



RSA

PEDESTRIAN SAFETY ACTION PLAN

Consultation Paper

Road Safety Authority
April 2009

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

Contents

Summary	3
1 Introduction	4
1.1 Background	4
1.2 Context of the National Road Safety Action Plan	4
1.3 Ireland's Position in the EU and Rest of World	5
1.4 Research and Analysis	8
2 Proposed Pedestrian Safety Action Plan	10
2.1 Overview	10
2.2 Objectives	10
2.3 Education, Encouragement and Promotion	11
2.4 Enforcement	13
2.5 Engineering and Planning	14
2.6 Monitoring, Review and Evaluation	16
3 Targets	17
3.1 Targets	17
4 Action Plan	22
5 Acknowledgements	33
Appendix A– Derivation of Targets	34

Tables

Table 4.1:	Action Plan : Primary Actions	23
Table 4.2:	Action Plan : Education and Promotion	24
Table 4.3:	Action Plan : Enforcement	27
Table 4.4:	Action Plan : Engineering	28
Table 4.5:	Action Plan : Evaluation	32

Figures

Figure 1.1:	Comparison of worldwide proportions of pedestrian fatalities	5
Figure 1.2:	Comparison of Pedestrian Death Rates with those of other EU Countries (2004)	6
Figure 1.3:	Pedestrian deaths and injuries as a percentage of all road deaths and injuries in Ireland (1996 – 2006)	7
Figure 1.4:	Trend in pedestrian deaths and injuries (1996 – 2006)	7

Summary

This report sets out a Pedestrian Road Safety Action Plan for Ireland. It covers the period 2009 – 2012. The Action Plan is a requirement under Action 80 of the Road Safety Strategy 2007 – 2012.

The issues identified, subsequent targets set, and 43 separate actions set out to address these have been informed by the results of an in-depth analysis of pedestrian collisions over the period January 1997 to December 2006, and are supported by research and best practice from countries in the European Union and beyond.

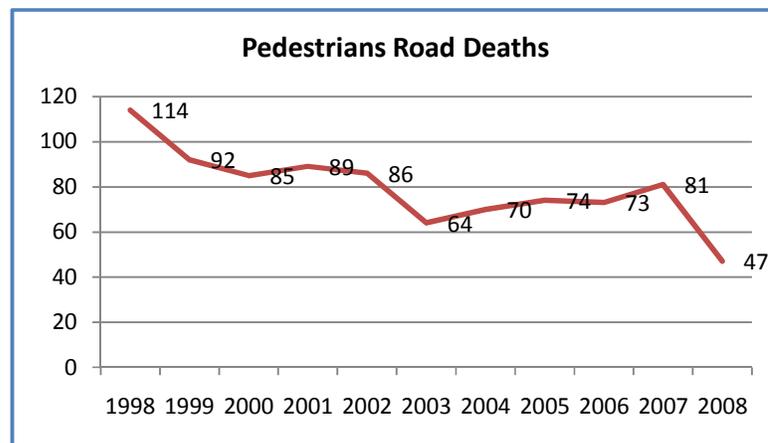
All targets have been set against a 2004-2006 baseline, with completion in the year 2012. Where relevant, existing national targets on reducing fatalities and injuries have been adapted for pedestrian road users.

Consultation Process

This document seeks to obtain the input and views of a broad range of stakeholders on the enhancement of pedestrian safety on Irish roads through the development of a fully integrated Pedestrian Safety Action Plan. We wish to hear from pedestrians, drivers, interest groups and others who may have views, advice and suggestions as to how policy can be developed so as to:

- reduce the incidents of deaths and injuries to pedestrians
- support the development of walking as a safe and viable means of mobility
- attain and surpass international best practices in the area of pedestrian safety

The consultative process will commence on 17 April 2009 and last 8 weeks until 12 June 2009 and you are invited to contribute by commenting on individual aspects of the Action Plan and/or making a formal submission. You may e-mail your comments to pedestrianactionplan@rsa.ie or post them to Driver Education and Research Unit, Road Safety Authority, Moy Valley Business Park, Primrose Hill, Ballina, Co Mayo. Please mark the envelope "Pedestrian Action Plan"



1 Introduction

1.1 Background

1.1.1 Walking is a fundamental activity among all road users, with every journey comprising at least some element of pedestrian activity. A key emphasis in sustainable transport strategies, Safer Routes to School programmes and the Green-Schools¹ programmes is encouraging walking. The need to reduce pedestrian fatalities and injuries arising from road collisions in conjunction with these wider strategies is a key aim of a dedicated Pedestrian Safety Action Plan.

1.1.2 In 2007, 81 pedestrians were killed and a further 884 were injured² on Ireland's roads, accounting for 24% of all fatalities, and 12% of all casualties resulting from road collisions in the country. In 2003, coinciding the introduction of penalty points, the number of pedestrian deaths fell substantially, but since then the trend in the number of pedestrian fatalities has been gradually upward³ and the requirement for a dedicated Pedestrian Road Safety Action Plan was identified in the Road Safety Strategy 2007-2012 with the specified objective to:

'Research, develop and publish a Pedestrian Road Safety Action Plan incorporating best practice in engineering, education and enforcement issues'.

1.1.3 In response to this identified requirement, this document has included a detailed analysis of pedestrian collision and casualty statistics over the ten year period January 1997 to December 2006, in order to identify the key factors influencing the number of pedestrian deaths and injuries in Ireland. The results of this have been used to inform and focus development of this first Pedestrian Safety Action Plan. This document also draws on the insight and experience of countries implementing best practice in pedestrian road safety, both across Europe and beyond.

1.2 Context of the National Road Safety Strategy

1.2.1 In addition to the need for a specific Pedestrian Road Safety Action Plan a number of specific issues were identified within the Road Safety Strategy with regard to pedestrian safety, as follows:

- *'Speed inappropriate for, or inconsistent with, the prevailing circumstances or driving conditions'* was identified as one of the four primary causes of road collisions, deaths and injuries. Excess vehicle speeds have been identified as a primary contributor to fatalities among vulnerable road users such as pedestrians, and tackling speeding issues will be likely to have a positive effect in reducing the number of pedestrian fatalities
- Another of the four primary causes of road collisions, deaths and injuries on Ireland's roads was *'Unsafe behaviour towards/ by vulnerable road users'*, which includes pedestrians. This is a more general issue, which will be addressed through a variety of actions in this Action Plan

1.2.2 The Road Safety Strategy also includes a road safety engineering target with regard to traffic calming which is likely to have a positive effect on pedestrian safety, and so this has been supported and reinforced in the Pedestrian Safety Action Plan. This Road Safety Strategy states:

'Traffic calming measures will be implemented at 20 schemes per annum on national roads. It is proposed to complete the Traffic Calming Programme on National Roads during the lifetime of this Strategy'

¹ Green-Schools, known internationally as Eco-Schools, is an international environmental education programme, environmental management system and award scheme that promotes and acknowledges long-term, whole school action for the environment. For further details see www.greenschoolsireland.org

² Road Collision Facts 2007, Road Safety Authority – Tables 3 and 4.

³ Road Safety Strategy 2007-2012, Road Safety Authority – Section 1.2

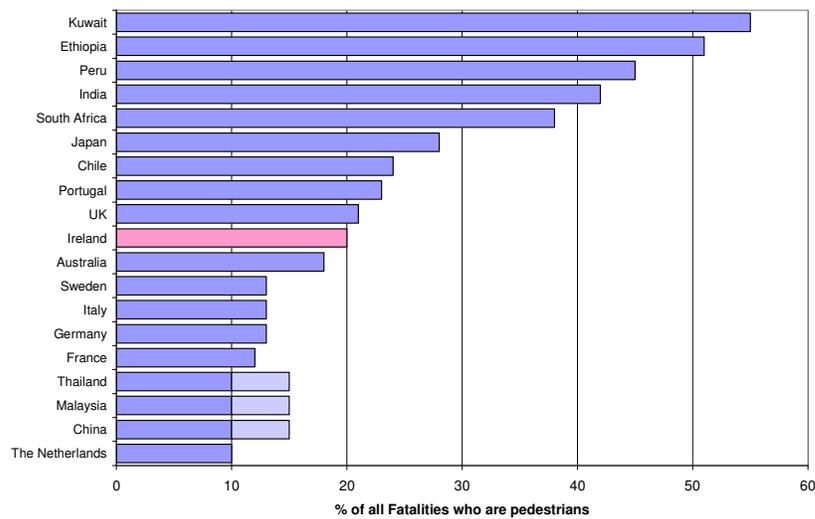
- 1.2.3 Whilst this will contribute in some way to reducing pedestrian road deaths and injuries, the focus of this Action Plan will primarily be on regional and local roads
- 1.2.4 All of the above issues have been taken into account as far as possible in formulating a Pedestrian Safety Action Plan, which seeks to maximise the potential for reducing pedestrian deaths and injuries on Ireland's roads.

