

# **NORTH EAST Regional Road Safety Resource**

**Project Report: 9**

## **Regional Overview of Speed Related Collisions 2005 – 2007**

**Produced January 2009  
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## **Introduction**

This report has been produced by the North East Regional Road Safety Resource as an overview of injury collisions in the NE region 2005-2007 where speed/speeding was deemed to be a contributory factor. The data used to produce this report is based on the project database of Stats 19 provided by Cleveland, Durham, and Northumbria police forces.

## **Stats 19 – Contributory Factors**

In January 2005 it became a requirement for reporting police officers to state, if any, the contributory factors associated with a road traffic collision. There are a possible 77 contributory factors on the Stats 19 form, which are broken down by the following 9 categories:

- Road Environment
- Vehicle Defects
- Injudicious Action
- Driver/Rider Error or Reaction
- Impairment or Distraction
- Behaviour or Experience
- Vision Affected By
- Pedestrian
- Special Codes

The reporting officer can choose up to six contributory factors for each road traffic collision, and can also select whether the factor was ‘very likely’ or ‘possible’. Which contributory factors are chosen is totally down to the judgement, knowledge and opinion of the reporting officer investigating the collision. This therefore means that contributory factors are not a definitive data set and can be subjective. There is also a small issue regarding the number of collisions that are coded with contributory factors, in particular the low number in Northumbria, this is being investigated further. However, even taking these issues into account, contributory factors are a very useful data set that gives analysts additional information regarding the possible cause of a collision.

For this report regarding speed related collisions there are two contributory factors to concentrate on, they are:

- 306 Exceeding the speed limit
- 307 Travelling too fast for conditions

There are several other factors which could be linked to a speeding issue (for example ‘loss of control’) but these are the only two factors that can definitively be linked to speed. Both of these factors fall under the category ‘Injudicious Action’. This report will discuss collisions that included one or both of these factors, either by themselves or included with other non-speed related contributory factors.

## Profile of Speed Related Collisions 2005-2007

According to the Department for Transport's (DfT) report, entitled 'Road Casualties Great Britain 2007: Annual Report', speed is a factor in 16% of collisions nationally. The figure increases to 20% for killed or seriously injured (KSI) collisions and rises even further to 29% for fatal collisions alone. This indicates that there may be a link between speeding and collision severity i.e. if you are speeding and have a collision then there is an increased likelihood that your collision will be more severe.

Speed related collisions account for 11% of the collisions in the North East region, significantly this is 5% lower than the national figure, however, in line with the national data this figure rises to 29% when looking at only fatal collisions.

**Figure 1: Speed Related Collisions & Casualties by Severity 2005-07**

Severity	Speed Related Collisions	% of Regions Collisions	Casualties From Speed Related Collisions	% of Regions Casualties
Fatal	83	29	91	30
Serious	348	13	428	14
Slight	1948	10	3303	12
	<b>2379</b>	<b>11</b>	<b>3822</b>	<b>12</b>

41% of speed related collisions occur on 'A' class roads and this figure is disproportionately high when considering how much of the region's road network is made up of 'A' class roads. In fact all road classes (except Unclassified) are over represented in a similar manner to 'A' class roads. This is to be expected as the nature/structure of most unclassified roads does not lend itself to speeding as the roads do not tend to be long, straight, or wide.

**Figure 2: Speed Related Collisions By Road Class 2005-07**

Road Class	Speed Related Collisions	% of Speed Related Collisions	% of Region's Road Network
A(M)	45	2.0	0.4
A	974	41.0	11.5
B	367	15.0	8.1
C	500	21.0	17
Unclassified	493	21.0	63
	<b>2379</b>		

This table can be further broken down to include the speed limit of the road where the collision occurred; giving more details about the characteristics of the road. 47% of speed related collisions happen in 30mph limits; however, this is significantly under-represented compared to the regional trend (where 61% occur in this limit).

Probably the most significant figure is the number of collisions that occur in 60mph limits; this figure stands at 33% (which is far higher than the regional trend of 18%).

