

Evaluation of Motorcycling Initiatives in Wales

Final Report
Welsh Government
May 2015



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May 2015

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1 Executive Summary

In the 2013 Road Safety Framework for Wales, young people and motorcyclists were identified as the two most at-risk groups on Welsh roads. Welsh Government statistics show that 246 motorcyclists were killed or seriously injured (KSI) in Wales in 2013, including 17 fatalities. Although this represented a reduction in deaths over previous years, the number of seriously injured riders was an increase on previous years. Motorcycle riders comprised 31% of all fatal and serious casualties in 2013, despite comprising only 0.2% of traffic.

There is currently a range of post-compulsory training schemes for motorcyclists offered by different local authorities and partners across Wales, but little information is held centrally on course content, methods for identifying participants, and outcomes in terms of casualty reduction. This report aims to bring together available information from across Wales to allow for comparison and the identification of good practice. It aims to give Welsh Government information that will inform future funding decisions and provide clear guidance to partners on what interventions are effective.

This report comprises of the following sections:

Existing Research and Evaluations

There is currently a lack of research into and effective evaluations of motorcyclist safety in the UK and abroad. As such, there is a shortage of robust evaluations that assess the impact of advanced training courses. In Wales, there have been somewhat limited evaluations of the Dragon Rider course and a national evaluation of BikeSafe. Local Authority Road Safety Officers (RSOs) highlight a general reluctance to evaluate training schemes as well as the subsequent collection and analysis of important data. This reluctance is also due to the difficulty in attributing a reduction in casualty figures to any scheme (the overarching message of most of this research).

Current Provision

A variety of post-compulsory training schemes are currently provided in Wales. This report categorises current provision by the type of intervention. 'Prevention Interventions' tackle the issue of motorcycle casualties by attempting to incite behaviour change through the upskilling of riders with education and training (e.g. BikeSafe, Dragon Rider). 'Treatment Interventions' try to equip riders with the most effective skillset for dealing with the casualties of an accident (i.e. FBoS, Biker Down! Cymru). This section of the report also features a list of interventions that have been identified as 'best practice' from outside of Wales. In future, these could be considered to support or replace existing interventions.

Analysis

This section explores how providers of road safety schemes identify their target groups of riders—those upon whom they believe initiatives to reduce casualty and collision figures on Welsh roads will have the greatest impact. It features analysis of our online survey of motorcycle riders that established the effectiveness of engagement with the target groups; marketing and engagement; and the identification of any duplication or overlap between the courses. The section illustrates the complexity of trying to identify any duplication or overlap between the courses and it highlights the advantages and disadvantages of having a diverse range of regional initiatives and national ones. It concludes that research needs to be conducted which scopes out the possibility of a national approach and the benefits it brings.

Outcomes and Behaviour Change

This section features further analysis of the survey results, and examines the ratings and effectiveness of courses, the impacts on the participants and value for money. Overall, the report concludes (as existing studies elsewhere have) that it is very difficult to attribute any reduction in casualty figures to training provided by local authorities. It is evident from the survey however that participants who attend motorcycle training were very positive about the support they received with 99% of beneficiaries rating their experience of training as either excellent or good overall. This suggests that motorcycle intervention courses are well received by those who take them. In terms of value for money, the report recognises that justifying public money expenditure on interventions through a value for money calculation is inherently difficult, especially when considering that little evidence exists regarding the true impact of interventions on riding behaviour and ultimately the number of accidents avoided.

Recommendations

Nine recommendations draw on the information collated by the researchers and present informed and practical solutions to reducing casualty figures in Wales:

1. Ensure existing provision comprises the key attributes that are proven to be effective.
2. Ensure a range of provision is available to maximise engagement (without unnecessary duplication).
3. Consider the implementation of best practice from elsewhere.
4. Consider national branding for post-compulsory interventions.
5. Consider lobbying for the introduction of a compulsory refresher course for motorcyclists.
6. Coordinate the collection of motorcycle training data with accident data.
7. Consider commissioning a large scale impact assessment of the post-compulsory intervention.
8. Consider hosting an annual summit of Road Safety Teams.
9. Ensure all trainers are DVSA approved.

2 Introduction

In December 2014, Miller Research was commissioned by Welsh Government to carry out a review of the post-compulsory motorcycling initiatives in Wales.¹ This report documents the findings of the review. This introductory chapter, Chapter 2, sets out the rationale, aims and objectives, and methodology of the review. Chapter 3 discusses motorcycling policy in Wales, before Chapter 4 reviews the existing body of research on motorcycling initiatives from the EU, UK and Wales. Chapter 5 reviews the current provision of motorcycling initiatives in Wales and Chapter 6 analyses this provision by focussing on the identification of target groups, marketing and the extent of duplication/overlap. Chapter 7 examines any observed outcomes and behaviour change following intervention. Chapter 8, the conclusion, draws together the key findings of the review and makes recommendations.

2.1 Rationale

Although a wide range of post-compulsory training schemes for motorcyclists are available in Wales, some schemes are available throughout the whole of Wales, whilst others are run in partnership with local authorities or are locally-commissioned. There currently exists little information regarding the content, cost, quality/effectiveness and beneficiaries of such schemes.

2.2 Aims and objectives

The ultimate aim of this research is to understand what existing post-compulsory motorcycling initiatives are delivered in Wales and which are the most effective at improving road safety among motorcyclists.

To achieve this aim, a number of objectives were stipulated. They are:

- To collate information on the content of motorcyclist interventions in Wales and where appropriate map similarities and differences between courses.
- To consider the syllabuses for courses against the most up to date evidence on what assistance motorcyclists need to become safer riders and assess what impact the interventions have on casualty reduction. To make recommendations for improvements.
- To assess the quality of delivery of motorcyclist interventions across Wales, identifying examples of good practice in delivery and where improvements could be made.
- To assess the current level of evaluation undertaken and consider specific evaluation reports where available. To determine what evidence it provides for the effectiveness of the intervention in contributing to casualty reduction. To advise on improvements required to evaluation.
- To advise if interventions are appropriately targeted at, and are reaching, the right groups of rider who are more likely to be involved in collisions.
- To undertake an assessment of the costs of delivering motorcycling interventions across Wales and advise on cost benefits.

¹ For the purpose of this report, post-compulsory refers to any initiative available to motorcyclists after they have completed their basic training (Certificate of Basic training or CBT) and passed their full motorcycle driving licence.

- To review other evaluated interventions available for motorcyclists and make recommendations for interventions that may be suitable in Wales.

2.3 Methodology

The approach to the research comprised a combination of primary and secondary data collection and analysis. The primary research included semi-structured, in-depth interviews with strategic stakeholders and local authority road safety teams, a large-scale online survey of motorcyclists; and face-to-face interviews with motorcyclists at popular motorcyclist destinations in Wales. The approach to each element of the primary research is detailed below.

Semi-structured interviews were carried out with strategic stakeholders drawn from the Motorcycle Safety Steering Group and featured respondents from the following organisations:

- Institute of Advanced Motorists (IAM)
- Royal Society for the Protection of Accidents (RoSPA)
- The Police (including BikeSafe trainers and administrators)
- Motorcycle Action Group (MAG)

The interviews explored topics such as the rationale for intervention, the nature and content of delivery, attitudes towards post-CBT training and the effectiveness of intervention delivery.

Interviews were also held with twenty local authority Road Safety Teams in Wales.² Information was collected on the following topics:

- The post-compulsory training available in each local authority.
- The marketing and engagement methods used by the teams.
- The effectiveness of the training.
- The cost of the training to the local authority and beneficiary.
- The impact that interventions have had on casualty reduction and behaviour change.

Case studies were also carried out. These comprised of interviews with both trainers and motorcyclists to observe the interactions between the two. The topics discussed include approaches to supporting different riders, means of engagement, effectiveness of support and the impact on behaviour change.

An online survey³ was disseminated to motorcycle groups,⁴ local authority social media networks and newsletter promotion, during face-to-face interviews, and via a touch screen

² *It was not possible to engage with Bridgend and Blaenau Gwent Road Safety Teams in the research timeframe.*

³ *Survey available in the appendix.*

⁴ *These included Motorcycle Action Group, RoSPA and BikeSafe.*

located on-site at a motorcycle dealership.⁵ The survey questioned attitudes to post-compulsory training, explored barriers to engagement and sought to identify best practice. In total, 165 survey responses were collected.⁶

Face-to-face interviews were held over two separate weekends in motorcycling destination sites in Wales. Miller Research visited Abergavenny bus station on the weekend of the 14th February 2015 and the Owl's Nest Café in Llandovery on the weekend of the 21st February 2015. These informal discussions gathered first-hand views on the interventions available, barriers to engagement and general opinions on the provision and value of post-compulsory courses.

2.3.1 Limitations of Methodology

Due to the time of year that the research was undertaken, face-to-face interviews with motorcyclists were relatively limited due to unfavourable riding conditions. In order to mitigate this, the online survey was further promoted amongst local authority Road Safety Teams and other motorcycle groups, generating the 165 survey responses in a short period of time.

The online survey highlighted an element of confusion among respondents in terms of what 'advanced rider training' constituted. From the researcher's point of view, advanced rider training was the term used in the survey to represent training delivered by the Institute of Advanced Motoring (IAM) and the Royal Society for the Prevention of Accidents (RoSPA). Nevertheless, when asked what courses they were aware of or had taken part in, many respondents listed IAM or RoSPA in the 'Other: please specify' option, rather than choosing the advanced rider training option. This highlighted the fact that some respondents did not associate the IAM or RoSPA training with the term 'advanced rider training'. To address this inconsistency in data collection, all respondents mentioning IAM or RoSPA as an 'other' option have been added to the total for the advanced rider training category.

⁵ A touch-screen survey was located at Thunder Road in Cwmbran.

⁶ A sample of this size returns a margin of error of 7.6% assuming that the population size is 20,000, at the 95% confidence level and assuming 50% response distribution. That is, we can be 95% certain that the true value lies between +/- 7.6% of the sample value if the response distribution is 50% (assuming normal distribution).

3 Motorcycling Policy in Wales

This chapter reviews the Road Safety Framework for Wales, which documents Welsh Government's commitment to road safety and includes targets for motorcycling safety. Clearly, this study has a direct association with the Road Safety Framework in that it aims to establish an evidence base upon which Welsh Government can use to assess the extent to which objectives of the motorcycling elements of the framework are being achieved.

3.1 Road Safety Framework for Wales

The Road Safety Framework for Wales, published in July 2013, sets the road safety targets on Welsh roads up to 2020 to be the following, compared to the 2004-2008 average:

- A 40% reduction in the total number of Killed or Seriously Injured (KSIs) (=562 fewer KSI casualties)
- A 25% reduction in motorcyclist KSIs (=64 fewer motorcyclist KSIs)
- A 40% reduction in age 16-24 KSIs (=139 fewer young people KSIs)

The vision of the framework is "a continued reduction in the number of people killed and seriously injured on Welsh roads, with the ultimate aspiration of no fatalities".⁷ The document recognises that motorcyclists are in the 'high risk group' and that although motorcyclist casualties have reduced in the last decade, they have not seen the significant falls of other road user groups. The framework notes the vulnerability of motorcyclists and the disproportionate number of male riders on rural roads in the drier months that are KSI.⁸

To achieve the aforementioned reduction in motorcyclist KSI casualties, the framework notes Welsh Government's commitment to:

- Considering the needs and vulnerabilities of motorcyclists when designing new roads and implementing safety features on existing roads.
- Continuing to support interventions to achieve reductions in motorcyclist casualties.
- Monitoring the casualty trends amongst age groups, types of riders and nature of collisions in order to target interventions appropriately.

Furthermore, the framework sets out its expectations of its partners to:

- Seek to engage with 'hard to reach' motorcyclists who are potentially more at risk.
- Evaluate the effectiveness of existing activities and build evaluation into any new activities that are developed.
- Consider which communication methods are most appropriate for engaging with motorcyclists and ensure these are adopted across Wales.
- Highlight the vulnerabilities of motorcyclists to drivers.
- Consider the needs and vulnerabilities of motorcyclists when designing new roads.
- Specifically target enforcement at those riders who break the law.

⁷ <http://wales.gov.uk/docs/det/publications/130719delplanen.pdf>

⁸ *Drier weather increases the number of motorcyclists using Welsh roads.*

4 Existing Research & Evaluations

4.1 Overview

This chapter reviews existing literature from around the world that has the potential to be instrumental in informing road safety policy in Wales. It also serves to highlight elements of best practice which could possibly be applied to Wales.

The impact of advanced training courses on motorcyclist safety has rarely been researched. Furthermore, where research does exist, it often examines through self-reported riding behavioural changes, which is not always a reliable predictor of actual behaviour change (see IAM's *Transforming Riding* report in Chapter 3.2.2). As such, there appears to be a dearth of robust evaluations of the 'true' impact of advanced training courses, that is, research that robustly examines the impact of advanced training courses on road safety and ultimately the number of motorcycling casualties.

For example, a study by Kardamanidis et al (2010) set out to quantify the effectiveness of pre and post licence motorcycle rider training on the reduction of traffic offences, traffic crash involvement, injuries and deaths of motorcycle riders.⁹ They were unable to draw any conclusions about the effectiveness of rider training on crash, injury, or offence rates due to the poor quality of studies identified (they reviewed 23 studies). Less recently, but which also highlights the lack of robust studies is the observation by Kloeden et al (1994) which identifies that the number of published evaluations of training programs is 'disappointingly few'.

In an attempt to collate such research, the Skilled Motorcyclist Association for Responsible, Trained and Educated Riders (SMARTER USA) publishes motorcycling initiatives or road safety research on its website.¹⁰ A review of the research largely supports the conclusion that little robust research on this matter exists. However, the site does make reference to what it terms a landmark rider education study entitled *The Longitudinal Study to Improve Crash Avoidance Skills* (commonly referred to as the 'MSF RETS Discovery Project') that purports to fill this gap in evidence. However, no further information about this study can be found.¹¹

Perhaps the most robust existing study into the impact of training (albeit not advanced training) on casualty reduction is a study conducted by the Canada Safety Council of their Gearing Up initiative. They took a long-term approach to their evaluation of training by comparing 346 trained riders with a control group of 346 untrained riders (matched for age and sex) between 1979–1984. It concluded that trained riders had lower accident rates than untrained riders, and the accidents the trained riders were involved in were less severe. It also concluded that age was the strongest predictor of motorcycle accidents: training had a greater effect on accident reduction for riders aged 25 or below compared to for older riders.

⁹<http://www.motocicletasyseguridadvial.com/Presentaciones/Informes%20y%20Estudios/Motorcycle%20rider%20training%20fo%20the%20prevention%20of%20road%20traffic.pdf>

¹⁰ <http://www.smarter-usa.org/research/crash-prevention-initiatives/>

¹¹ Based on an online search.

An evaluation of a Dutch motorcycle training course (discussed in greater detail below) also concluded that in both the short and long term, training had a positive effect on motorcyclists' riding behaviour compared to a control group.

Despite the apparent lack of robust research which successfully makes the link between advanced rider interventions and crash prevention, existing research that offers insight into the content that advanced rider schemes should include for them to be effective at improving rider safety does exist. For example, one such study explored the link between rider training and collision avoidance in Thailand and Los Angeles motorcycle crashes by analysing data from 900 crashes.¹² It concluded that 'rider training should emphasise teaching riders the knowledge and skills needed to prevent a precipitating event from occurring, rather than how to react after it has already occurred'. A similar study carried out in Northern Queensland, Australia found that 'behavioural factors' (i.e. the motorcyclist's skills, expertise and knowledge) were the main factors contributing to motorcycle fatalities.¹³

4.2 Specific Evaluations

4.2.1 European Union

The EU Advanced Project: Description and Analysis of Post-licence Driver and Rider Training

The report (September 2002) provides a comprehensive review of the evaluations conducted around the globe on both motorcycle and driver training. The report begins with the quote 'it is not the message which is delivered, but the message which is *received* by the participant(s) that counts'. It notes that in Germany an evaluation of the Allgemeiner Deutscher Automobile-Club (ADAC) motorcycle safety training course showed that considerable gaps in knowledge regarding hazard anticipation had not been resolved post-training, and that there were no clear changes in behaviour (according to the respondents) which would have been due to the safety training. The report looks at rider training in each of the EU member states. It notes that in the UK, demand for voluntary training is low but rose in the past five years (n.b. the research was compiled in 2000) due to riders having more leisure time and a higher disposable income. It notes two main points about the UK's training:

- A lack of qualified instructors remains a concern for providers.
- Considerable growth of leisure-time and track days for motorcyclists may be undermining the post-licence training market.

A number of recommendations are given for post-license rider training including advising that training should 'focus more on the specific needs of each participant and how to encourage them to improve their driving style and behaviour. This can only be achieved through more participant centred methods, designed to encourage participants to reflect on their strengths and weaknesses (self-reflection) and to provide the motivation to change'.¹⁴

¹²http://www.researchgate.net/publication/237418924_Rider_Training_and_Collision_Avoidance_in_Thailand_and_Los_Angeles_Motorcycle_Crashes

¹³http://www.researchgate.net/publication/38183656_Fatal_motorcycle_crashes_in_north_Queensland__characteristics_and_potential_interventions

¹⁴ <http://www.righttoride.co.uk/virtuallibrary/testtrainingassessment/ADVANCEDFinalReportEn.pdf>

European Road Safety Observatory (2006) Powered Two Wheelers

The *European Road Safety Observatory (2006) Powered Two Wheelers* report published in 2008 dedicates just one paragraph to advanced training programs.¹⁵ It concludes that the effects of such training are dependent on participant's motivations — riders who are safety-minded can be expected to improve their behaviour and prevent accidents whilst 'performance-oriented' riders may ride more dangerously with little regard for safety.

Evaluation of Advanced Training Course for Motorcyclists: Motorcyclists Ride Safer After Training

A Dutch evaluation of an advanced training course for motorcyclists entitled *Motorcyclists Ride Safer After Training* examined a one-day course that teaches motorcyclists to recognise, analyse and anticipate potential traffic hazards.¹⁶ The report concluded that in the short term (the first few months after training) motorcyclists who undertook the training showed improved safe riding behaviour and hazard perception. Even in the long term (12–18 months after training), 'risk' trained motorcyclists showed safer traffic behaviour than a control group without training. The report recommended that in the long term training has a positive effect on motorcyclists' riding behaviour. However, the report noted that implementing such a project on a large scale would encounter issues. It noted that the design and curriculum must be guaranteed to work and the quality of (new) trainers must be assessed. Finally, it stated that it was essential for an external entity to regularly monitor the execution of the course and its effects.

European Safer Urban Motorcycling (eSUM)

The eSUM project aims to provide immediately applicable tools to improve the safety of traffic in European cities and towns.¹⁷ It has recently undertaken a comprehensive review of urban motorcycling interventions across the EU.¹⁸ It splits these initiatives into four distinct categories:

- Training and Awareness
- Highway Features and Policy
- Targeted Enforcement
- Specified Highway Remedial Measures

Initiatives highlighted by e-SUM as best practice vary in content and applicability to Welsh motorcycling issues. Two initiatives, BikeSafe and Advanced Rider Training, are currently in existence in Wales. Others, such as the Moped Safety campaign funded by Transport for London exist in Wales under different branding (i.e. Wales By Bike). Nevertheless, those listed unearth a number of initiatives that have potential be applied to Welsh issues, namely the Devon County Council 'Blindspots' campaign and elements of the German 'Motorcycling Good and Safe' campaign, which features a road show with practical demonstrations and purports to increase awareness of motorcycling issues to other road users.¹⁹

¹⁵ http://erso.swov.nl/knowledge/Fixed/45_PoweredTwoWheelers/powered%20two%20wheelers.pdf

¹⁶ <https://www.swov.nl/rapport/R-2014-22E.pdf>

¹⁷ http://ec.europa.eu/transport/road_safety/pdf/projects/esum_translations/bp1-training_and_awareness-en.pdf

¹⁸ For a full list of the initiatives identified by e-SUM as best practice, see Appendix 1.

