

# **Northern Ireland Road Safety Problem Profile**

**The Problem Profile Paper presented here represents the most up-to-date understanding of the key road safety issues as supported by 2003 – 2008 road traffic collision and casualty data. Quantitative and where appropriate, qualitative data has been used. Where additional information has been sought this has been indicated.**

**The Problem Profile will continue to be strengthened with new and emerging data and issues throughout the development of a new road safety strategy for Northern Ireland. As such, it will remain a work in progress.**

**Addendums to the paper since the paper was first published in July 2007 are detailed on page 2.**

**July 2010**

## Addendums

### Addendums to the Northern Ireland Road Safety Problem Profile

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# 1. Executive Summary

This document reports on road safety issues in Northern Ireland, eight years after the launch of the Road Safety Strategy. The report details progress made to date against the targets set in 2002 and considers:

- who causes road traffic collisions;
- who is most at risk;
- behaviours that contribute to the numbers killed and seriously injured; and
- attitudes that need to be addressed.

The report has been compiled using data collected by police officers attending road traffic collisions and is intended to present evidence that will generate discussion amongst interested parties on measures needed to address these issues.

## The Targets

When the current road safety strategy was launched the following casualty reduction targets for 2012 were set:

### *People Killed or seriously injured*

- A one-third (33%) reduction (from the average for the period 1996-2000) in the number of people killed or seriously injured on Northern Ireland's roads each year from the 1996-2000 average of 1750 to fewer than 1200 by 2012; and

### *Children Killed or seriously injured*

- A 50% reduction (from the average for the period 1996-2000) in the number of children killed or seriously injured on Northern Ireland's roads each year from the 1996-2000 average of 250 to fewer than 125 by 2012.

## Progress

Overall progress against the targets has been significant and measures implemented so far continue to have a positive impact. Using 2003-2008 data, we can report that there was a:

- 27% reduction (from the average for the period from 1996 to 2000 baseline) in the number of people killed and seriously injured on our roads, against a one third (33%) reduction target by 2012; and
- in the same period the number of children killed or seriously injured was 46% lower than the 1996-2000 baseline average, against a target of 50% by 2012.

## Key Findings – collision data compiled from 2003-2008

### Road User groups most at risk

*Drivers*<sup>1</sup> – 56% (1,890) of those Killed and Seriously Injured (KSIs) and who were responsible for collisions were drivers of motor vehicles. Drivers are the largest road user casualty group in Northern Ireland.

*17-24 yr old drivers* – This group accounts for only 11% of licensed drivers<sup>2</sup>, yet were responsible for 38% of fatal collisions and 32% of fatal and serious collisions which involved a car or light goods vehicle where the driver was responsible.

The top 6 driver behaviours which caused collisions:

1. Excessive speed having regard to conditions;
2. Alcohol or drugs;
3. Inattention or attention diverted;
4. Wrong course/ position;
5. Emerging from a minor road without care; and
6. Overtaking on offside without care

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<sup>1</sup> Drivers exclude motorcyclists and drivers in the other road users' category.

<sup>2</sup> Licensing data provided from Driver Vehicle Agency and includes drivers of all license statuses.

*Older Road Users (aged 65+)* – Of the 778 road traffic collision fatalities during 2003-2008, 14% of those killed (109) were aged 65 and over (65+). This group also accounted for 10% (725) of all deaths and serious injuries.

95% of all deaths and serious injuries aged 65+ occurred in three categories:

- drivers of motor vehicles (40%);
- pedestrians (29%); and
- passengers (27%)

Whilst there may be a public perception that older drivers and pedestrians are to blame for many road traffic collisions because of hesitancy, problems with judging speed or failure to signal, KSI data for this road user group indicates that 55% of the casualties in this age group were actually NOT responsible for the collision.

Where the casualty was responsible for the collision the main causation factors differ from those quoted in the previous section:

1. *Heedless of traffic crossing carriageway;*
2. *Emerging from minor road without care;*
3. *Wrong course/position;*
4. *Inattention and attention diverted; and*
5. *Turning right without care*

*Passengers* – passengers remain the second biggest road user casualty group in Northern Ireland accounting for 24% (185) of all fatalities, and 25% (1,889) of all death and serious injury casualties.

*17-24 yr old passengers* – this age group represents 35% of passenger casualties for 2003-2008. Six hundred and sixty-nine (669) passengers aged 17-24 were killed or seriously injured, 63% (424) of whom were men.

A great deal of progress has been made here in increasing seat belt wearing rates and indeed Northern Ireland can now report higher overall rates than the rest of GB however, some passengers still choose not to wear a seat belt and are still being killed and seriously injured because of these personal choices.

***Pedestrians*** – pedestrians accounted for 1,286 of the 7,620 casualties killed and seriously injured between 2003 and 2008. This equates to 17% of all road traffic casualties and makes the pedestrian group the third biggest road user casualty group.

Pedestrians are themselves responsible for 69% of pedestrian deaths and serious injuries.

Pedestrian KSI casualties peak during the winter months of October, November, December and January, and are inclined to occur in the main at the weekend, Friday through to Sunday. Road casualty data also indicates that the high risk times of the day for pedestrian deaths are 5-8pm. The picture is differs slightly for serious injuries with danger times reported between 3-6pm.

***Age groups most at risk*** – as a road user group, ‘*pedestrians*’ is much more complex than some others. Male KSI’s accounted for 61% of all pedestrian KSI’s over the 2003-2008 period. Road casualty data identifies a wide range of ages with the following groups all higher risk:

- 🚦 0-24 year olds (particularly males);
- 🚦 Over 65s (particularly females).

***Motorcyclists*** – for the period 2003-2008 the number of motorcyclist deaths (110) was 14% of all deaths on Northern Ireland roads, despite accounting for only 3% of licensed vehicles. Casualties tell a similar story with bikers accounting for 12% (922) of all those killed or seriously injured during this time. Motorcyclists are now the fourth largest road casualty group on Northern Ireland roads.

Analysis of the principal factors attributable to fatal collisions for the period 2003-2008 show that the top 5 causation factors were:

1. Excessive speed having regard to conditions (33)
2. Alcohol or drugs – driver/rider (14)
3. Inattention or attention diverted (13)
4. Overtaking on offside without care (8)

## 5. Emerging from minor road without care (7)

Further examination of the data indicates that 76% of fatalities occurred during the months March to August which would be considered “biking season”.

*Age groups most at risk* – this is almost totally a male problem but with a wide span of ages: 34% of fatalities occurred in the 35-49 year old age group, 31% in the 16-24 year old age group and 26% in the 25-34 age group.

*Children* – Of the 778 road traffic fatalities that occurred between 2003 and 2008, 62 (8%) were children.

Child casualties have greatly reduced since the introduction of the current road safety strategy with child reduction targets achieved and, indeed, exceeded five years ahead of the projected timescale. It is perhaps reassuring that the measures put in place resulting from the current Strategy have contributed to this improvement. However, we must continue to target child casualty reductions as part of any new strategy.

Examination of casualty data between 2003 and 2008 indicates that 810 children were killed or seriously injured on Northern Ireland roads.

Of the 810 child casualties:

- 🚦 61% were males and 39% female;
- 🚦 boys accounted for 69% of pedal cyclist casualties;
- 🚦 boys accounted for 61% of pedestrian casualties; and
- 🚦 boys accounted for 55% of passenger casualties.

*Foreign Nationals* – For the purposes of this exercise a foreign national driver is defined as a driver whose nationality is outside the United Kingdom or Ireland.

There is a public perception that foreign nationals are increasingly more involved and responsible for road traffic collisions, fatalities and serious injuries on Northern

Ireland roads. Until 2008 the nationality of those involved in road traffic collisions was not recorded on police collision reports and as a result we do not have sufficient data to conclusively demonstrate or disprove this perception.

The police have provided data for the financial years 2007/2008 and 2008/2009 that highlights the number of collisions involving foreign nationals and those collisions where foreign national drivers were responsible for the collision.

During this period there were 109 fatal or serious collisions involving foreign national drivers and it is worth noting that 50 collisions were due to careless driving. Further examination of the data indicates that foreign nationals were responsible for 74 fatal or serious injury collisions resulting in 15 fatalities and 98 serious injuries.

It is important to stress that these figures reflect only two years' data and therefore this snapshot does not in anyway represent a trend in road traffic fatalities and serious injuries caused by foreign national drivers. It is important however to present this information, note that it is now available, will be kept under review and that in future, year on year comparisons will continue to be made. Measures have already been introduced and, as appropriate, further remedial initiatives will be developed.

***Driving for Work*** - Research carried out in GB indicates that up to one-third of road crashes involve someone who is driving for work and that more employees are killed in at work collisions than in all other 'occupational accidents'<sup>3</sup>. Other GB research demonstrated a relationship between collision rate and driver attitudes: companies with low collision rates had the highest percentage of drivers with positive attitudes and those with high collision rates had the highest percentage of drivers with negative attitudes<sup>4</sup>.

It is not only professional/commercial drivers who are at risk. Many people drive their own cars while they are at work. While there are no data on people in Northern Ireland killed or seriously injured in 'at work collisions', it seems reasonable to assume that this, likewise, is a significant issue here. While, strictly speaking, this

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<sup>3</sup> Safety Culture and Work-Related Road Accidents, Department for Transport, 2004.

<sup>4</sup> *Reducing at-work road traffic incidents*, report of the work related road safety task group to govt and the health and safety commission, 2001.

could be seen as a Health and Safety at work issue, the potential road safety benefits of tackling it are clear.

**Speeding** – Of the 5,946 fatal or serious injury collisions that occurred between 2003 and 2008, 1,051 (18%) were due to excessive speed. These collisions resulted in 1,483 fatal or serious injury casualties, 710 were the casualty was responsible and 773 were the casualty was not.

Further scrutiny of this data has highlighted that speed related collisions that result in death and serious injury occur:

- ✚ on all road types: 76% on rural roads, 21% on urban roads and 3% on motorways/dual carriageways;
- ✚ at all times of the day but peak in urban areas after midnight and early evening and in rural areas at travel from/to work/school times;
- ✚ on all days of the week however weekend days namely Friday, Saturday and Sunday accounted for 54% of all speed related KSI's.
- ✚ Throughout the year with June, August and September recording the highest number of KSI's. When considering road deaths caused due to speed there is a spike during the month of December.

**At risk** - The top three groups at risk of being killed or seriously injured as a result of speed are males aged between 17-24 years old, followed by males aged 25-34, then males aged 35-44.

**Responsibility** - Young male car drivers aged 17-24 are over three times more likely than the average car driver to cause a fatal or serious collision where the car driver was deemed responsible.

**Drink/drugs driving** - remains one of the major single causes of road deaths and serious injuries in Northern Ireland. The PSNI identifies collisions due to impairment by alcohol or drugs and does not separate the two as, in many cases, drivers have taken both and it is the combination which results in impairment. However, the consumption of alcohol is still by far the most frequent factor in collisions due to impairment.

During the six year period between 2003 and 2008 consumption of alcohol or drugs by drivers or riders was the principal cause of 145 deaths and 716 serious injuries and represented 19% of all road deaths and 10% of all serious injuries in Northern Ireland.

Further investigation of the data highlights that driver/rider drink/drug related collisions that result in death and serious injury occur:

- ✚ on all road types where the driver/rider was responsible: 57% on rural roads, 38% on urban roads and 6% on motorways;
- ✚ at all times but peak between midnight and 4am;
- ✚ on each day of the week however the weekend days namely Friday, Saturday and Sunday accounted for 67% of driver/rider drink/drugs related KSI's. Monday is also significantly higher than Tuesday, Wednesday or Thursday; and
- ✚ throughout the year with levels peaking in June, July and August and a spike in December.

*Responsibility* - During 2003-2008 , 92% of drivers deemed responsible for causing drink/drugs driving related fatalities were males. The top three groups responsible for drink/drug driver/rider KSI's are males aged 17-24 years old, followed by males aged 35-49 and males aged 25-34.

*Carelessness* - When we examine the main causes of road traffic casualties between 2003 and 2008, 3,618 people were killed or seriously injured due to driver carelessness, which accounts for 47% of all road traffic KSIs. When we consider other factors involved in causing road traffic collisions, those that might be associated with pedestrian carelessness account for a further 642 deaths or serious injuries, 8% of total KSIs over the same period. Careless behaviour is also evident in the behaviour of all road users whether as drivers/riders or pedestrians. Children, as pedestrians and cyclists, are clearly vulnerable to unsafe behaviour, including carelessness.

The types of behaviours identified as the main causes of all carelessness deaths and serious injuries for specific road user groups are:

**Drivers of motor vehicles casualties**

- ✚ Inattention or attention diverted;
- ✚ Wrong course/position;
- ✚ Emerging from minor road without care;
- ✚ Overtaking on off-side without care; and
- ✚ Crossing or entering a junction without care.

#### Motorcyclists' casualties

- ✚ Emerging from minor road without care;
- ✚ Turning right without care;
- ✚ Overtaking on off-side without care;
- ✚ Inattention or attention diverted and
- ✚ Wrong course/position.

#### Pedestrian carelessness

When we specifically consider pedestrian carelessness there are several behaviours or actions attributed to pedestrians themselves that have resulted in deaths and serious injuries:

- ✚ Heedless of traffic crossing carriageway;
- ✚ Walk/run movement masked;
- ✚ Walking or running into carriageway;
- ✚ Heedless of traffic walking or standing in carriageway – not crossing; and
- ✚ Using pedestrian crossing without care.

#### Child Pedestrians:

- ✚ Heedless of traffic crossing carriageway;
- ✚ Walk/run movement masked; and
- ✚ Walking or running onto carriageway.

*Responsibility* - Because carelessness covers such a wide range of factors and behaviours by potentially any road user, it is seen as an 'unwieldy' problem which has been and will probably continue to be difficult to address. Unlike some issues, carelessness is a year round problem, across all age and road user groups.

## *Issues requiring further work*

**Roads engineering** reduces the risk of collisions. Roads and routes in the Northern Ireland roads network will continue to be assessed under the European Road Assessment programme (EuroRAP) and Roads Service will continue to examine collision data to identify potential priorities for route action.

**Enforcement** of Road Traffic laws is primarily the responsibility of the Police Service of Northern Ireland (PSNI). A great deal of progress has been made in developing specific offences to address poor road user behaviours and enforcement measures need to continue to evolve to address emerging and developing trends.

The PSNI recognises that Careless Driving in all its forms is an area that needs to have particular focus. The border with the Republic of Ireland creates practical policing difficulties and PSNI fears that difficulties in enforcing road traffic laws could be resulting in reckless behaviour and risk taking by drivers on both sides of the border.

**Education** - Examination of the availability of road safety education across all age groups indicates that the training provided for the post-primary age-group is not as comprehensive as that provided to younger children. This would also include those in the older age-group (i.e. 17-24 year olds) on training schemes and apprenticeships.

**Driver Training Standards** – Poor driving standards after completion of the driving test has been identified as requiring further exploration. Simple driving tasks such as turning right, emerging from a minor road and overtaking on offside, are tasks often executed with such carelessness that they have contributed to the numbers killed and seriously injured on our roads.

## *Other issues for further consideration*

**Single Vehicle Collisions** - research into this issue is ongoing. Initial research would suggest that Single Vehicle Collisions are certainly a significant area of concern. It is a particular issue for young male drivers, particularly those aged between 17-24, this group accounted for 508, (32%) of all KSI's caused in Single Vehicle Collisions

followed by males aged 25-34, this group accounted for a further 279 KSIs (18%). 71% of single vehicle collision KSIs occurred on rural roads. The three main causation factors reported in single vehicle collisions resulting in KSIs were:

- ✚ Excessive speed having regard to conditions (660, 41%);
- ✚ Alcohol or drugs - driver/rider (381, 24%); and
- ✚ Inattention or attention diverted (132, 8%).

**Transitory Drivers** – Transitory Drivers, for the purposes of this paper, refers to drivers from the Republic of Ireland (while they live and their vehicles are often registered in another jurisdiction, they are not included under foreign nationals as common road safety issues will be different). While research into this issue is ongoing, anecdotal evidence would suggest that there are certainly public perceptions of road safety concerns about collisions along the border, in the counties straddling the border and across Northern Ireland.

### In-Car distractions

#### Mobile phones

To date there is no quantitative research linking the use of mobile phones to road traffic casualties. However, recent research carried out by the RAC on the social networking website *Facebook* indicated that as many as 45% of members admitted to texting whilst driving.

