



RSA

NATIONAL MOTORCYCLE SAFETY ACTION PLAN

2010 – 2014

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

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Summary

This report sets out a Motorcycle Road Safety Action Plan for Ireland. It covers the period 2010 – 2014. The Action Plan is a requirement under Action 81 of the Road Safety Strategy 2007 – 2012.

The issues identified, subsequent targets set, and 28 separate actions set out to address these have been informed by the results of an in-depth analysis of motorcycle 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 2005-2008 baseline, with completion in the year 2014. Where relevant, existing national targets on reducing fatalities and injuries have been adapted for motorcycle road users.

Consultation Process

This document sought to obtain the input and views of a broad range of stakeholders on the enhancement of motorcycle safety on Irish roads through the development of a fully integrated Motorcycle Safety Action Plan. We heard from motorcyclists, drivers, interest groups and others who had views, advice and suggestions as to how policy can be developed so as to:

- reduce the incidents of deaths and injuries to motorcyclists;
- support the development of motorcycling as a safe and viable means of mobility;
- attain and surpass international best practices in the area of motorcycle safety.

The consultative process commenced on the 24th April 2009 and lasted until the 31st July 2009.

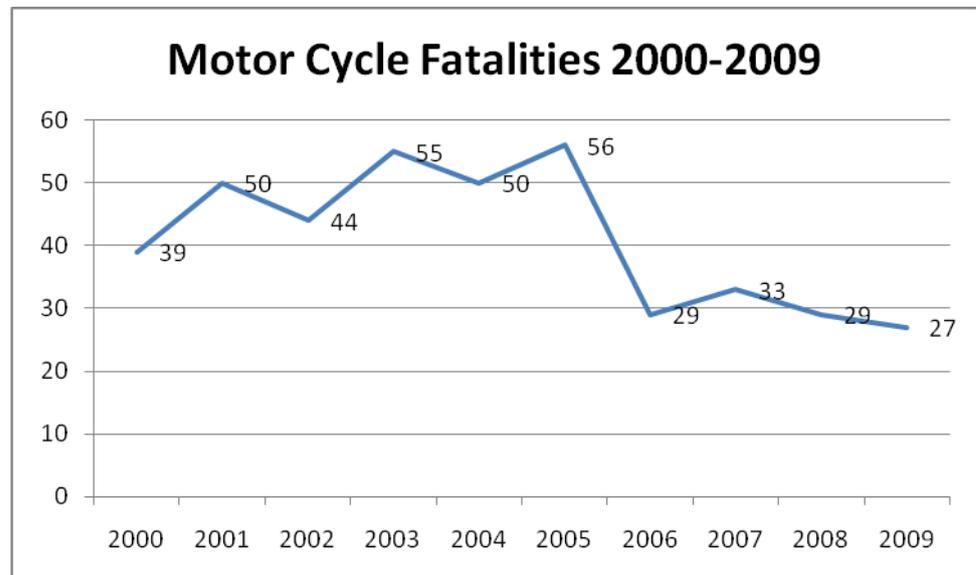
1 Introduction

1.1 Why we need a National Motorcycle Safety Action Plan

1.1.1 The Road Safety Strategy 2007-2012 was published in October 2007, and provides a summary of general collision statistics and trends, and comparisons with other European Union (EU) Member States.

1.1.2 Best practice countries in the EU have achieved a reduction to 50 road deaths per million of the population per annum and are already committed to improving this position by a further 20%. Ireland currently ranks 7th out of 27 countries in the EU, with an annual rate of 54 deaths per million population¹. To join best practice countries in the next 5 years the Road Safety Strategy must reduce annual deaths to between 50 to 60 deaths per million, and the first specified target contained in the National Road Safety Strategy (2007-2012) is to:

'Reduce fatalities to not greater than 60 fatalities per million by the end of 2012 and 50 or fewer in the following years with demonstrable downward reductions in each year of this Strategy'.



1.1.3 Motorcyclist fatalities accounted for approximately 11% of all fatalities in 2009, this percentage has been constant over the previous 2 years, but up on 2006 when the level was 8%. From 2000-2005 the trend was higher reaching 16% in 2003 and so reducing, and maintaining, a low level of fatalities among motorcycle users will do much to contribute to achieving this national target.

1.1.4 Thus, the requirement for a dedicated Motorcycle Safety Action Plan was identified, and was included in the Action Plan² in the Road Safety Strategy (2007 – 2012) with the specified objective to:

'Research, develop and publish a national motorcycling safety strategy incorporating best practice engineering, education and enforcement issues'.

¹ Source: ETSC 2010

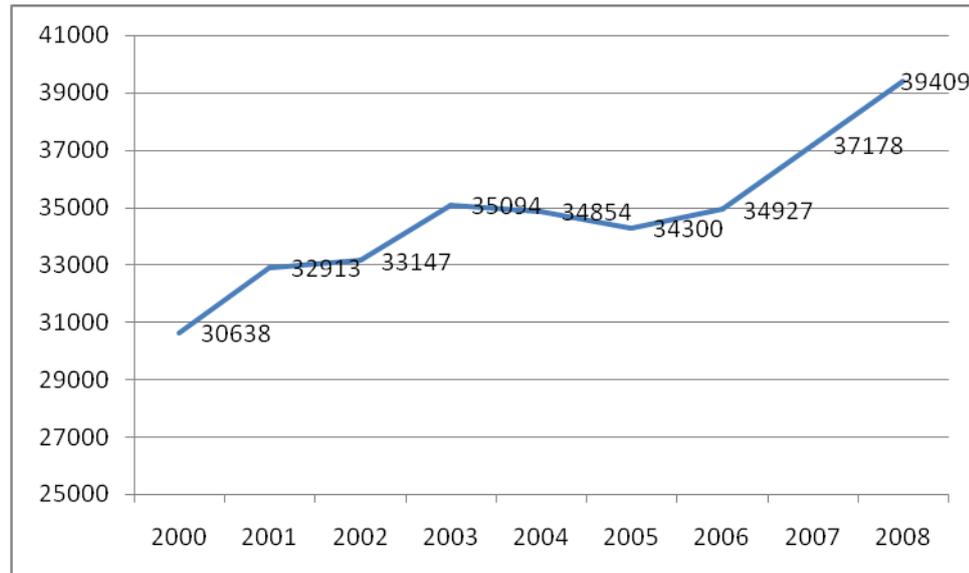
² Action No 81, Other Road Safety Measures

1.2 Background

1.2.1 Motorcyclists are vulnerable road users. From 2000-2009, 412 motorcyclists were killed. In 2008, 29 motorcyclists were killed and a further 494 were injured³ on Ireland's roads, accounting for 12% of all fatalities, and almost 5% of all casualties resulting from road collisions in the country. This is of particular concern since motorcycles accounted for less than 2% of all licensed vehicles in the Republic from 2000-2006 but this rate fell to 1% from 2007⁴.

1.2.2 The trend in motorcycles registered in Ireland over the last decade is shown in Figure 1:1. The total number now stands at nearly 40,000.

