STATES OF JERSEY



REAR SEAT BELTS AND CHILD BOOSTER SEATS

Lodged au Greffe on 12th February 2008 by Deputy P.V.F. Le Claire of St. Helier

STATES GREFFE

PROPOSITION

THE STATES are asked to decide whether they are of opinion -

- (a) to agree that appropriate legislation should be introduced to require the wearing of rear seat belts in vehicles;
- (b) to agree that appropriate legislation should be introduced to require the use of child seats or booster seats for children under certain sizes, to ensure effective restraint of vehicle occupants who might not otherwise be appropriately restrained by seat belts alone; and
- (c) to request the Minister for Transport and Technical Services to make the necessary Orders under the Road Traffic (Jersey) Law 1956 to give effect to the proposals.

DEPUTY P.V.F. LE CLAIRE OF ST. HELIER

REPORT

Introduction

On 8th February 2008 the Council of Ministers notified States members of the following decision:

Summary of Council of Ministers' Meeting of 7th February 2008

A4. Seat belt legislation

The Council considered an oral report from Deputy G.W.J. de Faye concerning recent media coverage of a campaign by the head injury charity known as Headway (Jersey) to encourage the introduction of legislation requiring that all rear seat occupants in motor vehicles wear a seat belt.

Deputy de Faye explained that the Chief Minister had advised him that he was minded to bring a proposition to the States Assembly calling for the introduction of compulsory seat belt legislation in the form suggested by Headway. In response Deputy de Faye had acknowledged that, like all States members, the Chief Minister was entitled to bring any proposition to the States.

Deputy de Faye had clarified that he would readily support the proposition proposed by the Chief Minister on the basis that it would rightly provide the States Assembly with an opportunity to debate the issue. In this connexion he had agreed that the Transport and Technical Services Department should contribute to the report accompanying the proposition and had stated that he would expect to see similar contributions from both the Health and Social Services and Home Affairs Departments. Notwithstanding the foregoing, Deputy de Faye believed that the removal of personal freedoms in favour of criminal sanctions was a very serious matter; accordingly he believed that States members should be comprehensively informed on all the relevant issues before taking a decision.

The Council noted the position adopted by Deputy G.W.J. de Faye and determined that the Chief Executive, in consultation with relevant officers from the Health and Social Services, Home Affairs and Transport and Technical Services Departments, should produce a detailed report for consideration by the Council at its next scheduled meeting highlighting the extent to which available evidence supported the introduction of legislation in Jersey to make the wearing of rear seat belts in motor vehicles compulsory.

Senior Officers of the Emergency Services and General Hospital have stated that no such statistics and data are held by The Police, The Fire and Rescue Service, The Ambulance Service or the General Hospital at this time nor has it been held historically. Therefore I have decided to proceed at this time, with this debate as the in principle decisions that it requests of the Transport and Technical Services Minister, does not impede the production of reports from the Council or The Ministers independently should they wish to do so. Delay in this regard though in my view will further undermine confidence in the States regarding this issue and our need to debate this as soon as possible. I also am aware that delay may mean a world of difference to vehicle occupants, pedestrians, the resources of the States and the islands infrastructure. The following communication outlines the position.

The Chief Officer at the States of Jersey Police, through the Chief Inspector, Community Safety, reminds us that the States of Jersey Police, as an enforcement agency, must be impartial in respect of any political debate in this matter but have provided the following information –

"We do not as a matter of course hold statistics on injuries caused as a result of not wearing rear seat belts but rather on the overall level of injuries that arise from road traffic collisions. That said we can refer to at least two crashes in the last 4 years that have led to fatal injuries for 3 rear seat passengers who were no wearing belts. There was also a crash in 2005 which, although not fatal, saw significant distortion and pushing forwards of the front seats, attributable to the unrestrained rear seat passengers being thrown forward and crushing those seats.

There are thought to be two other cases where rear seat passengers have died but due to the historic nature thereof, I am unable to accurately report that non wearing of rear seat belts were an issue."

Although permission to include this information has been expressly permitted by the Police, it clearly demonstrates that historically information collated and held by emergency services is limited. Again, in the view of the Senior Medical Consultants at the hospital it is not known whether it is even held in detail in the UK. This is borne out by the following report –

ROAD CASUALTIES GREAT BRITAIN

Main Results 2006

Department for Transport Statistics Bulletin (07)18

Note

The statistics refer to personal injury accidents on public roads (including footways) which became known to the police. Figures for deaths refer to persons who sustained injuries which caused death less than 30 days after the accident. This is the usual international definition and differs from that used in other contexts by the Registrars General, whose published statistics cover all deaths on public roads, generally by date of registration.

Very few, if any, fatal accidents do not become known to the police. However, research conducted on behalf of the Department in the 1990s has shown that a significant proportion of non-fatal injury accidents are not reported to the police. In addition some casualties reported to the police are not recorded and the severity of injury tends to be underestimated. Further information on reporting levels and links to recent research which also provide estimates of this shortfall can be found at:

http://www.dft.gov.uk/pgr/statistics/datatablespublications/accidents/roadaccidentstatisticsingrea1835

The Department is undertaking further research to investigate whether the levels of reporting have changed.

More detailed statistics can be obtained from:-

The Department for Transport SR5 Branch Zone 2/18 Great Minster House 76 Marsham Street LONDON SW1P 4DR

Telephone 020 7944 6595

E-mail: roadacc.stats@dft.gsi.gov.uk

Enquiries about the contents of this bulletin should be made to the Department at the above address.

June 2007

If there was a need perhaps to consider the financial elements, then aside from Ambulance Flights which I am told begin at around £3,000.00, then I submit the following information taken from UK Hansard.

4 Jun 2007: Column 108W—continued

The values reported in the "Highways Economic Note No. 1: 2005 Valuation of the Benefits of Preventior of Road Accidents and Casualties" also cover a wide range of other costs incurred following accidents. These include the human costs of pain, grief and suffering, insurance and administrative costs, damage to property and lost output. Some element of these costs must be borne by the public sector, but reliable estimates as to the size of this burden are not available.

Mr. Paterson: To ask the Secretary of State for Transport what the average cost to the public purse of each (a) fatal road traffic accident, (b) serious road traffic accident and (c) minor road traffic accident was in the latest period for which figures are available. [139668]

Dr. Ladyman: The values used to estimate the benefits of the prevention of road accidents are set out in the "Highways Economic Note No. 1: 2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties" which can be found on the DfT website at http://www.dft.gov.uk/pgr/roadsafety/ea/. Included within these values are the costs to public funds for medical, ambulance and police costs (emergency services). The average medical, ambulance, and police costs assumed in the Highways Economic Note No.1 for 2005 are as follows:

For a fatal accident: £7,110 For a serious accident: £13,360 For a slight accident: £1,180

(2005 prices)

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This is why the previous decision to collate the data and statistics available is a mute point and that is why I have lodged this Proposition without further delay. States Members will I trust understand my decision and can now see that further delay is unnecessary in this consideration.

The Emergency Services Environment

From here we must also consider the difficult environment that our professionals have to work within. The stress and psychological impacts that our professionals will encounter in road traffic incidents must always be a consideration. The more we can do as legislators and policy-makers to increase their ability to perform at the highest possible levels, the better. This must also be driven however, by our ongoing empathy for their tasks and their well-being. This also must be taken into account with the big picture and that clearly involves not only their safety but society's as a whole.

The Minister of Transport and Technical Services (TTS) has a great sense of humour and a love for buses so I trust he will forgive me if I point out that effectively all passengers are rear-seated on buses and ask him to reflect on the following:

In answer to questions regarding the Bus Contract ...

From the States of Jersey Hansard 24th October 2006:

Deputy G.W.J. de Faye:

In respect of the seat belts, seat belts were not part of the tendering requirements, but have effectively arrived as one might call an add-on bonus.

Rear seat belt legislation has been in place in France since 1990 and in the UK since 1991. The recent campaign by the brain injury charity Headway has highlighted the need for the States to debate this important issue. Given the length of time that has now passed since the introduction of this legislation in France and the UK, it is important to realise that many Islanders will have since travelled to and within these countries by car and the practice should not be alien to many of us already. Whether or not States members should approve the progression of law in Jersey of this type of legislation, nearly 20 years after these countries have chosen to do so, is a matter for them. This Proposition, if approved, would request the Minister for Transport and Technical Services to bring forward the appropriate legislation which as normal, may be amended by States members at that time.

