

NORTH EAST Regional Road Safety Resource

Project Report: 31

Road Safety GB North East's Winter Campaigns 2011 Supporting Information

Produced November 2011

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Contents

Summary of Key Findings	3
Young Drivers and Riders	3
Casualties from Mobile Phone use while Driving	3
People Using Their Vehicles for Work Travel.....	3
Winter Road Conditions	4
Vehicle Defects	4
Introduction	5
Young Drivers and Riders	6
Figure 1: Young Driver/Rider Collisions by Year and Severity	6
Figure 2: Vehicle Types used by Young Drivers and Riders Involved in Collisions.....	7
Figure 3: Severity of Casualties from Young Driver/Rider Collisions by Day.....	8
Figure 4: Severity of Casualties from Young Driver/Rider Collisions by Hour	8
Figure 5: Main Contributory Factors in Young Driver and Rider Collisions, with Collision Severity	9
Casualties from Mobile Phone use while Driving	10
Figure 6: Severity of Casualties from Mobile Phone Collisions by Year	11
Figure 7: Severity of Casualties from Mobile Phone Collisions by Position.....	11
Figure 8: Age Group and Sex of Drivers Using Mobile Phones in Collisions.....	12
People Using Their Vehicles for Work Travel	13
Figure 9: Casualties of Occupants of Vehicles Used for Work Travel	13
Figure 10: Financial Cost of Casualties in Vehicles Used for Work Travel.....	14
Figure 11: Main Contributory Factors in Work Travel Collisions, with Collision Severity	15
Winter Road Conditions	16
Figure 12: Severity of Casualties in Winter Conditions by Year	16
Figure 13: Severity of Casualties in Winter Conditions by Age Group and Sex	17
Figure 14: Casualties in Winter Conditions by Weather, Light/Darkness and Road Surface Condition.....	18
Figure 15: Main Contributory Factors in Winter Conditions Collisions, with Collision Severity	19
Vehicle Defects	20
Figure 16: Severity of Collisions Involving a Vehicle with a Defect by Year	20
Figure 17: Severity of Collisions Involving a Vehicle with a Defect by Defect Type	21
Figure 18: Severity of Collisions Involving a Vehicle with a Defect by Driver Age.....	21
Figure 19: Severity of Collisions Involving a Vehicle with a Defect by Vehicle Type	22

Summary of Key Findings

Young Drivers and Riders

- Between 2006 and 2010 there have been 11,929 collisions on roads in the North East that involved at least one young driver or rider. This means that over one third of all collisions in the North East involved a driver or rider aged 17 to 25 years old. In these collisions, 11,099 casualties were occupants of the vehicle that the young person was driving or riding. Of these casualties, 9,996 were slightly injured, 1,007 were seriously injured and 96 were killed.
- There has been a downward trend in the number of collisions involving young drivers and riders in the period, and in the severity of those collisions.
- Young driver and rider collisions peak on Fridays, but their collisions are proportionally more severe on Sundays. They follow a similar pattern to collisions involving other drivers and riders in terms of the time of day of the collision, peaking in the morning and afternoon rush hours, but then they remain higher later into the evenings than other drivers and riders.
- The main factor that contributed to young driver and rider collisions was a failure to look properly. Other factors that are overrepresented amongst young drivers and riders are 'careless, reckless or in a hurry', 'loss of control' and 'learner or inexperienced driver/rider'.

Casualties from Mobile Phone use while Driving

- Between 2006 and 2010 there have been an estimated 165 casualties that resulted from a collision involving at least one driver or rider using a mobile phone. Of these casualties, 147 were slight, 11 were serious and 7 were fatal.
- There has been an increase in mobile phone related casualties between 2008 and 2010, although the number of collisions where someone was killed or seriously injured (KSI) has not increased.
- Almost half of all casualties in a mobile phone collision were in a vehicle other than the one driven or ridden by the mobile phone user, however, the highest proportion of mobile phone KSIs were suffered by pedestrians and the mobile phone users themselves.
- The demographics most likely to cause casualties from their involvement in mobile phone collisions are males and people under the age of 36.
- 14% of the drivers and riders who were using their mobile phone in a collision were on a journey as part of work when they were involved in the collision.

People Using Their Vehicles for Work Travel

- Between 2006 and 2010 there have been 9,400 collisions that involved a vehicle being used for a journey as part of work. Of these collisions, 8,277 were slight, 1,023 were serious and 100 were fatal.

- There has been little change in the total number of casualties amongst occupants of vehicles being used for work travel over the past five years, although there has been a slight drop in the number of KSI casualties over the period.
- If all casualties amongst occupants of vehicles being used for work travel had been prevented in the period, it is estimated that this would have saved the North East economy just under a quarter of a billion pounds.
- The main factor that contributed to collisions where someone was using their vehicle on a journey as part of work was the failure to look. The factors that were overrepresented for this group were 'suddenly breaking' and 'following too close', and the factor that was underrepresented was 'loss of control'.

Winter Road Conditions

- Between 2006 and 2010 there have been 2,098 casualties from collisions on roads in the North East where there were winter weather and/or road conditions present. Of these casualties, 1,933 were slight, 155 were serious and 10 were fatal.
- There has been a sharp increase in the number of casualties from collisions where there were winter weather and/or road conditions over the past five years, and especially in 2010, which accounted for almost half of all winter driving casualties.
- The number of casualties in winter conditions is at a similar level for both males and females, but young adults have the highest incidence. However, all ages groups up to 55 still have high numbers of casualties.
- The main contributory factor to collisions in winter conditions is a slippery road. The other factors that had an impact on the number of collisions were 'loss of control' and 'travelling too fast for conditions', while 'failed to look properly' was underrepresented when compared to the total collision statistics.

Vehicle Defects

- Between 2006 and 2010 there have been an estimated 547 collisions on roads in the North East that involved at least one vehicle that had a defect. Of these collisions, 454 were slight, 78 were serious and 15 were fatal.
- The number of collisions involving vehicles with defects has been reducing over the last five years, but the rate of reduction in both total and KSI collisions has slowed down over the last three years.
- The two most common vehicle defects that were present in collisions were defective brakes and illegal, defective or underinflated tyres. Together these two factors account for over two thirds of the total collisions.
- Young drivers and riders are most likely to be involved in a collision in a vehicle that has a defect, and the most common defect in vehicles driven and ridden by young drivers and riders involved in collisions is illegal, defective or underinflated tyres.

Introduction

This report has been produced by the North East Regional Road Safety Resource to provide supporting information to Road Safety GB North East on collisions and casualties in the North East between 2006 and 2010. The intention behind the inclusion of the selected information is that it will compliment the campaigns that Road Safety GB North East will be running in winter 2011. The data used to produce this report is based on the Road Safety Resource's database of Stats 19 provided by Cleveland, Durham, and Northumbria police forces.

This report is split up in to five of the areas that the winter campaigns will either be directly focussing on, or could use to support dissemination:

- young drivers and riders,
- use of mobile phones while driving,
- use of vehicles for work travel,
- collisions and casualties resulting from winter road conditions, and
- collisions resulting from vehicle defects

For each area there are different methods of analysis used, but all of the information is taken from the 2006 to 2010 Stats 19 database.

This report does not go into detail on overall collision and casualty rates, or drink driving related collisions and casualties as there are already more specialised reports that are made available on these subjects on the Regional Road Safety Resource's website, <http://www.neroadsafety.org.uk/>.

Overall, there were 11,099 casualties who were occupants of a vehicle driven or ridden by a young driver, 165 casualties from collisions where one of the drivers or riders was using their mobile phone, 9,400 collisions involving a vehicle being driven or ridden for work purposes, 2,098 casualties in winter conditions, and 547 collisions where at least one of the vehicles had a defect. These overall numbers could be used to prioritise the amount of time and resources spent on each of these areas in the winter campaigns.