A driving simulator was used to conduct further research and the following observations recorded:-

- ✚ Drivers tended to reduce their speed in the texting conditions;
- ✚ Drivers were aware that their driving was impaired to some degree and chose to reduce their speed in order to mitigate collision risk;
- ✚ The most conspicuous change in performance was the large increases in variability of lane position resulting in many more lane departures; and
- ✚ Drivers were less able to maintain a constant distance behind a lead vehicle.

The study concluded that a combination of factors resulted in significantly impaired ability to maintain safe road position.

Using a mobile phone whilst driving is still an ongoing problem on our roads but this most recent research would indicate that texting while driving is an emerging trend that will have to be considered.

#### Eating, drinking, smoking while driving

Some very strong views are expressed on this issue but no quantitative data conclusively demonstrate a clear causal link between such activities and significant levels of road traffic collisions and casualties. There are existing laws that the police can draw on to deal with issues as they arise. However, this is an issue that will be kept under consideration and, if required, further measures assessed to address the issue.

#### In-vehicle Systems

In-vehicle technology such as satellite navigation, congestion warning and multimedia systems etc. is an area of growth and like most emerging technology has had its supporters and critics. Again, there is no research that clearly determines whether the inherent distractions associated with use of these systems are in anyway contributing to road traffic collisions or if, conversely, the clarity and direction toward decision-making that some systems might provide actually reduces risk. This is an issue that will be monitored.

#### Fatigue

Data compiled over a four year period on behaviour, attitudes and awareness of driving whilst impaired through drowsiness data have not identified fatigue as a major issue on Northern Ireland roads. As a result no specific measures or major information campaigns have been developed. However, the issue is kept under review.

#### Pedal Cyclists

There has been some success in reducing the number of cyclist fatalities and serious injuries over the lifetime of the Strategy. Between 2003 and 2008, 190 cyclists were killed or serious injured on our roads. The 2003-2008 average represents an overall reduction of 45% in the number of cyclists killed or seriously injured against the 1996-2000 average and of 66% for child cyclists.

Nearly two thirds of cyclist killed or seriously injured, 65%, occurred on urban roads compared with 28% on rural roads and 6% on motorways or dual carriageways. Responsibility for cycling casualties is split almost equally between cyclists and other road users. Just under half (45%) of the cyclists killed or seriously injured between 2003 and 2008 were responsible for the collision, with inattention or attention diverted being the principal causation factor in 44% of those casualties. Inattention or attention diverted was also the largest principal causation factor in collisions where the cyclist was not responsible (16%).

While it might be noted that cyclists are not identified in this paper as accounting for relatively high casualty levels, (cyclists represented 2% of all fatal and seriously injured road traffic casualties between 2003 and 2008) they are a vulnerable road user group and cyclists' safety will be an important part of the considerations in arriving at a new road safety strategy.

## **2. Introduction**

### ***Our Vision – Safer Road Use for the Whole Community***

In 2002, Government reported that road traffic collisions resulted in, on average, some 13,000 casualties on Northern Ireland's roads each year, including around 150 fatalities and 1,600 serious injuries.

In order to address this significant problem and reduce the number of people killed and seriously injured (KSIs) on our roads, the NI Road Safety Strategy 2002-2012 (the Strategy) was developed and published in November 2002. The Strategy established long term 10-year casualty reduction targets to be achieved by 2012.

Road traffic collisions continue to affect many in Northern Ireland, both those directly involved and their friends and family. The number of people killed and seriously injured (KSI) has thankfully continued to decrease but, over the period of this report 778 people have died and 6,842 people have sustained serious injuries as a result of road traffic collisions.

This document summarises progress on the first six years of the Strategy from 2003 to 2008 and explores the key issues/problems which need to be addressed.

## **The Targets**

Taking account of Northern Ireland traffic volume forecasts, actual traffic volume and casualty data for the years 1996-2000 the following challenging casualty reduction targets for 2012 were set:

### *People Killed or seriously injured*

- ✚ A one-third reduction (from the average for the period 1996-2000) in the number of people killed or seriously injured on Northern Ireland's roads each year from the 1996-2000 average of 1,750 to fewer than 1,200 by 2012; and

### *Children Killed or seriously injured*

- ✚ A 50% reduction (from the average for the period 1996-2000) in the number of children killed or seriously injured on Northern Ireland's roads each year from the 1996-2000 average of 250 fewer than 125 by 2012.

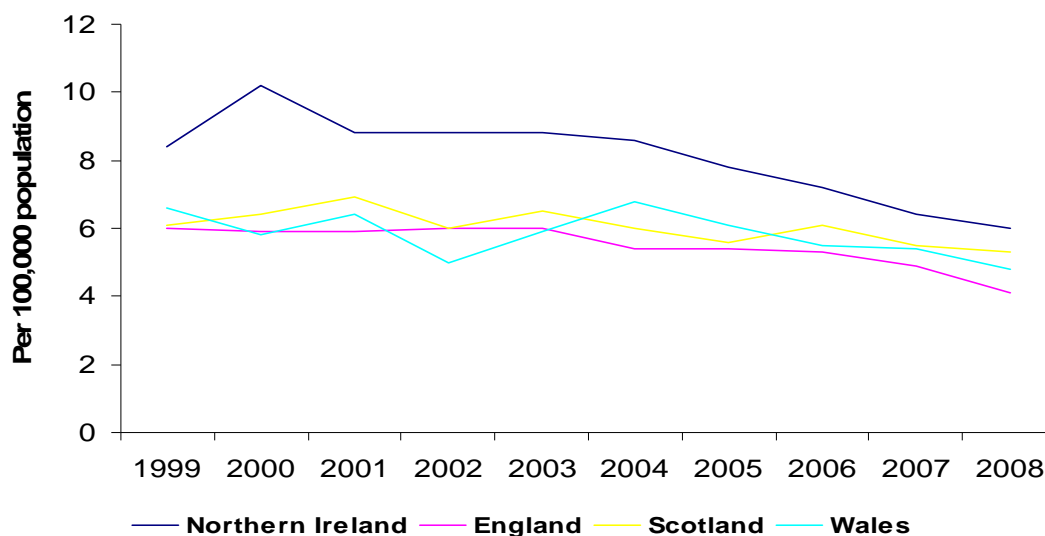
If we achieve these targets it is estimated that between 2002 and 2012, a total of 300 lives will have been saved and 3,200 serious injuries avoided. Of these 50 children's lives will have been saved and 700 fewer children will have been seriously injured in road traffic collisions.

### *Road Deaths per 100,000 Population*

Between 2007 and 2008 number of road deaths occurring as a result of road collisions fell by 5% from 113 to 107.

In 2008 the collision death rate in Northern Ireland was 6.0 deaths per 100,000 population compared to the 2007 rate of 6.4 deaths. In 2008 Scotland had the second highest rate at 5.3 deaths per 100,000 population, followed by Wales with a rate of 4.8 and England with a rate of 4.1. At 1.0 per 10,000 vehicles, Northern Ireland and Scotland had the highest rate of road traffic injury collision deaths in 2008, followed by Wales with a rate of 0.8 and England with 0.7.

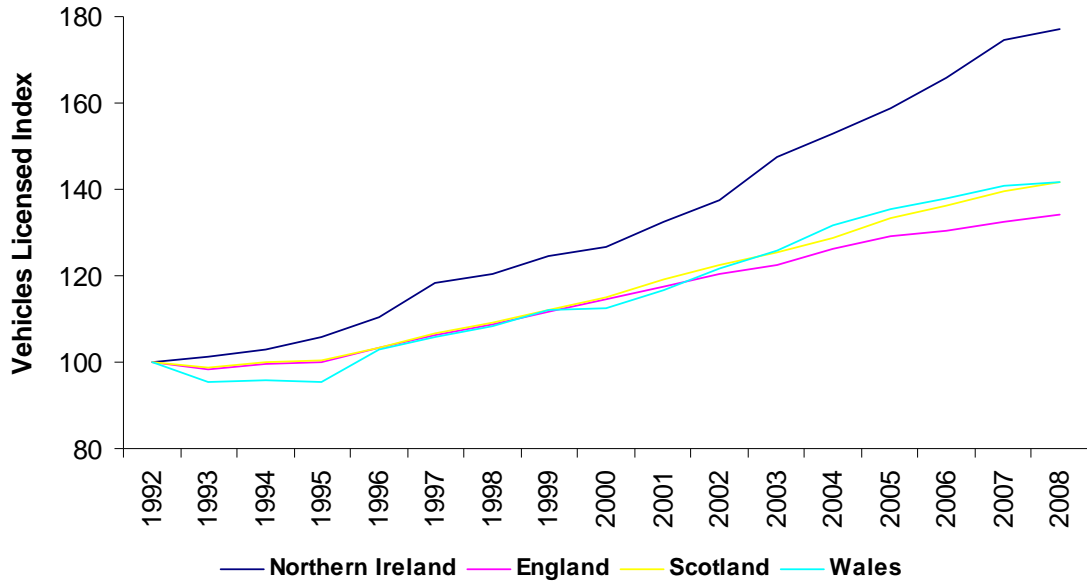
**Figure 1: Road Traffic Injury Collision Deaths per 100,000 Population in Northern Ireland, England, Scotland, Wales and Ireland**



[Vehicle Registrations](#)

There were 1,024,396 vehicles licensed in Northern Ireland at 31 December 2008. Of these, 84% were Private Light Goods (PLG) vehicles. 9% of all the vehicles licensed were exempt from duty. Over the period from 1992 to 2008 licensed vehicle stock in Northern Ireland increased by 77%, compared with 42% in Wales, 41% in Scotland and 34% in England.

**Figure 2: Index of Vehicles Licensed in Northern Ireland, England, Scotland and Wales: 1992-2008 (1992=100)**



### Road Network

At 1 April 2009, there were 25,167 kilometres of public road in Northern Ireland. Unclassified roads accounted for the largest proportion of all roads (60%) followed by C roads (19%), B roads (11%), A roads (9%) and Motorways (<1%).

Analysis of the urban/rural split of the road network reveals that 21% of road lengths are urban and 79% are rural. For Northern Ireland motorways 87% of the length is considered to be rural, and for dual carriageway A roads this figure is 69%.

The dispersed nature of the population in Northern Ireland has resulted in the region having about 2.5 times the kilometres of road per capita compared with the average for the rest of the UK.

## Demographic Changes

Over the lifetime of the new road safety strategy the population of Northern Ireland is projected to increase from 1.802 million in 2010 to 1.927 million by 2020. The projections also show that the age profile of the population will gradually become older. While the number of children under 16 will remain broadly constant, the number of 16-24 year olds will fall from 231K to 203K and the number of people aged 65 and over will increase from 261K to 330K.

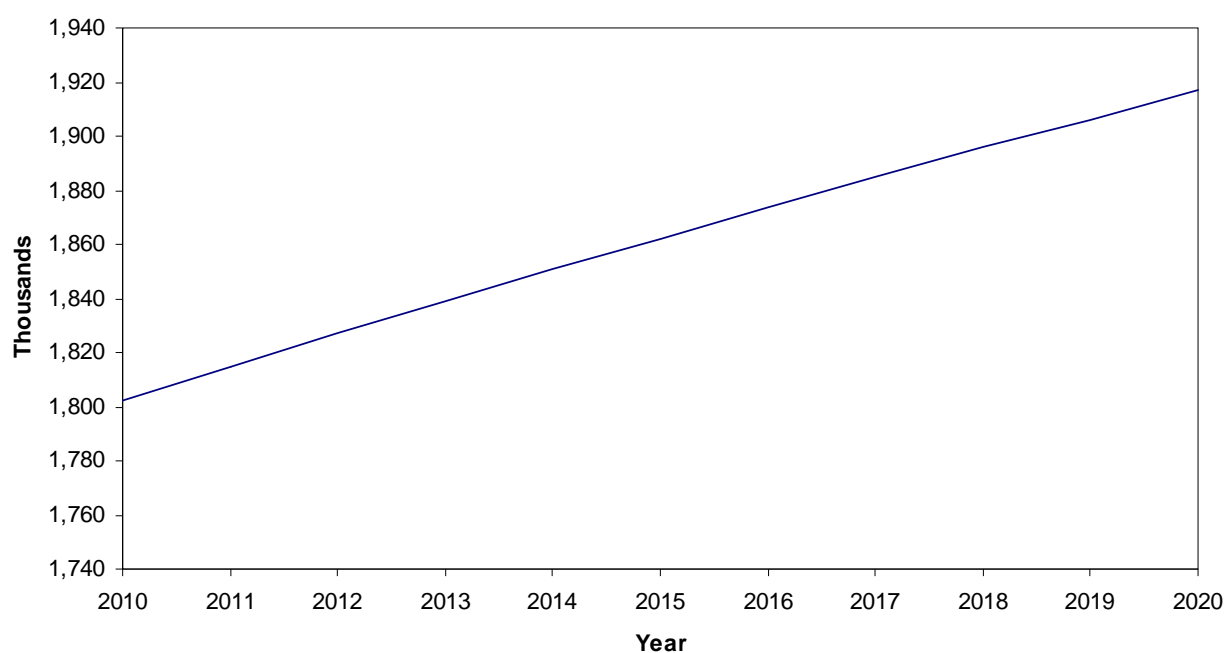
**Table 1: Population projections for Northern Ireland 2010-2020**

Thousands

	Year										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Population at start	1,802	1,815	1,827	1,839	1,851	1,862	1,874	1,885	1,896	1,906	1,917
Natural change	11	11	11	11	11	11	11	10	10	10	10
Net migration	2	1	1	1	1	1	1	1	1	1	1
Population at end	1,815	1,827	1,839	1,851	1,862	1,874	1,885	1,896	1,906	1,917	1,927

Source: NIRSA DMB - Note: Due to rounding data may not sum.

**Figure 3: Population projections for Northern Ireland 2010-2020 (non-zero X axis)**



Source: NIRSA DMB

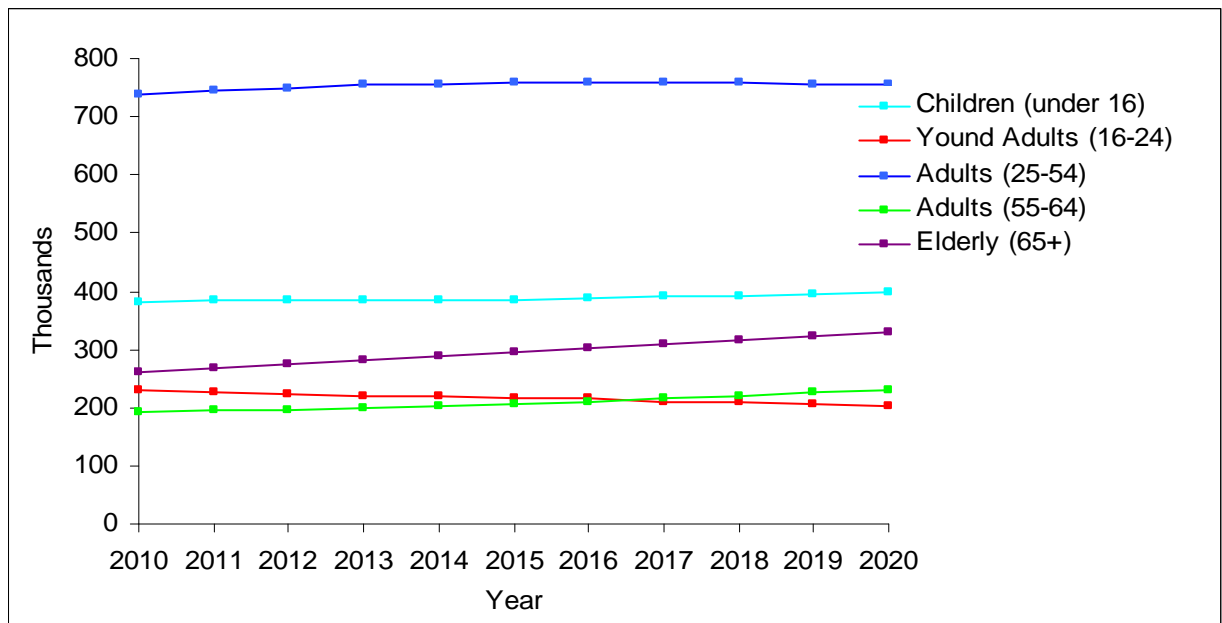
**Table 2: Population projections by age bands, 2010-2020**

	Thousands										
	YEAR										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Children (under 16)	382	383	384	384	385	386	388	391	393	396	397
Young Adults (16-24)	231	228	224	221	219	217	215	211	208	205	203
Adults (25-54)	737	744	749	754	757	758	758	759	758	757	755
Adults (55-64)	191	194	195	199	202	206	211	216	221	226	231
Elderly (65+)	261	267	274	282	288	295	302	309	316	323	330
All Ages	1,802	1,815	1,827	1,839	1,851	1,862	1,874	1,885	1,896	1,906	1,917

Note: Due to rounding data may not sum.