1.3 Ireland's Position in the EU and Rest of World

Worldwide Comparison of Proportion of Pedestrian Fatalities

- 1.3.2 At 20% of all road user fatalities (2006 figures)⁴, the proportion of pedestrian fatalities in Ireland is lower than in many countries around the world. This is shown in Figure 1.1.

Figure 1.1: Comparison of Worldwide Percentages of Road Collision Fatalities who are Pedestrians



Note - Thailand, Malaysia and China have a range between 10-15%.⁵

- 1.3.3 Nevertheless, in countries such as the Netherlands, the proportion is very much lower, at only around 10% of all road user fatalities.

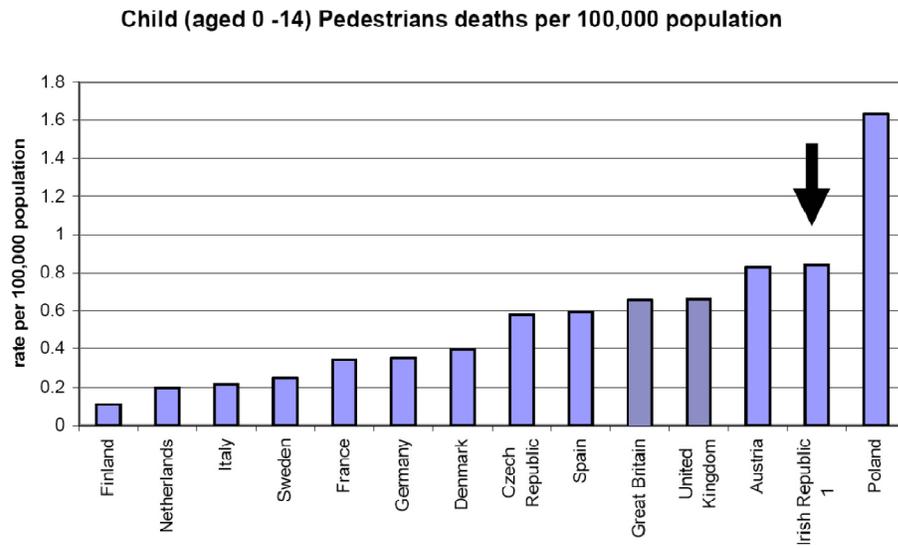
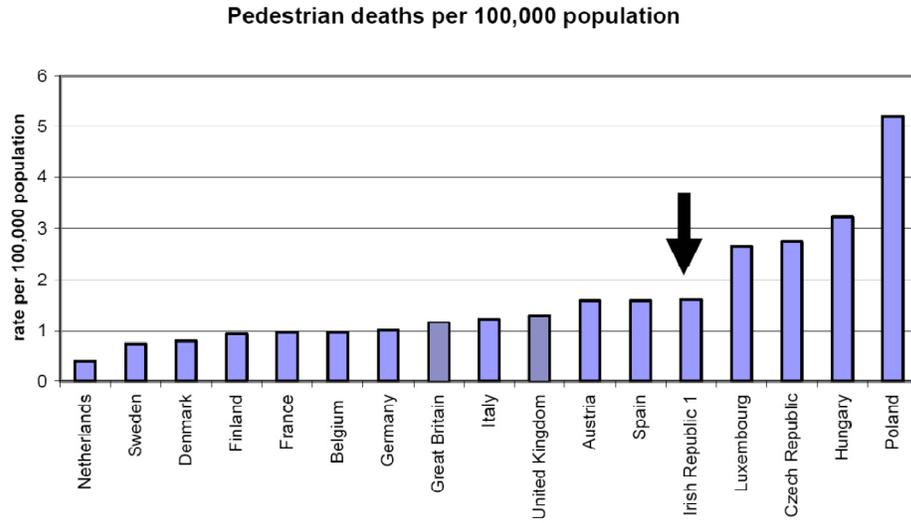
Pedestrian deaths per 100,000 Population within the EU

- 1.3.4 In terms of pedestrian deaths per 100,000 population, the Republic of Ireland is seen to perform poorly in comparison with other EU countries which further underlines the need for a Pedestrian Safety Action Plan. This is shown in Figure 1.2.

⁴ Road Collision Facts 2006, Road Safety Authority – Table 3.

⁵ See 3.8.14 of the National Pedestrian Safety Action Plan Technical Report for the sources of each of the figures and the years to which the data refers.

Figure 1.2: Comparison of Pedestrian Death Rates with those of other EU Countries (2004⁶) – Road Casualties Great Britain (RCGB) 2005, UK Department for Transport, 2006

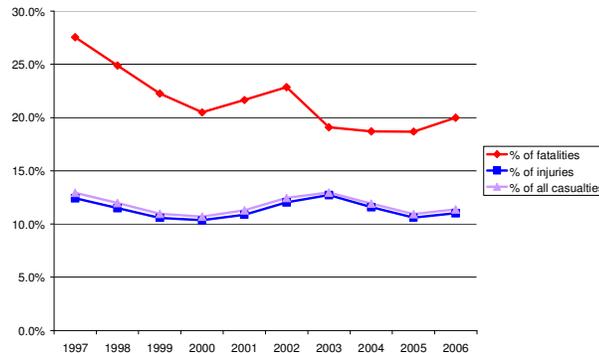


⁶ Note that in this RCGB graph, the data provided for Irish Republic is for 2006

Ireland's Current Position

1.3.5 Pedestrian fatalities in Ireland in 2006 accounted for 20% of all fatalities⁷, and collisions involving pedestrians accounted for 22% of all fatal collisions⁸. Therefore reducing pedestrian deaths would be a major factor in helping to reduce the overall numbers of road traffic fatalities in Ireland. The trend in pedestrian deaths and injuries, expressed as a percentage of all road deaths and injuries during the period 1996 to 2006 is shown in Figure 1.3.

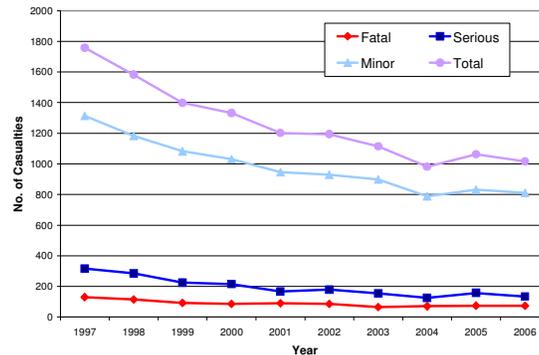
Figure 1.3: Pedestrian deaths and injuries as a percentage of all road deaths and injuries in Ireland (1996 – 2006)



1.3.6 It is apparent from the figure above that pedestrians form a higher proportion of road user fatalities than injuries. In addition, the general downward trend in overall pedestrian deaths and injuries has also slowed or reversed.

1.3.7 The need for a dedicated Action Plan for reducing pedestrian deaths and injuries is thus clearly illustrated.

Figure 1.4: Trend in pedestrian deaths and injuries (1996 – 2006)



⁷ Note that the percentage of casualties varies from the percentage of collisions involving pedestrians, since there may be more than one casualty (of any road user type) associated with a single collision.

⁸ Road Collision Facts 2006, Road Safety Authority – page xi, Primary Collision Type

- 1.3.8 In implementing this National Pedestrian Safety Action Plan, we would seek to reduce both the number and proportion of pedestrian road user deaths and injuries, and child pedestrians in particular, both in real terms, and relative to other countries in Europe and the rest of the world.

1.4 Research and Analysis

Methodology and Results of Collision Analysis

- 1.4.2 The Technical Report supporting this Action Plan provides a more detailed presentation and analysis of pedestrian casualties and collisions occurring on Ireland's roads between 1996 and 2006, together with a review of the international literature. The Technical Report can be viewed at www.rsa.ie.
- 1.4.3 It will be seen that the main points emerging from this report are grouped into the four broad headings of: Who?; When?; Where?; and What Happened?

Who?

- Casualty rates per 1000 population per annum were highest among children aged 5-16, males aged 17-24, and among the over 60s. Together these three groups comprised over half of all pedestrian casualties over the last ten years to the end of 2006.
- In 2006, 10%⁹ of collisions resulting in death or injury to pedestrians involved unaccompanied¹⁰ learner drivers. A further 2.6% involved accompanied learner drivers.

When?

- 41% of pedestrian fatalities over the past ten years occurred during the hours of darkness in poorly lit or unlit areas
- Approximately one in three pedestrian collisions occurred in the five hour period between 3pm and 8pm
- Around one third of pedestrian deaths over the past three years occurred between 5pm and 10pm
- One in three collisions occurred during the winter months of October to December, with a clear peak in December

Where?

