

Road Traffic Collisions and Casualties

2015 review

Dorset County Council

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Collision and Casualty – Review of Collision and Casualty figures for 2015 - Summary

Improving road safety is a key priority for a variety of services within Dorset County Council and with partner authorities.

The number of road traffic collisions and casualties is a valuable indicator of the context in which road safety related work operates.

Dorset County Council and partner organisation of Dorset Road Safe agreed to set a 2020 target of reducing the number of people killed or seriously injured by 40%; based against the 2005/9 baseline average.

The target for 2020 is to have no more than 163 KSI casualties on road within the Dorset CC area.

Perhaps the greatest challenge in meeting this target is the wide variety of factors that are outside the direct control of the County Council.

Whilst it is important to provide a highway network that is well maintained it is the behaviour of the people using the highway network that arguably requires the most attention and improvement.

There have been year on year increases in the number of people killed or seriously injured since the end of 2011.

2015 was the first year that the number of people killed or seriously injured on roads in the Dorset County area were above the baseline average (2005/9) and is the highest figure since 2008; 294 people killed or seriously injured.

With the exception of pedestrians, each road user group saw an increase in the number of people killed or seriously injured in 2015 against 2014. Two user groups stand out as having significant increases.

The most significant change in recent years has been the increase in the number of cyclists killed or seriously injured. Cyclists are the only road user group to have the number of people killed or seriously injured consistently above the 2005/9 average.

2015 saw a significant increase in the number of motorcyclists killed or seriously injured when compared against 2014. 2015 was the first year that the number of motorcyclists killed or seriously injured has been above the 2005/9 baseline since the end of 2009. It is not possible to say if this is an emerging trend.

One person killed on Dorset's roads is too many. During 2015, 23 people died whilst using roads in the Dorset County area; this compares to 16 in 2014 and 29 for the 2005/9 baseline average.

Records are available 1 January 1998. Since 1998, 2002 had the highest number of people who died whilst using Dorset's roads, 44 and 2010 had the lowest, 10.

The wider context is an important consideration; historically casualty figures have been viewed/analysed in isolation.

The population of Dorset continues to grow which will likely result in greater demands on the highway network and possible result in greater exposure to risk.

There is a general correlation between traffic flows and the number of road traffic collisions/casualties. In short, since 2011 there has been a year on year increase in the amount of traffic using Dorset's roads.

Since 2011 there has been a year on year increase in the number of people killed or seriously injured whilst using Dorset's roads.

Road user behaviour is the main factor in the vast majority, if not all collisions resulting in injury. Good roads are important, however improved road user behaviour is significantly more important.

Detailed overview of Road Traffic Collisions and Casualties

This detailed overview of collision and casualty data provides a more detailed review of the points raised in the summary and also aims to set the wider context against which collision and casualty figures should be considered.

The following sections are included:

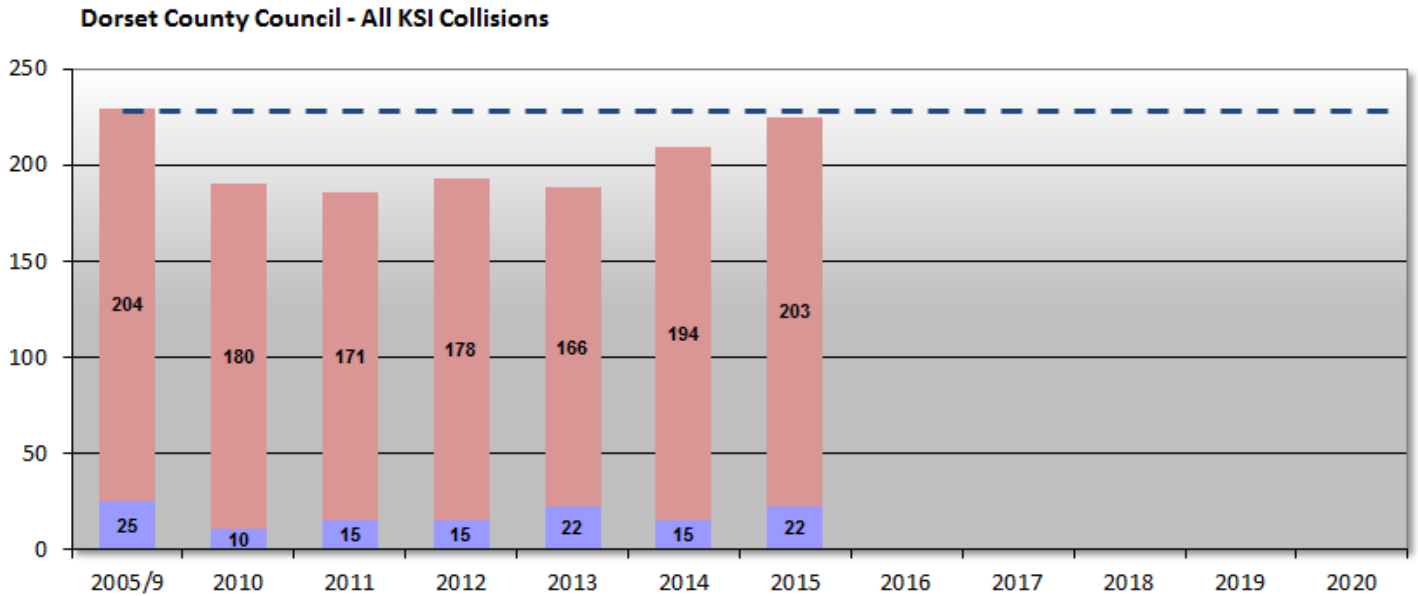
- Overview of **collisions** resulting in someone killed or seriously injured
- People killed or seriously injured
- All collisions and casualties
- Regional comparison
- Trunk road breakdown
- Wider context
- Estimated 'costs' of road traffic collisions/casualties
- Explanation of road traffic collision data

