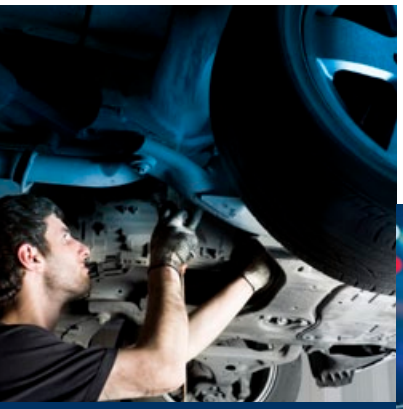
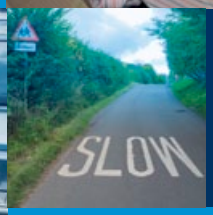
BVRLA POLICY PAPER

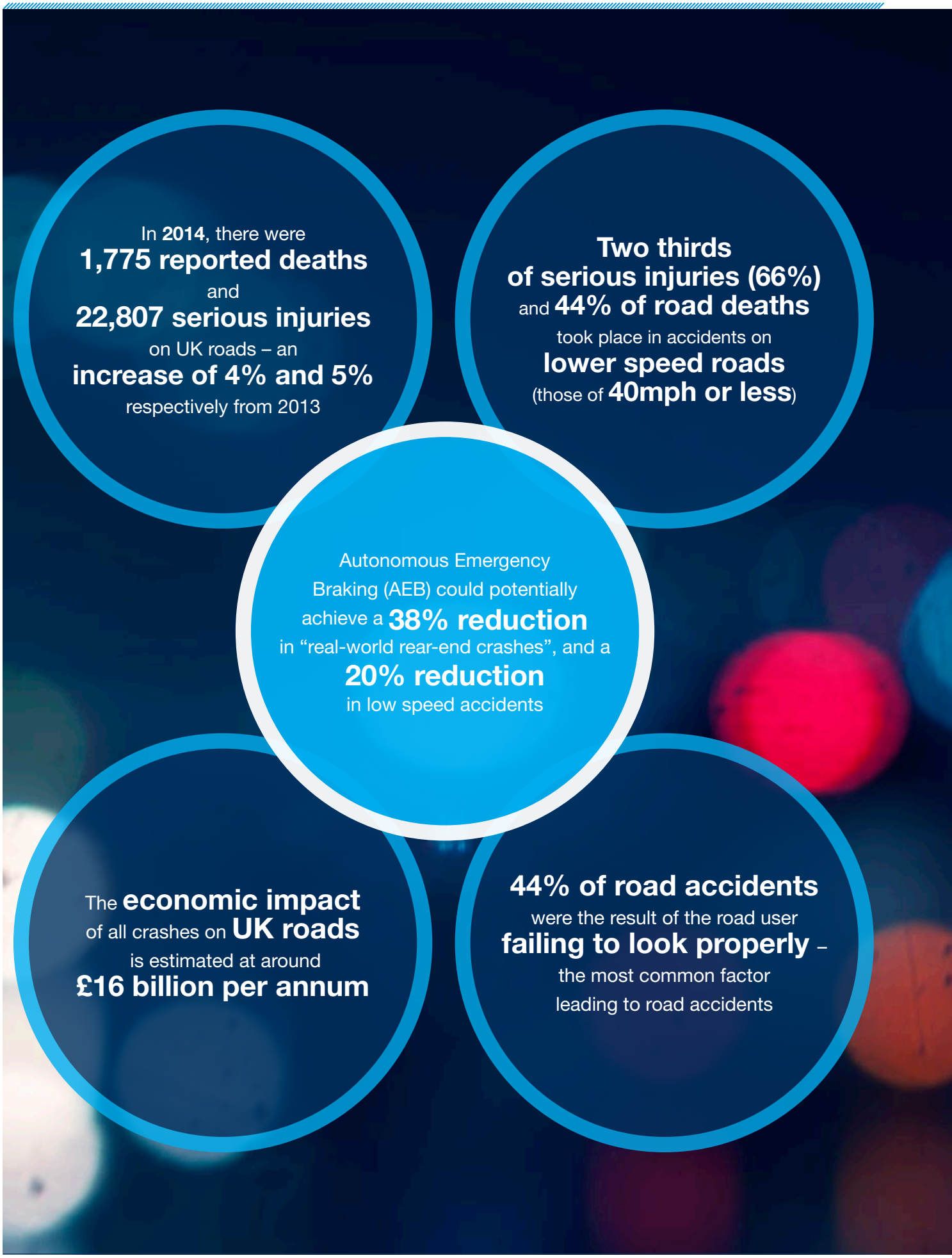
VEHICLE SAFETY

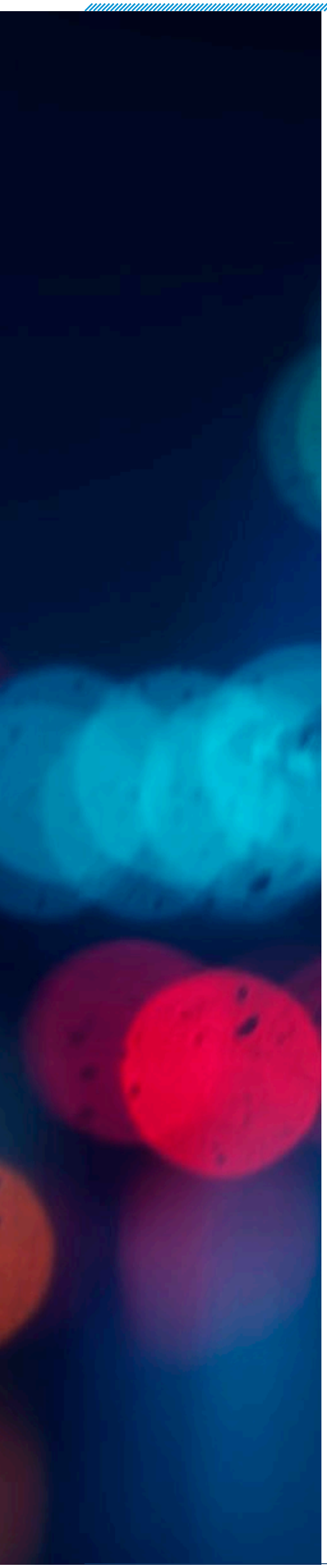
MARCH 2016





BVRLA


In **2014**, there were
1,775 reported deaths
and
22,807 serious injuries
on UK roads – an
increase of 4% and 5%
respectively from 2013
Two thirds
of serious injuries (66%)
and **44% of road deaths**
took place in accidents on
lower speed roads
(those of **40mph or less**)
Autonomous Emergency
Braking (AEB) could potentially
achieve a **38% reduction**
in "real-world rear-end crashes", and a
20% reduction
in low speed accidents
The **economic impact**
of all crashes on **UK roads**
is estimated at around
£16 billion per annum
44% of road accidents
were the result of the road user
failing to look properly –
the most common factor
leading to road accidents



Introduction

As the trade association for companies involved in the rental and leasing industry, the British Vehicle Rental and Leasing Association has had a long-standing interest in road safety. Its members operate a combined fleet of 4.5 million cars, vans and trucks, with many of these being used every day on UK roads.

As well as this number of vehicles, BVRLA members also purchase around a million vehicles per annum – nearly 50% of all new vehicles sold in the UK. To ensure that BVRLA members continue to operate the safest vehicles in the UK, the BVRLA regularly reviews its position on safety measures that can be taken to reduce the likelihood of road accidents, and the severity of these to both drivers and other road users.

The BVRLA has therefore reviewed current available evidence on road accidents, recent trends in how and where these have taken place, and the technologies which may contribute toward reducing both the number and severity of such accidents. In addition to BVRLA members, we have also consulted widely among vehicle manufacturers, policy experts – both within and outside of Government – as well as managers of large corporate fleets.