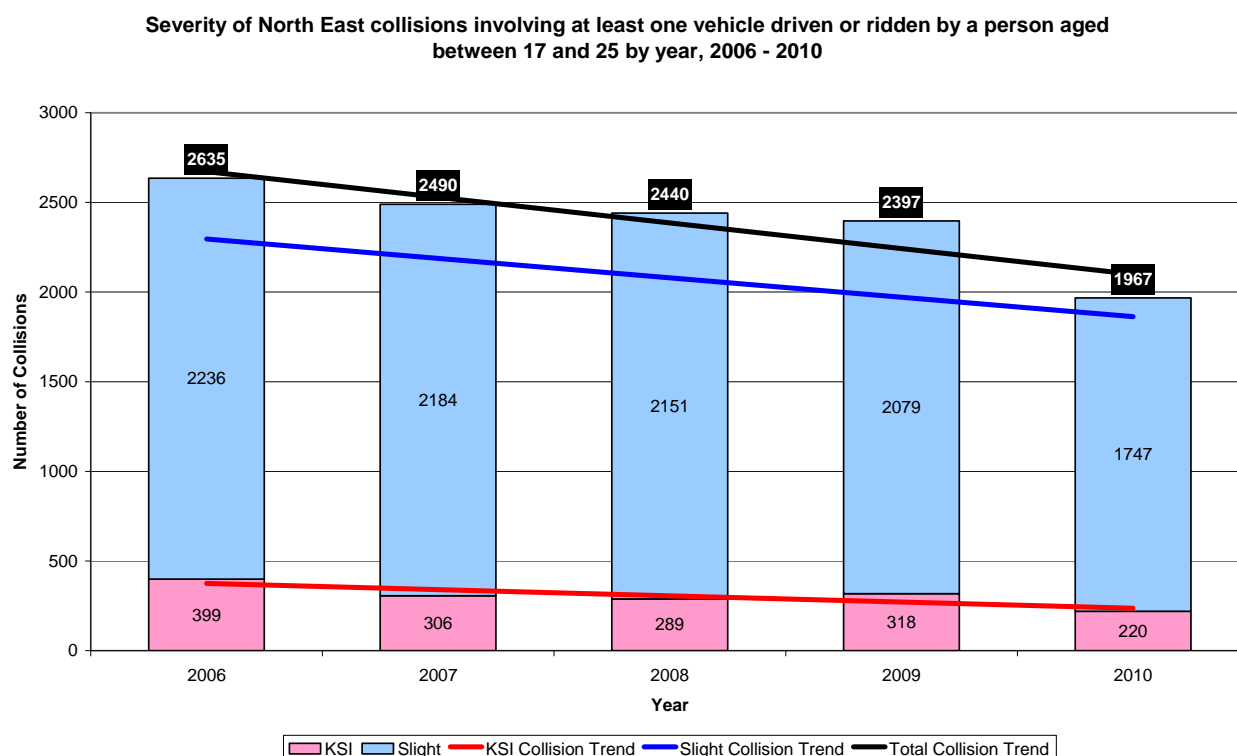
Young Drivers and Riders¹

Young drivers and riders are seen as a group that are more susceptible to having road traffic collisions than other age groups, and when looking at the overall figures for collisions in the North East between 2006 and 2010 this is shown to be true. Of the 33,445 total collisions over this period, 11,929 involved at least one young driver or rider, which equates to over one third of all collisions.

Recent studies have looked into the possible connection between brain development and young driver collisions, as the brain does not fully finish developing until around the age of 25. Dr Lisa Dorn of Cranford University links the process of brain development to driving expertise: as young drivers have not fully finished developing, their brains are more reliant on a constant appraisal of risks while driving, rather than the more automated process that is demonstrated in older drivers. An example of this would be if a pedestrian steps out in front of a car driven by a young driver and an older driver. The young driver would have to make a more conscious decision to apply the break to prevent the collision, while for an older driver, as the synaptic connections have already been formed and reinforced, the decision to apply the break is more instinctive, and therefore faster. This can be seen to contribute to a higher collision rate amongst younger drivers, and so justifies the amount of attention focussed on this age group by road safety professionals.²

Figure 1 looks at the severity of collisions that involved at least one driver or rider's vehicle. From this figure we can see that there has been a general downward trend in both the total number and severity of collisions involving young drivers and riders.

Figure 1: Young Driver/Rider Collisions by Year and Severity

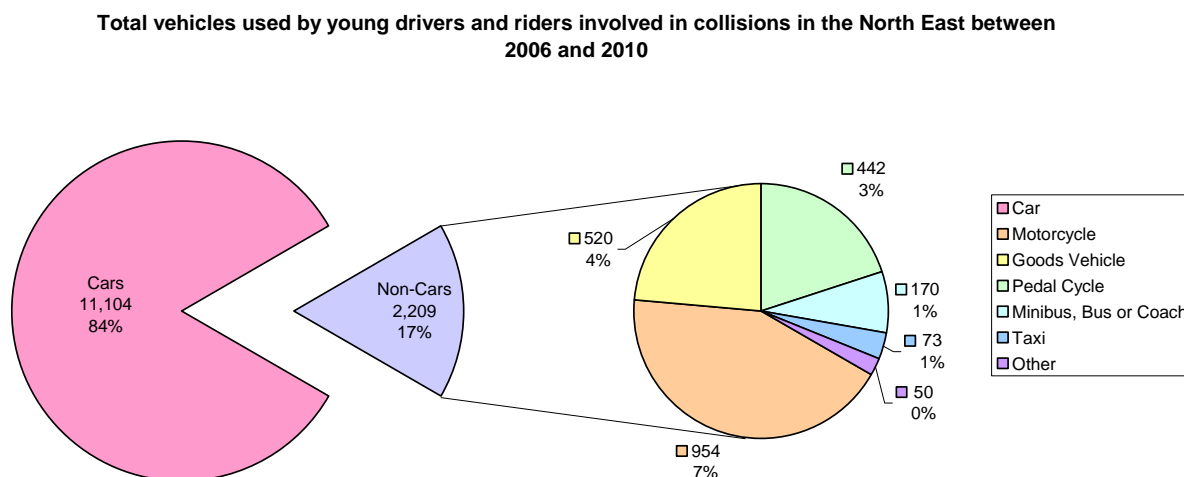


¹ For the purpose of this report, "young drivers and riders" have been taken to be any driver or rider of a vehicle who was between 17 and 25 years old at the time of the collision.

² Dorn, Lisa, *The Young Novice Driver Brain*, a²om Ltd, 2009

The next figure looks more closely at the vehicle types that the young driver or rider was using at the time of the collision. It clearly shows that the main form of personal transportation for this age group is the car. This is supported by driving licence statistics obtained from the Driver and Vehicle Licensing Agency (DVLA), which show that 99.8% of young drivers and riders in the North East have a licence to drive a car, while only 1.4% have a motorcycle licence and 2.6% have a licence to drive medium to large goods vehicles.³

Figure 2: Vehicle Types used by Young Drivers and Riders Involved in Collisions



This information shows that forms of transportation other than cars are over represented in the collision statistics, but as young car drivers still make up the vast majority of young drivers and riders involved in collisions, it would be appropriate to continue to focus most resources on them.

The next two figures look at the days and hours of collisions involving young drivers and riders. From these we can see that Friday has the most casualties resulting from collisions involving young drivers and riders, followed by Saturday. The other days of the week have fairly similar levels of total casualties, although Sundays have proportionally higher levels of casualties who were killed or seriously injured (KSI) than the rest of the week.

In terms of the hour of the day that casualties occur, Figure 4 shows that there is a distinct peak between 08:00 and 08:59, which coincides with the morning rush hour. There is also a more gradual but larger peak in casualties in the hours up to and following 17:00, which would again coincide with the late afternoon and early evening rush hour. However, casualties from collisions involving young drivers and riders remain high later into the night than the North East average. This is an area that could be focussed on in campaigns specific to young drivers and riders.

³ This information was obtained from a Freedom of Information request to the DVLA on driving licence holdings in the North East as at the start of October 2011.