Source: NIRSA DMB

**Figure 4: Population projections by age bands (2010-2020)**



Source: NIRSA DMB

### 3. Progress towards achievement of the targets

The current Northern Ireland Road Safety Strategy contains a commitment to monitor progress towards achieving the road casualty reduction targets as set out in the Strategy and to produce an annual report. Five such reports have already been published for each year from 2003 through to 2007.

Findings in this six year review take account of the latest full year casualty data covering the years 2003 to 2008.

The targets are set against the baseline of the 1996-2000 average. Reported progress against Northern Ireland casualty reduction targets has generally been good. The table below details the numbers of total KSIs and Child KSIs from 2003-2008, as well as percentage changes against the 1996-2000 baseline.

**Table 3: Casualties killed or seriously injured: 1996-2000 average and 2003-2008**

	1996-2000 average (no.)	2003 (no.)	2004 (no.)	2005 (no.)	2006 (no.)	2007 (no.)	2008 (no.)	2008 percentage change over 1996-2000 average (%)	Percentage change 2003-2008 average over 1996-2000 average (%)	2012 levels based on the target (no.)
All KSIs	1,748	1,438	1,330	1,208	1,337	1,210	1,097	-37	-27	1,166
17-24 Year Olds	462	368	375	308	386	344	294	-36	-25	N/A
Child KSIs	249	171	151	129	152	106	101	-59	-46	125

Over the six years since the launch of the Strategy, the average level of KSIs was **27%** below the 1996-2000 baseline average and the average level of child KSIs between 2003 and 2008 was **46%** below the baseline average.

We can report that an estimated **134 lives** have been saved and **2,734** road users have avoided serious injury due to the combination of road safety measures currently

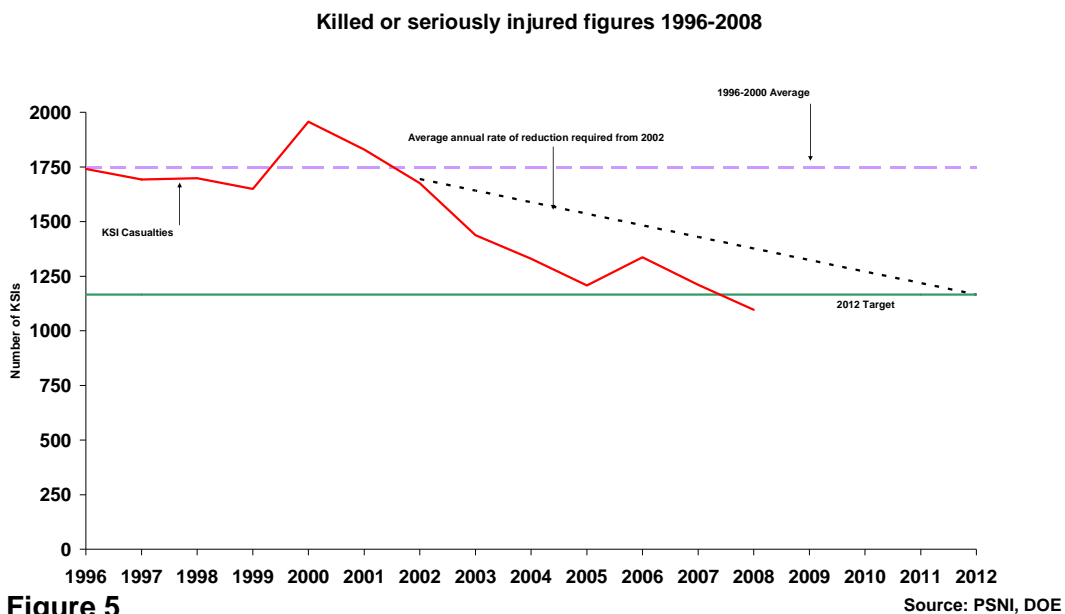
in place. Of these, we estimate that **28** children’s lives have been saved and **656** fewer children have been seriously injured.

Whilst we acknowledge that significant progress has been made towards achieving the key targets for 2012, we must continue to examine collision trends, analyse current casualty data and further develop and refine current policies and action measures.

### Target 1 – Killed and seriously injured (KSI) – progress

“A one-third reduction (from the average for the period 1996-2000) in the number of people killed or seriously injured on Northern Ireland’s road each year from the 1996-2000 average of 1750 to fewer than 1200 by 2012”

Figure 5 below demonstrates progress made to date on the numbers killed and seriously injured on Northern Ireland’s roads over a 10 year period. The red line clearly shows that spikes can occur over time and confirms the unpredictable nature of road traffic collisions and associated casualties on a year to year basis.



**Figure 5**

Generally casualties were on a consistent downward trajectory until 2006 when they increased by 11% (1,208 in 2005 to 1,337 in 2006). In 2007, the number of KSIs decreased by 9% to 1,210, this trend has continued into 2008 with a further decrease of 9% to 1,097 KSI’s. It is estimated that the reduction in the number of KSIs in 2008

from the 1996-2000 baseline was approximately **16 percentage points** better than would be needed to be on the notional trajectory to meet the 2012 target.

The annual average reduction in the number of KSIs over the last six years (since the launch of the Strategy) is **6.8%**. So whilst there was a disappointing increase in KSIs during 2006 in 2008 we surpassed the target set for reductions in road traffic casualties by 2012.

Table 2 below provides a breakdown of KSIs by road user group between 2003 and 2008 and includes a percentage comparison between the 1996-2000 average and 2003-2008 average. It should be noted that due to the small numbers in some categories, the annual percentage fluctuations can be quite large.

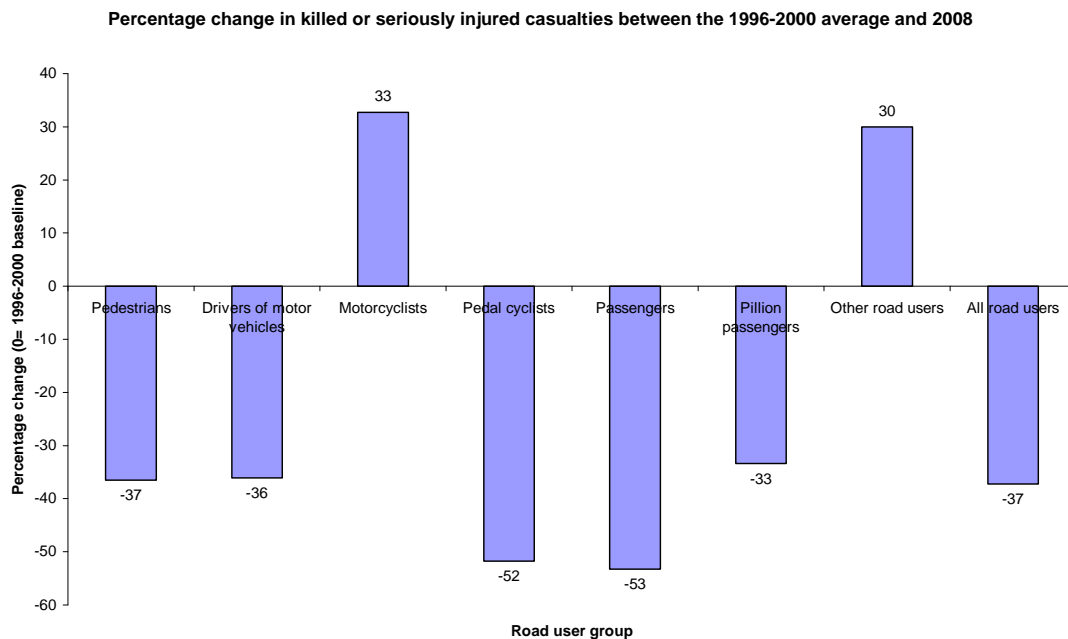
**Table 4: Casualties killed or seriously injured by road user type: 1996-2000 average and 2003-2008**

Road user group	1996-2000 average (no.)	2003 (no.)	2004 (no.)	2005 (no.)	2006 (no.)	2007 (no.)	2008 (no.)	2003-2008 (no.)	2008 percentage change over 1996-2000 average (%)	Percentage change - 2003-2008 average over 1996-2000 average (%)
Pedestrians	334	250	213	204	224	183	212	1,286	-37	-36
Drivers of motor vehicles	723	580	572	517	572	520	462	3,223	-36	-26
Motorcyclists	104	164	165	160	142	153	138	922	33	48
Pedal cyclists	58	38	29	29	34	32	28	190	-52	-45
Passengers	509	384	331	283	347	306	238	1,889	-53	-38
Pillion passengers	9	11	8	9	7	6	6	47	-33	-11
Other road users	10	11	12	6	11	10	13	63	30	10
All road users	1,748	1,438	1,330	1,208	1,337	1,210	1,097	7,620	-37	-27

A great deal of progress has been made in reducing the numbers killed and seriously injured across all road user groups, these include, pedestrians, drivers, pedal cyclists, passengers, and pillion passengers. The exceptions have been motorcyclists, with the numbers killed and seriously injured rising by **33%** above the 1996-2000 baseline and other road users rising by **30%**.

As depicted in Figure 6 below, when comparing the percentage change between the 2003-2008 and the 1996-2000 average:

- ✚ The number of pedestrian KSIs has decreased by 16% from the 2007 figure and is 37% below the baseline.
- ✚ The number of pedal cyclist KSIs has decreased to a level 52% below the baseline.
- ✚ The number of motorcyclist KSIs has decreased by 10% from 2007 however remains 33% above the baseline.
- ✚ The number of drivers of motor vehicle KSIs has decreased by 11% from 2007 and is 36% below the baseline.
- ✚ The number of passenger KSIs has decreased by 22% from 2007 to a level 53% below the baseline.



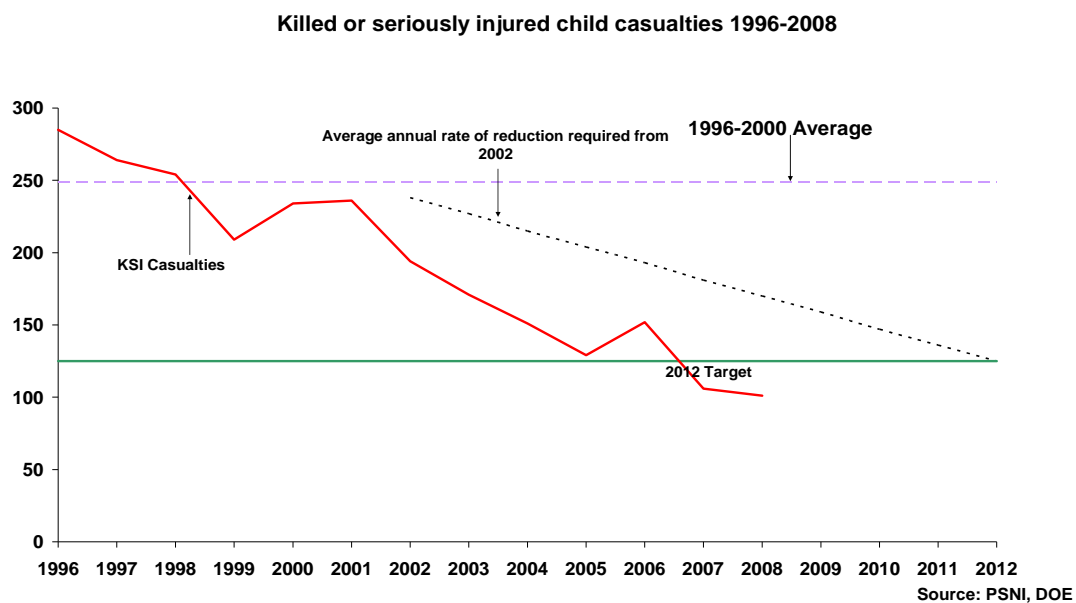
**Figure 6**

There has been an improvement across most road user groups, the exceptions being motorcyclists and other road users. Other road users are essentially road users travelling by relatively less common (in terms of collision involvement) motorised vehicles such as quads, tractors etc, and also includes horse riders.

## Target 2 – Children killed or seriously injured – progress

*“A 50% reduction (from the average for the period 1996-2000) in the number of children killed or seriously injured on Northern Ireland’s roads each year from the current average of 250 to fewer than 125 by 2012”.*

Figure 7 below demonstrates progress made to date on the numbers of children killed or seriously injured on Northern Ireland roads over a 10 year period. The red line clearly shows that spikes can occur over time and confirms the unpredictable nature of road traffic collisions and associated casualties on a year to year basis.



**Figure 7**

Generally, child casualties were on a consistent downward trajectory until 2006 when they increased by 18% over the year to 152 in 2006. The level of KSI's decreased by 30% in 2007 to 106 followed by a further decline of 5% in 2008 to 101. The decline in KSI's over the year has increased the percentage change in KSIs over the 1996-2000 baseline average from 57% (in 2007) to 59% in 2008.

**Table 5: Child fatalities and serious injuries 1996-2000 average and 2003-2008**

	<b>1996-2000 average (no.)</b>	2003 (no.)	2004 (no.)	2005 (no.)	2006 (no.)	2007 (no.)	<b>2008 (no.)</b>	2008 percentage change over 1996-2000 average (%)	<b>Percentage change - 2003-2008 average over 1996-2000 average (%)</b>
Fatalities	<b>15</b>	15	11	15	9	5	<b>7</b>	-53	<b>-33</b>
Serious Injuries	<b>234</b>	156	140	114	143	101	<b>94</b>	-60	<b>-47</b>
KSIs	<b>249</b>	171	151	129	152	106	<b>101</b>	-59	<b>-46</b>

Table 6 below provides a breakdown of child casualties by road user group from 2003-2008 and includes a percentage comparison between 1996-2000 average and 2003-2008 average. It should be noted that due to the small numbers in some categories, the annual percentage fluctuations can be quite large.

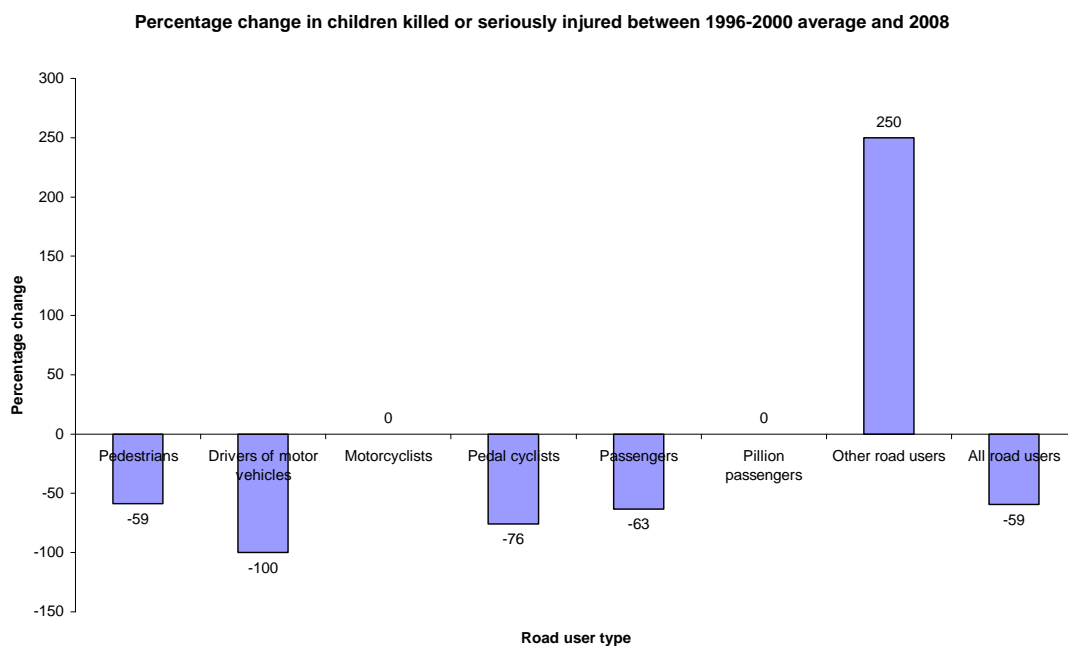
**Table 6: Child casualties killed or seriously injured by road user type: 1996-2000 average and 2003-2008**

Road user group	<b>1996 - 2000 average (no.)</b>	2003 (no.)	2004 (no.)	2005 (no.)	2006 (no.)	2007 (no.)	2008 (no.)	2003 - 2008 (no.)	2008 percentage change over 1996-2000 average (%)	Percentage change 2003-2008 average over 1996-2000 average (%)
Pedestrians	<b>138</b>	86	77	63	67	49	57	399	-59	-51
Drivers of motor vehicles	<b>1</b>	1	1	1	2	0	0	5	-100	0
Motorcyclists	<b>1</b>	3	5	3	4	1	1	17	0	200
Pedal cyclists	<b>29</b>	14	9	10	13	9	7	62	-76	-66
Passengers	<b>76</b>	57	54	46	62	45	28	292	-63	-36
Pillion passengers	<b>1</b>	6	2	3	0	2	1	14	0	100
Other road users	<b>2</b>	4	3	3	4	0	7	21	250	100
All road users	<b>249</b>	171	151	129	152	106	101	810	-59	-46

A great deal of progress had been made across most child road user groups with the exception of motorcyclists, pillion passengers and other road users.