The engagement of first-class professionals amongst our emergency services is held in high regard by the public. This practice of employment is married with our on-going efforts in their retained employment in the public sector. This is driven largely by the regulated requirement to meet obligations in respect of licensing from rules laid down by external governing bodies. This is particularly evident when it comes to the registration and ongoing certification of our Doctors and Nurses. The recent views expressed by the Minister for Home Affairs, that Police Officers progressing through to Chief Officers should have UK experience, is also of note. The emergency services in Jersey in many respects are aligned to best practice, which is drawn from operational and legislation employed within the UK. It follows then that in facilitating their professional objectives, we need also to progress our Laws and Policies likewise, in order to give our professional people the support that they require. This also extends further into areas regarding our responsibility and our duty of care for States employees. In reality this means much more than ensuring that we give them the best possible training, support and equipment available in order to allow them to accomplish their work to the highest possible standards. These essential elements need to be supported by appropriate legislation and the need to update that legislation, where there is a desire and a need for it, from time to time. The need to introduce this legislation from their perspective is key in our determinations. Having conducted interviews with senior officers in our emergency services, there is a clear level of support for the introduction of this type of legislation. The Senior Consultants at the General Hospital who have spoken to a wide range of professionals in Accident and Emergency regarding this issue over the last few weeks are clear. They are firmly of the belief that the legislation needs updating, to include the requirement of the introduction of compulsory rear seat belt measures and booster or child seat requirements. Having asked them to produce any supporting statistics and data that might better inform politicians in this regard, they have stated that there is little available in Jersey and they doubt the availability of it even in the UK. Their primary concern when injured people arrive at Accident and Emergency from a road traffic accident is to treat them for their injuries. This has been their focus and remains their focus, rather than collating statistics and data about the circumstances that resulted in the injuries occurring. Their considered view is that it just makes sense, commonsense. They have also communicated quite clearly that they desire and need the introduction of this type of legislation to make a positive impact on the lives of Islanders. In their view, if it saves just one person's life, or prevents a serious brain injury, even only once, in every 4 years, it will have been well worth it.

We must remember that the treatment and effects of vehicle accidents to the injured and their immediate families are sometimes lifelong, pronounced and life-changing for all concerned. Although there is an element of an economic argument, this must not be our sole concern and it is important that we remain sensitive that there are people within our community today that are recovering from the results of vehicle injury. It is to them and their families that we owe recognition in our deliberations.

The Chief Officer at the States of Jersey Fire and Rescue Service, the Area Manager, Risk Management and the Station Manager have given their professional opinion also, that concurs with the doctors and nurses, that despite the fact that no statistics or data are kept locally in this regard, there is a growing body of evidence and information globally that supports their view that legislation is needed. There is clear evidence when one speaks with these frontline officers that incidents to which they have been called in the past have left strong impressions upon them. They point out that, contrary to public opinion, Jersey roads are not as forgiving as they may appear to the general public. They remind us that many of our roads are narrow roads surrounded by granite walls. Granite walls, as with trees, which are the largest known elements involved with road accidents resulting in death, provide a very unforgiving environment for vehicles to encounter at any speed. Their experience is that they will attend incidents where there is barely a mark on the surroundings, despite the fact that the vehicle will often resemble a mangled and crushed can. The misconception that Jersey's low speed limits also reduce the risk is strongly

countered, as the speed limit is compromised on a daily basis by drivers. Unfortunately many of these drivers are young and may be attempting to impress their friends in the rear of the vehicles. The possible head-on collision speeds involving one or more vehicles can easily exceed 100 mph when factored in together. Two vehicles travelling at 50 mph colliding will give very limited margin in their opinion for survivability. The impact of vehicles often results in passengers being in their words, "thrown around inside or ejected upon impact from the vehicles even at low speeds when not wearing a seat belt". They point out that more recently, we have seen 2 remarkable survival stories where vehicles that have been driven over cliffs, falling in excess of 150 feet, with the occupants receiving only minor injuries due to the fact that they were wearing their seat belts. The most seriously injured sustained only a broken ankle! (Members may recall these incidents at Geoffrey's Leap and Archirondel being reported in the JEP.)

Retired Surgeon Dr. John Myles has stated his support for the introduction of this legislation some 25 years after having successfully campaigned for the introduction of legislation for front seat belts. He says that "even when a driver applies the brakes suddenly at low speeds, whilst the passengers are not focussed on the direction and actions of the driver, when not wearing their own seat belts, this can often result in a serious head injury". In his considered experience, seat belts in any event are more effective at slow speeds. Studies have also shown that in cities and small towns this is generally the speed that is travelled by most drivers.

The Chief Officer of the Ambulance Service points out that we are not asking people to have to go through hoops here as the seat belts are in place in most circumstances now. In most cases the seat belts have been fitted already by the car manufacturers, who have a greater obligation these days than in the past where one could purchase seat belts with a new car as an added option, like one might today with an interior CD player or heated car seats. This is also complimented by the view that seat belts must be worn in the front which demonstrates their importance, which begs the question why not the back? The cost and time involved with Ambulances and Air Ambulances are factors which although secondary need to be factored in to our considerations. He also makes the point as did many other senior officers that the treatment does not stop there and can go on for lifetimes afterwards.

Personal choice

The statements regarding freedom of choice need to be tempered with an understanding of the dynamics of vehicle accidents and multiple occupants. If a vehicle is involved in a collision for example, ordinarily a successive impact or onward trajectory and further subsequent distances travelled will occur in many cases. For example if a car hits another car at a junction, the vehicles may take glancing blows and damage which affects the trajectory of the vehicles and alters their course. If the driver of both vehicles is unhurt, in any serious capacity, from this initial collision, their ability to continue to steer and brake is not necessarily affected so long as the vehicle is structurally and mechanically still capable of functioning. A secondary collision in this instance can be avoided as can a third or fourth. Having regard to the fact that this ability to control the vehicle after an initial impact is critical, consider the possibility that this might be interfered with by a concussion sustained to one or both of the drivers, from an unrestrained rear seat occupant. When one considers the implications of that, then one begins to understand that the drivers' subsequent actions, which are uncontrolled, then these may endanger other vehicles, pedestrians and or property due to their inability to continue to control and correct the vehicles movements. In fact in a position that is known as "Loss of Control". Where is the freedom of personal choice argument, when one is staring down the barrel of an out of control car, hurtling towards you and your loved ones? No, it is far too simple to dismiss out-of-hand, such a need to legislate in this case, based upon a question of personal freedom and choice. As pointed out by the Senior Emergency Officers, there are Health and Safety Laws about the heights of office furniture which everyone recognises as being questionable. This though is an area where there is no doubt that there is a real need and desire for the requirement to legislate. There is after all a great deal more at stake for onlookers than one might otherwise appreciate in any such eventuality than someone else's freedom of choice. From vehicles to personal property, the generally accepted fact is that the wearing of seat belts does save a lot of lives and in general the cost from additional injuries is significantly reduced or removed, where seat belts and restraints have been worn, when examining the after-effects and consequences of accidents involving vehicles.

It is accepted that there always will be incidents and arguments, that the drivers or passengers survived because in some cases, all be they rare, that the individuals were not, wearing them. These will, as now, in considered professional opinion, always remain a very small minority in reality. The arguments that can be made for the

compulsory application of wearing seat belts though in their belief will far outweigh in the round the argument against not wearing them once they have been considered in the round. So why is there such a difficulty in introducing such legislation into our society? Perhaps we can reflect on the views published by The Parliamentary Advisory Council for Road Safety, from their publication Beyond 2010 – a holistic approach to road safety in Great Britain, which follows –

Leadership

In order for both the vision outlined in the preceding chapter to be adopted and a programme of action implemented to achieve it, a high level of political leadership is required. However, in project consultation interviews, it was frequently remarked that road safety policy has suffered from a lack of leadership at departmental and ministerial levels:

Lack of leadership from DfT [is a barrier to further progress]. Absolutely. There's never been a permanent secretary who's come from the Road Safety Division in that position. Road safety is not an internal priority, it has not attracted movers and shakers; partly because there's no political will. It's not on the public mind or on the political agenda. You need to start at the top, for example like in France where the President said something must be done and it became important because the President took an interest. The political will is very important, someone who has status, high profile... We need high profile people in the community to come out in support... There's a lack of leadership [in the UK], they won't be brave and say "this is the problem and this is what we'll do about it".

Other consulters felt that, because reductions in road casualties have been achieved and the targets are on track to be met, it is not an area that attracts political interest: "Because we're reaching the targets, there's not much attention, if we weren't reaching them they'd be more noticed". It is indeed frustrating that, while reductions have been and continue to be made, so many more deaths and injuries could be prevented if sufficient political pressure existed to introduce known policy, enforcement, educational and technological interventions.

Public opinion

People are fundamentally inconsistent with muddled thinking. A driver has a view about his neighbourhood and another for where he wants to drive.

There is a two-way relationship between political will and public opinion. Part of the difficulty in generating political leadership is the combination of the public's expressed concern about safety on the roads, at the same time as their ambivalence about some of the actions necessary to reduce casualties, particularly on the issue of speed management.

The public is indeed concerned about safety on the roads. A recent survey conducted for the Audit Commission showed that, "...around one fifth of people identified speed and the volume of traffic among the issues that most need tackling to improve the quality of life for residents". Additionally, the 2007 **RAC Report on Motoring** highlighted that "driving and safety is by far the greatest area of concern for the vast majority of motorists".