We hope that the observations and policy recommendations in this paper will inform and encourage discussion within government, on how road accidents, injuries and fatalities can be reduced most effectively.

Contents

Data review

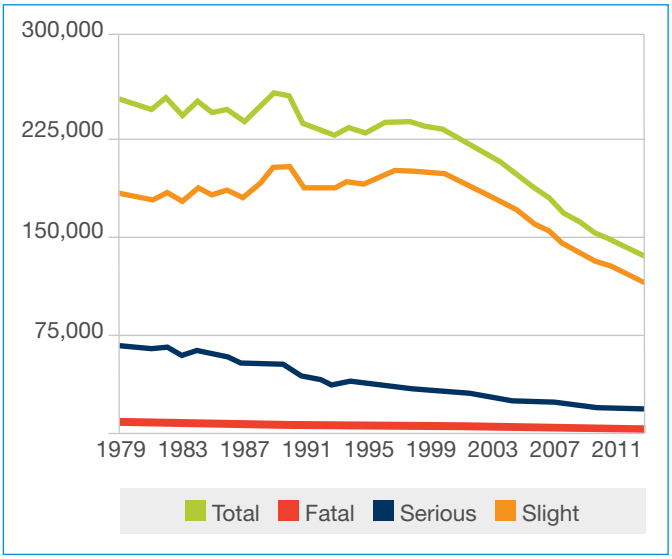
According to data published by the Department for Transport, road accidents have steadily diminished since 1997[1], with both serious and slight injuries also being reduced, and fatalities showing a steady reduction. However 2014 saw an unwelcome increase, not only in overall road accidents, but also deaths and serious injuries as a result. According to the most recent report carried out by the Department for Transport into Reported Road Casualties[2], there were 1,775 reported deaths and 22,807 serious injuries in 2014 – an increase of 4% and 5% respectively.

It is important to note that the report also emphasises the fact that traffic levels increased by 2.4% between 2013 and 2014, as well as the impact of weather[3] on the overall number. However, this still represents an increase in both total accidents and in terms of the KSI index (where road users are either killed or seriously injured).

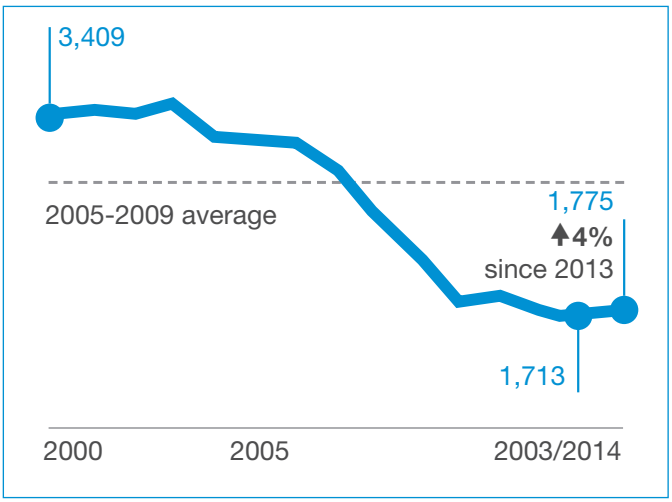
The economic cost of crashes – including the cost of ambulance and health services, police investigations and clearing the crash site – is estimated at around £16 billion, though this does not take into account economic losses caused as a result of congestion experienced by companies and individuals in the hours after the crash.

For these reasons, the BVRLA wishes to consider current technologies aimed at reducing these accidents in order to provide the greatest level of protection to its members' customers and other road users.