¹⁹ See Section 5.3.

Importantly, many UK based interventions are highlighted by participants as ‘good practice’, although formal evaluations could not be identified. Interventions include BikeSafe London,²⁰ the Moped Safety website funded by Transport for London,²¹ and the Advanced Rider Training provided by IAM/RoSPA.²²

4.2.2 United Kingdom

Road Safety Research Report No. 54: In-depth Study of Motorcycle Accidents

This is a Department for Transport publication from 2004 which examined over 1,700 motorcycle accidents in the UK from 1997–2002. The main findings of the report are:

- Perception: there is a significant problem surrounding other road users’ perception of motorcycles, particularly at junctions.
- There are two main groups of rider that interventions should be focused on: one is young and inexperienced riders of smaller capacity machines such as scooters and the other is older, more experienced riders of higher capacity machines. The report notes that both the skills and attitudes of these riders need to be addressed.

The identification of these most ‘at risk’ groups has informed a host of motorcycling interventions aimed at engaging those demographics. Furthermore, the report found that in rural areas (such as in the majority of Wales), there are over five times as many accidents on a bend as in non-rural areas. It also finds that rural accidents are over one and a half times more likely to be serious and over three times more likely to be fatal in outcome than accidents in built-up areas, no doubt partly due to the higher speeds at which they occur.

Motorcycle Safety: A Scoping Study

This report was prepared for the Road Safety Division of the Department for Transport.²³ It is split into the following six sections:

- Motorcycle Safety
- Motorcycle Accidents
- Vehicle Factors and Protective Equipment
- Road Environment Factors
- The Rider
- Legislation

The report makes an interesting claim about the ‘conspicuity [sic] problem’ (i.e. motorcycles not being seen by car drivers). It proposes that the problem is partly a result of car drivers learning visual strategies that are not effective at detecting motorcycles, and suggests that training could address this. However, it also notes that the effectiveness of this in the long term is dependent upon the number of motorcycles on the road and the current relative rarity of them. It also makes the following points on training for motorcyclists:

²⁰ <http://www.local-transport-projects.co.uk/files/BP1%20001%20BikeSafe%20London%20Scootersafe%20v2.pdf>

²¹ <http://www.local-transport-projects.co.uk/files/BP1%20004%20Moped%20safety%20website%20%28v1%29.pdf>

²² <http://www.local-transport-projects.co.uk/files/BP1%20011%20Advanced%20Rider%20Training%20%28v1%29.pdf>

²³ <http://motorcycleminds.org/virtuallibrary/ridersafety/TRL581.pdf>

- ‘Sensation seeking’ motives are important for some riders to get an ‘adrenalin rush’ and training that concentrates on control skills may in fact lead to more accidents due to the riders becoming over-confident in their skills.
- The most desirable kind of training is that which makes riders more aware of their own limitations, hones skills associated with hazard perception, and identifies and communicates a ‘rule base’ for safe riding.
- It notes that the main challenge for training based interventions lies in ‘giving the riders the skills, rules and knowledge necessary to identify and avoid critical situations and maximise control of the motorcycle’.
- There exists a need for well-designed evaluations on the effects of training on skills, knowledge, rider behaviour and accident liability.
- The content of current training courses needs to better emphasise skill limitations, cover higher order cognitive skills, provide information on risk levels, and communicate the rules and knowledge base for safe riding.
- Other approaches to training should be used as well, such as the use of simulators.
- It also recommends that a detailed study of the content and practice of motorcycle training in Britain and abroad should be carried out.

Transforming Riding: An Evaluation of Advanced Motorcycling

The IAM’s *Transforming Riding: An Evaluation of Advanced Motorcycling* begins its analysis of the IAM’s advanced motorcycling course by acknowledging that ‘police contributory factors data suggest that errors and mistakes by rider’s cause 46% of crashes so there is a clear need to help riders fix bad habits and get more on-road experience’.²⁴ The evaluation was carried out in late-2012 by IAM themselves through an online survey of its 18,500 motorcycle members.²⁵ Through self-evaluation, the respondents filled out a survey which asked similar questions to the survey we disseminated amongst motorcyclists. The evaluation concludes that:

- The IAM Advanced Test had a permanently positive effect on 99% of beneficiaries.
- The test allowed the rider to feel safer, more confident, more attentive, decisive, careful, responsible, patient, tolerant and considerate for the majority of beneficiaries.
- Key themes found in the qualitative responses are that the test allowed the rider to feels/gain confidence, improve skills, observation and positioning.
- 94% of beneficiaries said that the advanced test made them safer riders.
- 95% of advanced riders said the course had a positive impact on their planning and anticipation.

Passion, Performance, Practicality: Motorcyclists Motivations and Attitudes to Safety

²⁴ <http://www.iam.org.uk/images/stories/policy-research/evaluation-adv-motorcycling.pdf>

²⁵ It should be noted that this is a survey of IAM members. It is likely that IAM members are more safety conscious than non-members, given their interest and participation with IAM, and this should be taken into consideration in using the results of this survey.

The 2008 study *Passion, Performance, Practicality: Motorcyclists Motivations and Attitudes to Safety* categorises motorcyclists into seven groups based on their motivations for riding (Performance Disciples, Performance Hobbyists, Riding Disciples, Riding Hobbyists, Car Rejecters, Car Aspirants and Look At Me Enthusiasts).²⁶ The study specifically focused on patterns in self-reported decisions about motorcycles, safety gear and approaches to avoiding fatigue. Regarding driver fatigue, the report notes that the best way to tackle the issue is through training-based routes which emphasise enhanced personal performance as much as increased safety.

Motorcycling Safety Policy Statements

RoSPA's *Motorcycling Safety Policy Statements* (June 2006) acknowledge that a rider's skill, training, experience and attitude are fundamental to safe motorcycling.²⁷ They note that a key factor lies in riders receiving appropriate training when they start (or re-start) to use a motorcycle. It concludes that the motorcycle training industry in Britain as a whole is 'very fragmented' because many small training organisations offering a variety of training qualifications and different types of courses.

Realising the Motorcycling Opportunity: A Motorcycle Safety and Transport Policy Framework

This report was published in December 2014 by The Motorcycle Industry Association and the Association of Chief Police Officers.²⁸ It considers and combines traditional approaches to motorcycle safety policy with in-depth wider impacts of the use of motorcycles on society as a whole, and outlines how transport policies should evolve to recognise their place and impact on modern society. The framework is divided into six themes:

1. Road User Awareness

- Sets out a case for including road user education at school culminating in a theory test that is not mode specific.
- Addresses the issue of motorcycle safety as a 'problem'.

2. Educate to Deliver

- Looks at education and enforcement, specifically looking at actions to improve the standard of motorcycle training

3. Motorcycles as Practical Solutions

- Expands on the role of central and local government by including motorcycling in general policy rather than side-lining it as a 'road safety problem' that cannot be solved.
- Offers a solution in the gap of motorcycle specific knowledge in government through the creation of a motorcycle specific function within government.

4. Unlocking the Benefits of Motorcycling

²⁶ <http://www.righttoride.co.uk/virtuallibrary/ridersafety/PPR442findings.pdf>

²⁷ <http://www.rospa.com/rospaweb/docs/advice-services/road-safety/motorcyclists/motorcycling-safety-policy-paPer-2008.pdf>

²⁸ <http://mcia.co.uk/Press-and-Statistics/Press-Releases/Article/Police-and-Motorcycle-Industry-launch-policy-framework-calling-for-increased-and-safer-motorcycle-us.aspx>

- Recognises the motorcycling industry has great potential for growth.
- Proposes a scheme for motorcycles that mirrors the 'Cycle to Work' scheme.
- Believes that the growth of the motorcycle industry will increase the uptake of motorcycling in non-traditional sectors with society benefitting from reduced congestion and environmental reprieve.

5. Better Motorcycle Industry Engagement within Society

- Continue to build on the industry's voluntary commitment to improving functions such as braking and lighting and introducing safer and more advanced vehicles and equipment.

6. Partnership with Cycling

- Highlights the continuum between cycling and motorcycling is often ignored and both industries can benefit from a more cohesive approach.

The following actions from the report have been noted here as they relate to motorcycle safety:

- Action 4: Local Authorities. This action looks at improving local road safety action plans to incorporate motorcycle use into their strategy plans for transport and infrastructure engineering.
- Action 8: Improving Rider Training and Development. This action calls for the introduction of compulsory registration for all 'paid for' on road tuition. The Road Safety Act 2006 addresses this issue but has not yet been enacted. The act ensures that it will no longer be possible for a person to 'give paid driving instruction of any prescribed description, unless they are registered in respect of the giving of that description of driving instruction'. The Act also stipulates a requirement for there to be compulsory quality assurance for all motorcycle training, pre or post-test if carried out on public roads. (Action 11: Post Test Training Development also calls for this)
- Action 10: Safety Messaging. This action calls for positive safety messaging that focuses on motorcycle awareness which is widely rolled out to the general public at large (Action 17: Raising Skills Post Test for All Users also recognises this and highlight's the media's role in ensuring that road users are aware of the vulnerabilities of certain roads)
- Action 14: Encouraging Continuous Improvement. This action calls for the encouragement of riders to take voluntary re-assessment at regular intervals (e.g. every five years). The action highlights BikeSafe and its partnerships with IAM, RoSPA and ERS/DVSA as being a model example of encouraging such voluntary re-assessment. The action calls for some research to be done into incentive packages for getting riders to attend voluntarily: it recognises the Pass Plus insurance reduction incentive but notes riders found this incentive to be insufficient in attracting riders to courses.

4.2.3 Wales

CRASHCards Evaluation

The CRASHCards evaluation by RoSPA in March 2014 looks at the intervention designed by the Ambulance Motorcycle Club. The intervention was recommended by the Road Safety Wales Motorcycle Safety Steering Group in 2012, after local authorities and other partners of Road Safety Wales were contacted to gauge interest in the national roll-out of CRASHCards in Wales. The questionnaire results (although relatively limited in number) were overwhelmingly positive about the scheme, concluding that motorcyclists are aware of their vulnerability with the initiative focusing on this aspect of motorcycling in order to make a positive difference on casualty figures.

The 2014 evaluation recommends that the initiative should continue (as it still does in many local authorities in Wales). It also recommends that participation to the CRASHCards initiative is available online and extended to cyclists. It suggests that interested participants could register to participate in the CRASHCard initiative online and receive the relevant materials (such as the green sticker placed on the visor of the motorcyclist's helmet) by post. This would make it easier to reach a wider audience and might lead to greater participation. It acknowledges that initial investigations into extending the scheme to cyclists show that the design of cycle helmets makes it difficult to insert the card inside, however other methods of storing the card or alternatives to the card could be considered.

BikeSafe Evaluation 2013

This report, commissioned by the National BikeSafe Steering Group, is an analysis of BikeSafe workshop evaluation survey responses collected in 2011–2012.²⁹ The review concludes that 'BikeSafe workshops are moderately effective at encouraging older and more affluent motorcycle riders to undertake accredited training; however, BikeSafe achieves only very limited penetration among younger riders and those from more deprived communities, who remain at high risk of death or serious injury; and a thorough review of BikeSafe's current evaluation process is required'.

The evaluation concludes that at risk motorcyclists are unlikely to attend the workshops. The reasons motorcyclists did not undertake accredited training was due to:

- Not currently riding.
- A confidence in current level of riding.
- Indecisiveness.
- Practical issues such as lack of money/time and injury.

The report highlights limitations in the ability to evaluate the effectiveness of BikeSafe given the current amount of information available, including an inability to assess the impact that BikeSafe actually has on collision involvement. In order to improve the understanding of the impact of BikeSafe, it suggests that future evaluations should offer incentives for participation and include controlled trials.

²⁹ Walton, B, 'BikeSafe Evaluation: Survey Responses 2011-2012, March 2013.

BikeSafe Regional Reports 2014

Although brief, the regional reports are very informative documents which undertake a basic evaluation of the scheme and look at responses to the 'On the Day' survey conducted with participants. Notably, BikeSafe has the most up-to-date and succinct monitoring and evaluation system of the schemes currently delivered in Wales. BikeSafe Gwent and BikeSafe North Wales had a higher number of respondents willing to consider taking part in accredited training in the future as a result of their BikeSafe experience (95% and 97% respectively) whilst the Dyfed-Powys region had a slightly lower figure of 90%.

Below are some extracts from the report that highlight the most relevant information:

- In all four regions, BikeSafe was made known to the majority of beneficiaries through 'word of mouth'. In the Dyfed-Powys region, 73% of beneficiaries heard about BikeSafe this way.
- BikeSafe performed well in the 'On the Day' evaluation in all three regions, with overwhelmingly positive responses to all elements of the day including hazard awareness; filtering; junctions; cornering; overtaking and group riding.
- In all three regions, BikeSafe received the lowest rating for the 'group riding' element with 24 participants rating that element of the course 1-3 stars.³⁰

Dragon Rider Evaluation 2012–2013

This report set out to assess the effectiveness of the Dragon Rider motorcycling intervention available in Wales.

The report concludes that in locations where assessment and training interventions are well established, casualty figures are lowest. The Dragon Rider participants reported positive responses to the course with 'virtually all [participants] suggesting that it gave them a better understanding of the hazards riders face on a daily basis and better coping strategies'.

The evaluation also concludes that the course provided participants with knowledge about their machines that would make them ride more safely. It includes suggestions for possible additional elements of the course, including pillion training, carrying luggage, motorway riding, parking, overtaking, filtering, advanced hazard perception and counter-steering.

The evaluation also contains an evaluation of the Pan-Regional Enhanced Rider Scheme (used by Dragon Rider as its practical element) commissioned by Bedford Borough Council. It looks at the perceptions of the Enhanced Rider Scheme (available in South and North Wales) and the role of attitudinal and behavioural assessment and coaching. The evaluation, which adopts a psychology-based approach, looks at why motorcyclists refuse post-test training courses and the best way to infiltrate the 'closed-shop' motorcycling communities that currently exist in the UK. The evaluation categorised motorcyclists and ERS deliverers into four groups:

- The Extravert – Introvert
- Sensor – Intuitive
- Thinker – Feeler

³⁰ A more detailed examination of BikeSafe delivery in Wales is found in Section 5.1.1.

- Judger – Perceiver

The comprehensive report is extensive in its knowledge of different deliverers of the scheme, costs, relationships with local authorities, promotion and publicity, attitudes towards subsidies for beneficiaries and more. It notes that the ERS trainers felt it was extremely difficult to compete with the larger IAM, RoSPA and BikeSafe courses available.

The report concludes with some recommendations for future development for the ERS course including:

- Improved marketing
- Incentives for participation
- Adding track components to the course
- Integration with other schemes
- Administration and trainer support.

Road Traffic Collisions: Rhondda Cynon Taf

This report, published in March 2013, assesses the profile of road traffic collisions in the Rhondda Cynon Taff (RCT) area from 2007–2011. The report contains a comparison of the collisions that occurred in the RCT against those that occurred in the whole of South Wales. It notes that 2,656 crashes involving motorcycles happened in RCT, with only 3.4% of these being ‘tourist’ riders (those from outside the South Wales area), which indicates that the majority were commuter bikers or close-range leisure riders. The figures from this evaluation have proved significant in understanding who is most ‘at risk’ of collision or accidents whilst riding in the RCT area.

Welsh Government Statistical Bulletins

The statistical bulletins released by Welsh Government detail motorcycle user road traffic casualties in Wales. The report of July 2014 concluded that between 2009 and 2013 most motorcycle accidents occurred when the weather was fine (86%), during daylight (83%) and at a junction (57%). Although Motorcyclists only represent 0.2% of all traffic in Wales, they comprise 31% of fatal and serious road accident casualties. In 2012 there were around 54,000 licensed motorcycles in Wales, a 43% increase on the 38,000 licensed in 2001. The report concludes that the chance of a motorcycle rider being killed or seriously injured, per kilometre travelled, is around 78 times greater than for the driver of a car (including taxi and minibus) driver. However, it also states that motorcyclist casualty levels in Wales were four times higher than the most recent casualty levels in the early 1980s.³¹

Table 1 Gender of KSIs in Wales per year, 2004–2013(below) shows the number of KSI motorcyclist casualties in Wales each year since 2004 by gender. Every year between 2009 and 2013 the vast majority of the casualties were male.³²

³¹ 2,922 in 1980 to 685 in 2013

³² The report advised that it is important to note that casualty figures can fluctuate year on year, and that looking at one year in isolation can be detrimental to research.

Table 1 Gender of KSIs in Wales per year, 2004–2013

	2004-08 average	2009	2010	2011	2012	2013
Male KSI	236	220	224	218	200	226
Female KSI	21	21	23	24	13	20
Total KSI	257	241	247	242	213	246

Source: Statistical Bulletin July 2014

The report also looks at the correlation between the age of the casualty and the power of the motorcycle involved. It notes that motorcycle rider casualties aged under-30 tended to have been riding less powerful machines (those with engines up to 500cc) — 78% of all casualties in the under-30 age group were riding motorcycles with engines of 500cc or less. Conversely, 68% of casualties amongst rider aged 30 or over were riding engines of above 500cc.

4.2.4 Ongoing Evaluations

One local authority in South Wales indicated that currently a RiderSafe evaluation is being conducted by Neath Port Talbot which will look at the effectiveness of the scheme on the local authorities it is responsible for, namely, Carmarthenshire, Swansea, Pembrokeshire and Neath Port Talbot itself.

4.3 Conclusions

The review of existing literature revealed a clear shortage of robust evaluations into the impact of road safety initiatives in the EU, UK and Wales. Although many local authority Road Safety Teams expressed their concern about the current level/standard of evaluations, they were also reluctant to encourage any particular type of evaluation, largely due to the difficulty of attributing interventions with outcomes. For example, one respondent claimed that it was 'almost impossible to deliver any monitoring or evaluation documents when the causes and effects of accidents are so difficult to attribute' (Local Authority Road Safety Team). As a result of this there appears to be a general reluctance to carry out evaluations. This reluctance is compounded by the concern that an evaluation might conclude a scheme was ineffective and lead to a withdrawal of its funding.

5 Current Provision in Wales

In order to illustrate the type of post-compulsory interventions delivered across Wales so that areas of similarities and differences can easily be referenced, interventions have been categorised into two distinct groups that differentiate the interventions by their content. The two groups are Prevention and Treatment Interventions. Those categorised as Prevention Interventions attempt to reduce motorcycle casualties by up-skilling riders so they are less likely to have accidents or collisions.³³ Treatment Interventions are those that try to equip riders with the most effective skillset for dealing with the casualties of an accident.

Table 2 Post-Compulsory Interventions in Wales by Category: Prevention or Treatment

Prevention	Treatment
BikeSafe Dragon Rider Cymru Commuter Safe and Scooter Smart Rider Safe Ride On Enhanced Rider Scheme* Advanced Rider Training* RoADAR (Advanced Driver and Rider)*	First Bike on Scene CRASH Cards Bike Down Cymru

Source: Miller Research (UK) Ltd.

*Not financially supported by Welsh Government

The interventions in each category do not duplicate the offer of those in the other. However, there are similarities with the content of some of the courses within each category. This is explored further in Chapter 5.1.

Table 3 lists the post-compulsory interventions that are available in each local authority in Wales. In summary:

- BikeSafe is available through all 22 local authorities (although not all LAs make subsidies available).³⁴
- Enhanced Rider Scheme is available throughout Wales through individual training providers.
- 4 Local Authorities deliver Scooter Smart and Commuter Safe Motorcycle Courses.
- 4 Local Authorities deliver Dragon Rider.
- The South Wales Fire & Rescue Service and Mid & West Wales Fire Service deliver Biker Down! Cymru in their respective areas.³⁵
- 4 Local Authorities deliver Rider Safe.
- 8 Local Authorities deliver First Bike on Scene.
- Powys delivers Ride On.

