NORTH EAST
Regional Road Safety Resource

Project Report: 30

Analysis of Drink Driving Casualties North East England 2006 - 2010

Produced October 2011

Peter Slater
Data Analyst
Road Safety Monitoring Project
0191 433 3165

and

Caroline Shield
Team Leader
Transport Policy and Research
Gateshead Council

peterslater@gateshead.gov.uk

Contents

Summary of Key Findings from Drink Drive Casualties Report

- Between 2006 and 2010 there have been an estimated 2,674 casualties on roads in the North East that resulted from a collision involving a suspected drink driver. Of these casualties, 2,203 were slight, 418 were serious and 53 were fatal.

- The number of casualties from suspected drink drive collisions has been generally decreasing over the period, with total casualties in 2010 being 43.4% lower then the number in 2006.

- Over the period, casualties from all road traffic collisions have generally been decreasing (falling by 19% from 2006 to 2010), and of these casualties, those from suspected drink drive collisions have been decreasing at a faster rate (a 43% drop over the same period).

- Casualties from suspected drink drive collisions were highest in the Northumbria Police Authority Area, which could be expected as this area also has the highest population. Casualties in the Durham Police Authority Area were proportionally high compared with the population, while casualties in Cleveland were low.

- Drink drive collisions tend to occur around the main population centres of the North East, with the majority of drink drive collisions occurring within three kilometres of the suspected drink driver's home address.

- Drink drive casualties are highest in April and lowest in February. Casualties around Christmas are actually below the yearly average of 223 casualties per month.

- The weekend has the highest number of drink drive casualties, followed by Friday. Together, Saturday and Sunday drink drive casualties account for over half of all drink drive casualties.

- Drink drive casualties are highest in the evening and the early hours of the morning, and this trend is the same for both the working week and the weekend.

- Almost two thirds of all suspected drink drivers were under 36, and of drink drivers involved in serious or fatal collisions, nearly three quarters were under 36.

- Over three quarters of suspected drink drivers were male.

- People who live in the types of areas where suspected drink drivers live are most receptive to local newspapers and face to face communication. They are also most likely to read 'red top' tabloid newspapers and learn about products through television and radio advertising. This information could be used to target publicity campaigns.

- Further recommendations for use of this information are that there could be more campaigns at times of the year other than Christmas, a more explicit message about the increase in casualties due to weekend drinking and driving, additional focus on the dangers of drink driving on roads close to home and over short distances, and extra emphasis on the under 36s and male drivers.

Introduction

This report has been produced by the North East Regional Road Safety Resource as an overview of casualties resulting from collisions in the region between 2006 and 2010 where at least one of the drivers or riders involved in the collision was judged by the reporting police officer to be driving or riding their vehicle whilst over the legal alcohol limit. 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 intended to assist road safety professionals in identifying the current trends in drink drive collisions and casualties. It also provides information on dates, times and areas where drink driving casualties are most likely to occur, and offers suggestions for communicating with likely offenders.

'Drink drive' collisions are those collisions where one or more of the drivers or riders involved in the collision was judged by the reporting police officer to be impaired by alcohol. If a police officer suspects a driver or rider of driving or riding their vehicle when over the legal alcohol limit, a roadside breath test is performed. The current legal alcohol limit for drivers in Great Britain is 35 microgrammes of alcohol per 100 millilitres of breath. If this roadside breath test is positive, the driver is asked to provide two breath specimens into an evidential breath-testing instrument at the police station. The police will use the lower of the two readings to decide whether the driver is above the limit and has committed an offence. If the driver's breath reading shows that they are over the legal limit but they have less than 50 microgrammes of alcohol per 100 millilitres of breath then they are given the opportunity to provide a blood or urine sample (the police will decide which it will be). The current legal alcohol limit for drivers in Great Britain is 80 milligrammes of alcohol in 100 millilitres of blood and 107 microgrammes of alcohol per 100 millilitres of urine. The driver is then released on bail until the police have analysed the samples. If the results show the driver to be above the drink drive legal limit, they will be charged. The maximum penalties for drink driving range from three months imprisonment if found to be in charge of a vehicle while above the legal limit to 14 years imprisonment if found to have caused death by careless driving when under the influence of alcohol.[1]

The current police Stats 19 form contains two areas where suspected alcohol impaired driving is recorded. There is a 'Breath Test' section that the police officer fills in if a breath test is administered at the scene of the collision, and there is also an option in the contributory factors section for 'Driver/Rider impaired by alcohol'. Unfortunately neither of these data sets is 100% accurate and both will show some under counting of drink drive collisions. For example, the breath test section will show some under counting because not all drivers are tested at the scene (particularly those who are fatally or severely injured), while the contributory factors section will show under counting because not all officers successfully complete this section of the report and can sometimes leave it blank.

For the purposes of this report, 'drink drive' collisions will be taken to mean those collisions where either of these two areas has been completed to indicate that the driver or rider of at least one of the vehicles involved in the collision was drink driving. This should give us the most accurate picture of the number of casualties resulting from drink drive collisions.

[1] Information on the legal process for drink driving has been taken from the following source: http://www.direct.gov.uk/en/TravelAndTransport/Roadsafetyadvice/DG_195019*

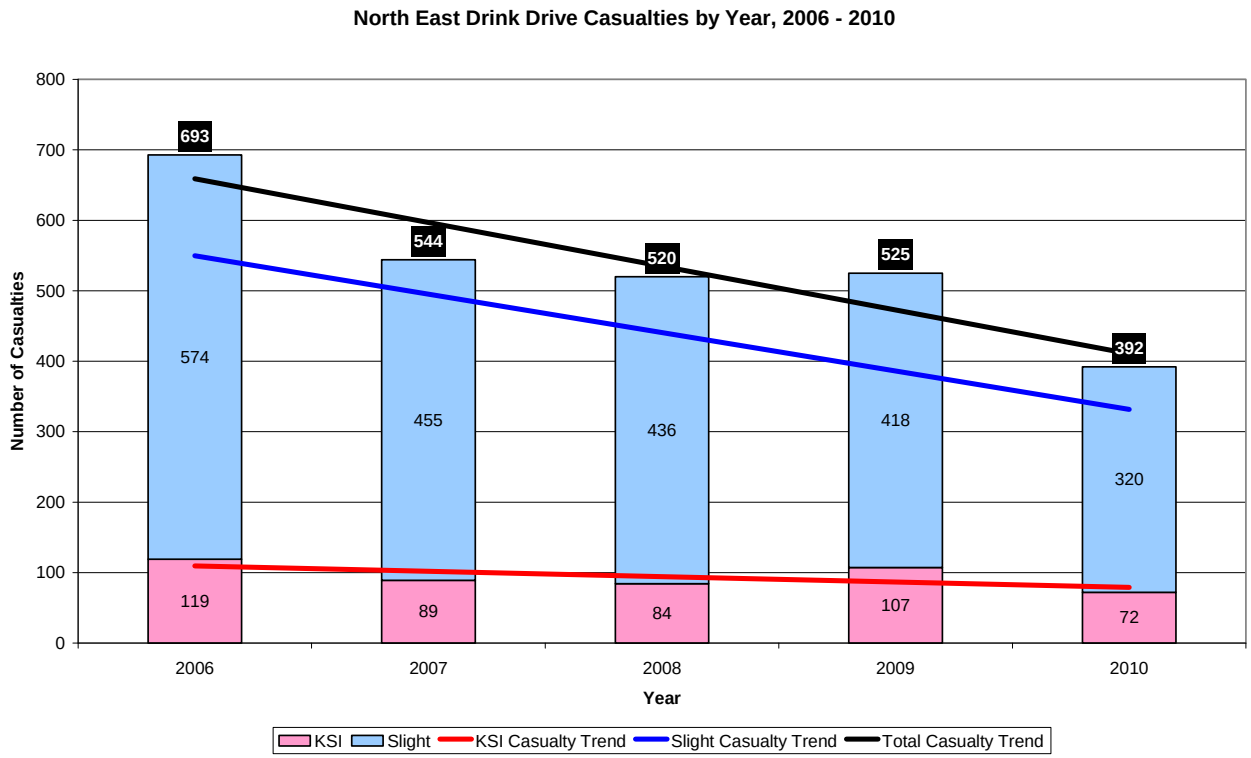
* Please note that all links were correct at the time of publication but could be subject to subsequent change.

