the equivalent figures for dual carriageway A-roads.

C.1.1.4 Number of collisions on dual carriageway A-roads (2008-2010)

Collision Specification	Fatal	Serious	Slight	Total
Total number of collisions	**292**	1,585	11,452	13,329
Collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**264**	1,467	9,568	11,299
Collisions with 306 as a factor	**32**	65	254	351
Collisions with 307 as a factor	**22**	152	917	1,091
Collisions with 306 or 307 as a factor	**49**	205	1,118	1,372
Collisions with 602 as a factor	**34**	175	1,117	1,326
Collisions with 306 or 307 or 602 as a factor	**72**	343	2,045	2,460

- 3% (351) of dual carriageway collisions involved a vehicle recorded as exceeding the speed limit
- 10% (1,091) of dual carriageway collisions involved a vehicle recorded as travelling too fast for conditions
- 12% (1,326) of dual carriageway collisions involved a vehicle recorded as careless, reckless or in a hurry
- 22% (2,460) of dual carriageway collisions involved at least one vehicle with one of the three speed-related factors above.

C.1.2 Casualties

The following tables show the numbers of casualties, 2008-2010, given various contributory factor scenarios.

Note that casualties may not have been drivers of vehicles with the factors specified; they may be passengers in the vehicle with the factor specified, occupants of other vehicles or pedestrians.

The table below shows the casualty figures for the entire strategic road network.

C.1.2.1 Number of casualties (2008-2010)

Casualty Specification	Killed	Seriously injured	Slightly injured	All severities
Total number of casualties in collisions	**854**	5,102	51,009	56,965
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**772**	4,734	44,597	50,103
Casualties in collisions with 306 as a factor	**82**	287	1,274	1,643
Casualties in collisions with 307 as a factor	**75**	503	4,809	5,387
Casualties in collisions with 306 or 307 as a factor	**137**	716	5,813	6,666
Casualties in collisions with 602 as a factor	**106**	632	5,202	5,940
Casualties in collisions with 306 or 307 or 602 as a factor	**215**	1,198	9,993	11,406

- 23% (5,940) of casualties were involved in collisions where at least one of the involved vehicles was recorded with any of the factors 306 (Exceeding speed limit), 307 (travelling too fast for conditions) or 602 (careless, reckless or in a hurry).

C.1.2.2 Number of motorway casualties (2008-2010)

Casualty Specification	Killed	Seriously injured	Slightly injured	All severities
Total number of casualties in collisions	**369**	2,254	26,681	29,304
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**332**	2,088	23,684	26,104
Casualties in collisions with 306 as a factor	**24**	111	582	717
Casualties in collisions with 307 as a factor	**32**	236	2,718	2,986
Casualties in collisions with 306 or 307 as a factor	**49**	317	3,178	3,544
Casualties in collisions with 602 as a factor	**46**	271	2,396	2,713
Casualties in collisions with 306 or 307 or 602 as a factor	**84**	527	5,075	5,686

- 22% (5,686) of motorway casualties were involved in collisions where at least one of the involved vehicles was recorded with any of the factors 306

(Exceeding speed limit), 307 (travelling too fast for conditions) or 602 (careless, reckless or in a hurry).

C.1.2.3 Number of casualties on single carriageway A-roads (2008-2010)

Casualty Specification	Killed	Seriously injured	Slightly injured	All severities
Total number of casualties in collisions	**167**	964	6,617	7,748
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**154**	904	5,748	6,806
Casualties in collisions with 306 as a factor	**23**	78	243	344
Casualties in collisions with 307 as a factor	**18**	85	523	626
Casualties in collisions with 306 or 307 as a factor	**33**	139	719	891
Casualties in collisions with 602 as a factor	**25**	146	929	1,100
Casualties in collisions with 306 or 307 or 602 as a factor	**52**	248	1,469	1,769

- 26% (1,769) of single carriageway casualties were involved in collisions where at least one of the involved vehicles was recorded with any of the factors 306 (Exceeding speed limit), 307 (travelling too fast for conditions) or 602 (careless, reckless or in a hurry).

C.1.2.4 Number of casualties on dual carriageway A-roads (2008-2010)

Casualty Specification	Killed	Seriously injured	Slightly injured	All severities
Total number of casualties in collisions	**317**	1,880	17,649	19,846
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**285**	1,738	15,114	17,137
Casualties in collisions with 306 as a factor	**35**	97	443	575
Casualties in collisions with 307 as a factor	**25**	181	1,565	1,771
Casualties in collisions with 306 or 307 as a factor	**55**	259	1,908	2,222
Casualties in collisions with 602 as a factor	**35**	212	1,869	2,116
Casualties in collisions with 306 or 307 or 602 as a factor	**79**	420	3,434	3,933

- 23% (3,933) of dual carriageway casualties were involved in collisions where at least one of the involved vehicles was recorded with any of the factors 306 (Exceeding speed limit), 307 (travelling too fast for conditions) or 602 (careless, reckless or in a hurry).

C.1.3 Casualties by customer group

The following tables show the numbers of casualties by customer group, 2008-2010, given various contributory factor scenarios.

Note that there are two methods for calculating the number of casualties affected by a given contributory factor:

- All casualties in collisions where the factor was present, including injured pedestrians and occupants of all vehicles in the collisions
- Casualties associated with the factor. For vehicle drivers and passengers, this means the vehicle they were occupants of had the factor, and for pedestrians this means the vehicle that they were hit by had the factor. Other casualties in the collision are not included.

Both sets of figures are included in the following tables. The second category will account for a smaller number of casualties than the first.

C.1.3.1 Number of pedestrian casualties (2008-2010)

Casualty Specification	Killed	Seriously injured	Slightly injured	All severities
Total number of pedestrian casualties in collisions	**122**	197	312	631
Pedestrian casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	**109**	182	237	528
Pedestrian casualties in collisions with 306 as a factor	**2**	7	7	16
Pedestrian casualties in collisions with 307 as a factor	**0**	10	15	25
Pedestrian casualties in collisions with 602 as a factor	**7**	17	21	45
Pedestrian casualties hit by vehicles with 306 as a factor	**2**	5	4	11
Pedestrian casualties hit by vehicles with 307 as a factor	**0**	8	12	20
Pedestrian casualties hit by vehicles with 602 as a factor	**6**	12	15	33

- There were 11 pedestrian casualties hit by a vehicle recorded with factor 306 (exceeding speed limit)
- 20 pedestrian casualties were hit by a vehicle recorded as travelling too fast for conditions (factor 307)

- 33 pedestrian casualties were hit by a vehicle recorded as careless, reckless or in a hurry (factor 602)

C.1.3.2 Total number of injured vehicle occupants (2008-2010)

Casualty Specification	Pedal	PTW	Car	Bus	Goods vehicle	Other
Total number of casualties in collisions	424	2,756	48,073	359	4,396	325
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	300	2,475	42,236	292	4,004	268
Casualties in collisions with 306 as a factor	2	99	1,408	0	111	7
Casualties in collisions with 307 as a factor	7	178	4,742	21	397	17
Casualties in collisions with 602 as a factor	34	271	5,003	56	498	33
Occupants of vehicles with 306 as a factor	0	90	867	0	59	0
Occupants of vehicles with 307 as a factor	2	142	2,554	20	226	8
Occupants of vehicles with 602 as a factor	9	138	2,112	47	243	8

PTW users:

- 4% (90) were users of PTWs recorded as exceeding speed limit (factor 306)
- 6% (142) were users of PTWs recorded as travelling too fast for conditions (factor 307)
- 6% (138) were users of PTWs recorded as careless, reckless or in a hurry (factor 602)

For goods vehicle occupants:

- 1% (59) were occupants of goods vehicles recorded as exceeding speed limit (factor 306)
- 6% (226) were user occupants of goods vehicles recorded as travelling too fast for conditions (factor 307)
- 6% (243) were us occupants of goods vehicles recorded as careless, reckless or in a hurry (factor 602)

The tables below show the same information split by severity.