Figure 1.1: No. of registered motorcycles in Ireland over time



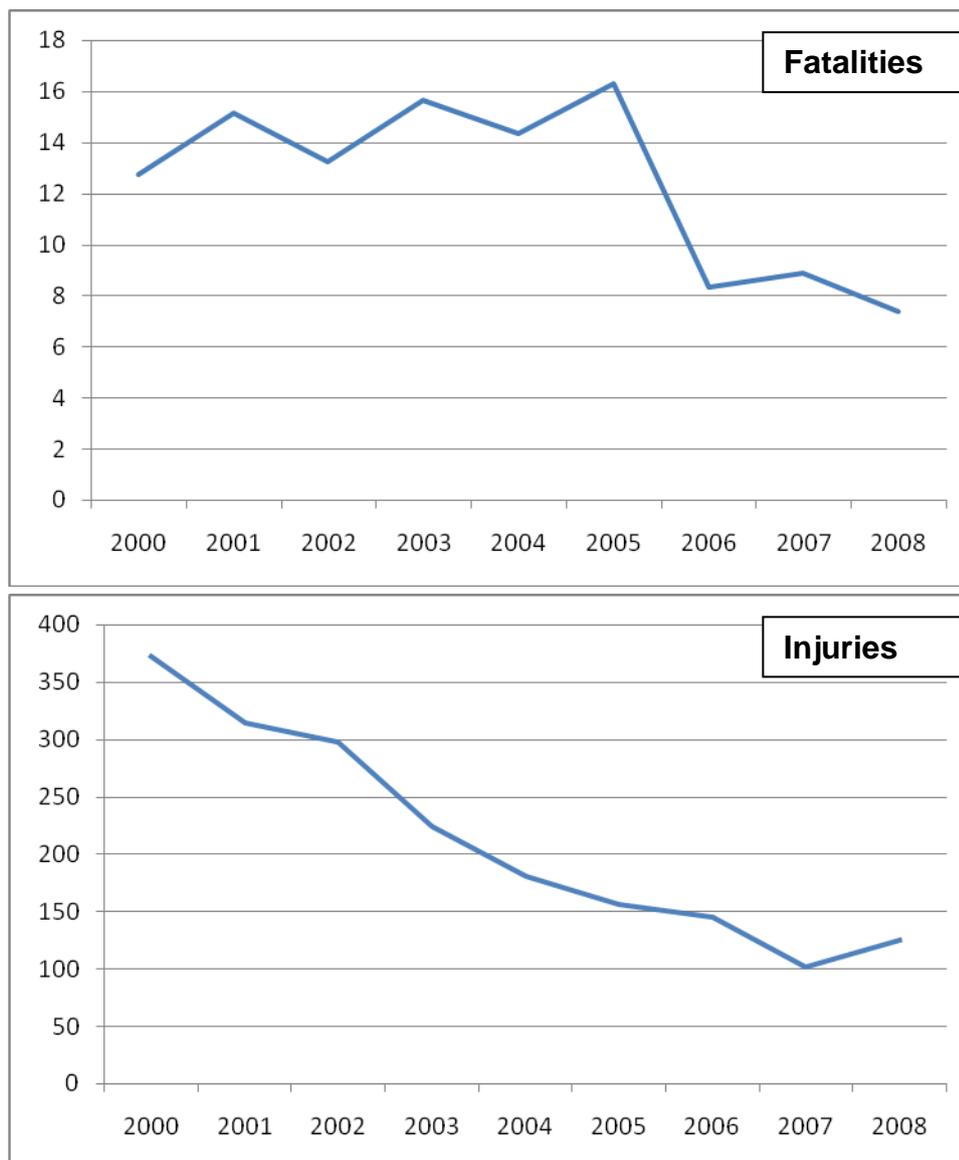
1.2.3 This trend contrasts with the motorcyclist fatality and injury rates per 10,000 registered motorcycles in Ireland over the same period, as seen in Figure 1.2:

- Slight upward trend to fatalities to 2005 followed by a sharp dip at 2006 and constant since;
- Marked downward trend in injuries throughout the period, with an increase in 2008.

³ Source: Road Collision Facts 2007. For a further elaboration of the figures, see National Motorcycle Safety Strategy, Technical Report, which complements this document.

⁴ Source: Road Safety Strategy 2007-2012

Figure 1.2: Trend in motorcyclist fatality and injury numbers per 10,000 registered motorcycles



1.3 Ireland's position in the EU

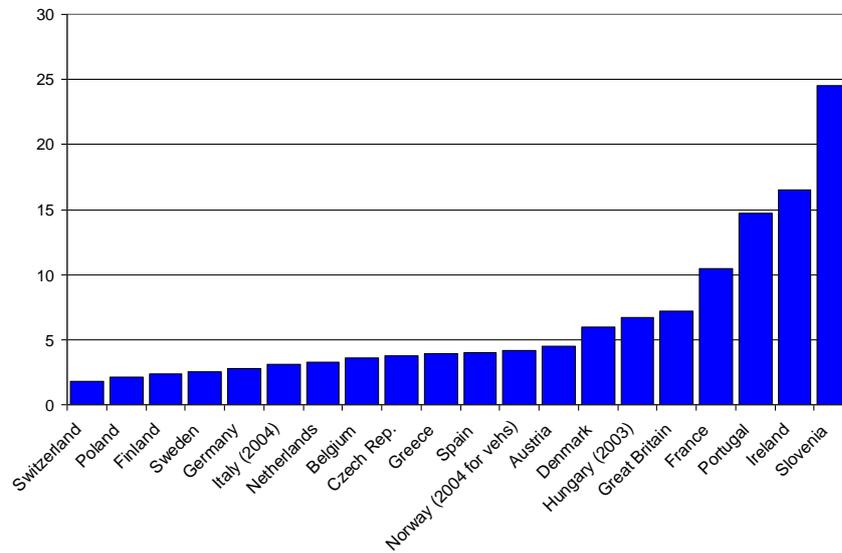
1.3.1 According to OECD figures, a motorcyclist is two to three times more likely to be killed in Ireland than in other European countries⁵

1.3.2 In terms of fatality rates *per 10,000 registered motorcycles*⁶, Ireland was found to have the second highest rate amongst the twenty countries compared. This is shown in Figure 1.3, below.

⁵ Source: Road Safety Strategy 2007 – 2012, p. 77.

⁶ Note: this was reported at http://www.erso.eu/knowledge/content/45_poweredtwowheelers/moped_and_motorcycle_fatality_rates.htm as the rate per 10,000 vehicles.

Figure 1.3: Motorcyclist fatality rates across the EU per 10,000 registered vehicles



Source: http://www.erso.eu/knowledge/content/45_poweredtwowheelers/moped_and_motorcycle_fatality_rates.htm⁷.

⁷ The rates for mopeds and motorcycles were provided separately in the above source but are combined here. Note also that the rates may have been calculated for different years, depending on when data was available.

2 Motorcycle Safety Action Plan

2.1 Key Issues from Casualty/ Collision Analysis

- 2.1.1 The Technical Report that is available at www.rsa.ie provides a more detailed presentation and analysis of motorcyclist casualties and collisions occurring on Ireland's roads, together with a review of the international literature and Best Practice.
- 2.1.2 A number of issues emerged from the collision and casualty analysis which have been used to inform and guide the specific actions set out in this National Motorcycle Safety Action Plan, as follows:

Who are the motorcyclists most likely to be killed and injured

- Males in the age group 17-39 have the highest killed and injured rates⁸.
- Males in the age group 20-24 have the highest killed rates⁹

When Are Motorcyclists More Likely To Be Killed or Injured?

- Weekend days have higher collision numbers than week days
- The summer months of May to September show the highest motorcyclist collision numbers
- 27% of motorcyclist collisions occurred between 4pm and 7pm
- 32% of all motorcyclist fatalities occurred during the hours of darkness
- Peaks occur in the morning and evening peak hours during weekdays

Where Are Motorcyclists Being Injured?

- 71% of motorcyclists were killed or injured in built-up areas
- The number of motorcyclists killed on two-way carriageways showed an upward trend until 2006.
- 35% of motorcycle collisions occurred at junctions

What Happened?

- In the majority of the motorcycle casualties analysed, the contributory actions were not recorded.
- In collisions where the contributory factors of motorcyclists were recorded, these were:
 - 'exceeded safe speed limit',
 - 'went to wrong side of the road'
 - 'improper overtaking'
- 14% of motorcyclist casualties resulted from collisions involving other vehicles driven by unaccompanied learner drivers.