³³ By, for example, improving technical skills such as motorcycling handling, as well as risk awareness and hazard perception/avoidance etc.

³⁴ It was not possible to obtain information from Bridgend or Blaenau Gwent's Road Safety Team.

³⁵ Powys CC is the only LA directly delivering the initiative.

- Monmouthshire delivers Ridesafe.
- Ceredigion delivers the Ceredigion Rider Improvement Scheme.
- Torfaen delivers the 'On Yer Bike' Road Safety Day.

All 22 local authorities offer the delivery of BikeSafe, a post-compulsory course run by the police force of each areas.³⁶ Medic Skills is responsible for the delivery of First Bike on Scene (FBoS) in the North Wales local authorities of Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham.

The three other counties that mentioned delivery of FBoS are coordinated by Neath Port Talbot County Borough Council (NPTCBC). Currently, FBoS is free to residents of NPTCBC.³⁷

NPTCBC is responsible for the procurement of three other local authority motorcycle interventions as well as its own: Swansea, Carmarthenshire and Pembrokeshire. NPTCBC is also responsible for the provision of Dragon Rider in its own local authority, Carmarthenshire, Pembrokeshire and Swansea. As well as being responsible for the administration of FBoS, NPTCBC is responsible for the procurement of the newly piloted RiderSafe scheme in NPT, Carmarthenshire, Pembrokeshire and Swansea.

Scooter Smart and Commuter Safe are being piloted by four local authorities in South and Mid Wales, namely Caerphilly, Cardiff, Rhondda Cynon Taff, and the Vale of Glamorgan.

³⁶ *BikeSafe, along with other initiatives are discussed in Section 5 of this report.*

³⁷ *At the time of writing FBoS is also free in NPTCBC's neighbouring counties, but this is for a limited time only.*

Table 3 List of Motorcycle Interventions by local authority

	Bike Safe	Scooter Smart and Commuter Safe	Dragon Rider	Rider Safe	Biker Down Cymru	First Bike on Scene	Other
Anglesey	✓					✓	
Blaenau Gwent ³⁸							
Bridgend ³⁹					✓		
Caerphilly	✓	✓					40
Cardiff	✓	✓			✓		
Carmarthenshire	✓		✓	✓		✓	
Ceredigion							41
Conwy	✓					✓	
Denbighshire	✓					✓	
Flintshire	✓					✓	
Gwynedd	✓					✓	
Merthyr Tydfil	⁴²						
Monmouthshire	✓						43
Neath Port Talbot	✓		✓	✓		✓	
Newport							
Pembrokeshire	✓		✓	✓	✓		
Powys	✓				✓		44
Rhondda Cynon Taff	✓	✓			✓		
Swansea	✓		✓	✓			
Torfaen	✓						45
Vale of Glamorgan	✓	✓			✓		
Wrexham	✓					✓	

Source: Miller Research (UK) Ltd.

³⁸ Miller Research was unable to contact any members of the Local Authority Road Safety team in Blaenau Gwent.

³⁹ Miller Research was unable to contact any members of the Local Authority Road Safety team in Bridgend.

⁴⁰ 'On Yer Bike' Road Safety Day

⁴¹ Ceredigion Motorcycle Rider Improvement Scheme

⁴² First course due to take place in March 2015

⁴³ Ridesafe

⁴⁴ Ride On

⁴⁵ 'On Yer Bike' Road Safety Day

5.1 Prevention Interventions

Prevention Interventions are those that attempt to prevent accidents from occurring by upskilling motorcyclists through further training. In Wales, the interventions supported by Welsh Government are: BikeSafe, Dragon Rider Cymru, Commuter Safe and Scooter Smart, Rider Safe and Ride On.

5.1.1 BikeSafe

BikeSafe is a police-led, post-compulsory scheme that aims to reduce the number of motorcycle casualties on UK roads by providing an introduction to advanced training.⁴⁶ BikeSafe is wholly focussed on safe riding and promoting the need for the beneficiary to continue to develop their riding skills, knowledge and hazard awareness throughout their riding years. BikeSafe Coordinators make clear, however, that the scheme is not an advanced training scheme, and so beneficiaries are encouraged to attend training schemes after they complete BikeSafe. The beneficiary is pointed to one of three training programmes delivered by three DVSA-approved providers: the Institute of Advanced Motorists (IAM) course, the Royal Society for the Protection of Accidents course (RoSPA) or the DVSA Advanced Rider Scheme.

BikeSafe has implemented a monitoring system through which a beneficiary's post-BikeSafe education is tracked. The system works as follows:

1. Beneficiary attends BikeSafe course where, upon entry, they are given a unique identification number that is unique amongst all partners (IAM, RoSPA and DVSA).
2. Beneficiary is told which skills they need to improve.
3. Beneficiary either disregards advice choosing not to pursue further training, or beneficiary follows advice and attends one of the three training programmes delivered by the DVSA, IAM or RoSPA.
4. The beneficiary's BikeSafe identification number is logged when they attend one of the three courses.

Course Content

BikeSafe is designed to explore the hazards faced by motorcyclists.

It comprises two key elements:

- A morning theory session led by a police motorcyclist (who is also a qualified DVSA Instructor). A DVD-based curriculum covers crash avoidance, hazard awareness and the emergency service riding system.
- An accompanied ride. The participant is taken on a one or two hour ride with an observer who assesses their performance. The observer provides feedback on the participant's strengths and weaknesses and offers suggestions for improvements. Information on subsequent formal training to improve riding skill and safety is also provided as deemed appropriate.

⁴⁶ In Conwy, Flintshire and Wrexham, 'Scooter Safe' provides a similar scheme for scooter drivers. It is also delivered by the police and has a similar course content.

Through this combination of theory and practical training BikeSafe addresses:

- Positioning and cornering
- Use of speed
- Casualty reduction
- Changes to the rules of the road
- Observations and planning for hazards
- Safer and fuel efficient riding
- Attitudes and Behaviour
- Basic First Aid Skills

Delivery

In Wales, BikeSafe is run by the local police forces. Delivery methods therefore vary slightly and delivery levels are dependent on the resources of the local police force. In all regions, BikeSafe provides a theory session in the morning and an 'observed' ride session in the afternoon,⁴⁷ and the frequency of the workshops is determined by the availability of instructors and premises and consideration of the peak times for participants.

One stakeholder interviewed believed that in order to exploit BikeSafe's relative popularity in North Wales, it may be more effective to have a full-time coordinator employed to deliver BikeSafe across Wales, synchronising messages and thus having a more effective impact on the number of participants on the scheme.⁴⁸

North Wales

In North Wales, there is a coordinator who is responsible for managing the delivery of BikeSafe in the region. In 2015, BikeSafe will be delivered at five locations around North Wales: Rhyl Fire Station, Porthmadog Fire Station, and North Wales Police Headquarters in Colwyn Bay, St Asaph and Broughton. All 2015 workshops at the Police HQ will be delivered during the week whereas all other workshops will be delivered on weekends. Workshops can also be delivered on request.

Table 4 BikeSafe Workshops in North Wales by location, 2015

	Mar	April	May	June	July	Aug	Sep t	Oct	Nov
Rhyl Fire Station		✓	✓		✓		✓		
Porthmadog Fire Station			✓	✓	✓			✓	
North Wales Police HQ, Colwyn Bay			✓	✓		✓			
St Asaph	✓	✓		✓	✓			✓	✓
Airbus, Broughton		✓	✓		✓	✓	✓		

Source: North Wales Police

⁴⁷ The itinerary for BikeSafe in each region of Wales can be found in Appendix 4.

⁴⁸ For this to be successful a fixed price across Wales would be recommended to ensure consistency in demand.

Mid Wales

In Mid Wales BikeSafe is led by Dyfed Powys Police and delivered by the police force in Powys and Carmarthen, Haverford West Fire Station, Llandrindod Wells Fire Station and Aberystwyth Fire Station.⁴⁹ A Police Coordinator is responsible for coordinating delivery. Mid and West Wales Fire and Rescue Service's website describes how observers from its Firebike team assist with the running of the courses and provide venues.

Details of BikeSafe training in 2015 was not accessible on the BikeSafe website at the time of writing, but in 2014 training comprised of the following workshops (all held at weekends):

Table 5 BikeSafe Workshops in Mid Wales by location, 2014

	Mar	April	May	June	July	Aug	Sept	Oct
MWWFRS HQ (Carmarthen)	✓				✓			✓
Haverford West Fire Station (FS)	✓			✓				
Llandrindod Wells FS		✓					✓	
Aberystwyth FS			✓			✓		

Source: BikeSafe Wales

South Wales

Two police forces run BikeSafe in South Wales: South Wales Police and Gwent Police.⁵⁰ The South Wales Police Force delivers BikeSafe in the Vale of Glamorgan, Swansea, Neath Port Talbot, Cardiff, Rhondda Cynon Taff and Merthyr Tydfil. Gwent Police deliver BikeSafe in Torfaen (Cwmbran). Gwent Police is the only police force where the BikeSafe observers are all serving officers. Other regions call upon the services of IAM, RoSPA and Fire personnel to act as observers. Courses planned for 2015 (South Wales police force only) are detailed in Table 6.

Table 6 BikeSafe Workshops in Mid Wales by Location, 2015

	April	May	June	July	Aug	Sept
Cardiff		✓		✓		
RCT		✓		✓		
VoG		✓		✓		
NPT	✓	✓		✓	✓	
Swansea		✓		✓	✓	✓

Source: South Wales Police

⁴⁹ For the purpose of this evaluation Mid Wales refers to the local authorities of Pembrokeshire, Carmarthenshire, Powys and Ceredigion. This area is the same geographical area as covered by the Dyfed-Powys Police force. The fire and rescue services boundaries do not match with these areas.

⁵⁰ For the purpose of this evaluation South Wales refers to the local authorities of Swansea, Neath Port Talbot, Bridgend, Merthyr Tydfil, Caerphilly, Torfaen, Blaenau Gwent, Monmouthshire, Newport, Cardiff, Vale of Glamorgan and Rhondda Cynon Taf. This area is the same geographical area as covered by the South Wales Police and Gwent Police forces and the evaluation makes reference to comments referring to the police force areas. The fire and rescue services boundaries do not match with these areas.

Costs

Table 7 shows that costs range from fully-funded (free) to £40 (or £55 for non-residents of some local authorities). BikeSafe participants attending a course delivered by North Wales Police Force pay just £10 as a booking fee to attend BikeSafe. This force also conducts the most workshops and has the highest number of attendants (see participation below). This may be reflective of the lower price relative to other areas.

Many local authorities expressed an opinion regarding the cost of the BikeSafe course. The local authorities who charged a fee claimed that this approach helped to reduce the number of 'drop outs', arguing that if there was a booking fee, beneficiaries were more likely to turn up because they had committed some money in order to attend. In spite of the cost to the beneficiary in some local authorities, BikeSafe remains extremely popular amongst riders. The BikeSafe website claims:

'BikeSafe' is not about making profit, in fact, the Police Service and partners soak up large amounts of the cost of delivering the workshops. This reduces the cost to the motorcyclist."

Table 7 Cost of BikeSafe Workshops by Local Authority

Local Authority	Cost to beneficiary
Anglesey	£10 booking fee
Blaenau Gwent	£35
Bridgend	n/a
Caerphilly	£35
Cardiff	£20 for residents or workers
Carmarthenshire	£20 for residents £55 for non-residents
Ceredigion	£40
Conwy	£10 booking fee
Denbighshire	£10 booking fee
Flintshire	£10 booking fee
Gwynedd	£10 booking fee
Merthyr Tydfil	£20 for residents, £55 for non-residents
Monmouthshire	£35
Neath Port Talbot	£20 for residents £55 for non-residents
Newport	£35
Pembrokeshire	£20 for residents £55 for non-residents
Powys	£40
Rhondda Cynon Taff	£20 for residents or workers
Swansea	£20 for residents £55 for non-residents
Torfaen	£35
Vale of Glamorgan	£20 for residents or workers
Wrexham	£10 booking fee

Source: BikeSafe

Although course fees vary between local authorities, it is interesting to note that BikeSafe is offered at a fraction of the price of the three courses it promotes in their workshops (shown in

Table 8). In this sense, it successfully acts as a 'bridging the gap' scheme, giving its beneficiaries a taste of advanced riding and acting as a signpost to further advanced riding education.

Table 8: Cost and Duration of IAM, RoSPA and DVSA Advanced Rider Scheme

Course Title	Cost	Duration
RoSPA Advanced Motorcycle Training	Joining fees for local Advanced group £10 + around £10 per hour to cover tutor costs. Advanced test: £51 for under 25yrs / £61 for 26yrs +	4 Days
IAM – Skill for Life	£149	Eight training sessions
DVSA Enhanced Rider Scheme	(Dependent on facility delivering) BikeTrain Wales: £25 per hr	1-2 hours, dependent on skill level

Source: RoSPA, IAM and DVSA websites

Participation

It is clear that North Wales BikeSafe has a significantly larger number of participants than the other local authorities, although it also delivers the highest number of workshops. The average number of participants per workshop was similar in North Wales and South Wales, and was notably higher than the other police force regions.

Interestingly, 50% (n=74) of beneficiaries of North Wales Bikesafe were classed as ‘non-residents’ (i.e. those who do not reside in the North Wales counties). Whilst this may be reflective of the lower price relative to other areas, there is no evidence to prove this. Nonetheless, there does appear to be an inverse relationship between the number of workshops being delivered and the cost to the beneficiary. As the cost to the beneficiary increases, the number of workshops delivered decreases, which may be the result of varying levels of demand. For example, to attend a North Wales Police workshop costs the participant £10, South Wales £20, Gwent £35 and Dyfed-Powys Police £40, meanwhile the number of workshops delivered in these regions decreases from 19 to 12 to 7 and 6 in each region respectively.

Table 9 Number of BikeSafe Workshops and Attendees in Wales by Police Constabulary (2014)

Police Constabulary	Workshops	Participants	Average Participants per workshop
North Wales Police Force ⁵¹	19	147	7.7
South Wales Police Force ⁵²	12	94	7.8
Gwent Police Force ⁵³	7	31	4.4
Dyfed-Powys Police Force ⁵⁴	6	28	4.7
Total	44	300	6.8

Source: BikeSafe

It is possible that participants classed as non-residents from other local authorities may be taking advantage of the price subsidies available in North Wales, whilst others may be coming across the border from England to partake in the course. Furthermore, this must not

⁵¹ This area consists of the Isle of Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham

⁵² This area consists of Bridgend, Cardiff, Merthyr Tydfil, Neath Port Talbot, Rhondda Cynon Taf, Swansea and the Vale of Glamorgan

⁵³ This area consists of Newport, Monmouthshire, Torfaen, Caerphilly and Blaenau Gwent

⁵⁴ This area consists of Carmarthenshire, Ceredigion, Pembrokeshire and Powys.

be viewed wholly negatively, as beneficiaries coming from outside the North Wales area may be the riders who are most likely to be riding in North Wales, thus proving its importance in informing visitors of the dangers of riding motorcycles in their area of choice.

Table 10 Number of Participants on BikeSafe in North Wales 2014 by Domicile Local Authority

Local Authority	2014
Anglesey	4
Gwynedd	11
Conwy	15
Denbighshire	10
Flintshire	18
Wrexham	15
Sub Total:	73
Non Residents	74
Total:	147

Source: North Wales Police

Table 11 shows the number of BikeSafe participants taking part in a course delivered by South Wales Police between 2005 and 2014. It shows that the number of participants rose steadily from 2005 to 2009 then doubled in 2010 to 230 participants. The following year (2011) saw the highest number of participants at 340 in 2011. Since then, the number of participants has fallen back down to the 2009 participation levels. It is unknown what external factors, other than the demand for training, have impacted on the observed fluctuations in participant numbers.

Table 11 Number of BikeSafe Course Participants: South Wales Police 2005-14

Year	Number of Participants
2005	42
2006	46
2007	64
2008	76
2009	111
2010	230
2011	340
2012	200 ⁵⁵
2013	212
2014	110 ⁵⁶

Source: South Wales Police

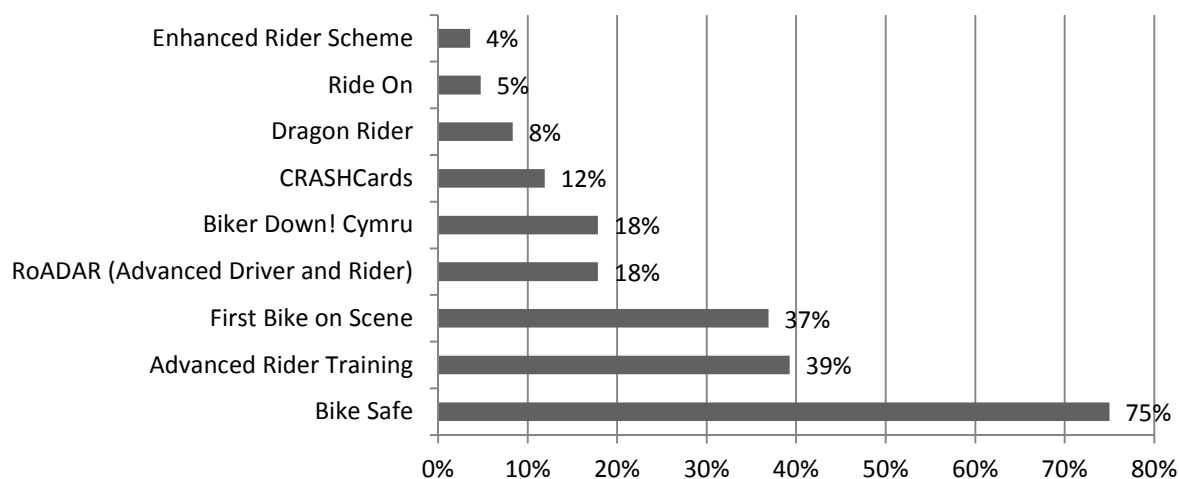
⁵⁵ The figure quoted in the BikeSafe meeting reports was 380, which was later corrected to 200.

⁵⁶ It should be noted that the figure of participants shown in 2014 of 110 is different to that which was quoted in Table 9. The data has been provided by two different sources which suggests that there is a discrepancy in the way data is collected and shared between partners.

Effectiveness

Of the 84 people who answered the relevant question in the Motorcyclist Survey conducted for this report, 75% (n=63) said they had attended BikeSafe. This made it the most attended post-compulsory intervention amongst our respondents.

Figure 1 Participation in Motorcycling Interventions by proportion of respondents



Base: 84

Source: Miller Research (UK) Ltd. Motorcyclist Survey 2015

Survey respondents were asked to rate courses they had attended on a scale of 1-5, with 5 representing excellent and 1 representing poor. BikeSafe was rated fifth highest by our survey with responses averaging 4.71 by our respondents.

As was previously discussed (in Chapter 4.2.3), a 2013 evaluation of BikeSafe concluded that the workshops were well received. In particular, attendees who attended the assessment day praised the course structure and delivery style. Participants particularly liked how the course incorporated both a classroom and practical element, allowing attendees to try out techniques they had been shown in the classroom on the road whilst under the supervision of a trainer. Motorcyclists thoroughly enjoyed the practical element of the training highlighting it was a fun way to identify their training needs with a fully-qualified instructor.

The qualitative responses collected through this research were equally positive about BikeSafe. For example, one respondent commented:

'Bike Safe was great. It was good to meet police in a non-emergency/non-confrontational manner and listen to how they ride every day, safely. It started me on my journey. Afterwards I signed [sic] up to IAM and the s-w-a-m.org.uk. They do courses that let you spend most of the day with qualified advanced riders who are enthusiastic to make you safer and enjoy your riding more. As a result I will only go on ride outs with advanced riders now as they are safe and sane and ride very professionally.' (Online Survey Respondent)

North Wales Police stated that BikeSafe is helping to raise awareness of road safety and the importance of advanced motorcycle training in Wales, which may contribute to increased participation in advanced training. Indeed, although BikeSafe is not marketed as a 'training scheme' by its providers, one of its primary purposes is to serve as a means of encouragement for participants to attend one of three DVSA approved training programmes.