Four out of the top eight 'issues of concern to motorists' were directly related to safety:

Issues of concern to motorists:

- The behaviour of other drivers
- Other people driving without insurance
- The number of accidents on the road
- The roadworthiness of other cars on the road 50

Further, 59% of RAC focus group participants agreed that the current level of death and serious injury is not

acceptable: 30% agreed with the "need to cut deaths by at least a half" with the remaining 29% going a step further, nominating zero as the only acceptable level, following Sweden's model, although this was tempered with scepticism about whether it could be achieved.

With such a complex set of public opinions, combined with a frequently antagonistic national media, it is easy to see why political leadership has not been as robust as it might. But this dilemma is not new to road safety: at the time that two of the most important safety interventions were introduced – roadside breathalysers in 1967 and mandatory seatbelt use in 1983 – public, political and media opinion was similarly mixed. While it is true that drink driving remains a problem, there has been a general shift in attitude across society so that drinking and driving is now widely regarded as socially unacceptable. This shift, as well as the very high compliance rates for seat belt wearing, indicates that leadership in making decisions based on sound evidence can shape initially hostile public opinion.

Political leadership is needed to give greater priority in funding and resources to the whole range of casualty reduction interventions. Nonetheless, it is evident from the preceding discussion and the consultation interviews that, in this era, the issue of greatest contention is speed management, despite its status as one of the key contributors to crashes:

The next major challenge is to win hearts and minds of people about speed. We've done it for drink driving and seatbelts, but if we could crack public unacceptability of speed that would be a major contributor.

Car culture

The car is the last bastion of freedom. Germans don't think that because they have a car, and they have higher ownership rates, they must use it. The car is an Englishman's chariot.

There is a deeper philosophical issue underpinning these seemingly contradictory opinions and the hesitancy by government to implement known casualty reduction solutions. In a car-oriented culture such as the UK, cars have a status and emotional resonance unlike most other pieces of machinery. At a cultural, if not individual level, car ownership and driving are imbued with the symbolism of independence, spontaneity, wealth and power and so are perceived as much more than merely a convenient means of transport. This has profound implications for road safety policy because it constructs driving as an activity that should rightfully be unimpeded by regulations or the needs of other road users. The late Barbara Castle, minister responsible for the introduction of breathalysers, described the resistance to her decision in an interview with BBC One, highlighting this tension:

I was interfering, the opposition said, with people's civil rights. I said, I do not recognise anybody's civil right to kill somebody else because they're under the influence...The publication of the first figures of the lives we saved were fantastic. It gave a fantastic boost and people saw the hollowness of the claim that 'I have my civil rights and Government hasn't any right to take them off me'.

From the introduction of the earliest speed limits to drink drive laws, seatbelts and speed cameras, it is this positioning of driving as an individual and independent activity that underlies opposition to safety-oriented interventions. A sophisticated awareness of the car's place in society and how that influences both driver behaviour and attitudes towards interventions will be an important element in successful casualty reduction strategies.

Co-ordinating the machinery of government

As road use is a highly regulated activity, it is also important that government departments work to support casualty reduction policies and programmes. The title of this report "Beyond 2010: a holistic approach to road safety" is perhaps the best description of how road safety policy needs to develop in the years following the expiry of the current set of targets. It was a frequent criticism in the project consultation interviews that, while road safety policy has been effective in reducing casualties, it has been quite insular. Expanding on the core areas, road safety now needs to move out of its silo and actively establish partnerships with other public and non-government agencies for whom improved road safety is not the prime focus, but where improvements support the achievement of their own objectives. As this report argues, such an approach goes towards creating a wider range

of organisations active in, and advocates of, improving road safety. The Government similarly made this point in its second three year review of **Tomorrow's Roads**:

Road safety should not be viewed in isolation from other central and local government objectives. Policies to tackle climate change, social exclusion, obesity and urban renewal, to name a few, can all share our objectives to reduce casualties. We need to develop these connections further through working in partnership within and across organisations.

The current machinery of government does not lend itself well to cross-cutting activity. Building partnerships between the levels of government and communicating the intersections between road safety and other policy objectives is a specific task and a skill and requires dedicated attention. The road safety partnership grants aim to support collaborative projects, but there is scope for a high level body or agency to be responsible for progressing greater co-ordination to achieve casualty reductions. In the second three year review, the Government proposed the establishment of the Road Safety Delivery Board with a remit to do just this:

Working in partnership is the only way that we can continue to achieve further success. We will therefore set up a new national Road Safety Delivery Board to bring together representatives of our key delivery partners. The Board's task will be to sort out problems and issues, assist in developing closer partnerships and ensure that good practice is widely disseminated. We also intend to help further those local partnerships that are struggling.

An Ageing Population

It is not a new observation that the UK's population is ageing. This phenomenon and the implications of an increased proportion of older people have been widely debated, in particular in relation to the effect on revenues and health, social care and pensions spending. An ageing population will also affect the nature of road use and the casualty profile, factors which must be taken into account when considering casualty reduction strategies for the longer term.

The nature of the shift

The Depression of the 1930s and the death and disruption of the Second World War were followed by a boom in the number of people born in the years shortly after peace was established. Although the characteristics and cultural influence of this generation has been much discussed in the media, the UK actually experienced two baby-booms. The original was quite short lived, but a second, more sustained, increase happened during the 1960s. The ageing population is a product not only of these spikes in the birth rate, but simultaneous improvements in medical care and a decline in the fertility rate. Due to the combination of these factors, the 2001 census found for the first time that people 60 and over form a larger part of the population than children under 16 - 21% compared to 20%. The older age groups are set to grow and by 2031, the estimated number of people aged 50+ will be 27.2 million, a 36% increase on 2003 figures.

With the first generation of baby boomers currently entering their sixties and the second group due to approach that age range from the early 2020s, it is timely to consider the impact of larger numbers of older drivers in the medium to long term. It is clear that there will be larger numbers: the 2005 National Travel Survey (NTS) shows a clear trend in older licence holders:

Licence holding by gender and age (%)

One of the most significant trends is the large increase in the number of older women holding a driving licence. A consequence of women's large-scale entry into the paid workforce in the past two generations and the more caroriented lifestyles that have become prevalent over the same period, as well as societal change that has increased women's financial and social independence, commentary in the NTS report observes that:

The proportion of women aged 60-69 holding a licence increased by a third between 1995/97 and 2005, from 45 to 61 per cent. Over the same period, the proportion of women aged 70 or over holding licences increased from one in five, to more than one in three. Licence holding will continue to increase in these age groups, as women currently in the younger age groups keep their licence as they grow older.

Licence holding indicates only the potential to drive, not the frequency or distance that is driven – that is, the level to which a person is exposed to risk and potential injury on the road as a car occupant. Comparisons over time of trips per person by mode recorded in the NTS show that between 1999/2001 and 2005 there was a marked increase in distance travelled: people 60-69 travelled 7,117 miles, an increase of 12%; and for the 70+ group, there was an increase of 15%.

Looking at the mileage **driven** by older people over the longer term, some very large increases become clear.

Average distance travelled per person per year as a car driver (GB) (in miles)

1995/97	1998/00	2002	2003	2004	2005	95-05	%
							change
60-69	3,106	3,327	3,767	3,669	3,922	4,068	31
70+	1,103	1,326	1,562	1,446	1,513	1,828	65

The nature of the risk

The implications of these travel patterns for road safety in an ageing population are profound. Although there is little evidence of an increase in the incidence of road traffic accidents, older people are more fragile than their younger counterparts – they injure more easily, their injuries are more severe and heal less quickly. Compared with drivers aged 20-50 years, older people's fragility increases their risk of fatal injury by 1.75 times for drivers aged 60+, by 2.6 times at 70 and by over 5 times for drivers aged 80 and above. People aged 60+ are:

- 10% of all casualties, but 21% of deaths
- 13% of pedestrian casualties and 40% of pedestrian deaths
- 10% of all driver casualties and 20% of driver deaths.

While it should be stressed that many older people remain in excellent mental and physical health, it is the case that as we grow older, our vision, hearing, reaction time and physical mobility begin to deteriorate which can affect our abilities as road users. There is a strong correlation between disability and age: two thirds of disabled people are elderly and over half the population aged over 75 have a disability. The DfT summarises problems that can be encountered by some older drivers:

Amongst the most common problems experienced by older drivers is a loss of motor function, for example caused by joint stiffness, particularly in the neck, and slowness of movement which can cause difficulties with observations at junctions and during parking manoeuvres, and safe operation of the car controls. Reduced visual functions are also common as part of the ageing process. These may include reduced acuity, difficulty adapting to darkness, or recovering from glare. In addition, any reduced visual field from disease processes means that the quality of information gained from the environment may be inadequate, increasing the probability of errors and misjudgements. Age-related decline in cognitive functions such as attention, anticipation, executive functioning and information processing means that older drivers tend to have difficulty in dealing with complex traffic situations and reduced capacity to respond quickly and flexibly to changing traffic situations.

It has been widely commented that many older people 'compensate' by restricting their driving in line with diminished capabilities, which can include avoiding roundabouts, junctions, night-driving, motorways and unfamiliar or congested roads such as town centres. However, considering the trends in travel outlined above, it is not unreasonable to conclude that this may be less evident in future. It must also be remembered that being in a car is not the only way in which to be exposed to risk on the road and around a fifth to a quarter of all trips, across all age groups are on foot.