2.2 Report Structure

- 2.2.1 The Motorcycle Safety Action Plan sets out the intentions of the Road Safety Authority (RSA) to improve the safety of motorcycling and hence reduce casualties. The issues to be addressed are presented in terms of the traditional four E's of road safety - Education, Enforcement, Engineering and Evaluation - together with a 'fifth E' of Equipment (and technology). They are covered in the following chapters:
- Chapter 3: Engineering, Traffic Management and Planning

⁸ per 100,000 population per annum

⁹ per 100,000 population per annum

- Chapter 4: Equipment and Technology
- Chapter 5: Enforcement
- Chapter 6: Education, Encouragement and Promotion
- Chapter 7: Monitoring, Evaluation, and Review

2.2.2 The specific Targets and Action Plan by which the Action Plan will implemented are contained in Chapters 8 and 9 respectively, and together, these seven chapters comprise Ireland's first National Motorcycle Safety Action Plan.

3 Engineering, Traffic Management and Planning

3.1 Overview

3.1.1 Seventy one percent of motorcycle casualties in Ireland occur on roads in a 'built-up' environment and 35% of motorcycle collisions occur at junctions. There is a need to increase the awareness of road traffic engineers about special needs of motorcyclists in relation to road design and maintenance. Methods of improving the safety of motorcyclists require careful research to ensure that the safety of other road users is not compromised.

3.1.2 This chapter sets out the position with regard to:

- Infrastructure/ Road Design
- Road Safety Audit
- Planning Policy Guidelines and Travel Planning

3.2 Infrastructure

Road Design / Surface Condition

3.2.2 In an Australian study¹⁰ which analysed 205 collisions cases, 15% were found in which the road surface had contributed to the collision. In more than half of all cases some site factor (of various kinds, including lack of vision) was involved¹¹. The MAIDS¹² study, which involved analysis of 921 collisions involving motorcyclists, reported roadway defects in 30% of all cases, although this did not necessarily mean that the defect contributed to the collisions, but were present.

3.2.3 Although there is no specific information available as to the comparative figures for Ireland, the importance of good road design and provision of infrastructure which takes account of the specific needs of motorcyclists as road users cannot be ignored.

3.2.4 The European Motorcycle Industry has prepared 'Guidance for Powered two-wheeler Safe Road Design'¹³. This is an inventory of aspects that are relevant for the safety of powered two-wheelers with attention to road design (e.g. roundabout design, broader lanes on certain urban road to enable safer passing), road maintenance, traffic engineering and traffic management, and includes such factors as surface grip, consistency and bends. Surface grip and consistency variations can affect motorcycle stability when leaning, braking or accelerating, which can in turn lead to loss of control, particularly on bends in the road.

3.2.5 ***The Motorcycle Safety Action Plan will seek to encourage reference to European documents and inventory checklists by designers and contractors when designing and constructing new roads or improvements to existing roads.***

¹⁰ Haworth et al, reported on ERSO website

¹¹ See Technical report for details.

¹² Motorcycle Accident In-Depth Study, 2004. Available at: <http://www.maids-study.eu/>.

¹³ Available at http://acem.eu/media/d_ACEMInfrastructurehandbookv2_74670.pdf

- 3.2.6** *The Motorcycle Safety Action Plan therefore supports the introduction of a reporting system whereby motorcyclists can alert the appropriate authority to the presence of safety issues such as potholes.*

Safety Barriers

- 3.2.7** The design of guard railing has traditionally been geared towards the prevention of car/ object collisions rather than collisions involving motorcyclists.
- 3.2.8** The Institute of Highway Incorporated Engineers (IHIE)¹⁴ has reported that although some studies indicate that certain types of barrier may be of greater risk to motorcyclists (unprotected posts where motorcyclists have become detached from their vehicles, from projections associated with barriers, or from sliding beneath barriers), the general conclusion is that further research is needed into the effects on safety of different designs of safety barriers with regard to motorcyclists.
- 3.2.9** On sections of motorway in the UK¹⁵, the Highways Agency has installed BikeGuard which is a new safety barrier system consisting of a metal panel fixed onto the upright barrier support posts. This safety feature helps to protect motorcyclists who fall from their bikes.
- 3.2.10** *The Motorcycle Safety Action Plan will seek to ensure that motorcyclists' safety is taken into consideration when safety barriers are installed or maintained and will aim to comply with the standards set out in TD 19/07¹⁶ and BD 52/07¹⁷ or similar..*

Lighting And Drainage

- 3.2.11** Provision of adequate lighting and drainage are also important elements of safe road design. Ponding in icy conditions can be particularly dangerous for motorcyclists and in the absence of adequate lighting provision motorcyclists may be unable to see the detail of the road surface, thereby increasing the potential for them to overrun a hazard or misunderstand the road layout.
- 3.2.12** *The Motorcycle Safety Action Plan will promote improvements to lighting in areas where a high percentage of motorcyclist casualties have been identified or locations with similar characteristics to those at which collisions have occurred.*
- 3.2.13** *The Motorcycle Safety Action Plan will also endorse regular and proactive street inspections in order to provide a rapid response to rectify blocked gullies giving rise to ponding and to repair street lighting.*

3.3 Road safety audit

- 3.3.1** The requirements of a road safety audit are outlined in National Roads Authority Design Manual for Roads and Bridges Vol. 5 Sect 2 Part 2: NRA HD19/04 – Road Safety Audits and Vol 5 Sect 2 Part 3: NRA HA42/04 – Road Safety Audit Guidelines. There are four stages involved¹⁸. When a road safety audit is undertaken at any of these stages, the safety of all modes of transport is considered.

¹⁴ IHIE Guidelines for Motorcycling, version 1.1

¹⁵ M27 and M4

¹⁶ Safety Barriers, National Roads Authority, Volume 2 Section 2 Part 8A NRA TD 19/07

¹⁷ The Design of Road Bridge Parapets, National Roads Authority, Volume 2 Section 3 Part 3 NRA BD 52/07

¹⁸ Stage F – Route Selection Stage, prior to route choice, Stage 1 – Completion of preliminary design prior to land acquisition procedures, Stage 2 – Completion of detailed design, prior to tender of construction contract, and Stage 3 – Completion of construction (prior to opening of the scheme to traffic wherever possible)

As vulnerable road users, the aspects of design likely to affect motorcyclists may be different from those affecting other motorised road users, and care should be taken to ensure that these are not overlooked.

3.3.2 The dynamics of a motorcycle are very different to that of a four-wheeled vehicle and therefore it is important to consider the following factors when undertaking Road Safety Audits:

- The line taken by a motorcyclist through a bend or a junction may differ from that taken by other road users, and should therefore be free from items which may reduce skid resistance (such as service covers and gully gratings)
- Road markings should be laid to the relevant skid-resistant specification as they may become slippery when wet
- The requirement for a clear zone around bends (free from unprotected street furniture and sign clutter and occupied by safety barriers which are motorcycle-friendly).
- The potential for unpredictable surface irregularities in the form of poor surface 'tie-ins', badly designed or poorly located traffic calming features, areas likely to retain surface detritus and poorly designed drainage provision
- The awareness of the importance of consistent skid resistance.