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1.0 Killed or seriously injured collisions

KSI collisions show a similar trend but with less notable changes. This is perhaps to be expected as one collision can potentially result in any number of casualties.

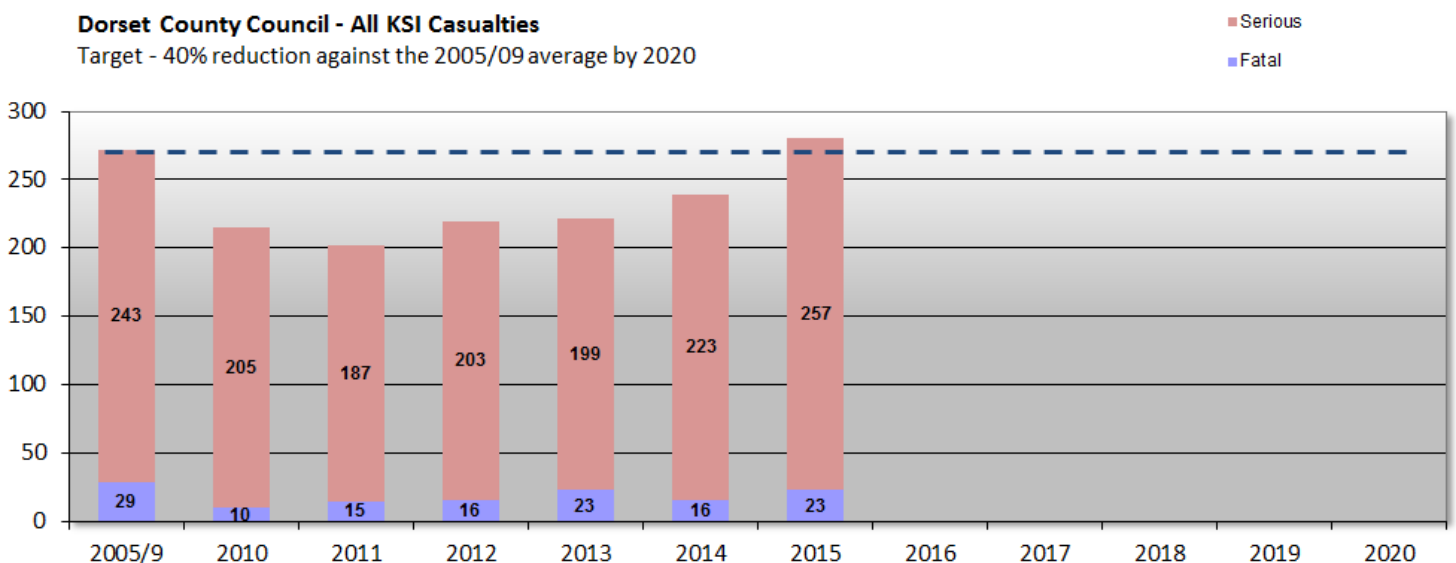


Historically collisions have not been used by the County Council to monitor trends but are an important indicator alongside casualty figures as it helps to establish a clearer context.

For arguments sake it is possible for two years to have the same number of collisions but very different numbers of casualties. There is a strong argument that collisions are the event that efforts to improve road safety should be focused on.

2.0 People killed or seriously injured

The chart below shows that whilst KSI casualties were below the annual incremental targets between 2010 and 2013 there has been a year on year increase in the number of people killed or seriously injured since the end of 2011.



During 2015 there were 280 people killed or seriously injured; 23 killed and 257 seriously injured.

This is a 17% increase on 2014 (239 in 2014) and is above the 2005/9 baseline average of 271. Context is important, the number of KSI collisions increased by 7%; although an increase it is perhaps less exaggerated than looking at casualty figures in isolation. There is a more detailed overview of collision data later in this review.

2015 is the first year that the number of people killed or seriously injured has been above the 2005/9 baseline at the end of a calendar year since 2008 (294 KSI casualties).

The reasons for the upward trend in KSI casualties is very difficult to determine as the changes in casualty figures can be linked and influenced by a wide variety of factors, most of which are outside of the County Council's direct control.

The Department for Transport cite weather as an important factor in influencing the number casualties, particularly with regards to more vulnerable road users. Analysis suggests that years with higher than average 'poor' weather often have a lower number of casualties than years with better weather. The main reason for this is likely due to there being less journeys being made on foot, bicycle or motorcycle resulting in lower levels of exposure to risk. An additional reason is that generally speaking drivers adjust their behaviour more notably during poor weather than when it is fine and dry but it is difficult to evidence this. It is important to consider that these findings are based on national data so local impacts may be less apparent.