If efforts to reduce road casualties are to be successful, interventions that respond to older people's needs by reducing the severity of injury in the case of a collision and increasing their capacity to travel safely will become necessary.

Recommendation: That the next road safety strategy includes a comprehensive sub-strategy dedicated to reducing the rate of KSI experienced by older (60+) people per km travelled.

Vehicle design

Chief amongst interventions that can assist older road users is improved seatbelt design and operation. Active safety technologies, discussed in the technology section of this report, could also hold potential benefits for older drivers in particular. However, many of these technologies are as yet unavailable to the motoring public at affordable prices. Even when they become more widely available, passive safety features, then, will continue to play a significant role in improving crash survivability and reducing the severity of injuries. Because older people are more frail, they are more susceptible to injury due to forces exerted onto the body by the seatbelt in a crash. This is especially an issue for older women, amongst whom osteoporosis is relatively common. This can be seen in an in-depth examination of injury statistics derived from the Co-operative Crash Injury Study by Welsh et al:

The results show that for frontal impacts, there were no statistical differences in head injury rates across driver age groups...However, when chest injuries were considered, major differences in injury rates were observed and the older driver age-group sustained a higher proportion of injuries to the chest region at the [maximum abbreviated injury scale] MAIS 3+ level when compared to the other age groups.

Improvements in seatbelt design and operation are the prime method by which chest injuries can be mitigated. More 'intelligent' seatbelts are a key element of advanced or SMART restraint systems, which also include airbags:

Traditional safety belts and air bags are set up to provide protection for a limited range of occupants and conditions, by deploying or restraining in a fixed manner. Smart restraint systems consider variables such as occupant weight, seating position, safety belt usage and vehicle deceleration to control belt forces and deploy the air bag optimally.

Some advanced restraint systems are already available, but at present are installed in cars towards the top of the price range and so are inaccessible to many drivers. History shows that expensive new technologies eventually trickle through the vehicle fleet to the more modestly priced models. It does take time and before that happens, less expensive alternatives could be installing four point – rather than three point – seatbelts and increasing the width of the standard seatbelt. Ford has undertaken customer research towards installing four point belts in their vehicles. It was reported that in trials, people of different sizes, "perceive four-point belts to be safer, as well as more comfortable and, depending on their design, easier to use than traditional three-point belts". Tests on a dummy have shown that the advantage for older vehicle occupants is that, "compared with a standard three point belt system with a load limiter, the double diagonal belt system, (also with load limiters), loaded the chest of the dummy in a more even way and the maximum chest deflection was significantly reduced".

Alternatively, wider belts could be used. In a study using a standard 50 mm and a 100 mm wide belt, the 50 mm belt showed "a deeper and narrower deformation on the right hand side of the rib cage compared to that produced by the 100 mm wide webbing". One difficulty with installing wider seatbelts is that the retractor is currently mounted on the door frame pillar and wider belts would require a wider retractor and a wider pillar, which could have negative implications for visibility.

More sensitive, 'intelligent' deployment and changes in design can, in particular, address the issue of older people sustaining fatal injuries as a consequence of the interaction of traditional seatbelts and frailty. The design and operation of seatbelts, then, will continue to play a major role in reducing deaths of older car occupants.

The UK population is both ageing and likely to keep driving, further, in larger numbers and for longer than previous generations. To improve safety while maintaining mobility will require a multi-faceted approach, encompassing vehicle design, vehicle safety technology and the provision of more comfortable, reliable public transport as an attractive alternative.

Underpinning these changes will be the provision of engaging and clear information about ageing and driving.

With their increased frailty and potentially declining capabilities, an older population poses a significant challenge to the road safety profession and the early implementation of a co-ordinated strategy is important to address these issues.

Young Drivers

After the test I drove like a bit of a prat really. I passed first time, was a bit arrogant and thought I was a very good driver. I then had a crash. I thought I was excellent until I had the crash. (male, 21)

The United Kingdom has a long history of effective interventions to reduce death and injury caused by road traffic accidents, which has led to its position as one of the best-performing countries for road safety. However, the reduction in casualty levels has not been uniform and there is still an unacceptably – and disproportionately – high number of young people who kill and injure themselves and other road users each year.

The scale of the problem

The recently published House of Commons Transport Select Committee's report on novice drivers provides a summary of several statistics to illustrate the problem:

- in 1998, drivers aged 17–21 accounted for 7% of the total driving population, but they comprised 13% of drivers involved in collisions;
- one in eight driving licence holders is aged under 25, yet one in three drivers who die in a collision is under 25, and almost one in two drivers killed at night is under 25;
- 27% of 17–19 year-old males are involved in a road collision as a driver in their first year of driving;
- 1,077 people died in 2005 in crashes involving a driver aged 17–25 (of whom 377 were drivers aged 17–25).

This is particularly concerning given that the National Travel Survey 2005 shows that the proportion of young people with a full driving licence has been declining: in 1992-94, 48% of people aged 17-20 held a full licence; after a low in 2004 of 27%, it rose to 32% in 2005. With almost 1200 young drivers aged 16-19 killed or seriously injured in 2005 – more than three every day – the levels of death and injury are grossly disproportionate to the number of licence holders. It is also important to note that there is a strong gender imbalance. The table below shows the gap in the number of 17-19 year old male versus female drivers killed and seriously injured:

KSI (17-19 drivers)	2005	2004	2003	2002
Male	869	830	918	929
Female	276	288	274	251

The large differences in casualty numbers are not a function of differing licensing rates.

Looking at the number of licences held by 17-20 year olds between 2002-2005, the largest difference between the genders was only 10% in 2005: in that year 37% of young men held a licence compared to 27% of young women.

Learning and licensing

Taken together, the statistics above indicate that a significantly different approach to learning and licensing is needed as an immediate intervention to improve young people's safety on the road. In recent months this serious issue has received substantial attention. The DfT's second three year review emphasised the need to tackle the casualty rate of novice drivers, announcing a review and overhaul of learning to drive:

The time has come to reform fundamentally the way people learn to drive. We need to do more than tinker with the particular elements, we need to overhaul the current system for learning, including pre-driver education, testing and maintaining driving skills through life. We need a comprehensive package of reforms: education to influence attitudes long before people reach 17, a thorough training process and a reformed testing process which tests that learners can drive safely, not just master how to control a car. We also need to do more to help drivers develop and maintain high standards for life, especially if they drive for work.

In the review, the Department outlines how reform will be based on a three point framework:

- A new competency and knowledge framework setting out what a candidate must know and be able to do;
- A modern training syllabus setting out what a candidate needs to learn; and
- A systematic set of assessment criteria setting out how the testing stage will establish that a candidate has covered the syllabus properly and can demonstrate the required level of competence.

The Transport Select Committee, as mentioned above, also recently examined the issue of young drivers. In their wide-ranging consideration of the issue, the Committee supported the concept of a more structured approach and recommended robust measures to achieve it. In particular, the report gave a detailed description of how learning, testing and licensing might be reformed to reduce casualties. Without being overly repetitive, it is helpful to outline the policy options discussed in the report as it is the most recent and comprehensive analysis.

Learning

In recognition of the important role driving instructors play in preparing young people for safe independent driving, the report recommends mandatory continuing professional development to improve the quality of instruction. This reflects evidence taken by the Committee that driving instruction needs to be professionalized to "extend the skills and knowledge base of approved driving instructors so that they can deliver some of these new interventions, some of these ways of getting drivers to understand what the risks are...".

The report also recommends a minimum 12 month learning period and—crucially—within that time learners are to follow a structured syllabus. This combination works together to tackle the dual risk factors of age and, particularly, inexperience. Some driving instructors already use log books to track students' progress across different road situations; making their use mandatory would, "spread the development of driving skills and abilities over the year... [ensuring that] the learner has consistently achieved the required standard". The need to encourage a wider range of driving experiences before being licensed to drive unsupervised is shown by unpublished research from the current TRL cohort study, which found that 12% of drivers who had recently passed the test had never driven in the dark. This lack of experience is a likely contributor to the very high rate of night-time casualties. Anecdotal evidence suggests that many have never driven in bad weather either.

However, the ultimate goal of a reformed learning process should be to move from vehicle handling to self assessment of skill, context and risk. The current mode of instruction was criticised for failing to do this:

...we do quite a good job in the UK at delivering car skills, teaching them how to handle a car, when to go and when to stop; we teach them how to integrate with traffic quite well. But what we do not do is to give them any training on issues that will affect how they deploy those skills outside of the learning environment...we do not get them to recognise thrill seeking is an issue for them; we do not get them to recognise peer pressure is an issue for them; we do not get them to recognise that even small amounts of alcohol for young drivers is an issue for them. We do not give them training on that; our training is limited to "This is how you turn left and right".

The Committee's report picked up this theme and included evidence submitted by PACTS highlighting how Sweden has recently re-examined its learner driver regime. Its approach uses a matrix outlining driving tasks and

correlates them with driver skills/competencies.