As can be seen in Figure 8 below, over the past six years (2003-2008) the main points are:

- ✚ The overall number of child KSIs fell year on year until 2006 (when it increased by 18% from the 2005 level), The 2008 level is 59% below the baseline (down by 5% from the 2007 level). The child KSI target set for 2012 was both met and exceeded in 2007.
- ✚ The number of child pedestrian KSIs decreased by 16% from the 2007 figure and is 59% below the baseline.
- ✚ The number of child pedal cyclist KSIs has decreased to a level 76% below the baseline.
- ✚ The number of child passenger KSIs has decreased to a level 63% below the baseline.



**Figure 8**

### 17-24 year olds killed or seriously injured – progress

While the Strategy did not include a target for 17 -24 year olds, this section of the population is over-represented in road traffic collisions and changes in the number of deaths and serious injuries in this group will now be monitored more closely. Table 3 on page 23 shows progress towards reducing the number of people killed or seriously injured in this age group to 2008 and this is shown graphically in Figure 9 below. Between 2003 and 2008, the average number of people aged 17-24 killed or

seriously injured on Northern Ireland's roads fell to a level 25% below the 1996-2000 baseline average.

**Figure 9** Progress in reducing deaths and seriously injured casualties aged 17-24: 1996-2008

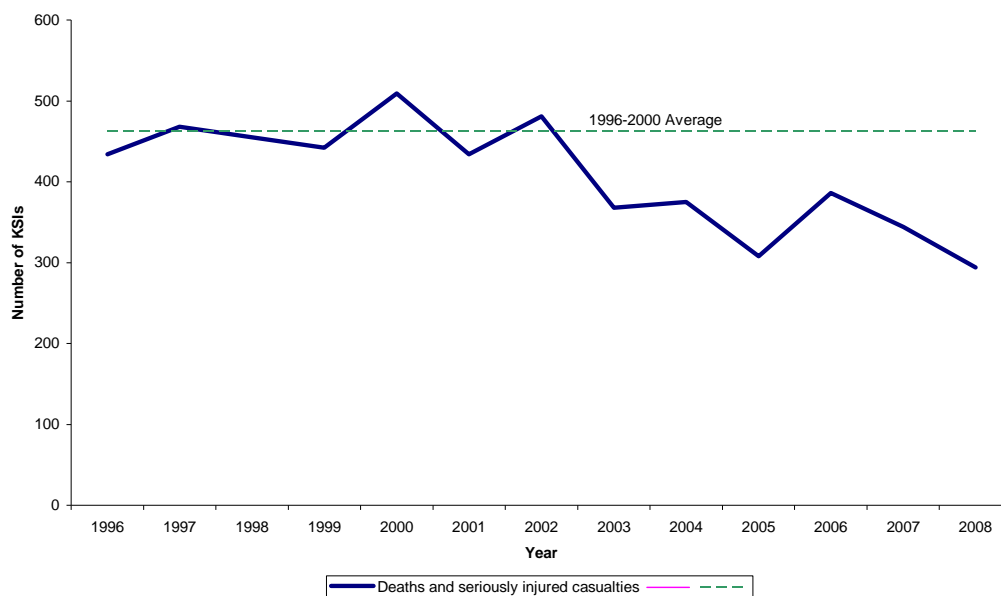


Table 7 below provides a breakdown of 17-24 year old KSIs by road user group 2003-2008 and includes a percentage comparison between 1996-2000 average and 2003-2008 average.

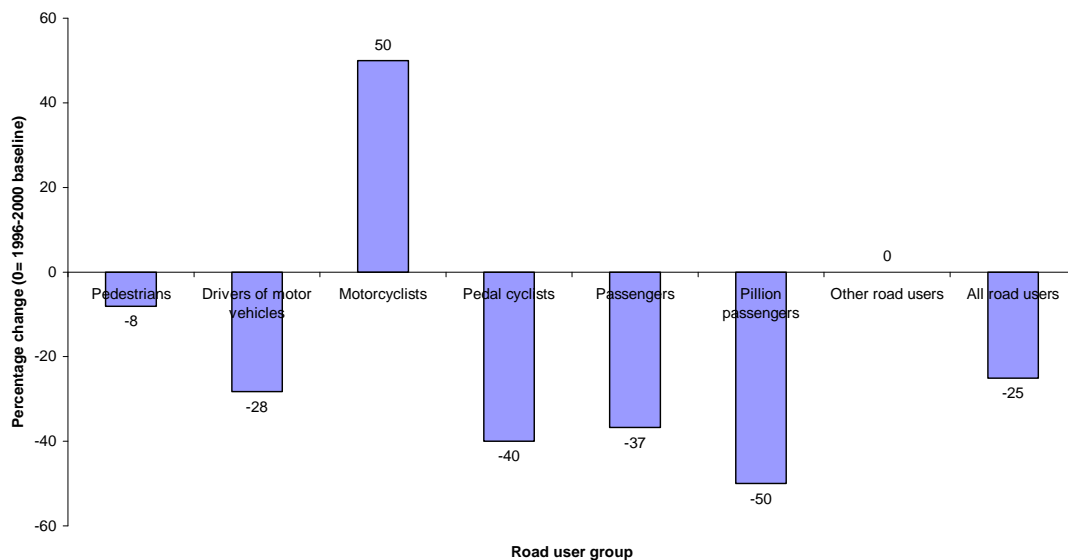
**Table 7: Casualties aged 17-24 killed or seriously injured by road user type: 1996-2000 average and 2003-2008**

Road user group	1996-2000 average (no.)	2003 (no.)	2004 (no.)	2005 (no.)	2006 (no.)	2007 (no.)	2008 (no.)	2003-2008 average (no.)	2008 percentage change over 1996-2000 average (%)	Percentage change 2003-2008 over 1996-2000 average (%)
Pedestrians	37	37	21	38	44	26	36	34	-3	-5
Drivers of motor vehicles	205	156	156	118	163	157	130	147	-37	-5
Motorcyclists	32	50	65	51	43	45	36	48	13	5
Pedal cyclists	5	1	1	5	1	3	4	3	-20	-5
Passengers	177	120	129	94	130	111	85	112	-52	-5
Pillion passengers	4	2	3	1	3	1	3	2	-25	-5
Other road users	1	2	0	1	2	1	0	1	-100	-5
All road users	462	368	375	308	386	344	294	346	-36	-5

As depicted in Figure 10 below, over the past six years (2003-2008) the main points are:

- ✚ The average number of 17-24 year old driver of motor vehicle KSIs is 28% below the baseline.
- ✚ The average number of 17-24 year old passenger KSIs has decreased to a level 37% below the baseline.
- ✚ The average number of 17-24 year old pedestrian KSIs has decreased by 8% from the baseline.
- ✚ The average number of motorcyclist KSIs aged 17-24 increased by 50% from the baseline.

**Figure 10** Percentage change in 17-24 year olds killed or seriously injured between the 1996-2000 average and the 2003-2008 average



## 4. Road Safety Problems

### Scale

There were 107 road users killed in 2008 and 990 people were seriously injured. That is 30% fewer deaths and 38% fewer serious injuries than the 1996-2000 baseline averages.

Our first target is to *reduce by one third the number of people killed and seriously injured on Northern Ireland's roads each year from the 1996-2000 average of 1,750*

*to fewer than 1,200 by 2012.* We are currently well on track to deliver that target by 2012. This should not be a let out or reason for complacency. The level of road deaths and injuries in Northern Ireland remains unacceptably high.

Our second target is to *reduce by 50% the number of children killed or seriously injured on Northern Ireland's roads each year from the 1996-2000 average of 250 to fewer than 125.*

Seven of the 107 road users killed in 2008, and 94 of the 990 serious injuries were children. Although we have exceeded our target to reduce the numbers of children killed and seriously injured on our roads we should not be tempted to accept this level of child fatalities and serious injuries and reduce our future efforts.

The remainder of this paper will identify road user groups who are most at risk of death or serious injury and the behaviours and attitudes that result in our unacceptably high levels of road user fatalities and serious injuries.

Having identified:

- ✚ Road users who cause road traffic collisions,
- ✚ road users who are most at risk of death and serious injury;
- ✚ the behaviours that cause or contribute to the numbers killed and seriously injured on our roads; and
- ✚ those attitudes that must be addressed.

we can inform the development of a strategic approach that will address the problems and make it safer to travel.

## **a) Road users most at risk**

### [All Road Users - Overview](#)

Taking the most up to date data, the following table details each road user group as a percentage of the numbers killed and seriously injured in 2008.

**Table 8: Casualties killed or seriously injured by road user type**

Road user group	Road user group as a percentage of KSIs in 2008 (%)	2008 percentage change over 1996-2000 average (%)
Pedestrians	19	-37
Drivers of motor vehicles	42	-36
Motorcyclists	13	33
Pedal cyclists	3	-52
Passengers	22	-53
Pillion passengers	1	-33
Other road users	1	30
All road users	100	-37

Percentages may not add to 100 due to rounding

### [2008 Snap shot](#)

🚦 Drivers of motor vehicles, passengers and pedestrians account for 42%, 22% and 19% respectively of the overall number of KSIs in 2008. Whilst the casualty reductions in these road user groups demonstrate important progress towards the 2012 target of 33% reduction, these three road user groups remain high risk categories that will continue to warrant specific attention.

🚦 Motorcyclists are now a significant portion of the casualties on our roads and reducing these will have a significant impact on the total problem. In 2008, motorcyclists accounted for 13% (138) of all deaths and serious injuries.

🚦 However, all road users are important and we must not focus all efforts only on those areas with the highest casualty levels.

### [10 and 6 year data](#)

🚦 Whilst the figures above represent a 'snapshot' of road user vulnerability in 2008 we can report that 6 and 10 year data support the findings presented above:

- Drivers of motor vehicles, passengers and pedestrians accounted for 42%, 25% and 17% respectively of all KSIs for the 6 year period 2003-2008;
- Motorcyclists accounted for 12% of all deaths and serious injuries between 2003 and 2008; and

- For the 10 year period 1999-2008, the position remained much the same with drivers of motor vehicles, passengers and pedestrians accounting for 43%, 26% and 17% respectively of all KSIs. Motorcyclists accounted for 10%.

### Emerging trend

- ✚ The 2008 figures confirm the increase in the number of motorcyclist KSIs since the start of the Strategy. Motorcyclists accounted for 6% of all KSIs on the 1996-2000 baseline and this has now risen year on year to 13% in 2008.



## **(1) Drivers**

Whilst a significant number of drivers are victims of road traffic collisions it must be acknowledged that they are also, sadly, responsible for a high percentage of the collisions that result in road traffic casualties.

For the period 2003-2008, 56% (1,890) of those killed or seriously injured and who were responsible for the collisions, were drivers of motor vehicles. '*Drivers*' remains the largest road user casualty group in Northern Ireland.

Looking in more detail at these driver KSIs, the top 5 specific driver behaviours which caused the collisions can be seen in Table 9 below. These accounted for 75% of driver KSIs, where the driver was responsible, between 2003 and 2008. The remaining 25% resulted from a range of 23 other behaviours.

**Table 9: Driver KSIs by causation factor where the casualty is responsible for the collision**

Causation factor	Number of driver KSIs 2003-2008	% of KSIs
Excessive speed having regard to conditions	587	31
Alcohol or drugs- driver/ rider	337	18
Inattention or attention diverted	186	10
Wrong course/ position	178	9
Emerging from a minor road without care	126	7
Other causation factors (23)	476	25
All causation factors (28)	1,890	100

Percentages may not add to 100 due to rounding

### Age group most at risk - 17-24 year olds

Drivers aged between 17 and 24 account for around 11% of our licensed drivers, yet were responsible for 38% of the 447 fatal collisions between 2003 and 2008 and 32% of the 3,796 fatal and serious collisions which involved a car or light goods vehicle.

When we examine the driver behaviours which caused the fatal and serious collisions for which 17-24 year olds were responsible they are similar to those detailed above for all driver collisions.

**Table 10: 17-24 year old driver KSIs by causation factor where the casualty is responsible for the collision**

Causation factor	Number of 17-24 year old driver KSIs 2003-2008	% of KSIs
Excessive speed having regard to conditions	281	44
Alcohol or drugs - driver/rider	118	19
Wrong course/position	52	8
Inattention or attention diverted	44	7
Overtaking on offside without care	41	6
Other causation factors (16)	100	16
All causation factors (21)	636	100

Percentages may not add to 100 due to rounding

Inappropriate speed, drink/drugs driving and carelessness are three key driver behaviours that need to be addressed in order to make a significant and positive impact on the numbers killed and seriously injured on our roads because of driver

behaviour. These behaviours will be discussed in more detail in Chapter 3 of this report.

## **(2) Older Road Users (aged 65+)**

Of the 778 road traffic collision fatalities between 2003 and 2008, 109 (14%) were aged 65 and over (65+). This group also accounted for 725 (10%) of the 7,620 KSIs during the period 2003-2008. At June 2009 65+ year olds accounted for 18% of our licensed drivers.

### Fatalities

A breakdown of older road user fatalities during 2003-2008 shows that almost three quarters (72%) of the 109 fatalities in this road user group occurred in two categories, driver of motor vehicles (39%) and pedestrians (32%).

### Killed and seriously injured

95% of all casualties aged 65+ killed or seriously injured between 2003 and 2008 occurred in three categories:

- ✚ Driver of motor vehicles (40%);
- ✚ Pedestrians (29%); and
- ✚ Passengers (27%).

There is a typical public perception that older drivers and pedestrians cause many road traffic collisions either through hesitation, poor judgement, failure to signal, inappropriate speed (typically seen as too slow), speed or simply because of poor driving standards. However, when we examine KSI data for this road user group, 55% (397) of casualties were NOT responsible for the collision.

Where the casualty was responsible for the collision the main causation factors differ significantly from those quoted previously for other drivers, which is perhaps not surprising. They tend to reflect deterioration in certain skills associated with the ageing process.

Table 9 below highlights the main causation factors when those aged 65+ are responsible for collisions and indicates particular areas that we must consider when developing potential solutions or action measures to protect this vulnerable road user group.

**Table 11: 65+ year olds KSIs by causation factor where the casualty is responsible for the collision**

<b>Causation factor</b>	<b>No of 65+ year old KSIs 2003-2008</b>	<b>% of KSIs</b>
Heedless of traffic crossing carriageway	89	27
Emerging from minor road without care	31	9
Wrong course/position	27	8
Inattention or attention diverted	27	8
Turning right without care	25	8
Other causation factors (23)	129	39
All causation factors (28)	328	100

Percentages may not add to 100 due to rounding



### **(3) Passengers**

Whilst the number of passenger KSIs has decreased over the lifetime of the current Strategy to a level 53% below the 1996-2000 average baseline in 2008, passengers remain the second biggest road user casualty group and therefore require specific focus and attention.

#### [Fatalities](#)

For the period 2003-2008 passengers accounted for 24% (185) of all fatalities. When looking at car occupants, car passengers accounted for 37% (172) of all car occupant fatalities. Front seat passengers accounted for 21% of car occupant fatalities and rear set passengers for 16%.

#### [Killed and seriously injured](#)

Passengers accounted for 1,889 of all fatal and serious casualties between 2003 and 2008 which is 25% of the overall total.

It is extremely rare for passengers to be responsible for road traffic collisions, but clearly a significant number pay the price for the behaviours of other road users.

However, the decision not to wear a seat belt is reckless because it risks avoidable death and serious injury both to the individual and others in the vehicle in a collision. In a high percentage of cases passengers suffered injuries and sometimes even death purely because of this choice.

#### [Age group most at risk - 17-24 year old passengers](#)

In 2008, six years after the launch of the current Strategy, the number of 17-24 year old passenger KSIs has decreased to a level 52% below the 1996-2000 baseline.

Whilst this progress is reassuring the fact remains that during the period 2003-2008, 669 17-24 year old passengers were killed or seriously injured, and 63% of these passenger fatal or seriously injured casualties were young men. Passengers aged 17-24 represent 35% of all passenger casualties during this period.