3.3.3 *The Motorcycle Safety Action Plan will recommend that issues of concern to motorcyclists are considered in all road safety audits undertaken on Ireland's roads and that the outcomes of these audits are monitored.*

4 Equipment and Technology

4.1 Overview

4.1.1 This chapter considers aspects of motorcycle design and the technology available to improve safety for motorcyclists and includes the following sections:

- Vehicle design
- Protective clothing
- Visibility and daylight running lights
- Fuel Spillages

4.2 Vehicle design and Testing

Motorcycle Design

4.2.2 Good machine design can reduce injuries. The European Motorcycle Accident In Depth Study (MAIDS report), which investigated collisions involving motorcyclists in five European Countries, focused on collating data from collisions relating to the physical design of the vehicle(s) involved in the collision as well as contributory factors and the resultant casualties of the collision. The Advisory Group on Motorcycling (AGM)¹⁹ considered that the results of this research could provide useful insights and supporting information on the main areas to improve safety.

4.2.3 A safety rating system, similar to that used for new cars (EuroNCAP), could be a useful tool providing the consumer with information regarding the safety of individual vehicle designs.

4.2.4 From June 1999, new motorcycle types or models became subject to a new system of 'European Whole Vehicle Type Approval' (EWVTA) which:

- Harmonised construction requirements and standards throughout the EU and;
- Requires independent approval and verification through government agencies

4.2.5 Successful braking without losing control is often more difficult for motorcyclists than for drivers of four wheeled vehicles, due to the former being more difficult to balance, and because such vehicles often have separate rear and front brake controls²⁰

4.2.6 In a special study on the role of braking in collisions, Sporer²¹, used a sample of 502 injury collisions in 2001-2002 in Germany. It was estimated that between 10-15 collisions may have been avoided, and a further 30 would have resulted in less serious injuries if the rider had been able to use an anti locking brake system (ABS), as use of such brakes was considered to have reduced collision speeds and lessened the risk of loss of control. However the introduction of anti-lock braking systems on motorcycles which can help improve stability of the vehicle has been restricted due to cost.

4.2.7 ***The Motorcycle Safety Action Plan will support European initiatives to improve motorcycle design and braking systems including EuroNCAP for motorcycles.***

¹⁹ source: <http://www.dft.gov.uk/pgr/roadsafety/drs/cyclingandmotorcycling/sorygrouponmotorcyclingf4638.pdf>

²⁰ source: ERSO website: Powered Two Wheelers - Use of Powered Two Wheelers

²¹ source: ERSO website: Powered Two Wheelers – Prevention of Accidents – Braking a PTW

Motorcycle Testing

- 4.2.8** Currently, motorcycles are not required to be tested in a scheme equivalent to the National Car Test, NCT. While it is accepted that there is little evidence that defective motorcycles are a major factor in causing collisions it is a matter of equity that all vehicles of the road should be maintained to the safest level possible.
- 4.2.9** ***The Motorcycle Safety Action Plan will undertake a cost benefit analysis on the introduction of a road worthiness test for motorcycles.***

Car Design

- 4.2.10** Changes in car design can have had a positive impact on occupant safety. However, in some cases, the impact on the safety of motorcyclists has been called into question. One particular aspect of car design which has affected the safety of motorcyclists is the increased width of the windscreen pillars which has enlarged a driver's blind spot. This problem is particularly concerning at junctions where traffic merges making cyclists and motorcyclists temporarily invisible to car drivers.
- 4.2.11** A broader potential problem is the increase in the use of vehicles with an increased height bonnets (Sports Utility Vehicles) and greater mass. Although the sales of these vehicles is possibly in decline at present, the RTA research literature shows that collisions involving SUVs cause more deaths and serious injuries among pedestrians and cyclists as well as drivers and occupants of smaller vehicles²². It is also likely that such designs will have a negative impact on the severity of injuries sustained by motorcyclists involved in such collisions²³.
- 4.2.12** In recent years there has been a tendency for some car manufacturers to incorporate concentric circular lamps in rear light clusters with rear lights and brake lights surrounding the indicator lamp. At night, and particularly when it is raining, the amber indicator lamp is masked by the surrounding glare of the red rear or brake lights. This could make it difficult for following vehicles to interpret a driver's actions and puts motorcyclists (and other vehicles) at risk when considering a passing manoeuvre of the slower vehicle.
- 4.2.13** Window tinting can reduce a driver's visibility in certain driving environments and this has the potential to decrease road safety. The loss of any potential eye contact between the driver of window tinted vehicles and other road users represents a safety risk. This is particularly the case for motorcyclists (and cyclists) who depend more than other car drivers on making eye contact with the driver.
- 4.2.14** ***The Motorcycle Safety Action Plan aims to follow-up research into the impact of the use of larger vehicles, the impact of thicker windscreen pillars, the possible hazards of rear light clustering arrangements in car design on motorcyclist safety, prior to formulating policy on this aspect of car design.***

4.3 Protective Clothing

- 4.3.1** Helmets are designed to reduce the likelihood of head injury when a motorcyclist is involved in a collision, and the wearing of items of protective clothing such as heavy boots, leathers and gloves can lessen the severity of contact injuries (such as scratches and skin damage), and therefore should be encouraged. The defensive

²² See for instance DE Lefler & HG Gabler (2004) in Accident Analysis and Prevention: 36, 295-304, 'The fatality and injury risk of light truck impacts with pedestrians in the United States'.

²³ Note that at present SUVs are classified as cars on collision database, which means that no statistical data can be provided about trends in crashes involving these vehicles.

riding mindset begins when the rider puts on protective clothing. This mind-set, along with appropriate PPE, training, etc. is what protects the rider on the road.

- 4.3.2 On the basis of four studies, Elvik & Vaa²⁴ estimated the effectiveness of protective clothing in reducing injuries, and concluded that the use of protective clothing reduces the probability of minor injury in a collision by 33-50%. This applies to the use of gloves, boots and clothing.
- 4.3.3 ***The Motorcycle Action Plan will encourage retailers, trainers and user-groups to recognise and promote the importance of wearing protective clothing to help to reduce the seriousness of injury.***
- 4.3.4 ***The Motorcycle Safety Action Plan requires research into the use of Personal Protective Equipment for motorcyclists and the potential benefit in reducing serious injuries.***
- 4.3.5 ***The Motorcycle Safety Action Plan will promote the use of Personal Protective Equipment including helmets for motorcyclists***
- 4.3.6 Based on a study of injuries sustained by motorcyclists in the Strathclyde region of Scotland²⁵, the Transport Research Laboratory estimated that improvements in helmet design could reduce motorcyclist fatalities in Great Britain by 20%. The UK has led a European research project to improve the minimum standards of helmets and visors. Further studies support this, and indicate that head injuries would have been much more frequent if helmets had not been worn²⁶.
- 4.3.7 ***The Motorcycle Safety Action Plan will support the enforcement of helmet wearing among all motorcyclists.***

4.4 Visibility/ daytime running lights

- 4.4.1 Motorcyclists may be more difficult to see because of their relatively small frontal area (compared to cars and other vehicles),²⁷ which could reduce safety for these vulnerable road users. Indeed, 68% of collisions in Ireland in the last three years occurred during daylight hours when visibility was good.
- 4.4.2 Two means by which the conspicuity of motorcyclist may be improved include the wearing of high visibility clothing, and the use of daytime running lights by motorcyclists.

High visibility clothing

- 4.4.3 The recent surveys commissioned by the Road Safety Authority and conducted across the Irish Republic have reported high visibility clothing wearing rates of approximately 40% by motorcyclists. It is notable however that there are significant variations between the larger cities where wearing rates are higher and regional towns where rates are substantially lower. In addition the surveys have identified that, on average, almost 50% of high visibility clothing is obscured, for example by a "back-pack".
- 4.4.4 ***The Motorcycle Safety Action Plan will seek to address the variation in wearing rates and improve overall rates, especially outside the larger cities and to reduce the incidence of obscured high visibility clothing. The***

²⁴ http://ec.europa.eu/transport/road_safety/specialist/knowledge/pdf/powered_two_wheelers.pdf . as downloaded on the 26th September 2011

²⁵ Tomorrow's Roads - Safer for Everyone, 2007. UK Department for Transport

²⁶ ERSO website

²⁷ IHIE Guidelines for Motorcycling

Motorcycle Action Plan will increase wearing of high-visibility clothing by motorcyclists from 40% to 75%.