- 83% of all pedestrian casualties in the years 2004-2006 occurred in areas classified as 'built-up'

⁹ Note that this proportion only applies to where such information was available or recorded. It is possible (or even likely) that in many cases this information was not recorded and therefore the proportion may be higher.

¹⁰ It should be noted that it is not possible to ascertain from the collision database what percentage of those unaccompanied drivers involved in collisions leading to death or injury to pedestrians were driving illegally. i.e. it is unknown which provisional licence they were driving under – 1st, 2nd, 3rd etc.

- The percentage of pedestrian collisions occurring away from junctions is increasing, and has increased from approximately two thirds of all collisions in 1996, to more than three quarters by 2006
- The trend in the number of pedestrian fatalities and injuries occurring on two way single carriageways has been increasing since 2004, with 68% of all pedestrian collisions occurring on these roads in 2006
- Although no information on the number of kilometres of one way single carriageway¹¹ was available to verify collision rates, 12% of all pedestrian collisions occurred on these roads during 2006

What Happened?

- Approximately one in five of those killed in alcohol-related crashes in 2003 were pedestrians, and alcohol was a factor in 38% of fatal pedestrian road crashes¹².
- 1.4% of all pedestrian-involved collisions between 2004 and 2006 recorded drivers travelling in excess of the posted speed limit. However experience shows that this figure is likely to be an under-estimate¹³.

Literature Review

- 1.4.4 A summary of findings from a comprehensive literature review can be found in the Technical Report which accompanies this document and can be accessed at www.rsa.ie.
- 1.4.5 In setting targets for casualty reduction and setting out actions and requirements, relevant documents have been referenced as appropriate throughout the text.

¹¹ Category as defined by RD TYPE at Field 44 value 2.

¹² Alcohol in Fatal Road Crashes in Ireland in 2003, Population Health Directorate, Health Service Executive 2006.:

¹³Reducing Traffic Injuries Resulting from Excess and Inappropriate Speed, European Traffic Safety Council, 1995.

2 Proposed Pedestrian Safety Action Plan

2.1 Overview

2.1.1 International consensus has concluded that the delivery of integrated programmes built from the four “E”s is of pivotal importance in reducing road deaths. Within the context of improving pedestrian safety, these 4 “E”s are:

- **Education** – raising awareness of road safety by imparting knowledge and developing an understanding of the risks with a view to changing attitudes and behaviour at individual, community and organisational levels
- **Enforcement** – visible and appropriate enforcement acting as a deterrent and increasing compliance with road traffic laws. Whilst mainly concerned with the road users who cause injury to pedestrians, consideration is given here to ways in which potentially dangerous behaviour by pedestrians could be addressed.
- **Engineering** – making the road network safer and more forgiving of inevitable errors by road users, as well as consideration of the particular facilities which would assist pedestrians in making safer journeys on foot. Vehicle design and engineering in terms of reducing potential injury to pedestrians when involved in a collision is also considered here
- **Evaluation** – ensuring sustainable reductions in pedestrian road deaths and injury, through development of appropriate assessment and monitoring methods and procedures to assess and review both the relative success of individual measures implemented and of the Action Plan as a whole

2.1.2 In considering the outcomes of the Collision Analysis and International Literature Review, the subsequent Action Plan and Actions are set out according to the Four Es above, and form the Policy Framework for the National Pedestrian Safety Action Plan.

2.2 Objectives

2.2.1 The Pedestrian Road Safety Action Plan seeks to:

- Support the promotion of walking as a safe, desirable and viable mode of transport
- Reduce the number and severity of pedestrian collisions and casualties occurring on Ireland’s road network
- Focus on cost-effective measures to address the causes of pedestrian fatalities and injuries, to include issues already identified in the main Road Safety Strategy which have an impact on pedestrian safety (speeding, alcohol/drugs impairment fatigue and unsafe behaviour towards/ by pedestrians)
- Set out means by which the monitoring, evaluation and review of pedestrian-involved collisions can be achieved
- Operate within the context of the Road Safety Strategy and its stated objectives, actions and targets

2.2.2 The RSA will submit an Annual Report to the Minister for Transport reporting on the implementation progress of the Pedestrian Safety Action Plan.

2.3 Education, Encouragement and Promotion

2.3.1 The aim of the measures set out under this heading is to ensure that pedestrians, and those causing injury to pedestrians, develop and continue to practice appropriate attitudes and safe behaviours. In order to achieve this, relevant knowledge and skills must be imparted to road users as they move through life.

2.3.2 An aim is to provide formal, structured road safety education programmes to our at-risk road users, especially the young and the old. These should provide a grounding in road safety issues which will serve them throughout their lives as road users, and should continue to provide access to information and advice through websites, information leaflets and publications to all road users.

Pre-Primary Education

2.3.3 The RSA will continue to support existing provision of materials as appropriate to expectant parents and pre-school children, but will review the content of these to ensure that there is sufficient focus on the identified risks to young children associated with crossing between parked cars and playing in the road.

Primary and Post-Primary Education

2.3.4 Younger road users may be more receptive to, and are likely to gain more long term benefit from, specific road safety education. The RSA is committed to reducing child pedestrian casualties, as well as encouraging safer behaviour throughout life. The current policy is to deliver road user education and awareness in a cumulative approach up to third level. The Pedestrian Road Safety Action Plan will seek to support the actions for road user education set out in the Road Safety Strategy, namely:

- Programmes for expectant parents and pre-school children
- Generic Social, personal and Health Education Programme for Primary and Post-Primary School Children
- Implementation of the Transitional Year Programme

2.3.5 The RSA will aim to ensure that a clear and specific pedestrian safety element is included in all of the above.

2.3.6 It is recognised that pedestrian skills training leads to improved child pedestrian crossing skills¹⁴. Therefore this Action Plan will additionally seek to implement a programme of specific practical road-side training for children aged 5-8 years, which may be based around the “Safer Cross Code” and focuses on the development of three key skills in young road users, namely: choosing safe places and routes; crossing safely in the vicinity of parked cars and crossing safely near junctions.

2.3.7 Ireland’s collision statistics indicate that the vast majority of pedestrian collisions occur in built up areas and it is recognised internationally that there is a socio-economic influence in the majority of pedestrian collisions¹⁵. Therefore the RSA will seek to draw up prioritised implementation plans for the provision of such training in order to ensure that resources are appropriately targeted to areas where the potential for casualty reduction will be greatest.

Third Level Education

2.3.8 The RSA¹⁶ has already begun work on the development of formal road safety education programmes to engage high risk 17-24 year old road users. As pedestrians

¹⁴ Child Good Safety Practice Guide, 2006, (Eurosafte - European Association for Injury Prevention and Safety Promotion).

¹⁵ Tomorrow’s Roads – Safer for Everyone, 2007. UK Department for Transport.

¹⁶ in conjunction with the GARDA National Traffic Bureau. Source: RSS 2007

in this group (and males in particular) have one of the highest collision rates, the Pedestrian Road Safety Action Plan will seek to ensure that there will be an appropriate focus on specific pedestrian issues, including driver awareness and hazard perception of pedestrians, as well as the risks and hazards associated with being a pedestrian.

- 2.3.9 Research has shown that drivers who score highly on hazard perception tests are less likely to become involved in a fatal crash, and that drivers can be 'trained' in hazard perception. Although the success of such training has not yet been clearly measured, hazard perception has been part of the UK driving test since 2002, and since the 1990s in most of Australia.¹⁷ We would therefore seek to enhance the role of hazard perception with regard to pedestrians among learner drivers, with a view to reducing the number and severity of pedestrian injuries caused by these drivers.

Education Through Publicity And Promotion

- 2.3.10 It is recognised that *'road safety campaigns as a stand-alone measure generally do not have a large effect on road safety. However, campaigns are crucial as a support for other measures such as legislation and enforcement'* (SUPREME 2007).
- 2.3.11 Thus, we will continue to participate in appropriately timed national promotional and publicity campaigns of direct and indirect benefit to pedestrian safety to highlight the dangers of
- Drink and drug driving
 - Poor conspicuity
 - Excessive and inappropriate speed – with campaigns to emphasise the dangers and potential consequences of speeding, as well as explain the reasoning behind speed limits
 - Mobile phones – loss of attention while using them
 - Driver fatigue.
- 2.3.12 The 19-24 high risk age groups are also best targeted through information and publicity campaigns outlined above, and we would seek to ensure that messages are put across in a format best designed to appeal to this age group.
- 2.3.13 The RSA will continue to participate in schemes to issue high visibility clothing to pedestrians, but it is proposed that these be supported by advertising campaigns during the months with shortest hours of daylight and designed to increase wearing rates of reflective materials. This was successfully implemented in Latvia during 2004 and 2005, with wearing rates increasing from 4% to 20%¹⁸

Older Road Users

- 2.3.14 Pedestrians aged 60+ have been identified by the collision analysis as being one of the higher risk groups, and the issue of an ageing population is likely to influence future trends in collision involvement among this group – not only because of numbers, but also because these road users are more likely to be dependent upon public transport (which will require walking trips also)¹⁹.
- 2.3.15 Research suggests²⁰ that older pedestrians are more likely to have physical, visual, and/or hearing impairments which make it more difficult to cross the road safely, particularly at complex junctions. Furthermore, in the US older road users tend to be over-represented in collisions at junctions.