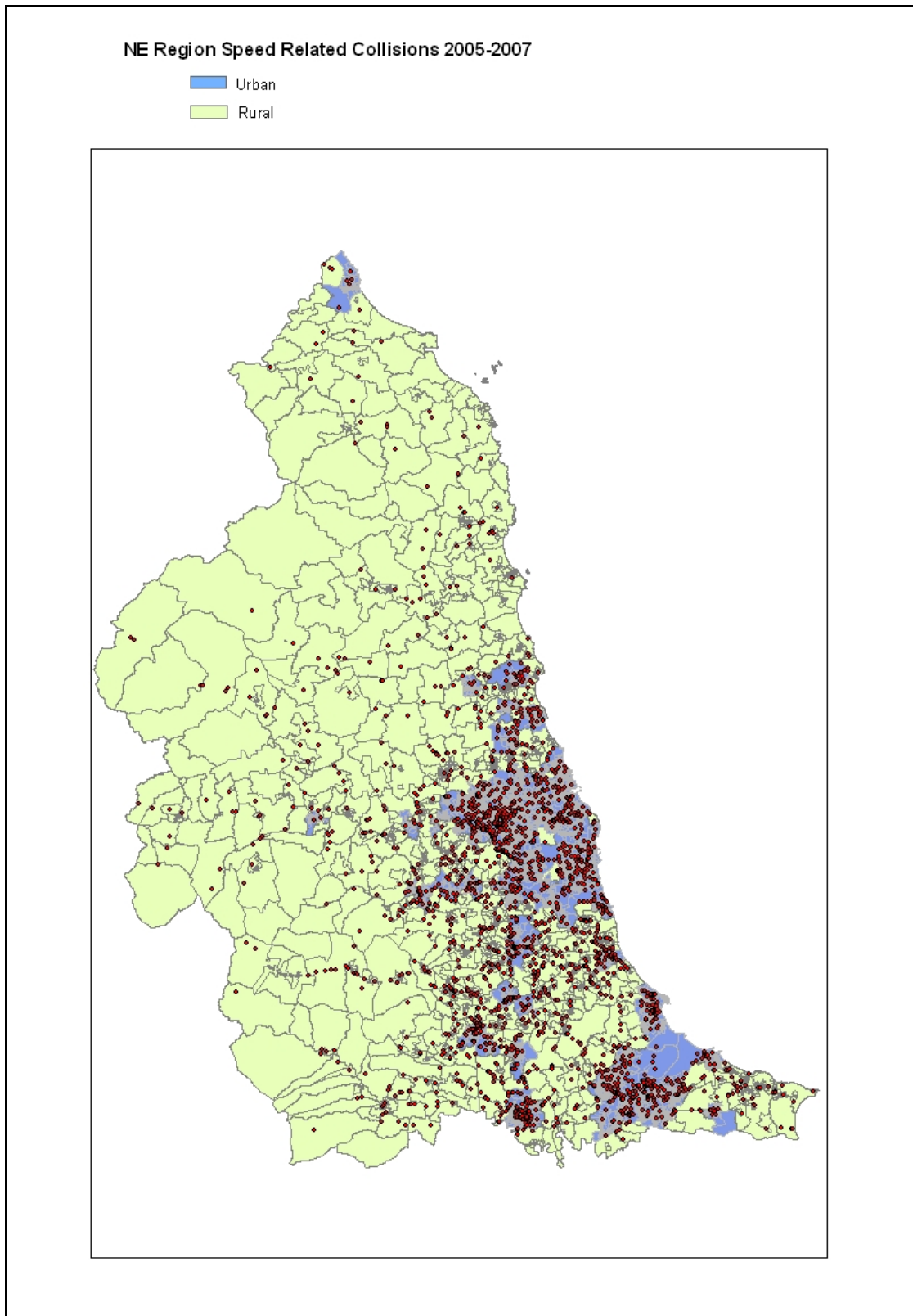
**Figure 3: Speed Related Collisions by Road Class & Speed Limit 2005-07**

Road Class	Speed Limit					
	20mph	30mph	40mph	50mph	60mph	70mph
A(M)	0	3	1	3	1	37
A	0	306	85	61	299	223
B	0	166	30	2	168	1
C	1	231	23	2	243	0
Unclassified	6	402	11	0	73	1
	<b>0.29%</b>	<b>46.57%</b>	<b>6.31%</b>	<b>2.86%</b>	<b>32.96%</b>	<b>11.01%</b>

It would appear that speed related collisions are both an urban and a rural issue. There are high numbers of collisions occurring on 30mph 'A' class and unclassified roads but also high numbers on 60mph 'A' class and 'C' class roads as well as a high number on 70mph 'A' class roads.