Summary of Drink Drive Casualty Numbers

According to the *Reported Road Casualties in Great Britain: 2010 Annual Report* published by the Department for Transport, there were an estimated 63,110 reported road casualties in Great Britain between 2006 and 2010 where one of the drivers or riders involved in the collision was drink driving. This equates to 5.4% of all road casualties during this period. In the North East over the same period there were an estimated 2,674 casualties that occurred from drink drive collisions, which equates to 5.7% of all road casualties, only slightly above the national average. Of these casualties in the North East, 2,203 were slightly injured, 418 were seriously injured, and 53 were killed as a result of collisions where one of the drivers or riders was drinking and driving.[2]

During the period 2006 to 2010, all casualties from drink drive collisions have generally been decreasing year on year. From Figure 1 below we can see that the only year when casualties rose was in 2009, although this trend did not continue as there was a large drop in casualties in 2010, enabling the downward trend to continue. We can also see from Figure 1 that the number of people who were killed or seriously injured (KSI) in a drink drive collision followed the same trend – decreasing every year except 2009. The total number of drink drive related casualties has actually decreased by 43.4% from 2006 to 2010, while the number of KSI drink drive casualties has fallen by 39.5% over the same period.

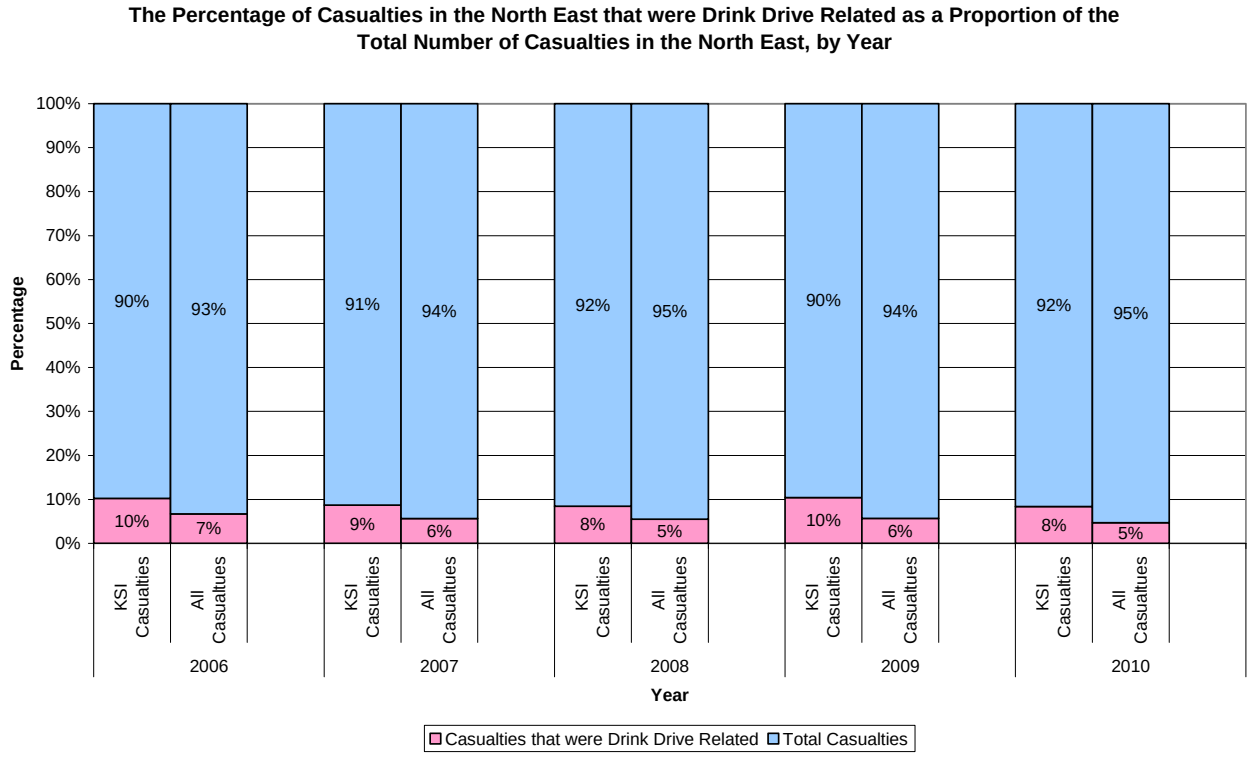
Figure 1: Severity of North East Casualties from Drink Drive Collisions by Year



[2] *Reported Road Casualties in Great Britain* is an annual series of reports published by the Department for Transport. The 2010 report was published on 29 September 2011. The full version of this report is available at the following web address:
http://www.dft.gov.uk/statistics/releases/road-accidents-and-safety-annual-report-2010

It is important to put this general decrease of drink drive casualties in context. Overall casualties from collisions have also been in steady decline over the same period (falling by 18.9% from 2006 to 2010) so Figure 2 looks at the percentage of casualties and KSI casualties that were related to drink drive collisions set against the total number of casualties and KSI casualties in the region. From this we can see that the proportion of both casualties and KSI casualties from drink drive collisions has been reducing every year apart from 2009. However, it must be noted that drink driving is not likely to be listed as a contributory factor where casualties are self reported (when the police do not attend the scene of the collision). This should be taken into consideration when viewing these figures.