Figure 3: Severity of Casualties from Young Driver/Rider Collisions by Day

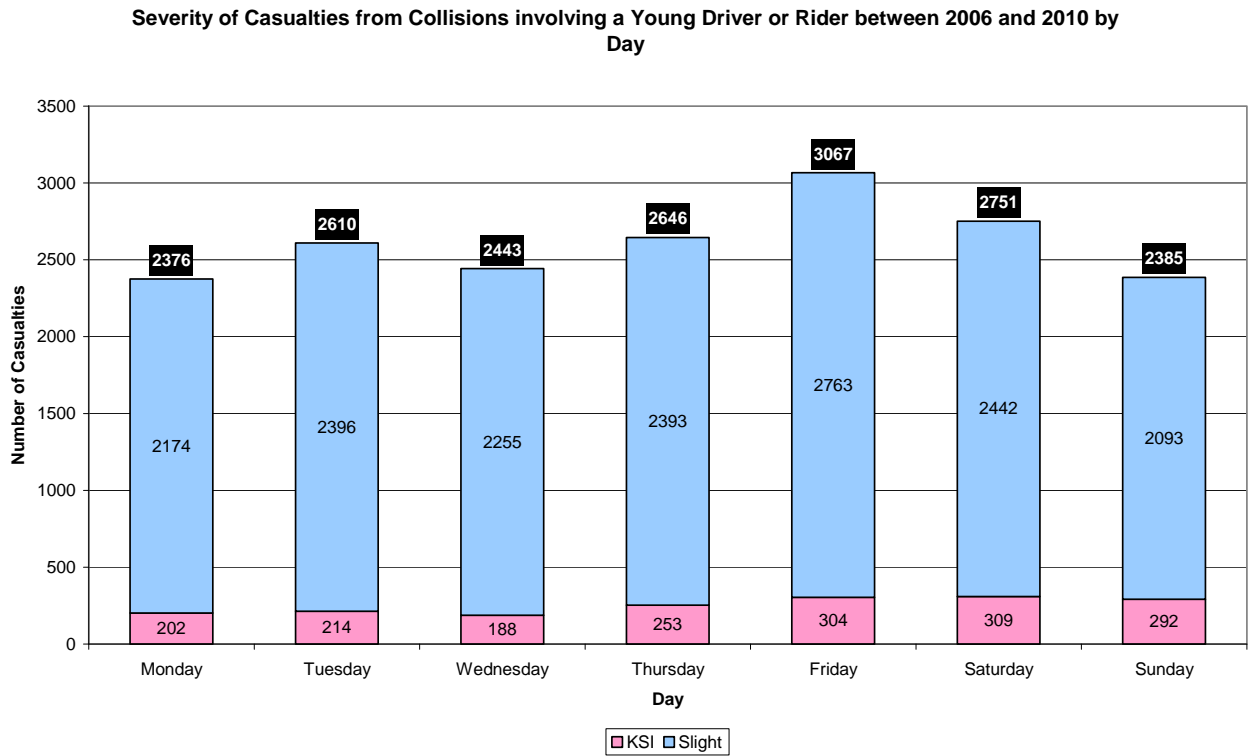
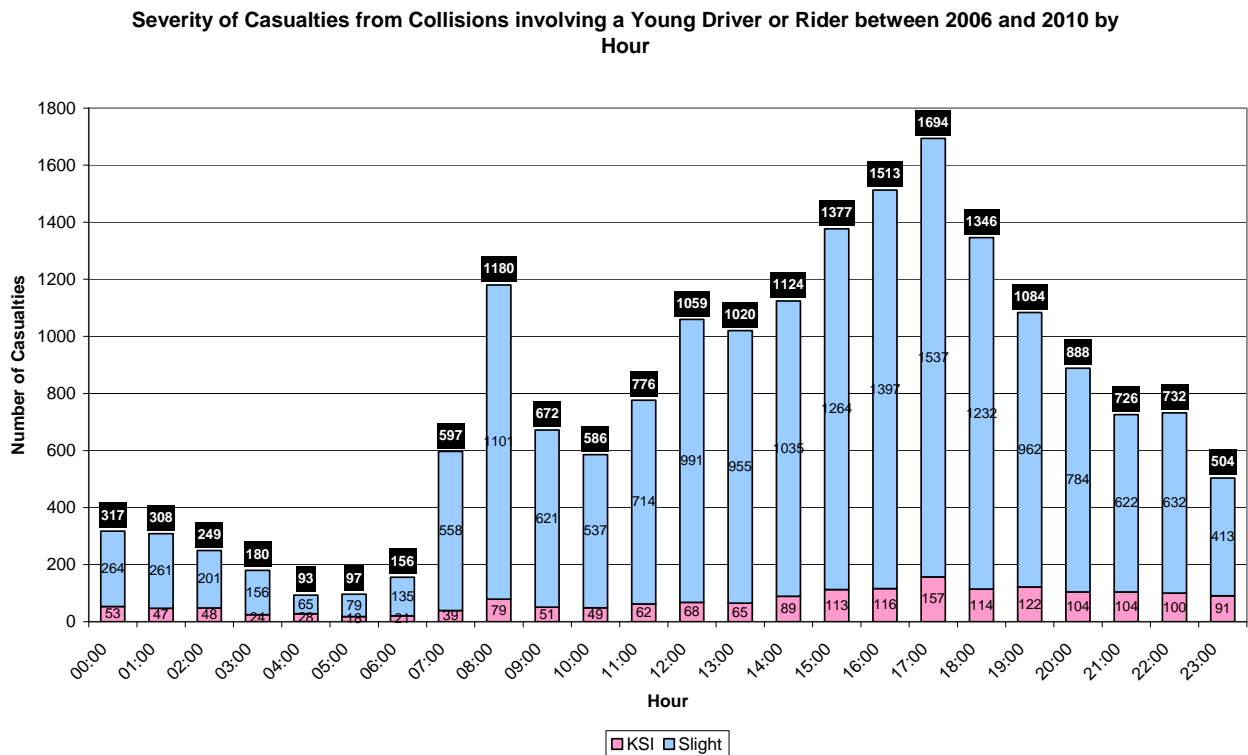


Figure 4: Severity of Casualties from Young Driver/Rider Collisions by Hour



The final figure in this section looks at the contributory factors of the collision involving the young driver or rider. Contributory factors should be used by the reporting police officer to indicate the key actions and failures that led directly to the actual impact. They show why the collision occurred and give clues about how it may have been prevented. Using the contributory factors that were specifically recorded about the vehicle that was driven or ridden by the young driver or rider, we can begin to build up a picture of what factors contribute to young driver and rider collisions and develop some ideas to prevent future collisions. It should be noted that contributory factors are the opinion of the reporting police officer, but they can give us a good indication of the circumstances of the collision.

Figure 5 looks at the top 13 of the 71 contributory factors associated with young driver collisions between 2006 and 2010 as these represent over three quarters of the contributory factors assigned to young driver collisions.

Figure 5: Main Contributory Factors in Young Driver and Rider Collisions, with Collision Severity

Contributory Factor Description	Fatal	Serious	Slight	Total
Failed to look properly	18	234	2333	2585
Careless, reckless or in a hurry	24	248	1451	1723
Failed to judge other person's path or speed	8	113	1281	1402
Loss of control	53	275	955	1283
Slippery road (due to weather)	12	106	1059	1177
Learner or inexperienced driver/rider	26	145	947	1118
Travelling too fast for conditions	26	150	828	1004
Poor turn or manoeuvre	10	129	836	975
Impaired by alcohol	19	164	474	657
Sudden braking	4	46	596	646
Following too close	1	25	603	629
Exceeding speed limit	34	128	420	582
Aggressive driving	21	129	306	456

From Figure 5 we can see that 'Failed to look properly' is the main cause of casualties amongst young drivers and riders, however, 'Loss of control' is the most common factor in both fatal and serious collisions. Compared with the general figures on North East collisions, 'Failed to look properly' is actually less common amongst young drivers than the region as a whole; however, there are other factors that increase in occurrence for young drivers. The main contributing factors that are overrepresented amongst young drivers are 'Careless, reckless or in a hurry', 'Loss of control' and 'Learner or inexperienced driver/rider'. These contributory factors can all be seen to be linked to the inexperience of young drivers, which can cause them to make driving errors. Offering further driver training to young drivers may help reduce the number of drivers affected by these contributing factors, and highlighting the importance of paying attention to the road and other road users in promotional campaigns could help to further reduce the total number of collisions.

Casualties from Mobile Phone use while Driving

It is illegal to use a hand-held mobile phone (or similar device “that must be held at some point”) while driving or riding a vehicle. If a driver or rider is caught using a mobile phone they will receive three penalty points on their licence and a fine of £60. However, if their case then goes to court they can face disqualification from driving or riding and a maximum fine of £1,000. Furthermore, if the offender was driving a bus or goods vehicle, the maximum fine rises to £2,500. Employers can also be prosecuted if they ask their employees to make or receive calls while driving.⁴

From a road safety perspective, use of a mobile phone while driving or riding can be a very dangerous distraction. Research published by the Royal Society for the Prevention of Accidents (RoSPA) identifies that a driver or rider using a hand-held mobile phone is four times more likely to be involved in a collision than normal. This research also shows that a driver or rider’s reaction times were on average 50% slower when using a hand-held mobile phone (or similar device) than under normal driving conditions, and 30% slower than when driving or riding under the influence of alcohol. On average it took hand-held mobile phone users half a second longer than normal to react to a hazard and a third of a second longer to react than when they had drunk alcohol. RoSPA note that at 70mph, this is equivalent to travelling an additional 14 metres before reacting to a hazard on the road.⁵

In the North East between 2006 and 2010 there were 165 casualties from collisions where at least one of the drivers or riders involved was judged by the reporting police officer to have been using a mobile phone. Of these casualties, 147 were slight, 11 were serious and 7 were fatal. Figure 6 shows that there has been an increase in mobile phone related casualties over the last three years, although KSI casualties have not increased at the same rate.

When looking at these figures as a proportion of total casualties over this period, casualties from collisions involving at least one driver or rider using a mobile phone only account for 0.35% of total casualties. A reason for this may be that a driver or rider using their mobile phone in a collision is probably unlikely to mention this as a contributory factor to the reporting police officer, as this is a driving offence. This does mean that the actual figure for casualties from collisions involving at least one driver or rider who was using their mobile phone could be much higher than is reported here.