The split between urban and rural collisions can be viewed easier using GIS. Figure 4 shows speed related collisions in the NE region mapped on top of urban and rural layers. The collisions appear to cluster in the urban areas (for example Tyne & wear and Middlesbrough) and spread across all of the rural areas (for example Northumberland and most of Durham).

**Figure 4: Speed Related Collisions (Urban vs. Rural) 2005-07**

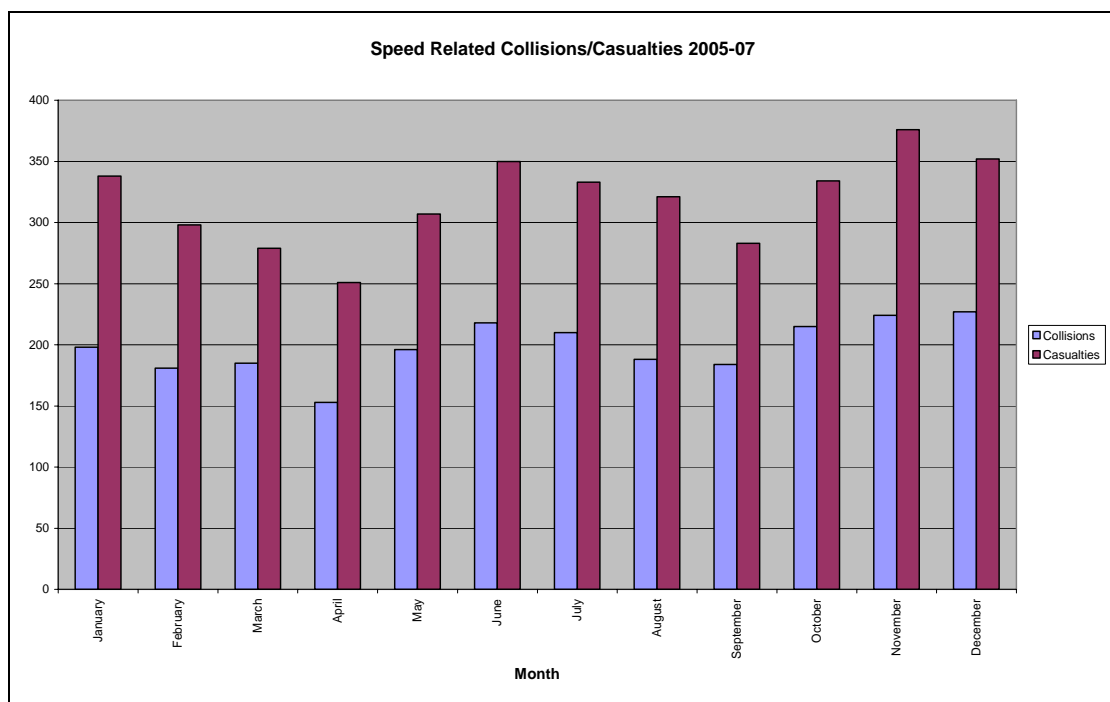


## Month & Day

Speed related collisions remain fairly constant throughout the year, with small peaks in the summer and winter months. These peaks are more visible when looking at the casualties per month as opposed to collisions.