- 4.4.5** ***The Motorcycle Safety Action proposes the introduction of regulations for the mandatory wearing of high visibility upper body clothing with full sleeves for ride and pillion passenger.***

Daytime running lights (DRL)

- 4.4.6** Some EU Member States have mandatory requirements for motorcyclists to use dipped beam lamps while other countries have mandatory provisions for all vehicles. The European Commission has decided to introduce dedicated Daytime Running Lights (DRLs) on all new types of motor vehicles from the year 2011 onwards²⁸.
- 4.4.7** The use of dipped headlights by motorcyclists can help to improve the conspicuity of motorcyclists during the day time, but this cannot always be seen to be the case.²⁹
- 4.4.8** The effects of headlights and reflective/fluorescent clothing in practice have been studied in a case control study in New Zealand with 463 collision cases from 1993-1995 and 1,233 controls. The relative collision rate was corrected for other factors such as age and experience of the rider and found to be 27% lower for motorcycles with the headlight on during daytime and 37% lower for riders with reflective or fluorescent clothing.³⁰
- 4.4.9** Bijleveld used collision statistics from Austria and calculated a saving of 35% of collisions between car and motorcycle during daylight after the introduction of compulsory use of headlights by motorcyclists (compared to a situation with 0% use)³¹, which suggests that this practice could improve safety for motorcyclists.
- 4.4.10** ***The Motorcycle Safety Action Plan will seek to continually monitor the assessment of safety benefits of daytime running lights for motorcyclists and will liaise with user group representatives and manufacturers to gather evidence for and against the introduction of such measures in the Irish Republic.***

4.5 Fuel spillages

- 4.5.1** In March 2000, the EC Fuel Tank Directive was amended with new measures aimed at reducing fuel spillages. The role of fuel spillages in motorcycle collisions requires further investigation; however there is continuing concern amongst motorcyclists regarding the effect that these spillages have on increasing the potential for loss of control.
- 4.5.2** The UK is working with the 'Kill Spills' organisation responsible for an annual award scheme recognising companies that seek to minimise fuel spillages. 'Kill Spills' has reported a reduction in the number of spillage collisions but this may be due to awareness and not less spillage. The organisation has produced leaflets warning of the potential dangers of fuel spillages and these have been widely distributed.
- 4.5.3** ***The Motorcycle Safety Strategy will seek to ensure that the safety implications of fuel spillages for motorcyclists are well publicised.***

²⁸ http://www.rsa.ie/NEWS/News/Daytime_running_lights.html The RSA ran a campaign on DRL in October 2008, in the run-up to the bank holiday weekend.

²⁹ ERSO website: cites several cases with varying results.

³⁰ ERSO website

³¹ http://www.erso.eu/knowledge/content/45_poweredtowheelers/conspicuity_devices.htm

5 Enforcement

5.1 Overview

- 5.1.1 In order to be effective, enforcement needs to be intelligence-led and targeted. It should be consistent and transparent so as to achieve the most satisfactory result; proportionate to the risks to individuals, property and the degree of seriousness of the offence, and if effectively and consistently applied may ultimately change road user behaviour and attitudes. A key measure of success in enforcement is achieving increased levels of compliance with road traffic law³².
- 5.1.2 The Penalty Points System has been introduced in stages in the Republic since October 2002³³, with the aim of influencing and improving the behaviour of all drivers. There are currently 42 penalty point offences,³⁴ broadly grouped into five categories (speeding, insurance, careless driving, national car testing and seatbelt violations). Of these, all but the last category are applicable to motorcyclists.
- 5.1.3 This chapter considers several aspects of enforcement, namely:
- Speed Issues
 - Alcohol and Drug Impairment

5.2 Speed Issues

- 5.2.1 The Road Safety Strategy has set out speed limit compliance related targets which have been derived from a review of compliance levels in best practice countries in the EU. Based on the results of the RSA Free Speed Survey 2006 and international practice, it is the aim to increase compliance with speed limits on urban national roads (of 50km/h) from 18% to 60% or better by 2012.
- 5.2.2 Up until 2008 the free speed surveys, carried out annually by the NRA and subsequently the RSA, did not include motorcyclists. The 2008 surveys did not exclude motorcyclists. However the methodology used did not target motorcyclists specifically. Therefore the sample size for motorcyclists is small and it is not possible to draw firm conclusions about the levels of compliance with speed limits by motorcyclists.
- 5.2.3 ***The Motorcycle Safety Action Plan will research best practice in order to identify viable survey methods to record and report motorcycle speeds and hence quantify and assess the level of non-compliance.***
- 5.2.4 ***The Motorcycle Safety Action Plan will see a focus on the detection of motorcyclists who travel at inappropriate speeds. The Garda Síochána Safety Camera Project will detect such offenders at their bi-directional enforcement locations. *****

***** Motorcyclists are not required to have front number plates and so can only be detected speeding from the rear by safety cameras. Bi-directional locations, which are most common, will detect motorcycles speeding, travelling in either direction on the road.***

³² Road Safety Strategy 2007-2012

³³ Governed by the Road Traffic Act 2002

³⁴ website: www.citizeninformation.ie

- 5.2.5 A study performed by ICF Consulting prior to the EU enlargement in 2004³⁵ suggested that good enforcement practices could prevent 5,800 road deaths resulting annually from speeding across the EU countries.
- 5.2.6 Intelligent Speed Adaptation (ISA) ISA is a general term for a mechanism which aims to increase speed limit compliance through raising awareness of the speed limit, and physically restricting the speed of the vehicle if necessary. A recent report produced by the University of Leeds³⁶ predicted that ISA can have a large effect on future collision numbers and particularly on the more severe crashes. However this report did not focus on motorcycles.
- 5.2.7 ***The Motorcycle Action Plan will review research into Intelligent Speed Adaption (ISA) as it emerges, and will take particular interest in its compatibility with motorcycles.***

5.3 Alcohol and Drugs Impairment

- 5.3.1 Irish Research³⁷ indicates that almost one in three³⁸ drivers / riders involved in fatal road collisions in 2003, where alcohol was a factor, were motorcyclists. This figure is marginally higher than in Australia and Finland where alcohol is a factor in 25% of fatal crashes³⁹.
- 5.3.2 In addition, the average age of a motorcyclist killed in an alcohol-involved collision in Ireland in 2003 was only 31 years: six years younger than the average age of killed car-drivers. In July 2006 Mandatory Alcohol Testing (MAT) was introduced in Ireland, and it has become a criminal offence to refuse to provide a sample⁴⁰.
- 5.3.3 ***The Motorcycle Safety Action will target motorcyclists in any national or local campaigns to discourage drink-driving, and in any enforcement activities.***
- 5.3.4 Further and more reliable statistics on the incidence of drink/drug riding are needed, as is further examination of the toxicology reports of road traffic collision victims.
- 5.3.5 ***The Motorcycle Safety Action Plan will seek to improve the recording and monitoring of motorcyclist collisions resulting from excess alcohol or drug intoxication.***

³⁵ Best Practices in Road Safety – Handbook for Measures at Euro Level, 2007 Supreme.
http://ec.europa.eu/transport/roadsafety_library/publications/supreme_d_handbook_for_measures_at_the_european_level.pdf

³⁶ Speed Limit Adherence and its Effect on Road Safety and Climate Change, October 2008, University of Leeds.