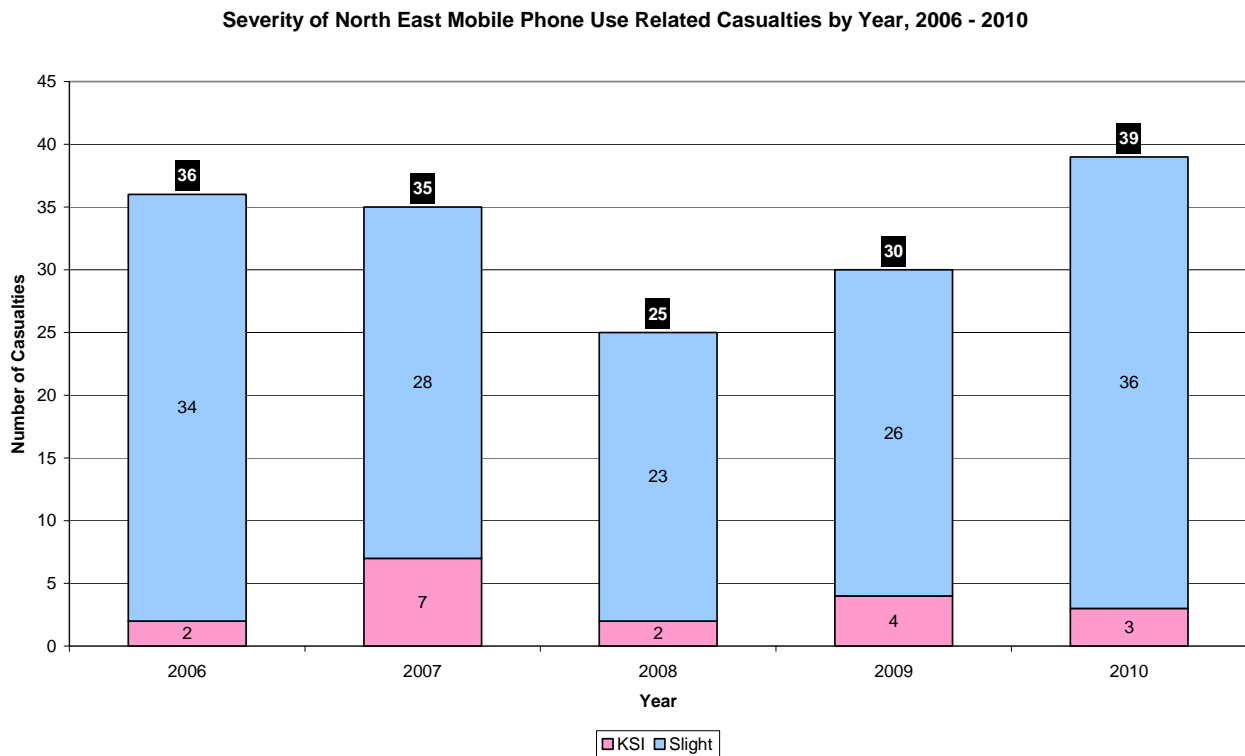
⁴ Information on the legal process for mobile phone offenders has been taken from the following source:
http://www.direct.gov.uk/en/TravelAndTransport/Roadsafetyadvice/DG_188761*

* Please note that all links were correct at the time of publication but could be subject to subsequent change.

⁵ Research by RoSPA is published on the following website:

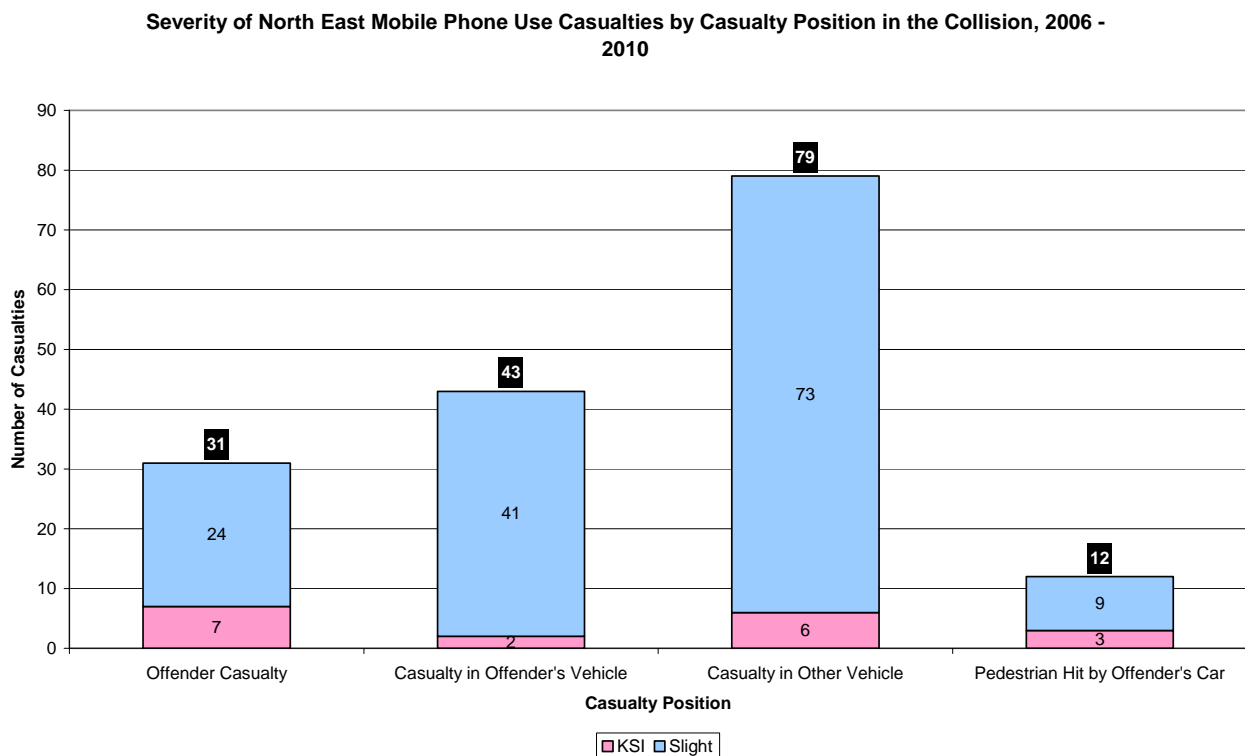
<http://www.rospace.com/roadsafety/adviceandinformation/driving/mobilephoneswhiledriving/default.aspx>

Figure 6: Severity of Casualties from Mobile Phone Collisions by Year



The Stats 19 data that is completed by the reporting police officer enables us to see where the casualty was at the time of the collision. This means that we can identify whether the casualty was the mobile phone user themselves, someone else in or on their vehicle, someone driving or riding another vehicle involved in the collision, or a pedestrian.

Figure 7: Severity of Casualties from Mobile Phone Collisions by Position



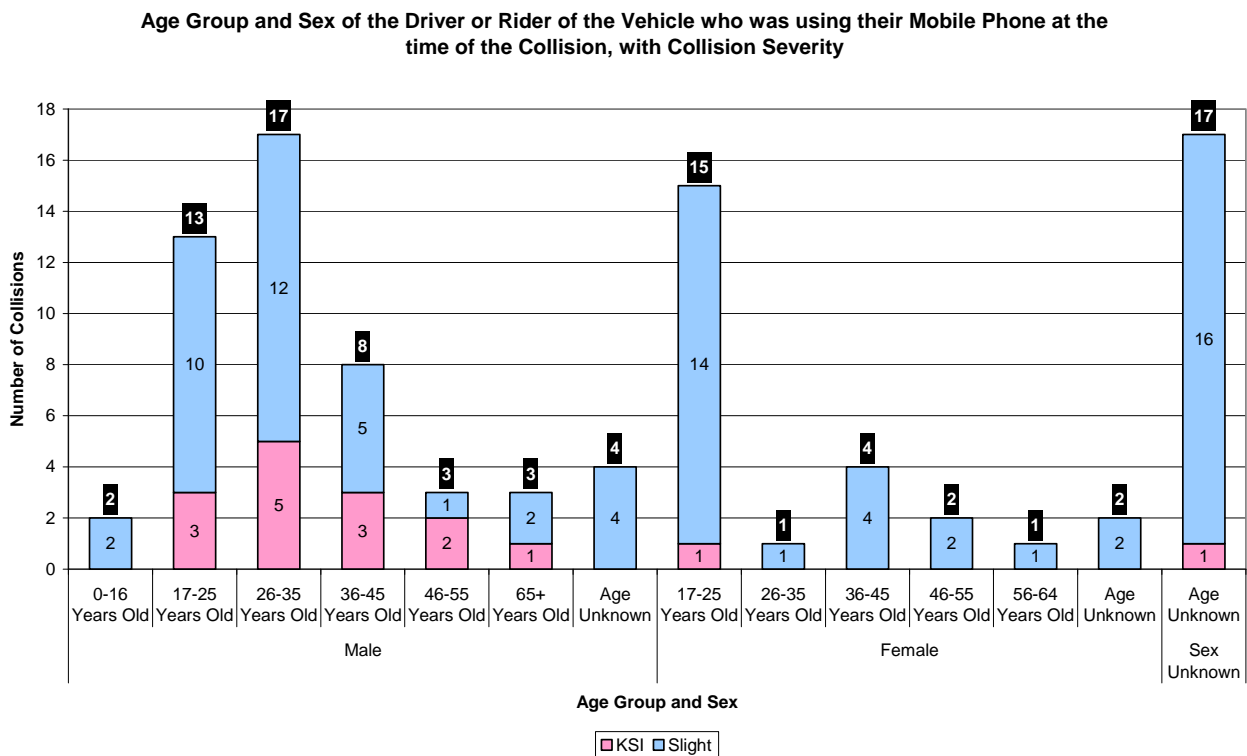
From Figure 7 we can see that the most KSI casualties are suffered by the mobile phone users themselves, while the highest numbers of slight casualties are amongst occupants of other vehicles involved in the collision. As a proportion, pedestrians and mobile phone offenders have the highest levels of KSIs, with around one quarter of all casualties being serious or fatal. This is perhaps something that could be highlighted in campaigns, that whilst there are more people injured in total who are innocent parties, there is more chance of the collision being serious or fatal for the offender themselves.

The final figure in this section looks at the age group and sex of the mobile phone offenders to assist in targeting campaigns more effectively at the most likely groups. The main problem demographics are males and the under 36s, which should be expected as this sex and age group are statistically the most at risk groups for general collisions as well. Male mobile phone offenders are also involved in all but two of the KSI collisions in the period. It is interesting to note that males who are between 26 and 35 have both the most total collisions and the most KSI collisions; however, it is also important not to ignore the fact that there were two more collisions involving female drivers and riders aged between 17 and 25 years old than males of the same age group.