Graph 1: Injuried on UK roads, 1979-2013



Graph 2: Fatalities in reported UK road accidents, 2000-2014

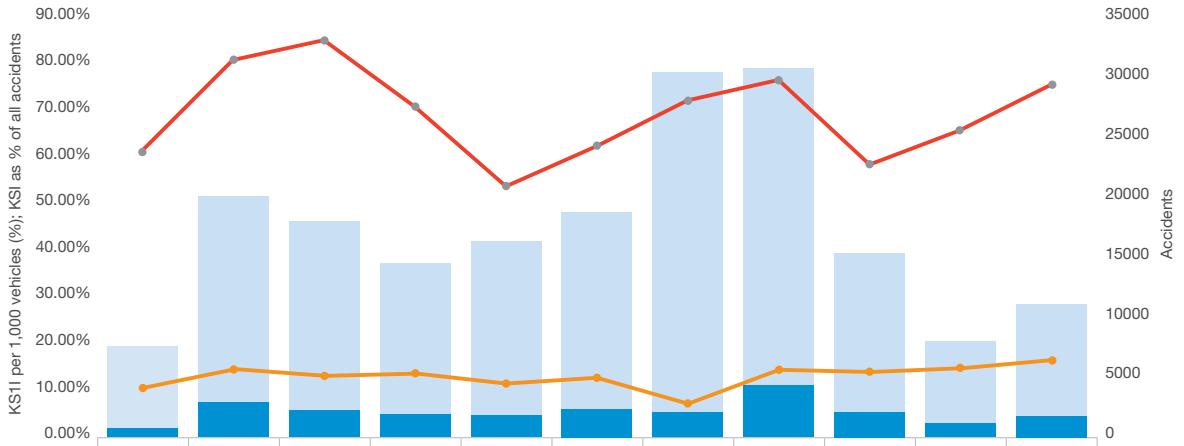


[1] Department for Transport; Reported personal injury road accidents, by severity, Great Britain, 1979-2013; at: https://www.gov.uk/government/publications/reported-road-casualties-great-britain-annual-report-2013

[2] Department for Transport; Reported road casualties Great Britain: annual report 2014; published 24 September 2015 at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/463350/rrcgb2014-00.pdf

[3] According to the authors of the DfT report, there would have been 43 fewer fatalities if temperature and rainfall had been similar to the long term average, which would have reduced the increase in fatalities since 2013 to 1%.

Graph 3: KSI statistics by region, July 2014-July 2015 [4]



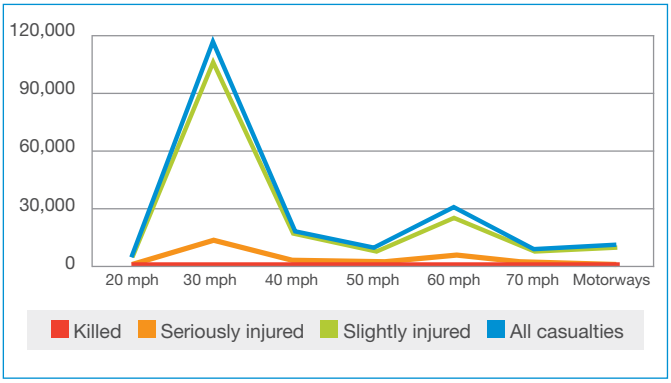
	North East	North West	Yorkshire and The Humber	East Midlands	West West	East of England	London	South East	South West	Wales	Scotland
Slight	6761	17057	15561	12463	14434	16273	28058	26161	13120	6801	9234
KSI	793	2956	2347	1976	1877	2367	2153	4415	2142	1180	1834
KSI as % (per 000 vehicles in the region	0.607582755	0.806442372	0.845298491	0.705841841	0.534762862	0.619353502	0.718328966	0.759718111	0.582949304	0.652913433	0.753226677
KSI as % of all accidents	0.104977495	0.147703992	0.131058745	0.136851583	0.115075716	0.126984979	0.071265433	0.144394296	0.140348578	0.147851146	0.165702927

According to **Graph 3**, some regions have experienced higher levels of growth in accidents and serious accidents (those in which a fatality or serious injury has occurred). In particular, the North West, Yorkshire and the Humber, the South East, and Scotland have all seen high levels of KSI per one thousand vehicles. In particular, Yorkshire and The Humber had a higher share of KSI than reflected by both its population (9% share of UK population) and vehicles (8% share).