³⁷ Road Safety Strategy, 2007-2012

³⁸ 27%

³⁹ Alcohol in Fatal Road Crashes in Ireland in 2003. Population Health Directorate, Health Service Executive October 2006.

<http://www.rsa.ie/publication/publication/upload/Alcohol%20In%20Fatal%20Road%20Crashes%20in%20Ireland%202003.pdf>

⁴⁰ Rules of the Road 2007 RSA

6 Education, Encouragement and Promotion

6.1 Overview

- 6.1.1 The promotion of road safety through education, encouragement and promotion helps to ensure that a wide variety of road-user groups are targeted. The Motorcycle Safety Action Plan aims to target those road users affected by collisions involving motorcyclists (most often car drivers) as well as motorcyclists themselves.
- 6.1.2 This chapter examines
- Education through rider testing and training
 - Encouragement and Promotion through targeted publicity campaigns to raise awareness

6.2 Rider testing and Training

- 6.2.1 Motorcycles are less stable, less visible, and have different braking systems to those of other vehicles, and so may be potentially more dangerous for young, inexperienced road users to ride safely. In addition, they are likely to be cheaper to purchase and run than cars, making them more attractive to younger road users. There is therefore a need for specialist rider training and testing for motorcyclists.
- 6.2.2 The Road Safety Authority set itself a target to be met within the period of the Road Safety Strategy 2007-2012 which involves ensuring that 100% of all new learner permit holders in the motorcycle category undertake Initial Basic Training, and to maintain this thereafter. The compulsory training scheme developed by the Road Safety Authority for novice motorcyclists in Ireland will involve Approved Driving Instructors giving specialist training in line with an agreed syllabus to novice riders.
- 6.2.3 Specific measures with regard to training and testing of motorcyclists can include the following:⁴¹
- *To improve training and testing for all learner drivers*
 - *To provide guidance for people returning to motorcycling after a break*
 - *To ensure the quality of instruction*
 - *To help drivers become more aware of the vulnerability of motorcyclists”*
- 6.2.4 The number of motorcyclist casualties aged between 25 and 59 has shown a steady increase in Ireland between 2002 and 2006, and so the development of training for returning motorcyclists may be particularly relevant here.
- 6.2.5 ***The Motorcycle Safety Action Plan will support of the voluntary sector in the provision of high quality rider training.***
- 6.2.6 Currently no difference is made between motorcyclist casualties occurring whilst working (such as food delivery agents or couriers) and those travelling for non-work purposes, and so the relative likelihood of involvement in a collision cannot be quantified.
- 6.2.7 ***The Motorcycle Safety Action Plan will support the development of Work Related Vehicle Safety⁴² (WRVS) practices to promote safer riding by commercial riders.***

⁴¹ Based on those in Road Safety Strategy (Tomorrow's Roads – Safer for Everyone (2000)

⁴² WRVS includes “Workplace Transport Safety” (defined as the Management of hazards and risks associated with any vehicle or piece of mobile equipment that is used by an employer, employee, self-employed person or visitor in a work setting) and “Work Related Road Safety” (defined as the Management of hazards and risks to

Motorcycle Maintenance on IBT Courses

- 6.2.8** The fundamentals of motorcycle maintenance should be explained and demonstrated during IBT. This could be supported by a workshop type roadshow / promotions / competitions, at the annual motorcycle show, big bike racing events, etc.
- 6.2.9** ***The Motorcycle Safety Action Plan will support the further development of and participation in motorcycle maintenance courses as part of IBT.***

6.3 Encouragement and Promotion

- 6.3.1** Publicity and other campaigns can be used to raise awareness of issues specific to the safety of motorcyclists, and could be considered to fall broadly into two categories:
- Those aimed at motorcyclists
 - Those aimed at other road users likely to ***encounter motorcyclists***

Campaigns Aimed at Motorcyclists

- 6.3.2** Between 1997 and 2006, 40% of motorcyclist fatalities were single vehicle collisions⁴³ and so the need for specific campaigns targeting motorcyclists themselves is vital.
- 6.3.3** Motorcyclists in Ireland have been shown to be more likely to be involved in collisions at weekends and during the warmer months, with casualty and fatality rates highest in males aged between 17 and 39. Thus, the effectiveness of campaigns may be increased if campaigns are aimed at this age group.
- 6.3.4** ***The Motorcycle Safety Action Plan will focus on campaigns which match the profile of known casualty groups and seasonal trends.***
- 6.3.5** It may also be beneficial in influencing rider behaviour and in encouraging them ride more carefully to raise awareness of particular locations where collisions involving motorcyclists have occurred, and of the types of locations which are of particular risk to motorcyclists (such as sharp bends). The introduction of signage/information may prove to be beneficial.
- 6.3.6** ***The Motorcycle Safety Action Plan will continue to support existing campaigns to promote safer riding practices including hazard perception***

Campaigns Aimed at Other Road Users Likely to Encounter Motorcyclists

- 6.3.7** It is crucial that all road users are made aware of the presence, behaviour, needs and vulnerability of motorcyclists. The behaviour of the two road user groups cannot be treated in isolation, however, as the non-standard behaviour of motorcyclists (faster acceleration and overtaking, driving on the offside in queuing traffic) may be unexpected to other road users.
- 6.3.8** Ensuring that the message is successfully reaching the target group is critical and one UK local authority has sought to draw attention to the likely presence of motorcyclists and their status as vulnerable road users through the distribution of leaflets at petrol stations (locations where other vehicles congregate).

persons engaged in or affected by work-related driving or work activities on or near a road. From a presentation given by Ms. Deirdre Sinnott McFeat, HSA, on Work Related Vehicle Safety on 25/March 2009.

⁴³ Table 16, Motorcyclist Road Collision Casualties 1997-2006

- 6.3.9** An Garda Síochána can play an important role in the dissemination of information relating to road safety and the possible consequences of dangerous driving as they come into contact with road users in the course of their work. Possible activities could include the passing of information to cautioned riders and drivers on the dangers and potential consequences of poor driving/ riding practices.
- 6.3.10** *The Motorcycle Safety Action Plan will support the inclusion of motorcyclists awareness elements in campaigns aimed at all road users.*
- 6.3.11** *The Motorcycle Safety Action Plan will welcome innovative avenues for the dissemination of publicity materials aimed at reducing motorcyclist casualties.*

7 Monitoring, Evaluation and Review

7.1 Introduction

- 7.1.1 The Motorcycle Safety Action Plan will have a limited shelf-life. Its contents are based upon contemporary research using data currently available in Ireland and findings of published studies world-wide. However, the area of road safety in general is continually evolving. Additional data relating to travel patterns, collisions and road user behaviour is being collected and analysed providing a greater understanding.
- 7.1.2 As part of this Action Plan actions regarding monitoring, evaluation and review must be put in place to prepare for the next strategy.
- 7.1.3 **Monitoring** is needed to ensure that existing data gathering processes are continued to ensure robust time-series datasets can be assembled and trends plotted and analysed. In addition, data gathering processes should be improved to include other important factual information which may help to give a deeper insight into safety issues.
- 7.1.4 **Evaluation** is needed to assess carefully the effectiveness of actions. Therefore, where possible, the costs and outcomes of policies, campaigns and schemes currently being applied, or due to be applied, as part of this Action Plan should be assessed and conclusions drawn.
- 7.1.5 Finally, informed by the monitoring and evaluation and by inevitable future changes in government policy due to wider influences it will be necessary to revisit and **review** the Action Plan in future years.