In addition to this information, it is also worth noting that 14% of these drivers were on a journey as part of work when they were involved in the collision.

It should be pointed out that there are a large number of drivers who have no age or sex recorded by the reporting police officer. Whilst there are cases when it is not possible to record a driver's age or gender, it is still very important for as much information as possible to be recorded by the police to better aid casualty reduction, especially in KSI collisions.

Figure 8: Age Group and Sex of Drivers Using Mobile Phones in Collisions



People Using Their Vehicles for Work Travel

People using their vehicles for work travel have been involved in a significant amount of the North East's collisions in the period 2006 to 2010. Of the 33,445 collisions in the period, 9,400 involved at least one vehicle that was being used as part of work and 4,755 involved at least one vehicle that was being used to commute to or from work. For this section of the report, we will concentrate on collisions involving vehicles on journeys as part of work, as there may be some useful information that employers can use to keep their employees safe when making journeys for work.

Of the 9,400 collisions that involved a vehicle being used for work travel, 8,277 were slight, 1,023 were serious and 100 were fatal. Figure 9 looks in more detail at the casualties amongst the occupants of the specific vehicles that were being used for work travel. What we can see from this is that there has not been any significant change in casualty numbers over the last five years. This is very different from the overall regional casualty trend over the same period, where there has been a 19% reduction in casualties from 2006 to 2010. This shows that more needs to be done to reduce these casualty numbers.

Figure 9: Casualties of Occupants of Vehicles Used for Work Travel

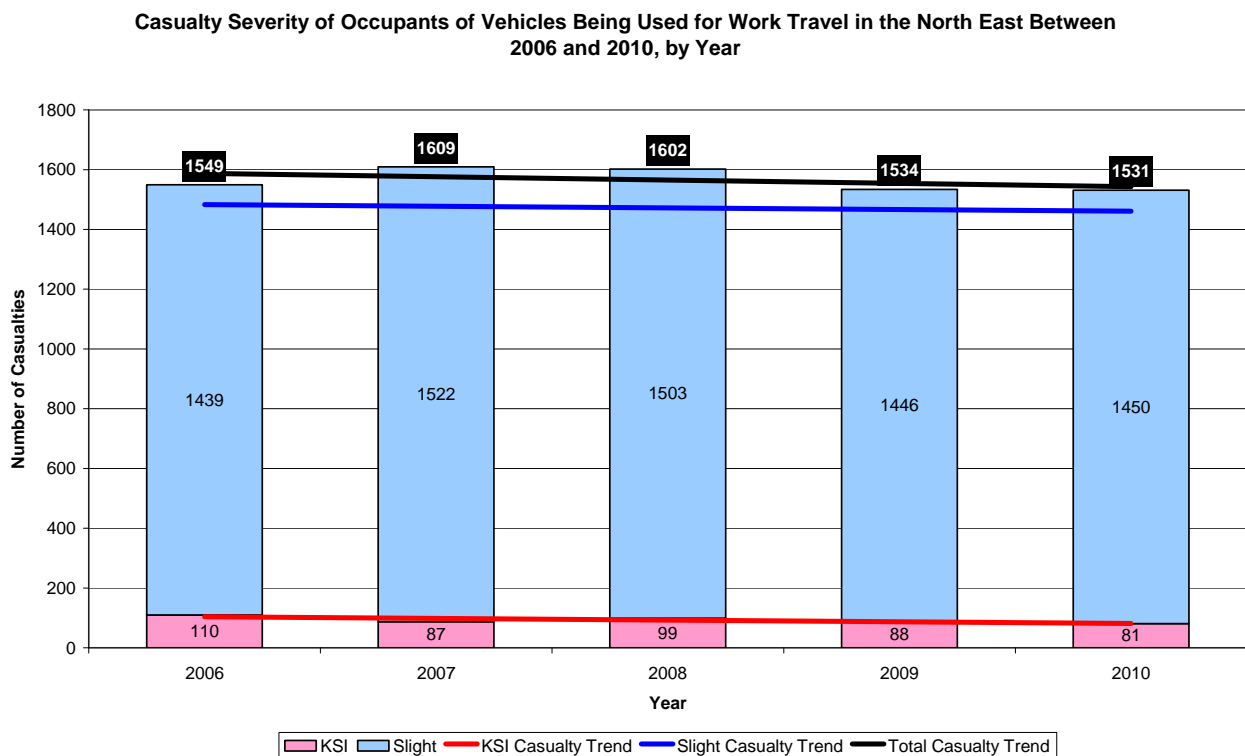


Figure 10 uses the Department for Transport's costings of the value of prevention of casualties to calculate the total cost to the region of the casualties amongst those people travelling for work. The costings are worked out using several sources, such as the expense to the emergency services and the loss of future economic output of the casualty. What these estimates allow us to do is to put a monetary figure on the cost of road casualties in the North East, and to speculate on how much the region would have saved if the casualties had been prevented.⁶

Figure 10: Financial Cost of Casualties in Vehicles Used for Work Travel

Severity	2006	2007	2008	2009	2010	Total
Fatal	£15,855,100	£9,513,060	£6,342,040	£9,513,060	£3,171,020	£44,394,280
Serious	£17,816,000	£14,430,960	£16,925,200	£14,609,120	£14,074,640	£77,855,920
Slight	£19,771,860	£20,912,280	£20,651,220	£19,868,040	£19,923,000	£101,126,400
Total	£53,442,960	£44,856,300	£43,918,460	£43,990,220	£37,168,660	£223,376,600

What we can see from Figure 10 is that if all casualties suffered by occupants of vehicles that were being used for work travel had been prevented, it is estimated that this would have saved the North East economy nearly a quarter of a billion pounds over the last five years. The positive information that we can get out of this is that as the number of fatalities has decreased for three of the four years since 2006, so the cost to the region has also decreased (as each fatality costs approximately £1.6 million). However, it is clear that there are still a large amount of potential savings to be made if the numbers of serious and slight casualties reduce in the same way as fatalities. This is especially important for employers to know as they have responsibilities for their employees when driving in the course of work.

⁶ This information has been obtained from the following source:
<http://www.dft.gov.uk/webtag/documents/expert/pdf/unit3.4.1.pdf>

The final table in this section looks at the top ten contributing factors to the collisions that the vehicles used for work travel were involved in. As with the Young Driver/Rider section above, these contributory factors specifically relate to the actual vehicle that was used for work travel that was involved in the collision.

Figure 11: Main Contributory Factors in Work Travel Collisions, with Collision Severity

Contributory Factor Description	Fatal	Serious	Slight	Total
Failed to look properly	20	198	1814	2032
Failed to judge other person's path or speed	1	77	903	981
Careless, reckless or in a hurry	9	98	749	856
Poor turn or manoeuvre	3	69	647	719
Sudden braking	5	49	612	666
Slippery road (due to weather)	4	45	552	601
Following too close	1	15	416	432
Travelling too fast for conditions	6	40	312	358
Loss of control	7	67	260	334
Dazzling sun	1	19	167	187

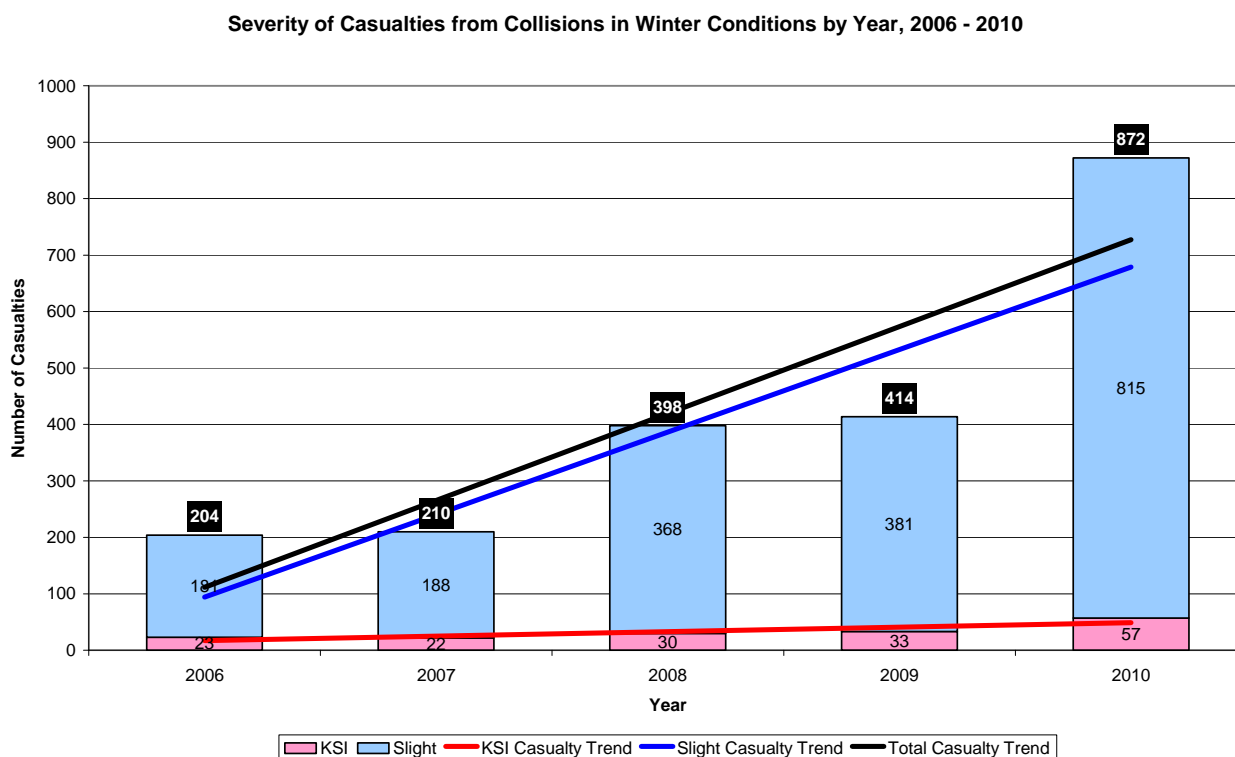
What we can see from these statistics is that 'Failed to look properly' is again the main cause of collisions, as it is with all collisions in this period. However, the numbers of casualties in vehicles used for work travel caused by the driver suddenly breaking or following too close to the vehicle in front are higher than the regional average, while the number of drivers who lost control of their vehicle is lower. This information could be useful for employers to advise their employees of the importance of being aware of and considerate towards other road users when they are using their vehicles for work in order to avoid becoming involved in preventable collisions.