Growth in total accidents was greatest in the North West (9%), North East (6%), Yorkshire and the Humber (6%) and the East of England (7%). However, accidents taking place in the West Midlands (1%) and the South East (2%) were both below the average national rise.

London experienced 16% of total accidents – broadly in proportion with its 15% of the population – though this was despite the capital containing fewer vehicles, so concentration of road space was likely to be a factor. However, these were mostly minor accidents, with only 9% on the KSI scale. The North East, South West and the West Midlands all perform well on this ratio.

Graph 4: Reported casualties by speed limit, road class and severity[5]

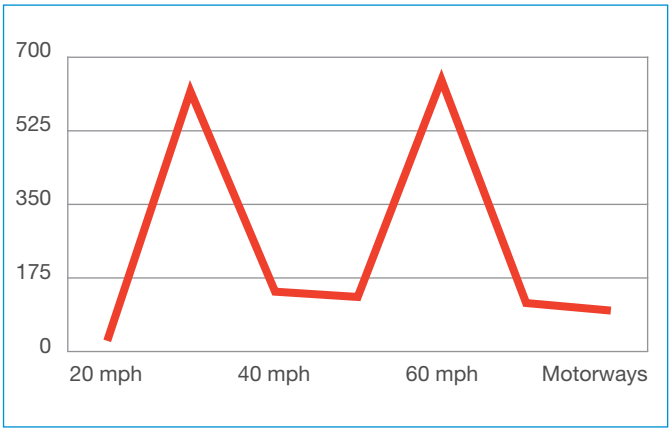


Observing the data above in **Graph 4**, it is clear that the majority of road casualties took place in accidents on roads with a speed limit of 30mph, primarily residential areas. Collating the number of accidents which took place on all roads with a speed limit of 40mph or below (i.e. those outside of zones where the national speed limit applies), these roads account for 66% – two thirds – of all serious injuries caused on UK roads. Accidents on roads with a 60mph limit account for 22% of this total.

[4] Department for Transport; Based on Table RAS45011, Reported road casualties by police force area for the previous 12 months (as available to DfT on 28 July 2015); published at https://www.gov.uk/government/statistics/reported-road-casualties-in-great-britain-provisional-estimates-april-to-june-2015

[5] Department for Transport; Reported road casualties in Great Britain: main results, 2014 tables; published at: https://www.gov.uk/government/statistics/reported-road-casualties-in-great-britain-main-results-2014