The aim is to "make learner drivers realise their own limitations and thus counteract overestimation of own ability and skill. A second aspect is to become aware of the influence of personal preconditions, social norms and motivational factors on driving behaviour and risk. Yet another aspect...is the concept of risk perception and risk awareness". The table below illustrates how the matrix moves across mastery of the vehicle and traffic handling to awareness of risk factors and then self assessment of driving skills and driving style:

	Knowledge and skill	Risk increasing	Self assess
		aspects	
Preconditions and	Relations, lifestyle,	Sensation seeking	Introspective
ambitions for life	age, group etc., and	Group norms	Competence
	driving behaviour	Peer pressure	Own preconditions
			Impulse control
Transport and	Modal choice	Alcohol, fatigue	Own motives
driving	Choice of times	Low friction	influencing choices
	Role of motives	Rush hours	Self critical thinking
Driving in traffic	Traffic rules	Disobeying rules	Calibration of driving
	Co-operation	Close following	skills
	Hazard perception	Low friction	
	Automisation	Vulnerable road user	
Vehicle construction	Car functioning	No seatbelt	Calibration of control
and control	Protection systems	Breakdown of vehicle	skill
	Vehicle control	systems	
	Physical laws	Worn out tyres	

Driving at work

That the risk of death or injury at work is very low in the UK is a credit to the efforts of employee organisations, employers, policy makers and legislators over many years. Unfortunately, for the thousands of employees who drive in the course of their work, the same approach to risk management and upholding a duty of care has not been applied in this area.

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) record around 450 deaths annually that involve regulated vehicles such as heavy goods vehicles, buses and coaches. However, this reporting system fails to record work-related road deaths in non-regulated vehicles such as cars and light vans and the actual figure for people killed while driving for work is much higher. Research undertaken by the work-related road safety task group, convened by the Health and Safety Executive (HSE), found that between a quarter and a third of all road traffic incidents involve someone who was at work at the time. Based on 2005 figures, this would be between 800-1100 deaths a year. This compares to 226 fatal injuries to workers in the "traditional" workplace.

Such figures are serious in themselves, but are doubly so when considering the twin trends of the UK's predominantly services-based economy and mobile technology. The service sector often relies on building a customer base and relations of trust, which emphasises the "importance of travelling to meet clients on site and face-to-face to provide the personal touch". These phenomena have given rise to 'mobile working', where the car becomes a de facto office, greatly increasing the scope for employees to be on the road both as a regular feature and a sporadic aspect of their work.

At the same time, "white van man" has entered the nation's vocabulary as shorthand to describe aggressive and dangerous light goods vehicle drivers with poor road manners, one hand gesticulating at traffic and the other clutching a mobile. The DfT's campaign to improve the safety record of this group observes that, in the last 10 years, the number of vans in the UK has increased by around one third and van traffic by 40%. It goes on to

note that there are now three million vans on Britain's roads, and the annual volume of new registrations is around 320,000. A large part of this rise is a consequence of the home delivery sector, which has seen phenomenal growth recently due to internet shopping demands.

These trends indicate that new impetus must be given to highlighting road safety for people driving in the course of their employment. While the 2007 THINK! driving for work campaign highlighting the impact of road casualties on small 'white van man' businesses is commendable, a more systematic approach is required in the longer term. In the first instance, further involvement of those employer groups targeted in the DfT's campaign is needed. Training organisations can also play a key role: in this context, safe driving is an important workplace skill and should be conceived of as such. Road safety, and the prosafety eco-driving principles, should be included in relevant training schemes. Combined, this would work towards improving safety in the short to medium term as well as generating cultural change in the longer term.

Recommendation: That central and local government agencies develop partnerships with non-government bodies to continue their publicity campaigns highlighting road risk to LGV drivers.

Recommendation: That the DfT works in partnership with the Learning and Skills Council to introduce road safety and eco-driving to relevant formal training and apprenticeship schemes.

In addition to awareness and training, achieving compliance with both traffic law and company policy has an important role in ensuring safe road use while driving for work.

Previous PACTS research found there are high levels of non compliance amongst employees who drive for work frequently – particularly speeding by men:

Company car drivers and drivers with high mileage are not only more likely to have a speeding conviction; they are also more likely to be involved in crashes than other drivers.

Reports have consistently found that company car drivers and high-mileage drivers who drive for work are 50% more likely to be involved in injury accidents than other drivers, even after differences in exposure due to miles driven have been taken into account.

Along with fatigue and in-car distractions such as phones, personal organisers and navigation aids, pressure to speed contributes to these figures, highlighted by research into mobile workers:

It is noticeable that all of the sales related workers...felt under pressure to perform at speed. Their performance was not just measured in quantity, or even quality, it was also measured in its quickness... Several of the transnational companies keep client call sheets which allow them to monitor the number of clients visited and the duration of each visit. And they will reprimand mobile employees who are not mobile enough.

The research also comments that, "5am starts and 11pm arrivals at home are still not formally treated as work hours by their employers", indicating potential failure to consider fatigue as a risk factor. Moving a management culture away from such an alarming emphasis on 'quickness' and towards an understanding of the car journey as work is a fundamental step in improving road safety for workers. It is a long term process that will be supported by both continuing the campaign work already undertaken by many employer, governmental and road safety organisations and changes in regulatory approach – outlined below. However, in the more immediate future, reducing the ability of workers to speed, and thus reducing the pressure to speed, can be beneficial. Installing speed limiters in company vehicles is one option that begins to mitigate these known risks.

Recommendation: That Intelligent Speed Adaptation is introduced into all fleet cars.

Role of the Health and Safety Executive

PACTS has previously campaigned for the Health and Safety Executive (HSE) to take on responsibility for investigating road deaths that are suspected to have occurred while at work. In its statutory role to assist, encourage and enforce the health, safety and welfare of staff at work, its remit extends to such situations.

However, the HSE currently states on its website that:

While HSE will continue to promote sensible advice to employers, in line with its workplace health and safety strategy to 2010 and beyond, work-related road safety is not a priority for HSC/E.

In addition, the Chair of the Health and Safety Commission commented in a parliamentary committee inquiry that:

To be blunt, if HSE were to engage in a major enforcement and accident investigation role in this area, that would be a major distortion of our resources. We would not be able to do that and meet all the other things that we would like to do in the construction industry, migrant workers and elsewhere.

Such a position fails to acknowledge the legitimate role of the HSE to actively monitor those hazards that contribute to a work-related road death or injury but which are not covered by traffic law enforcement, including:

- the general risk management processes for driving at work,
- the impact of shift work and rostering on fatigue levels,
- the implications of targets for delivery times and penalties for lateness on speeding,
- the use of vehicles as 'mobile offices' and the use of mobile phones while driving,
- the presence or absence of a driving hours policy.

On this issue the HSE has an inconsistent approach: whereas it has a commendably strong role in upholding health and safety laws in other sectors, it chooses to overlook work-related road safety issues and it should take up its rightful role overseeing this area as a matter of priority.

Recommendation: That the HSE establish and resource a road deaths investigation unit.

Conclusion

This report has taken a broad view of some of the trends evident across society, examining them for their impact on road use and potential casualties. In this way, casualties are seen as a function of road-based mobility, but, crucially, not an inevitable or acceptable one.

This report has looked at the use of visions in other jurisdictions and the current move away from the use of targets in public service provision in the UK; at how political leadership for casualty reduction might be achieved, how resources might be directed to areas of greatest need and the impact of growing interest in personal and planetary sustainability. It has also looked at demographic issues like an ageing population and the continuing risk experienced by younger road users. And it has discussed trends in economic activity, the roles of employers and enforcers and how technology can assist in both those roles as well as aiding the individual.

Considering road casualties in their widest context and in relation to other events and changes in society allows a full and systematic analysis of causes and possible interventions. This is the message woven through this report: that a holistic approach, involving the widest range of relevant stakeholders, should underpin road safety strategy beyond 2010.

The analysis from an economic perspective may be a factor in the debate and I have included the following recent report from the UK Department of Transport for 2007:

Highways Economics Note No. 1

2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties

January 2007

Department for Transport

2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties

- This note gives the Department for Transport estimates of the values for prevention of road casualties and road accidents for use in the appraisal of road schemes. Based on 2005 road accident data, the estimates are given for 2005 at June 2005 prices and values. The note also explains the basis upon which the estimates are made.
- Estimates of the total value of prevention of road casualties and road accidents in Great Britain are also given for 2005. These do not represent actual costs incurred as the result of road accidents. They are the cost-benefit values and represent the benefits which would be obtained by prevention of road accidents.