C.1.3.3 Number of vehicle occupant fatalities (2008-2010)

Casualty Specification	Pedal	PTW	Car	Bus	Goods vehicle	Other
Total number of casualties in collisions	27	110	514	3	75	3
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	26	98	463	3	70	3
Casualties in collisions with 306 as a factor	0	18	59	0	2	1
Casualties in collisions with 307 as a factor	0	11	58	0	6	0
Casualties in collisions with 602 as a factor	3	14	77	0	5	0
Casualties in vehicles with 306 as a factor	0	16	40	0	2	0
Casualties in vehicles with 307 as a factor	0	9	42	0	6	0
Casualties in vehicles with 602 as a factor	0	11	41	0	5	0

C.1.3.4 Number of seriously injured vehicle occupants (2008-2010)

Casualty Specification	Pedal	PTW	Car	Bus	Goods vehicle	Other
Total number of casualties in collisions	99	880	3,376	42	478	30
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	80	811	3,144	38	449	30
Casualties in collisions with 306 as a factor	0	44	224	0	11	1
Casualties in collisions with 307 as a factor	4	74	362	0	51	2
Casualties in collisions with 602 as a factor	8	101	434	8	57	7
Casualties in vehicles with 306 as a factor	0	40	165	0	6	0
Casualties in vehicles with 307 as a factor	1	63	254	0	40	1
Casualties in vehicles with 602 as a factor	1	62	261	7	42	1

C.1.3.5 Number of slightly injured vehicle occupants (2008-2010)

Casualty Specification	Pedal	PTW	Car	Bus	Goods vehicle	Other
Total number of casualties in collisions	298	1,766	44,183	314	3,843	292
Casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	194	1,566	38,629	251	3,485	235
Casualties in collisions with 306 as a factor	2	37	1,125	0	98	5
Casualties in collisions with 307 as a factor	3	93	4,322	21	340	15
Casualties in collisions with 602 as a factor	23	156	4,492	48	436	26
Casualties in vehicles with 306 as a factor	0	34	662	0	51	0
Casualties in vehicles with 307 as a factor	1	70	2,258	20	180	7
Casualties in vehicles with 602 as a factor	8	65	1,810	40	196	7

C.1.4 Casualties by age group

The following tables show the numbers of casualties by age group, 2008-2010, given various contributory factor scenarios.

Note that there are two methods for calculating the number of casualties affected by a given contributory factor:

- All casualties in collisions where the factor was present. For example, if one vehicle was recorded as exceeding the speed limit, then this would include the casualties in other vehicles in the collision as well as those in the vehicle which was exceeding the speed limit
- Casualties associated with the factor. For vehicle drivers and passengers, this means the vehicle they were occupants of had the factor, and for pedestrians this means the vehicle that they were hit by had the factor. Other casualties in the collision are not included.

Both sets of figures are included in the following tables. The second category will account for a smaller number of casualties than the first.

Note that the total casualty counts in this section include unknown age.

C.1.4.1 Number of pedestrian casualties on HA roads (2008-2010)

Casualty Specification	1-15	16-19	20-69	70+	Unknown	Total
Total number of pedestrian casualties in collisions	88	57	450	28	8	631
Pedestrian casualties in collisions at which a police Officer attended the scene and in which at least one contributory factor was reported	65	45	387	25	6	528
Pedestrian casualties in collisions with 306 as a factor	3	1	10	0	2	16
Pedestrian casualties in collisions with 307 as a factor	2	0	22	0	1	25
Pedestrian casualties in collisions with 602 as a factor	0	3	39	2	1	45
Pedestrian casualties hit by vehicle with 306 as a factor	3	1	6	0	1	11
Pedestrian casualties hit by vehicle with 307 as a factor	2	0	18	0	0	20
Pedestrian casualties hit by vehicle with 602 as a factor	0	3	27	2	1	33

- There were 6 pedestrians aged 20-69 which was hit by a vehicle which was recorded as exceeding the speed limit.
- There were 10 pedestrians aged 20-69 in collisions which involved a vehicle which was recorded as exceeding the speed limit.

C.1.4.2 Number of driver casualties (2008-2010)

Casualty Specification	1-15	16-19	20-69	70+	Unknown	Total
Total number of driver casualties in HA collisions	20	2,270	34,624	1,232	223	38,369
Driver casualties in HA collisions at which a police officer attended the scene and in which at least one contributory factor was reported	12	1,994	30,292	1,128	156	33,582
Driver casualties in collisions with 306 as a factor	1	104	919	28	2	1,054
Driver casualties in collisions with 307 as a factor	1	244	3,289	61	11	3,606
Driver casualties in collisions with 602 as a factor	0	240	3,574	115	26	3,955
Casualties driving vehicle with 306 as a factor	0	92	573	4	1	670
Casualties driving vehicle with 307 as a factor	0	193	1,761	31	3	1,988
Casualties driving vehicle with 602 as a factor	0	159	1,507	50	9	1,725

- 4.6% of driver casualties aged 16-19 (92/1,994) were recorded as ‘exceeding speed limit’.
- 5.2% of driver casualties aged 16-19 (104/1,994) were in collisions where at least one of the vehicles was recorded as ‘exceeding speed limit’.
- Older drivers were less likely to be recorded with the three speed-related contributory factors.

C.1.4.3 Number of passenger casualties on HA roads (2008-2010)

Casualty Specification	1-15	16-19	20-69	70+	Unknown	Total
Total number of passenger casualties in collisions	2,853	2,177	11,487	1,043	405	17,965
Passenger casualties in collisions at which a police officer attended the scene and in which at least one contributory factor was reported	2,539	1,940	10,279	952	283	15,993
Passenger casualties in collisions with 306 as a factor	77	121	339	21	15	573
Passenger casualties in collisions with 307 as a factor	252	253	1,142	67	42	1,756
Passenger casualties in collisions with 602 as a factor	302	267	1,218	98	55	1,940
Injured passengers in vehicles with 306 as a factor	29	107	204	1	5	346
Injured passengers of vehicles with 307 as a factor	136	180	610	23	15	964
Injured passengers of vehicles with 602 as a factor	109	177	501	26	19	832

C.2 Single vehicle (non-ped) collisions

C.2.1 Introduction

Single vehicle (non pedestrian) collisions are one of the customer groups defined in Chapter 7. 18% (10,522/56,695) of all casualties injured in 2010 were injured in single vehicle collisions. Of those injured in single vehicle collisions, 16% (1,733/10,522) were killed or seriously injured.

From 2008 to 2010 there were 1,733 killed or seriously injured casualties as a result of single vehicle (non pedestrian) collisions; Table 7-2 displays these by age and customer group. B.1.8 splits the number of casualties injured in single vehicle collisions (2008-10) by road type.

C.2.1.1 Casualties by customer group and casualty injury, 2008-2010

Customer Group	Killed	Seriously Injured	Slightly Injured	Total	% KSI
Pedestrian	**122**	197	312	631	51%
Pedal cycle	**27**	99	298	424	30%
PTW	**110**	880	1,766	2,756	36%
Car	**514**	3,376	44,184	48,074	8%
Bus/coach	**3**	42	314	359	13%
Goods vehicle occupants	**75**	478	3,843	4,396	13%
Other vehicle occupants	**3**	30	292	325	10%
Single vehicle (non pedestrian) collisions	**201**	1,532	8,789	10,522	16%
Total	**854**	5,102	51,009	56,965	10%

C.2.2 Trends

In 2010 the number of KSI casualties in single vehicle (non pedestrian) collisions had reduced from the 2005-09 baseline by 23% (reduced to 534 from the baseline of 690); a slightly larger reduction compared with all other KSI casualties.