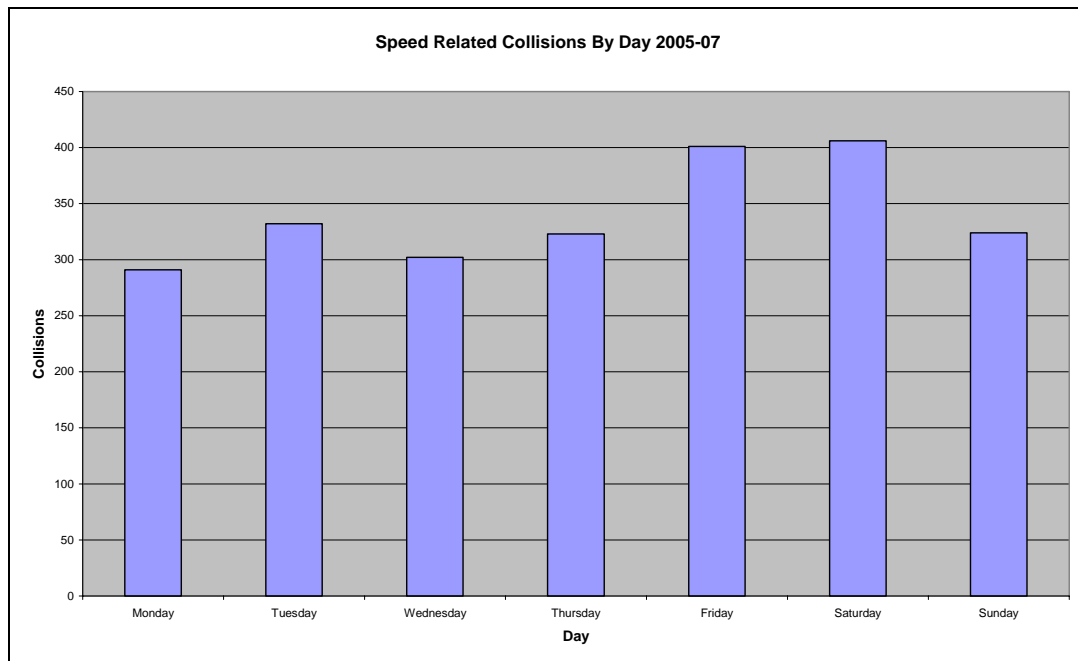
These seasonal variations could be a result of the seasonal changes in the weather and subsequently the road surface conditions. Both of these factors are discussed further later in this report.

**Figure 3: Speed Related Collisions & Casualties by Month 2005-07**



The day-to-day pattern for speed related collisions differs slightly from the overall regional trend. Friday and Saturday have the highest collision rates, and Sunday has by no means the least collisions as shown in the overall regional trend. This could be down to the slightly lower traffic flows at the weekend (no commuter traffic), which means less congestion on the roads and therefore a great opportunity for drivers to speed.