Benefits to Society Arising from Prevention of Road Accidents and Casualties

Casualties

- 3. Since 1993, the valuation of both fatal and non-fatal casualties has been based on a consistent willingness to pay (WTP) approach. This approach encompasses all aspects of the valuation of casualties including the human costs and the direct economic costs i.e. an amount to reflect the pain, grief and suffering and the lost output and medical costs associated with road accident injuries.
- 4. The methodology for non-fatal casualties was described in an article in Road Accidents Great Britain (RAGB) 1992, and a further article in RAGB 1994 gives updated information. More detailed descriptions of methods and the underlying research have been published by the Transport Research Laboratory. In particular, a summary account of the full methodology has been published (Hopkin and Simpson, 1995). Full references are to be found at the end of this note. RAGB 1997 contained an article describing the results of recent research on the value of prevention of a road accident fatality. The research showed that a figure in the range £750,000 to £1,250,000 in 1997 prices could be regarded as being broadly acceptable. The midpoint of this range has been adopted as the basis for the value of prevention of a fatality. A similar approach has been used to derive the values for serious and slight casualties which are pegged to the fatal value. The values, updated to 2005 prices, by severity of casualty and by class of road user, are set out in Tables 1 and 2 respectively.

- The values for the prevention of fatal, serious and slight casualties include the following elements of cost:
 - loss of output due to injury. This is calculated as the present value of the
 expected loss of earnings plus any non-wage payments (national insurance
 contributions, etc.) paid by the employer.
 - ambulance costs and the costs of hospital treatment.
 - human costs, based on WTP values, which represent pain, grief and suffering to
 the casualty, relatives and friends, and, for fatal casualties, the intrinsic loss of
 enjoyment of life over and above the consumption of goods and services.

Accidents

- 6. It is to be noted that the value of prevention of an injury accident is greater than the value of the corresponding casualty e.g. value of preventing a fatal accident is greater than the value of a fatality for two reasons. The first is that an injury accident is classified according to the most severe casualty but will on average involve more than one casualty for example in 2005, a fatal accident on average involved 1.10 fatalities, 0.36 serious casualties and 0.54 slight casualties. The second reason is that there are some costs which are part of the valuation of an injury accident but which are not specific to casualties. These are:
 - costs of damage to vehicles and property
 - costs of police and the administrative costs of accident insurance
- Details of the derivation of these costs are available in a published Transport Research Laboratory Report (Simpson and O'Reilly, 1994).
- 8. In Tables 3 and 5 in Appendix 1, elements of value are shown grouped according to whether they relate specifically to casualties or to accidents. The casualty related values are lost output, medical and ambulance costs, and human costs. The costs of police and property damage are shown separately as accident related costs. The total value of prevention of an accident is the aggregate of both sets of values.
- 9. Tables 4a-c, and 6 show values by road type. In 2002 the headings were changed from urban and rural to built-up and non built-up, but the values are on exactly the same basis as before, using speed limits as the criterion. This terminology has been made for consistency with tables in Road Casualties Great Britain. Urban roads are now defined as major or minor roads within an urban area with a population of 10,000 or more, based on the 1991 Office of the Deputy Prime Minister definition of urban settlements. Rural roads are major and minor roads outside urban areas. If values are required for urban and rural roads rather than built-up and non built-up they can be supplied on request.

10. The values to be used for injury accidents vary between built-up and non built-up roads and motorways because the average number of casualties per injury accident differs between categories of road (see Tables 4a, b and c). In addition, the cost of vehicle damage per accident varies by road category. For example, a serious accident on a non built-up road will on average involve 1.20 serious casualties, compared with 1.07 serious casualties on a built-up road, together with a greater amount of vehicle damage. Current practice is to calculate average values for prevention of accidents separately for built-up roads, non built-up roads and motorways.

Uprating of Values

11. For 2005, values have been updated using an index which reflects inflation and real per capita economic growth in the period June 2004 to June 2005. This is done by multiplying the 2004 values by a factor equal to:

$$1 + \frac{\% \text{ increase in nominal GDP per capita}}{100} = 1.0316$$

- 12. If values are required at June 2006 price and output levels (i.e. 2005 accidents at 2006 values) these should be calculated by adjusting the June 2005 figures given in the Appendix by the current estimates of the increase in nominal GDP per capita. For 2005–2006 the estimated Q2 per capita nominal GDP increase is 4.27%. Therefore values for June 2006 can be obtained by multiplying the estimates in Appendix 1 by 1.0427.
- 13. Whatever the base price level chosen, most appraisals involve forecasting values of the prevention of accidents in future years at that base price level. In this case future accident values can be derived at the selected price level by increasing the estimates by the expected long term GDP per capita growth rate, on the assumption that the real cost of each element of accident costs (such as labour costs, etc.) will rise in line with increases in output. The best working assumption to make at the moment is that GDP per capita growth will be 2.46% for 2006 and 2.20% for 2007, and these rates should be used to update for GDP growth alone.

Use of Accident and Casualty Values for Appraisal

14. The most appropriate accident or casualty value figures to use from Appendix 1 depends on the amount of information available for the scheme under review. Where large numbers of fatal, serious and slight accidents are known for the part of the network under consideration, then these may provide a reliable guide to the proportion of casualties of different severity to be expected in future. More usually, there is only data for a small number of accidents on the part of the network which is being considered. Therefore, the observed severity mix cannot be expected to provide a reliable guide to the future severity mix. In this case, or where there is no breakdown

by severity and only the total number of injury accidents is available, the average values for all injury accidents should be used. This is equivalent to assuming the national proportions of different severities.

- 15. A similar approach should be employed for valuation of casualties (average values by severity of casualty and by class of road user are provided in Tables 1 and 2). The variation between classes of road user is due to different proportions of each class suffering fatal, serious or slight injuries when involved in a road accident. There may be some over-estimation of average values of prevention per accident and per casualty due to under-reporting of less severe accidents. Variations between road user categories in the extent of under-reporting of less severe casualties would affect comparison of average values per casualty by class of road user.
- 16. In addition to values for prevention of injury accidents, estimates are provided for damage-only accidents. Since damage-only accidents are not comprehensively reported to the police, there may be no reliable information on their number. In these circumstances an estimate can be made of the value of prevention of accidents (including damage-only accidents) using an average accident value per injury accident (as in Tables 4a, b and c). These values include an allowance for damage-only accidents, which is calculated assuming an average of 17.7 damage-only accidents for every injury accident on built-up roads, 7.8 on non built-up roads and 7.6 on motorways.
- Appendix 1 also includes Tables (4b and 4c) showing average accident values by type of road in daylight hours and in darkness.
- 18. In appraising road proposals, using the COBA method, the accident rates and values given in the COBA Manual (Design Manual for Roads and Bridges, Volume 13, Section 1, Part 2, Chapters 3, 4 and 5), should be used. The valuation of accidents given in the COBA Manual differs from the values shown in this note in three respects:
 - COBA values are expressed in a 2002 price base, rather than the 2005 price base here.
 - ii) In COBA, severity splits are averaged over three to five years; and
 - COBA uses a finer disaggregation of road categories and also details junctions separately.

The Total Value of Prevention of Road Accidents in Great Britain in 2005

- 19. In 2005, 2,913 fatal accidents, 25,029 serious accidents and 170,793 slight accidents were reported. In cost-benefit terms the value of prevention of these 198,735 injury accidents is estimated to have been £12,807m in 2005 prices and values. In addition, there were an estimated 3m damage-only accidents valued at a further £5,044m. The total value of prevention of all road accidents in 2005 was therefore estimated to have been £17,851m (see Appendix 1, Tables 5 and 6).
- 20. The above relates to the total value to the community of the benefits of prevention of road accidents, although the incidence of costs will, of course, vary between groups of road users and also between road users and other members of society (i.e. some costs, such as lost output will not be borne exclusively by casualties themselves, since the taxation and social security systems will ensure that the burden of lost output will be shared by the population at large). Also, some elements of cost, (lost output, medical costs, police and damage costs), represent direct costs which will be incurred as the result of road accidents. However, human costs, as calculated using willingness to pay methods, represent the ex ante benefit of avoidance of risk of a road accident, rather than ex post values of the consequences of an accident. Consequently, Appendix 1 gives a breakdown of the total value of prevention of road accidents by severity and element of cost (Table 5), and by severity and category of road (Table 6), without attempting to allocate costs by responsibility or final incidence.

Further Information

21. This note is the twenty-eighth in a regular series of Highways Economic Notes on Valuation of Accidents. The note is usually updated annually. Values for base dates other than 2005 can be obtained as described in paragraphs 12 and 13. Further information on the use of accident or casualty values generally, may be sought by telephoning 020-7944-6176. More detailed information on the methodology for valuation of road accidents is available in the RAGB articles and research reports listed below. TRL reports are available from TRL Ltd, Wokingham, Berkshire (telephone 01344 773131, e-mail: enquiries@trl.co.uk). Information on accident numbers and rates (rather than costs) may be obtained from two annual The Stationery Office/DfT publications, Road Casualties Great Britain, and Transport Statistics Great Britain. This and other recent Highways Economic Notes No.1 can be found on the Department's web site http://www.dft.gov.uk under Road Safety/Economic Assessment.