¹⁷ SWOV (Institute for Road Safety Research, Netherlands), September 2007 (www.swov.nl) - Hazard perception research summarised in this.

¹⁸ SUPREME 2007 – Best Practices in Road Safety. Handbook for Measures at the European Level, European Commission.

¹⁹ European Traffic Safety Council, 2002. European Priorities for Road Safety.

²⁰ NCHRP (National Cooperative Highway Research Program) Report 500, Volume 10 A guide for reducing collisions involving pedestrians

- 2.3.16 Thus this Action Plan will aim to target older pedestrians with information and publicity campaigns. This publicity will enhance the safe use by older pedestrians of pedestrian facilities at junctions, improve their traffic awareness and their awareness of the potential dangers of the road environment.
- 2.3.17 It is recognised that the investment in road safety education is one which may not begin to be reflected in the casualty figures for many years to come, and should be considered an action which will reap long term benefits in terms of casualty reduction.

2.4 Enforcement

- 2.4.1 This section sets out the ways in which the safety of pedestrians can be improved through increased compliance with current legislation, and the development of additional legislative measures as appropriate, within the context of work by An Garda Síochána and supported by the Department of Justice, Equality and Law Reform (DoJELR) and the Road Safety Authority.

Traffic Speeds

- 2.4.2 Traffic Speeds are a major influence on both the number and severity of collisions²¹, and research has shown²² that in urban areas, vulnerable road users such as pedestrians are particularly at risk from vehicles travelling at excess speed. The benefits of strong enforcement strategies are particularly high for pedestrians: the probability of a pedestrian fatality reduces from 85 per cent at 50 km/h to less than 10 percent at 30 km/h.²³
- 2.4.3 The Pedestrian Road Safety Action Plan acknowledges the successes in implementing metric speed limits and supports measures set out in the Road Safety Strategy with regard to increasing speed limit compliance, particularly in urban areas where the percentage of drivers exceeding the 50kph limit has increased²⁴, and in areas where vulnerable pedestrians such as children and the elderly are likely to be present in high numbers.
- 2.4.4 In the UK, findings have shown that at individual crash sites speed cameras have led to a 56% reduction in pedestrians killed or injured²⁵.
- 2.4.5 The RSA will encourage local authorities, through their Road Safety Plans, to review speed limits within residential areas, with a view to identifying areas where pedestrian casualties are highest and which may benefit from the implementation of lower speed limits.
- 2.4.6 A key element in the success of enforcement strategies is supporting such campaigns with high profile, visible action, in order to increase perception among possible offenders that they are likely to be caught²⁶. There are three main ways in which these effects can be maximised:
- High volume Random Breath Testing – means that drivers expect to be tested
 - Widespread coverage of the road network, using different locations and an apparently random selection of sites – this increases awareness to a wider range of drivers, as well as making it difficult for drivers to avoid
 - Obvious and visible police operations – also increases awareness

²¹ European Transport Safety Council, January 1995

²² Tomorrow's Roads Safer for Everyone, UK Department for Transport, Chapter 6

²³ ETSC Police Enforcement Strategies to reduce casualties in Europe, 1999

²⁴ Road Safety Authority, Survey of Free Speed 2006, Urban and Rural

²⁵ OECD 2003. Road Safety Impact of New Technologies.

²⁶ Police Enforcement Strategies to reduce traffic casualties in Europe (1999) ETSC

Rules of the Road for Pedestrians

- 2.4.7 The Action Plan will support the existing requirements and responsibilities of pedestrians as road users as listed in the Rules of Road²⁷ and the Road Traffic Acts. I.e. (i) to use a footpath where there is one provided and (ii) where there is no footpath provided, to walk as near as possible to the right hand side of the road (facing oncoming traffic), and (iii) not to be drunk and endanger oneself or other road users²⁸.

Alcohol and Drugs Impairment

- 2.4.8 The Pedestrian Road Safety Action Plan supports the implementation of Mandatory Alcohol Testing of drivers, as one in five of those killed in 2003 in alcohol-related crashes were pedestrians. The Action Plan will support focussing on periods when pedestrians are most vulnerable - i.e. at evenings and over weekends.
- 2.4.9 In general terms, the Action Plan will continue to address the issue of pedestrian impairment by alcohol and drugs primarily through publicity and information / awareness campaigns.

Learner Drivers

- 2.4.10 From 1 July 2008, under legislation passed as part of the 'Graduated Driver Licensing System' all learner permit holders were required to be accompanied by full licence holders. This measure, just one of a number of measures currently being pursued by the RSA with regard to learner drivers, will be expected to have a positive effect in reducing the number and severity of pedestrian casualties resulting from collisions with learner drivers.
- 2.4.11 The Pedestrian Road Safety Action Plan therefore underlines the need for adequate and appropriate enforcement of this new legislation.

2.5 Engineering and Planning

- 2.5.1 Over 80% of pedestrian casualties in Ireland occur on roads classified as 'built up' with an increasing trend of collisions on two-way single carriageways. Therefore, whilst the Pedestrian Road Safety Action Plan supports the work of the National Roads Authority in improving the national roads network, the primary focus of the Pedestrian Road Safety Action Plan will be on improving safety on regional and local roads.
- 2.5.2 In focussing on four main topics, each with a particular emphasis given to selection of schemes in urban areas, it is intended that the investment of resources will be appropriately targeted towards areas of greatest need and highest potential benefit.

Appropriate Measures To Assist Pedestrians

- 2.5.3 The Action Plan will seek to promote the provision of measures to assist pedestrians which are appropriate to the type of roads used. The emphasis will be on physical separation of pedestrians in high volume, interurban and national routes, and the provision of appropriate low cost measures, including pedestrian priority and shared space options on local and residential routes.
- 2.5.4 The majority of pedestrian injuries occur on built-up local roads. Therefore the emphasis will be on the provision of measures on local roads. To this end, the Action Plan will require Local Authorities, through their Road Safety Plans, to put in place methodologies for the analysis of pedestrian-involved collisions with a view to identifying locations at which appropriate measures to assist pedestrians will be implemented.

²⁷ Road Safety Authority, 2007.

²⁸ Note that Items (i) and (ii) are included in the Rules of the Road; item (iii) in the Road Traffic Acts 1961-2000.

Low Speed Zones In Residential Areas

- 2.5.5 Across Europe, the introduction of low speed zones (typically 30kph) has been successfully implemented in residential areas, around schools and in shopping areas²⁹, with reductions in serious collisions by up to 70% noted. This Action Plan encourages the implementation of such zones in areas deemed appropriate by local authorities and referring to the “Guidelines for the Application of Special Speed Limits” as issued by the Minister for Transport to all local authorities on 18 April 2005 pursuant to section 9(9) of the Road Traffic Act 2004 relating to the making of special speed limit bye-laws³⁰.

Street Lighting Considerations

- 2.5.6 Two in five pedestrian collisions occur during the hours of darkness in poorly lit or unlit areas, and so the appropriate provision or upgrading of lighting provision would be expected to improve safety (as well as security) for pedestrians.
- 2.5.7 Pedestrian collision information should be used by Local Authorities to inform and influence street lighting implementation and maintenance programmes, with priority given to schemes where pedestrian safety issues have been identified.

Planning Considerations

- 2.5.8 Land use planning which minimises pedestrian exposure to risk, and the creation of attractive, well connected and safe pedestrian routes are two of the key engineering strategy policies adopted by the EU.
- 2.5.9 Therefore the Action Plan will seek to support the work of National, Regional and local Planning Authorities to ensure that the needs of pedestrians (dedicated provision as well as safe play areas) are considered in statutory plans, guidelines and processes, as appropriate – e.g. Regional Planning Guidelines, Development Plans, Local Area Plans etc.