Winter Road Conditions

Over the last few years, data obtained from the Met Office shows that winters in the North East and East of England have been getting progressively colder. This was especially apparent in 2010 when the mean average temperature for January, February, March, November and December dropped to 2.24 degrees centigrade, the third coldest mean temperature for this period since records began in 1910.⁷

Over the period 2006 to 2010 we have seen a dramatic increase in the number of collisions and casualties on the region's roads that occurred in winter conditions. In total over this five year period, there have been 2,098 casualties from collisions in winter conditions, and of these, 1,933 were slight, 155 were serious and 10 were fatal. What we can see from Figure 12 is that nearly half of those total casualties occurred in 2010, although only just over a third of the total KSI casualties occurred in this year. There has also been a year on year rise in total casualties since 2006, while the overall North East average casualty rate has been falling over this period. This can be seen to be partly due to winters becoming colder and lasting longer in recent years, meaning that there will potentially be more days when the roads are affected by winter conditions, causing more collisions. However, this does not mean that more work could not be done to reduce the number of casualties from collisions in winter conditions.⁸

Figure 12: Severity of Casualties in Winter Conditions by Year



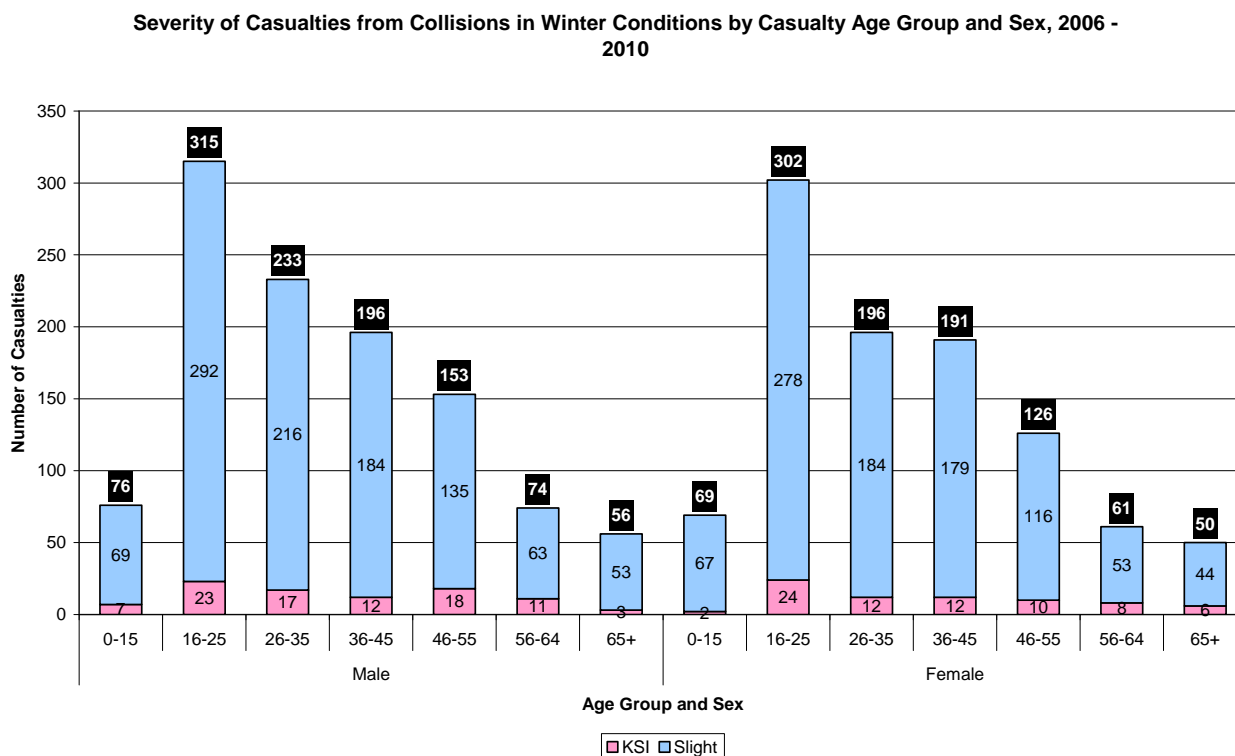
⁷ Information on mean temperatures have been taken from the following source:

http://www.metoffice.gov.uk/climate/uk/datasets/Tmean/ranked/England_E_and_NE.txt

⁸ For the purpose of this report, 'winter conditions' have been taken to be when the Stats 19 data records the collision to have taken place either when the weather was snowing or the road surface was covered with snow, frost or ice.

Figure 13 looks at the age group and sex of the casualties from collisions in winter conditions. This figure is useful because it can show us where more resources could be focused to highlight the dangers of winter conditions on the roads for all road users. From Figure 13, we can see that the most at risk age group for casualties are 16-25 year olds. However, all ages up to 55 still present significant numbers of casualties from collisions in winter conditions, with 46 to 55 year olds having amongst the highest proportion of KSI casualties. We can also see that there is little difference between the number of male and female casualties, meaning that any promotional campaign should focus on both sexes equally.

Figure 13: Severity of Casualties in Winter Conditions by Age Group and Sex

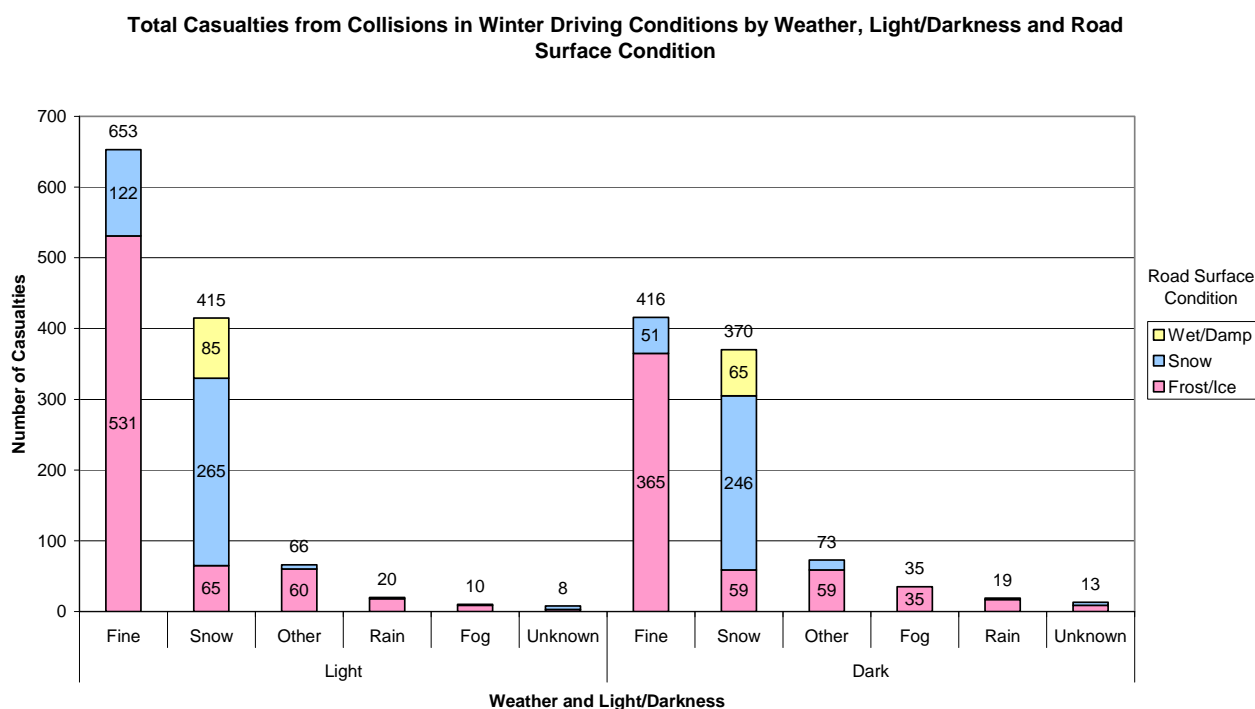


The next figure shows the information on casualties by the type of conditions that the roads were experiencing at the time of the collision. It breaks down the total casualties from collisions in winter conditions by the weather and available sunlight at the time of the collision, and by the condition that the road surface was in. An example of the information that can be taken from this figure is that there were 265 casualties from collisions in snowy weather when the road surface was covered with snow and it was light at the time.