**Figure 4: Speed Related Collisions by Day 2005-07**



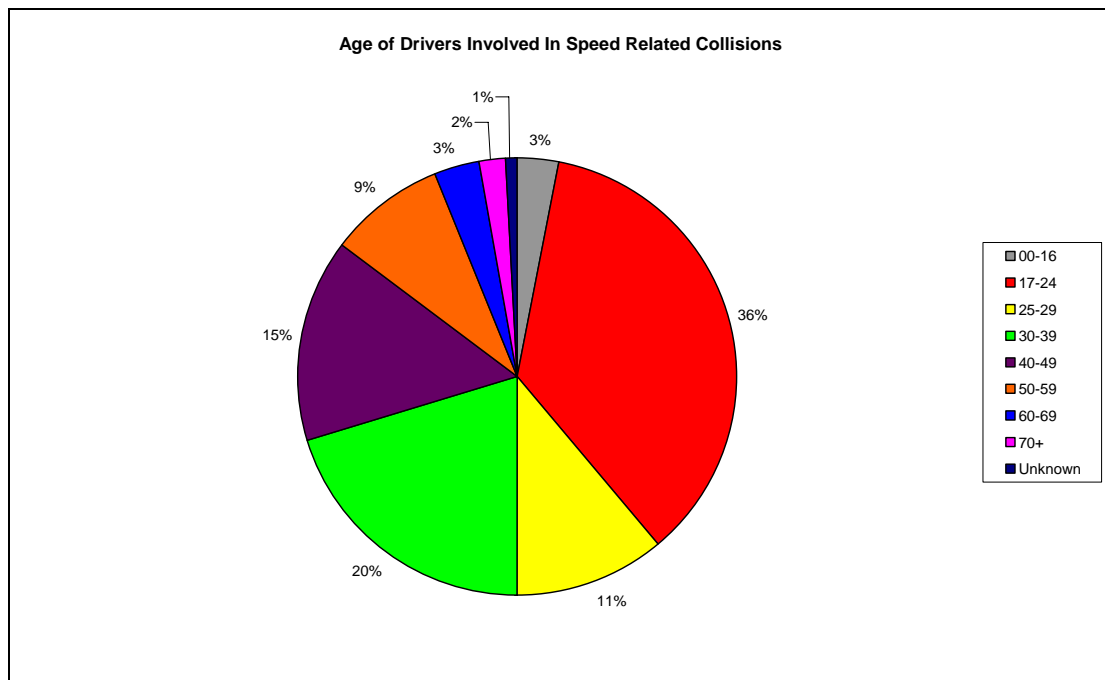
## Driver Age

Since there can be multiple drivers involved in a collision, and each can have various contributory factors associated with them, it is important when analysing driver age to only pick the drivers who have the relevant factors associated with them, in this case speeding. For this analysis the drivers of interest are those whose vehicles have been coded as either 306 or 307 or both.

In the North East region the driver age group involved in the most collisions and deemed to have been speeding in such a way as to contribute to the collision is the Young Driver group. 36% of the drivers deemed to have been speeding in the North East collisions were aged between 17 and 24 years old (fractionally higher than the regional trend for all collisions). This figure is very significant as this age group only makes up 9% of the region's driver licence holdings.

The age group 25-29 years is also over represented in speed related collisions. 11% of the drivers deemed to have been speeding in the collisions were of this age but the group only make up 6% of the NE region's driver licence holdings.

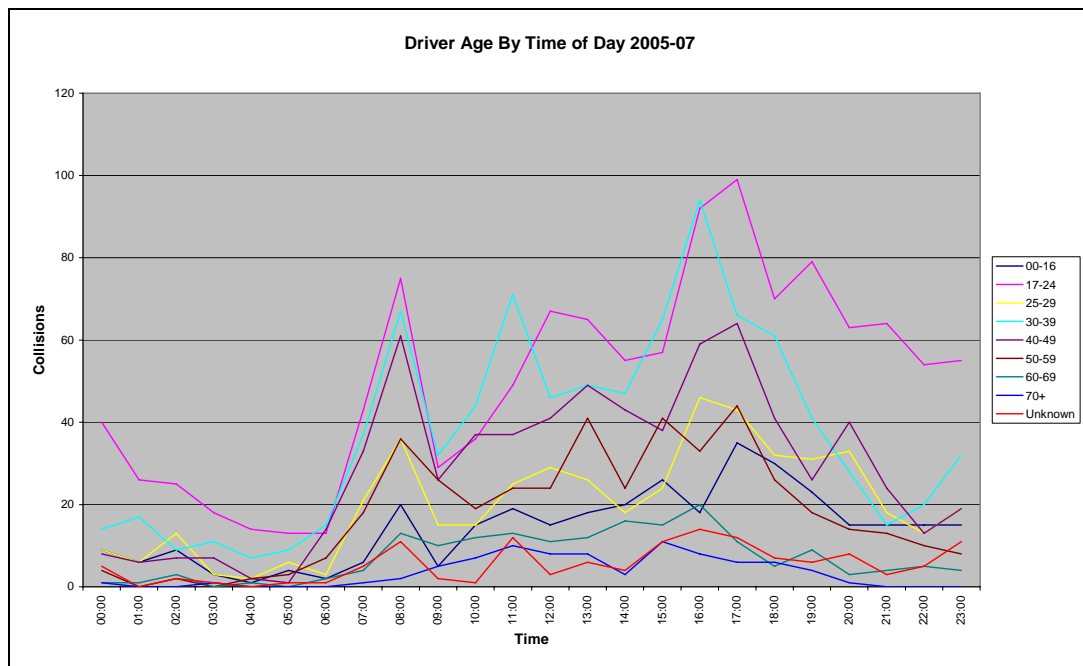
**Figure 5: Age of Drivers Deemed Speeding in Collisions 2005-07**



When looking at speed related collisions by driver age and also time of day it is clear to see that different age groups have collisions at different times of the day. Drivers aged between 17 and 49 have higher collision rates at 8am and 5pm (in line with key commuting times and the regional trend) and also there is a peak between 11am-1pm which is inline with the lunch time break. Drivers outside this age group are involved in fewer collisions and tend to be fairly constant through the hours of around 7am to 7pm.