C.2.2.1 Single vehicle collision casualty trends

	2005-2009 average	2008	2009	2010	2010 change from baseline
KSI Casualties in Single Vehicle Non-Pedestrian Collisions	689.8	617	582	534	-23%
KSI Casualties in Multiple Vehicle and / or Pedestrian Collisions	1631.4	1,486	1,385	1,352	-17%
Total KSI casualties	2,321.2	2,103	1,967	1,886	-19%
% of KSI casualties in single vehicle non pedestrian collisions	30%	29%	30%	28%	-

C.2.3 Road type

The table below shows the number of casualties in single vehicle collisions by road type.

On both motorways and A-roads, about 18% of all casualties were in single vehicle collisions. However, single vehicle collisions account for 11% (819) of all collisions on single carriageway A-roads. This compares to 22% (4,277) on dual carriageway A-roads.

C.2.3.1 Casualties involved in single vehicle (non pedestrian) collisions by road type and casualty injury, 2008-10

Road class	Type	Killed	KSI	Total	% KSI	% of all casualties
Motorways	All	**101**	863	5,421	15.9%	18.5%
A-roads	All	**100**	870	5,101	17.1%	18.4%
Total		**201**	1,733	10,522	16.5%	18.5%
A-roads	Built-up	**8**	74	385	19.2%	9.0%
	Non built-up	**92**	796	4,716	16.9%	20.2%
A-roads	Dual carriageway[2]	**83**	726	4,277	17.0%	21.6%
	Single carriageway	**17**	142	819	17.3%	10.6%

C.2.4 Month, Day of the Week and Time

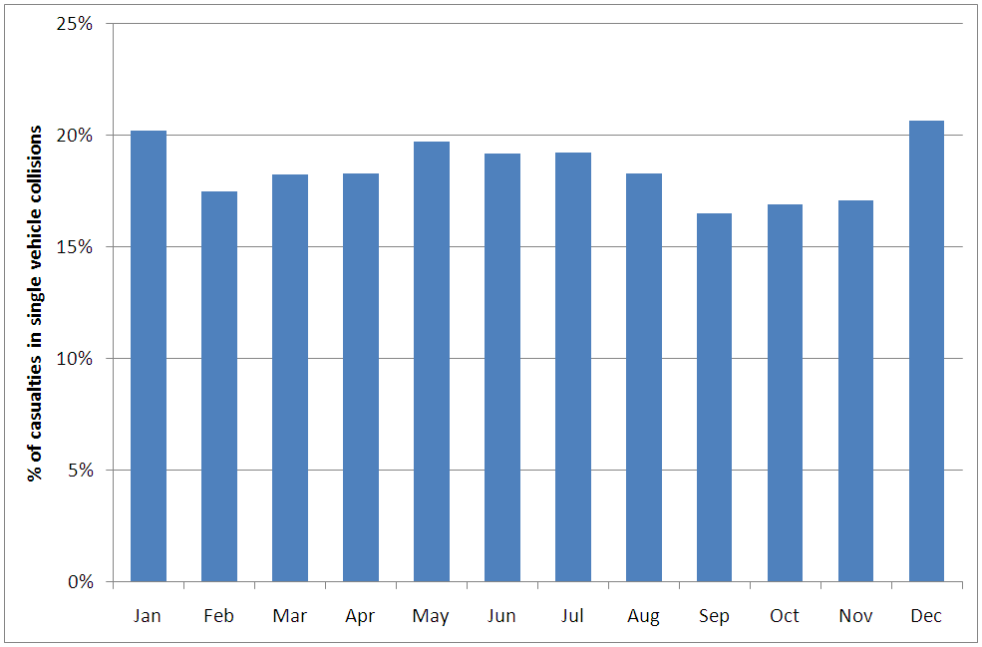
The table below shows the number of casualties in single vehicle collisions by day of week. Saturdays and Sundays had the highest number of casualties and also had the highest percentage of all casualties in single vehicle collisions (27% and 25%) compared with the other days of the week (about 15%).

C.2.4.1 Casualties involved in single vehicle (non pedestrian) collisions by day of the week, 2008-10

Day of week	Number of casualties	% of all casualties
Sunday	2,121	26.9%
Monday	1,364	17.1%
Tuesday	1,261	16.8%
Wednesday	1,203	15.5%
Thursday	1,102	14.2%
Friday	1,432	14.2%
Saturday	2,039	25.4%
Total	10,522	18.5%

The chart below shows the percentage of casualties (all severities) that were in single vehicle collisions by month. December and January had the highest proportions of casualties in single vehicle collisions compared with the other months.

C.2.4.2 % of casualties involved in single vehicle (non pedestrian) collisions by month, 2008-10



The table below shows the number of casualties in single vehicle collisions by time of day.

The most common time for these casualties was between noon and 6pm. However, these casualties formed the greatest proportion of casualties between midnight and 6am, when 43% (1,870) of all casualties were in single vehicle collisions. This period also had the highest percentage of casualties in single vehicle collisions resulting in fatal or serious injuries (20%).

C.2.4.3 Casualties involved in single vehicle (non pedestrian) collisions by time of day and casualty injury, 2008-10

Time	Killed	Seriously injured	Slightly injured	Total	% KSI	% of all casualties
12am-6am	**68**	313	1,489	1,870	20.4%	43.5%
6am-12pm	**40**	342	2,384	2,766	13.8%	16.0%
12pm-6pm	**52**	476	2,705	3,233	16.3%	13.7%
6pm-12am	**41**	401	2,211	2,653	16.7%	22.5%
Total	**201**	1,532	8,789	10,522	16.5%	18.5%

C.2.5 Vehicle type

As with all casualties, the majority of casualties in single vehicle collisions were car occupants (84%), and 18% (8,820/48,074) of all car occupant casualties were in single vehicle collisions.

Motorcyclists had the highest percentage involvement in single vehicle collisions and the highest severity (other than pedal cyclists); 26% (711/2,756) of motorcyclists were in single vehicle collisions and 43% (341) of these were killed or seriously injured.

C.2.5.1 Casualties involved in single vehicle (non pedestrian) collisions by customer group and casualty injury, 2008-10

Customer group	Killed	KSI	Total	%KSI	% of all casualties
Pedal cyclists	**0**	7	14	50.0%	3.3%
PTW users	**29**	312	711	43.9%	25.8%
Car occupants	**155**	1,239	8,820	14.0%	18.3%
Bus/coach occupants	**0**	12	74	16.2%	20.6%
Goods vehicle occupants	**17**	162	850	19.1%	19.3%
Other/unknown	**0**	1	53	1.9%	16.3%
Total	**201**	1,733	10,522	16.5%	18.7%

C.2.6 Vehicle manoeuvre

As with all collisions, the most common vehicle manoeuvre was 'going ahead other', accounting for over two-thirds (68%) of casualties in single vehicle collisions.

17% (1,828/10,522) of casualties in single vehicle collisions were occupants of vehicles which were going ahead at a bend; over half (56%) of all casualties in vehicles which were performing this manoeuvre were in single vehicle collisions.

C.2.6.1 Casualties involved in single vehicle (non pedestrian) collisions by vehicle manoeuvre and casualty injury, 2008-10

Vehicle manoeuvre	Killed	KSI	Total	% KSI	% of all casualties
Changing lane	**6**	91	639	14.2%	22.5%
Overtaking	**8**	52	339	15.3%	16.0%
Going ahead at a bend	**44**	315	1,828	17.2%	56.1%
Going ahead other	**140**	1184	7,202	16.4%	22.0%
Other	**3**	91	514	17.7%	3.2%
Total	**201**	1,733	10,522	16.5%	18.5%

Other includes: Reversing, parked, waiting to go ahead, slowing or stopping, moving off, U-turn, turning left or right, waiting to turn left or right

C.2.7 Driver age/sex

Younger drivers were more likely to be involved in single vehicle collisions; 28% (1,187/4,299) of male collision-involved drivers under 25 and 23% (796/3,477) of female collision-involved drivers under 25 were in single vehicle collisions as shown in the table below.