Shared Spaces and Shared Surfaces

- 2.5.10 Shared spaces and shared surfaces are being used more widely in street design than before. These schemes aim to reduce the dominant role often given (or taken) by the vehicle on a street, thus improving amenity while at the same time improving (or at least not reducing) safety³¹. An example is South King Street (the street onto which the Gaiety Theatre fronts) in Dublin City Centre. Guidance on their use and design is provided (on page 58) of the "Urban Design Manual - A Best Practice Guide", published in December 2008 by the Department of the Environment, Heritage and Local Government³².
- 2.5.11 The latest international research on this topic indicates that there has been a surprisingly small number of schemes for which there has been proper evaluation, and it stresses the need for rigorous monitoring of such schemes on collisions and casualties. The research is inconclusive on the safety case for a shared space one way or the other.
- 2.5.12 The RSA is currently monitoring research in this area and will support the development of further policy advice based on the emerging safety records from recently implemented schemes and data available from more well established shared space schemes throughout Europe.

²⁹ SUPREME, Best Practices in Road Safety – Handbook for Measures at the European level, 2007.

³⁰ Section 9(9) imposes a general requirement on county and city councils that, in making bye-laws they should have regard to the guidelines issued by the Minister. The deployment of the special speed limit of 30 km/h must be in accordance with the relevant provisions in guidelines issued by the Minister.

<http://www.transport.ie/upload/general/6589-0.pdf>

³¹ Transport Research Laboratory (TRL), Jan 2006. A Review of Simplified Streetscape Schemes – Published Project Report PPR292. Executive Summary – p.ii – iv.

³² See <http://www.environ.ie/en/Publications/DevelopmentandHousing/Planning/FileDownload,19216,en.pdf>

2.6 Monitoring, Review and Evaluation

- 2.6.1 The Action Plan acknowledges the importance of effective monitoring of progress towards defined targets, the review of actions, and the evaluation of the effectiveness of specific measures. This should ensure that the priority of the components of the Action Plan may be revised over time to best meet a changing need.
- 2.6.2 Key to this is the recording of relevant and accurate collision and casualty data, and the Pedestrian Road Safety Action Plan seeks to support the Road Safety Strategy in working with An Garda Síochána in improving the detail, accuracy and reliability of collision data with regard to pedestrian collisions and casualties.
- 2.6.3 In this dedicated Pedestrian Safety Action Plan, there is also an emphasis on the setting up of standardised methodologies for the monitoring of campaigns, implemented schemes, and other interventions, with a view to better informing future strategies.
- 2.6.4 With regard to speed and alcohol-related collisions, the Action Plan will seek to improve the linking of details of these incidents to the collision records in order to improve analysis capabilities and the quality of monitoring of the effectiveness of enforcement campaigns.
- 2.6.5 The Action Plan will also encourage Local Authorities to undertake 'before and after' studies of schemes implemented, in order to build a local, data-led database for identifying the range of measures most likely to be effective in reducing pedestrian casualties and injuries within the Irish road environment.

3 Targets

3.1 Targets

- 3.1.1 The three primary aims of the Pedestrian Road Safety Action Plan have been identified as follows:
- Reducing the number of pedestrian fatalities.
 - Reducing the total number of pedestrian injuries
 - Reducing the number of pedestrian casualties expressed as proportion of the number of road casualties.
- 3.1.2 In so doing, the successful implementation of this Action Plan will contribute to the success of the Road Safety Strategy in achieving measurable safety improvements in Ireland over the period 2007-2012.
- 3.1.3 Although a wide range of complementary actions and methods to achieve pedestrian casualty savings are set out in this document, this Pedestrian Road Safety Action Plan focuses mainly, but not exclusively, on a small number of key groups identified, namely:
- Child pedestrians and the elderly
 - Pedestrians injured in built up areas
- 3.1.4 In addition, the Action Plan focuses on indirect methods for reducing pedestrian casualties by concentrating on measures to reduce excessive and inappropriate vehicle speeds which are known to be one of the key factors in influencing pedestrian casualty numbers and severity.
- 3.1.5 It is planned that the setting out of a co-ordinated, multi-dimensional Action Plan directed towards the identified areas of greatest concern will help us contribute to achievement for national casualty reduction targets, and pedestrian casualty targets specifically.
- 3.1.6 This Strategy covers the period 2007-2012, and the overall targets have been set in accordance with European Union target of: a reduction in road deaths by 50% by the year 2010 from a base of 2001. This target has then been adjusted appropriately for the timescale of this Strategy. The targets arrived at in the following sections are deemed to be challenging but realistic based on current and recent past trends. Graphical representations of the targets, along with the methods of calculation for each, are included in Appendix A.

Reducing Pedestrian Fatalities

- 3.1.7 As progress towards targets in recent years has slowed, an ambitious target of a 45% (or better) in the reduction in pedestrian fatalities has been set in order to ensure that the wider EU target is also achieved within the lifetime of this Action Plan.

SPECIFIC TARGET

- *To reduce the number of pedestrian fatalities by 45% (or better), from a base of the 2004-2006 average of 72 per annum, to 40 (or better) by 2012*
- *To reduce the proportion of pedestrian fatalities from the 2004-2006 base of 19.1%, to 15% (or less) by 2012*

Reducing Pedestrian Injuries

- 3.1.8 Ireland's target with regard to injuries is to achieve a 25% reduction in overall injuries by 2010. This target is supported in the Pedestrian Road Safety Action Plan and in setting a target for 2012, the main target has been projected to 2012 at a level which ensures that a 25% reduction in serious injuries will have been achieved by 2010. In setting this target, consideration has been made of the potential for reduced speeds, improved vehicle design and other factors which may improve the survival rates of pedestrians involved in collisions.

SPECIFIC TARGET

To reduce the number of injuries by 30% (or better) by the year 2012, from a base of the 2004-2006 average of 948 pedestrian injuries per annum to 632.

Reducing pedestrian injuries in Built Up areas

- 3.1.9 Currently, over 80% of pedestrian casualties in Ireland occur in areas classified as 'built-up', and so the potential for reducing casualties through the implementation of targeted road safety engineering measures, street lighting improvements, and crossing provision and upgrades would be expected to be high.

SPECIFIC TARGET

To reduce the number of casualties occurring in built up areas by 30% (or better) by the year 2012, from a base of the 2004 -2006 average of 809 pedestrian casualties per annum to 556

Child Pedestrians

- 3.1.10 Pedestrians aged 5-16 accounted for 21% of all pedestrian casualties in Ireland in 2006, and one of the key issues of this Action Plan will be to reduce deaths and injuries among these most vulnerable sections of society.

- 3.1.11 The target for reduction in child pedestrian deaths and serious injuries by the year 2010, from a 1994-98 average, but includes all child pedestrian injuries, and takes into account the shorter timescale.

SPECIFIC TARGET

To reduce the number of child pedestrians aged 5-16 by 30% (or better) by the year 2012, from a base of the 2004-2006 average of 220 child pedestrian casualties per annum to 154

Older Road users

- 3.1.12 An international trend towards an ageing population, combined with an increasing involvement of older road users in pedestrian collisions in recent years means that a realistic target for reducing casualty numbers among this age group will require increased efforts to address issues affecting this age group. Key to this will be developing a greater level of understanding of the road safety issues affecting this age group as a first step.
- 3.1.13 Ireland's achievements in recent years have seen an annual average reduction in the number of overall casualties aged 60+ by approximately 3.5%³³, and it is therefore appropriate to reinforce this target for pedestrian casualties in the same age group.

SPECIFIC TARGET

To reduce the number of older pedestrian casualties by 3.5% (or more) per annum throughout the life of this Action Plan.

Vehicle speeds

- 3.1.14 The RSA will support national targets and actions set out in the Road Safety Strategy with regard to speed limit compliance on urban national roads in particular, and supports the extension of the compliance target to urban *residential* roads subject to a 50kph speed limit. The most recent results of free speeds surveys in Ireland indicated that 20% of vehicles in urban residential roads exceeded the 50kph speed limit³⁴, and we would seek to reduce this.
- 3.1.15 The Action Plan encourages measures to focus high visibility enforcement action in locations where there are known pedestrian collision issues.

SPECIFIC TARGET

To increase the compliance levels of cars within the 50kph speed limit on urban residential areas to 90%.

³³ ETSC Road Safety PIN News Release, May 2008

³⁴ 2005 Survey of Free Speeds

Alcohol/ drugs impairment

- 3.1.16 The targets of the Road Safety Strategy with regard to Mandatory Alcohol testing, training programmes, annual reviews of Blood Alcohol levels and measures to introduce a reduced Blood Alcohol Limit are supported.
- 3.1.17 We would seek to include specific monitoring of pedestrian involvement in collisions where alcohol (driver or pedestrian) was a factor.

SPECIFIC TARGET

To increase collection and reporting of rates of Blood Alcohol Concentrations of drivers involved in pedestrian collisions to include all collisions resulting in death or serious injury.