There is evidence of economic performance correlating with road traffic casualties. Periods of strong economic performance and growth generally correlate to increases in road traffic casualties and vice versa. One of the reasons is economic growth leads to a greater number of journeys being made for work and also leisure; in short, more journeys increase the exposure to risk.

With the exception of pedestrians, each road user group saw an increase in the number of people killed or seriously in 2015 against 2014. Two user groups stand out as having significant increases.

It is important to recognise that whilst we may not be able to provide precise reasons for why casualty figures have increased, we are equally unable to provide precise reasons for why casualties decrease.

2.1 Cyclists

The most significant change in recent years has been the increase in the number of cyclists killed or seriously injured. Cyclists are the only road user group to have the number of people killed or seriously injured consistently above the 2005/9 average.

An important context to this increase is the marked increase in the number of people cycling in recent years. Although not possible to prove with the available data it is likely that one of the influencing factors behind the increase in cyclists killed or seriously injured is the higher number of cyclists using the road network; greater exposure to risk.

The majority of cyclists killed or seriously injured were adults. Children (0-15) accounted for 7% (three cyclist KSI casualties, all male) during 2015.

The number of cyclists injured on the road has increased nationally and regionally; cyclist casualties being consistently higher than the 2005/9 baseline is not a trend isolated to Dorset.

2.2 Motorcyclists

2015 saw a significant increase in the number of motorcyclists killed or seriously injured when compared against 2014. 2015 was the first year that the number of motorcyclists killed or seriously injured has been above the 2005/9 baseline since the end of 2009. It is not possible to say if this is an emerging trend.

The vast majority of the increase in motorcyclists killed or seriously injured were users of bike >500cc, commonly referred to a 'big bikes'. Users of 'big bikes' also account for the majority of all motorcycle user injuries.

The number of motorcyclists killed or seriously injured in 2015 was 40% higher than in 2014. Almost all of the 40% increase was for users of a >500cc machine.

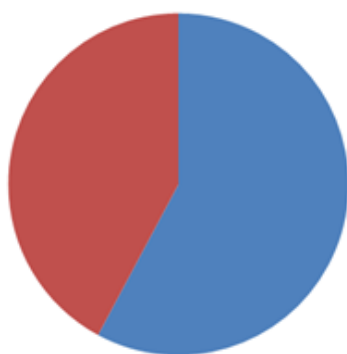
During 2015 the majority (78%) of motorcyclists killed or seriously injured whilst using a 'big bike' were aged 40 with the overwhelming majority being male.

KSI casualties excluding cyclists and motorcyclists generally show a close to 60/40 split between males and females during 2015.

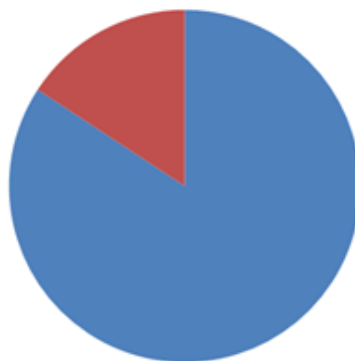
The gender split is much more significant for cyclists and motorcyclists; for 2015 there was close to an 85/15 split between male and female cyclist KSI casualties and the split was close to 90/10 split for motorcyclist KSI casualties.

Below are gender breakdown comparisons for 2015; figures are typically similar for most years.

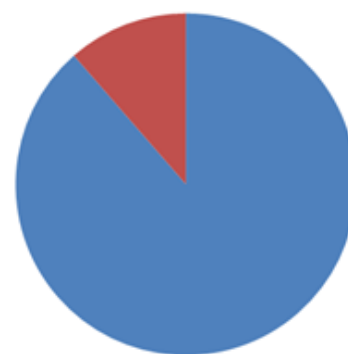
KSI Casualties, excluding cyclists and motorcyclist
Gender split - 2015