The young driver age group (17-24) also show high levels of speed related collisions in the evening, which is different from all other age groups. In particular collisions are significantly high between 5pm and 12am, and also in the early hours of the morning. During this period 81% of these drivers were male.

**Figure 6: Speed Related Collisions by Driver Age & Time of Day 2005-07**



## Speeding Offenders

Speed enforcement is carried out by the police in all 3 force areas within the NE region. Northumbria and Cleveland both operate safety camera partnerships, with both fixed and mobile camera sites. Durham has one mobile speed enforcement van which operates from several sites across the force area. In addition to this, all 3 forces enforce speed using marked police vehicles.

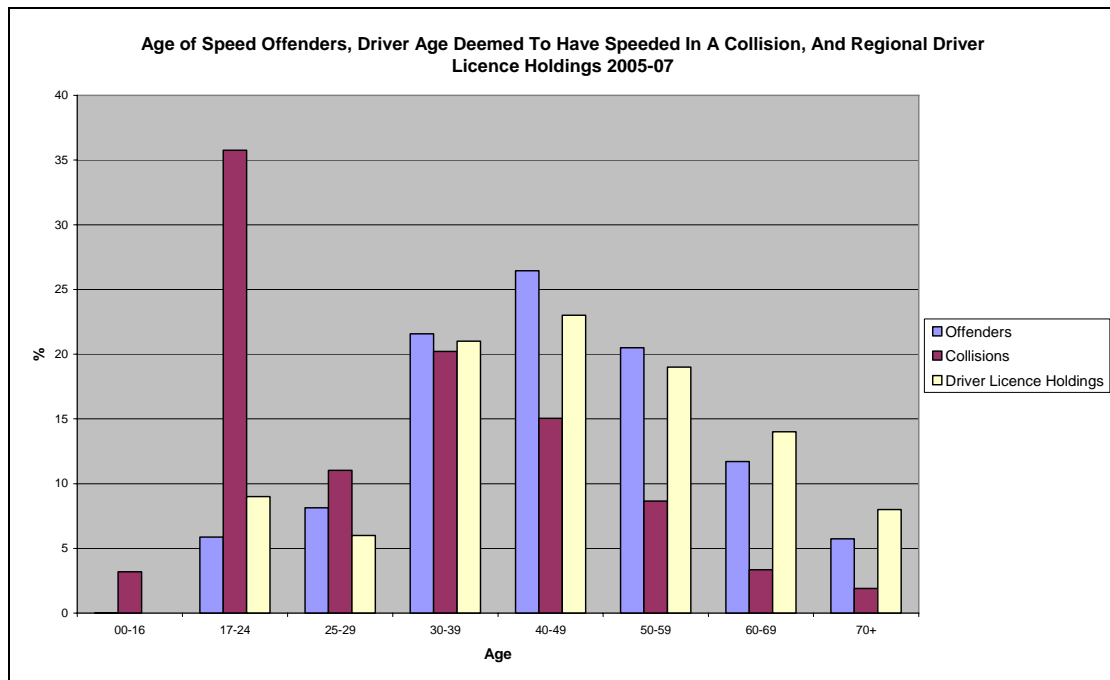
Unfortunately offender data, for those drivers caught speeding, was not available from all police forces in the region. Therefore for the purpose of this report data obtained from Northumbria Police will serve as a sample for the region.

Looking at the ages of drivers caught speeding shows that the age group 40-49 are caught speeding the most. 26% of drivers caught are aged between 40 and 49 years, much higher than the proportion of speed related collisions they contribute to through speeding.

The age group 50-59 have the highest number of offences in comparison to the speed related collisions they contribute to. The group makes up 21% of the drivers caught speeding but are only deemed to be the speeding driver in a collision 9% of the time.

The opposite effect can be seen in the age group 17-24. This group makes up one of the lowest proportions of drivers caught speeding at 6% but as previously discussed they make up 36% of drivers deemed to have been speeding in a collision.

**Figure 7: Age of Drivers Caught Speeding, Drivers Deemed To Have Been Speeding In A Collision, & Driver Licence Holdings in NE Region 2005-07**



For virtually all age groups it appears that the proportion of drivers caught speeding in the NE region is linked to the proportion of drivers holding licences in the region. Collision rates do not seem to be effected by either of the other two data sets and this is most visible in the 17-24 age group.