However, the extent to which BikeSafe participants go on to other training schemes is largely unknown at present (although, as previously noted, a monitoring system that will be able to track this is in the process of being implemented). However, the 2013 evaluation of BikeSafe did conclude that one in five who attended progressed to further training within a year, although the same proportion did not progress because they believed they had no need for further training. One respondent engaged with as part of this research was complimentary of the encouragement of referral to further training courses:

'BikeSafe was an excellent introduction to further advanced riding with the IAM' (Online Survey Respondent)

Drawing upon this research's survey result it is possible to illustrate what other interventions respondents who took part in BikeSafe also attended. (Whilst it is not possible to tell in which order the respondent attended each initiative, it can be assumed if an advanced course has been undertaken then it is unlikely that BikeSafe will subsequently be attended given that it is intended to 'bridge the gap' between compulsory and advanced training.) Nonetheless, Table 12 shows that, of the 62 respondents who stated they had attended BikeSafe and answered the relevant question, 19.4% of respondents also completed RoSPA's Advanced Driver and Rider course, and 51.6% also undertook IAM's Advanced Rider Training. This finding offers support to the 2013 evaluation which, as noted above, found that one-fifth progressed to other training within a year.

Table 12 BikeSafe Participants Attendance of Other Courses

Course Title	Response Count	Percentage of BikeSafe participants
Advanced Rider Training ⁵⁷	33	51.6%
First Bike on Scene	26	41.9%
RoSPA's Advanced Driver and Rider	12	19.4%
Biker Down! Cymru	12	19.4%
CRASHCards	9	14.5%
Dragon Rider	5	8.1%
Enhanced Rider Scheme	3	4.8%

Source: Miller Research (UK) Ltd.

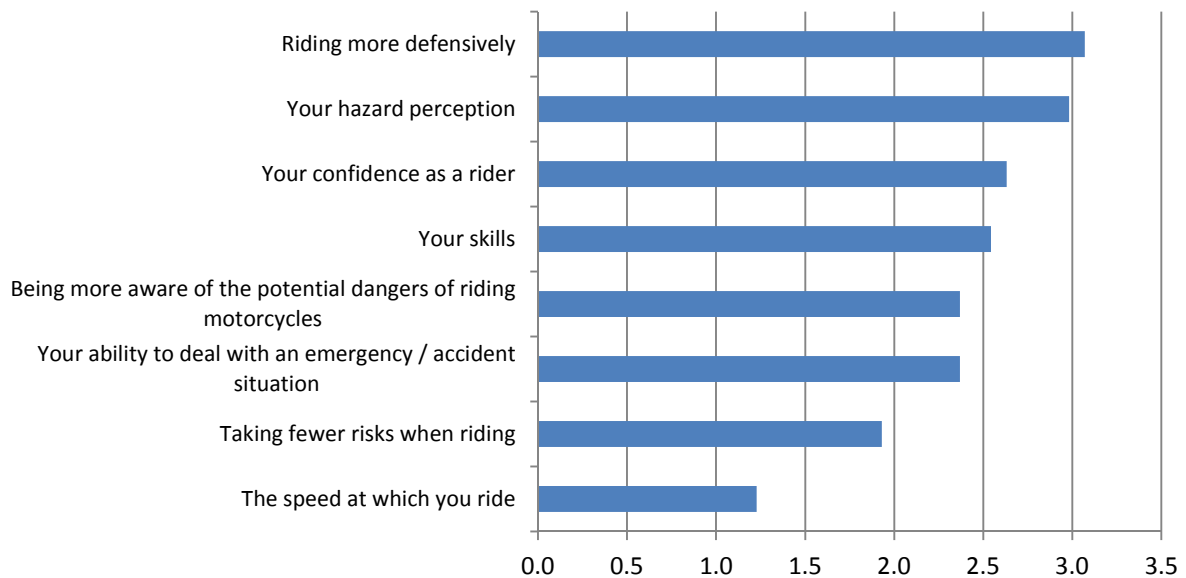
Regarding plans for future training, out of the 57 respondents who attended BikeSafe and answered the relevant question, First Bike on Scene was the course participants were most likely to also attend (24 stated they planned to attend). This may be due to the large proportion (45%) of respondents coming from North Wales, where BikeSafe and FBoS are run and administered by the BikeSafe North Wales Coordinator (and therefore there are likely to be strong links between the interventions). Other popular choices included Advanced Rider Training and Biker Down! Cymru (which, in content, is relatively similar to FBoS, see Chapter 5.2.2)

The 2013 evaluation of BikeSafe highlighted the fact that with the data available at the time of the review (mainly post-workshop evaluation forms) it was not possible to measure the

⁵⁷ NB: When responding to the survey, many respondents were unaware that the 'Advanced Rider Training' option was in fact run by the Institute of Advanced Motorists and thus left comments in the 'Other: please specify' section stating 'I.A.M.'. These comments have been added as a response count to 'Advanced Rider Training'.

impact of the scheme on collision involvement. However, the data collected as part of this review offers an insight into impact (albeit through self-assessment).⁵⁸ As is shown in **Error! eference source not found.**, BikeSafe appears to have the greatest impact on making participants ride more defensively, closely followed by hazard perception. Each recorded an average score around 3 when asked to indicate what impact BikeSafe had on a 5 point scale where 5 was a significant impact and 1 no impact. At the opposite end of the scale, the speed at which participants ride appeared to be impacted least by BikeSafe.

Figure 2 Impact of BikeSafe on Various Riding Attributes



Source: Miller Research (UK) Ltd. Motorcyclist Survey 2015
Base: 58

North Wales Police also felt that the initiative helps to influence industry change by educating people on the suitable types of bikes to buy, the importance of safety equipment and bike maintenance. Feedback from the event suggested that motorcyclists who attended BikeSafe outlined that the workshop had changed their riding style. Participants stated that the workshop improved their general road positioning, made them more aware and better equipped to plan and deal with road hazards. Attendees also highlighted that the workshop improved their cornering through taking correct lines and changing gear on approach. Overall, motorcyclists who attended BikeSafe were pleased with the assessment day and stated that they had increased their confidence and safety on the road.

According to our survey, respondents who had participated in BikeSafe were regular users of motorcycles, with 77% (n=48) using their motorcycle weekly and 85% (n=53) had a break of less than a year in using their motorcycle, with 16% (n=10) having never had a break or less than a week's break.

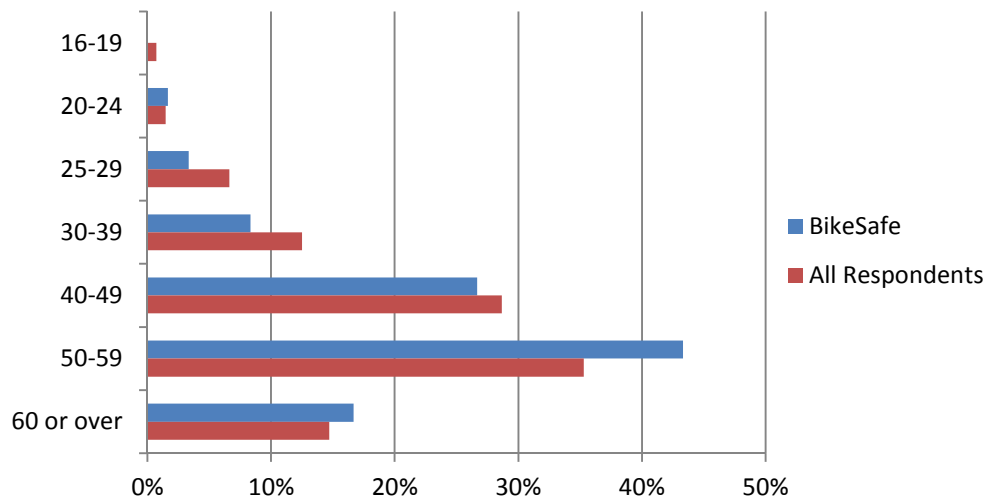
The 2013 evaluation of BikeSafe clearly noted that although effective at encouraging older and more affluent riders to undertake accredited training, it had limited penetration among

⁵⁸ It should be noted that self-assessment of impacts is a relatively weak measure of actual impacts due to the potential for biased analysis from individuals self-assessing their own abilities.

younger riders and those from deprived communities — those who make up the most at risk and hard to reach group.

Indeed, BikeSafe participation levels are skewed towards the older rider. Of the 60 survey participants who took part in BikeSafe and answered the relevant question, the largest proportion (43%) consisted of those aged between 50 and 59. Furthermore, 87% of the sample consisted of those over 40 years old, compared with just 79% of all respondents (143 who answered the relevant question). Similarly, 21% of all respondents were under 40 years old but only 13% of those who attended BikeSafe were under 40.

Figure 3 Age of Survey Bike Safe Participants Compared with All Survey Respondents

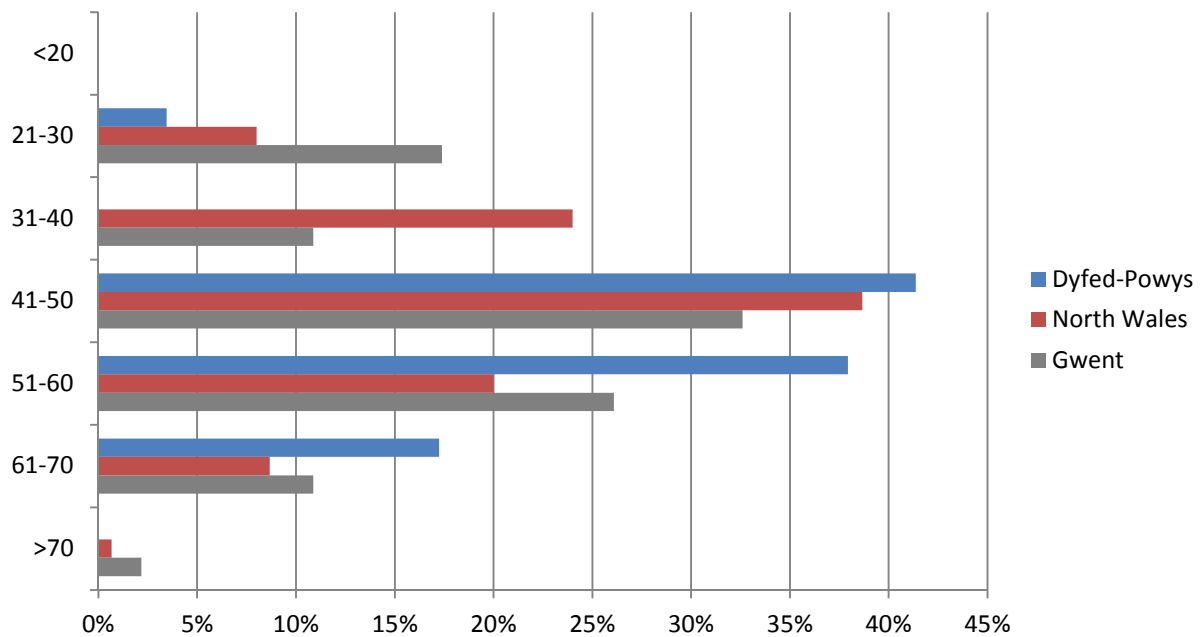


Source: Miller Research (UK) Ltd. Motorcyclist Survey 2015
 Bases: Bike Safe: 60, All respondents: 143

The data concerning BikeSafe participants' ages from the regional reports of 2014 (Figure 4) shows that BikeSafe participants tend to be aged 40 years or older in each police force region (where data was available). In all three regions, more than two thirds of participants were older than 40 — 68% in North Wales, 72% in Gwent and 97% in Dyfed-Powys. The figure also shows that Gwent attracted a greater percentage of participants aged 21–30 than the other regions, whilst one-quarter of North Wales participants were aged between 31 and 40. In absolute terms, North Wales attracted the most participants aged under-30 at 12, compared to 8 in Gwent and only 1 in Dyfed-Powys. As was previously mentioned, participation levels in North Wales in 2014 were significantly higher than the other regions (150 in total, compared with 46 in Gwent and 29 in Dyfed-Powys).

A few road safety officers described how this difference in age-group participation may be due to the stigma associated with the police among different subsectors of the population. There was a suggestion from a small number of officers that younger people in particular were more likely to harbour negative stigma towards the police, and that this exacerbated the difficulty of engaging this group with BikeSafe. Compounding this issue, another officer described how BikeSafe is failing to engage with 'hard-core' offenders as they do not see it as relevant to their motorcycling ability. There is also a fear that they would no longer remain anonymous to the police and would risk future prosecution.

Figure 4 Age of BikeSafe Participants by Police Force - 2014



Source: BikeSafe: Regional Reports 2014

Bases: Dyfed-Powys: 29, North Wales: 150, Gwent: 46

Note: no data was available for South Wales

In summary, BikeSafe is a well-attended course that particularly attracts older riders. Feedback on the content of the course is extremely positive and self-assessment of its impact on riding skills suggests that it is particularly effective at improving hazard perception and making riders ride more defensively. It's effectiveness as a stepping stone to accredited advanced riding courses is fairly strong, with a moderate impact on encouraging participants to continue training (though this is typically for older and more affluent riders).

Local Authority Road Safety Teams remarked that the varying price of the courses in certain local authorities was an issue for them and their beneficiaries. Table 9 shows that cost of the course most probably does affect beneficiary numbers in local authorities (since, as the price of the BikeSafe workshops increased, the number of participants decreased). No BikeSafe workshops were technically 'free': in North Wales, participants pay a £10 booking fee which, when speaking to various stakeholders, all found this to be an asset as beneficiaries had 'committed' something to the course and were more likely to take part on the day.

A further area for improvement with BikeSafe appears to be in encouraging younger riders to participate. Younger riders are the so-called 'hard to reach' and high-risk group of motorcyclists in specific areas of Wales. It could therefore be argued that the impact of BikeSafe on collision reduction could be increased if the level of participation among this group could be improved. Nonetheless, the actual impact that BikeSafe (congruent with other post-compulsory training) has on reducing collision incidences is largely unknown. At present there are no completed evaluations, or evaluations/monitoring systems planned, that will gather the necessary data to carry out a robust examination of the actual impact that BikeSafe has on reducing collision involvement among participants. Suggestions have previously been made, for example in the 2013 evaluation, to carry out controlled trials, and collecting data of accident victim's training history has also been discussed.

5.1.2 Dragon Rider Cymru

Aims

Dragon Rider Cymru is a motorcycle rider training course derived from the Driver and Vehicle Standards Agency's (DVSA) Enhanced Rider Scheme (ERS). It was developed within the (former) South West Wales Integrated Transport Consortium (SWWITCH) region with input from Thunder Road Motorcycles of South Wales. The primary aim of the course is to encourage post-test riders to improve their riding skills and follows the syllabus laid down by the ERS with an additional classroom element.

The Road Safety Teams from the local authorities of Swansea, Neath Port Talbot, Pembrokeshire and Carmarthenshire have worked in partnership to develop the course. It is delivered by experienced and qualified motorcycle instructors who are accredited by the DVSA's register of post-test motorcycle instructors under the ERS.

Course Content & Delivery

Dragon Rider Cymru was initially developed within the county of Neath Port Talbot, before being introduced and implemented in the local authorities of Swansea, Pembrokeshire and Carmarthenshire. Courses last two days and are delivered exclusively on weekends. The first morning session is classroom based at one of a number of designated Fire and Rescue stations in Carmarthen, Haverfordwest, Swansea and Neath Port Talbot. The afternoon is a practical road-based element where riders' skills are assessed by the instructor. Typically, the course adopts a one instructor to two participant rider ratio and all routes are tailored to ensure they focus on the particular needs of the riders being assessed. This assessment is based on the advanced police rider manual, Roadcraft. Participants who have previously participated in BikeSafe are encouraged to bring their on-road assessment certificates to provide the Dragon Rider Cymru instructors with background information on each rider. As such, there appears to be good continuity between BikeSafe and Dragon Rider Cymru — BikeSafe serves to highlight the areas for rider improvement that Dragon Rider can then focus on. On completion of the course, successful participants are presented with a competence certificate which is reported to be recognised by many insurance companies.

Costs

The costs of participating in Dragon Rider Cymru vary across four local authorities, depending on the availability of Welsh Government funding and whether the local authority has chosen to supply funding to subsidise the course. In Neath Port Talbot, and its neighbouring SWWITCH authorities, assisted by Welsh Government subsidies, Dragon Rider Cymru is free (for a limited period of time) to residents and to interested riders from other areas who use the local authority roads for work or social purposes. When and where subsidies are no longer available, costs are in the region of £30 for residents, or £50 to riders from other areas. The funding for Welsh Government is currently used to support Dragon Rider Cymru as set out in Table 13.

Table 13 Use of Welsh Government Funding for Dragon Rider

Item	Cost	Frequency
Workshop presenter	£100	Per workshop
Provision of practical training	£75	Per Person
Administration Fee	£15	Per Person
Participant price (currently being covered by WG)	£30	Per Person

Source: Miller Research (UK) Ltd.

Effectiveness

The 2013 evaluation of Dragon Rider Cymru suggested that in areas where training interventions are well established, casualty figures are lowest. The implication of this conclusion therefore is that there is a causal link between interventions and improved road safety. The evaluation also notes that virtually all participants gained a better understanding of hazards and better coping strategies.

Unfortunately, the number of respondents who participated in the survey carried out as part of this study was very low and so the robustness of findings is severely limited. Nonetheless, among the 6 survey respondents, Dragon Rider was rated sixth highest by our survey with responses averaging 4.33 by our respondents (on a scale of 1-5, with 5 representing excellent and 1 being poor).

All respondents who had participated in Dragon Rider rode their motorcycle very regularly, at least once or twice a week and 50% (n=3) rode every day. In addition to Dragon Rider, the respondents had participated in a variety of other courses. 83% (n=5) had attended BikeSafe and 67% (n=4) attending FBoS. The responses were overwhelmingly positive with 100% (n=6) of respondents rating the scheme either Excellent or Good. Respondents noted that *'Dragon Ride [sic]... [was] run very well with a relaxed and informal approach'* (Online survey respondent) and another noted that Dragon Rider was a course which *'services the need of the individual rider'* (Online survey respondent). One survey respondent was so positive about the course that they noted *'Dragon Ride [sic] should be offered immediately'* (Online survey respondent).

5.1.3 Commuter Safe and Scooter Smart⁵⁹

Cardiff, Caerphilly, Rhondda Cynon Taff and the Vale of Glamorgan provide 'Scooter Smart' and 'Commuter Safe' — courses which are designed to provide training to those riders who are not suitable for BikeSafe (which is aimed at full license holders on larger capacity bikes).⁶⁰ Scooter Smart is aimed at post CBT riders who are riding bikes at 125cc or below and Commuter Safe is aimed at riders with bikes under 600cc who are using their bikes for commuting purposes.

Both courses consist of classroom-based education in the morning and a ride out, on road session in the afternoon. The practical on-road based section of the training is tailored to the participants, using their commuting routes or junctions that are particularly difficult or problematic for those on powered two wheelers (PTWs). The course, at the time of writing, is free to participants.

⁵⁹ NB: There is also 'Scooter Smart', which is a mobility scooter training course delivered in Cardiff. This section is referring to the motorcycle training delivered for post CBT riders on 125cc or below bikes.

⁶⁰ RiderSafe website: <http://www.1stclassrider.co.uk/free-courses-start-today-the-scooter-smart-commuter-safe-motorcycle-courses-start-today-free-as-they-are-being-funded-in-the-local-authority-areas-of-cardiff-caerphilly-rhondda-cynon-taff-the>

In the Vale of Glamorgan, the course is delivered by an ex-policeman. The Road Safety Officer commented that he *'is fantastic and is especially good at engaging with the younger attendees. He does not just tick boxes, rather he encourages the beneficiaries to become better riders'*. There was no feedback available from course participants.