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Valuing Health and Safety Controls: Report on the Findings of the Roads VOSL "Peg" Main Study [Available from HSE see below]

HSE publications available from: HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 6FS, Tel: 01787 881165 Fax: 01787 313995 or online at http://www.hsebooks.co.uk/

Appendix 1

The Valuation of the Benefits of Prevention of Road Accidents and Casualties in 2005 at June 2005 Prices^{1,2}

- Table 1 Average values per casualty by severity and element of cost
- Table 2 Average values per casualty, by class of road user
- Table 3 Average values per accident, by severity of accident and element of cost
- Table 4a Average values per accident by severity of accident and class of road:
- Table 4b Average values per accident by severity of accident and class of road: daylight hours
- Table 4c Average values per accident by severity of accident and class of road: hours of darkness
- Table 5 Total value of prevention of accidents by severity of accident and element of cost
- Table 6 Total value of prevention of accidents by severity of accident and class of road

2005				£ June 2005
Injury severity	Lost output	Human costs	Medical and ambulance	TOTAL
Fatal	490,960	936,380	840	1,428,180
Serious	18,920	130,110	11,460	160,480
Slight	2,000	9,530	850	12,370
Average, all casualties	9,580	33,360	1,980	44,920

Note that because some elements of accident values are not quantified, total accident values may be regarded as minimum estimates

All values given in the HEN1, including the Tables in the Appendix, are expressed in market prices.

2005	£ June 2005
Pedestrian	69,660
Pedal cyclist	44,810
Bus and coach occupants	20,600
Goods vehicle occupants	44,270
Car and taxi occupants	36,420
Motorised two-wheeler riders and passengers	80,260
All motor vehicle users	39,430
Average, all road users	44,920

2005							£ June 200
			Cost El	ement			
	Cas	Casualty related costs Accident related costs		Casualty related costs			
Accident severity	Lost	Medical and ambulance	Human costs	Police cost	Insurance and admin	Damage to property	
Fatal	547,290	5,450	1,080,290	1,660	260	9,830	1,644,79
Serious	21,920	13,130	149,030	230	160	4,460	188,92
Slight	2,660	1,130	12,660	50	100	2,650	19,25
All injury	13,070	2,700	45,490	100	110	2,980	64,44
Damage only	-	-	-	3	50	1,660	1,71

2005		Road C	class	£ June 2005
Accident severity	Built-up ¹	Non Built-up ²	Motorway	A
Fatal	1,558,290	1,699,140	1,751,150	1,644,790
Serious	179,210	206,700	213,540	188,920
Slight	18,130	21,620	25,570	19,250
All injury	49,580	105,900	78,930	64,440
Damage only	1,590	2,360	2,270	1,710
Average cost per injury accident including an allowance for damage on accidents	77,820	124,280	96,160	89,820

2 Non Built-up roads are those roads other than motorways with speed limits greater than 40 mph

2005	£ June 2					
Accident severity	Built-up ¹	Non Built-up ²	Motorway	Ali		
Fatal	1,514,260	1,661,960	1,700,140	1,604,880		
Serious	176,350	203,820	210,180	186,170		
Slight	17,980	21,560	25,520	19,110		
Allinjury	44,170	93,820	62,090	56,800		
Damage only	1,600	2,360	2,270	1,710		
Average cost per injury accident including an allowance for damage on accidents	72,400	112,210	79,320	82,210		

2005	£ June Road Class					
Accident severity	Built-up ¹	Non Built-up ²	Motorway	Al		
Fatal	1,613,970	1,754,950	1,789,030	1,698,270		
Serious	184,850	212,940	219,460	194,490		
Slight	18,560	21,790	25,680	19,640		
Allinjury	64,220	137,000	119,950	84,770		
Damage only	1,550	2,310	2,220	1,660		
Average cost per injury accident including an allowance for damage on accidents	91,610	155,020	136,820	109,360		

2005	Cost Element						June 2005
	Cas	ualty related co	sts	Acci	dent related	costs	
Accident severity	Lost output	Medical and ambulance	Human costs	Police cost	Insurance and admin	Damage to property	TOTAL
Fatal	1,590	20	3,150	5	*	30	4,790
Serious	550	330	3,730	6	4	110	4,730
Slight	450	190	2,160	9	20	450	3,29
NI injury	2,600	540	9,040	20	20	590	12,81
Damage only	-	_	-	9	140	4,890	5,04
W accidents	2,600	540	9.040	30	160	5,490	17,85

2005	Road Class		Class	£(m) June 2005
Accident severity	Built-up ²	Non Built-up ³	Motorway	All
Fatal	1,850	2,630	310	4,790
Serious	2,940	1,610	180	4,730
Slight	2,260	830	200	3,290
All injury	7,050	5,080	680	12,810
Damage only	4,010	880	150	5,040
All accidents	11,060	5,960	830	17,850

¹ Note that totals may not equal the sum of their elements due to rounding

² Built-up roads are those roads other than motorways with speed limits of 40mph or less

³ Non Built-up roads are those roads other than motorways with speed limits greater than 40 mph

SEAT BELTS FACTSHEET - 20th ANNIVERSARY OF COMPULSORY FRONT SEAT BELT WEARING

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The wearing of front seat restraints has been compulsory since 31 January 1983 and the wearing of rear restraints (where fitted) since September 1989 for children and since July 1991 for adults (over 14 years old).

The law and wearing rates

- Soon after the law came into effect in 1983 90% of car drivers and front-seat passengers were observed to be wearing seat belts. These high rates of seat belt wearing in front-seats of cars have been sustained since that time.
- When seatbelt wearing became compulsory for all rear-seat occupants in 1991, there was an immediate increase from 10% to 40% in observed seat belt wearing rates. In April 2002 over 90% of children wore rear seat belts. However, only 58% of adults in rear-seats wore restraints (DfT 2002).
- Seat belt wearing rates are significantly lower among van occupants. In April 2002, 64% of van drivers wore restraints and only 51% of van front-seat passengers wore restraints (DfT 2002). Casualty statistics show that 7,304 people were killed or injured in light goods vehicles in 2001.
- Taxi passengers and drivers are also less likely to use seat belts. Scottish research has shown that the proportion of front and rear-seat passengers wearing a seat belt was relatively low (58%) and taxi driver wearing rates are particularly low (31% using seat belts). Casualty statistics show that 2,650 people were killed or injured in taxis in Great Britain in 2001.
- The driver is legally responsible for ensuring that all passengers under the age of 14 belt up. Adult passengers (aged 14 or over) are legally responsible for ensuring they wear restraints.

Lives saved

- In the year 2001, 202,802 car occupants were killed or injured in crashes.
- Seat belts are a proven way of reducing the severity of injuries. The government has estimated that since seat belt wearing was made compulsory in 1983 it has reduced casualties by at least 370 deaths and 7000 serious injuries per year for front seat belts and 70 deaths and 1000 serious injuries for rear seat belts (DETR 1997).
- Preventing this number of deaths and serious injuries will have resulted in cost savings of almost £1,599 million a year, based on DfT's 2001 valuations for road accident casualties.
- The most common reason given for not wearing a seat belt is that people forget. Another common excuse is that people do not belt up if they are only travelling a short distance. Most children up to the age of 13 wear a seat belt, but from the age of 14, rear-seat belt wearing rates drop.

Action

Research indicates that there is only a very small number of dedicated 'non-users' of seat belts. However there is a significant proportion of 'part-time users'. This suggests that the part-time seat belt wearers are not opposed to wearing restraints in principle and are therefore likely to respond to efforts to encourage use.

Education

- In 1998 the government launched a publicity campaign to increase seat belt compliance, with the campaign slogan, 'Belt up in the back. For everyone's sake'. The campaign aimed to raise awareness of the dangers of not wearing rear restraints and to remind drivers and front-seat passengers of the threat posed to them by an unbelted rear-seat passenger. Following the TV campaign which was supported by motor manufacturers advertising, the adult wearing rate increased by 6%.
- In times between advertising campaigns awareness and behaviour regresses. However, messages are gradually absorbed. The pressure should be kept up on the seat belt campaign, with national TV and radio advertising. Seat belt wearing rates by adult rear-seat passengers remain low (58%) and campaigns should target these passengers.
- Compliance with seat belt legislation differs between different groups of road users. According to international research seat belt wearing rates tend to be lower among minority ethnic groups (IIHS 2002). Compliance is also lower among males than among females (Burns 2003) and wearing rates are lower for van and taxi occupants than car occupants (DfT 2002). Education and publicity should be targeted at groups with lower observed wearing rates to achieve maximum effect. Leeds City Council has taken action to promote in-car safety within the Asian community, who between 1996-2000 suffered a disproportionate number of in-car casualties. This kind of good practice should be adopted throughout the UK.

Enforcement

- Washington Traffic Safety Commission noted that the increase in belt use (from 81% before the state's primary law took effect, to 93%) was immediate and simultaneous with an enforcement campaign. The commissioner noted that the onset of visible enforcement appears to be the critical factor, and the announcement of impending enforcement is not enough to make people comply (IIHS 2003).
- The police should consider a high profile seat belt enforcement campaign.