7.2 Monitoring

Collision And Casualty Data Collection

- 7.2.2 The RSA acknowledges the importance of effective monitoring of progress towards defined targets, the review of actions, and the evaluation of the effectiveness of specific measures, in order that the priority of the components of the Action Plan may be revised over time to best meet a changing need.
- 7.2.3 Key to this is the recording of relevant and accurate collision and casualty data, and the RSA will seek to work with An Garda Síochána and other agencies with a view to improving collision recording.
- 7.2.4 ***The Motorcycle Safety Action Plan will support the work of An Garda Síochána and local authorities in improving the detail, accuracy and reliability of motorcyclist collision and casualty data.***
- 7.2.5 The involvement in collisions by riders of different types and sizes of motorcycle or moped is known to vary, and yet there is currently no means by which comparative rates can be assessed in the Republic of Ireland. Obtaining this knowledge would assist in the more appropriate targeting of training and publicity resources towards those who likely to benefit most.
- 7.2.6 Detailed crash statistics will be vital in informing future policy. Besides age, machine capacity and type, cooperation will be needed from local authorities and insurance companies in building up a profile of the *prior training* received by those killed in

motorcycle crashes. Since there is, on average only 40 incidents annually, this information should be easily collectable..

7.2.7 Statistical analysis of injuries suffered. The benefits of such future analyses can inform future policy in the context of car design, road design, the use of personal protective equipment and rider training. This could be performed in association with the HSE.

7.2.8 ***The Motorcycle Safety Action Plan will support moves to improve casualty data collection to include information on the engine size of motorcycles involved in collisions***

Rider Performance

7.2.9 It will be important to obtain accurate information on the number of riders who complete Initial Basic Training (IBT) and other driver training/ testing

7.2.10 ***The Action Plan will seek to obtain accurate information on the number of riders who complete Initial Basic Training (IBT) and other driver training / testing***

7.3 Evaluation

7.3.1 The Action Plan will also encourage Local Authorities to collate information on road lengths by road class, in order to calculate the relative collision rates and the effective identification, targeting and monitoring of links with above-average motorcyclist collision rates.

7.3.2 The Action Plan will also encourage Local Authorities, through the preparation and publishing of annual Road Safety Plans, 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 motorcycle casualties and injuries within the Irish road environment.

7.3.3 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 ease of monitoring of the effectiveness of enforcement campaigns.

7.3.4 The collision analysis indicated that the majority of motorcycle collisions occurred on two way single carriageway roads, but this is to be expected, as the majority of roads are likely to be in this category. However, the number of motorcycle fatalities on two-way single carriageways was increasing until a dramatic drop in 2006.

7.3.5 ***The Action Plan will seek to undertake further analyses of this dramatic decrease using detailed collision data. The aim of these analyses would be to identify contributory factors and to sustain the decrease.***

7.4 Review and Further Consultation

7.4.1 The Motorcycle Safety Action Plan is a working document, designed to adapt and change in response to feedback from ongoing work on the Action Plan, as well as from external influences such as new technological advances, the results of research and the implementation of new legislation.

7.4.2 It is very important for there to be ongoing consultation on the Motorcycle Safety Action Plan with rider groups, motoring organisations, motorcycle industry representatives, An Garda Síochána and other bodies. The Action Plan must be accepted by all stakeholders and for there to be shared ownership of it.

- 7.4.3** *The RSA will seek to continually monitor the outcome of national and international research and new innovations in international best practice, in order to ensure that these are incorporated into the action plan for the benefit of motorcyclist casualty reduction.*
- 7.4.4** *The performance towards targets for casualty reduction, and the review of the characteristics and numbers of collisions and casualties among motorcyclists will be undertaken and published annually, in order to identify and react to emerging trends in a timely manner.*

8 Targets

8.1 Overview

- 8.1.1 The five primary aims of the Motorcycle Safety Action Plan have been identified as follows:
- To reduce the number of motorcycle fatalities;
 - To reduce the total number of motorcycle casualties (minor, serious).
 - To reduce the number of motorcycle casualties expressed as proportion of total road casualties.
 - To reduce the number of casualties in built up areas
 - To improve motor cycle safety without compromising the safety of other road users.
- 8.1.2 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.
- 8.1.3 A wide range of complementary actions and methods to achieve motorcycle casualty savings are set out in this Motorcycle Safety Action Plan. It focuses on methods for reducing motorcycle casualties by concentrating on measures to improve:
- Road design and maintenance
 - Education and training
 - Motorcycle equipment
 - Enforcement
 - Evaluation
- 8.1.4 All of the above are known to be key factors in influencing motorcycle casualty numbers and severity.
- 8.1.5 It is planned that the setting out of a co-ordinated, multi-dimensional strategy, directed towards the identified areas of greatest concern will help us contribute to achievement of national casualty reduction targets, and motorcycle casualty targets specifically.
- 8.1.6 This Action Plan covers the period 2010-2014, and the overall targets have been set in accordance with World Health Organisation /EU-wide 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 Action Plan.
- 8.1.7 Furthermore, injury targets have been set in accordance with the RSA Road Safety Strategy 2007-2012 target of: 25% reduction in injuries (from the baseline average of 2004-06).
- 8.1.8 The targets arrived at in the following sections are deemed to be challenging but realistic based on current and recent trends.

8.2 Specific Targets

Reducing Motorcycle Fatalities

- 8.2.1 An ambitious target of 50% or better per annum in the reduction in motorcycling fatalities has been set in order to ensure that the wider EU target is achieved within the lifetime of this Action Plan.

SPECIFIC TARGET

- *To reduce the motorcycle fatality risk (fatalities per 100,000 registered motorcycles) by 50% from a base of the 2005-2008 average risk of 101 to 50 fatalities per 100,000 registered vehicles by 2014.*

Reducing Motorcycle Injuries

- 8.2.2 Ireland's target for injuries of all road users is to achieve a 25% reduction in overall injuries by 2012. This target is supported in the Motorcycle Safety Action Plan at a level of 25%. The number of motorcycle injuries has been declining approximately linearly since 2000 and if this trend continues the target of reducing the 2005-2008 average of 478 to 239 is challenging but achievable.

SPECIFIC TARGET

- *To reduce the number of motorcyclists injuries by 50% (or better) from a base of the 2005-2008 average of 478 to 239 per annum by 2014.*

Reducing Motorcyclist Fatalities and Injuries in Built-up Areas

- 8.2.3 Currently, 71% of motorcyclist fatalities and injuries in Ireland occur on roads in a 'built-up' environment, and so the potential for reducing fatalities and injuries 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 killed and injured occurring in built up areas by 50% (or better) by the year 2014, from a base of the 2005 -2008 average of 307 motorcyclist fatalities and injuries per annum to 153 per annum.*

Visibility

- 8.2.4 The Action Plan encourages high visibility enforcement in locations where there are known motorcycle collision issues.

SPECIFIC TARGET

- *To improve surveyed wearing rates of high visibility clothing from 40% to 75% overall.*

9 Action Plan

- 9.1.1** A table of specific actions linked to each of the five areas of Engineering, Equipment, Enforcement, Education and Evaluation is presented on the pages which follow.
- 9.1.2** The implementation of the Motorcycle Safety Action Plan will be overseen and monitored by the Road Safety Authority through the production of an annual report to the Minister for Transport by the end of the following year. This will emphasise road safety outcomes achieved, cost benefit analysis and value for money.