The 2009 annual Observational Seat Belt Wearing Survey carried out by the Northern Ireland Statistics and Research Agency (NISRA), observed the seat belt wearing behaviours of drivers and passengers in 16,871 cars at 15 sites throughout Northern Ireland, 6 rural, 3 motorway and 6 urban locations.

The results highlight that:

- ✚ of the 5,308 17-29 year old drivers observed 3% were **NOT** wearing a seat belt;
- ✚ of the 1,958 14-29 year old front seat passengers observed, 5% were **NOT** wearing a seat belt ; and
- ✚ of the 461 14-29 year old back seat passengers observed, 13% were **NOT** wearing seat belts.

A great deal of progress has been made in seat belt wearing and indeed Northern Ireland can now report higher overall seatbelt wearing rates than the rest of GB. The 2009 Observational Seat Belt Wearing Survey reported that 97% of drivers were recorded as wearing a seat belt. Front seat passengers (96%) were more likely to use a restraint than back seat passengers (93%). The overall wearing rate for all car occupants was 96%. However, some passengers still choose not to wear seat belts and are killed and seriously injured because of it.

If a 100% wearing rate had been observed in earlier years, it is evident from the data that an even higher number of lives could have been saved. For example, the calculation based on 2004 to 2006 average casualty figures was for 13 lives and 112 serious injuries to have been saved. It is estimated that some 8 lives and 73 serious injuries would have been saved each year (based on 2006-2008) had a 100% wearing rate been observed. This breaks down as 4 drivers, 2 front and 2 rear seat passenger deaths and 41, 15 and 17 serious injuries respectively<sup>5</sup>. This compares to the 3 year period 2001 to 2003 when 19 lives and 201 serious injuries were estimated to have been saved each year had a 100% wearing rate been observed.

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<sup>5</sup> Based on 2006-2008 average casualty figures and average percentage seat belt wearing rates. Due to rounding, the sum of individual items may not equal totals.



## **(4) Pedestrians**

Pedestrians accounted for 1,286 of the 7,620 casualties killed and seriously injured between 2003 and 2008. This equates to 17% of all road traffic casualties and makes the pedestrian road user group the third biggest road user casualty group.

### *Fatalities*

When the data associated with pedestrian fatalities during the period 2003-2008 are analysed, pedestrians were solely responsible for 69% of the pedestrian deaths and drivers for 20% of pedestrian deaths. Discussion on pedestrian behaviours that contributed to this level of fatalities is presented in Chapter 3 of this report.

### *Killed and Seriously Injured (KSIs)*

Data associated with pedestrian KSIs indicate that responsibility for pedestrian KSIs are similar to the overall fatality findings above. During the six years 2003 and 2008, 66% of pedestrian KSIs were caused by pedestrians and drivers were responsible for 27%.

### *Which Month?*

Pedestrian KSIs peak during the late autumn and winter months of October, November, December and January.

### *Which Day and time?*

Perhaps not surprisingly pedestrian KSIs peak over the weekend on Friday, Saturday and Sunday. Pedestrian deaths peak at 5-8pm, 9-11pm and 2-3am. The story for KSIs however is somewhat different with higher levels reported between the hours of 3-8pm.

## Age groups most at risk

Pedestrian road safety is a highly complex area due to the wide range of target groups that need to be addressed. Data suggest that:

- ✚ 0-16 year olds (440: 34%) particularly males are a group that requires specific action measures (268; 21%);
- ✚ The over 65s (208, 16%) particularly females (123; 10%); and
- ✚ 17-24 year olds (202; 16%) particularly males (141; 11%).

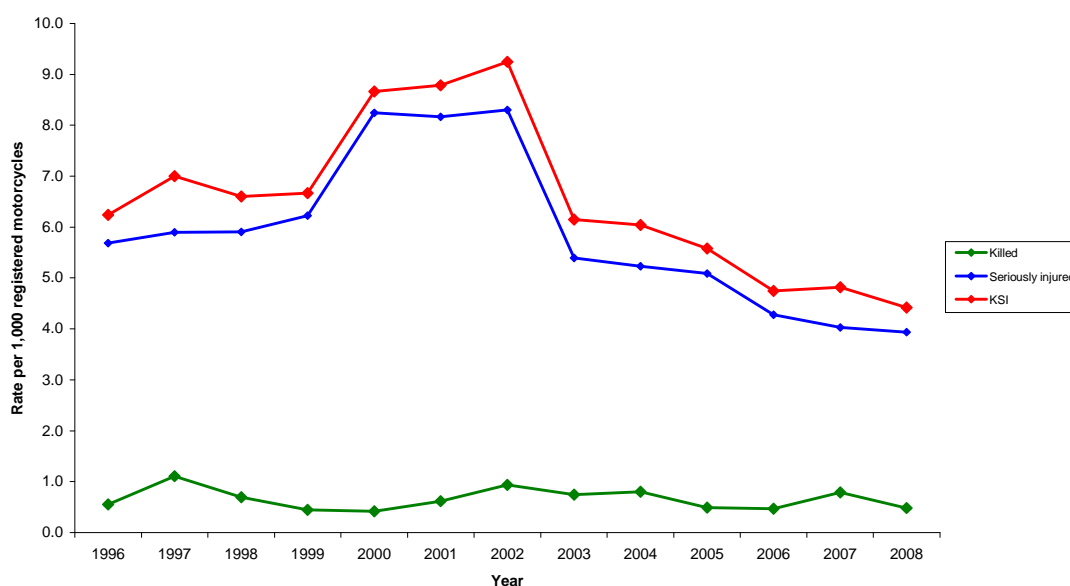
Wide ranging remedial action measures are clearly required in order to address the variety of different problems associated with this particular road user group.



## (5) Motorcyclists

The number of registered motorcycles (including mopeds) has increased each year in Northern Ireland since 1993, from 9,748 to 31,763 in 2007 with a slight fall to 31,225 in 2008. Whilst one might anticipate an increase in the numbers killed and seriously injured proportionate to the increase in licensed bikes this is not the case as demonstrated in Figure 11 below. With the exception of 2004, KSIs decreased slightly year on year from 2003 until 2007 when they increased from 142 in 2006 to 153.

**Figure 11** Fatalities, serious injuries and KSIs per 1,000 registered motorcycles 1996-2008



However, this is an important road user group in terms of specific measures because of the nature of their mode of transport. Bikes are particularly vulnerable when involved in a road traffic collision and fatality levels are particularly high. They remain the fourth largest road user casualty group on Northern Ireland roads.

For the period 2003-2008, the number of biker deaths was 14% (110) of all deaths on our roads, despite accounting for only 3% of licensed vehicles in 2008. KSIs tell a similar story with bikers accounting for 12% (922) of all those killed and seriously injured during this time.

### Fatalities

Over the lifetime of the current road safety strategy there have been 110 motorcyclist fatalities of which 5% were mopeds, 9% were motorcycles under 125cc, 84% were motorcycles of 125cc or above and 3% had an unknown engine size.

Analysis of the principal factors attributable to these fatal collisions shows that the top 5 causation factors were as in Table 12 below.

**Table 12: Number of fatal collisions for top 5 causation factors involving a motorcycle by causation factor: 2003 - 2008**

Causation factor	Number of fatal collisions involving a motorcycle 2003-2008
Excessive speed having regard to conditions	33
Alcohol or drugs - driver/rider	14
Inattention or attention diverted	13
Overtaking on offside without care	8
Emerging from minor road without care	7

*By month*

Perhaps unsurprisingly, 57% of these fatalities occurred during spring/summer months, in May (15%), July (15%), June (14%) and April (13%), which would represent motorbike season. The months with the lowest number of fatalities in this 6 year period were November and December (both with two fatalities).

*By age*

Fatalities by age in this road user group do not reflect what we might expect given the “norm” in other road user categories. 34% of motorcyclist fatalities occurred in the 35-49 year old age group, 31% in the 16-24 age group and 26% in the 25-34 age group.



## **(6) Child Road Users (0-15 year olds)**

As previously indicated, child casualties have greatly reduced over the lifetime of the current road safety strategy. Our target aimed at a 50% reduction (from the average of 250 for the period 1996-2000) in the number of children killed or seriously injured on Northern Ireland's roads each year to fewer than 125 by 2012. By 2007 we had exceeded the target and the numbers of children killed or seriously injured by 2008 was 101 which is 59% lower than the 1996-2000 average baseline.

It is possibly of some reassurance to know that the measures put in place over the lifetime of the current strategy contributed to this improvement in child casualty figures. However, we must not settle for this level of child casualty and must continue to target further significant reductions of child casualties as part of any new road safety strategy.

### Fatalities

Of the 778 road traffic fatalities that occurred from 2003-2008, 62 (8%) were children.

### Killed and seriously injured

Children accounted for 810 (11%) of the 7,620 casualties who were killed or seriously injured on Northern Ireland roads from 2003-2008. Of the 810 child KSIs, 61% (494) were male and 39% (316) female; males accounted for 69% (43) of pedal cyclist KSIs, 61% (242) of pedestrian KSIs and 55% (160) of passenger KSIs.

Table 13 below shows a breakdown of child KSIs by road user group between 2003 and 2008.

**Table 13 – Child KSIs by road user group 2003-2008**

Road User group	Child KSIs	% of KSIs
Pedestrians	399	49
Drivers of motor vehicles	5	1
Motorcyclists	17	2
Pedal cyclist	62	8
Passengers	292	36
Pillion Passengers	14	2
Other road users	21	3
<b>All road users</b>	<b>810</b>	<b>100</b>

### 2008 Snapshot

✚ Pedestrians, passengers and pedal cyclist road user groups account for 57, 28, and 7 of the total number of children killed and seriously injured on our roads during 2008.

### 10 and 6 year data

✚ Whilst clearly the figures above represent a 'snapshot' of child road user vulnerability only for 2008, we can report that 6 and 10 year data support the findings presented above:

- There were 399 child pedestrian KSIs over the six year period 2003-2008, which represents 49% of all child KSIs for that period;
- There were 306 child passenger (including pillion passengers) KSIs over the same six year period 2003-2008, which represents 38% of all child KSIs for that period; and
- There were 62 child pedal cyclist KSIs over the six year period 2003-2008, which represents 8% of all child KSIs for that period.

For the 10 year period 1999-2008, the position remained the same with pedestrians, passengers (including pillion passengers) and pedal cyclists accounting for 50% (841), 37% (617) and 9% (146) respectively of all child KSIs.



## (7) Foreign Nationals

There is a public perception that foreign nationals are increasingly more involved and are responsible for road traffic collisions, fatalities and serious injuries on Northern Ireland's roads. Until April 2007 the nationality of those involved in road traffic collisions was not recorded on police collision reports and as a result we do not have sufficient information to either prove or disprove this perception over a reasonable time.

We do however have concerns about:

- ✚ perceived differences in road user cultures in other countries;
- ✚ possible language difficulties/barriers;
- ✚ standards of driving skills in other countries compared to those applied in Northern Ireland;
- ✚ road user familiarisation with road signs; and
- ✚ levels of knowledge and understanding of the advice and guidance contained in the Northern Ireland Highway Code.

There is currently two financial years (FY) of data available for this group (2007/08 and 2008/09). This information is shown in Tables 14-19. The data details the number of collisions involving foreign nationals and those collisions where foreign national drivers were responsible. Whilst the data only covers a two year period it suggests the need for close monitoring and examination and if necessary, the development of interim remedial action measures based on what we know to date.

Please note that, for the purposes of this exercise, a foreign national driver is defined as a driver whose nationality is outside the United Kingdom or Ireland.

**Table 14: Breakdown of injury road traffic collisions involving a foreign national driver – FY 07/08 & 08/09**

<b>Causation Factor</b>	<b>Fatal Collisions</b>	<b>Serious Collision</b>	<b>All Fatal &amp; Serious Collisions</b>
Alcohol/Drugs – Driver/Rider	3	20	23
Excessive Speed	4	13	17
Careless Driving	10	40	50
Alcohol/Drugs - Pedestrian	0	2	2
Other Pedestrian Fault	0	8	8
Other Factors	0	9	9
<b>Total</b>	<b>17</b>	<b>92</b>	<b>109</b>

Over the two year period (2007/08-2008/09) the data indicates that foreign nationals were involved in 17 out of 200 fatal collisions (9%) and 92 out of 1,657 serious injury collisions (6%). Foreign nationals were responsible for 13 of these 17 fatal collisions (76%) and 61 of the 92 (66%) of the serious injury collisions.

**Table 15: Number of injury road traffic collisions involving a foreign national driver**

<b>Financial Year</b>	<b>Fatal Collisions</b>	<b>Serious Collision</b>	<b>All Fatal &amp; Serious Collisions</b>
2007/08	11	49	60
2008/09	6	43	49
<b>% change over year</b>	<b>-45%</b>	<b>-12%</b>	<b>-18%</b>

Table 16 below examines those collisions where a foreign national was involved and highlights the incidences when responsibility for the collision lay with foreign national drivers.

**Table 16: Breakdown of collisions involving a foreign national driver where he/she was responsible for the collision – FY 2007/08 & 08/09**

<b>Causation Factor</b>	<b>Fatal Collision</b>	<b>Serious Collision</b>	<b>All Fatal &amp; Serious Collisions</b>
Alcohol/Drugs – Driver/Rider	3	17	20
Excessive Speed	4	11	15
Careless Driving	6	32	38
Other Factors	0	1	1
<b>Total</b>	<b>13</b>	<b>61</b>	<b>74</b>

It is important to stress that these figures reflect data for two years and therefore we cannot say this snapshot is representative of a trend. It is important however to present this data as there is a public concern.

Finally, if we examine the number of casualties resulting from collisions involving foreign national drivers, where the driver was responsible, the breakdown of casualties is as follows:

In those collisions in which a foreign national was involved, a total of 19 people died, 16 of who were foreign nationals. In the serious injury collisions there were a total of 130 people seriously injured, 77 of whom were foreign nationals.

**Table 17: Number of deaths and serious injuries as a result of road traffic collisions involving foreign nationals' drivers**

Financial Year	Killed	Seriously Injured	KSI
2007/08	12	72	84
2008/09	7	58	65
<b>Total</b>	<b>19</b>	<b>130</b>	<b>149</b>
<b>% change over year</b>	<b>-42%</b>	<b>-19%</b>	<b>-23%</b>

**Table 18: Number of deaths and serious injuries as a result of road traffic collisions involving foreign nationals' drivers where the driver was responsible**

Financial Year	Killed	Seriously Injured	KSI
2007/08	9	58	67
2008/09	6	40	46
<b>Total</b>	<b>15</b>	<b>98</b>	<b>113</b>
<b>% change over year</b>	<b>-33%</b>	<b>-31%</b>	<b>-31%</b>

In those collisions for which a foreign national was responsible, there were 15 deaths and 98 serious injuries.

**Table 19: Number of foreign nationals' deaths and serious injuries as a result of road traffic collisions.**

Financial Year	Killed	Seriously Injured	KSI
2007/08	9	52	61
2008/09	7	25	32
<b>Total</b>	<b>16</b>	<b>77</b>	<b>93</b>
<b>% change over year</b>	<b>-22%</b>	<b>-52%</b>	<b>-48%</b>

## **(8) Driving for Work**

Research carried out in GB indicates that up to one-third of road crashes involve someone who is driving for work and that more employees are killed in at work collisions than in all other 'occupational accidents'<sup>6</sup>. Other GB research demonstrated a relationship between collision rate and driver attitudes: companies with low collision rates had the highest percentage of drivers with positive attitudes and those with high collision rates had the highest percentage of drivers with negative attitudes<sup>7</sup>.

It is not only professional/commercial drivers who are at risk. Many people drive their own cars while they are at work. While there are no data on people in Northern Ireland killed or seriously injured in 'at work collisions', it seems reasonable to assume that this, likewise, is a significant issue here. While, strictly speaking, this could be seen as a Health and Safety at work issue, the potential road safety benefits of tackling it are clear.

### **Road User Group – Priorities**

- 1) All Drivers with particular emphasis on 17-24 year old males and older drivers**
- 2) All Motorcyclists**
- 3) All Pedestrians**
- 4) Passengers with particular emphasis on 14-29 year olds**
- 5) Children**
- 6) Foreign Nationals**

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<sup>6</sup> Safety Culture and Work-Related Road Accidents, Department for Transport, 2004.

<sup>7</sup> *Reducing at-work road traffic incidents*, report of the work related road safety task group to govt and the health and safety commission, 2001.