C.2.7.1 Driver casualties involved in single vehicle (non pedestrian) collisions by driver sex, driver age and casualty injury, 2008-10

Driver Sex	Driver Age	Killed	KSI	Total	% KSI	% of all casualties
Male	Under 25	**32**	205	1,187	17.3%	27.6%
	25-59	**79**	665	3,082	21.6%	17.7%
	Over 59	**17**	100	412	24.3%	15.4%
	Unknown	**0**	4	22	18.2%	15.7%
Female	Under 25	**2**	68	796	8.5%	22.9%
	25-59	**11**	136	1,367	9.9%	14.6%
	Over 59	**0**	24	131	18.3%	13.4%
	Unknown	**0**	1	5	20.0%	6.2%
Unknown		**0**	0	2	0.0%	20.0%
Total		**141**	1,203	7,004	17.2%	18.3%

C.2.8 Skidding & Overturning

35% (2,798) of vehicles involved in single vehicle collisions skidded. A further 21% (1,686) skidded and overturned.

C.2.8.1 Vehicles involved in single vehicle (non pedestrian) collisions by skidding & overturning classification, 2008-10

Skidding & Overturning	Number of vehicles	% of vehicles in single vehicle collisions
None	2,389	30.1%
Skidded	2,798	35.3%
Skidded & Overturned	1,686	21.3%
Jack-knifed	60	0.8%
Jack-knifed & Overturned	64	0.8%
Overturned	935	11.8%
Unknown	0	0.0%
Total	7,932	100.0%

C.2.9 Casualty age/sex

The table below shows the number of casualties in single vehicle collisions by casualty age group.

29% (1,286/4,504) of all casualties aged 16 to 19 were injured in single vehicle collisions (2008-10). Of these casualties, 14% (194) were killed or seriously injured.

534 casualties in single vehicle collisions were children.

C.2.9.1 Casualties involved in single vehicle (non pedestrian) collisions by age and casualty injury, 2008-10

Age	Killed	KSI	Total	% KSI	% of all casualties
1-15	**4**	69	534	12.9%	18.0%
16-19	**16**	178	1,286	13.8%	28.6%
20-69	**165**	1,395	8,283	16.8%	17.8%
70+	**16**	79	342	23.1%	14.9%
Unknown	**0**	12	77	15.6%	12.1%
Total	**201**	1,733	10,522	16.5%	18.5%

C.2.10 Region

The table below shows the number of casualties in single vehicle collisions by severity in each Region.

SE region had the highest number of casualties in single vehicle collisions; although this region also has the highest number of casualties overall.

The percentage of casualties that were killed or seriously injured in each region varied, from 12% (141) in WM region to 20% (229) in E region. Different road types in each region may influence these figures.

C.2.10.1 Casualties involved in single vehicle (non pedestrian) collisions by region and severity (2008-10)

Region	Killed	KSI	Total	% KSI	% of all casualties
E	**33**	275	1,584	17.4%	19.2%
EM	**27**	202	1,003	20.1%	18.1%
NW	**29**	233	1,302	17.9%	16.7%
SE	**51**	494	3,020	16.4%	18.8%
SW	**20**	159	1,031	15.4%	19.8%
WM	**16**	125	1,014	12.3%	17.0%
YNE	**25**	245	1,568	15.6%	19.2%
Total	**201**	1,733	10,522	16.5%	18.5%

C.2.11 Contributory factors

From 2008 to 2010, 7,431 single vehicle non pedestrian collisions were attended by the police and had at least one contributory factor recorded. 170 of these collisions were fatal and 1215 were serious.

Table... shows the most common 10 factors in collisions (in red) for fatal, serious and slight collisions.

In over 50% (3,812/7,431) of single vehicle collisions from 2008 to 2010 where a police officer attended the scene and at least one contributory factor was recorded, loss of control was recorded as a contributory factor. Loss of control was recorded for 65% (111/170) of fatal collisions.

C.2.11.1 Most common contributory factors in single vehicle (non pedestrian) collisions by severity (2008-10)

Factor	Description	Fatal	Serious	Slight	Total	% of Total
Number of collisions with at least 1 CF attended by the police (100%)		**170**	1,215	6,046	7,431	100%
410	Loss of control	**111**	637	3,064	3,812	51%
503	Fatigue	**34**	151	571	756	10%
306	Exceeding the speed limit	**24**	89	227	340	5%
501	Impaired by alcohol	**20**	143	399	562	8%
103	Slippery road (due to weather)	**19**	195	1,486	1,700	23%
307	Travelling too fast for conditions	**19**	171	777	967	13%
602	Careless, reckless or in a hurry	**16**	109	405	530	7%
409	Swerved	**15**	164	880	1,059	14%
509	Distraction in vehicle	**13**	55	273	341	5%
403	Poor turn or manoeuvre	**12**	111	427	550	7%
999	Other	**11**	78	322	411	6%
201	Tyres illegal, defective or under-inflated	**9**	65	374	448	6%
408	Sudden braking	**2**	76	429	507	7%

C.3 Collisions involving a goods vehicle

C.3.1 Introduction

Collisions involving goods vehicles is one of the customer groups covered in Chapter 7. Table 7-1 shows that in 2010, 29% (16,674/56,695) of all casualties were injured in collisions involving a goods vehicle. Of the casualties injured in goods vehicle collisions in 2010, 11% (1,780) were killed or seriously injured.

Table 7-2 provides information on the age and customer group of KSI casualties involved in goods vehicle collisions. Table 7-3 displays the number of casualties by year. Table 7-4 (and B.1.8) show the number of casualties involved in goods vehicle collisions in 2010 by road type.

Table 7-5 shows that the casualty rate for both LGVs and HGVs has decreased from the 2005-09 average by 27% for HGVs and 15% for LGVs. There is a larger decrease in the KSI casualty rate for both HGVs and LGVs (33% and 19% respectively).

C.3.1.1 Casualties by customer group and casualty injury, 2008-2010

Customer Group	Killed	Seriously Injured	Slightly Injured	Total	% Killed
Pedestrian	**122**	197	312	631	19.3%
Pedal cycle	**27**	99	298	424	6.4%
PTW	**110**	880	1,766	2,756	4.0%
Car	**514**	3,376	44,184	48,074	1.1%
Bus/coach	**3**	42	314	359	0.8%
Goods vehicle occupants	**75**	478	3,843	4,396	1.7%
Other vehicle occupants	**3**	30	292	325	0.9%
Collisions involving goods vehicles	**347**	1,433	14,894	16,674	2.1%
Total	**854**	5,102	51,009	56,965	1.5%

C.3.2 Trends

In 2010 the number of KSI casualties in collisions with goods vehicles was 22% lower than the baseline (reduced to 582 from a baseline of 745); a slightly larger reduction compared with all other KSI casualties.

C.3.2.1 KSI casualty trend in collisions involving goods vehicles

	2005-09	2008	2009	2010	2010 change from baseline
KSI casualties in collisions Involving Goods Vehicles	744.8	631	567	582	-22%
KSI Casualties in Collisions Not Involving Goods Vehicles	1576.4	1,472	1,400	1,304	-17%
Total KSI Casualties	2,321.2	2,103	1,967	1,886	-19%
% of KSI casualties in collisions with goods vehicles	32%	30%	29%	31%	-

C.3.3 Month, Day of the Week and Time

In total from 2008-10 there were 16,674 casualties involved in collisions with a goods vehicle. 11% (1,780) of these casualties were killed or seriously injured.

More casualties are injured in collisions involving a goods vehicle on weekdays than on the weekend; on weekdays between 32% and 38% of casualties were in collisions with a goods vehicle, whereas on a Saturday and Sunday this figure was reduced to 14% and 13% respectively. These differences are likely to be due to differences in travel patterns of goods vehicles.