Figure 2: Drink Drive Casualties as a Percentage of Total Casualties



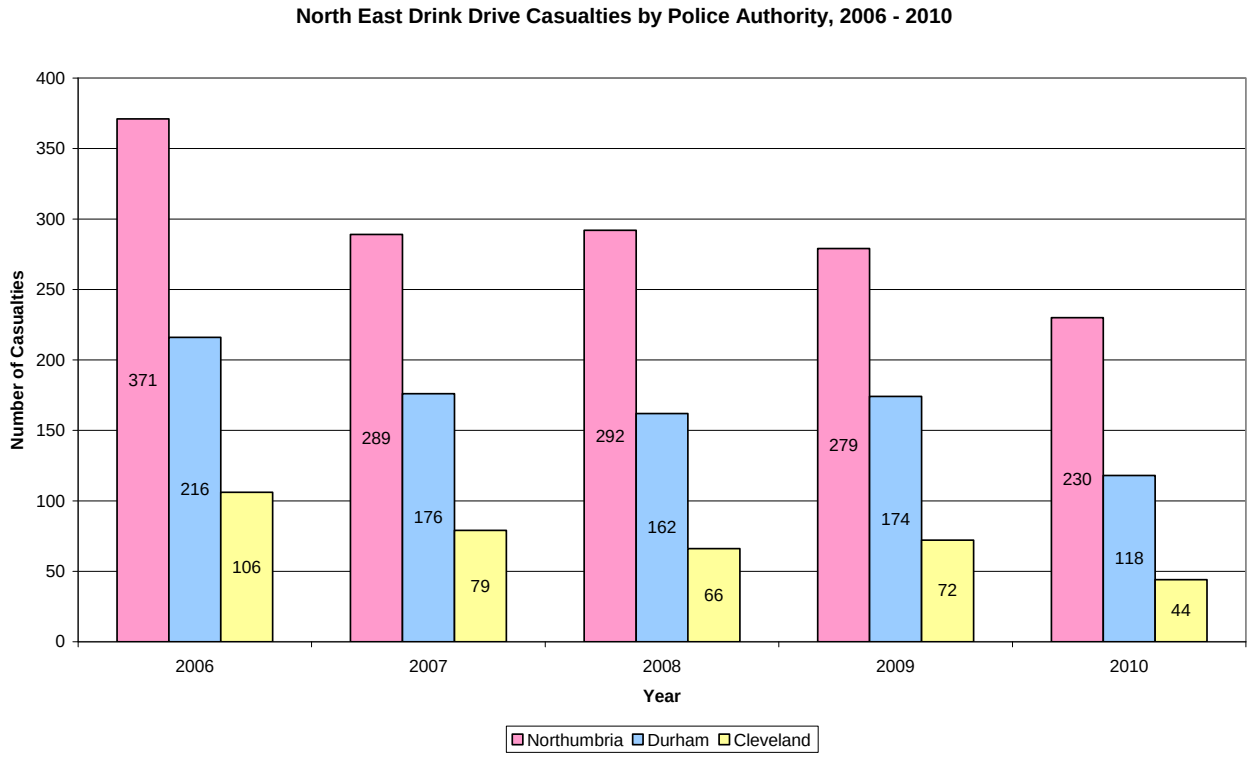
From Figures 1 and 2 we can see that reducing numbers of casualties as a result of drink drive collisions has had a definite effect on the region's figures, with a reduction in both the total number of drink drive casualties over the period, and a reduction in the proportion of total casualties that were caused by drink drivers.

The following sections of this report analyse in more detail the data relating to drink drive casualties between 2006 and 2010 to highlight areas where further work could be focused. A five year period has been chosen because it allows for yearly fluctuations in the numbers, providing a more rounded picture of the situation.

Regional Distribution of Drink Drive Casualties

Figure 3 shows the number of total casualties in the region split into the police authority area in which the collision occurred. What we can see from this is that over half of all drink drive collisions occur within the Northumbria force's area, which includes Northumberland and Tyne and Wear. This is to be expected as this police force area also covers over half of the region's population. Looking at the other two police authority areas, Durham has a higher share of drink drive casualties than would be expected given the size of the population while Cleveland has a lower share. Durham police force's area covers just under a quarter of the region's population, but contains just under a third of its drink drive casualties, while Cleveland has over one fifth of the region's population, but under one seventh of its casualties.[3]

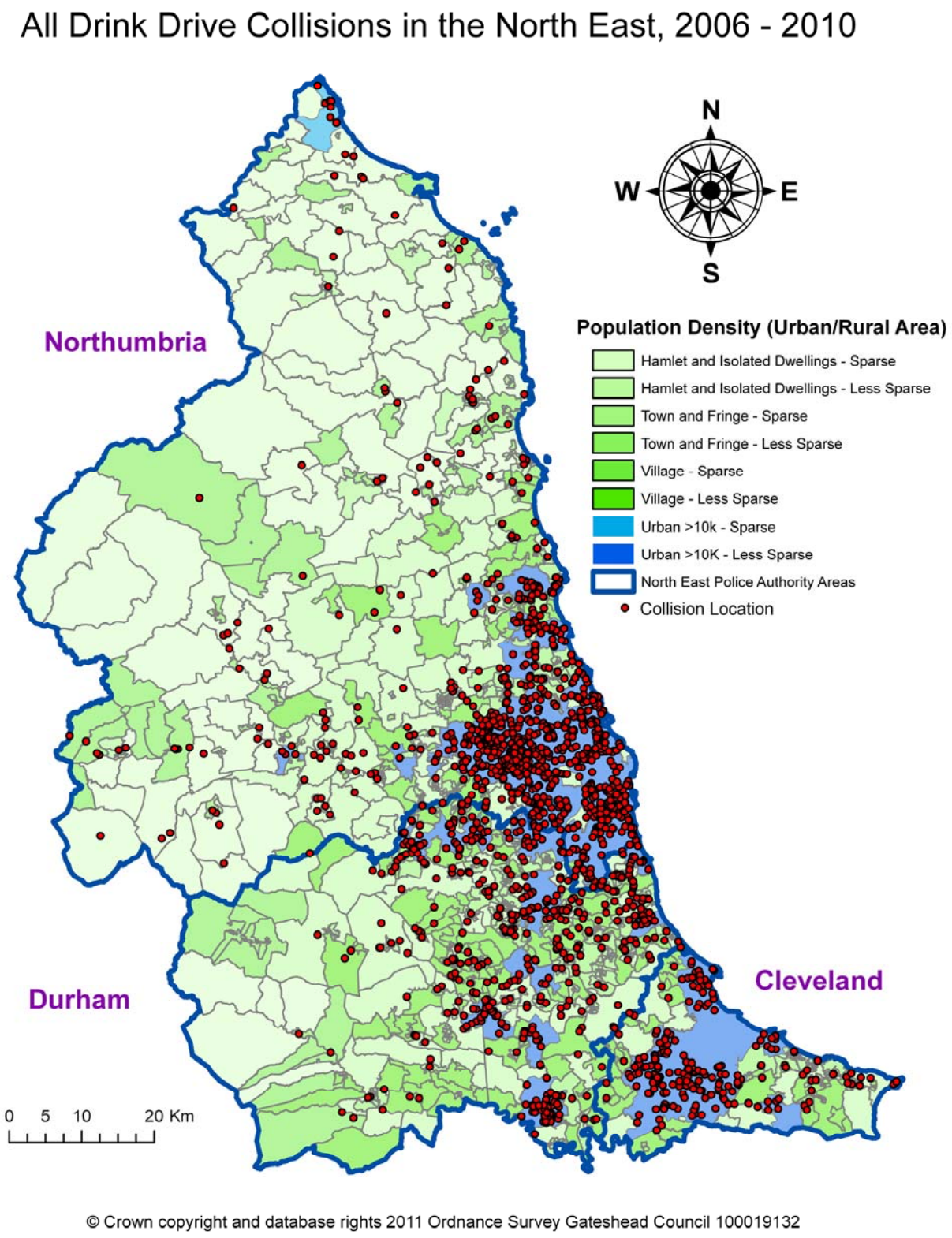
Figure 3: Drink Drive Casualties by Police Authority Area