The large difference between offender and collision rates for young drivers is hard to explain based on the current data available. One possibility is that the enforcement threat is far more punishing for a driver who has recently passed their driver test. A new driver will be disqualified if they receive 6 or more points within the first 2 years of passing their test, they will then be required to re-sit both practical and theoretical elements of the test. Effectively this means that a new driver can not be caught speeding twice within the first 2 years of passing their test. Therefore the rate of repeat offending within this age group is far lower than the other groups. In contrast drivers who passed their test over 2 years ago will only be disqualified if they reach 12 penalty points, effectively this is the equivalent of being caught speeding 4 times, thus repeat offending rates are likely to be higher as the possibility of disqualification is far lower and this could be an explanation for the high offender rates in the age groups 30+.

Another possible reason for these differences between young and old drivers could be that young drivers are more aware of where enforcement cameras are placed around the region. Safety cameras have been in the region since 1992. Young drivers have grown up in the safety camera culture and to them cameras are regular road features, where as older drivers (particularly 40+) have had to try and adapt their driving to the introduction of cameras and it is a possibility that some find this hard and therefore are caught speeding.

## Weather & Road Surface Conditions

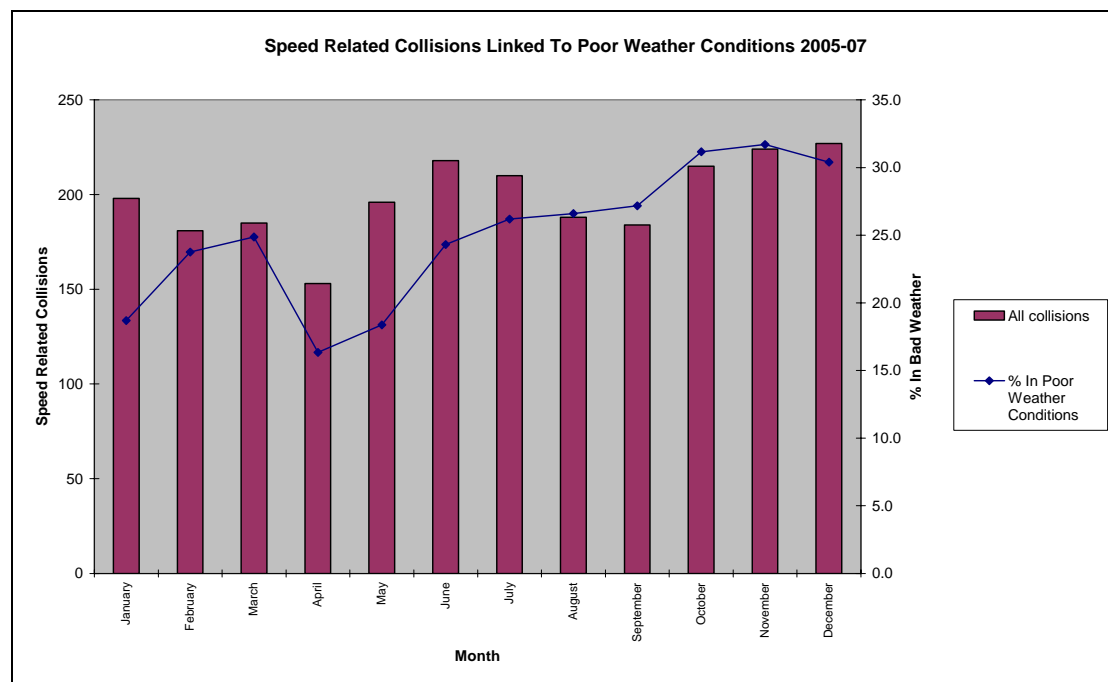
Since code 307 is stated as 'Travelling Too Fast for Conditions' it suggests that the driver was not necessarily breaking the speed limit but was speeding in light of the conditions in the surrounding environment. Weather and surface conditions are 2 such factors which could deem whether or not this code is appropriate to a collision.

Around 75% of speed related collisions occur in 'Fine' weather conditions. This is around 9% lower than the regional trend for all collisions.