Action Plan : Primary Actions

Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
1.	<p>This Action Plan seeks to reduce the proportion, number and severity of motorcyclist fatalities and injuries occurring on Ireland's Roads by 2014 through co-ordinated and multi-disciplinary programmes relating to Engineering, Equipment, Enforcement, Education and Evaluation as follows:</p> <ul style="list-style-type: none"> <li data-bbox="568 587 1144 740">▪ <i>To reduce the number of motorcycle fatalities, expressed as per million registered motorcycles, by 50% from a base of the 2005 – 2008 average of 101 per annum to 50 per annum by 2014.</i> <li data-bbox="568 775 1144 895">• <i>To reduce the number of motorcycle injuries, by 50% (or better) from a base of the 2005 – 2008 average of 478 to 239 per annum by 2014.</i> <li data-bbox="568 962 1144 1145">• <i>To reduce the number of fatalities and injuries occurring in built up areas by 50% (or better) by the year 2014, from a base of the 2005-2008 average of 307 motorcycle fatalities and injuries per annum to 153 per annum.</i> <li data-bbox="568 1181 1144 1246">• <i>To improve surveyed wearing rates of high visibility clothing from 40% to 75%.</i> 	Road Safety Authority	All stakeholders	CEO Road Safety Authority	4 th Qtr 2014

Action Plan : Engineering, Traffic Management and Planning

Action No. (RSS Action)	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
Infrastructure					
2.	Identify locations with high frequencies of motorcyclist collisions to enable improvement measures for motorcyclist safety.	Road Safety Authority	Garda Síochána National Roads Authority Health Service Executive Local Authorities	Director, Road Safety Education and Research Road Safety Authority	4 th Qtr 2010
3.	Put in place and audit remedial schemes at identified motorcyclist collision locations on non-national roads – the number of schemes per annum dependent on the size of the local authority.	Local Authorities	Garda Síochána Road Safety Authority National Roads Authority	County Manager CCMA	Annually
4.	Establish a reporting system in all local authorities whereby motorcyclists (and other road users) can alert the appropriate authority to the presence of safety issues such as potholes and fuel spillages. (This could be through promoting an “1800 number” and / or an email address for each local authority).	Local Authorities	National Roads Authority Road Safety Authority An Garda Síochána	County Manager CCMA	4 th Qtr 2011 and annually

Action Plan: Equipment and Technology

Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
Vehicle Design and Testing					
5.	Monitor and support EU initiatives to improve motorcycle design and braking systems.	Road Safety Authority	Department of Transport	Director Standards and Enforcement	Annually
6.	Undertake a cost benefit analysis on the introduction of a road worthiness test for motorcycles.	Road Safety Authority	Department of Transport	Director of Standards and Enforcement	4 th Qtr 2014
7.	Monitor and review existing and emerging research into the impact of the use of larger vehicles, the use of thicker windscreen pillars, the use of tinted windows and possible hazards of rear light clustering arrangements in car design on motorcyclist safety, prior to formulating a policy on this aspect of car design.	Road Safety Authority	Department of Transport	Director Vehicle Standards and Enforcement Road Safety Authority	4 th Qtr 2011
Visibility / Daylight running lights/Fuel Spillages					
8.	Provide high visibility vests to motorcyclists. Increase the wearing rate of high visibility clothing from 40% to 75%.	Road Safety Authority	An Garda Síochána	Director Road Safety Education and Research Road Safety Authority	Annually Target by 4 th Qtr 2013
9.	Continue to participate in national campaigns to promote high visibility wear to motorcyclists, supported by media campaigns to increase wearing rates.	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research Road Safety Authority	Annually
10.	Promote the importance of not obscuring high	Road Safety	An Garda	Director Road Safety	Annually

Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
	visibility clothing.	Authority	Síochána Health and Safety Authority Health Service Executive	Education and Research Road Safety Authority	
11.	Monitor and publish ongoing research into the safety benefits of daylight running lights for motorcyclists,	Road Safety Authority	Department of Transport	Director Road Safety Education and Research Road Safety Authority	4 th Qtr 2010

Action Plan : Enforcement

Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
Speed Issues					
12.	Research best practice in order to identify viable survey methods to record and report motorcycle speeds and hence quantify and assess the level of non-compliance to enable more targeted enforcement strategies.	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research	4 th Qtr 2010 & Annually
13.	Motorcyclists who speed will be the focus of Garda speed enforcement operations at bi-directional locations.	An Garda Síochána	Department of Justice and Law Reform	Assistant Commissioner for Traffic	Annually
14.	Motorcyclists who commit traffic offences, including using their vehicle whilst impaired, will be prosecuted by An Garda Síochána.	An Garda Síochána	Department of Justice and Law Reform	Assistant Commissioner for Traffic	Annually
15.	The Motorcycle Action Plan will review research into Intelligent Speed Adaption (ISA) as it emerges, and will take particular interest in its compatibility with motorcyclists.	Road Safety Authority	Garda Síochána	Director Road Safety Research and Education	2 nd Qtr 2014

Rider Testing and Training					
Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
16.	Introduce a programme of Initial Basic Training for novice motorcyclists.	Road Safety Authority	Department of Transport	Director Driver Licensing and Testing Road Safety Authority	4 th Qtr 2010
17.	Develop the hazard perception element in learner permit driver training programmes, to specifically include awareness of motorcyclists.	Road Safety Authority	Department of Transport	Director Driver Licensing and Testing Road Safety Authority	1 st Qtr 2012
Education					
18.	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 contains a significant motorcyclist safety element.	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research Road Safety Authority	Annually
19.	Work in partnership with community groups to implement community-based road safety programmes which include an element of motorcyclist safety.	Road Safety Authority	Garda Síochána Sporting and community organisation	Director Road Safety Education and Research Road Safety Authority	Annually
20.	Develop an awareness campaign on Work Related Vehicle Safety practices to promote	Health and Safety Authority	Road Safety Authority	CEO Health and Safety Authority	Annually

	safer riding by commercial riders.		Garda Síochána		
Publicity, Promotion and Dissemination of Information					
21.	Implement an annual programme of co-ordinated nationwide (multi-) media/ publicity campaigns aimed at motorcyclists	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research Road Safety Authority	Annually
22.	Implement an annual programme of nationwide (multi-) media/publicity campaigns for drivers which indirectly address the main causal factors in motorcyclist collisions, such as alcohol impairment, speeding and unsafe behaviour <i>towards motorcyclists</i> .	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research Road Safety Authority	Annually
23.	Introduce regulations for the mandatory wearing of high visibility upper body clothing.	Department of Transport	Road Safety Authority An Garda Síochána	Principal Officer	4 th Qtr 2014
Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
24.	Promote the use of Personal Protective Equipment for motorcyclists. This promotion will	Road Safety Authority	An Garda Síochána Local Authorities	Director Road Safety Education and Research Road	Annually

	target motorcyclists, retailers as well as trainers.		Department of Education and Science Department of Health and Children Health Service Executive	Safety Authority	
25.	Conduct research into the use of Personal Protective Equipment for motorcyclists and the potential benefit in reducing serious injuries.	Road Safety Authority	An Garda Síochána Local Authorities Department of Education and Science Department of Health and Children HSE	Director Road Safety Education and Research Road Safety Authority	4Qtr 2010
Road User Attitudes					
26.	As part of annual surveys conduct research on driver attitudes towards motorcyclists and monitor such results over the lifetime of this action plan	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research Road Safety Authority	4 th Qtr 2010 and annually.

Action No.	Measure or Action	Lead Department or Agency	Support Department or Agency	Responsibility	Completion Date
27.	Work with An Garda Síochána and local authorities in improving the detail, accuracy and reliability of motorcyclist and casualty data. This could include information on impairment (alcohol, drugs and fatigue), and the engine size of motorcycles involved in collisions.	Road Safety Authority	Garda Síochána	Director Road Safety Education and Research Road Safety Authority	4Qtr 2012
28.	Assist Local Authorities in the setting of local targets for motorcyclist casualty reduction through their Road Safety Plans, and monitor progress towards targets through analysis of the national collision database.	Local Authorities	Road Safety Authority	County Manager	3 rd Qtr 2011

Working To Save Lives

Údarás Um Shábháilteacht Ar Bhóithre Road Safety Authority

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