Use of mapping software also allows us to see the casualty distribution more visually. Figure 4 is a map of the North East region where all collisions involving a drink driver have been plotted. The blue and green colours on the map represent the different population densities of the various areas of the North East and the red points are the locations of the collisions involving drink drivers. What this shows us is that the majority of drink drive collisions occur around the urban centres of the region. Again, as the majority of the people who live in the North East will live around these urban areas, it should be expected that the drink drive numbers will be higher here.

[3] Population figures have been taken from the *Annual Mid-year Population Estimates, 2010* report published by the Office for National Statistics on 30 June 2011 and available at the following website: http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/mid-2010-population-estimates/index.html

Figure 4: Map of Regional Drink Drive Collisions

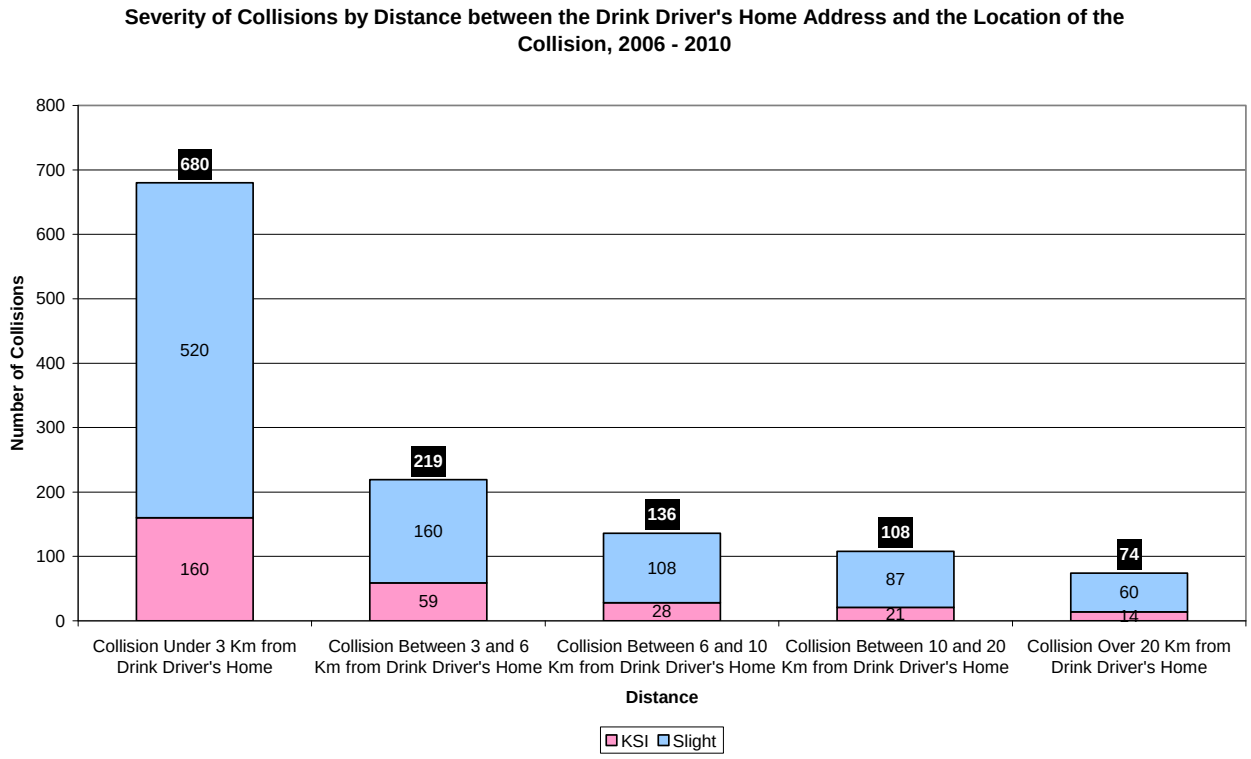


While the majority of collisions are clustered around the densely populated urban areas, it should also be noted that rural areas still have problems with drink drive casualties, especially in some of the region's smaller towns and along some of the major roads, such as the A69. However, it is clear from both Figures 3 and 4 that drink drive collisions mainly occur in the most populated areas.

Distance from Home of Drink Drivers

The clustering of drink drive collisions in urban areas suggests that these collisions occur close to the home of the drink driver. Looking at the Stats 19 data collected by the police on drink drive collisions, it is possible to identify the driver(s) or rider(s) who the police officer suspected of drink driving in the collision. From this it is then possible to find the distance between the driver's home postcode and the location of the collision. Figure 5 puts all of this information together and also includes the severity of the collision that the drink driver was involved in. As a collision may have more than one resulting casualty, the severity of the collision is determined by the most severe casualty in the collision. From Figure 5, we can see that over half of all drink drivers and riders involved in collisions were within 3 kilometres of their home address, although as a proportion, the severity of the collision remains fairly constant over all distances.[4]

Figure 5: Distance between Drink Driver's Home Address and Collision Location



These figures can be interpreted to show that there are still areas of concern where work is needed to educate people on the dangers of drinking and driving when close to home. These areas of concern could be seen to be that people are prepared to risk driving short distances after drinking alcohol close to home, and that they feel more comfortable driving near home, and so when drink driving they pay less attention to the road and other road users, and so are more likely to be involved in a collision. It could therefore be highlighted in promotional campaigns that the majority of drink drive collisions occur close to the suspected drink driver's home address.

[4] It should be noted that distance from home does not necessarily equate to the length of the journey that the drink driver or rider was on at the time of the collision, only the actual distance between the collision location and their home address.