Road Safety Engineering

- 3.1.18 The collision analysis indicated that the majority of pedestrian collisions occurred on single carriageway roads, with 'otherwise crossing' as a main pedestrian factor. We will therefore seek to focus the implementation of measures to assist pedestrians on these roads.
- 3.1.19 European priorities for pedestrian safety consider engineering measures to create safer pedestrian road environments to have five elements, namely reduction in traffic levels, reduction in traffic speeds, implementation of measures at junctions, redistribution of road space (in favour of pedestrians), and the provision of special facilities for pedestrians (such as dropped kerbs).
- 3.1.20 We will encourage Local Authorities, through their Road Safety Plans, to identify high risk locations for pedestrians, and to prioritise these for implementation of appropriate traffic calming and other measures to improve pedestrian safety. The Road Safety Strategy targets with regard to implementation of remedial measures and traffic calming are supported, as these are likely to offer particular benefits for pedestrians.
- 3.1.21 One key action of the Road Safety Strategy is the provision of resources for the implementation of low-cost safety schemes, and the expansion of medium-cost schemes on non-national roads. Therefore the Action Plan will seek to develop a means by which these resources could be effectively targeted towards areas in which the benefits to vulnerable road users such as pedestrians can be maximised.

SPECIFIC TARGET

To put in place a methodology by which Local Authority applications for funding for low and medium costs schemes can be prioritised in terms of pedestrian collision savings.

Evaluation, Monitoring and Review

- 3.1.22 This area has been included for the first time in the Road Safety Strategy. The first key step in any successful monitoring and evaluation activity is the setting of a clear baseline, and central to this is robust data. Thus, as a first step, only two specific targets have been set in this area.

SPECIFIC TARGET

To review the collisions database with a view to providing comprehensive data for the full analysis of the causes and circumstances of pedestrian-involved collisions.

To revise the road collision report (CT68 form) to include a specific measure of the progress towards achieving primary targets with regard to pedestrians

4 Action Plan

- 4.1.1 A hierarchical table of specific actions linked to each of the four areas of Education, Enforcement, Engineering and Evaluation is presented on the pages which follow.
- 4.1.2 The implementation of the Pedestrian Road Safety Action Plan will be overseen and monitored by the Road Safety Authority through the Road Safety Strategy.
- 4.1.3 A preliminary indication of likely costs and benefits is included in Appendix B.

Table 4.1: Action Plan : Primary Actions

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
1 (1)	<p>This Action Plan seeks to reduce the proportion, number and severity of pedestrian casualties occurring on Ireland's Roads by 2012 through a co-ordinated and multi-disciplinary programmes of education, enforcement, engineering and evaluation, as follows:</p> <ul style="list-style-type: none"> ▪ To reduce the proportion of pedestrian fatalities from the 2004-2006 base of 19.1%, to 15% by 2012 ▪ To reduce the number of pedestrian fatalities by 45%, from a base of the 2004-2006 average of 72 per annum, to 40 by 2012 ▪ To reduce the number of pedestrian injuries by 30% by the year 2012, from a base of the 2004-2006 average of 948 pedestrian injuries per annum. 				

Table 4.2: Action Plan : Education and Promotion

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
Road Safety Awareness and Education					
2	Support all actions in the National Road Safety Action Plan which are likely to have a positive impact on pedestrian safety				
3 (2)	Implement an annual programme of co-ordinated nationwide media/ publicity campaigns aimed at pedestrians which directly target the main pedestrian factors of pedestrian collisions, and the most vulnerable groups				
4 (2)	Implement an annual programme of co-ordinated nationwide media/publicity campaigns for drivers which indirectly address the main causal factors in pedestrian collisions, such as alcohol impairment, speeding and unsafe behaviour towards pedestrians				
5	Continue to participate in national campaigns to provide high visibility wear to pedestrians, supported by media campaigns to increase wearing rates				
6 (8)	Ensure awareness of the effects of speed on the likelihood and severity of collisions through inclusion in the road safety education curriculum, and Driver Theory Tests				

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
7 (11)	Undertake a review of road collisions involving pedestrians				
Road User Attitudes					
8	Seek to identify driver attitudes and behaviour towards pedestrians				
9	Encourage the correct and appropriate use of pedestrian facilities where provided				
Education					
10	Undertake a Nationwide Review of current road safety education programmes that are provided through the RSA, in terms of type, target age group, take-up rates, and effectiveness, to assist with future planning.				
11	Continue to support parent and pre-school education and information programmes				
12	Implement targeted and prioritised practical on-road pedestrian training schemes for 5-8 year olds.				
13	Work in collaboration with the Department of Education and Science (DoE&S) and the National Council for Curriculum and Assessment (NCAA) to ensure that the development and implementation of a road safety programme for schools as part of Transition Year				1 st Quarter 2009

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
	contains a high pedestrian safety element.				
14 (7)	Work in partnership with sporting organisations and community groups to implement community-based road safety programmes which include an element of pedestrian safety				
15 (94)	Increase the hazard perception element in driver training programmes, to specifically include pedestrian awareness				
Communication					
16 (16)	Set up a national forum for Road Safety Officers through which information and experience may be shared.				1 st Quarter 2009
17	Engage road users through consultation in order to identify the key safety concerns and problems experienced by pedestrians				

Table 4.3: Action Plan : Enforcement

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
Speed Issues					
18 (34)	Prepare and publish technical/engineering guidance for setting local speed limits paying particular attention to pedestrian safety issues.				
19	Identify locations where speed has been a factor in the cause of collisions and implement a programme which involves installing vehicle activated speed signs or other measures as appropriate to reduce vehicle speeds at these sites and other sites with high pedestrian activity (such as around schools)				
Alcohol/ Drugs Impairment					
20	Support tougher penalties for drivers involved in collisions whilst under the influence of alcohol and/or drugs				
21	Examine the locations of where pedestrian deaths and injuries have occurred with a view to increasing the frequency at which random breath testing occurs.				
22	Design and implement programmes of compulsory re-training for drivers convicted of speed or alcohol-				

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
	impaired offences				
Other driving offences/ Legislation					
23	Implement a programme of high profile random checking of motorists to ensure compliance with new legislation which prohibits learner drivers from driving unaccompanied.				

Table 4.4: Action Plan : Engineering

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
Road Network/ Traffic					
24	Support the objective of the Road Safety Strategy in providing bypasses to remove through traffic from urban areas				
25	Work with Local Authorities to identify locations suitable for implementation of 30kph speed limits and pedestrian priority areas				
26	Consider the redistribution of road space and the creation of pedestrian zones in town centres and locations identified as having high pedestrian flows and a high pedestrian collision rate				
27	Support Local Authorities in carrying out road safety audits				

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
	of shared surface / shared space schemes during all stages of design, from concept to construction, in order to take full account of the specific local conditions that apply.				

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
28	Local Authorities to evaluate and monitor trials of newly implemented shared surface / shared space schemes, and monitor the emerging safety records from throughout Europe, before formulating further policy in this area.				
29	Liaise with schools to identify walking routes used by pupils and implement schemes to reduce traffic and raise awareness of the presence of pedestrians along these routes				

Road Safety Engineering					
30	Review the operation and layout of signal controlled, crossroads and complex junction layouts with a known pedestrian collision record				
31	Identify junction locations with high frequencies of pedestrian collisions and implement junction improvement measures to assist pedestrians crossing at these locations				
32 (59)	Identify locations where collisions have involved pedestrians walking in the road and consider the installation of measures to provide safe, cost-effective segregation as appropriate				
33	Identify high risk locations for pedestrian casualties and implement traffic calming measures as appropriate to				

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
	improve pedestrian safety and reduce traffic speeds				
34 (52)	Implement 80 safety remedial schemes per annum on national roads with priority given to schemes which maximise collision saving potential for pedestrians.				
35 (53)	Put in place remedial schemes at identified pedestrian collision locations on non-national roads – the number of schemes per annum dependent on the size of the local authority.				

Other measures					
36	Design and implement street lighting improvement schemes for built-up areas with known pedestrian collision issues				
37 (64)	Develop stronger rules on planning, to ensure that the road safety benefit for pedestrians is maximised and ensure that pedestrian safety is a consideration in the granting of planning permission				
38 (58/115)	Continue to ensure through Safety Audit that best safety standards with regard to vulnerable road users such as pedestrians are incorporated into the design of safety and road improvement schemes				

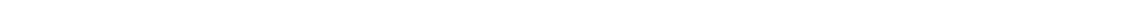
Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
39 (67)	Engage with the motor industry to maximise the provision of approved vehicle safety devices and encourage commitment to EU proposals to produce less aggressive, pedestrian-friendly fronts to vehicles to reduce injury severity				

Table 4.5: Action Plan : Evaluation

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
40	Undertake a review of the national collision reporting database to ensure that the data requirements for comprehensive analysis of the causes and circumstances of pedestrian collisions are met.				
41	Improve the accuracy and consistency of reporting of collisions involving pedestrians.				
42	Local Authorities to set local targets for pedestrian casualty reduction through their Road Safety Plans, and monitor progress towards targets through analysis of the national collision database.				
43 (104)	Expand the coverage of the 'Free Speeds Survey' to include a higher proportion of urban residential roads.				