C.3.3.1 Casualties involved in collisions with goods vehicles by day of the week, 2008-10

Day of the week	Number of casualties	% of all casualties
Sunday	1,032	13.1%
Monday	2,796	35.1%
Tuesday	2,885	38.4%
Wednesday	2,792	36.1%
Thursday	2,785	35.8%
Friday	3,222	32.0%
Saturday	1,162	14.5%
Total	16,674	29.3%

The number of casualties injured in a collision with a goods vehicle between midnight and 6am was lower than any other time during the day. However, the percentage of casualties killed or seriously injured was highest during this period, and 33% (1,435/ 4,302) of all casualties in this period were in collisions with goods vehicles. The lowest proportion of casualties killed or seriously injured was between noon and 6pm. Between 6pm and 6pm there was a lower involvement of casualties on goods vehicle collisions (21%). These differences are likely to be due to travel patterns of goods vehicles.

C.3.3.2 Casualties involved in collisions with goods vehicles by time of day and casualty injury, 2008-10

Time	Killed	Seriously injured	Slightly injured	Total	% KSI	% of all casualties
12am-6am	**74**	225	1,136	1,435	20.8%	33.4%
6am-12pm	**109**	454	5,328	5,891	9.6%	34.2%
12pm-6pm	**92**	499	6,282	6,873	8.6%	29.1%
6pm-12am	**72**	255	2,148	2,475	13.2%	21.0%
Total	**347**	1,433	14,894	16,674	10.7%	29.3%

C.3.4 Road type

33% (9,707/29,304) of all casualties involved in collisions on motorways are injured in a collision with a goods vehicle. This compares to 25% (6,967/27,661) on A-roads. On A-roads there was a lower occurrence of casualties in collisions with goods vehicles on built-up roads and on single carriageway roads.

C.3.4.1 Casualties involved in collisions with goods vehicles by road type and casualty injury, 2008-10

Road class	Type	Killed	KSI	Total	% KSI	% of all casualties
Motorways	All	**162**	908	9,707	9.4%	33.1%
A-roads	All	**185**	872	6,967	12.5%	25.2%
Total		**347**	1,780	16,674	10.7%	29.3%
A-roads	Built-up	**8**	62	901	6.9%	21.1%
	Non built-up	**177**	810	6,066	13.4%	25.9%
A-roads	Dual carriageway[1]	**117**	593	5,132	11.6%	25.9%
	Single carriageway	**68**	276	1,820	15.2%	23.5%

C.3.5 Region

The number of casualties has decreased from the baseline across all regions. The largest decreases are in the East Midlands (31%) and the North West (29%).

The East region had the highest percentage of killed and seriously injured casualties in collisions involving goods vehicles in 2010.

C.3.5.1 Casualties involved in collisions with goods vehicles by region and year (2005-10)

Region	2005-09 baseline	2008	2009	2010	% KSI (2010)	2010% change from 2005-09 baseline
E	1049.4	956	822	845	14.6%	-19.5%
EM	780.8	712	655	539	12.1%	-31.0%
NW	860.2	801	628	612	11.8%	-28.9%
SE	1831.2	1,654	1,449	1,405	9.5%	-23.3%
SW	404.8	334	310	303	13.9%	-25.1%
WM	753.2	714	658	696	9.1%	-7.6%
YNE	929.6	878	830	873	9.5%	-6.1%
Total	6609.2	6,049	5,352	5,273	11.0%	-20.2%

C.3.6 Casualty and vehicle type

There were 10,731 collisions involving goods vehicles, which involved 16,674 casualties. The table below shows the number of casualties who were drivers or passengers of goods vehicles or other vehicle occupants or pedestrians. It also shows the numbered of uninjured drivers; uninjured passengers are not recorded.

26% (4,396) of casualties in goods vehicle collisions were goods vehicle occupants, 1% (185) were pedestrians and 73% (12,093) were other vehicle occupants.

78% (12,568) of goods vehicle drivers were uninjured, compared with 38% (5,157) of other vehicle drivers.

C.3.6.1 Casualties involved in collisions with goods vehicles by casualty class, vehicle group and casualty injury, 2008-10

	Goods vehicle drivers	Goods vehicle passengers	Pedestrians	Other vehicle drivers	Other vehicle passengers	Total casualties
Killed	**63**	**12**	**58**	**156**	**58**	**347**
Seriously injured	398	80	56	624	275	1,433
Slightly injured	3,021	822	71	7,495	3,485	14,894
Total casualties	3,482	914	185	8,275	3,818	16,674
Uninjured drivers	12,568	-	-	5,157	-	-

C.3.7 Vehicle manoeuvre

The table below shows the number of casualties in collisions with goods vehicles in terms of the vehicle manoeuvres, by casualty type. For goods vehicle occupants, other vehicle occupants and pedestrians, the most common vehicle manoeuvre for their vehicle was 'going ahead other'

C.3.7.1 Casualties involved in collisions with goods vehicles by vehicle manoeuvre and casualty injury, 2008-10

	Goods vehicle occupant		Other vehicle occupant		Pedestrian		Total	
Vehicle manoeuvre	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Reversing	7	0%	5	0%	9	5%	21	0%
Parked	96	2%	114	1%	25	14%	235	1%
Waiting to go ahead, but held up	312	7%	1,095	9%	1	1%	1,408	8%
Slowing or stopping	540	12%	1,446	12%	4	2%	1,990	12%
Moving off	27	1%	113	1%	4	2%	144	1%
U-turn	4	0%	16	0%	0	0%	20	0%
Turning left	29	1%	97	1%	1	1%	127	1%
Waiting to turn left	4	0%	52	0%	0	0%	56	0%
Turning right	66	2%	135	1%	1	1%	202	1%
Waiting to turn right	21	0%	70	1%	0	0%	91	1%
Changing lane to the left	106	2%	351	3%	3	2%	460	3%
Changing lane to the right	111	3%	367	3%	2	1%	480	3%
Overtaking moving vehicle on offside	93	2%	701	6%	1	1%	795	5%
Overtaking stationary vehicle on offside	13	0%	24	0%	3	2%	40	0%
Overtaking on nearside	10	0%	75	1%	1	1%	86	1%
Going ahead left hand bend	154	4%	147	1%	4	2%	305	2%
Going ahead right hand bend	128	3%	136	1%	4	2%	268	2%
Going ahead other	2,675	61%	7,148	59%	122	66%	9,945	60%
Unknown	0	0%	1	0%	0	0%	1	0%
Total	4,396	100%	12,093	100%	185	100%	16,674	100%

C.3.8 Skidding & Overturning

19% (849) of goods vehicle occupants were occupants of vehicles which overturned, 16% (695) skidded, but did not overturn and 3% (145) jack-knifed.

Other vehicle occupants were more commonly in vehicles which did not skid, jack-knife or overturn.

C.3.8.1 Vehicles involved in collisions with goods vehicles by skidding & overturning classification, 2008-10

	Goods vehicle occupants		Other vehicle occupants		Pedestrians		Total	
Skidding	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
No skidding, jack-knifing or overturning	2,761	63%	8,712	72%	145	78%	11,618	70%
Skidded	695	16%	2,608	22%	38	21%	3,341	20%
Skidded and overturned	433	10%	475	4%	0	0%	908	5%
Jack-knifed	91	2%	8	0%	2	1%	101	1%
Jack-knifed and overturned	54	1%	8	0%	0	0%	62	0%
Overturned	362	8%	281	2%	0	0%	643	4%
Unknown		0%	1	0%	0	0%	1	0%
Total	4,396	100%	12,093	100%	185	100%	16,674	100%

C.3.9 Contributory factors

The most common contributory factors for goods vehicle drivers are displayed in Table 8-8.

C.3.9.1 shows the most common contributory factors (in red) involved in goods vehicle collisions by vehicle type. These contributory factors were preceded by a “V” and hence the factor applies to the vehicle, driver/rider or the road environment.

20,896 contributory factors were recorded for vehicles involved in collisions with a goods vehicle from 2008 to 2010. 61% (6,817/11,159) of goods vehicle were recorded with a contributory factor compared with 41% (4,924/11,900) of other vehicles.

The most common contributory factor in goods vehicle collisions for both goods vehicle and other vehicles was ‘failed to look properly’.

The factor ‘vehicle blind spot’ was the third most common contributory factor for goods vehicles, however, only 36 other vehicles involved in collisions with a goods vehicle had this recorded as a contributory factor.