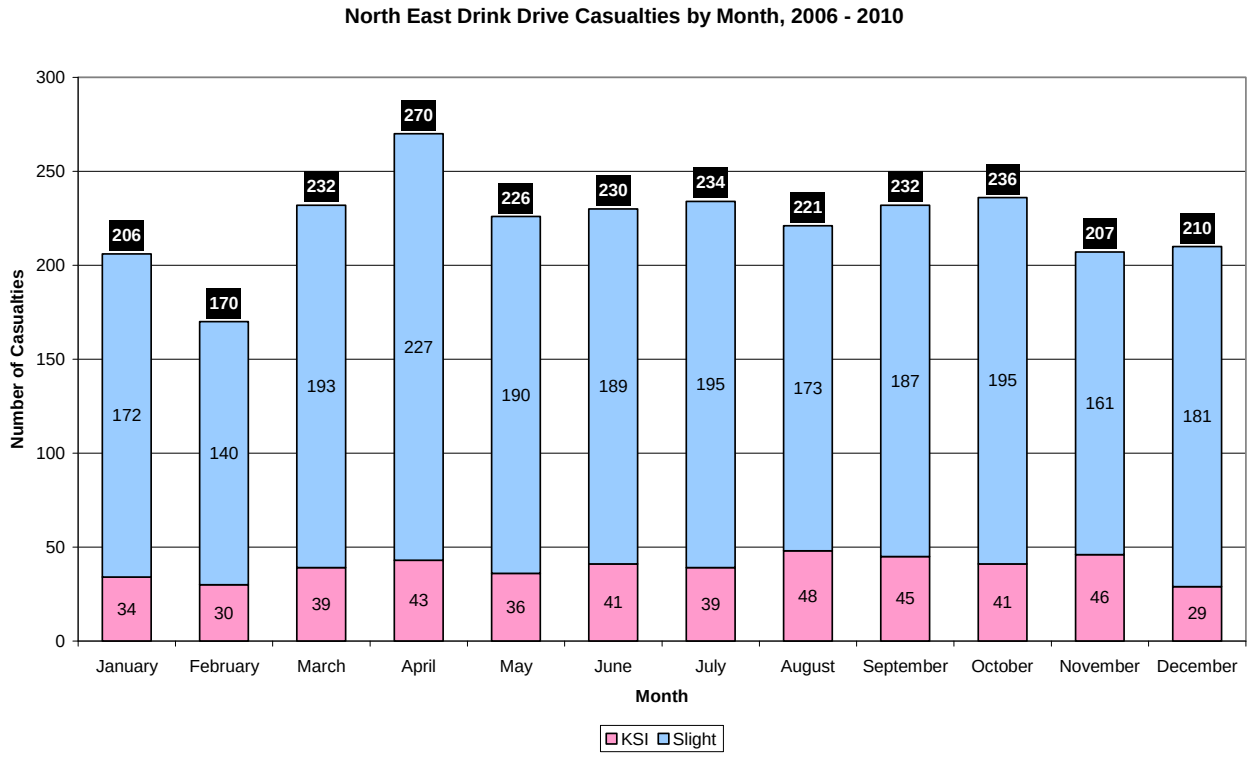
Month, Day and Time of Collisions

The following figures show the breakdown of casualty numbers from drink drive collisions by the month, day of the week and time of day of the collision.

Looking at the whole year as displayed in Figure 6, November, December and January casualties are actually below the yearly average of 223 casualties per month, and December has a very low proportion of severe and fatal casualties. The worst month for drink drive casualties in the North East is actually April, while nationally, the Department for Transport's *Reported Road Casualties in Great Britain: 2010 Annual Report* shows that the most drink drive casualties occur in May and August.[5]

These figures show that drink driving is a problem throughout the whole year, and not just at Christmas as is commonly perceived. A lot of work has been undertaken over the last few years to ensure that drink driving casualties do not peak over Christmas, and these figures indicate that this has been effective. However, if this work had not been undertaken and if it is not continued then there is a risk that drink drive casualties would start to increase at this time of year. In order to further impact upon the drink drive casualty numbers, more work should be undertaken at other times of year where there are more drink drive casualties to highlight that the dangers of drink driving are a year round problem and not just an issue around Christmas.

Figure 6: Severity of Casualties from Drink Drive Collisions by Month



[5] These figures are taken from page 7 of the specific drink drive portion of the Department for Transport's report, located at the following address:
http://assets.dft.gov.uk/statistics/releases/road-accidents-and-safety-annual-report-2010/rrcgb2010-03.pdf

From Figure 7 we can see that drink driving casualty numbers remain fairly low throughout the working week, but then increase on Fridays and peak over the weekend. Casualties from drink driving at the weekend account for over half of the total drink drive casualties, although the proportional severity of those casualties stays at roughly the same level throughout the week. As activities involving alcohol are generally carried out over the weekend this explains why there is such a steep rise in casualties at this time. More work could be done therefore to further highlight the dangers of weekend drinking and driving.