Graph 5: Reported road deaths by speed limit

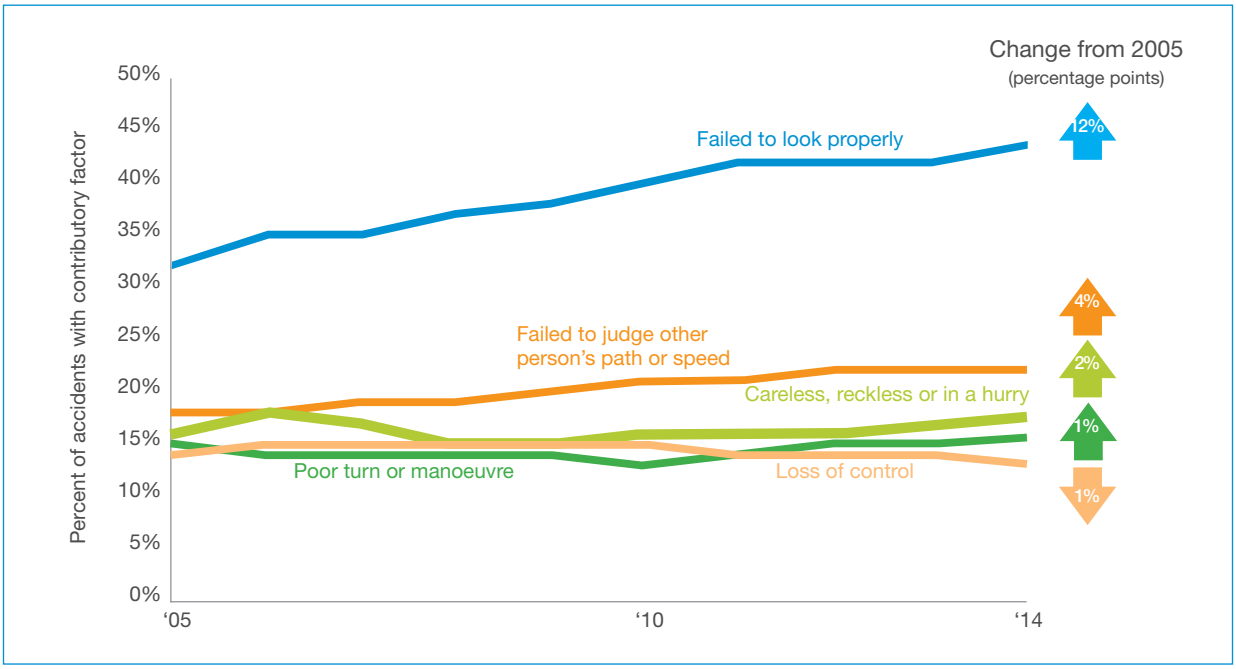


Taking a closer look at the data in **Graph 5**, which details solely those accidents which resulted in one or more fatalities, the results are similar. Over a third of road deaths (34.4%) took place on roads with a 30mph speed limit, with 44% taking place on roads with a speed limit of 40mph or under. Also over a third (36.4%) of fatalities took place on roads with a maximum speed limit of 60mph.

According to the Department for Transport, the most common factor contributing to accidents was where one or more road users failed to look properly[7]. As **Graph 6** makes clear, this not only remains the most common contributory factor at 44%, but accidents resulting from this rose by 12%. Failing to look properly also accounted for 37% of serious accidents in 2014, the most commonly reported factor for serious accidents (where death or serious injury occurred). In fatal accidents alone, the major contributory factor reported was loss of control, which accounted for 32% of cases in 2014 (down from 35% in 2005 [8]). Some 21% of road accidents were attributed to a failure on the part of the driver to correctly judge the path or speed of other road users.

Observing this graph, it is clear that the majority of accidents, including those which cause death or serious injury, occur at supposedly lower speeds, and as the result of human error – most typically, with the driver not looking properly or failing to appreciate the speed or distance between themselves and other road users. As the BVRLA wishes to consider the means of providing the greatest level of protection to all road users by addressing the most serious and widespread accidents that occur on UK roads, the association has considered several technologies which have a tangible and demonstrable effect in reducing such accidents and the severity when these do occur.

Graph 6: Top 5 contributory factors in reported road accidents (GB), 2005-2014[6]



[6] Department for Transport, Reported Road Casualties Great Britain: 2014 Annual Report; published July 2015 at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/463043/rrcgb2014-02.pdf

[7] This has consistently been the most common reason since 2005, when DfT began recording contributory factors to accidents.

[8] In accidents where a pedestrian was killed or injured, the pedestrian failing to look properly was reported in 59% of accidents and pedestrian careless, reckless or in a hurry was reported in 29% of accidents.

Vehicle technologies

The automotive research and testing organisation Thatcham Research[9] has proposed two technologies, Autonomous Emergency Braking (AEB), and Electronic Stability Control (ESC). Details of these technologies, and the extent to which they could reduce accidents and the severity of such accidents, are as follows:

Autonomous Emergency Braking

According to Thatcham Research, Autonomous Emergency Braking (AEB) works using technologies such as radar, lasers and optical sensors to identify other vehicles and pedestrians. AEB automatically applies the brakes if the driver does not respond in time, to avoid or mitigate a collision[10]. This provides the following benefits:

- 38% reduction in "real-world rear-end crashes" (with no significant difference between urban and rural crash benefits)
- A reduction in low speed accidents of around 20%
- AEB also mitigates the effects of higher speed crashes.