5.1.4 Rider Safe

Rider Safe is a pilot training scheme aimed at 16-24 year olds who are using PTWs as a mode of transport commuting to and from work and school/further education. It is a partnership between the Road Safety Teams of Carmarthenshire, Swansea, Pembrokeshire and Neath Port Talbot.

Rider Safe is a three module Certificate of Basic Training (CBT) training course. The first module is conducted in-house and includes a group discussion element where students discuss attitudes towards riding and identifying both good and bad road behaviour. Each trainee receives a copy of the Highway Code at this part of the course. The second module comprises the DVSA's CBT course and riders who reach the required standard are issued with their CBT certificate. The third module, undertaken between two weeks and one month after the completion of the CBT, consists of further education on-road and therefore provides the beneficiary with further experience and allows them to develop an action plan for their personal development. The course is promoted through colleges and schools where local authority Road Safety Teams attend events such as open days and fresher's fairs to encourage attendance.

The pilot scheme is fully funded by the Welsh Government Road Safety Grant. Neath Port Talbot County Borough Council take responsibility for the administration and delivery of the pilot. In 2014–15 two training providers were procured to deliver the course in Swansea (Smart Motorcycles and JT Motorcycles) and one in Pembrokeshire. The training is carried out by the training providers who are subsequently reimbursed for the cost of delivering the course using the grant subsidy.

The course is currently free to participants but the course will eventually cost £20 (if the pilot is successful). The grant is used to pay the £130 per person for the provision of theory and practical training per person and the £15 administration fee per person. By comparison, a CBT typically costs riders £125-130 which is determined by the training provider.

The pilot has attracted 75 participants to date, 17 of whom took part in Pembrokeshire and 58 in Swansea. At present there has been no analysis or feedback collected on Rider Safe. Only two responses were received in the survey carried out for this study therefore an analysis of its effectiveness is not possible.

5.1.5 Ride On

Ride On is an initiative delivered by the Shropshire and Powys Advanced Rider (SAPAR) group. It is available for free to people who live and work in Powys. The course is designed to give motorcyclists an introduction to advanced motorcycling and comprises an informal theory session followed by an assessment ride-out which is captured on the tutor's bike mounted cameras. Tutors are ROSPA-registered, experienced riders, who assess and

provide feedback to participant riders. The course has a ratio of one tutor to two riders. The research could not locate a published evaluation of Ride On.

5.1.6 Ceredigion Motorcycle Rider Improvement Scheme

Ceredigion County Borough Council Road Safety Team launched the Ceredigion Motorcycle Rider Improvement Scheme (a version of the DVSA Enhanced Rider Scheme) in 2012 in response to rising casualty numbers (although compared to other parts of Wales these were still relatively low). In 2013, there were 34 serious collisions on the county's roads, the second lowest rate of all Welsh local authorities. The figure was 43% lower than the county's 2004–2008 average. Nevertheless, the course was designed to tackle an issue which was discovered when looking more closely at these figures. The accident statistics revealed that a large percentage of motorcycle accidents in Ceredigion involved local riders. The course was then designed with the aim to enhance local motorcyclist's awareness and increase their overall safety on the roads to prevent future accidents.

Ceredigion Road Safety Team contracted three motorcycle instructors to help them with the design and overall delivery of the training across the local authority. The training scheme consists of a PowerPoint presentation and short theory session in the morning followed by an hour on-road assessment and de-brief. In the afternoon, participants are taken on an extended road session with a maximum of two riders per instructor. The instructor's bikes are equipped with cameras that capture the riders motorcycling ability and provide useful visual feedback at the end of the day. It is hoped the feedback provided will help improve motorcyclist's weaknesses, increasing their safety on the roads. The training has been marketed extensively at local motorcycle dealers and cafes, schools and colleges as well as via the radio and local press. Ceredigion County Council Road Safety Section has also promoted the training via the council website and social media channels.

The cost of the training is dependent on the number of participants and whether they are using their own motorcycle or hiring the instructor's. The cost to a single candidate who uses their own bike is £100. This figure increases to £120 if they rent the instructor's bike. If two candidates use their own bikes the cost is £150 which increases to £190 if they choose to hire the instructor's bikes.

To date the Ceredigion Motorcycle Rider Improvement Scheme has delivered training to 57 candidates (6 in 2012, 19 in 2013 and 32 in 2014).

Although none of the survey responses alluded to participating in the Rider Improvement Scheme, the researchers were able to gather information on participant feedback from those who attended the course. The training has received very positive reviews, with participants highlighting that the scheme made them a more confident and safe motorcyclist by helping to identify their riding weaknesses and teaching them how to overcome them. Participants commended the course design and particularly liked the mix of classroom and practical elements of the course. They also enjoyed the close contact with the instructor who was able to focus on their individual abilities and provide excellent feedback. Nevertheless, the Road Safety Officer outlined that it was far too early to see the long term impacts of the scheme, but did not allude to any systems in place to effectively measure impacts.

5.1.7 RideSafe

A relatively new course, Monmouthshire County Council's RideSafe is currently being marketed as a free motorcycle course to 'refresh and enhance' CBT skills. The course is split between a classroom based session in the morning, and a practical session in the afternoon. The course features the following syllabus for the day:

- Introduction
 - Overview of Statistics — Monmouthshire/Welsh collision data and dangerous roads
 - SMIDSY⁶¹ (Importance of High Visibility Clothing)
- Defensive Riding
 - All-weather/season riding/getting ready for the biker year
 - Bends on country roads
 - Collisions at junctions
 - Collisions while overtaking
 - Loss of control
 - Road surface conditions
- Bike maintenance and safety
- Practical Training
 - Off road skills at centre
 - 'Ride out' with radio communication on country/urban roads

Since the course is in its infancy, RideSafe has only been delivered in three locations across Monmouthshire.

Table 14: Locations of RideSafe Delivery 2015

Date	Location
Saturday January 10 th 2015	County Hall, Usk
Saturday February 14 th 2015	Heads of the Valleys Training, Gilwern
Saturday March 14 th 2015	Caldicot Leisure Centre.

Source: Monmouthshire County Council

Monmouthshire Road Safety Team placed significant emphasis on promoting RideSafe and carried out an extensive marketing campaign. The team produced 250 posters and 500 flyers which were distributed at locations across the county including Biker Groups schools/colleges/youth clubs, motorcycle garages and at locations popular for motorcyclists such as Oasis Café, Steel Horse Café and RM Hockey and Son Ltd.

⁶¹ SMIDSY is motorcycle slang standing for 'Sorry Mate I Didn't See You' which is a common phrase repeated to motorcyclists after an accident has occurred.

The training was also publicised in the regional press and promoted via the Local Authority, Police, Road Safety GB, Road Safety Wales and South Wales Fire & Rescue Service websites. Social media was also used to raise awareness of the training.

The course was free to participants.

Despite an extensive marketing campaign only five people completed Ridesafe. The Monmouthshire Road Safety Team was very disappointed with the turnout considering the level of advertising and number of enquiries in the weeks running up to the session. The training was very well received by the participants who took part, with highest ratings attributed to course content such as video clips and trainer expertise.

Even though the campaign was promoted extensively, the future of RideSafe is uncertain due to low participation in the course. The research collected feedback from the participants who attended the courses — they felt the course had led them to become a more confident and safer rider. All participants who took part in RideSafe highlighted that they would recommend the training course to other motorcyclists.

Compulsory Training — Suggested Improvements

Although slightly outside the scope of the research, the motorcycling survey conducted by Miller Research also asked participants to highlight any improvements that should be made to compulsory motorcycle training such as CBT and full motorcycle licence training. Improvements cited by participants related to the following topics:

- Increased focus on bike maintenance and identifying mechanical faults.
- Adding an exercise which places riders in van/large vehicle to help them understand blind spots and risk.
- Enhanced checks on quality of instructors.
- New riders need to learn basics of motorcycling and not just be taught how to pass a test.
- Road rides should be extended so riders get more practical experience of motorcycling.
- Increased focus on safety gear – importance of gloves, leathers, helmets and appropriate footwear.
- Advanced bike training should be made compulsory for new motorcycle riders.

5.2 Treatment Interventions

Treatment Interventions are those which try to equip the beneficiary with the most important skills or information required to deal with an accident. Instead of prevention methods, which provide participants with the skills needed to avoid accidents, Treatment Interventions accept that collisions will occur and prepare participants with the skills they need in order to minimise the effects of a collision on the victim.

5.2.1 Biker Down! Cymru

The Biker Down! Cymru course, delivered by operational firefighters, provides bikers and the general public with a better understanding of the way to safely handle a road traffic collision, with particular emphasis on motorcycle accidents. The course aims to reduce the number of killed and seriously injured motorcyclists in the South Wales and Mid-Wales Fire & Rescue Service areas. Biker Down! Cymru also promotes courses in advancing rider skills in partnership with a number of agencies.

A local authority Road Safety Officer commented that the Biker Down! Cymru course has the widest range of attendee demographic (compared with other post-compulsory interventions), noting that it also had success in attracting the hard to reach bikers.

The three-hour course is spread over three modules:

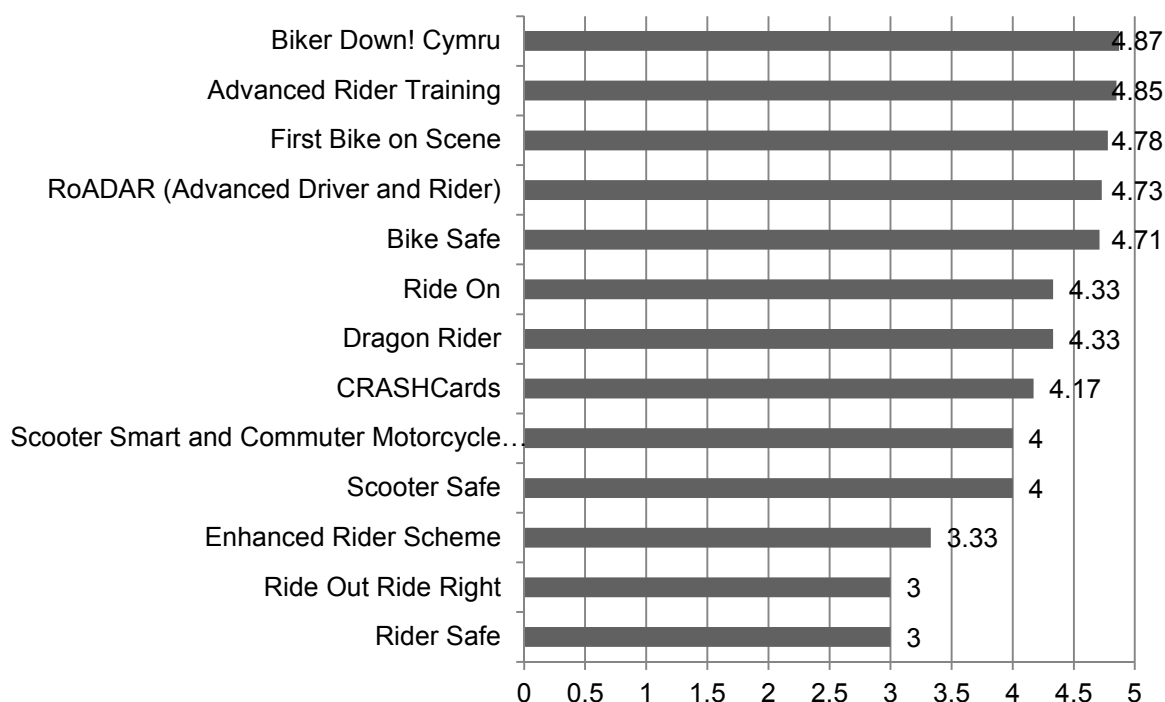
- Managing an Accident Scene
- First Aid
- The Science of Being Seen (education about high-visibility clothing)

After completing the course participants get an attendance certificate and a free first aid kit. Dependent on location, the course is delivered by either the South Wales or Mid and West Wales Fire Service at their respective fire stations.

The course is free for beneficiaries. Some local authorities may use grant money to contribute to the delivery of the course.

Survey respondents were asked to rate courses they had attended on a scale of 1-5, with 5 representing excellent and 1 being poor. Biker Down! Cymru was the most highly rated course, with responses averaging at 4.87 for respondents (as shown in Figure 5).

Figure 5 Ratings of Motorcycling Interventions by Beneficiaries



Base=52

Source: Miller Motorcycling Survey

86% (n=13) of respondents who had participated in Biker Down! Cymru were experienced riders, having ridden for 5 years or more, with 73% (n=11) having ridden for over ten years. The riders were frequent users of their motorcycles, with 87% (n=13) using their motorcycle at least once a week. Respondents who attended Biker Down! Cymru were familiar with other motorcycle training courses and 80% (n=12) of participants had also completed the BikeSafe course. Interestingly, 20% (n=3) had also participated in FBoS which is similar in its course content and information.

The respondents were all very positive of their experiences of Biker Down! Cymru with 100% (n=15) rating the scheme either Excellent or Good. Respondents commented that *'Biker Down taught first aid skills that are priceless'* (Online survey respondent), also mentioning that *'Biker Down gives information that could be life-saving'* (Online survey respondent), furthering its effectiveness as a treatment based intervention.

5.2.2 First Bike on Scene

First Bike on Scene (FBoS) is a nationally approved course that provides riders with the skills and knowledge to deliver the initial management of a person involved in a road traffic collision. Riders are trained to be able to administer basic life support whilst waiting for the emergency services. The course is valid for three years and approved by The Quality Casualty Care Alliance. Following the three years, half-day refresher courses are available. FBoS are advocates for extra training courses to improve a biker's safety and skills in order to try and prevent collisions involving motorcyclists.

The content of an FBoS course typically covers the following:

- The mechanics and forces involved in motorcycle injuries
- Scene management
- Safe casualty handling
- Motorcycle helmet removal
- Basic Life Support

The skills taught are all based on clinical evidence and teach the rider to achieve the most with the limited resources they have available to them at the time of the accident.

In South Wales FBoS is administered by Neath Port Talbot County Council. Courses are held at weekends at Mid & West Wales fire stations in the county. The course is free to residents of NPT, and for a limited time only (until March 2015) is offered free of charge to riders from nearby counties. In North Wales FBoS is administered and delivered by a scheme involving Medic Skills and Paul Cheshire. It is held at Rhyl Fire Station.

At the time of writing, the North Wales BikeSafe spokesperson supplied figures for the number of FBoS courses it had delivered (n=14 in 2014).

Table 15 Number of Participants of FBoS in North Wales by Residence

Local Authority	2011	2012	2013	2014
Anglesey	1	10	1	1
Gwynedd	1	2	15	1
Conwy	11	16	3	11
Denbighshire	9	9	7	6
Flintshire	5	35	21	13
Wrexham	1	5	5	8
Sub Total	28	77	52	40
Non Residents	25	56	114	36
Total	53	133	166	76

Source: North Wales Police

As mentioned in the section above on BikeSafe, there is a considerable number (n=36) of Non-Resident attendance of FBoS courses in North Wales. Attendance may be from neighbouring local authorities or may in fact be from across the border in England.

Survey respondents were asked to rate courses they had attended on a scale of 1-5, with 5 representing excellent and 1 being poor. FBoS was rated third highest by our survey with responses averaging 4.78 by our respondents (Figure 5). 18% of respondents (n=31) had participated in FBoS, and of these respondents all were frequent users of their motorcycles — riding at least once or twice a month — with 23% (n=7) respondents using their motorcycle every day. As well as FBoS, 84% of respondents (n=26) also attended BikeSafe and 32% (n=10) attended RoSPA's Advanced Driver and Rider.

All respondents who attended FBoS found it a positive experience with 100% (n=16, base =16) rating it either 'Excellent' or 'Good'. One respondents commented that *'[FBoS offered]...vital training not only first aid relating to biker casualties [sic] which can make the difference between life and death, but also accident scene management'*. Another

respondent commented on the tailored course content, including gaining '[k]nowledge of how to deal with important issues not generally known or trained for by accepted emergency services such as helmet removal'.

Of those riders who had already participated in FBoS and answered the relevant survey question, 59% (n=13) of respondents planned to attend BikeSafe in the near future and 42% (n=8) and 56% (n=13) were planning on participating in RoADAR's Advanced Driver and Rider or Advanced Rider Training respectively. There is therefore clearly a strong link between participants attending treatment interventions such as FBoS and then attending (or wanting to attend) advanced prevention training.

Table 16 FBoS Participants Future Course Choices

Intervention Title	Percentage	Number of Respondents
Bike Safe	59.1 ⁶²	13
Advanced Rider Training	56.5 ⁶³	13
RoADAR (Advanced Driver and Rider)	42.1 ⁶⁴	8

Source: Miller Research (UK) Ltd.

5.2.3 Crash Card

CRASH Cards was set up by the Ambulance Motorcycle Club, members of which are experienced paramedics and ambulance staff with a background in motorcycling. Motorcyclists fill out a CRASH card with important medical and personal information and place it inside their helmet. Then then put a small green circular sticker on the outside of their helmet to indicate that a CRASH card is present. If involved in a traffic collision, ambulance crews can obtain basic information about the rider if they are unable to communicate.

The programme has been running in the UK since 2009 and is available through many providers. The cards, which are free to participants, are available from shops, motorcycle dealers, insurance companies, DVSA test centres and through BikeSafe. It is endorsed by ambulance services from all over the UK. The scheme is replicated around the world, albeit with different names. For example, "Rider Alert" cards are used in the US, Sweden, Finland, Portugal, Romania and Northern Ireland. There are over 1.6 million CRASH cards (or their equivalent) in use globally.

The CRASH Cards scheme was evaluated in March 2014 with positive results from its sample of 113 respondents to its survey.⁶⁵ The evaluation recommended that the CRASH Cards scheme continue (which it has).

12 Welsh local authorities and 4 partners have placed CRASH Cards around point of contact locations in their regions (i.e. dealerships, training centres and motorcycle 'hot-spots') and CRASH Cards are available in Powys and in North Wales local authorities through the BikeSafe Co-ordinator. However, it is difficult to effectively determine how many have been

⁶² Base = 22

⁶³ Base = 23

⁶⁴ Base = 19

⁶⁵ The survey, available here [<https://www.roadsafetyevaluation.com/Reports/Default.aspx>] indicates that 113 were surveyed and 50 had previously heard about CRASH Cards.

taken away and used by beneficiaries. One commentator suggests that through the year long evaluation period, RoSPA contacted distributors on a quarterly basis to ascertain levels of stocks remaining. Feedback from distributors was that cards were regularly taken by motorcyclists, and that distributors required additional stocks.

On attending the Abergavenny Bus Station in the attempt to engage with motorcyclists, Miller Research found that a number of riders were aware of CRASH Cards and mentioned it as a means of preventing further damage when a collision had already occurred. One respondent saw the effectiveness of CRASH Cards as a tool that could reduce the severity of collisions by increasing the quality of the first aid support that victims receive.

Among the survey respondents, 12% indicated that they had participated in the CRASH Cards scheme. When were asked to rate courses they had attended on a scale of 1-5, with 5 representing excellent and 1 being poor, CRASH Cards averaged a 4.17 score.

5.3 Innovative Approaches from Elsewhere

This review has identified the following interventions which are not currently delivered in Wales, which could be considered in the future:

- Devon County Council's 'Blindspot' Programme is worthy of note due to its comprehensive approach to understanding motorcycling issues and creating a succinct understanding of riders behaviour through structured methods of research and evaluation.⁶⁶ The data led campaign was based on three stages: Research and Consultation; Target and Delivery; and Audit and Review. The Research and Consultation stage involved a consultation of 500 bikers (made available both online and on paper), the creation of an online biker forum (which generated 70,000 hits), and analysis of crash locations in the county. This process resulted in a comprehensive review of motorcycling issues in the county, which highlighted key points including:
 - Better training options for all rider types
 - KSI problem for riders in 30-45 year age group
 - Concerns over road survey
 - A need for bike-sensitive road designs
 - Bike awareness education for car drivers
 - The creation of a better image for motorcyclists.