Figure 7: Severity of Casualties from Drink Drive Collisions by Day

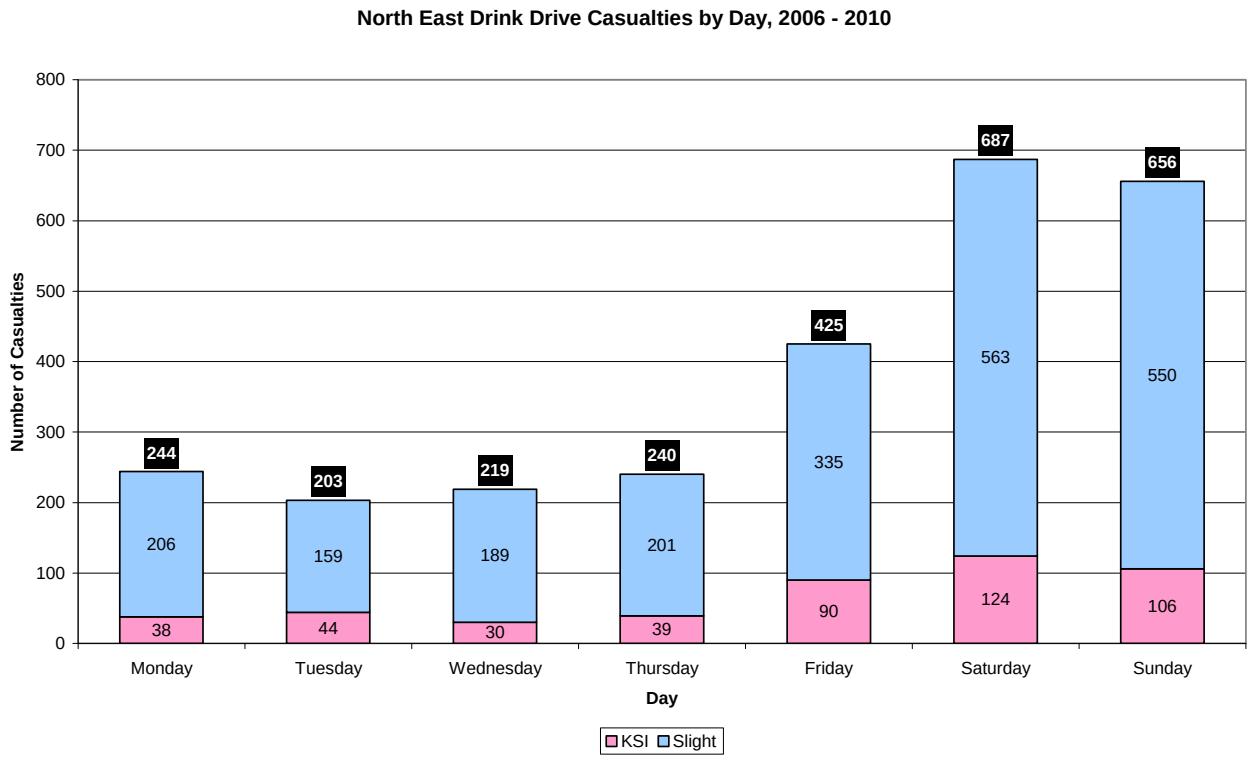
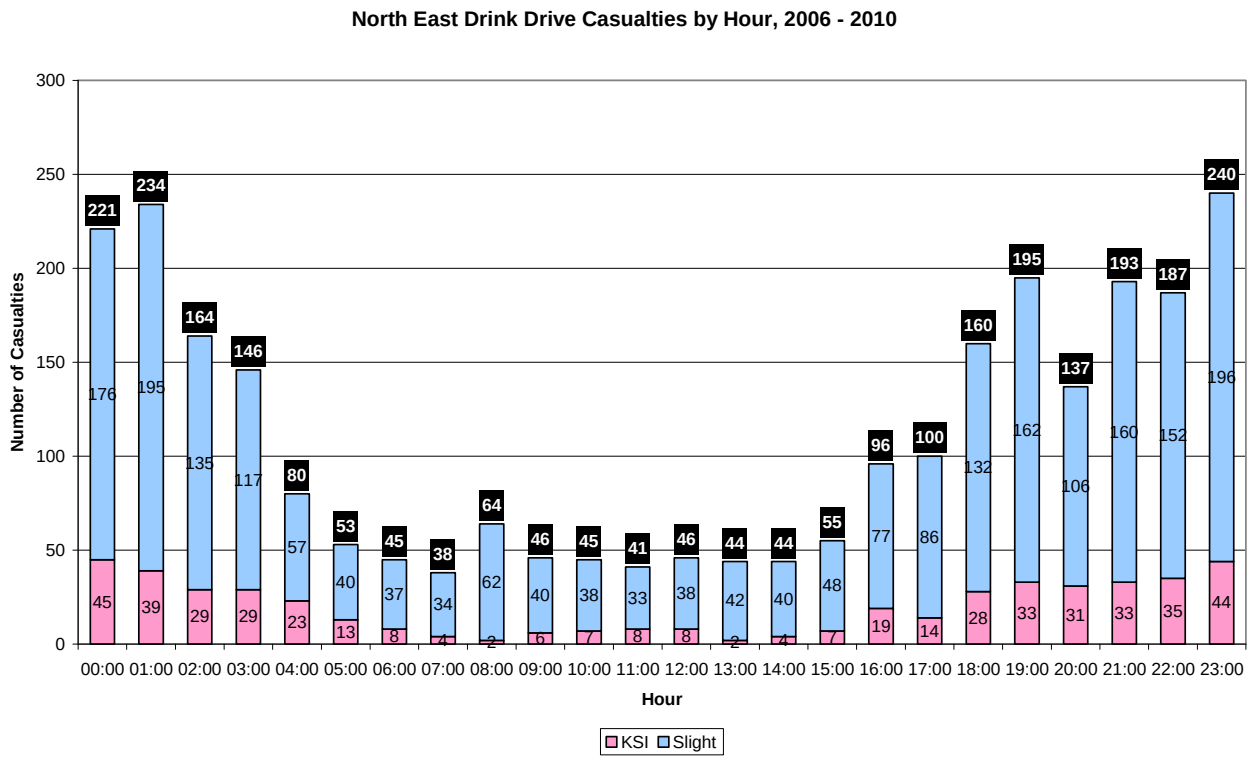


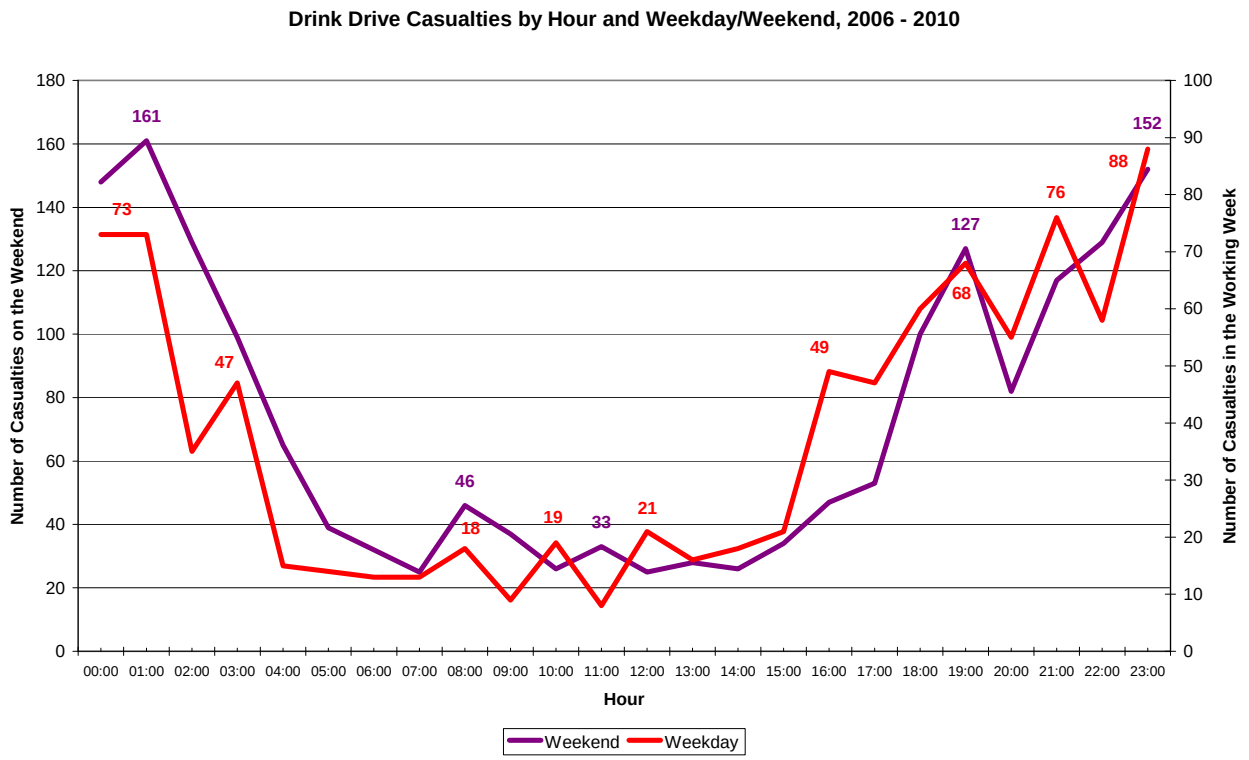
Figure 8 shows that, as should be expected, there are more drink drive casualties in the evening. The number of casualties peak between 23:00 and 23:59, which is the usual closing time for pubs; however, the number of casualties remain very high until 01:59. Almost two thirds of all drink drive related casualties occurred between the hours of 19:00 and 03:59, which is unsurprising given that most drinking takes place in the evening. It is interesting to note that there is a small rise in casualty levels between 08:00 and 08:59. This is probably due to people driving the morning after drinking alcohol the night before, and so still having high levels of alcohol in their blood. Whilst this could be a possible theme to be explored in a future campaign, it is clear that the main issue remains drink driving in the evening.