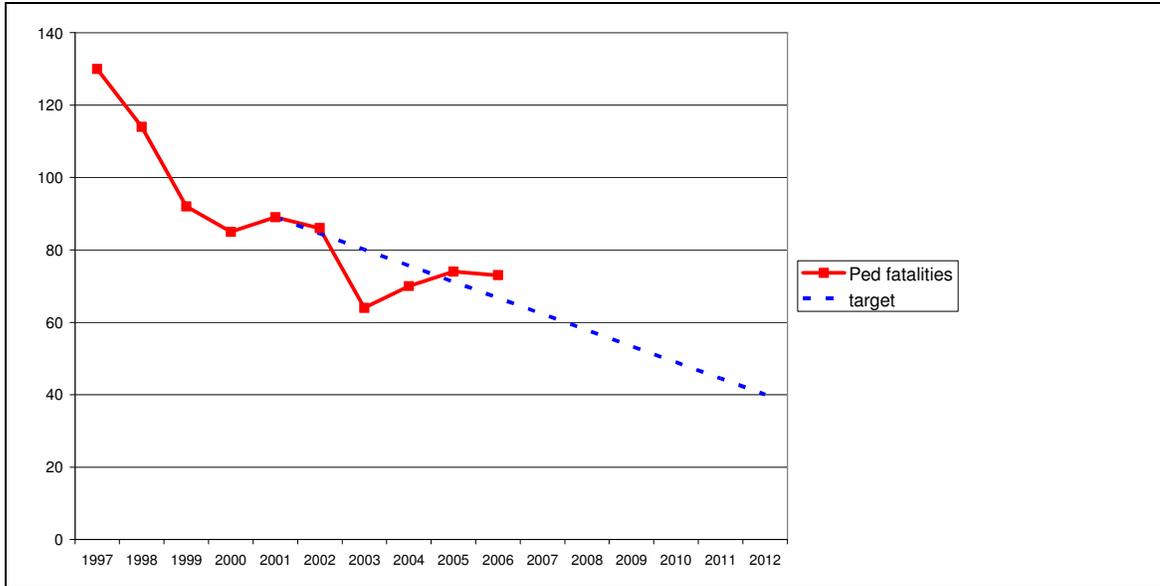
5 Acknowledgements

This document was prepared by Colin Buchannan Ltd who efforts are gratefully acknowledged by the Road Safety Authority



Appendix A – Derivation of Targets

Figure A 1: Target for a 45% reduction in pedestrian fatalities by 2012



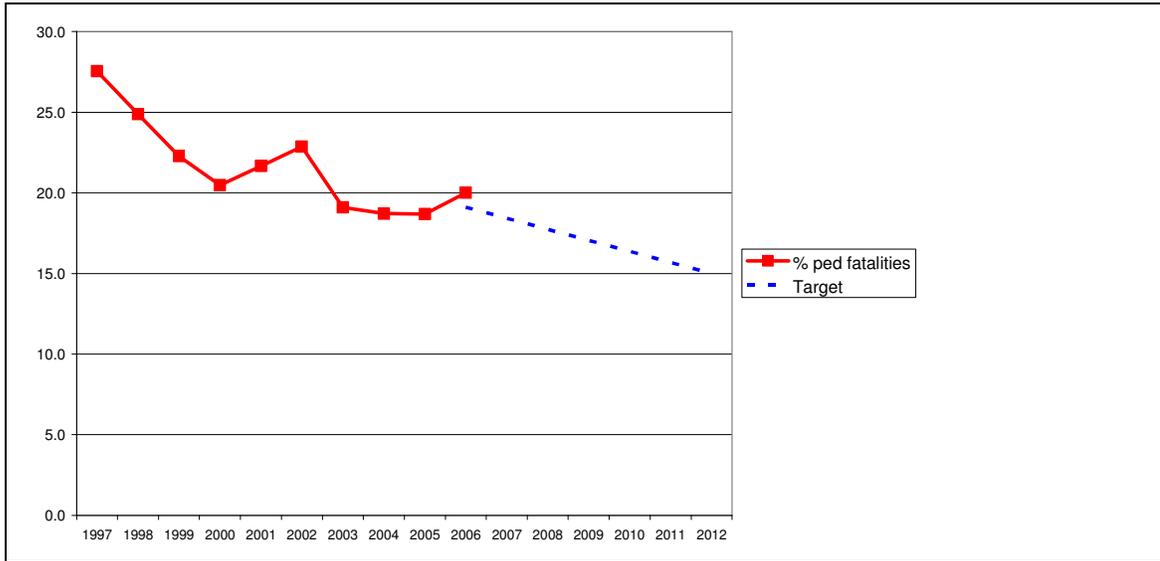
Based on the 2004-2006 average.

Year	Ped fatalities	target
1997	130	
1998	114	
1999	92	
2000	85	
2001	89	89
2002	86	84.06
2003	64	79.12
2004	70	74.18
2005	74	69.24
2006	73	64.3
2007		59.36
2008		54.42
2009		49.48
2010		44.54
2011		39.6
2012		34.66

EU Target

Target is based on a baseline of 2001, with a 50% reduction by 2010
 This has been projected forward to produce a target for 2012
 of a reduction in pedestrian fatalities to 35
 This represents a 51% reduction in pedestrian fatalities from the 2004-2006 baseline of 72

Figure A 2: Target for a reduction in the proportion of casualties who are pedestrians to 15% by 2012

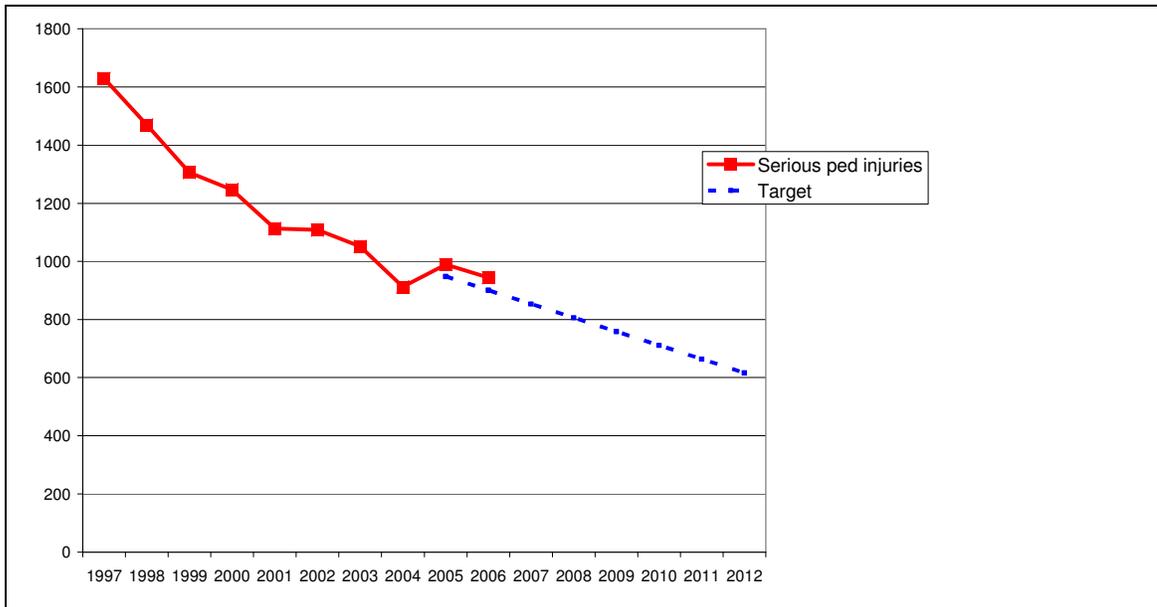


Based on the 2004-2006 average

Year	% ped fatalities	Target
1997	27.5	
1998	24.9	
1999	22.3	
2000	20.5	
2001	21.7	
2002	22.9	
2003	19.1	
2004	18.7	
2005	18.7	
2006	20.0	19.1
2007		18.41667
2008		17.73334
2009		17.05001
2010		16.36668
2011		15.68335
2012		15