This review then informed a training scheme called the 'Rider Development Course' which consisted of training which was dependent on the rider's needs, affordable and accessible to all bikers; a driver awareness campaign; new road infrastructure strategies; and a Rider Risk Reduction scheme which aimed to prevent further deaths on Devon's roads by helping riders understand their limitations. Although there does not seem to be a formal evaluation available, the Audit and Review highlighted the following successful outputs and outcomes:

⁶⁶ <http://www.devon.gov.uk/updatedbeaconcasestudy.pdf>

- Research of crash data
- Research of user opinion
- Development of training course
- Multi-media biker safety promotions
- Improved road conditions
- Ongoing feedback and data collection
- A 30% drop in biker KSIs between 2002 and 2004

This comprehensive approach to evaluation and research into issues is innovative and an example of best practice that should be replicated by local authorities and partners. Or, alternatively, a Wales-wide approach would be beneficial but would not be tailored to the individual local authority's needs (i.e. rural/urban; commuter/leisure riders).

- A German national programme, the 'Motorcycling Good and Safe'⁶⁷ approach, employs the innovative 'road show' in the attempt to engage more motorcyclists in practical training and activities to improve their rider skills, whilst concurrently increasing the awareness of PTW problems amongst other road users. In adopting a similar approach it is suggested that Welsh Government implement a 'safety messaging' initiative, similar to that suggested in the Motorcycle Industry Association's 2014 framework (Action 10). Welsh Government could deliver a road show to the general public that would increase awareness of motorcycles and the dangers that certain roads present to all road users.
- One stakeholder identified the success in a scheme called RIDE which is in its infant stages in North Wales but has proved popular and successful in other parts of the UK and Europe. Currently, the scheme is delivered in Bangor but is operated by a company in Shropshire.⁶⁸ The scheme is designed as an 'intervention for those motorcyclists whose behaviour has brought them to the attention of the Police'.⁶⁹ This kind of intervention, as noted by another local authority respondent, would engage those '*harder to reach groups. At the moment, initiatives are only reaching those riders who sign up voluntarily to courses and always will*', meaning that initiatives are only reaching those who are already engaged and are less likely to have an accident because they are more skills educated. However, another commentator noted that RIDE can be deployed by any police force and is an approach that should be explored by police forces to reach those who do not volunteer for training.
- Honda Rider Trainer for Enhanced Motorcycle Safety is a simulator that offers a safe way of improving enhanced motorcycle safety riding skills.⁷⁰ At present, this type of training is not available in Wales. It is recommended that a small scale pilot of such an initiative is undertaken to assess its value. The pilot could form part of a wider

⁶⁷ <http://www.zweiradsicherheit.de/>

⁶⁸ <http://www.driver-improvement.co.uk/index.php/home/ride/ride-service-providers/wales12/north-wales12>

⁶⁹ <http://www.driver-improvement.co.uk/index.php/home/ride>

⁷⁰ <http://www.fiaregion1.com/download/DSECM/02honda.pdf>

analysis of the impact of interventions (see Recommendation 6). Unfortunately, an evaluation has not yet been undertaken to assess its impact.

6 Analysis

6.1 Identification of Target Groups

This chapter aims to explore the methods that providers of road safety provision use to identify target groups of riders so that initiatives have the most effective impact on reducing casualty and collision figures on Welsh roads.

The majority of local authorities used STATS19 as their primary source of information for identifying geographical areas of concern and the demographic of those most in need of training. The STATS19 police form collects data on personal injury collisions on public roads that are reported to the police, including information about the types of vehicle involved, the severity of the casualty, external weather conditions, and factors contributing to the accident. Identifying which groups to target with motorcycling interventions was a challenge for some of the local authorities. For example, several local authority spokespeople described how small numbers of incidents and/or fluctuating numbers of incidents, made it very hard to determine who the target groups should be. As stated by one spokesman, *'it's so random you can't really target groups'*.

Another respondent noted:

'There are so many different types of riders that you cannot pigeon hole them as everything is different for each person. For some, motorcycling is now a 'needs must' means of transport and it is these riders (those who commute to work, for example) that are hard to reach. It is not their hobby so they are less likely to get training' (Member of the MSG).

As well as relying on data provided by STATS 19, one Road Safety Team indicated that they would attend major road safety collisions with their own officers in order to collect and collate their own information in order to have a better understanding of the reasons for the collision occurring.

Some local authorities experienced delays in receiving information from the police:

'Recently there have been issues with the South Wales Police Force being fairly slow at disseminating the data amongst local authorities.' (Local Authority Road Safety Officer).

Furthermore, two local authority Road Safety Teams mentioned that often there were a number of factors that led to a collision occurring and that this made it very difficult to design a course or structure of courses that will address all of the needs of the rider.

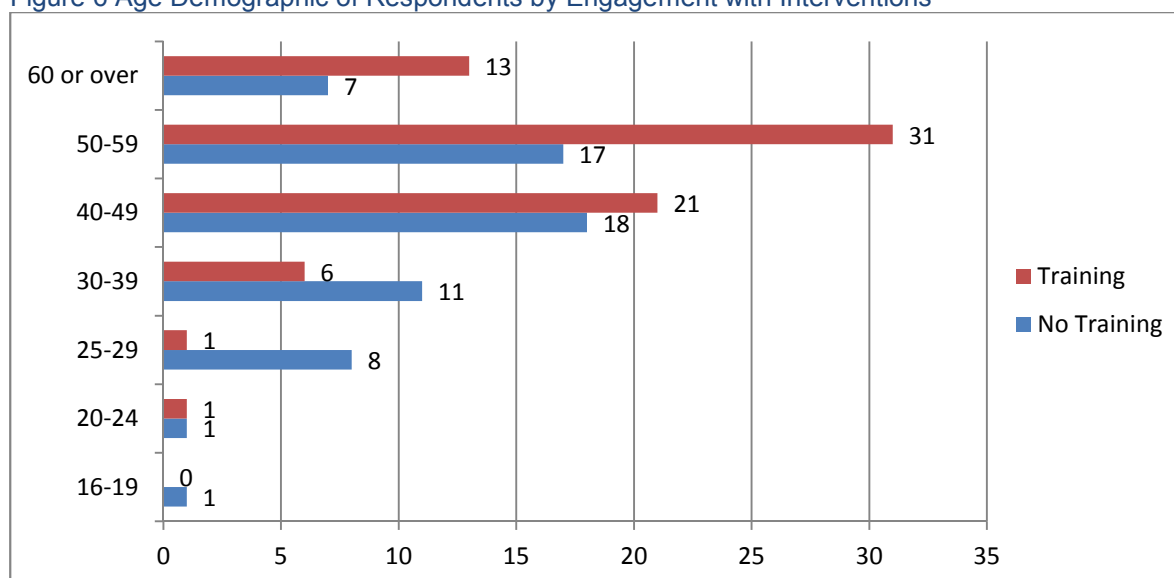
Another layer of complication in targeting resulted from motorcyclists having collisions in neighbouring counties, or involving motorcyclists from England. In such cases, identifying groups was not the problem as much as targeting interventions at those from outside the region who were having collisions within the region.

6.1.1 Effectiveness of Engagement with Target Groups

Our survey data reflected the difficulty in encouraging attendance at post-compulsory training. As is highlighted in Figure 6 below, respondents who had not accessed any training were of a slightly different age range to those who had participated in post-compulsory

training. To generalise, the survey suggests that younger people were less likely to participate in post-compulsory training than were older people.

Figure 6 Age Demographic of Respondents by Engagement with Interventions



Source: Miller Research (UK) Ltd.

To illustrate, the survey found that just 10%⁷¹ (n=8) of survey respondents accessing training were below the age of 40. 72%⁷² (n=21) of respondents (33% under 40) had not participated in any post-compulsory training.

Table 17 Age of Riders Accessing Training

Age	Bike Safe	Advanced Rider Training	RoADAR	Dragon Rider	Ride On	Scooter Safe and Commuter Smart	FBoS	Biker Down! Cymru
16-19	0	0	0	0	0	0	0	0
20-24	1	1	0	0	0	0	0	0
25-29	2	1	0	0	0	0	0	0
30-39	5	1	1	1	0	0	3	2
40-49	16	9	3	1	0	0	4	6
50-59	26	15	8	4	1	1	16	6
60 or over	10	5	3	0	1	0	8	1
Total	60	32	15	6	2	1	31	15

Source: Miller Research (UK) Ltd.

Base = 73⁷³

Indeed, analysis of the survey data shows that the largest proportion of riders who are participating in training are those which fit into the 40-60 age band. Further analysis (Table 17) shows which courses are attended by participants of different ages. In general, the data suggests that very few interventions are engaging with the younger, 16–30 age group, with

⁷¹ Base = 73

⁷² Base = 29

⁷³ NB: Respondents who participated in more than one training intervention will be represented more than once.

just five respondents from this age group accessing both BikeSafe and Advanced Rider Training. In the majority of cases, over half the respondents accessing the range of courses fit in the 50-59 age band (i.e 67% (n=4) of Dragon Rider participants, 51% (n=16) of FBoS participants) with the majority of other riders falling into the 40-49 age band.

As discussed in Chapter 4.2.2, the 'Road Safety Research Report No.54: In-depth Study of Motorcycle Accidents' identified the two groups that motorcycling interventions should be aimed at: younger riders and older riders.⁷⁴ In this sense, interventions currently delivered in Wales are successful at engaging with riders who are older and it could be assumed are on higher powered machines. The information above, however, illustrates an apparent lack of engagement for the majority of schemes with younger riders, although this may be because the majority of the schemes are not targeted at younger riders.

6.2 Marketing and Engagement

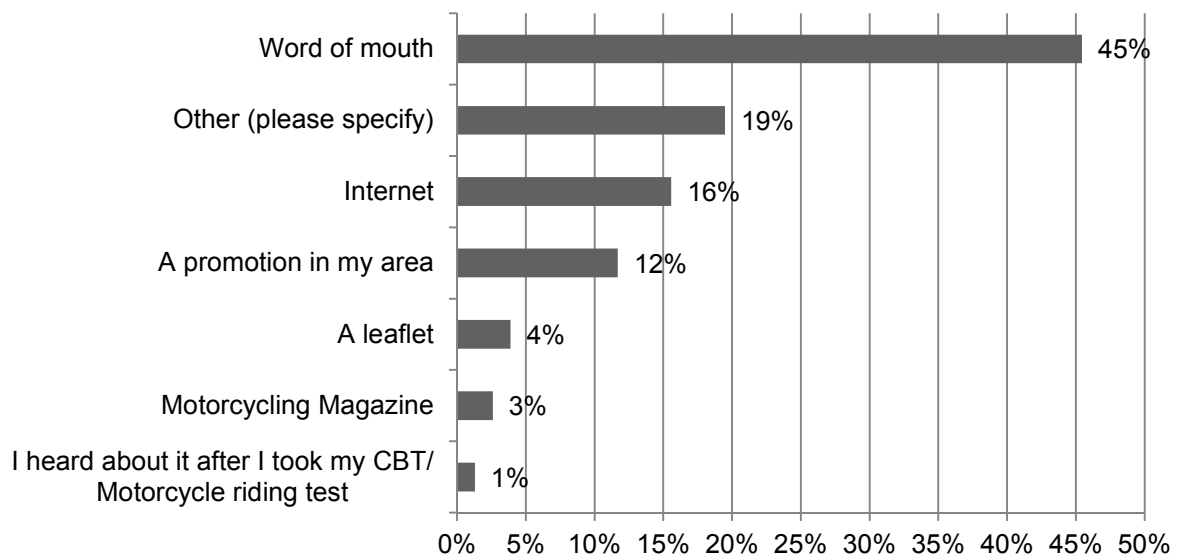
This section of the chapter assesses the effectiveness of the interventions at engaging with the target groups of younger riders on lower powered motorcycles and older riders on higher-powered motorcycles. It also looks at how local authorities promote and engage with beneficiaries in their areas.

Around 4 in 10 (43%) surveyed motorcyclists heard about the training they attended through word of mouth, suggesting that many beneficiaries had not engaged with marketing such as leafleting or internet advertisements. A further 2 in 10 (19%) respondents selected the option 'other' and highlighted that they became aware of the training through a motorcycle club or attending a motorcycle event.⁷⁵ The least common methods of engagement were through a leaflet (4%), motorcycling magazines (3%) and hearing about training after taking CBT/motorcycle test (1%).

⁷⁴ A more in-depth summary of this report can be found in Chapter 4.2.2

⁷⁵ Work place promotion and attendance at events such as the Carmarthen Motorcycle Show or the Motorcycle Show in the NEC are examples of answers.

Figure 7 Method of engagement for beneficiaries of courses



Base = 77

Source: Miller Motorcycling Survey

Many local authorities were concerned with the lack of attendance of motorcycling initiatives in general. Our survey asked respondents who had not attended any post-compulsory courses their reasons for not doing so. Notably, general awareness (21%) of training courses was the second most prominent reason participants had not attended a non-compulsory motorcycling training scheme. Lack of time (32%), cost (13%) and the fact many participants felt they didn't need an additional training (13%) were other popular answers.

Table 18 illustrates how local authorities marketed schemes available in their local authority to motorcycle riders.

In summary:

- 9 local authorities used 'mingling' with bikers as a means of engagement and promotion of training courses (e.g. attending biker cafes, attending local motorcycle meetings).
- 10 local authorities targeted motorcyclists online, through social media or through their own dedicated local authority websites.
- 6 local authorities used the more traditional method of flyers/posters and newspaper adverts.
- 4 local authorities used TV or Radio to reach their motorcycling audiences.
- 8 local authorities partnered with educational facilities to engage with younger motorcyclists.
- 5 local authorities held engagement days featuring short workshops or had a presence at local events such as carnivals or fetes.

The majority of respondents expressed concern at their inability to engage with motorcyclists: *'I feel at a loss road safety wise: we can't get people engaged'*.

A number of local authorities felt that not being able to use Welsh Government funding for general road safety publicity had led to lower numbers of attendees. Local authorities felt this contributed to lower participation figures on a number of courses.

In the light of low participation figures, Neath Port Talbot, Swansea, Carmarthenshire and Pembrokeshire produced a radio advert that advertised all motorcycle initiatives available in the local authorities. No information was provided on the effectiveness of this approach.

Local authorities and their partners were split rather evenly in the suggestion of a Wales wide approach to motorcycle safety administration. Nevertheless, all local authorities agreed that local authority engagement in monitoring and evaluation would allow for Welsh Government to identify best practice and areas that are most in need of improvement.

Table 18 Method of Engagement by Local Authority Teams on Motorcycle Training Available

Local Authority	Method of engagement							
	Attending Biker Cafés etc.	Attending motorcycle meetings	Online / Social Media	Flyers / Posters / newspapers / magazines	Radio / TV	Attending Schools / Colleges	Engagement days/Workshops	Other/ Additional Information
Anglesey	✓		✓			✓	✓	
Blaenau Gwent								
Bridgend								
Caerphilly							✓	
Cardiff								
Carmarthenshire					✓			76
Ceredigion	✓		✓	✓	✓	✓		
Conwy								
Denbighshire	✓		✓				✓	
Flintshire								
Gwynedd	✓		✓	✓	✓	✓		
Merthyr			✓					
Monmouthshire	✓		✓	✓		✓	✓	77
Neath Port Talbot	✓	✓		✓	✓		✓	78
Newport								79
Pembrokeshire						✓		80
Powys								
Rhondda Cynon Taff			✓					
Swansea	✓		✓	✓		✓		81
Torfaen	✓		✓	✓		✓		
Vale of Glamorgan	✓		✓			✓		82
Wrexham								

Source: Miller Research (UK) Ltd.

⁷⁶ NPT, Carmarthenshire, Pembrokeshire and Swansea all pulled together money for a radio advert promoting all the courses available.

⁷⁷ OWL - Police messaging.

⁷⁸ NPT, Carmarthenshire, Pembrokeshire and Swansea all pulled together money for a radio advert promoting all the courses available.

⁷⁹ Does not undertake any marketing or engagement. Focuses on STATS19 analysis.

⁸⁰ NPT, Carmarthenshire, Pembrokeshire and Swansea all pulled together money for a radio advert promoting all the courses available.

⁸¹ NPT, Carmarthenshire, Pembrokeshire and Swansea all pulled together money for a radio advert promoting all the courses available.

⁸² Sending out Road Safety messages to Lloyds Bank employees who rode motorcycles.

BikeSafe has its own 'branding', and is therefore largely marketed separately from local authority marketing activities. Many local authorities indicated that since the move to online booking, a bigger distance now separates the marketing of BikeSafe from the local authority and many felt little or no responsibility for the marketing of BikeSafe due to its 'established' branding.

A number of local authorities approach schools and colleges to encourage engagement in motorcycle training. Local authority Road Safety Teams attend open days, fresher's fairs and induction weeks at a number of educational institutions around the country in conjunction with local dealers and often the police to talk to (prospective) students about their attitudes to riding and attempt to market the training schemes available in their area. The dealerships will also often promote the latest safety gear to beneficiaries. One local authority mentioned that *'this method is particularly effective at addressing the people who are motorcycling out of necessity and donning casual clothing with little regard for safety'* (Torfaen).

One local authority spokesman stated that the main problem is encouraging motorcyclists to attend advanced training. He described how the additional cost attached to the training and the fact it isn't compulsory means that the advanced schemes are not seen as important or relevant to many motorcyclists. Some RSO's felt that training delivered by or associated with the police may have a stigma attached which prevented many motorcyclists from enquiring and attending a training scheme. This is often due to previous experiences or fear of becoming known by the police and risking future prosecution. One respondent to the survey indicated that the reason he had not attended a BikeSafe course was due to his distrust of the police.

Operation Darwen: Keeping Our Roads Safe is a police-led initiative that targets motorcycling 'hot spots' during the motorcycling season on Welsh roads in North Wales and Dyfed Powys Police Forces. It was launched in April 2014 and aims to both engage with motorcyclists and enforce the law, particularly in relation to excess speed, by ensuring there is additional police manpower on the roads, as well as there being police presence at motorcycling cafes.⁸³ Chief Inspector Rose-Ann Lloyd said that 'it is part of a continuing programme to improve road safety for all in Dyfed-Powys, by engaging, educating and enforcing where necessary'.⁸⁴

6.3 Duplication and Overlap

Table 19 illustrates the number of Prevention Interventions and Treatment Interventions delivered by each local authority.⁸⁵ The table suggests, that depending on the content of courses, an element of duplication might exist whereby there are two or more courses with similar content are being delivered in the same local authority.

⁸³ Although it has been in place for a number of years.

⁸⁴ <http://www.llanellistat.co.uk/Crime-rundown-Operation-Darwen-Dyfed-Powys-Police/story-21147170-detail/story.html>

⁸⁵ In order to split the local authorities into larger areas, police constabularies are the most widely known and undisputed region divisions.

A number of local authorities deliver at least two Welsh Government-funded interventions including Carmarthenshire, Pembrokeshire, Neath Port Talbot. In Caerphilly, three prevention courses are being delivered. This is also the case in the local authorities where Neath Port Talbot administers the interventions in Neath Port Talbot, Carmarthenshire and Pembrokeshire with the exception of Swansea, where there exists two prevention interventions.

In Neath Port Talbot, there are currently two Treatment Interventions delivered (First Bike on Scene and Biker Down! Cymru). Both are relatively similar in content although FBoS is six hours whilst Biker Down! Cymru is three and the former has more of a focus on first aid, whereas the latter also aims to increase visibility of riders to reduce the likelihood of accidents.