Seatbelt reminder systems

- These systems are targeted at the 'part-time non-user' of seat belts. It is intended that a relatively gentle reminder signal will encourage the car occupants who accept the value of restraints but who do not always wear them, to comply with the law. Ford Motor Company has added a new safety belt reminder system to its late-model passenger vehicles in the USA. The system features a series of gentle chimes and warning lights to persuade motorists to fasten their seat belt and the system remains active for up to five minutes.
- Seat belt reminder systems are currently targeted at driver compliance, but could be developed for other car
 occupants. Euro-NCAP is developing specifications for reminder systems, and awarding points for reminder systems
 should be an incentive to manufacturers and consumers.

Research

• Analysis of the relationship between driver and passenger restraint use, by Burns *et al*, showed that passengers are more likely to use seat belts when the car driver uses a seat belt. This relationship should be further investigated because if passengers are influenced by driver behaviour, then altering the attitudes of a small number of noncompliant drivers will have much wider benefits.

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January 2003

Q&A: New child car seat law

A new law comes into force on 18 September 2006, which the government says could save up to 2,000 children per year from death or injury in road accidents.

All children under the age of 12 will have to use some form of child car seat, unless they are taller than 135cm (4ft 5in).

This means many British families will be obliged to buy new car seats or booster cushions for their children. They will also have to find ways of persuading children who have already stopped using them to get back into the habit.

I expect police to use common sense, not put out major dragnets... but to appear at the school gates from time to time to give people advice

Road Safety Minister Stephen Ladyman

Which children are affected?

All children under 135cm (4ft 5in) tall, unless they have passed their 12th birthday, must use a child seat appropriate for their weight.

Most children reach 135cm around the age of nine.

How do you find out what kind of seat is appropriate for your child?

Weigh your child and ask a shop assistant, or use the following guide:

- up to 13kg (2st 1lb) a rear-facing baby seat
- 9kg to 18kg (1st 6lb 2st 12lb) a forward-facing child seat
- 15kg to 25kg (2st 5lb 3st 13lb) a booster seat
- 22kg (3st 6lb) or above a booster cushion, or modern booster seat designed for larger children

A booster seat is like a booster cushion, except it has a back, and may have protection for a child's head in the case of a side impact.

The government suggests trying the seat before you buy it, to make sure it can be fixed properly in your car.

Which children are not affected?

A child over the age of 12 or more than 135cm tall, may use an adult seat belt. However, the Department for Transport recommends that children should continue using booster cushions or booster seats until they are 150cm (4ft 11in) tall.

What are the main changes from the existing law, when it comes to carrying children in cars? Here are four of them:

- Up to now children aged between three and 11 have been obliged to use the appropriate seat or cushion "if available" now they have to use it full stop, with only a few exemptions
- Children under 12 and less than 135cm tall may not travel in the front of a car without an appropriate seat or cushion, under any circumstances
- Children under three may not travel without an appropriate seat, whether they are in the front or the back, except in the rear of a taxi
- It becomes illegal to use a rear-facing baby seat in a front seat protected by an airbag

Are there any exceptions to these rules?

Yes. There are three cases where a child between three and 12 years old may travel in the back of a car using no more than an adult seat belt:

- short and occasional journeys made for reasons of "unexpected necessity" (so not on regular school runs, but you don't need to worry if you are picking up a friend's child because he or she has been unexpectedly detained at work)
- two other children are already using restraints in the back seat, leaving no room for a third. (However, it would often be safer for the child to travel, in the front of the car, using the appropriate seat or cushion.)
- in taxis

In addition:

- Children under three may travel in the back of a taxi without a special seat or cushion, as mentioned above
- In old cars with no seat belts children between three and 12 may travel in the back seat, though the

Department for Transport points out that this is "not safe"

• Emergency vehicles, including ambulances and police cars, are exempt

What else does the new law change?

Here are three more changes:

- Seated bus and coach passengers over the age of 14 must use seat belts where fitted (rules regarding younger children travelling in buses and coaches will be put forward at a later date)
- From May 2008, child and baby seats must meet a standard known as UN ECE regulation 44.03, or the more recent standard 44.04 this means they will be marked with an E and the numbers 44.03, or .03 or .04
- From May 2009, all passengers in any vehicle will have to use an appropriate restraint (baby seat, child seat, booster seat/cushion) or seat belt, where seat belts are fitted

Who will be held responsible for violations?

The driver is responsible for violations by passengers under the age of 14 (except in taxis with fixed partitions). Police can impose a £30 fixed penalty, but the maximum fine is £500 if it goes to court.

Will lots of fines get handed out on 18 September?

Probably not. Road Safety Minister Stephen Ladyman says he expects police to "use common sense" and not to set up "major dragnets". Rather, he expects officers to appear at school gates from time to time to give parents advice.

He adds: "If they are not following that advice then they [the police] may have to take action."

Why are the rules changing?

The government says that surveys show three quarters of children are wearing adult seat belts before they are tall enough to do so safely. In other words, the belt could hurt their neck or their internal organs if the car stops suddenly. Or they could slide underneath it.

The Department for Transport also points out that the existing regulations date from 1993, when rear seat belts were less common, and that the law needed to be brought up to date.

Furthermore, the government needs to bring UK laws into compliance with European Union legislation (Directive 2003/20/EC) on the use of seatbelts. It is four months late, as it should have done this in May.

What if a child refuses to use a child seat or cushion?

Mr Ladyman recognises that in some cases "there will be hell to pay". He suggests parents blame him.

Are the rules the same in all European countries?

No. For example, in the UK children above the age of three are allowed to travel in the front of a car if they use the appropriate seat or cushion and there is no danger of being hurt by the airbag. (Drivers should check with the car handbook.) In some other countries children are not allowed to travel in the front seat until they are 10 or 12. The European directive on seatbelts sets minimum standards, which countries must observe. Some of them choose to aim higher.

Story from BBC NEWS:

http://news.bbc.co.uk/go/pr/fr/-/1/hi/uk/4781511.stm

The addition of child seats and booster seats for smaller occupants is one that follows recognition that the current manufactured seat belt designs will in some instances cause harm and provide poor restraint for children and small people.

Many countries worldwide now have laws in place to require the use of seat belts and rear car seats for passengers under a certain age, weight and height.

For information about these countries' laws, members are invited to appraise themselves of the finer details from this website which gives a global perspective on this issue. One should confirm details prior to travelling in case of changes to law, etc.

http://www.childcarseats.org.uk/countries/index.htm

Here the information on various countries is presented in the following way:

Portugal

Child Restraints

Children are prohibited from travelling in the front seat until the age of 12 years, unless in a child seat.

USA: California

Child Restraints

Children must be secured in an appropriate child passenger restraint until they are at least 6 years old or weigh at least 60lbs.

Children weighing more than 40lbs may be belted without a booster seat if they are seated in the rear seat of a vehicle not equipped with lap/shoulder belts.

Children aged 6 to 15 year olds or children weighing 60lbs or more must be restrained but the adult belt can be used.

Poland

Child Restraints

Children are prohibited from travelling in the front seat until the age of 10 years, unless child restraints are used.

Eire

Child Restraints

It is compulsory for all children to travel in the correct child seat, booster seat or booster cushion

Children under 3 years of age must not travel in a car or goods vehicle (other than a taxi) unless restrained in the correct child seat.

Rearward-facing child car seats must NEVER be used in the front passenger seat of cars with an active airbag

Children aged 3 years or over who are under 150cms in height and weighing less than 36 kilograms must use the correct child seat, booster seat or booster cushion when travelling in cars or goods vehicles

Child car seats must be in accordance with EU or United Nations- Economic Commission for Europe (UN-ECE) standards

Seat Belts

The use of seat belts is compulsory for **all** seat passengers travelling **everywhere** in Portugal.

Seat Belts

People aged 16 years and over must wear a seatbelt

Seat Belts

The use of seat belts is compulsory for the driver and for passengers

Seat Belts

Drivers, front seat passengers and rear seat passengers must wear seat belts if they are fitted in the car.

Drivers are legally responsible for ensuring that front and rear seat passengers aged under 17 years use the correct child seat, booster seat, booster cushion, or seat belt. If a vehicle is not fitted with seat belts then children over 3 years of age must travel in the rear.

Russia

Child Restraints

Children are prohibited from travelling in the front seat until the age of 10 years unless child restraints are used.

Seat Belts

The use of seat belts is compulsory for the driver and for passengers

France

Child Restraints

Children are prohibited from travelling in the front seat until aged 10 years old.

Children under 10 years of age must be seated in the rear and use a seatbelt or an approved child seat. However, a very young child in an approved rearfacing safety seat can be placed in the front seat.

Children seated in the front seat must be seated in a child restraint appropriate to their weight and age.

Seat Belts

All vehicle occupants must wear a seat belt.

Financial and manpower implications

The introduction of any such law would in short order reduce expenditure in other areas that would far outweigh any expense in this regard. The subsequent policing of the law and possible introduction of fixed penalties or fines could be managed in such a way as to negate any costs involved in the policing of the law should the States wish at some stage to introduce such measures. This is not a recommendation at this stage, and the policing of this will inevitably, as with the smoking strategy, be self-regulated in the main. Where there is clarity however, this will facilitate more effective policing in this regard and thereby be possibly cost-neutral in terms of policing. The obvious effect will be that less serious injuries will require less directed from existing manpower and financial resources.