## (b) High Risk Road User Behaviours

### 1) Speed

Speed is probably an area where progress in changing the behaviour of roads users has been disappointing. The proportion of motorists who stated that they normally drive faster than the speed limit ranges from 14% on roads in a built up area to 40% on motorways. The proportion of motorists who agree that it is dangerous to exceed the speed limit by less than 5 miles per hour ranged from 50% on roads in a built up area to 22% on motorways<sup>8</sup>. A recent survey highlights that 61% of drivers surveyed strongly agreed that other drivers needed to slow down but remain convinced that their own speeding behaviour is safe.

The term “speeding” covers two types of behaviour, exceeding the speed limit and driving too fast for the conditions. The latter typically indicates that a driver was travelling within the speed limit but that their speed was nevertheless too high to respond adequately to an emerging hazard such as some feature of the road, the presence of pedestrians or other road users, or even weather conditions. Data suggest that both types of speeding behaviour are major contributors to death and serious injuries on Northern Ireland roads.

It is the author’s understanding that the police only cite speed as a causation factor where it is very clear that this has been an issue (with evidence that would meet the test of “beyond a reasonable doubt” in court). This might imply that, if anything, speeding figures underestimate the problem. The data suggests that between 2003 and 2008 there were 147 fatal collisions involving a car and 33 fatal collisions involving a motorbike which were caused by excessive speed having regard to conditions.

We know that the Northern Ireland road using public is aware of how the speeding problem contributes to the road safety problem and research suggests that they do want the issue tackled – 84% of respondents stated that speeding was one of the most important factors in causing injuries or deaths on our roads and 90% of

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<sup>8</sup> Northern Ireland Road Safety Monitor 2008.

motorists interviewed considered it dangerous to exceed the speed limit in a built up area by 10 miles per hour or less.<sup>9</sup>

### Scale of the problem

Speed remains the single biggest cause of road traffic deaths and serious injuries on our roads. Speeding is an obvious road user behaviour that needs to be addressed.

Of the 5,946 fatal and serious injury collisions that occurred between 2003 and 2008, 1,051 (18%) were due to excessive speed.

From 2003-2008 there were 1,483 (19%) road users killed or seriously injured due to speed; 710 where the casualty was responsible and 773 where the casualty was not responsible.

### Fatalities

The casualty was responsible for 109 of the total 201 speed related fatalities (54%).

### Where do speed related collisions occur?

Between 2003 and 2008 speed related collisions can be separated into two distinct areas.

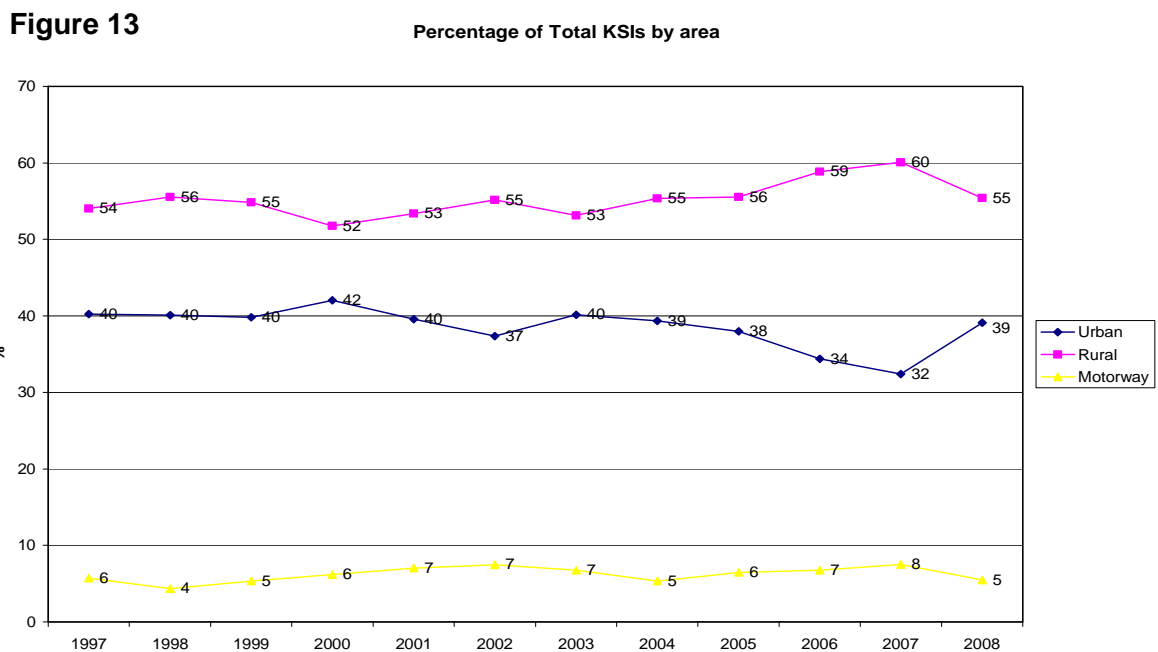
✚ **Casualties** - 20% (297) of casualties killed or seriously injured due to speed occurred on urban roads (roads with a speed limit of 40mph or less), 3% (50) on motorways/dual carriageways and 77% (1,136) on rural roads; and

✚ **Fatalities** - The comparison is starker for speed related fatalities with 15% (31) of fatalities occurring on urban roads, 6% (12) on motorways/dual carriageways and 79% (158) on rural roads.

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<sup>9</sup> Northern Ireland Road Safety Monitor 2008.

Figure 13 shows the percentage of people killed or seriously injured by road type highlighting the continuing problem in rural areas.



### Rural roads and inappropriate speed

On rural roads, the risk is heightened as much by drivers who drive too fast for the conditions, as from a minority who routinely exceed the speed limit.

Five hundred and sixty deaths and 3,733 serious injuries occurred on rural roads between 2003 and 2008 which accounts for 72% of fatalities and 55% of serious injuries..

Excessive speed for the conditions accounted for 140 (28%) of fatal collisions on rural roads compared to 18% of fatal collisions on motorways/dual carriageways and 16% on urban roads. To place this in context of speeding as an overall casualty causation factor, between 2003 and 2008 there were 173 fatal collisions due to excessive speed for the conditions across all road types of which 140 (81%) were on rural roads. When we consider fatal and serious collisions due to this causation factor, 796 (76%) occurred on rural roads.

Many, if not most, rural roads are signed at the national speed limit, 60 mph, which is probably higher than the maximum safe speed dictated by the characteristics of

certain significant sections of these roads. This is largely an inherited road network that was not originally designed for modern vehicular traffic.

Drivers appear to recognise this; in 2008 only 17% of drivers stated they exceeded the speed limit on roads with a 30 to 60mph limit.<sup>10</sup> Yet given that these roads are often relatively narrow, with unpredictable bends and junctions, 17% is still a high number. It is not just exceeding the speed limit but travelling at speeds which, while below the speed limit, are inappropriate for the conditions, which can lead to collisions on these roads. In addition given these are the fastest roads where contra-flow traffic is present, any resulting collision can be much more serious.

### [What time of day do speed related collisions take place?](#)

Speed related collisions that result in death and serious injury are most common: -

- ✚ On urban roads between 4-6pm, 8-10 pm, and midnight-2am;
- ✚ On rural roads between 4-10 pm; and
- ✚ On motorways between midnight-2 am and 6-8 am and 12-2pm.

### [On which day of the week are speed related collisions more likely to take place?](#)

There is a distinct increase in deaths and serious injuries as a result of speed at weekends namely – Friday, Saturday and Sunday.

### [Which Month?](#)

- ✚ Speed related deaths and serious injuries increase during the summer months (June, August and September). [When considering road deaths caused due to speed there is a spike during the month of December.](#)

### [Who is responsible for speed related collisions?](#)

Speed related [deaths](#) are a 17-24 year old male problem, followed by males aged 25-34, then males aged 35-44.

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<sup>10</sup> Northern Ireland Road Safety Monitor 2008.

17-24 year olds account for around 11% of licensed drivers, yet were responsible for 38% (169) of the 447 fatal collisions and 32% (1,211) of the 3,796 fatal and serious collisions which involved a car or light goods vehicle where the driver was responsible between 2003 and 2008.

Whilst not all of these collisions were speed related speed did play a factor in 24% of all 17-24 year old fatal and serious injuries where the casualty was NOT responsible and 34% of all 17-24 year old fatal and serious injuries where the casualty was responsible.

### ***Speed – Our priorities***

- 1. Rural roads present a challenge. Casualties on these roads tend to be more scattered, making targeted engineering and enforcement less effective.***
- 2. 17-24 year old males, 25-34 year old males and 35-44 year old males***

## 2) Drink/Drug Driving

Drink/Drug driving is an area of road safety where considerable progress has been made. Drivers and the wider public generally, are convinced that drink-driving is socially unacceptable, is a dangerous behaviour, and the deterrent penalties it attracts are strongly supported. There is still a minority of drivers who persist in drinking and driving and put themselves, their passengers, and other road users at risk.

Research into public attitudes towards drinking and driving carried out in May 2009 reveals that:

- ✚ 57% of respondents said they would not travel in a car in which the driver has had a single drink;
- ✚ 44% of motorists interviewed who drink alcohol said they could not drink any alcohol without it affecting their driving;
- ✚ 66% of respondents feel that motorists should not be allowed to drive after drinking any alcohol;
- ✚ 88% of respondents said that the police should be able to stop people at random and breathalyse them from driving under the influence of alcohol;
- ✚ 59% of respondents said they think the penalties for drinking and driving are not harsh enough; and
- ✚ 33% of respondents think it is acceptable to drive after one drink. The level of acceptability declined as the number of drinks increased.<sup>11</sup>

### Scale of the problem

Drink/drugs driving remains one of the major single causes of road deaths and serious injuries in Northern Ireland. The PSNI, which is responsible for the collection and collation of collision data in Northern Ireland, identifies collisions due to impairment by alcohol or drugs. It does not separate the two as, in many cases, drivers have taken both alcohol and drugs and it is often the combination which results in impairment. However, the consumption of alcohol is by far the more prevalent factor in collisions due to impairment.

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<sup>11</sup> Northern Ireland Road Safety Monitor 2009.

### Fatalities and serious injuries

During the six year period between 2003 and 2008, consumption of alcohol or drugs by drivers or riders was the principal cause of 145 deaths and 716 serious injuries and represented 19% of all road deaths and 10% of all serious injuries in Northern Ireland.

**Table 20: Road traffic casualties attributable to driver/rider alcohol or drugs 2003-2008**

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2003-2008</b>
Killed	37	30	24	18	18	18	145
Seriously Injured	148	124	95	115	113	121	716
<b>Total</b>	<b>185</b>	<b>154</b>	<b>119</b>	<b>133</b>	<b>131</b>	<b>139</b>	<b>861</b>

### Drink Drive Detections

During 2008 the number of drink/drug detections made was 3,240 including 2,586 as a result of roadside breath screening.

**Table 21: Number of roadside breath tests performed in Northern Ireland 2003-2008**

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Roadside Screening Breath Tests	13,986	21,175	23,081	25,107	25,628	20,394
Number Positive	2,836	4,460	5,152	5,043	3,452	2,586
<b>%</b>	<b>20.28</b>	<b>21.06</b>	<b>22.32</b>	<b>20.08</b>	<b>13.46</b>	<b>12.68</b>

### Where do drink/drug related collisions occur?

For the period 2003-2008:

- ✚ 67% (97) of drink/drug driver/rider related fatalities and 53% (460) KSI's occurred on rural roads;
- ✚ 29% (42) of drink/drug driver/rider related fatalities and 41% (353) KSI's occurred on urban roads; and
- ✚ 4% (6) of drink/drug driver/rider related fatalities and 6% (48) KSI's occurred on motorways.

When we look at fatal collisions on rural roads, 16% were due to driver/rider drink/drugs. This compares with 23% of fatal collisions due to driver/rider drink/drugs on urban roads and 12% on motorways/dual carriageways.

### [What time of day do drink/drug related collisions take place?](#)

Perhaps unsurprisingly alcohol and drugs related deaths and serious injuries peak between the hours of 8 pm and 4 am (498 KSI's) with 59% (295) of these occurring between midnight and 4 am.

### [On which day of the week are drink/drug related collisions more likely to take place?](#)

✚ The number of deaths and serious injuries is most pronounced at the weekend. Monday is higher than Tuesday, Wednesday or Thursday, which could relate to the “morning after” the weekend effect.

### [Which Month?](#)

Alcohol and drugs related deaths and serious injuries peak during the months of June through to August with a substantial fall recorded in September. There is also a spike in December.

### [Who is responsible for drink/drugs related casualties?](#)

Between 2003 and 2008 the casualty was deemed responsible in 46% (393) of the 861 KSI's resulting from drink/drugs driver rider. Male KSI's accounted for 75% (646) of all KSI's attributed to drink/drug driver/riders. Of this 646 male KSI's the casualty was deemed responsible for 55% (356) of the KSI's. In contrast females accounted for 25% (215) of all KSI's attributed to drink/drug driver/riders. Of the 215 female KSI's the casualty was deemed responsible for 17% (37) of the KSI's.

### [Who is responsible for drink/drugs related fatal collisions?](#)

Where a driver has been deemed responsible for road traffic fatalities due to drink/drugs driver/rider 36% of the drivers were males aged 17-24 years, another

27% were males aged 35-49 and a further 22% were males aged 25-34 years. Drivers deemed responsible for drink/drug driver rider fatal collisions appears to be largely a male problem. Male drivers accounted for 92% of the drivers deemed responsible for this type of collision.

While mainstream public attitudes about the unacceptability of drinking and driving are positive, there remains a hard core of drink drivers who, it seems, will not be persuaded by information campaigns and who still see drink driving as a risk worth taking with little chance, in their view, of being detected by the police.

It is worth noting that evidence would seem to indicate that alcohol consumption and binge-drinking behaviour has been increasing, especially among the young, in Northern Ireland.

### ***Drink/Drug driving – Our priorities***

- 1) Rural roads present a challenge. Casualties on these roads tend to be more scattered, making enforcement measures less effective.***
- 2) 17-24 year old males, 25-34 year old males and 35-49 year old males***

### 3) Carelessness

#### Carelessness – all road users

All road users are guilty of careless behaviours - drivers, pedestrians, motorcyclists, pedal cyclists, and passengers - so when tackling this issue we must ensure that we address careless behaviour across **all** road user groups.

#### Scale of the problem

When we examine the main causes of road traffic casualties between 2003 and 2008, in total 3,618 people were killed or seriously injured due to driver carelessness, which accounts for 47% of all road traffic KSIs in that period. When we consider other road traffic collision causation factors, those that might be associated with pedestrian carelessness they account for a further 642 deaths or serious injuries which represent 8% of the total number of deaths and serious injuries over the same period. This compares with nearly 20% of deaths or serious injuries due to excessive speed and 11% for drink/drug driving - driver/rider. The types of careless behaviours identified include:

- ✚ Inattention or attention diverted;
- ✚ Emerging from a minor road without care;
- ✚ Wrong course/position;
- ✚ Overtaking on offside without care;
- ✚ Heedless of traffic crossing carriageway; and
- ✚ Turning right without care..

When we examine the statistics associated specifically with child KSIs the story is similar but two distinct groups emerge i.e. careless behaviours associated with driving and the sometimes erratic behaviours associated with young children.

#### Group 1 – Drivers including motorcyclists' careless behaviours

- ✚ Inattention or attention diverted;
- ✚ Overtaking on off-side without care; and
- ✚ Emerging from minor road without care;

## Group 2 – Child pedestrian careless behaviours

- 🚦 Heedless of traffic crossing carriageway;
- 🚦 Walk/run movement masked; and
- 🚦 Walking or running onto carriageway.

Since carelessness is so wide ranging and covers the behaviours of all road users it is an 'unwieldy' problem which has been and will continue to be difficult to address. However more must be done to explore how we can best address the problem and what can be done.

There is currently no definition of what behaviours constitute pedestrian carelessness. For reporting purposes the Department have agreed a group of behaviours which are listed below.

- 🚦 - Heedless of traffic crossing carriageway,
- 🚦 - Heedless of traffic walking or standing in carriageway,
- 🚦 - Playing on carriageway,
- 🚦 - Walking or running onto carriageway,
- 🚦 - Walk/run movement masked'
- 🚦 - Using pedestrian crossing without care'
- 🚦 - Holding onto a vehicle,
- 🚦 - Pedestrian wearing dark clothing.

## Drivers/Motorcyclists/Pedal cyclists - What is careless driving?

Careless driving is a catch-all offence covering the sort of general bad driving that wouldn't fall under specific offences such as speeding or drink/drugs driving. It is defined in law as driving which 'falls below what would be expected of a competent and careful driver'.