Table 19 Number of Post-Compulsory Interventions in each Local Authority in Wales by Category: Prevention or Treatment

	Prevention Interventions ⁸⁶	Treatment Interventions ⁸⁷
North Wales		
Anglesey	1	1
Conwy	1	1
Denbighshire	1	1
Flintshire	1	1
Gwynedd	1	1
Wrexham	1	1
Dyfed-Powys		
Carmarthenshire	3	1
Ceredigion	1	
Pembrokeshire	3	1
Powys	1	1
South Wales		
Bridgend		
Cardiff	2	1
Merthyr Tydfil	1	
Neath Port Talbot	3	2
Rhondda Cynon Taff	2	1
Swansea	2	1
Vale of Glamorgan	2	
Gwent		
Blaenau Gwent		
Caerphilly	2	
Monmouthshire	2	
Newport	0 ⁸⁸	
Torfaen	1	

Source: Miller Research (UK) Ltd.

As well as illustrating the number of Prevention Interventions that are available to beneficiaries in local authorities, Table 19 also highlights the disparity in interventions across Wales. For example, Neath Port Talbot delivers five interventions whilst Newport delivers

⁸⁶ These consist of BikeSafe, Dragon Rider Cymru, Commuter Safe and Scooter Smart, Rider Safe, Ride On and other local-authority specific interventions

⁸⁷ These consist of First Bike on Scene and Biker Down! Cymru. Researchers have chosen to omit CRASHCards from this table as they are technically not 'delivered' by local authorities but instead are available to those who attend courses and access dealerships within the local authorities that support CRASHCards.

⁸⁸ As indicated in section 5.1, Newport does not deliver any post-compulsory interventions

none. (However, members of the Newport public can access Prevention Interventions through Gwent BikeSafe and Biker Down! Cymru held at Malpas Fire Station in Newport.) Although these local authorities are very different in terms of their riding landscape and demographic, the table highlights inconsistency in the provision of interventions across Wales, from the perspective of potential participants. For example, a resident of one local authority may hear about or be recommended a scheme to attend by a fellow rider who lives in a different local authority, only to find that the recommended course is not available to them. Recommendations to solve these issues are discussed in Chapter 8.

Table 20 illustrates the *activities* delivered by each intervention and maps the key elements of the course content in the attempt to discover areas of duplication or deadweight in courses. In general, the table illustrates the similarities that currently exist within interventions delivered by local authorities in Wales. That is, all courses follow a similar format in that they involve an accompanied ride out session as well as a more classroom based, theory session. However, in the feedback received on the effectiveness of these courses, much praise for the format was received and therefore this approach may well be the most effective.

Dragon Rider is the only course accredited by the DVSA that follows the course content of the Enhanced Rider Scheme.⁸⁹ All interventions currently involve an element of maintenance and suitability of the motorcycle and the equipment, as well as involving elements of hazard awareness up-skilling.

The similarities between the majority of courses suggest that an element of duplication is present within local authorities who are delivering more than one of these schemes. For example, Neath Port Talbot, Carmarthenshire, Pembrokeshire all provide BikeSafe, Dragon Rider and Rider Safe. These deliver similar courses, though there are subtle differences which warrant them being delivered concurrently. Bikesafe aims to offer riders an assessment of their skills and can then signpost riders to Dragon Rider.

Although course content appears to be duplicated, it is important to note the major difference in delivery — one is delivered by independent instructors whilst BikeSafe is delivered by the police. This difference in delivery provides a reason for why an element of duplication may be desirable. For example, BikeSafe is delivered by the police, who, for some motorcyclists, have a negative image associated with them. One respondent to our online survey for example, indicated that the reason they have not undertaken any post-compulsory training is due to the fact that they '*don't trust the police*' (online survey respondent). In such cases, a scheme that is distanced from the police may be more effective at engaging certain groups of motorcyclists. Therefore, the content of similar courses might need to be similar (because that is what is effective), but more important is who delivers the training. The research has shown that police involvement acts as both a deterrent and a means of engagement for interventions. In this sense, delivery by different institutions may mean that they reach a more diverse audience, engaging with more motorcycle riders.

⁸⁹ Although the ERS is delivered by instructors accredited by the DVSA and, as the Ceredigion Rider Improvement Scheme is also an ERS, then it too is accredited by the DVSA.

Commuter Safe and Scooter Smart interventions differ from the counterparts listed above in that they are specifically targeted at a certain type of rider by addressing the issue of young riders on scooters, and those using motorcycling as a means of transport commuting to and from work. These interventions offer a comprehensive and tailored approach to addressing casualties that occur in more urban areas with scooter casualties and those using motorcycles as a means of commuting.

Error! Reference source not found. suggests that on the whole, most interventions, whilst good at attracting safety conscious older riders, are failing to attract younger, more at risk riders. This suggests that many of the courses are aimed at older riders on higher powered machines. However, this situation is complex in that target groups differ across Wales. Commuter riders, younger riders and older riders returning to riding on powerful bikes are all target groups in various areas. Each intervention has its strengths in attracting various groups; clearly, the type of intervention required in each area is dependent on the target groups in the area and should be tailored accordingly. This report has attempted to illustrate the effectiveness of each intervention and it is suggested that the most suitable interventions to target the required groups in each area should be considered on an authority-by-authority basis.

Where there appears to be a gap is in how to attract the hard to reach riders who display the most risky behaviours but are likely to be reluctant to engage with training. The findings of this report suggest that more work is required to identify these riders and tailor and market courses towards them more effectively.

Table 20 Course Content of Prevention Interventions

Intervention Name	Activities / Approaches							
	Accompanied Ride Out (practical session)	Theory Session	Accredited ⁹⁰	Bike Check: maintenance & suitability	Equipment check: maintenance & suitability	Hazard Awareness Up-Skilling	Approved Trainers	Effectively Reaching Target Groups ⁹¹
Bike Safe ⁹²	✓	✓	X ⁹³	✓	✓	✓	✓	X
Dragon Rider ⁹⁴	✓	✓	✓	✓	✓	✓	✓	X
Rider Safe ⁹⁵	✓	✓	X ⁹⁶	✓	✓	✓	✓	X
Ride On ⁹⁷	✓	✓	X ⁹⁸	⁹⁹	¹⁰⁰	✓	✓	X
Motorcycle Rider Improvement Scheme ¹⁰¹	✓	✓	X	✓	✓	✓	✓	X
Ride Safe ¹⁰²	✓	✓	X	✓	✓	✓	✓	X
Commuter Safe & Scooter Smart ¹⁰³	✓	✓	X ¹⁰⁴	✓	✓	✓	✓ ¹⁰⁵	✓ ¹⁰⁶

Source: Course syllabus information available online

⁹⁰ Accredited definition: the course content is in accordance to DSA approved guidelines.

⁹¹ The target groups are identified by the Road Safety Research Report No.54: In-depth Study of Motorcycle Accidents (2004) are young and inexperienced riders of smaller capacity machines and older, more experienced riders of higher capacity machines.

⁹² Delivered in Anglesey, Cardiff, Carmarthenshire, Conwy, Denbighshire, Flintshire, Gwynedd, Merthyr Tydfil, Neath Port Talbot, Pembrokeshire, Powys, Rhondda Cynon Taff, Swansea, Torfaen, Vale of Glamorgan and Wrexham.

⁹³ Intended as a course that 'bridges the gap' between compulsory training and advanced rider training. Offers information and referrals to accredited training.

⁹⁴ Delivered in Carmarthenshire, Neath Port Talbot, Pembrokeshire and Swansea

⁹⁵ Delivered in Carmarthenshire, Neath Port Talbot, Pembrokeshire and Swansea

⁹⁶ RiderSafe beneficiaries have no previous experience of riding and the programme involves the completion of a CBT. The post-CBT training is conducted a few weeks after the completion of the CBT and consists of on-road education which allows riders to develop an action plan for their personal development.

⁹⁷ Delivered in Powys

⁹⁸ Intended as a 'taster' or introduction to accredited advanced training courses

⁹⁹ Unknown

¹⁰⁰ Unknown

¹⁰¹ Delivered in Ceredigion

¹⁰² Delivered in Monmouthshire

¹⁰³ Delivered in Caerphilly, Cardiff, Rhondda Cynon Taff and the Vale of Glamorgan

¹⁰⁴ The courses are intended as 'refreshers': with the aim "to provide bikers with relevant and targeted refresher training to help reduce accidents and associated accidents and to enhance the safety of each rider by increasing their hazard awareness on the road.

¹⁰⁵ Run by a former traffic cop

¹⁰⁶ SS is targeted at the younger riders on smaller machines, but CS is targeted at commuters who are using their bike as a means of transport.

An element of duplication exists too in the category Treatment Interventions.¹⁰⁷ The table below identifies the main aspects of FBoS and Biker Down Cymru's syllabus. It would appear that that the main difference in the two courses content is that FBoS offers half-day refresher courses for previous participants.

Table 21 Course content of Treatment Interventions

Intervention Name	Activities/ Approaches						
	First Aid Skills	Accident Scene Management	Equipment check - maintenance and suitability	Hazard Perception	Delivery of 'Refresher' Courses, post-completion	Promotion of Prevention Training Courses	Certificate
First Bike on Scene	✓	✓	✓	✓	✓	✓	✓
Biker Down! Cymru	✓	✓	✓	✓		✓	✓

Source: Course syllabus information available online

The only local authority which delivers both FBoS and Biker Down! Cymru is Neath Port Talbot. Although the other local authorities all deliver either Biker Down! Cymru or FBoS, the content is largely similar, which suggests that a more unified approach may be beneficial in a targeted marketing campaign, to avoid confusion and engage more effectively.

There are obvious benefits to having a diverse range of initiatives, as some respondents noted. One respondent noted that *'The types of schemes people access are really dependent on demographics'* (Member of Motorcycle Safety Steering Group). This highlights the difficulty in attempting to target one specific demographic, as many local authorities found it impossible to attribute higher casualty figures to a certain demographic. The current approach then, of funding a diversity of schemes which all target a range of demographics, is successful in not 'pigeon-holing' one specific demographic and instead allowing a diverse demographic to engage with initiatives. The relative success of this approach is somewhat diminished, however, by the decrease in participant numbers and stagnation of casualty numbers. Further research that scopes out the possibility of a national approach and the benefits this would bring needs to be conducted.

¹⁰⁷ Please note that CRASHCards has been omitted from this section of analysis as it does not constitute as having a 'syllabus'.

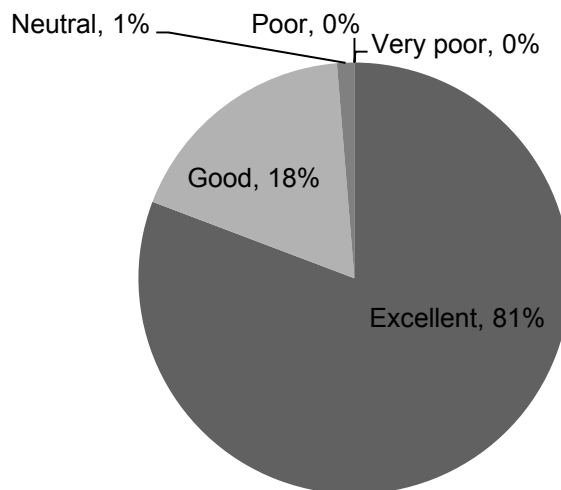
7 Outcomes and Behaviour Change

7.1 Ratings and effectiveness

7.1.1 Overall Ratings

Figure 8 illustrates survey participant's overall rating of the motorcycle training they attended. The findings, which echo the sentiments of feedback on individual interventions already discussed in this report, were very positive with 99% of survey respondents rating their experience of training as excellent or good overall, with the remainder rating it neutral (1%). Thus, no respondents rated the training as fair, poor or very poor. This is extremely encouraging as the results suggest that motorcycle intervention courses are being well received by those who have taken part.

Figure 8 Overall Ratings of Courses by Respondents Who Had Attended Post-Compulsory Training



Base=76

Source: Miller Motorcycling Survey

During the evaluation respondents were asked to talk freely about their experience of the training they attended and to highlight any aspects they found particularly valuable. A large proportion of survey respondents commended Bike Safe and noted that they liked the interaction with experienced high speed police officers in a non-emergency or confrontational manner. Participants also liked the course as it provided an excellent introduction to advanced motorcycling training by helping to teach basic skills, increase confidence and increase safety on the road. Of course, as has already been noted, the age profile of Bike Safe participants is skewed towards older riders and as such the effectiveness of the scheme in reaching the younger riders could be improved.

Biker Down! Cymru and First Bike on Scene were also praised highly by motorcyclists with respondents commending the course content for helping to raise awareness of safety issues and teaching important lifesaving skills.

A respondent delivering BikeSafe in South Wales noted that the classroom session the beneficiaries attend is wholly aimed at changing their behaviour: with the content covering

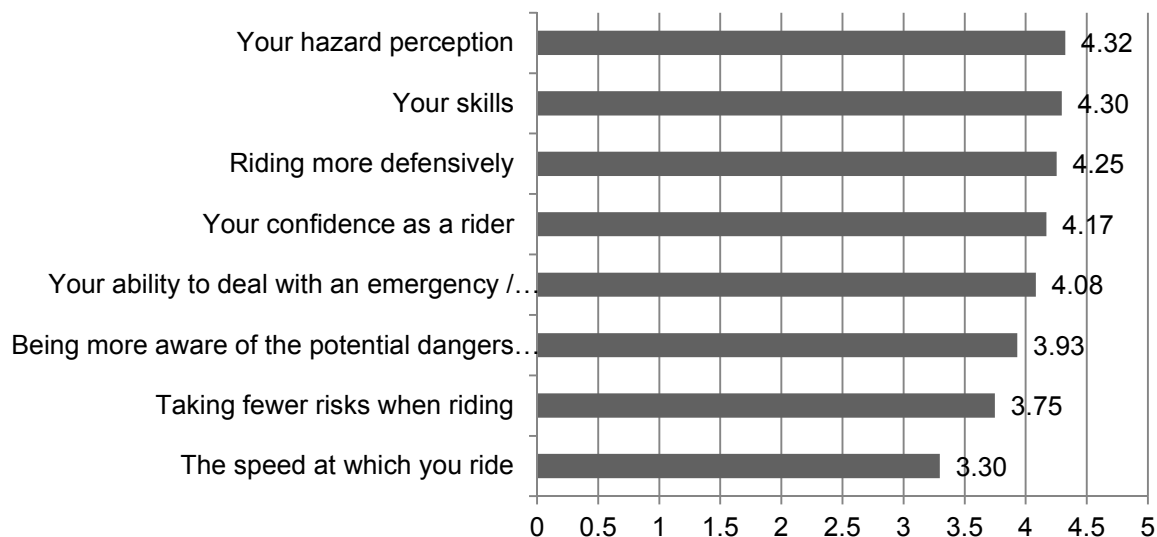
why motorcyclists are most at risk and attempts to change attitudes from 'it won't happen to me' to 'it may just happen to me' (VoG).

7.2 Impact

Many local authority road safety teams found it very hard to attribute any reduction in casualty figures to training. Many agreed that education is a means by which to influence some, but not all, riders. A respondent noted the issue of both driver and rider initiatives that target young drivers/riders who have recently passed their test (such as Pass Plus Cymru). In their opinion, these riders are ones who:

'have had the most intensive training they are likely to receive in their lifetime but are still more likely to go out and kill themselves soon after passing... it shows that casualty rates are so determined by behaviour but this behaviour is near impossible to change. Especially with regard to motorcycling: many riders are above 45, have been riding for twenty years or more, and should know better but still have a lot of accidents. It's really hard to change behaviour.' (Newport)

Figure 9 Impacts of Courses on Beneficiaries



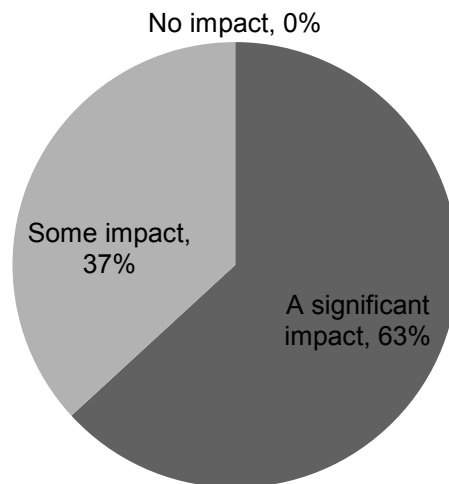
Base=73

Source: Miller Motorcycling Survey

Despite the frequently mentioned difficulties with measuring the impact of interventions on behaviour change, the survey results were very positive overall. Nearly all participants stated that the training had impacted upon their overall motorcycling ability. Of course, this is a self-assessed measure and the true effect of training on actual behaviour remains unknown.

On a scale of 1-5 with 5 representing a significant impact and 1 no impact at all, survey respondents were asked to rate the extent to which the training had influenced their motorcycling ability. Highest ratings were attributed to improving rider's hazard perception (4.32), general skills (4.30) and riding more defensively (4.25). Areas which experienced the lowest rating of impact included the speed at which motorcyclists ride (3.2) and taking fewer risks (3.6).

Figure 10 Self-reported significance of impacts on beneficiaries who attended courses



Base=76

Source: Miller Motorcycling Survey

Around two-thirds (63%) of participants stated that the training they attended had a significant impact upon their motorcycling ability, whilst the remainder stated that the training had some impact (37%). No motorcyclists engaged in the evaluation stated that the training had no impact. This is generally encouraging as the results suggest that motorcycle interventions are having an impact on helping to develop motorcycle skills in Wales. Nonetheless, this self-assessment of the impact of interventions has an inherent weakness in determining the actual impact, given that self-assessment of behaviour change does not always lead to observed behaviour change. Furthermore, even if behaviour has changed, there is little evidence to indicate if this has had an effect on reducing collision incidences. Further research is necessary to fill this gap in knowledge.¹⁰⁸

¹⁰⁸ Please refer to Chapters 4 and 8 for further discussion.

Table 22: Percentage of Respondents Planning on Attending Future Interventions by Intervention Name

Participants Current Attendance	Future Interest (%)									
	Advanced Rider Training	RoADAR	Bike Safe	Dragon Rider	Enhanced Rider Scheme	Rider Safe	Scooter Smart and Commuter Safe	Ride On	Biker Down! Cymru	FBoS
Bike Safe ¹⁰⁹	39	21	26	2	2	2	2	2	11	42
Dragon Rider ¹¹⁰	33	17	33	17	-	-	-	-	33	50
FBoS ¹¹¹	42	26	42	-	-	-	-	3	3	45
Biker Down! Cymru ¹¹²	23	30	23	8	8	-	8	-	8	23
Rider Safe ¹¹³	-	-	-	-	-	-	-	-	-	-
Ride On ¹¹⁴	-	-	-	-	-	-	-	-	-	-
Commuter Safe & Scooter Smart ¹¹⁵	-	-	-	-	-	-	-	-	-	-
Motorcycle Rider Improvement Scheme ¹¹⁶	-	-	-	-	-	-	-	-	-	-
Ride Safe ¹¹⁷	-	-	-	-	-	-	-	-	-	-

Source: Miller Research (UK) Ltd.

Table 22 shows the percentage of respondents who indicated an interest in participating in other interventions in the future. It shows that the majority of BikeSafe beneficiaries intend to undertake some form of further training, specifically Advanced Rider Training (39%) and FBoS (42%). Of the small number of survey respondents who had taken part in Dragon Rider, there were strong links with other advanced training and Treatment Interventions. A quarter (26%) of the sample who took part in BikeSafe intends to participate in it again. This repetition of a course was prevalent in beneficiaries who had attended FBoS as well; 45% of those who have already taken the course planned on taking it again in the future.

¹⁰⁹ Base = 57

¹¹⁰ Base = 6

¹¹¹ Base = 31

¹¹² Base = 13

¹¹³ Numbers of respondents were too low to display.