Figure 8: Severity of Casualties from Drink Drive Collisions by Hour



The final figure in this section looks at the split between the working week and weekend. For the purpose of this figure, the 'weekend' is taken as beginning at midday on Friday and finishing at midday on Monday. This is so that Friday evening and late Sunday night/early Monday morning drinking is included in the weekend figures. This figure has been displayed using two axes so that the lower casualty numbers during the working week are shown as proportional to the higher weekend numbers. What this figure shows therefore is that the basic pattern of the time of day that drink drive collisions occur is roughly the same during the working week as it is on the weekend. There is a slight rise between 16:00 and 16:59 during the working week that is not reflected in the weekend's figures, and there is a sharper drop off between 01:00 and 02:59, however the figure then rises at 03:00 to again mirror the weekend numbers. This shows that the general drink drive habits remain the same over the weekend as during the week, with casualties mainly occurring in the evenings.

Figure 9: Total Casualties from Drink Drive Collisions by Hour and Day



In summary, what we can take from these figures is that there is no typical time of year when drink driving is more of a problem. This is probably in part due to the work that has been carried out to highlight the dangers of drinking and driving around Christmas. However, as we have seen from the higher levels of drink drive casualties in April, this campaign may benefit from running over a longer period to show that drinking and driving is not just a problem at Christmas, but remains such throughout the whole year.

When looking at the figures detailing the casualty numbers by day and hour, it is clear that it is the traditional drinking times that are the problem – weekends and in the evening. This will come as no surprise, but it should not be forgotten that there are still drink drive casualties during the working week and throughout the rest of the day. This is something that should be taken into consideration when working on reducing the numbers of drink drive casualties, although the clear area for work remains the evenings and weekends.

Drink Driver Profile

There is no such thing as a 'typical' drink driver, however, there are certain sectors of the population that are more at risk of becoming a drink driver than others. This section will look at the information on the driver(s) or rider(s) in the collision who the reporting police officer suspected of drinking driving to show us those groups that are most at risk.

Looking at Figures 10 and 11 we can see that the largest section of the population who cause collisions from drink driving are both male and female young drivers (those drivers aged between 17 and 25 years old). As this section includes young people who are legally not yet allowed to drink alcohol, it has been further broken down to show the proportion of 17 year olds and those aged between 18 and 25 years old. We can see from these figures that, not only are there a lot more collisions involving young drivers than any of the other sectors of the population, collisions involving a young drink driver are also proportionally more severe than those for other drivers. However, whilst these figures show us that when a driver gets older, they are less likely to be involved in a collision when drink driving, it is important not to just focus on young drivers, as they make up less than half of all collisions. The target age group for work on drink driving should therefore be expanded to include all under 36s. This age group are involved in less than half of the total collisions on the North East's roads, yet they are involved in almost two thirds of all drink drive collisions and three quarters of drink drive collisions where someone was either killed or seriously injured.

It is also worth pointing out that there are a fairly significant 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 sex, it is still very important for as much information as possible to be recorded by the police to better aid casualty reduction.