KSI cyclist casualties
Gender split - 2015



KSI motorcyclist casualties
Gender split - 2015

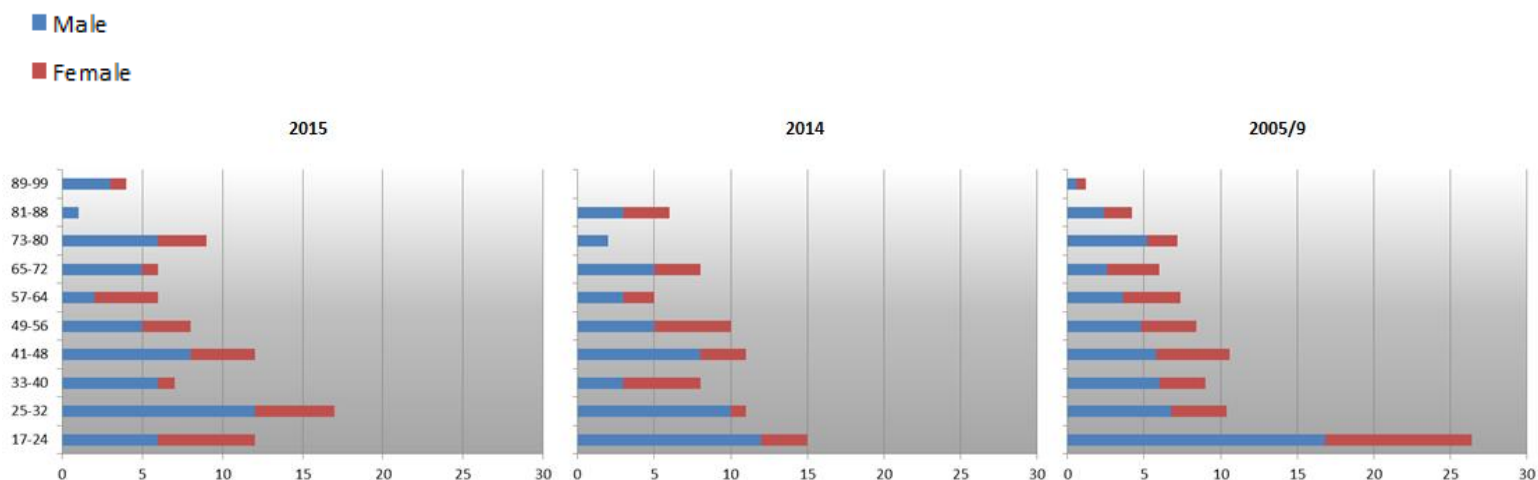


2.3 Car users

Car users killed or seriously injured whilst using Dorset's roads account for the largest proportion of all people killed or seriously injured. This is not surprising given that cars account for the vast majority of all vehicles using Dorset's roads.

There has been a slight increasing trend in car users killed or seriously injured in recent years.

Below are charts showing the age breakdown by group for car drivers and car passengers who were killed or seriously injured in 2015, 2014 and the 2005/9 baseline:



The most notable observation from the above charts is that young (17-24 year old) car drivers now account for a much lower proportion of all car drivers killed or seriously injured.

The exact reasons for this are not possible to evidence with the available data but there are strong arguments that one of the factors influencing this reducing trend is economic.

The costs associated with car driving have increased markedly in recent years, including fuel and insurance, this may limit both access to a car and also use, particularly for young drivers.

An additional reason could be that a greater proportion of young car drivers are now using vehicles which have more up-to-date safety features but this is not possible to establish with the available data.

2.4 Pedestrians

People killed or seriously injured when using Dorset's roads as a pedestrian have remained relatively level for many years.

No age group stands out. There is a fairly even spread across all age groups. The only observation is that children (0-15 years) do not feature as consistently as adults.

The majority of pedestrians killed or seriously injured are not at formal crossing points.

2.5 Children

Children (0-15 years) killed or seriously injured on Dorset Roads is relatively speaking low, this said one is too many.

The majority of children who are killed or seriously injured are car passengers.

The earliest date that detailed road traffic collision data is available for Dorset is from January 1998.

Between January 1998 and December 2015 a total of 473 people lost their lives whilst using Dorset's roads.

2.6 Contributory factor analysis:

Contributory factors are recorded to offer a more detailed assessment of what influenced a collision occurring. The table below shows the top 10 factors record for all collisions and for KSI collisions for 2006/10, 2014 and 2015; 2005 data did not record contributory factors which is why 2006/10 average has been used here.

2006 -2010 Average All Collisions			2014 All Collisions			2015 All Collisions		
		% of all CFs			% of all CFs			% of all CFs
1	Failed to look properly	16%	1	Failed to look properly	17%	1	Failed to look properly	14%
2	Loss of control	10%	2	Failed to judge other persons path/speed	10%	2	Poor turn or manoeuvre	8%
3	Failed to judge other persons path/speed	8%	3	Loss of control	7%	3	Failed to judge other persons path/speed	7%
4	Slippery road (due to weather)	7%	4	Poor turn or manoeuvre	7%	4	Travelling too fast for conditions	7%
5	Poor turn or manoeuvre	6%	5	Slippery road (due to weather)	5%	5	Loss of control	6%
6	Travelling too fast for conditions	5%	6	Travelling too fast for conditions	4%	6	Slippery road (due to weather)	5%
7	Careless/Reckless/In a hurry	4%	7	Careless/Reckless/In a hurry	4%	7	Following too close	4%
8	Sudden braking	3%	8	Sudden braking	4%	8	Careless/Reckless/In a hurry	4%
9	Following too close	3%	9	Road layout (eg bend, hill, narrow road)	2%	9	Sudden braking	4%
10	Inexperienced or learner driver/rider	3%	10	Following too close	2%	10	Exceeding speed limit	2%

2006 -2010 Average KSI Collisions			2014 KSI Collisions			2015 KSI Collisions		
		% of all CFs			% of all CFs			% of all CFs
1	Failed to look properly	14%	1	Failed to look properly	13%	1	Failed to look properly	14%
2	Loss of control	13%	2	Loss of control	10%	2	Loss of control	10%
3	Failed to judge other persons path/speed	7%	3	Poor turn or manoeuvre	7%	3	Poor turn or manoeuvre	9%
4	Poor turn or manoeuvre	7%	4	Slippery road (due to weather)	5%	4	Failed to judge other persons path/speed	7%
5	Travelling too fast for conditions	5%	5	Travelling too fast for conditions	4%	5	Travelling too fast for conditions	5%
6	Careless/Reckless/In a hurry	5%	6	Careless/Reckless/In a hurry	4%	6	Exceeding speed limit	5%
7	Slippery road (due to weather)	4%	7	Failed to judge other persons path/speed	4%	7	Impaired by alcohol	4%
8	Pedestrian failed to look properly	4%	8	Pedestrian failed to look properly	4%	8	Careless/Reckless/In a hurry	4%
9	Exceeding speed limit	3%	9	Impaired by alcohol	4%	9	Swerved	3%
10	Inexperienced or learner driver/rider	3%	10	Road layout (eg bend, hill, narrow road)	3%	10	Pedestrian failed to look properly	2%

The contributory factor analysis shows that the vast majority of the most frequently recorded factors are linked to human behaviour or error.