0406 average	peds	72.33333
	total	378.3333
	%age	0.191189

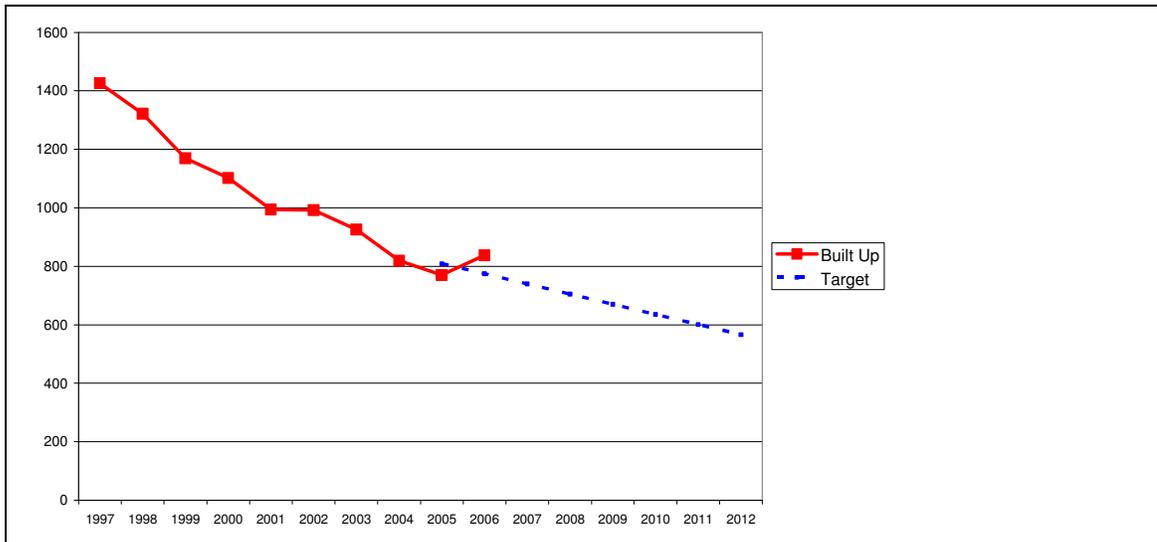
Figure A 3: 30% reduction in pedestrian injuries by 2012



Based on 2004 – 2006 baseline.

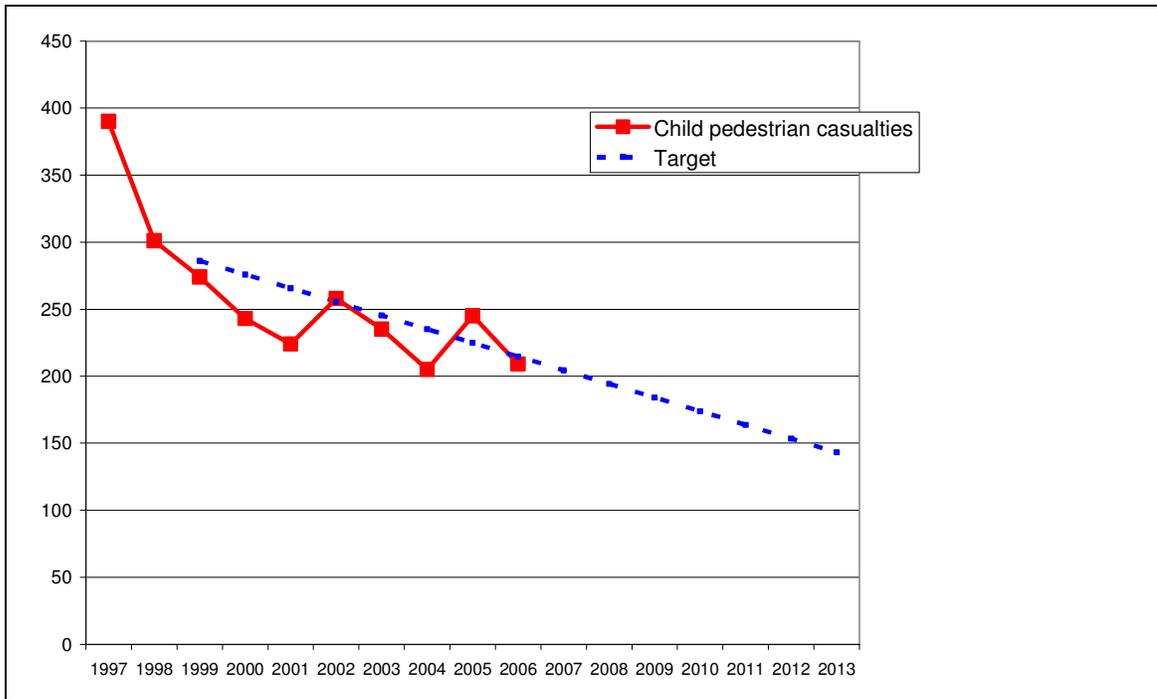
Year	Injuries	Target
1997	1629	
1998	1469	
1999	1306	
2000	1247	
2001	1113	
2002	1108	
2003	1051	
2004	912	
2005	989	948
2006	944	900.6
2007		853.2
2008		805.8
2009		758.4
2010		711 National Target
2011		663.6
2012		616.2
2004-2006		
average		948.3333
25% reduction by 2010 :		711
projected to 2012		
so is a 35% reduction in serious injuries by 2012		616

Figure A 4: 30% Reduction in pedestrian casualties in built up areas



	Built Up	Target
1997	1426	
1998	1322	
1999	1170	
2000	1102	
2001	994	
2002	992	
2003	926	
2004	819	
2005	770	809
2006	838	774.286
2007		739.572
2008		704.858
2009		670.144
2010		635.43
2011		600.716
2012		566.002
2004-2006 average		809
target 30% reduction by 2012		566

Figure A 5: 30% reduction in child pedestrian casualties by 2012



Based on the 2004-2006 average

Year	Child pedestrian casualties	Target
1997	390	
1998	301	
1999	274	286
2000	243	275.8
2001	224	265.6
2002	258	255.4
2003	235	245.2
2004	205	235
2005	245	224.8
2006	209	214.6
2007		204.4
2008		194.2
2009		184
2010		173.8
2011		163.6
2012		153.4
2013		143.2

UK target is 50% reduction by 2010 based on 1994-8 average

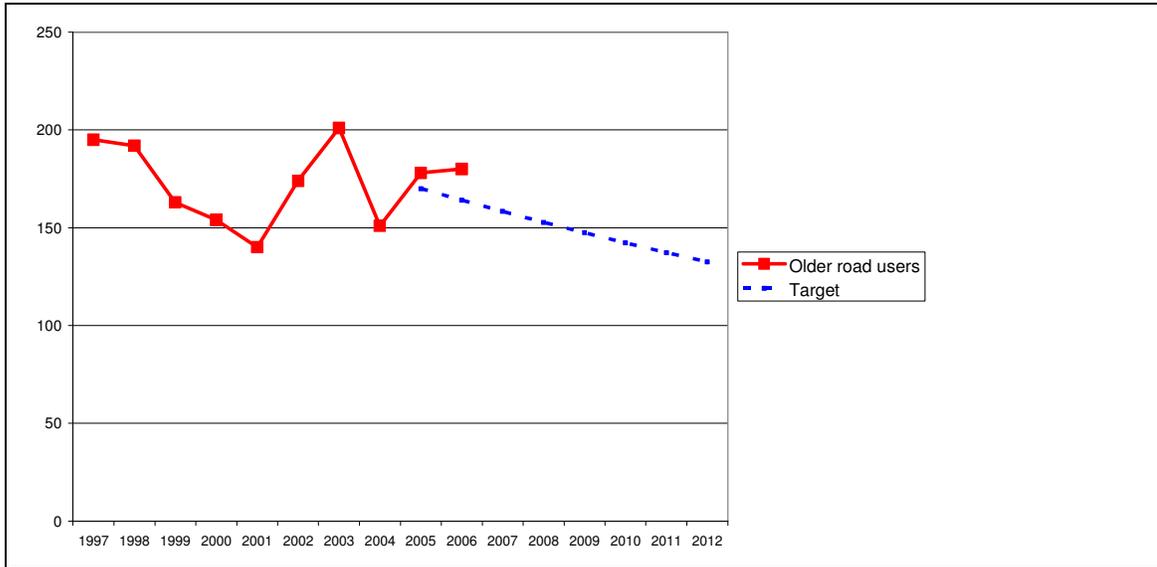
using data 1997 - 2001, we get 286.4

and end year would be 3 years later - 2013 143

taking this back to 2012 to coincide with the end of the Action Plan:

This represents a 30% reduction in child casualties by 2012, to 153 from a base of 220

Figure A 6: Target for reduction in elderly pedestrian casualties by 2012



Based on the 2004-2006 average

	Older road users	Target
1997	195	
1998	192	
1999	163	
2000	154	
2001	140	
2002	174	
2003	201	
2004	151	
2005	178	170
2006	180	164.05
2007		158.3083
2008		152.7675
2009		147.4206
2010		142.2609
2011		137.2817
2012		132.4769

2004-2006 average 170

TARGET 132

3.5% reduction per annum as in recent years (EU reports)

Working To Save Lives



Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

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