21% of speed related collisions occur when it's 'Raining' and this is an increase of around 8% on the regional trend for all collisions. Therefore it can be concluded that many drivers in the NE region are failing to recognise the dangers of speed in adverse weather conditions.

Figure 8 shows that speed related collisions increase on the months when the percentage in poor weather is higher. This is further evidence that speed and poor weather conditions should not be mixed.

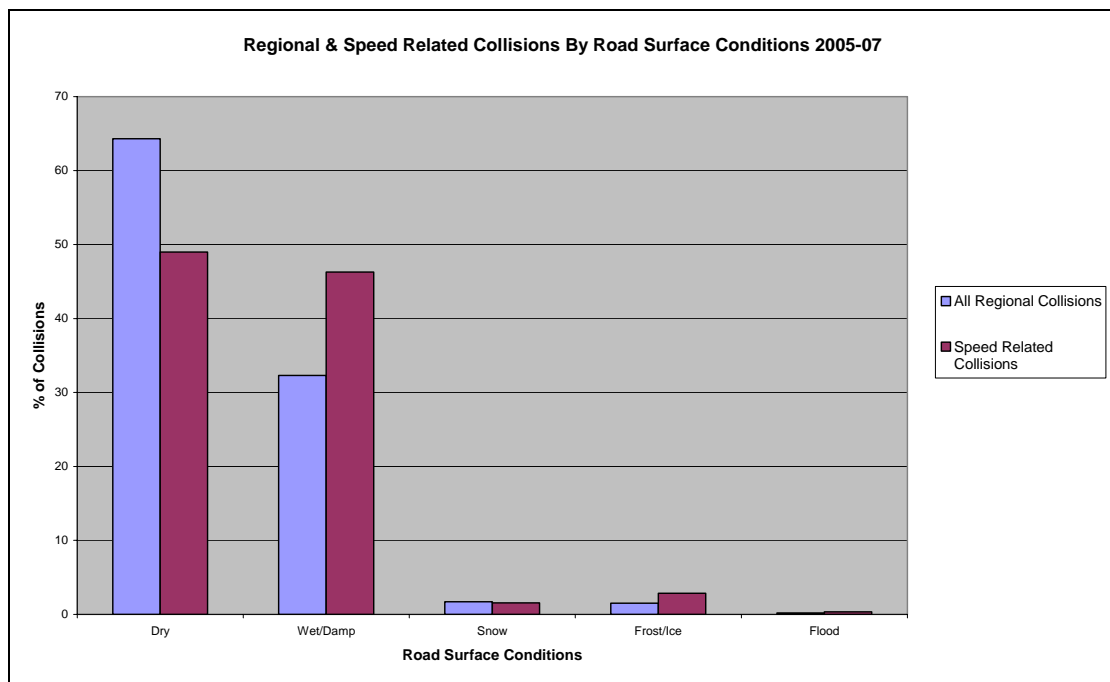
**Figure 8: All Speed Related Collisions & % In Poor Weathers Conditions By Month 2005-07**



Analysis of the road surface conditions in speed related collisions in the region shows that drivers are more likely to have a collision if they are speeding when the road surface conditions are poor.

Only 49% of speed related collisions occur when the road surface is 'Dry'. This is around 15% lower than the regional trend for all collisions. By contrast the proportion of collisions on 'Wet/Damp' road surfaces is significantly increased, as shown in Figure 9.

**Figure 9: Proportion of Speed Related Collisions and All Regional Collisions By Road Surface Conditions 2005-07**



## Headline Notes

- The NE region has fewer speed related collisions than the national trend, however, the proportion of fatal collisions that show speeding as a contributory factor is the same.
- All road types (except unclassified roads) are over represented in terms of speed related collisions. 'A' class roads have the highest proportion of speed related collisions.
- Speed related collisions are both an urban and rural issue across multiple speed limits.
- Friday – Sunday account for nearly half of the weeks speed related collisions.
- 17-24 year olds have the most speed related collisions in the region. Unlike other age groups, this group has high levels of collisions after 5pm.
- Drivers aged 30+ are caught speeding more often (although are involved in lower collision levels). 17-24 year olds are caught speeding far less.
- The proportion of speed related collisions that occur in poor weather and on poor road surface conditions is higher than the regional trend for all collisions.