There are subtle differences between the top ten factors for all collisions and those for KSI collisions.

Injudicious actions such as exceeding the speed limit and being impaired by alcohol are more frequently recorded in KSI collisions.

Impaired by alcohol generally accounts for a larger proportion of fatalities than all other severity of collision.

It is not surprising to see factors linked to pedestrians recorded more often in KSI collisions; pedestrians account for a greater proportion of KSI casualties than all casualties owing to people having no protection if involved as a pedestrian.

3.0 All Collisions and Casualties

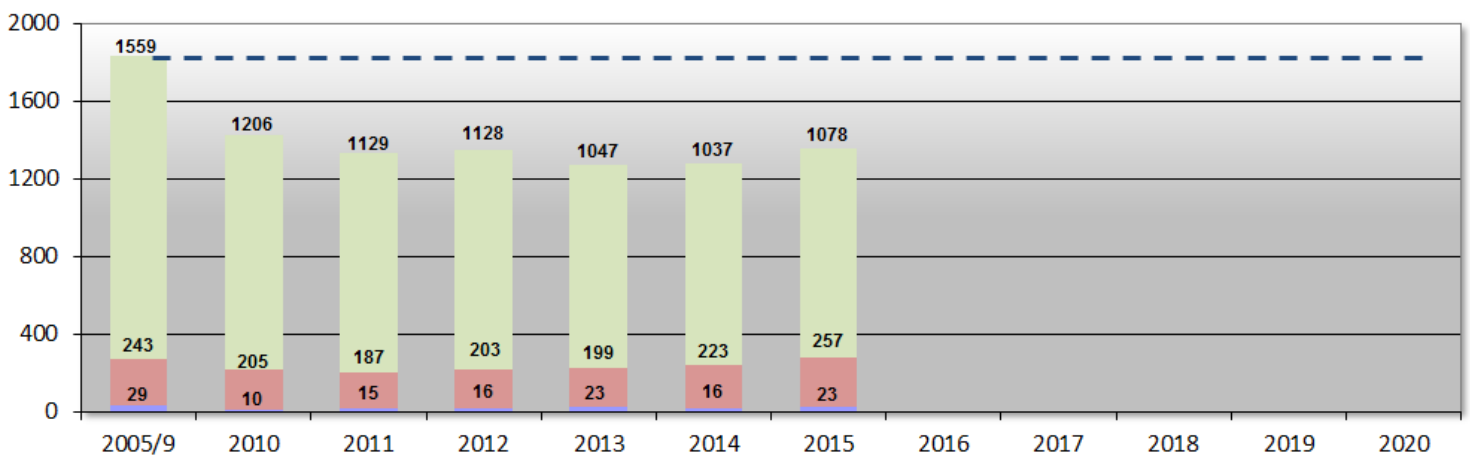
In addition to data on one collision resulting in fatal or serious injuries the County Council receive details for collisions resulting in slight injury.

All collisions and casualties are an important consideration as they can be a better indicator of general trends due to the larger amount of data.

The total number of casualties (all severities) recorded in 2015 was 1,358. This is a 6.5% increase on 2014 (1,276 in 2014).

The total number of casualties in 2015 is below the 2005/9 average baseline of 1,830 by 26%.