Figure 10: Age Groups of Drink Drivers Involved in all Severities of Collision

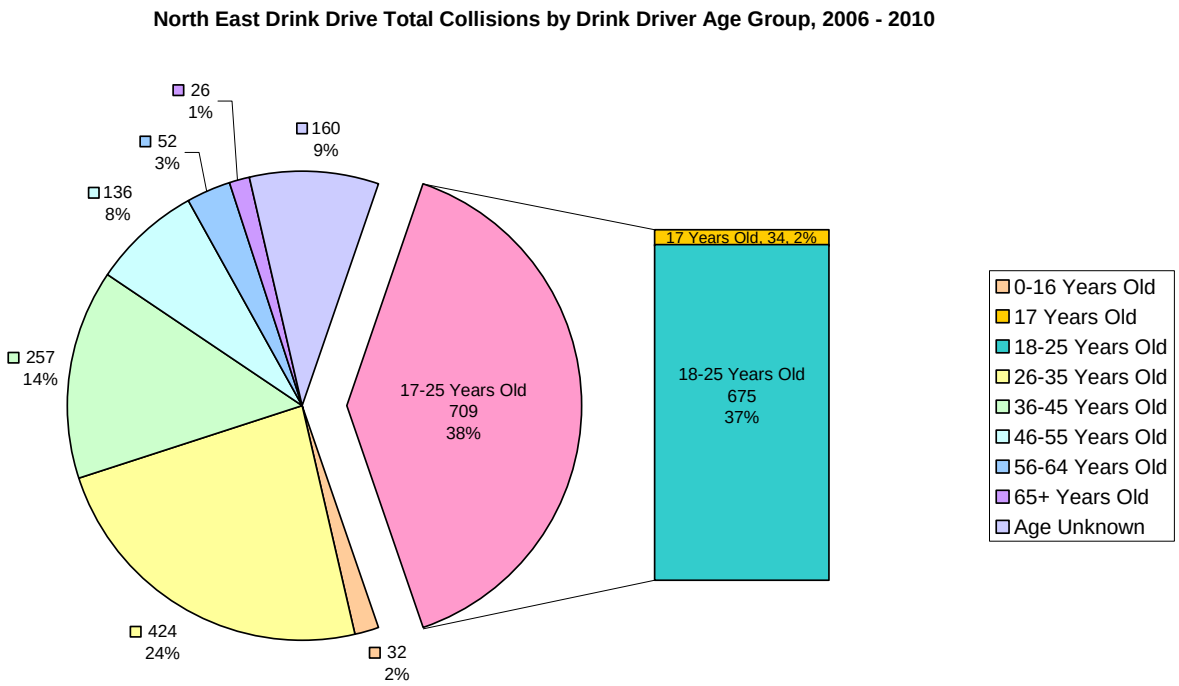
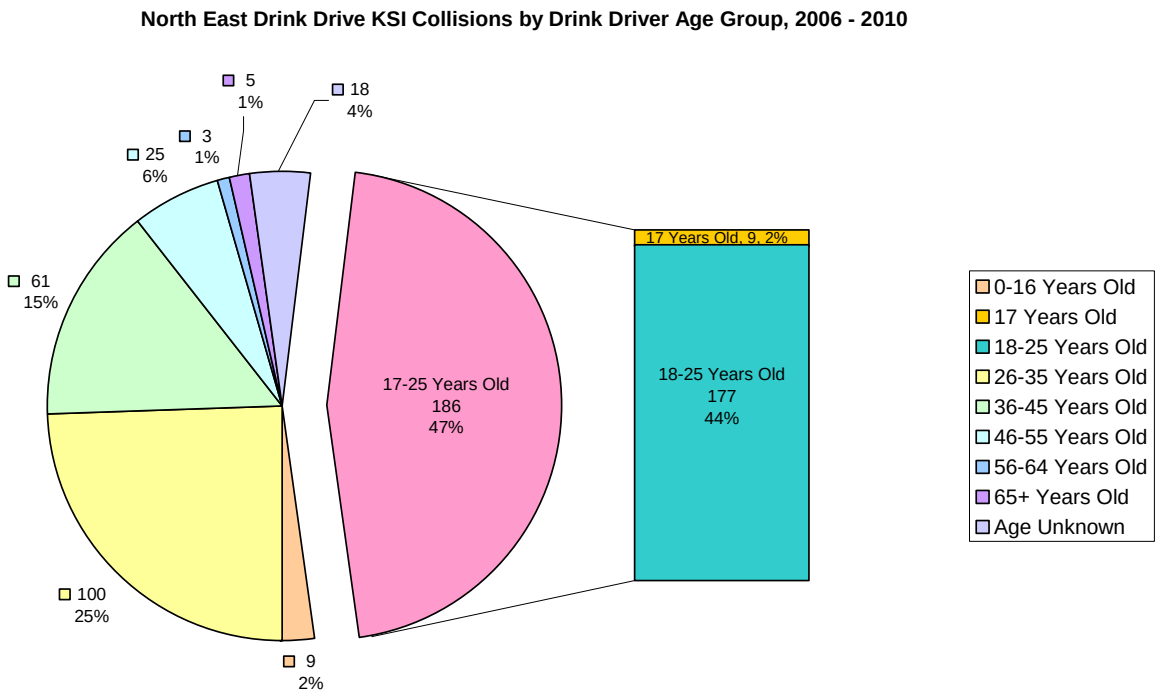
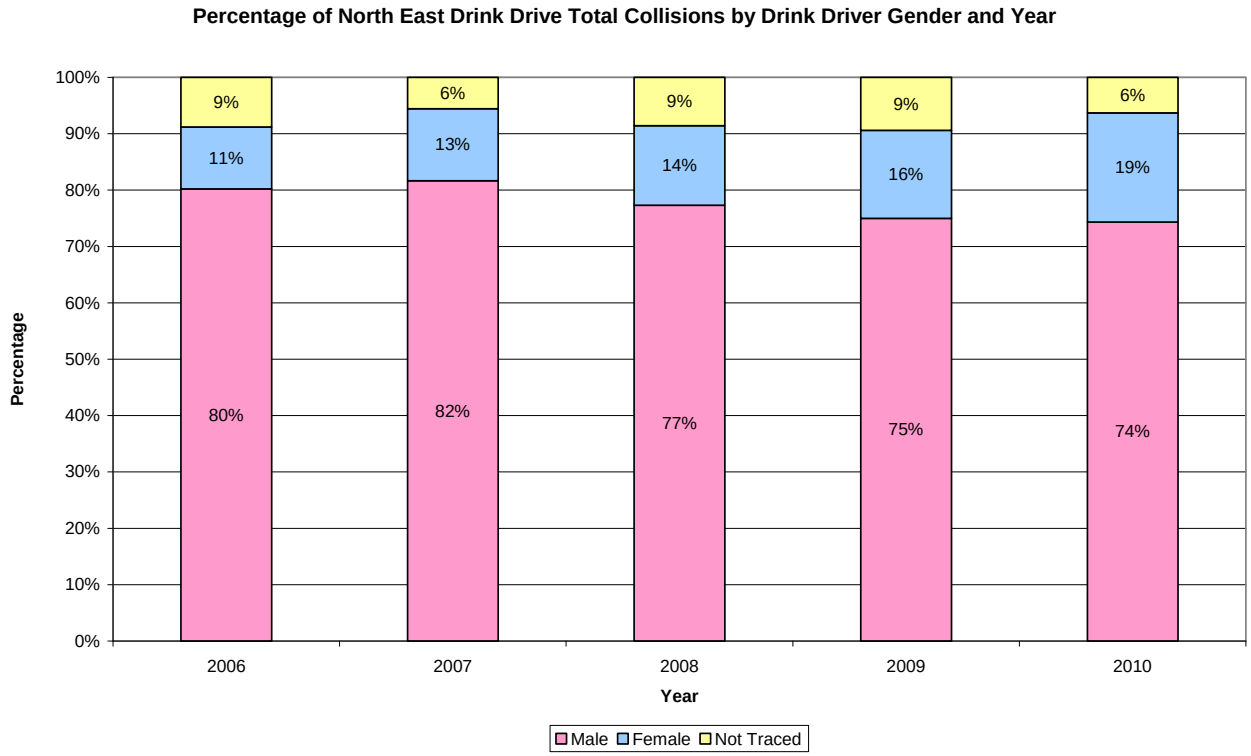


Figure 11: Age Groups of Drink Drivers Involved in KSI Collisions



Looking at the final figure we can see that whilst the proportion of male drink drivers involved in collisions has been falling for the past four years, male drink drivers have, on average, still been involved in over three quarters of all drink drive collisions. For all North East road collisions in the period, roughly two thirds of drivers were male, which shows that males are at much greater risk of drinking and driving than females.

Figure 12: Gender of Drink Drivers Involved in all Severities of Collision by Year



Using a public sector profiling package developed by Experian we can analyse the postcodes of drink drivers to find out the types of areas where drink drivers are most likely to live and the communication methods that they are most receptive to. The profiling package takes the postcodes of the drink drivers and uses a variety of national and regional data, such as census projections, the British Crime Survey, Hospital Episodes Statistics, the Index of Multiple Deprivation and consumer survey information to place the postcode into one of 15 groups and 69 household types. The data for all these postcodes is then compared to the population makeup of the North East as a whole, allowing us to see which groups and household types are over-represented. The information that this provides us with allows us to tailor advertising campaigns to the type of media that drink drivers are generally more receptive to.

The profiling package shows us that people who live in the area types where drink drivers tend to live are generally more receptive to local newspapers and face to face communication than to mobile phone and post. Furthermore, people in these area types who have access to a computer are not likely to use the internet to research information, preferring more traditional means of accessing information and services. People who live in the two main types of area where drink drivers tend to live are more likely to be readers of the 'red top' tabloid newspapers, and learn about products from the television and radio. When all of this information is taken together it can be very useful when planning advertising campaigns to highlight the dangers of drinking and driving.

To summarise the information on the drink driver profile, there is no typical model of a drink driver. However, it has been shown that the vast majority of drink drivers who were involved in collisions that caused casualties in the North East between 2006 and 2010 were male, and a significant number were under 36 years old. These two groups should probably be targeted separately as not all males who drink and drive are under 36. The profiling package suggests that, given the postcodes of these drink drivers, the most effective methods to communicate with them are through the local press and face to face, and they learn about products from the television and radio.