From this figure, we can see that most casualties occur when there is frost or ice on the roads, and when the weather is fine. There are also more casualties during the day time than at night when there are winter driving conditions on the roads. It is important to note that there are also very high numbers of casualties when the weather is snowing – a problem that climate change may cause to increase over the coming years.

From this we can see that more work can still be done to educate drivers of the dangers of driving when the roads are icy and the weather is snowy. However, it is also important to highlight the fact that there are significant numbers of casualties during the daytime in fine weather, as icy roads can still pose a danger to drivers and riders even when the general weather conditions may be pleasant.

Figure 14: Casualties in Winter Conditions by Weather, Light/Darkness and Road Surface Condition



Finally, Figure 15 shows the top ten contributory factors to collisions in winter conditions by the severity of the collision. We can see from this figure that the main factor in winter conditions collisions is unsurprisingly 'Slippery road'. Whilst there is not much that can be done on top of current highway maintenance to attempt to reduce this factor, there is work that can be done to reduce some of the other factors that relate to driving behaviour. It is important that drivers and riders are reminded of the importance of modifying their driving or riding style in winter conditions. It could also be reiterated that driving at the speed limit in winter conditions, whilst within the law, could well be too fast, as these conditions can increase breaking distance and obscure the field of vision. It is interesting to note that 'failed to look properly' is underrepresented as a contributory factor here when compared with total collisions in the period. This may be due to drivers paying more attention to the surroundings in dangerous winter conditions than normal.

Figure 15: Main Contributory Factors in Winter Conditions Collisions, with Collision Severity

Contributory Factor Description	Fatal	Serious	Slight	Total
Slippery road (due to weather)	6	110	1027	1143
Loss of control	2	34	211	247
Travelling too fast for conditions	1	28	216	245
Failed to look properly	1	14	187	202
Rain, sleet, snow or fog	0	10	170	180
Careless, reckless or in a hurry	0	15	105	120
Failed to judge other person's path or speed	0	3	113	116
Sudden braking	1	4	102	107
Poor turn or manoeuvre	0	4	81	85
Following too close	0	1	59	60

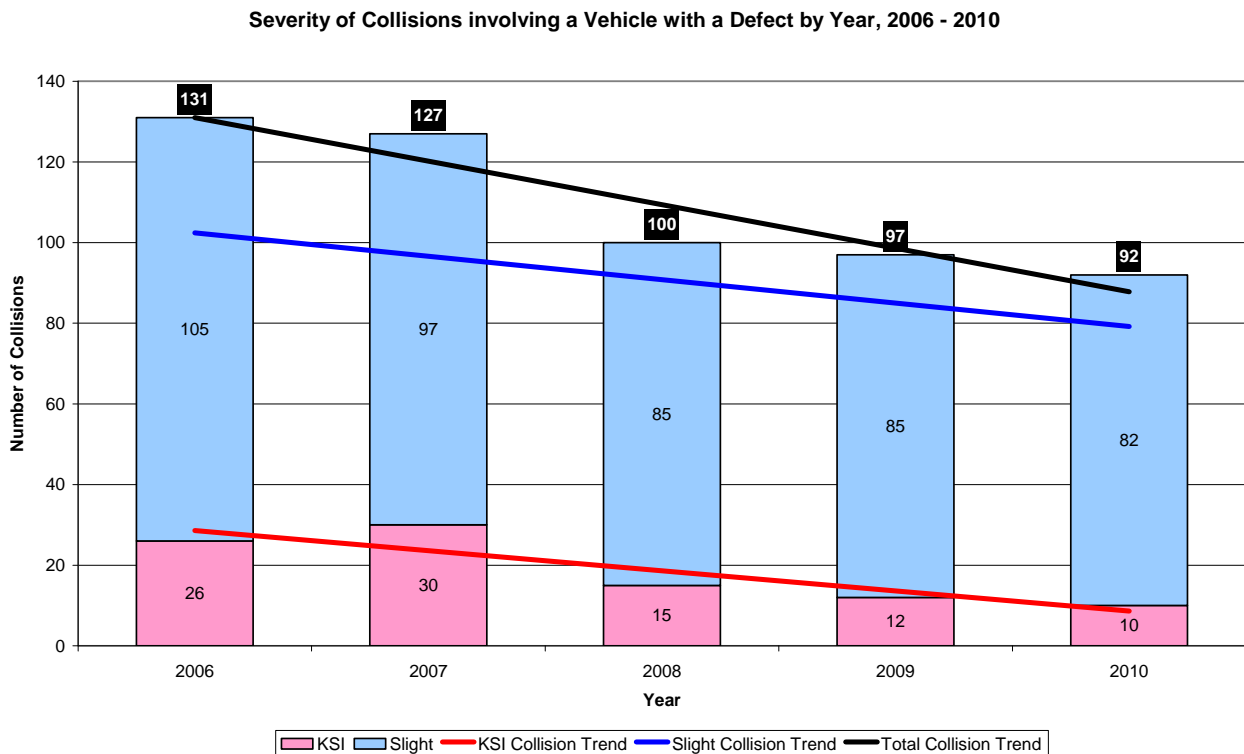
In summary, we have seen that collisions and casualties in winter conditions have significantly increased over the last five years, and especially in 2010. Whilst this is partly due to the increase in the number of days where there have been winter conditions on the roads over the last five years, there is still a need to increase work on helping people to drive safer in these conditions to ensure that the number of casualties do not continue to rise at this rate in the future. Furthermore, as climate change continues to affect the roads in the North East it will become more important in the future for drivers and riders to be able to use their vehicles safely in these conditions.

Vehicle Defects

The final section in this report looks at collisions where the reporting police officer judged at least one of the vehicles to have a defect that contributed to the collision. The intention behind including this information in the report is that it will demonstrate the importance of vehicle maintenance in reducing the number of collisions and casualties on the region's roads.

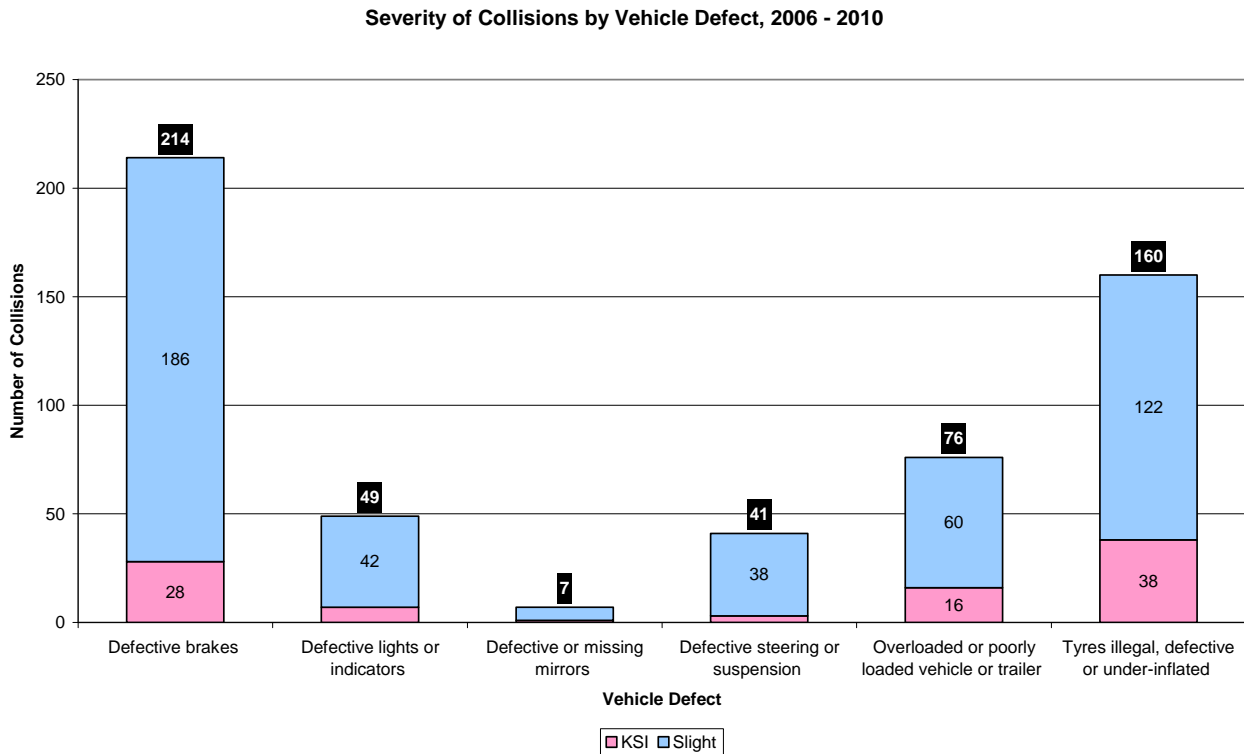
In the period 2006 to 2010 there have been 547 collisions that involved a vehicle with a defect, and of these, 454 were slight, 78 were serious and 15 were fatal. This is more fatalities than are caused by collisions in winter weather conditions. Figure 16 demonstrates that the total number of collisions where at least one of the vehicles involved had a defect has been reducing since 2006, although since 2008 the rate of reduction has begun to slow down, as opposed to the general rate of reduction for total collisions, which has shown a steadier decline over the period. This could indicate that there is an opportunity to increase the level of publicity on vehicle defects to increase the speed of reduction again.