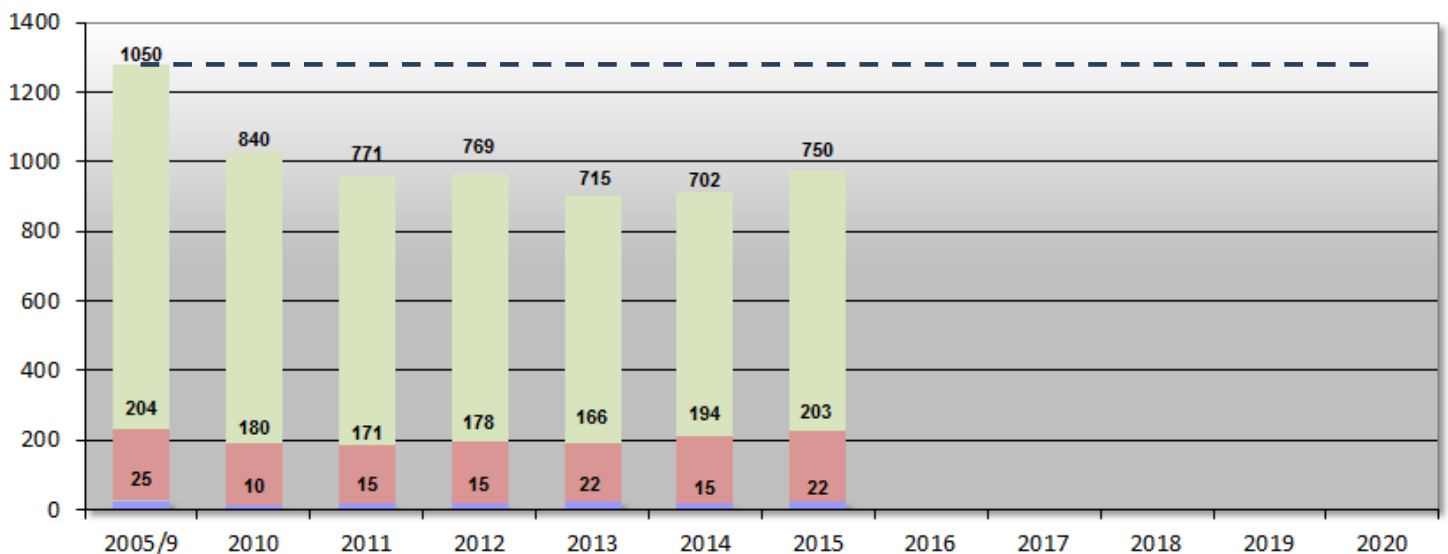
Dorset County Council - All Casualties



The long term trend for total casualties remain relatively level, although there has been a slight increase since the middle of 2014.

All collisions show a similar trend but with less notable changes. This is perhaps to be expected as one collision can potentially result in any number of casualties.

Dorset County Council - All Collisions



It is important to recognise that whilst we may not be able to provide precise reasons for why casualty figures have increased, we are equally unable to provide precise reasons for why casualties decrease.

4.0 Regional comparison

Collision and casualty figures are collated annually for each south west authority in order to understand the wider context.

Generally speaking the recent year on year increases in the number of people killed or seriously injured on Dorset's roads has not been in isolation. Several other south west authorities have experienced similar trends with some authorities seeing more significant increases than others.

5.0 Trunk road breakdown

The trunk road network in the Dorset County area is:

- A31, entire length from Bere Regis to Hampshire border
- A35, from Bere Regis to Devon border
- A303, approx. two miles at Bourton, North Dorset.

The trunk road network is managed by Highways England.

Collisions on the trunk road in 2015 accounted for just over 9% (26) of all KSI casualties and just over 12% (164) of the total number of casualties in the Dorset County area.

The A35 trunk road accounted for the greatest proportion of all trunk road casualties during 2015.

Generally there is a relatively even split between the A35 and the A31; during 2015 the majority of trunk road KSI casualties were on the A35; 73%, 19 of 26 KSI casualties.

Fatalities on the trunk road network during the last 5 years have accounted for between 17% and over 25% of all road traffic fatalities in the Dorset County Area.

6.0 Wider context

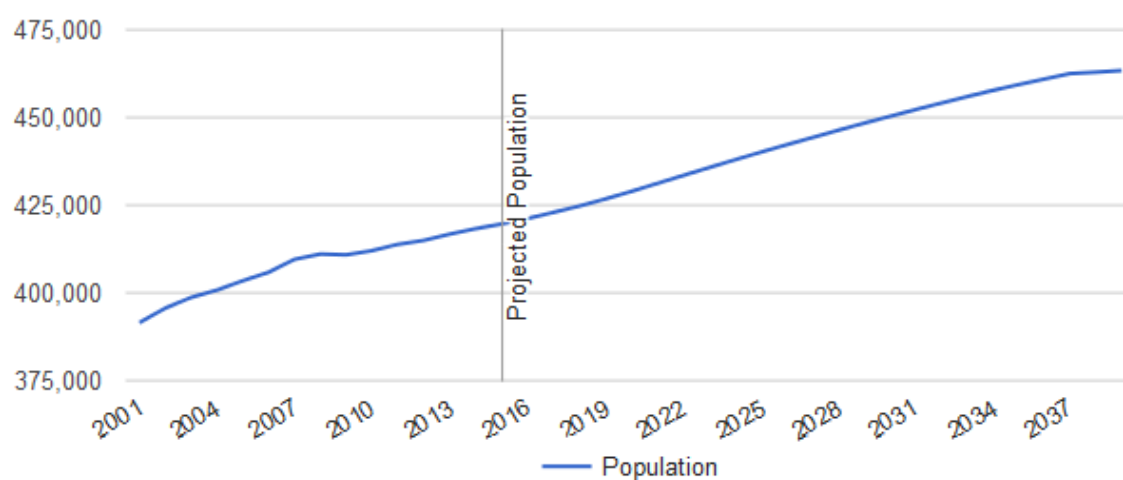
It is important to consider the wider context when analysing road traffic collision/casualty figures.

A wide variety of factors contribute to the frequency of road traffic collisions and casualties, many of which being outside the direction control of the County Council.

6.1 Population

An increasing population will almost inevitably bring with it more traffic. Each person is a user of the highway network, directly and indirectly.

The chart below shows the mid-year population figures for the Dorset County Council area including future projections.



Source: *Mid Year Estimates and Population Projections*, Office for National Statistics and Dorset County Council

More people living in Dorset and the potential increase in traffic is likely to impact on the number of collisions and casualties due to the greater exposure to risk.