C.3.9.1 Most common contributory factors in goods vehicle collisions by vehicle type (2008-10)

Factor	Description	Goods vehicle	Other vehicle	Total
Number of vehicles in goods vehicle collisions attended by the police where at least 1 CF was recorded		11,159	11,900	23,419
Number of vehicles with at least 1 factor recorded		6,817	4,924	11,741
405	Failed to look properly	2,540	1,082	3,622
406	Failed to judge other person's speed or path	1,657	1,165	2,822
308	Following too close	867	621	1,488
403	Poor turn or manoeuvre	894	532	1,426
410	Loss of control	558	726	1,284
408	Sudden braking	522	630	1,152
602	Careless, reckless or in a hurry	621	447	1,068
710	Vehicle blind spot	955	36	991
307	Travelling too fast for conditions	405	350	755
103	Slippery road (due to weather)	351	377	728
409	Swerved	295	358	653

C.4 Children

C.4.1 Introduction

In total, 6,508 children were injured on the HA Network over the six-year period 2005-10. Chapter 7 includes overview information on casualty numbers for a range of customer groups, including casualties aged 1-15 (children). In 2010, children accounted for 5.1% (924/18,022) of all casualties and 4.4% (83/1,886) of KSI casualties. There was a 4.5% increase in the number of KSI children injured in 2010 from the 2005-09 average (increase to 83 from a baseline of 79).

C.4.1.1 shows the number of child casualties by severity and year. The number of slightly injured children has been steadily decreasing since 2005, however, the trend for killed and seriously injured children does not appear to follow the same trend. In 2010, a larger proportion of child casualties were killed or seriously injured when compared to the same figure for 2009 (9% compared to 7% in 2009), although these changes may be due to changes in reporting levels. Overall, 34 children were killed and 207 were seriously injured between 2008 and 2010. The number of children killed or seriously injured accounts for 8% (241) of child casualties.

C.4.1.1 Child casualties by severity and year (2005-10)

Severity	2005	2006	2007	2008	2009	2010	Total
Killed	**5**	**10**	**14**	**15**	**10**	**9**	**63**
Seriously Injured	75	77	58	69	64	74	417
KSI	80	87	72	84	74	83	480
Slightly Injured	1,214	1,083	1,011	919	960	841	6,028
% KSI	6.2%	7.4%	6.6%	8.4%	7.2%	9.0%	7.4%
Total	1,294	1,170	1,083	1,003	1,034	924	6,508

C.4.1.2 shows the number of child casualties by severity and age group. About two-third of KSI child casualties were aged 8 or over. 16 of the 34 fatalities were aged 12-15.

C.4.1.2 Child casualties by severity and age group (2008-10)

Casualty Age	Killed	Seriously injured	Slightly injured	Total
1-4 years	**5**	38	523	566
5-7 years	**2**	30	486	518
8-11 years	**11**	52	831	894
12-15 years	**16**	87	880	983
Total	**34**	207	2,720	2,961

More children were injured on motorways compared to A-roads from 2008-10, as shown in C.4.1.3. However, the percentage of those killed or seriously injured was lower on motorways than on A-roads.

Although fewer children were injured on built up A-roads than non built-up A-roads, a higher proportion were killed or seriously injured. Similarly single carriageway roads had fewer casualties but a higher KSI proportion.

C.4.1.3 Child casualties by severity and road type (2008-10)

Road class	Type	Killed	Seriously Injured	Slightly Injured	Total	% KSI
Motorways	All	**16**	93	1,393	1,502	7.3%
A-roads	All	**18**	114	1,327	1,459	9.0%
Total		**34**	207	2,720	2,961	8.1%
A-roads	Built-up	**0**	25	234	259	9.7%
	Non built-up	**18**	89	1,093	1,200	8.9%
A-roads	Dual carriageway	**12**	67	917	996	7.9%
	Single carriageway	**6**	47	408	461	11.5%

C.4.2 Child pedestrians

32 child pedestrians were killed or seriously injured between 2008 and 2010. This represents 10% of all KSI pedestrians (see C.4.2.1). 13% (32/241) of KSI children were pedestrians compared with 5% (268/5,665) of KSI adults. A smaller proportion (36%) of injured pedestrians aged 1-15 were killed or seriously injured than those pedestrians aged 16+ (54%).

C.4.2.1 Pedestrian casualties by age and severity (2008-10)

Age	Killed	Seriously Injured	Slightly Injured	Total	% KSI
Child (age 1-15)	**7**	25	56	88	36.4%
Adult (age 16+)	**115**	171	249	535	53.5%
Unknown	**0**	1	7	8	12.5%
Total	**122**	197	312	631	50.6%
% child	**5.7%**	12.7%	17.9%	13.9%	-

C.4.2.2 shows the injury severity of the driver of the vehicle that hit the child pedestrian. The majority of drivers were uninjured with the exception of 8 who were slightly injured.

C.4.2.2 Child pedestrian severity by driver severity (2008-10)

	Child pedestrian severity			
Driver Severity	Killed	Seriously Injured	Slightly Injured	Total
Killed	**0**	0	0	0
Seriously Injured	**0**	0	0	0
Slightly Injured	**2**	2	4	8
Uninjured	**5**	23	52	80
Total	**7**	25	56	88

C.4.3 Child vehicle occupants

87% (209/241) of the KSI child casualties between 2008 and 2010 were vehicle occupants. The majority of these were car occupants as shown in the table below.

C.4.3.1 Child casualties by severity and vehicle occupied (2008-10)

Vehicle	Killed	Seriously Injured	Slightly Injured	Total	% KSI
Pedal cycle	**0**	3	16	19	15.8%
PTW	**0**	2	8	10	20.0%
Car	**26**	156	2,556	2,738	6.6%
Bus/coach	**1**	15	44	60	26.7%
Goods vehicle occupants	**0**	4	33	37	10.8%
Other vehicle occupants	**0**	2	6	8	25.0%
Total	**27**	182	2,663	2,872	7.3%

The highest proportion (27%) of killed and serious injuries occurred in children travelling by bus or coach. The majority of those children killed and seriously injured were involved in one collision. This collision involved one child fatality and 14 of the 15 seriously injured and 16 slightly injured whilst travelling by bus or coach.

Although children travelling by car account for 95% (2,738) of the total child casualties (excluding pedestrians) from 2008-10, the percentage of those killed or seriously injured whilst travelling by car is less than 7% (182).

C.4.3.2 shows the number of child passenger casualties by severity and the severity of their vehicle driver. 38% (1,090) of child passenger casualties were in vehicles where the driver was not injured in the collision. There were 29 child casualties, including 9 fatalities, where the driver of their vehicle was killed. In all cases where a child passenger was killed their vehicle driver was injured or killed.

C.4.3.2 Child injury severity by driver severity (2008-10)

	Child passenger severity			
Driver Severity	Killed	Seriously Injured	Slightly Injured	Total
Killed	**9**	14	6	29
Seriously Injured	**7**	67	123	197
Slightly Injured	**11**	69	1,477	1,557
Uninjured	**0**	32	1,058	1,090
Total	**27**	182	2,664	2,873

C.4.4 Car occupant casualties

Of the 241 casualties aged 1-15 killed or seriously injured between 2008 and 2010 over 75% (182) of these were car occupants (Table 6.2).

A larger proportion of the children injured when sitting in the rear of the car were killed or seriously injured compared to those who were sat in the front (7.1% compared to just 5.1% respectively).

C.4.4.1 Car casualties aged 1-15 by severity and seating position (2008-10)

Seating position	Killed	Seriously Injured	KSI	Slightly Injured	Total	% KSI
Front Seat Passenger	**2**	27	29	545	574	5.1%
Rear seat passenger	**24**	128	152	1,977	2,129	7.1%
Unknown	**0**	1	1	33	34	2.9%
Total	**26**	156	182	2,555	2,737	6.6%

C.5 Pedal cyclists

C.5.1 Introduction

In total, 899 pedal cyclists were injured on the HA Network over the six-year period 2005-10. Chapter 7 includes overview information on casualty numbers for a range of customer groups, including pedal cyclists. In 2010, pedal cyclists accounted for 0.8% of all casualties and 2.8% of KSI casualties (see Table 7-1). Table 7-2 displays the killed or seriously injured pedal cyclists by customer group (2008-10).