Bad driving, even when it doesn't cause a collision, is an issue of concern to many road users. It places risks both on the driver, their passengers and on others on the road. That is why Road Traffic Law contains an offence of 'driving without due care and attention', or in short, 'careless driving'.

In all cases, it is not just the specific behaviour but the circumstances in which it happened that defines whether or not someone drove carelessly. Therefore, it is not

possible to simply list behaviours which are covered by careless driving, only behaviours that in some circumstances would be considered careless driving.

PSNI for statistical reporting define careless driving as the following causation factors:

- ✚ Inattention or attention diverted
- ✚ Emerging from minor road without care
- ✚ Wrong course/position
- ✚ Overtaking on offside without care
- ✚ Turning right without care
- ✚ Crossing or entering road junction without care
- ✚ Emerging from private road/entrance without care
- ✚ Disobeying traffic sign
- ✚ 'U' turning without care
- ✚ Driving too close
- ✚ Changing lane without care
- ✚ Reversing without care
- ✚ Fatigue – (this factor is sometimes reported separately).
- ✚ Starting without care
- ✚ Disobeying pedestrian crossing
- ✚ Overtaking on nearside without care
- ✚ Turning left without care
- ✚ Distracted by action inside the vehicle
- ✚ Stopping without care
- ✚ Failing to give or giving faulty signal
- ✚ Distraction by action outside vehicle

For the purposes of this report the same definition has been applied for driver carelessness.

### [Where do careless driving collisions occur?](#)

Careless driving accounts for 39% of fatal collisions on rural roads, compared to 23% on urban roads and 45% on motorways/dual carriageways.

## Contributory Factors to Careless Driving

Since it takes a number of different forms, it is difficult to quantify precisely how many deaths and injuries are caused by careless driving. Nevertheless it is possible to get an idea of the scale of the impact that bad driving has by looking at the contributory factors identified by the police.

The contributory factor that is most readily identifiable with careless driving is 'inattention or attention diverted'. Between 2003 and 2008 there were 62 deaths in collisions where this was recorded as a factor by the police. In addition there are a wide range of other factors that are recorded, such as 'wrong course/position' and 'Crossing or entering a junction without care'. Overall, there were 104 deaths resulting from these two factors alone during the period 2003 to 2008.

The road user group Drivers of motor vehicles accounts for 42% (3,223) of all KSI's on our roads during the period 2003-2008 with the next largest group being passengers 25% (1,889), then pedestrians 17% (1,286) and motorcyclists 12% (922). Pedal cyclists account for 2% of all KSI's, Other road users 1% (63) and Pillion passengers 1% (47).

### Drivers of motor vehicles

The top ten causation factors attributed to deaths and serious injuries in this group account for 83% (2,686) of the 3,223 KSI's recorded. Seven of the ten factors are driver/rider carelessness factors and account for 44% (1,409) of all driver of motor vehicle KSI's over the period 2003-2008. Inattention or attention diverted and wrong course/position is the dominant driver carelessness factors in this group.

### Passengers

Over the period 2003-2008 1,889 passengers were killed or seriously injured on our roads. The top ten causation factors (9 of which are driver behaviours) account for 86% (1,620) KSI's. There are 7 driver/rider carelessness factors in the top ten causation factors for KSI's accounting for 41% (775) of all passenger KSI's during 2003-2008.

## Pedestrians

Pedestrians account for 17% (1,286) of all KSI's on our roads during 2003-2008. The top ten causation factors attributed to pedestrian KSI's from 2003-2008 accounted for 81% (1,039) of all KSI's. There were 2 driver/rider carelessness and 4 pedestrian carelessness factors recorded in the top ten accounting for 13% (162) and 45% (583) of all pedestrian KSI's. The single largest pedestrian factor which accounted for 30% (392) pedestrian KSI's was Heedless of traffic crossing carriageway.

## Motorcyclists

Twelve percent (922) of all KSI's on our roads during 2003-2008 were motorcyclists. The top ten causation factors attributed to motorcyclist KSI's during this period accounted for 79% (731). Seven out of the top ten causation factors were related to driver/rider carelessness and accounted for 57% (528) of all motorcyclist KSI's.

## Pedal Cyclists

Pedal cyclists accounted for 2% (190) KSI's on our roads during 2003-2008. The top ten causation factors attributed to pedal cyclist KSI's account for 83% (158) KSI's in this group. Eight out of the top ten causation factors are related to driver/rider carelessness accounting for 76% (145) pedal cyclist KSI's. The single largest causation factor in this group was inattention or attention diverted accounting for 28% (54) KSI's in this group during 2003-2008.

The fact that bad driver behaviour has been recorded as a contributory factor does not mean that it would necessarily have been serious enough to qualify as a 'careless driving' offence. On the other hand, there are also a great many instances of careless driving which do not result in a collision and so are not recorded. Overall, these data confirm that careless driving is a very serious road safety issue.

## Pedestrian - carelessness

As with careless driving there are several careless behaviours or actions by pedestrians that have resulted in death and serious injuries. For the purposes of this report the Department have agreed a list of behaviours which are deemed as carelessness behaviours which can be found in Annex 1.

The main pedestrian carelessness behaviours resulting in deaths and serious injuries are:

- 🚶 Heedless of traffic crossing carriageway;
- 🚶 Walk/run movement masked;
- 🚶 Walking or running onto carriageway;
- 🚶 Heedless of traffic walking or standing in carriageway not crossing; and
- 🚶 Using pedestrian crossing without care.

And for children:

- 🚶 Heedless of traffic crossing carriageway;
- 🚶 Walk/run movement masked; and
- 🚶 Walking or running onto carriageway.

Carelessness is therefore a very important behavioural failing that needs to be addressed across all road user groups as we are all guilty of this potentially fatal behaviour.

### **Carelessness - Our Priorities**

- 1. All road user groups with particular emphasis on driver/riders pedal cyclists and pedestrians.**

## 5. Issues identified by Partner Organisations for further consideration

### a) Roads Engineering

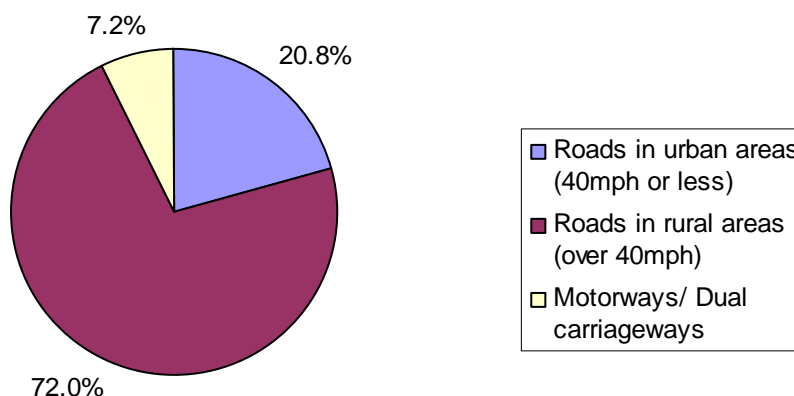
Good road engineering reduces the risk of collisions. Current design standards are set and reviewed on a UK-wide basis and are based on safety principles developed both through research and experience. Emphasis is on making best use of the existing road network and giving priority to treating those routes and sites with the worst safety, congestion and environmental records.

Roads and routes in the Northern Ireland roads network continue to be assessed under the European Road Assessment programme (EuroRAP). EuroRAP assessments provide safety ratings that enable high-risk sections of roads to be identified and mapped. Road Service examined fatal and serious collision data for the period 2002-2006 and identified six roads as potential priorities for route action. Work has already begun in addressing these priority areas.

### Fatalities and serious injuries on urban and rural roads

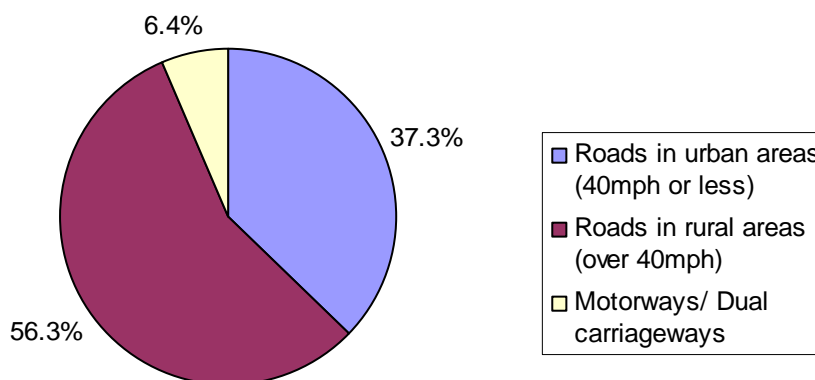
As shown in Figure 14, between 2003 and 2008, just over one fifth (21%) of fatalities (162) occurred on urban roads (roads with a speed limit of 40mph or less) and just under three quarters (72%; 560 fatalities) occurring on rural roads (roads with a speed limit of greater than 40mph). There were 56 deaths on motorways/dual carriageways (7%).

**Figure 14 Casualties Killed by road type 2003-08**



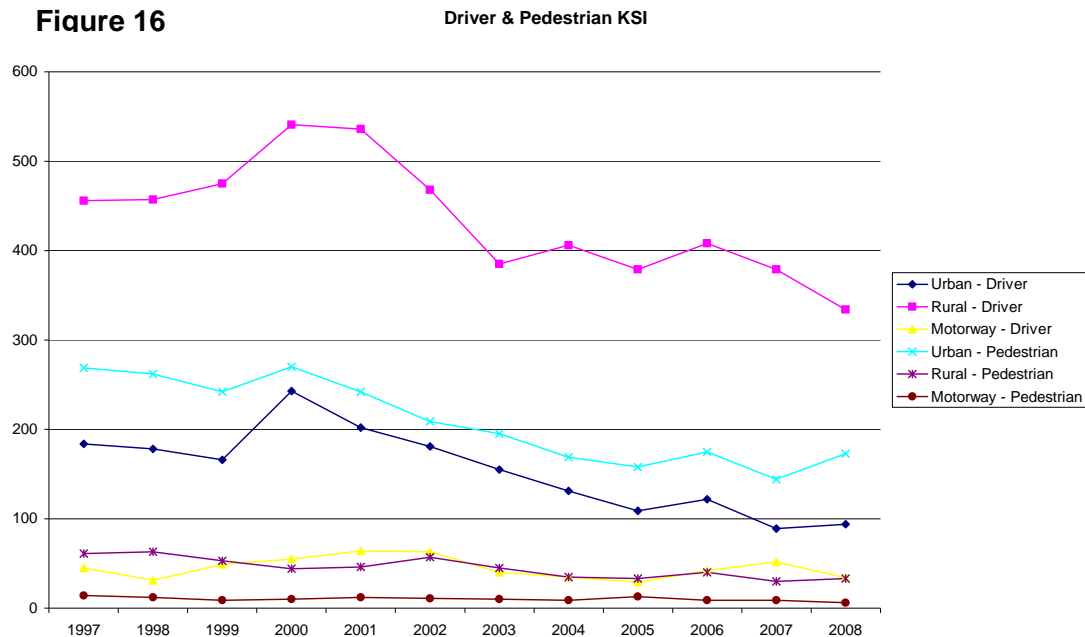
When the numbers killed and seriously injured are considered, the comparison is similar with urban roads accounting for 37% (2,840) of fatal and serious injuries and rural roads 56% (4,293). There were 487 deaths and serious injuries on motorways/dual carriageways (6%).

**Figure 15 KSI by road type 2003-2008**



Between 2003 and 2008, pedestrians accounted for 43% (70) of deaths on urban roads and drivers of motor vehicles accounted for 20% (32). The pattern was quite different when we examine fatalities on rural roads with drivers of motor vehicles accounting for 46% (260) of deaths and pedestrians accounting for 10% (55) of deaths.

Figure 16 below depicts the trend in driver and pedestrian fatalities by road type over a twelve year period to illustrate where these fatalities are most noted.



We need to further examine the road safety issues associated with rural and urban roads with a view to developing additional remedial measures that ultimately will contribute to a continuing reduction in casualties.

### b) Enforcement

Enforcement of Road Traffic laws is primarily the responsibility of the Police Service of Northern Ireland (PSNI), with the Driver Vehicle Agency (DVA) contributing in relation to commercial vehicles.

Within the police, there is a collective responsibility for bringing road traffic offenders to justice, with Road Policing Units having particular skills and knowledge in this area.

A great deal of progress has been made during the life of the current strategy in developing specific offences to address poor road user behaviours. Targeted enforcement, complimented by high profile advertising campaigns, has contributed greatly to the continuing reduction in the numbers killed and seriously injured.

However, enforcement measures must continue to evolve to address emerging and developing trends. Examination of road traffic collision data has identified that

road traffic collisions no longer occur in clear clusters, as in the past, and are much more likely to be random in nature. This means that targeting enforcement will be much more difficult and general enforcement less effective.

Examination of internal processes has confirmed that at present there is an unwieldy bureaucratic process in place when dealing with simple road traffic offences where the offender accepts their mistake. For example, straightforward detections for Careless Driving require a full prosecution file to be prepared, whereas the issue of a Fixed Penalty Notice or ability to offer a Driver Improvement Course would provide a much more streamlined approach. Delay in addressing such straightforward cases impacts negatively on the police's ability to enforce road traffic laws.

PSNI recognises that Careless Driving, in all its forms, is an area of offending that needs to have particular focus and any measures that could assist in this area would be welcomed.

Improvement in the provision of electronic 'data-capture' devices for issue of Fixed Penalties and collision investigation would also greatly enhance roads policing enforcement activity and streamline administrative processes, thereby resulting in a more timely and accurate delivery of enforcement statistics and causation factor information.

The border leads to practical difficulties, i.e. where a drink driver from the Republic of Ireland, involved in a RTC is brought into Northern Ireland for hospital treatment, as is frequently the case in the North West, police are unable to obtain a sample from him/her because the offence occurred outside the Northern Ireland jurisdiction. Similarly, the An Garda Síochána cannot come into Northern Ireland and make the request as they would then be outside their jurisdiction. The PSNI believes that this inability to enforce road traffic laws could be resulting in reckless behaviour and risk taking by drivers on both sides of the border.

### [c\) Education](#)

A great deal has been achieved in terms of the delivery of road safety education in schools across Northern Ireland. Examination of the availability of road safety education across all age groups indicates that the training provided for the post-

primary age-group is not as comprehensive as that provided to younger children. This would also include those in the older age-group (i.e. 17-24 year olds) on training schemes and apprenticeships. Further consideration of how we address this shortfall will be welcome.

#### [d\) Driver Training Standards](#)

Chapter 4b of this report identifies road user behaviours that result in road traffic collisions and these include poor driving standards. How these might be addressed is an issue of key importance. Section 3 of this report discusses in some detail the failings of drivers when executing simple driving tasks such as turning right, emerging from a minor road and overtaking on offside.

These basic standards are examined when testing driver skills before allocating a drivers licence but whether these standards should be reconsidered at various stages of our driving careers is an area warranting further examination.

## 6. New Issues for further consideration

### a) Post Crash – Golden Hour

#### *Saving the Survivors*

Historically, measures to reduce the number of people killed or seriously injured on the roads have primarily focused on action to prevent the collision from happening in the first instance. Education and enforcement activities have aimed to change the attitudes and behaviours of all road users by raising awareness of the consequences of risky behaviour and encouraging safe practise. Engineering measures have equally contributed to road safety by eliminating or mitigating against potential road safety hazards affecting any user of the roads infrastructure. Safety measures with the potential to minimise injury during the crash itself, such as wearing of seat belts and vehicle design, have also featured in road safety policies.

Typically, national road safety strategies do not include an explicit target on improving rescue services and medical care of crash injuries although there are exceptions such as a Swedish objective for shorter response times from injury to adequate medical care and the Western Australian Strategy that aims to reduce the number of hospital admissions and number of hospital bed days resulting from road traffic collisions.

The development of a new road safety strategy for Northern Ireland provides an opportunity to consider the broader role of the emergency services in responding to road traffic collisions. The way in which those injured in road collisions are dealt with in the post crash period can determine both the chance of survival and, on survival, the future quality of life. Conversely, improper functioning of a post-crash care system can potentially result in more fatalities and severe injuries. The ultimate goal of post crash care is to avoid preventable death and limit the severity of the injury and thereby contribute to the overall casualty reduction targets for KSIs.

#### *The Golden Hour*

In cases of severe trauma, especially internal bleeding, it is widely believed that the victim's chances of survival are greatest if they receive definitive care within the first

hour after a severe injury. After this time survival rates for traumatic patients is viewed as falling off dramatically. Complications such as shock are also more likely and acute if the patient is not managed appropriately and expeditiously.