Electronic Stability Control

Electronic Stability Control (ESC) works in a similar way to AEB, with the vehicle using the same on-board sensors to recognise danger and apply braking to individual wheels, helping to prevent a previously inevitable skid or spin. ESC is now available as standard on over 75% of new vehicles[11], and can provide the following benefits:

- A 25% reduction in fatal accidents – if every vehicle on the road were fitted with ESC, this would result in around 380 fewer fatal accidents per annum
- Up to 59% reduction in serious accidents resulting from crashes that involve a vehicle skidding or overturning
- Reduced accidents in adverse road conditions such as rain, ice and snow.

Given the benefits outlined, the BVRLA believes that the Government should further encourage the take-up of AEB. Thatcham Research has estimated that 136,000 casualties could be saved over the next 10 years if the Government were to offer a £500 incentive for those choosing to buy a car with AEB fitted. Implementation of such a proposal would improve safety in new vehicles, and assist the emerging technology to reach the aftermarket, and be seen as an important technology for all fleets. Consequently, this would significantly reduce road casualties and ensure UK roads remain among the safest in the world.

Telematics systems

In addition to AEB and ESC, the use of on-board vehicle telematics and storage systems offer significant benefits in helping fleet managers analyse the driving style of their drivers to address unsafe behaviour, as well as reducing excessively long driving hours, fuel consumption and emissions. Such systems can collect and record several forms of driver and vehicle data, including the following:

- Vehicle maintenance, measuring levels of wear and tear of individual components, and enabling remote diagnostics and preventative alerts. This could help reduce the risk of road accidents.
- Fuel efficiency, which can be used to identify areas to reduce fuel consumption, and ensure that all journeys are selected on the most cost- and time-efficient basis.
- Style and performance – e.g. driver's adherence to speed restrictions and other road safety laws.
- Location of the vehicle – for example, from 2018 the eCall system will automatically contact the closest emergency centre if the vehicle is involved in a crash, reducing emergency services' response time by 50% in rural areas, and 60% in built-up areas[12]. This can also be a preventative tool against vehicle theft by tracking vehicles that have been stolen, even while the criminals are still in possession of the vehicle.

The BVRLA believes that further information is required on the benefits of telematics, and encourages the Government to publish guidance to industry, setting out the safety – as well as financial – benefits of this technology.

[9] Thatcham Research, "Autonomous Emergency Braking"; at: http://www.thatcham.org/aeb

[10] AEB was made mandatory on new HGV registrations in the European Union from 1 November 2015.

[11] Thatcham Research, "Electronic Stability Control", at: http://www.thatcham.org/what-we-do/safety/electronic-stability-control

[12] Source: European Commission, eCall Digital Strategy, at: http://ec.europa.eu/digital-agenda/en/ecalltime-saved-lives-saved

Policy recommendations

Based upon an open roundtable meeting and discussion, the BVRLA has agreed and recommends the following:

- Government must further encourage the take-up of technology which has a demonstrable impact on the numbers of accidents and the severity when these occur. Autonomous Emergency Braking is now mandatory for all HGVs registered in the European Union, and ensuring mandatory fitment of AEB in all cars and vans is strongly recommended.
- Provide incentives for the fitment of vehicle safety technology which has a demonstrable effect on road casualties, such as AEB. Incentives could take the form of a cash payment for those choosing to buy a car with AEB fitted.
- We welcome the Government's recent announcement that it will adopt the requirement of a 5-Star NCAP rating for all procurement vehicles among their own fleets. We propose that it goes further however, by ensuring that AEB is a mandatory requirement for all procured vehicles in the Government fleet.
- Government to issue guidance to industry on the value of telematics in fleet maintenance, as well as in reducing unnecessary mileage, fuel consumption and emissions.

Participating organisations

The BVRLA would like to thank the following organisations for their participation in an open roundtable, as well as subsequent discussions:

Department for Transport
Ageas Insurance
Avis Budget Group
BT Fleet
FMG
Hertz UK
John Lewis Partnership
Miles & Miles
Thatcham Research
Volvo UK