There has been a 27% increase in the number of killed or seriously injured pedal cyclists in 2010 from the 2005-09 baseline (see Table 7-3). However, the total number of pedal cyclists injured in 2010 has decreased from the 2005-09 baseline by 1.5% (decrease to 148 from 150).

C.5.1.1 shows the number of pedal cyclist casualties by severity and year. The number of slightly injured pedal cyclists has been steadily decreasing since 2006, however, the trend for killed and seriously injured pedal cyclists does not appear to follow the same trend. In 2010, there was an increase of 37% in the number of KSI pedal cyclists from the 2009 figure (increase from 38 to 52).

Overall, 27 pedal cyclists were killed and 126 were seriously injured from 2008-10. During this period, the number of pedal cyclists killed or seriously injured accounts for 30% (126/424) of pedal cyclist casualties.

C.5.1.1 Pedal cyclist casualties by severity and year (2005-10)

Severity	2005	2006	2007	2008	2009	2010	Total
Killed	**12**	**8**	**5**	**7**	**8**	**12**	**52**
Seriously Injured	45	30	31	29	30	40	205
KSI	57	38	36	36	38	52	257
Slightly Injured	120	121	103	105	97	96	642
% KSI	32.2%	23.9%	25.9%	25.5%	28.1%	35.1%	28.6%
Total	177	159	139	141	135	148	899

Between 2008 and 2010 60% of pedal cyclists injured in collisions were male between the ages of 25 and 59 years. These casualties account for 1.2% of all male casualties aged 25-59. Pedal cyclists over 59 years old have the highest proportion of casualties killed or seriously injured for both sexes (42% of males over 59 were killed or seriously injured and 60% of females).

C.5.1.2 Pedal cyclist casualties by casualty sex, casualty age and casualty injury, 2008-10

Casualty sex	Casualty age	Killed	KSI	Total	% KSI	% of all casualties
Male	Under 25	**2**	17	62	27.4%	0.8%
	25-59	**17**	73	255	28.6%	1.2%
	Over 59	**5**	19	45	42.2%	1.4%
	Unknown	**0**	0	3	0.0%	1.0%
Female	Under 25	**1**	2	12	16.7%	0.2%
	25-59	**2**	11	40	27.5%	0.3%
	Over 59	**0**	3	5	60.0%	0.2%
	Unknown	**0**	1	2	50.0%	0.7%
Total		**27**	126	424	29.7%	0.7%

C.5.2 Road type

Only one pedal cyclist was injured on a motorway from 2008-10, as shown in C.5.2.1. 30% (125) of pedal cyclists injured on A-roads were killed or seriously injured.

Fewer pedal cyclists were injured on built up A-roads than non built-up A-roads. Similarly single carriageway roads had fewer casualties than dual carriageways. Non built-up A-roads have the highest proportion of killed or seriously injured casualties.

C.5.2.1 Pedal cyclist casualties by severity and road type (2008-10)

Road class	Type	Killed	Seriously Injured	Slightly Injured	Total	% KSI
Motorways	All	**0**	1	0	1	100.0%
A-roads	All	**27**	98	298	423	29.6%
Total		**27**	99	298	424	29.7%
A-roads	Built-up	**1**	35	152	188	19.1%
	Non built-up	**26**	63	146	235	37.9%
A-roads	Dual carriageway	**24**	72	207	303	31.7%
	Single carriageway	**3**	26	91	120	24.2%

C.5.3 Month, Day of the Week and Time

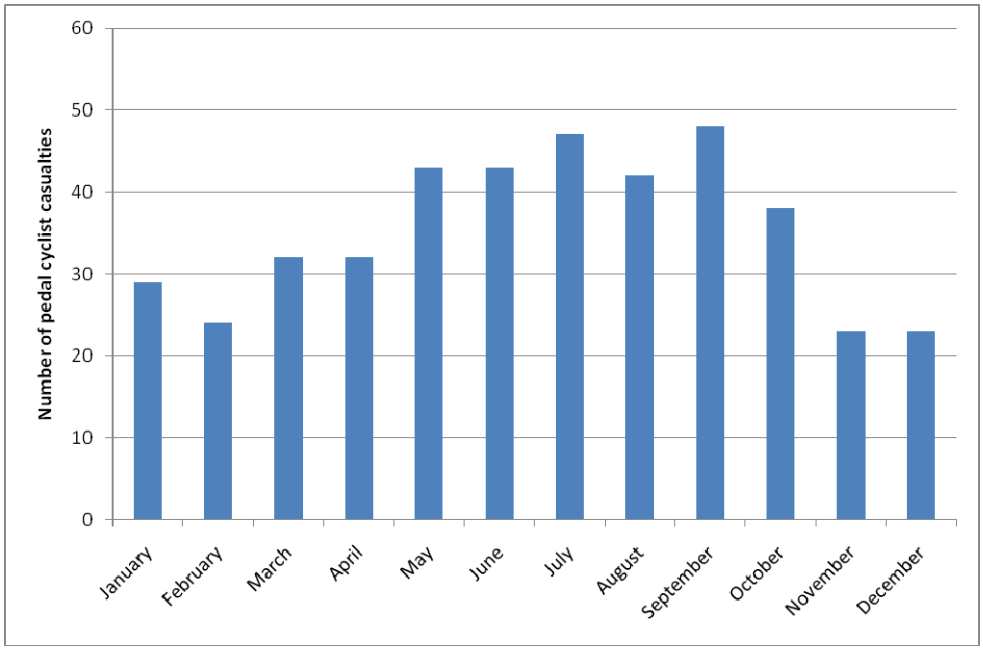
More pedal cyclist casualties are injured on weekdays than on the weekend; on weekdays between 13% and 18% of pedal cyclist casualties were injured, whereas on a Saturday and Sunday this figure was reduced to 10% and 11% respectively. These differences are likely to be due to differences in travel patterns of pedal cyclists.

C.5.3.1 Pedal cyclist casualties by day of the week, 2008-10

Day of the week	Number of casualties	% of all casualties
Sunday	48	0.6%
Monday	57	0.7%
Tuesday	77	1.0%
Wednesday	64	0.8%
Thursday	65	0.8%
Friday	69	0.7%
Saturday	44	0.5%
Total	48	0.1%

More pedal cyclists are injured in the summer/autumn months (May-Oct) than in the winter/spring (Nov-Apr). This difference is likely to be due to differences in travel patterns of pedal cyclists across the year.

C.5.3.2 Number of pedal cyclist casualties by month, 2008-10



The number of pedal cyclists injured between midnight and 6am was lower than any other time during the day. However, the percentage of casualties killed or seriously injured was highest during this period (32%). Over 76% of pedal cyclists were injured during the day (6am-6pm). During this period 30% (97/324) were killed or seriously injured. The differences in casualty number are likely to be due to differences in the travel patterns of cyclists.

C.5.4 Region

Over half (52%) of the pedal cyclists injured in road collisions in 2010 in the South West region were killed or seriously injured. The North West region had the lowest proportion of pedal cyclists killed or seriously injured in 2010. The East, East Midlands and South West regions casualty numbers have increased since the 2005-09 baseline. The biggest increase was in the South West with 32% more casualties (increase to 25 casualties from the baseline of 19).