In emergency medicine, the 'golden hour' is the term used to refer to the sixty minutes immediately after the occurrence of multi-system trauma. Although recent scrutiny has questioned the validity of a golden hour as a rigidly defined timeframe, the core principle of rapid intervention in trauma cases remains universally accepted. Some police forces also refer to the 'golden hour', the sixty minute period following a crash, as the optimum period for the collection of evidence from the crash scene.

In his article to the British Medical Journal, G Davies, a consultant in accident and emergency and pre-hospital care in Bart's and the London NHS Trust<sup>12</sup>, considered it easy to underestimate how long it takes to move a patient to hospital and suggests that there is an average 30-45 minute interval between the crash and arrival at hospital. Comparable figures are not available for Northern Ireland. While the 'golden hour' is in effect a pre-hospital event, it cannot be separated totally from the rest of the treatment chain for road traffic casualties as the time to definitive intervention, most typically at a hospital, is an important determinant of the ultimate outcome for some patients.

This is supported by the World Health Organisation which considers that in reality there is not so much a golden hour in which interventions must take place but rather a chain of opportunities for intervention across a longer timescale. This chain involves bystanders at the scene of the crash, emergency rescue, access to the emergency care system and trauma care and rehabilitation.

## *Research*

The collection, collation and documentation of data on road traffic collisions is the responsibility of the PSNI. The data are initially recorded in reports made by police officers attending crash scenes. There is not a shared database that is accessible by all road safety partners nor a facility whereby partners can agree shared priorities for

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<sup>12</sup> British Medical Journal 2002; 324:1135-1138 May 2002 G Davies - Correspondence to TJ Coates – Clinical Review on pre-hospital care for road traffic casualties  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1123093>

data and research. It has certainly been the case that Northern Ireland does not have the depth of research available that is conducted elsewhere, tending to rely on that produced in GB or ad-hoc exercises. It would seem to be worth considering if there are better ways to manage, access, collate and present data and whether a shared research facility might be useful.

### Post-Crash Data

Road safety policies have historically focused on pre-collision measures, and are informed by PSNI statistics. DHSS&PS, whose statistics are based on hospital admissions, use the WHO International Classification of Diseases Codes to identify road traffic collisions. There have been no studies to examine post crash care in Northern Ireland for example in terms of speed or quality or the outcomes in terms of lives saved or potentially saved. Specific research, with full knowledge of the clinical history and all injuries sustained by RTC casualties would be required to determine whether a death was due to injuries which were generally non-survivable or that any chance of survival were probably dependant on optimal treatment.

Such a study might inform the development of measures that would improve decision making in emergency medical treatment of road crash casualties. However, Northern Ireland is not unique in this need. One of the reports produced for the EU project Safe Net<sup>13</sup> found only a few examples of safety performance indicators for management of road collision trauma management and stated that, as of December 2007, no European country applied trauma management indicators in the decision making processes on road safety. It went on to recommend a system for producing such safety performance indicators to enable characterization of a potential trauma care system for the treatment of road collision casualties. This did not attempt to measure the actual performance of the system itself.

Studies exist on post trauma care and literature generally focuses on the best possible way of providing adequate medical treatment and the medical control of pre hospital care. However, there is consensus that the potential exists to reduce severity of road traffic casualties with post impact care.

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<sup>13</sup> Hakkert, A.S and V. Gitelman (Eds.) (2007) Road Safety Performance Indicators: Manual. Deliverable D3.8 of the EU FP6 project SafetyNet.

A review of studies in Europe carried out by the European Transport Safety Council (ETSC) into reducing the severity of road injuries through post impact care<sup>14</sup> stated that while some road crash casualties sustain injuries which are un-survivable in any circumstances and with any type of care, the majority of crashes were technically survivable. It reported that about 50% of road traffic deaths occurred within a few minutes at the scene of the crash or on the way to a hospital. For those taken to hospital, 15% died between one and four hours after the crash and 35% after four hours.

However, the ESTC report also notes that the fatalities to hospitalisation ratio is influenced by factors other than the effectiveness of the emergency services in delivering post crash care. These included the split between different types of road users, the age of the casualty, the severity of their injuries as well as the geographical environment.

In 2008, the House of Commons Transport Committee asked the College of Emergency Medicine to comment on whether the quality of hospital treatment affects mortality following road traffic collisions for its report on progress made in reducing death and injuries and in reducing danger to vulnerable road users.<sup>15</sup> Having considered the issue, the College of Emergency Medicine concluded that about one third of deaths following road traffic injury occur in hospital. Of the two thirds of RTC deaths that occur before hospital care, either at the roadside or dead on arrival, only a few (2% to 5%) had potentially survivable injuries. The College of Emergency Medicine believes that the quality of medical care from the ambulance service and the hospital does have an influence on road traffic mortality.

Although it considered vehicle-related crashes only, a Swedish study<sup>16</sup> which looked at survivability in fatal road traffic crashes of all fatally injured victims during a 5-year period, concluded that 48% of those who died sustained non-survivable injuries. Out of the group who sustained survivable injuries, 5% were not located in time to prevent death, 12% could have survived had they been transported more quickly to hospital and a further 32% could have survived if they had been transported quickly

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<sup>14</sup> “Reducing the Severity of Road Injuries Through Post Impact Care”, European Transport Safety Council, Brussels 1999

<sup>15</sup> The HOC Transport Committee “Ending the Scandal of Complacency: Road Safety beyond 2010” Eleventh report of session 2007–08; 15 October 2008 HC 460

<sup>16</sup> Henriksson, E. M., Öström, M. Eriksson, A. (2001) Preventability of vehicle-related fatalities. *Accident Analysis and Prevention*, 467-475

to an advanced trauma centre. The average distance from the scene to the nearest hospital was 49 km.

It is reasonable to assume that the people arriving first at a scene of the crash can play an important role in preventing more serious consequences by doing a number of things including calling emergency services, securing the scene to prevent further collisions or harm to others involved in the crash and bystanders and, if trained to do so, apply basic first aid.

The rules of the Highway Code for Northern Ireland provide advice to road users on what to do if they are either involved in a collision or stop to give assistance. This includes being prepared to provide emergency care. The advice also suggests that people carry a first aid kit. There are a number of questions on first aid at the scene of a collision in the Driving Theory Test. The ESTC<sup>17</sup> study quoted earlier however found no evidence to suggest that first aid kits being made available in cars would help as they might confuse bystanders and distract them from the essential action of calling for emergency services. Elsewhere it is suggested that basic first-aid training for commercial drivers might be helpful although it has not been established whether such measures would improve pre-hospital survival.

Access to and care by, emergency service personnel are factors in the post crash period.

The Northern Ireland Fire and Rescue Service (NIFRS) attend a range of incidents including road traffic collisions. In the six year period 2002/03 to 2007/08 NIFRS attended 4,429 road traffic collisions, releasing/rescuing 1,556 people.<sup>18</sup> NIFRS's primary role at the scene of the collision is to improve vehicle stability and to extricate casualties. To enhance their capabilities NIFRS have purchased specialist tools and equipment and all rescue tenders carry high performance heavy duty RTC kits. These kits are equipped with 'new car technology' rescue tools offering better performance on modern vehicle construction. Kits also incorporate a range of power packs to allow simultaneous operation of 2 to 3 rescue tools at any incident, allowing for improved release times.

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<sup>17</sup> "Reducing the Severity of Road Injuries Through Post Impact Care", European Transport Safety Council, Brussels 1999

<sup>18</sup> <http://www.nifrs.org/statistics.php> - section 2 table 2d

Recognising that casualty survival can be greatly improved by immediate stabilisation of the casualty but that medical care by paramedics or doctors may not be immediately available, the NIFRS piloted First Person on Scene training in 2006 and are now training all operational staff in trauma care. Police officers are also trained to rescue people from a variety of emergency situations and to provide basic first aid.

The Northern Ireland Ambulance Service can call on the British Association for Immediate Care (BASICS) to provide medical assistance at a RTC. BASICS is represented in Northern Ireland by a small group of voluntary doctors (currently 12) who specialise in pre-hospital emergency care and provide these skills at RTC scenes and other major disasters and emergencies. They can also advise the Fire and Rescue Service about medical care of people who are trapped in cars and need extrication.

BASICS doctors are activated by pagers set off by the NI Ambulance Service across Northern Ireland so that the nearest doctor can attend. Pagers are usually activated for multi-patient road collisions, major incidents, prolonged entrapments and when special pain relief or anaesthetic drugs are required.

The ability of the emergency services to access the crash scene is another factor. However, there is no indication that the current infrastructure either hinders or expedites emergency vehicles through traffic, adding or lessening live saving minutes within the 'golden hour'.

While the Northern Ireland position cannot be profiled with any assurances at this time, the realities of a RTC do not stop at the point of impact. It may be possible to save lives and avoid serious injuries by exploring and developing measures that ensure timely and best possible medical care.

## [b\) Single Vehicle Collisions](#)

Anecdotal evidence would suggest that Single Vehicle Collisions are increasing and emerging figures indicate that this is a significant issue to be addressed. Research is

being carried out into this issue and work is ongoing to explore the data at the time of writing.

However a few initial observations can be made.

Over the period between 2003 and 2008, 226 people died and 1,366 were seriously injured in Single Vehicle Collisions. This accounted for 29% of the 778 road fatalities and 20% of the 6,842 serious injuries. Looking only at occupants of motor vehicles and motorcycles, there were in total 619 fatalities and 5,462 serious injuries in Northern Ireland. Single vehicle fatalities therefore resulted in 37% of those deaths and 25% of the serious injuries.

Seventy-three percent (144) of all Single Vehicle fatal collisions and 70% (750) of the Single Vehicle serious injury collisions occur in rural areas. This accounts for 162 of the total 560 rural fatalities and 969 of the total 3,733 rural serious injuries resulting from Single Vehicle Collisions; 29% and 26% respectively. Looking only at occupants of motor vehicles and motorcycles, there were in total 489 fatalities and 3,488 serious injuries in rural areas. Single vehicle fatalities therefore resulted in 33% of those deaths and 28% of the serious injuries.

Forty-five of the total 162 urban fatalities and 331 of the total 2,678 urban serious injuries resulted from Single Vehicle Collisions; 28% and 12% respectively. Looking only at occupants of motor vehicles and motorcycles, there were 86 fatalities and 1,601 serious injuries in urban areas. Single vehicle fatalities therefore resulted in 52% of those deaths and 21% of the serious injuries.

Nineteen of the total 56 motorway/dual carriageway fatalities and 66 of the total 431 motorway/dual carriageway serious injuries resulted from Single Vehicle Collisions; 34% and 15% respectively. Looking only at occupants of motor vehicles and motorcycles, there were 44 fatalities and 373 serious injuries on motorway/dual carriageway. Single vehicle fatalities therefore resulted in 43% of those deaths and 18% of the serious injuries.

Eighty-one percent (183) of the fatalities and 73% (1000) of the serious injuries resulting from Single Vehicle Collisions are male and 49% (787) of all deaths and serious injuries are males aged between 17 and 34.

Most Single Vehicle Collisions (74%) result from at least one of 3 main causation factors excessive speed having regard to conditions, alcohol or drugs - driver/rider and inattention or attention diverted.

Thirty of the total 115 motorcycle and pillion passenger deaths (26%) were as a result of Single Vehicle Collisions and 124 of the 854 serious injuries (15%).

Indications would suggest that these types of collisions typically take place on rural roads are often speed related and, on many occasions, alcohol or drugs are a factor. Young male drivers seem to be most at risk in this type of collision.

### [c\) Transitory Drivers](#)

Transitory Drivers for the purposes of this paper refers to drivers from the Republic of Ireland (while they live and their vehicles are often registered in another jurisdiction, they are not included under foreign nationals as common road safety issues will be different). Transitory drivers typically travel in Northern Ireland for example, to get to work or to go shopping, and return home on the same day. Research is being carried out into this issue and remains ongoing at the time of writing. Anecdotal evidence would suggest that there are road safety concerns about collisions along the border with the Republic of Ireland. When discussing this issue it appears that there are a number of different parameters being applied. Cross-border is defined as being just the area in immediate proximity to the border, the counties straddling the border or road users anywhere in Northern Ireland who have travelled from the ROI.

The PSNI has identified enforcement issues associated with the border and early indications are that collisions involving transitory drivers need further examination. The significance or indeed whether there actually is an identifiable KSI issue might prove to be dependent on the definition of 'cross-border'.

### [d\) In Car distractions](#)

#### [Mobile Phones](#)

To date there is no quantitative research linking use of mobile phones to road traffic casualties. However, recent research carried out by the RAC on the social

networking website *Facebook* indicated that as many as 45% of members admitted to texting whilst driving. These findings persuaded the RAC to commission research into the relative driver impairment caused by texting whilst driving.

TRL used a driving simulator to conduct the research. Seventeen participants between the ages of 17-24 were recruited for the study (8 male; 9 female). The following observations were recorded:

- ✚ Drivers tended to reduce their speed in the texting conditions
- ✚ Drivers were aware that their driving was impaired to some degree whilst engaged in text messaging tasks and chose to reduce their speed in order to mitigate collision risk.
- ✚ The most conspicuous change in performance was the large increases in variability of lane position resulting in many more lane departures when texting.
- ✚ Drivers were less able to maintain a constant distance behind a lead vehicle.

The study concluded that the combination of increased mental workload required to prepare a text message, the control impairment caused by the physical act of holding the phone, and the visual impairment caused by continually shifting visual orientation between the phone and the road ahead resulted in significantly impaired ability to maintain safe road position. Participants' reduction in speed indicated their awareness of the impairment caused by texting whilst driving. However, this attempt to mitigate risk cannot fully compensate for their deterioration in performance when attempting to text and drive.

Legislation to address the use of mobile phones was introduced in Northern Ireland on 27 June 2007 and the PSNI have reported that they issued 17,857 endorsable Fixed Penalty Notices from 31 July 2007 to 31<sup>st</sup> December 2008. Using a mobile phone whilst driving is still obviously an ongoing problem on our roads but this most recent research would indicate that texting while driving is an emerging trend that will have to be monitored.

### [Eating, drinking, smoking while driving](#)

Some very strong views are expressed on this issue but no quantitative data conclusively demonstrate a clear causal link between such activities and significant

levels of road traffic collisions and casualties. There are existing laws that the police can draw on to deal with issues as they arise. However, this is an issue that will be kept under consideration and, if required, further measures assessed to address the issue.

### [In-vehicle Systems](#)

In-vehicle technology such as satellite navigation, congestion warning and multimedia systems etc is an area of growth and like most emerging technology has had its supporters and critics. Again there is no clear research that determines whether the inherent distractions associated with use of these systems are in anyway contributing to road traffic collisions or, if, conversely the clarity and direction toward decision-making that some systems might provide actually reduces risk. This is an issue that will be monitored.

### [e\) Fatigue](#)

Data compiled over a six year period on behaviour, attitudes and awareness of driving whilst impaired through drowsiness data have not identified fatigue as a major issue on Northern Ireland roads. As a result no specific measures or major information campaigns have been developed. However, the issue is kept under review.

### [f\) Pedal Cyclists](#)

There has been some success in reducing the number of cyclist fatalities and serious injuries over the lifetime of the Strategy. Between 2003 and 2008, 190 cyclists were killed or serious injured on our roads. This represents an overall reduction of 45% in the number of cyclists killed or seriously injured against the 1996-2000 average and of 66% for child cyclists.

Nearly two thirds of cyclist killed or seriously injured, (65%), occurred on urban roads compared with 28% on rural roads and 6% on motorways or dual carriageways. Responsibility for cycling casualties is split almost equally between cyclists and other road users. Just under half (45%) of the cyclists killed or seriously injured between 2003 and 2008 were responsible for the collision, with inattention or attention

diverted being the principal causation factor in 44% of those casualties. Inattention or attention diverted was also the largest principal causation factor in collisions where the cyclist was not responsible (16%).

While it might be noted that cyclists are not identified in this paper as accounting for relatively high casualty levels, (cyclists represented 2% of all road traffic casualties between 2003 and 2008) they are a vulnerable road user group and cyclists' safety will be an important part of the considerations in arriving at a new road safety strategy.

## **7. Next Steps**

This problem profile is designed to present facts and to inform the process of identifying potential remedial action measures.

This paper will continue to inform development of a new road safety strategy for Northern Ireland and subsequent road safety policies. . We hope the quantitative research presented in the report will help focus contributions towards those issues that are most likely to have a significant positive impact on improving road safety.

The paper will remain a work in progress as problems and solutions will be added as identified by other stakeholders or other ongoing research.