However, whilst the number of collisions/casualties may increase the rate per number of vehicles may decrease.

For example, year X had 200 casualties and year Y had 250. Traffic flows in year Y were double that of year X so the rate of casualties per number of vehicles was much lower in year X than in year Y.

6.2 Traffic flows

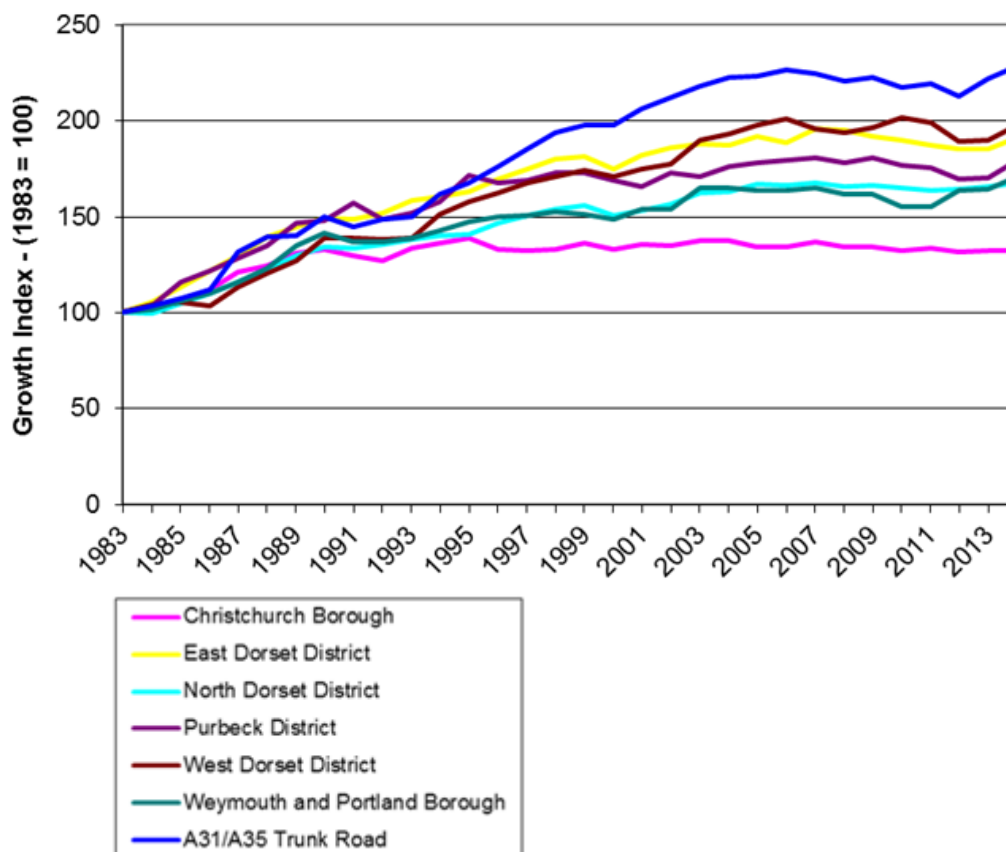
As mentioned earlier traffic flows are an important indicator of demand placed on the highway network.

Greater demand may lead to an increase in collisions and casualties due to greater exposure to risk.

The chart below shows the changes in traffic flows across the Dorset County area. Whilst it is not possible to establish cause and effect, there appears to be a general correlation between traffic flows and collision/casualty figures.

A reduction in traffic flows has correlated with a reduction in collisions/casualties and vice versa.

The chart below shows the changes in the amount of traffic using Dorset's roads between 1983 and 2014.



Since 2011 there has been a year on year increase in the amount of traffic using Dorset's roads.

Since 2011 there has been a year on year increase in the number of people killed or seriously injured whilst using Dorset's roads.

7.0 Estimated costs of Road Traffic Collisions

Since 1993, the valuation of both fatal and non-fatal casualties has been based on a consistent willingness to pay (WTP) approach. This approach encompasses all aspects of the valuation of casualties, including the human costs, which reflect pain, grief and suffering; the direct economic costs of lost output and the medical costs associated with road accident injuries. In addition to casualty related costs for each accident there are also costs related specifically to accidents, comprising of damage to property, police costs, and the costs of insurance administration.

The value of each of these cost elements is determined separately and then combined to produce overall values of costs per casualty for different levels of severity. This note provides an overview of how these costs are estimated.

The table below shows the costs of collisions and casualties in the Dorset County area for 2015. The costs used are based on 2012 estimated costs; no more up to date costs have been calculated.

Injury Severity	Lost output	Medical and Ambulance	Human costs
Fatal	£585,716	£1,006	£1,117,101
Serious	£22,566	£13,671	£155,226
Slight	£2,385	£1,012	£11,363

2015 Casualties - Costs				
Injury severity	Number of casualties	Lost output	Medical and Ambulance	Human costs
Fatal	23	£13,471,468	£23,138	£25,693,323
Serious	257	£5,799,462	£3,513,447	£39,893,082
Slight	1079	£2,573,415	£1,091,948	£12,260,677
KSI	280	£19,270,930	£3,536,585	£65,586,405
Total	-	£21,844,345	£4,628,533	£77,847,082

There are no substantial monetary savings that Dorset County Council can make direct from reducing the number of road traffic collisions.