C.5.4.1 Pedal cyclist casualties by region and year (2005-10)

Region	2005-09 baseline	2008	2009	2010	% KSI (2010)	2010% change from 2005-09 baseline
E	20.4	17	24	24	29.2%	17.6%
EM	28.4	30	22	31	25.8%	9.2%
NW	14.2	12	10	14	14.3%	-1.4%
SE	29.2	29	24	21	38.1%	-28.1%
SW	19	18	17	25	52.0%	31.6%
WM	19.6	17	17	19	47.4%	-3.1%
YNE	19.4	18	21	14	35.7%	-27.8%
Total	150.2	141	135	148	35.1%	-1.5%

C.5.5 Collisions involving a pedal cyclist

From 2008 to 2010 there were 431 collisions involving a pedal cyclist. 90% (389) of these collisions involved a pedal cyclist and one other vehicle.

C.5.5.1 Pedal cyclist collisions by severity and number of vehicles involved (2008-10)

Number of vehicles involved	Fatal	Serious	Slight	Total	% KSI
Single vehicle collision (pedal cyclist only)	**0**	7	9	16	43.8%
Two vehicles	**23**	85	281	389	27.8%
Three or more vehicles	**4**	7	15	26	42.3%
Total	**27**	99	305	431	29.2%

A quarter of the single vehicle pedal cycle collisions hit an object either on or off the carriageway. The objects hit include a previous collision (1) and a tree (1); the remaining 2 pedal cyclists entered a ditch.

Of the 389 two vehicle collisions, 4 collisions involved 2 pedal cycles. The 285 collisions involving a pedal cyclist and another vehicle are shown in C.5.5.2 by severity and manoeuvre of the other vehicle. These collisions are shown by vehicle type in C.5.5.3.

The most common manoeuvre for the other vehicle was 'going ahead other', accounting for almost half (49%) of two-vehicle pedal cycle collisions.

C.5.5.2 Two vehicle pedal cycle collisions by severity and vehicle manoeuvre (2008-10)

Vehicle manoeuvre (other vehicle)	Fatal	Serious	Slight	Total	% KSI
Turning left	**0**	10	36	46	21.7%
Turning right	**0**	7	19	26	26.9%
Changing lane	**1**	6	4	11	63.6%
Overtaking	**2**	9	24	35	31.4%
Going ahead on a bend	**0**	4	6	10	40.0%
Going ahead straight	**19**	39	131	189	30.7%
Other/unknown	**1**	9	58	68	14.7%
Total	**23**	84	278	385	27.8%

Other includes: parked, waiting to go ahead, slowing or stopping, waiting to turn left and U-turn

79% (306/385) of the two vehicle pedal cycle collisions occurred with a car. 27% (83/306) of these resulted in a fatal or serious collision.

C.5.5.3 Two vehicle pedal cycle collisions by severity and vehicle type (2008-10)

Other vehicle type	Fatal	Serious	Slight	Total	% KSI
PTW	**0**	0	3	3	0.0%
Car	**14**	69	223	306	27.1%
Bus/Coach	**0**	1	2	3	33.3%
Goods Vehicle	**8**	14	47	69	31.9%
Other	**1**	0	3	4	25.0%
Total	**23**	84	278	385	27.8%

Appendix D Collisions and casualties by region and year

D.1 Length and traffic in 2010 by region and road class

Region	Length (mile)			2010 Traffic (10^8 veh-mile)		
	Motorway	A-road	Total	Motorway	A-road	Total
E	193	481	674	57	59	116
EM	117	376	494	40	46	86
NW	385	173	557	109	13	122
SE	435	433	869	151	65	216
SW	186	440	625	50	38	88
WM	262	258	520	74	24	99
YNE	276	421	697	66	46	112
Total	1,854	2,582	4,436	547	292	839

Traffic and length based on DfT traffic data

D.2 Fatalities by Region and year

HA Region	2005-09 average	2005	2006	2007	2008	2009	2010	2010 % change from 2005-09 average
E	59.4	84	63	65	46	39	48	-19.2%
EM	43.8	43	56	47	42	31	21	-52.1%
NW	40.6	53	36	42	45	27	29	-28.6%
SE	84.8	111	96	78	84	55	60	-29.2%
SW	41.4	46	39	53	39	30	38	-8.2%
WM	38.4	31	45	36	39	41	23	-40.1%
YNE	48.8	54	54	49	55	32	30	-38.5%
Unknown	0.0	0	0	0	0	0	0	
Total	357.2	422	389	370	350	255	249	-30.3%

D.3 KSI casualties by Region and year

HA Region	2005-09 average	2005	2006	2007	2008	2009	2010	2010 % change from 2005-09 average
E	392.6	520	401	398	339	305	350	-10.9%
EM	277.4	326	277	290	238	256	197	-29.0%
NW	265.0	323	267	253	267	215	226	-14.7%
SE	625.2	685	675	697	535	534	515	-17.6%
SW	223.6	246	216	253	214	189	205	-8.3%
WM	215.2	249	235	215	201	176	160	-25.7%
YNE	322.0	342	368	299	309	292	233	-27.6%
Unknown	0.2	0	1	0	0	0	0	-
Total	2321.2	2,691	2,440	2,405	2,103	1,967	1,886	-18.7%

D.4 Fatal and serious collisions by Region and year

HA Region	2005-09 average	2005	2006	2007	2008	2009	2010	2010 % change from 2005-09 average
E	332.0	414	349	345	290	262	285	-14.2%
EM	228.4	256	225	247	202	212	171	-25.1%
NW	215.2	259	216	213	209	179	175	-18.7%
SE	500.2	551	526	515	452	457	450	-10.0%
SW	175.4	190	172	204	170	141	172	-1.9%
WM	175.8	200	198	180	158	143	132	-24.9%
YNE	257.4	269	285	250	251	232	191	-25.8%
Unknown	0.2	0	1	0	0	0	0	-
Total	1884.6	2,139	1,972	1,954	1,732	1,626	1,576	-16.4%

D.5 Slight Casualty Rate by Region and year

HA Region	2005-09 average	2005	2006	2007	2008	2009	2010	2010 % change from 2005-09 average
E	24.5	29.7	25.1	25.3	22.3	20.1	19.3	-21.0%
EM	22.2	26.2	24.0	22.2	20.0	18.3	18.4	-17.1%
NW	22.2	24.1	24.5	22.6	21.0	18.9	17.7	-20.2%
SE	24.8	27.3	27.0	24.8	22.7	22.3	21.5	-13.3%
SW	21.0	24.0	23.0	22.1	17.5	18.5	15.6	-25.7%
WM	19.7	22.0	20.2	19.9	18.5	18.0	18.1	-8.2%
YNE	23.2	24.6	24.4	23.1	21.8	22.0	21.0	-9.6%
Total	22.9	25.7	24.5	23.2	21.0	20.1	19.2	-16.0%

Slight casualty rate = slight casualties per 100 million vehicle-mile

D.6 Child KSI casualties by Region and year

HA Region	2005-09 average	2005	2006	2007	2008	2009	2010	2010 % change from 2005-09 average
E	12.8	11	17	11	13	12	13	1.6%
EM	11.6	13	11	12	11	11	7	-39.7%
NW	10.8	11	9	10	15	9	27	150.0%
SE	14.8	11	19	17	14	13	13	-12.2%
SW	8.6	8	7	5	13	10	7	-18.6%
WM	8.2	11	7	9	6	8	7	-14.6%
YNE	12.4	15	16	8	12	11	9	-27.4%
Unknown	0.2	0	1	0	0	0	0	-
Total	79.4	80	87	72	84	74	83	4.5%

D.7 Traffic volumes by Region by year

HA Region	2005-09 average	2005	2006	2007	2008	2009	2010	2010 % change from 2005-09 average
E	117.5	116	118	118	118	118	116	-1.2%
EM	86.7	87	87	88	86	86	86	-0.6%
NW	121.5	119	121	122	122	124	122	0.4%
SE	218.9	217	219	221	219	219	216	-1.6%
SW	88.0	86	88	88	90	89	88	-0.2%
WM	99.4	97	99	101	100	99	99	-0.7%
YNE	114.2	113	115	116	115	113	112	-1.5%
Total	846.1	835	847	853	849	847	839	-0.9%

Traffic based on DfT traffic data, measured in 100 million veh-mile

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