Figure 16: Severity of Collisions Involving a Vehicle with a Defect by Year



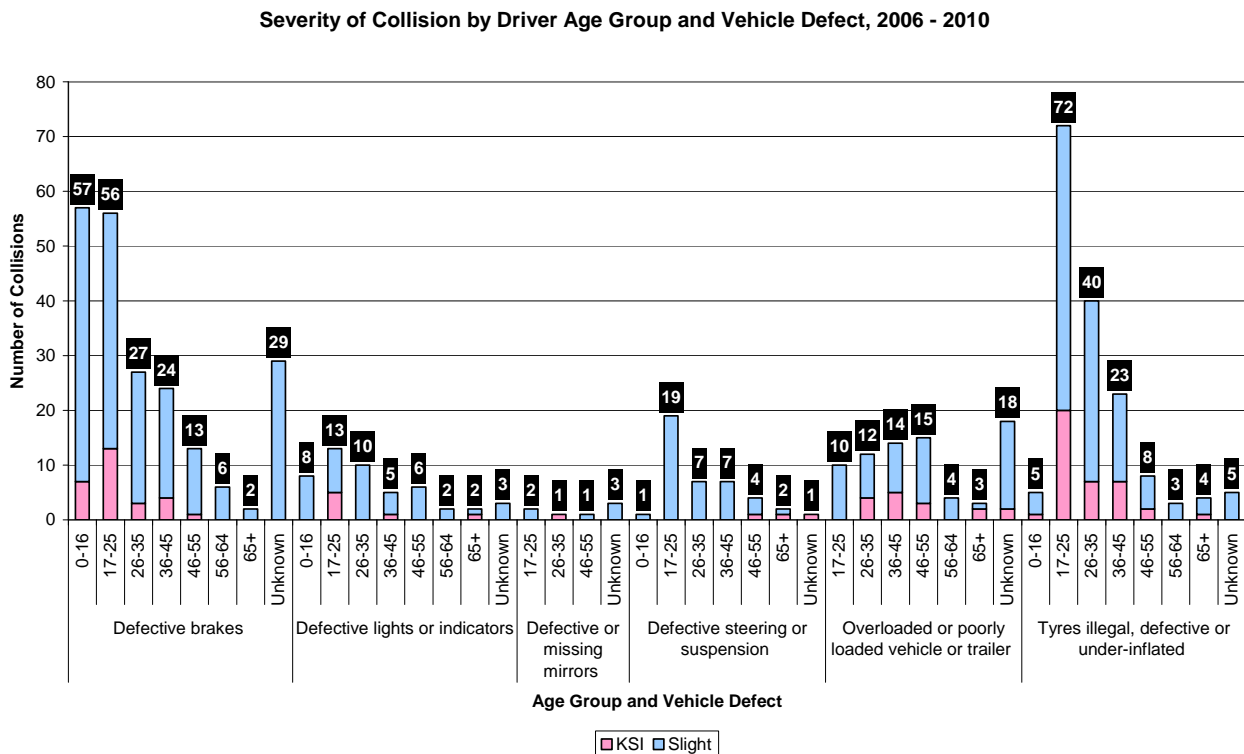
By breaking down the information shown in Figure 16 further we can begin to identify what the most common defects are that cause collisions. From Figure 16 we can see that defective breaks and illegal, defective or underinflated tyres are the main vehicle defects that result in the vehicle being involved in a collision. Together these two factors account for over two thirds of the total collisions. Of these two defects, problems with tyres result in the largest proportion of KSI collisions, with nearly one quarter of collisions resulting in someone being killed or seriously injured. These figures indicate that these two defects are the main problems that should be addressed by any promotional campaign.

Figure 17: Severity of Collisions Involving a Vehicle with a Defect by Defect Type



The next figure looks at the age group of the driver of the vehicle with the defect, and the severity of the collision that they were involved in.

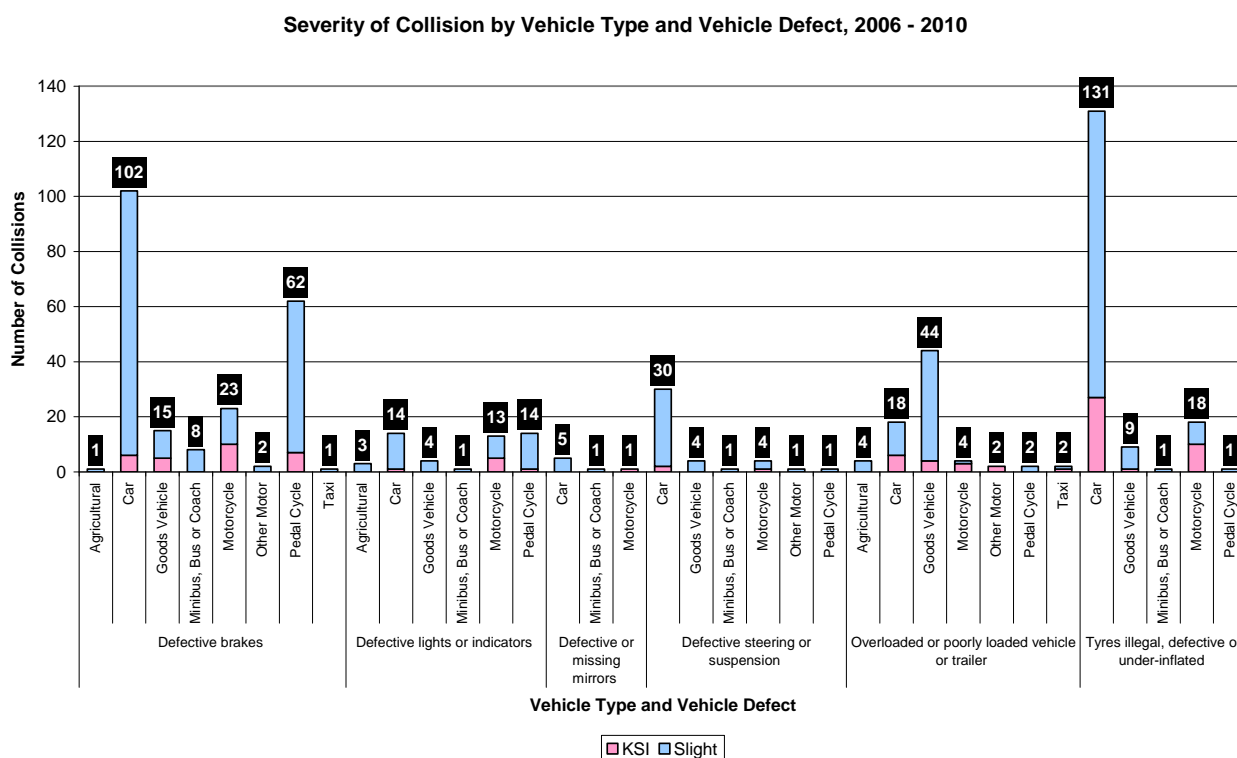
Figure 18: Severity of Collisions Involving a Vehicle with a Defect by Driver Age



What we can see from Figure 18 is that young drivers are again the most susceptible group to having a collision in a vehicle with a defect, apart from where the vehicle has been poorly or overloaded. This shows that young drivers could need to be further educated in the importance of vehicle maintenance, and its role in reducing their chance of being involved in a collision. One point to note is that the main vehicle defect factor in young driver collisions is tyres illegal, defective or underinflated, and not defective breaks. This may be an area that can be further highlighted with young drivers, as compared with the other vehicle defects it is relatively easy to spot and remedy.

The final figure in this section looks at the types of vehicles that had defects and were involved in collisions. From this figure we can see that cars are the main vehicle type to have defects, however, as the majority of collisions involve cars then this should be expected. The main defect in cars when they are involved in a collision is with the tyres being either illegal, defective or underinflated. The two other vehicle defects that stand out are defective breaks on pedal cycles and overloaded or poorly loaded goods vehicles. When promotional work is being planned, it should not be forgotten that pedal cyclists can also have defects in their vehicles, which, as vulnerable road users, can lead to more severe collisions. In addition, goods vehicle owners should be reminded of the effect that carrying too much weight can have on breaking distance and vehicle handling. There is also an opportunity to remind employers whose employees drive goods vehicles of their responsibilities to ensure that they are not overloading or poorly loading their vehicles.

Figure 19: Severity of Collisions Involving a Vehicle with a Defect by Vehicle Type



Overall we have seen that whilst collisions involving vehicles with defects have been reducing over the last five years, there is still more work that can be done to reduce this number further. The largest vehicle defect problems are with breaks and tyres, which are areas that could be more specifically focussed on in future road safety campaigns.