However, efforts made to prevent collisions can act as an economic generator.

Fewer collisions result in fewer delays.

Fewer collisions result in fewer working days lost.

Fewer deaths on Dorset's roads result in people continuing to contribute to the economy.

8.0 Explanation of road traffic collisions data

The collision data that the County Council receives is known as 'Stats 19'. This is simply the name of the form that all police forces in Great Britain use to record road traffic collision.

Stats 19 data includes all collisions involving human death or personal injury occurring on the Highway and notified to the police within 30 days of occurrence, and in which one or more vehicles are involved, are to be reported.

Examples of collisions to be reported include:

- Collisions which commence on the highway but which involve casualties off the highway (e.g. where a vehicle runs out of control while on the highway and causes casualties elsewhere)
- Involving the boarding and alighting of buses or coaches and accidents in which passengers already aboard a bus/coach are injured, whether or not another vehicle or a pedestrian is involved

- Collisions to pedal cyclists or horse riders, where they injure themselves or a pedestrian
- Resulting from deliberate acts of violence, but excluding casualties who are subsequently identified as confirmed suicides
- Within bus stations/interchanges where they form part of the highway
- In Royal Parks (on roads to which the public have motor vehicle access)

Examples of collisions **which should not be reported** include:

- Collisions which do not involve personal injury
- On private roads (except Royal Parks) or in car parks
- Reported to the police 30 or more days after they occurred
- Involving confirmed suicides only.

Damage only collisions are recorded by the police but this is infrequent and insufficiently detailed to analyse appropriately.

It is widely acknowledged that there are limitations to Stats 19 data. Limitations are mainly focused on underreporting however it remains the most robust and consistent data available to the County Council.

The severity of each road traffic collision is taken from the most severe injury sustained. A collision resulting in one serious injury and four slight will be recorded as a serious collision.

Casualties that are reported in Stats 19 data are, in short, any person(s) killed or injured in a road traffic collision.

Including:

- A person who moves quickly to avoid being involved in an accident, is successful in that, but in doing so incurs an injury (e.g. twists an ankle). Also includes occupant of vehicle which manoeuvres or brakes suddenly to avoid an impact, but in so doing sustains an injury
- A pedestrian who injures themselves on a parked vehicle
- A person who is injured after falling from a vehicle
- A person who is injured boarding or alighting a bus or coach
- A person injured whilst aboard a bus or coach, whether or not another vehicle is involved
- A person who is injured away from the carriageway as a result of an accident which commenced on the public highway
- All casualties in accidents arising from deliberate acts of violence involving a vehicle.

Excluding:

- Death/injury to babies unborn up to the time of the accident
- Person injured in a road accident as a result of illness (e.g. fit) immediately prior to the accident, where injury is deemed to be a result of the illness rather than the road accident. All other casualties involved in the accident should be included
- Person who dies in a road accident from natural causes (e.g. heart attack) and whose death is not ascribed by the Coroner's Court (Procurator Fiscal in Scotland) to have been a result of the accident. Other casualties in these accidents should be reported

- Confirmed suicides. Other casualties in these accidents should be reported. Injured persons suspected of having attempted suicide should be reported
- Any person who witnesses an accident and suffers shock but who is not directly involved.

A fatal casualty is any death resulting directly from a road traffic collision, within 30 days of the collision occurring. A death occurring 31 days or more after collisions will be recorded as serious.

The category for serious casualties is a wide spectrum of injuries. The list below is not exhaustive but provides an overview of the types of injury that are classed as serious:

- Any fractured bone
- Internal injuries
- Severe cuts
- Crushing injuries
- Burns (excluding friction burns)
- Severe general shock requiring hospital treatment
- Detention in hospital as in-patient (immediate or later)
- Fatal injuries where the death occurs 30 or more days after the collision.

It is important to note that there is no way of ascertaining the type or severity of a serious injury. Therefore a serious casualty could be anything from a broken finger bone to a life changing injury.

Slight casualties include but are not limited to the following:

- Bruises
- Light cuts
- Slight sprains including neck whiplash
- Slight shock requiring roadside treatment

9.0 Summary

It is important to recognise that whilst we may not be able to provide precise reasons for why casualty figures have increased, we are equally unable to provide precise reasons for why casualties decrease.

Whilst it is important to provide a highway network that is well maintained evidence suggests that it is the behaviour of the people using the highway network that requires the most attention and improvement.

Road traffic collisions and casualties are monitored regularly by Highways.

Updates are made each month to the Dorset for you website. Data is available for the Dorset County Council area and for each Borough/District area; user group breakdowns are provided for each area (updated monthly) as well as an annual overview.

An interactive map is also available via Dorset for you which provide basic details on road traffic collisions for the latest available five year period:

<https://mapping.dorsetforyou.gov.uk/roadsafety/map>

Please note – collision data is typically two to three months behind, this is due to the validation process. However, due to IT issues at Dorset Police there has been

significant delays in releasing validated data to the County Council. These issues have now been resolved and Dorset Police are working on clearing the backlog.

For information on work being done across the County Council to improve road safety see Appendix A – Report to Environment Overview Committee 20 October 2015, Subject – Road Safety