¹¹⁴ Ibid

¹¹⁵ Ibid

¹¹⁶ Ibid

¹¹⁷ Ibid

Biker Down! Cymru beneficiaries also had a wide range of interest in future training, indicating that such ‘treatment’ initiatives were successful in encouraging promotion of other ‘prevention’ advanced rider interventions. Just under a third (30%) of the sample who took part in Bike Down! Cymru planned on attending RoADAR and around a quarter 23% planned to attend Advanced Rider Training, Bike Safe or FBoS.

The table also shows the high cluster of beneficiaries who had already attended interventions were willing to attend the Prevention Interventions of Advanced Rider Training, RoADAR and BikeSafe, and many were also willing to complete Biker Down! Cymru and FBoS. This data suggests that good referral links between initiatives exists.

Unfortunately no data is currently collected on the number of riders who actually go on to undertake additional training. It is therefore difficult to determine the effectiveness of referral links.

7.3 Value for money

Justifying public money expenditure on interventions through a value for money calculation is inherently difficult, especially considering that little evidence exists regarding the true impact of interventions on riding behaviour and ultimately the number of accidents. When asked if they felt the cost of interventions offered good value for money, most road safety stakeholder respondents offered the opinion that if one life was saved then it was worth it. In the absence of a robust approach whereby the impact of interventions is known, the following section offers a simple cost comparison of the casualty treatment costs with the cost of interventions.

Table 23 shows a summary of the average cost per casualty for each of the associated cost elements, using 2012 costs. Lost output is calculated as a measure of the loss of productive capacity of an individual. Medical and ambulance costs are the estimated costs associated with a casualty’s use of the ambulance service, hospital accident and emergency department costs, hospital in-patient costs and blood transfusion services. Human costs reflect the non-resource element of the costs associated with human life or the effects of injury, such as the pain or distress felt by the accident victims or relatives, as well as the intrinsic loss of enjoyment of life in the case of fatalities.

Table 23 Average value of prevention of road casualties by severity and element of cost, 2012

Accident Severity	Casualty related costs		
	Lost output	Medical and ambulance	Human costs
Fatal	£585,716	£1,006	£1,117,101
Serious	£22,566	£13,671	£155,226
Slight	£2,385	£1,012	£11,363
All injury accidents	£6,091	£,2434	£30,258

Source: Department for Transport UK

Since the Welsh Government Road Safety Revenue Grant for 2014–15 was £2,000,000, the avoidance of two fatalities per annum as a direct result of post-compulsory interventions would represent a positive return for investment and good value for money (i.e. £2m intervention to save two lives would save £2.234m (at £1.117m per fatality)) . Of course, being able to fully attribute a life saved as being a result of behavioural change influenced by

training would be very difficult. Therefore the true extent of value for money for government intervention in post-compulsory interventions is unknown.

Assessing value for money from the perspective of the participant is more straightforward. Survey respondents were asked to judge the financial value of the training they had participated in. An overwhelming majority (97% (n=72)) of participants stated that the motorcycle training they attended was good value for money, but it should be noted they will only have been paying a contribution towards the costs. Similarly, the majority of Road Safety Officers engaged with felt that the cost of training for participants was particularly good value. BikeSafe was the main intervention commended by RSOs and survey respondents because it only charges a £10 booking fee (in some areas). The BikeSafe coordinator for North Wales found that the charge of the £10 booking fee for beneficiaries was instrumental in actually making people attend the course (and encouraging a drop-out rate of only 3%). More expensive training courses such as the Ceredigion Rider Improvement Scheme at £100 per participant were also praised and felt to be excellent value for money considering quality of provision — specifically the 1:1 or 1:2 ratio of delivery with a fully qualified instructor and on-bike camera analysis.

8 Conclusions & Recommendations

8.1 Conclusions

This review has highlighted two distinct types of post-compulsory motorcycle interventions currently being delivered in Wales. They are Prevention Interventions (those that try to reduce casualties by up-skilling motorcyclists) and Treatment Interventions (those that try to equip motorcyclists with the skills and information necessary to treat casualties following an accident). In all local authorities in Wales, there is at least one of each type of intervention in operation. In some local authorities, there is more than one of each type of intervention in use, which suggests that some duplication exists. Nonetheless, consideration needs to be given to interventions that may appear to be duplicating delivery but in fact add value. This review has illustrated that although the content of a number of interventions is similar, subtle differences in the method of delivery warrants their existence. For example, many commentators suggest that the police's involvement in BikeSafe deters young people from attending, because they have a negative view of the police. Therefore a similar course delivered by another organisation, or BikeSafe run by non-police trainers, may have more success at engaging with young people and may therefore be needed in areas where BikeSafe is the only initiative being delivered. Whilst a degree of duplication may therefore be desirable, there is a danger that delivering several, very similar interventions, creates a confusing marketplace available to the motorcyclist. Thus, clear marketing and communication messages are needed.

The issue of engaging with young people, as touched upon above, is an important one. As stipulated in the report by the Department for Transport's 2004 in-depth Study of Motorcycle Accidents, the two types of rider that should be targeted to participate in motorcycling interventions are younger riders on low powered motorcycles, and older riders on high powered (500cc or more) motorcycles. As highlighted in Chapters 3 and 4 of this report, it appears that interventions in Wales are currently successful in attracting riders who are 40 or above, but less so with younger riders. Young riders are less well represented in participation figures for advanced training interventions than older riders. In response to this, recent interventions, such as the Scooter Safe and Commuter Smart interventions delivered in Cardiff, Caerphilly, Rhondda Cynon Taff and the Vale of Glamorgan; and the Rider Safe initiative run in Carmarthenshire, Neath Port Talbot, Pembrokeshire and Swansea; have been initiated to specifically address this issue. These interventions market their courses and tailor the syllabus to the younger rider. However, the more established courses, specifically BikeSafe, are not aimed at younger riders on lower powered machines so take up is unsurprisingly lower. Therefore, offering initiatives that are specifically tailored to younger riders' needs is necessary in some regions to ensure more effective engagement. (However, as noted above, the presence of many, similar courses may cause confusion to potential participants)

This research found that 97% of those surveyed felt that the training they attended had at least some impact on their motorcycling ability. In particular, the evidence gathered shows that interventions appear to be increasing the skills of riders, increasing hazard perception and making people ride more defensively. Previous research (for example the IAM report, BikeSafe and Dragon Rider evaluations) has found equally positive results. However, this study, like those previously conducted, relies on self-assessment on behaviour change. This

is an inherently flawed methodology in determining actual changes in behaviour. The available existing evidence regarding the effectiveness of interventions in contributing to casualty reduction is inconclusive. Two existing studies make a direct correlation between interventions and casualty reduction. A study by the Canada Safety Council concluded that trained riders had fewer accidents while a Dutch motorcycle trial made similar conclusions and observed behavioural changes. However, one study in Germany found that gaps in hazard perception knowledge had not improved on their treatment group. Other researchers have simply dismissed existing research claiming that studies were not robust enough. In conclusion, there are currently no widely accepted studies in existence, which are based on controlled, robust observation of actual behaviour change that *prove* the true impact of interventions on casualty reduction. The only robust way to address this would be to carry out a large scale, longitudinal observation study of a treatment and control group.

The most up-to date evidence on what *content* post-compulsory interventions should deliver is, thankfully, much more conclusive. In general, research concludes that courses should focus on:

- Increasing hazard perception.
- Addressing the specific needs of each participant.
- Identifying the limitations of each rider, preferably through self-evaluation.
- Higher order cognitive skills (e.g. advanced riding techniques).

Research suggests that courses which identify riders' limitations, particularly through self-reflection, achieve greater outcomes. This study has revealed that most post-compulsory courses already address the identification of rider's limitations to good effect — they typically include an observed ride-out and feedback session. During the feedback, it is hoped that self-reflection is encouraged, but of course, the extent to which self-reflection is promoted cannot fully be appreciated without attending a representative sample of feedback sessions.¹¹⁸ Furthermore, the success of self-reflection can only be as good as the ability of the participant to self-reflect. Nonetheless, to ensure interventions have the most impact, this review suggests that greater emphasis is placed on encouraging self-reflection during feedback sessions.

The motivating factors for motorcyclists differ and this should also be taken into consideration when designing the content as well as delivery method of post-compulsory training. One study suggested that two main 'types' of rider exist, 'safety minded' and 'performance oriented' and that their learning needs are different. Those who are already safety conscious will likely realise more benefits than those who are 'adrenaline seekers' (and fit into the performance oriented group). The impact of delivering training to people in the performance oriented group should come with a warning because there is the potential to actually increase the number of fatalities: If these riders believe they are automatically more safe as a result of their training they could well take more risks. Existing research suggests that for interventions to be most effective, therefore, they should be tailored to meet the needs of individuals by considering their motivation for riding as well as their age.

¹¹⁸ Which was beyond the scope of this research project.

Earlier in this conclusion, the issue of engaging specific groups of 'at-risk' riders was discussed. Currently, differentiation is made between younger and older riders and interventions are typically aimed at, or designed to appeal to, more to one group than the other. In addition to appealing to these 'at risk' groups, there is a need for interventions to target the 'hard to reach'. By definition this group are difficult to engage with and if the definition is taken to its extreme, then it could be argued that a hard to reach person will never engage in training regardless of efforts, simply because it is in their character not to take part in training.

This report has shown that it is inherently difficult to identify the hard to reach. Some commentators believe that younger riders are the most hard to reach, others commuter riders, and others performance oriented riders. Clearly therefore, as the report alludes to, more research is needed to better understand who the 'hard to reach' are before interventions can be designed to successfully target them. Conversely, given that it will never really be possible to measure whether a campaign to engage with the hard to reach has been successful — given that if someone engages with training then it could be questioned whether they were in fact, hard to reach — then an alternative approach would be to simply target interventions at characteristics which can be allied to stereotypes of the expected 'hard to reach'. For example, an element of these hard to reach will be present in both types of 'at-risk' riders (i.e. there will be hard to reach people among younger riders and older riders), and so any efforts to engage with hard to reach should target both young and old riders. Furthermore, as it is likely that a hard to reach person's motivation to ride could be either of the categories previously mentioned (although the general consensus may be that there will be more hard to reach who are motivated to ride for performance) then it would be pertinent to ensure that any efforts to engage with the hard to reach are targeted at both safety conscious and performance oriented riders. Through effective engagement with these target groups, some hard to reach will likely become engaged (although as previously mentioned the extent to which this occurs will largely be unknown given that a truly hard to reach person will never engage).

Generally speaking, the overall quality of delivery of current motorcyclist interventions in Wales appears to be of a high standard, with the majority of respondents reacting positively to the training they receive. The format and content of the available interventions in Wales is also highly regarded by participants. The combination of classroom-based theory and on-road practical elements appears to be the preferred combination for participants. Although an element of duplication in the type of courses on offer across Wales exists (as noted above) an element of overlap is necessary to ensure that engagement is maximised given that the appeal of each course, whether it be the content or who is delivering it, attracts different groups of participants.

8.1.1 Recommendations

This section collates the evidence provided in the report and compiles a list of recommendations to be considered by the Welsh Government in determining motorcycle road safety policy and the implementation of subsequent interventions.

Recommendation 1: Ensure existing provision comprises the key attributes that are proven to be effective.

This review has identified a number of key attributes that motorcycle intervention participants value, as well as those which have proven to positively affect behaviour change. It is recommended that the content of motorcyclist interventions in Wales focus on the following key attributes:

- Increasing hazard perception.
- Addressing the specific needs of each participant.
- Identifying the limitations of each rider, preferably through self-evaluation.
- Higher order cognitive skills (e.g. advanced riding techniques).

Furthermore, emphasis should be placed on ensuring provision is targeted at younger riders and for those whose motivation to ride is to seek adventure/adrenalin. The research has shown that, at present, younger riders tend to engage with provision for lower powered motorcycles and although existing provision has proven to be effective at engaging with older motorcyclists it has been less successful with younger riders. Therefore, efforts to make existing provision appeal to younger riders should be explored. At present, there is no best practice from elsewhere that has been successful in achieving this.

To measure success it is suggested that the Welsh Government establishes a mechanism that ensures the content of provision covers the key attributes listed above. It should also monitor how successful provision is at engaging with younger riders and adrenaline seekers. A suggested way to disseminate information could be through publishing a short paper that advises local authority Road Safety Teams to ensure the content of existing provision addresses the key attributes above. The format of existing training (that is a combination of theory and on-road elements) appears to be effective and this should continue.

Recommendation 2: Ensure a range of provision is available to maximise engagement (without unnecessary duplication).

This research has shown that an element of duplication is necessary to ensure a sufficient level of diversity of courses exists to cater for the wide range of motorcyclists. Thus, the provision of similar courses delivered by different organisations could be appropriate for some areas because they maximise engagement or offer something that is not available elsewhere. Local authorities need to ensure that the training offered in their region is tailored to the specific circumstances and requirements that they face in their region. Therefore, it is suggested that a suite of training, which covers all at-risk groups and covers the differing motivations to ride, is available, from which local authorities could choose the most appropriate mix which addresses their region's needs.

Choosing effective combinations of the available training will help to maximise value by ensuring courses complement each other and will avoid unnecessary duplication. For example, the research has shown that there are good links between BikeSafe and other advanced training courses in each area, and as such they complement each other: BikeSafe

and Dragon Rider have high levels of cross-referral, are delivered by different organisations and one leads to an approved qualification whilst the other is positioned as a taster to the other.

Conversely, similar courses available across Wales, such as RiderSafe and RideSafe, and Ceredigion's course do not appear to offer significant differences to those that already exist. However, their added value is that they offer a different delivery body and therefore their co-delivery in the region could be justified. Nonetheless, their uptake has been relatively weak suggesting they are not marketed as effectively as they could be. Clearly, a case-by-case approach is needed to meet the differing needs in each local authority.

To coordinate activities and ensure consistency, it is suggested that a national branding approach, rather than the promotion of different initiatives, might lead to less duplication and less confusion. This in turn may lead to increased engagement levels (see recommendation 4).

Recommendation 3: Consider the implementation of best practice from elsewhere.

This research has revealed a number of initiatives that are currently being delivered outside of Wales, but which have been identified as good practice that could be initiated in Wales (see Chapter 5.3). It is therefore recommended that Welsh Government takes a lead role in assessing the potential for the best practice identified in this area to be implemented in Wales.

Recommendation 4: Consider national branding for post-compulsory interventions.

At present there is a complex web of post-compulsory interventions available across Wales and their accessibility depends greatly on the local authority in which the motorcyclist resides. This sends a confusing message which could negatively impact on engagement. It is therefore suggested that Welsh Government consider establishing a national brand for post-compulsory training in Wales. This could simply be the establishment of a pan-Wales brand i.e. an umbrella brand, under which Welsh Government-approved interventions sit (adhering to suggestion in recommendation 2). This would give Welsh Government more authority to ensure the content meets the key attributes that are proven to be most effective (see recommendation 1). Local authorities could then choose from the list of approved courses to deliver in their area, based on the needs of the local authority.

National branding in this way may reduce duplication and would also ensure that a tailored delivery approach is made possible for each local authority. A key aspect to this would be the consideration of standardised costs for the same intervention across Wales. At present, the difference in the price of the same initiative causes much confusion for motorcyclists. Welsh Government could create a first point-of-call service for the interventions, which would provide a motorcyclist with a single source of information about all available motorcycle interventions in Wales.¹¹⁹ A further aspect for consideration under this umbrella brand could be the national coordination of a motorcyclist database, building on STATS 19 (see recommendation 6).

The knock-on effect of this recommendation being implemented would be that the Welsh Government could align itself into a strategic role in the delivery of post-compulsory interventions by promoting nationally-coordinated delivery.

¹¹⁹ Or could adopt use of existing communication channels, such as Wales by bike.

Recommendation 5: Consider lobbying for the introduction of a compulsory refresher course for motorcyclists.

The introduction of a compulsory refresher course would necessitate a large upheaval of the processes and structures currently in place. A motorcyclist could be required to take such a course every five to ten years, regardless of the number of years riding or whether the rider has taken a break. The course would act as an intermediary, requiring motorcyclists to refresh their skills and acknowledge their vulnerabilities as a rider and allow the government to monitor trends in casualty figures and act accordingly.¹²⁰

A compulsory course such as this would be the first in the UK and could possibly have a positive effect on skills development post-test. Its compulsory nature means it would also reach otherwise 'hard to reach' riders.

Recommendation 6: Coordinate the collection of motorcycle training data with accident data.

Currently, there is a large gap in information and data collected by all stakeholders. Furthermore, when data exists it is sometimes distributed poorly and in an untimely fashion. The key to successful monitoring and evaluation of schemes, allowing for best practice to be identified, is to make information accessible to all stakeholders (subject to data protection conditions)

STATS 19 plays a key role in enabling analysis of collisions but it does not currently collect data which enables the *impact* of post-compulsory training to be measured. To do so, data regarding the training that an individual has undertaken needs to be collected **as it is undertaken** (as the collection of data post-accident can be difficult), and it needs to be shared with all relevant parties so that a rider's training history can be linked to accident statistics. If achieved, knowledge of the interventions that individuals have participated in could enable organisations such as the Welsh Government to identify what training is effective and what is in need of restructuring. This would go some way to generating the information needed for successful impact monitoring.

Recommendation 7: Consider commissioning a large scale impact assessment of the post-compulsory intervention.

At present there is no conclusive information regarding the impact of motorcycling interventions. It is recommended that the feasibility of a longitudinal study, which observes treatment and control groups, is explored. If Welsh Government commissioned such a study, it would be one of the first and its findings would create international interest.

Alternatively, Welsh Government could promote annual reviews, undertaken by independent bodies, of all post-compulsory interventions. In order to do so however, there needs to be dedicated resource made available for this purpose, for example funding that is separate from that used to deliver provision. The evaluations could be the responsibility of Welsh Government at a national level, or the local authority Road Safety Teams. If Welsh Government adopts a national coordination role (see Recommendation 4) then this could

¹²⁰ *It should be noted that a concern has been voiced by one commentator regarding this recommendation. They felt that motorcyclists would not welcome the compulsory refresher courses because they feel they are already heavily regulated. There is no evidence to suggest that this is or is not the case. Further research would therefore be necessary to better inform this recommendation.*

form an aspect of that. For example, a dedicated percentage of funding could be ring-fenced for evaluations. In delivering this, consideration should be given to RoSPA's 'Eval-u-it' tool and the potential for it to be used more actively within the local authorities who deliver the wide range of motorcyclist courses. The tool attempts to evaluate in a more uniform manner, so that evaluations can be compared and contrasted and best practice identified.

Recommendation 8: Consider hosting an annual summit of Road Safety Teams.

An annual or bi-annual summit or conference would provide a platform for discussing issues with engagement and practical solutions to interventions and promote increased co-ordination between local authority Road Safety Teams. The event would lead to increased collaboration between local authorities and would provide an excellent platform to share best practice on delivery. This could be achieved by drawing on the resource of the All Wales Motorcycle Safety Steering Group.

Recommendation 9: Ensure all trainers are DVSA approved.

To ensure consistency in the standard of training being delivered it is suggested that Welsh Government ensures that all paid trainers delivering courses which receive Welsh Government support are approved by the DVSA. This action would support Action 8 of the Motorcycle Industry Association's framework.

Appendix

Appendix 1 Motorcyclist Survey

Demographic Information about the Rider

1. Are you male/female?
2. What age range do you fit into?
 - a. 16-19
 - b. 20-24
 - c. 25-29
 - d. 30-39
 - e. 40-49
 - f. 50-59
 - g. 60 or over
3. In which local authority do you live?
 - a. Blaenau Gwent
 - b. Bridgend
 - c. Caerphilly
 - d. Cardiff
 - e. Carmarthenshire
 - f. Ceredigion
 - g. Conwy
 - h. Denbighshire
 - i. Flintshire
 - j. Gwynedd
 - k. Isle of Anglesey
 - l. Merthyr Tydfil
 - m. Monmouthshire
 - n. Neath Port Talbot
 - o. Newport
 - p. Pembrokeshire
 - q. Powys
 - r. Rhondda Cynon Taf
 - s. Swansea
 - t. Torfaen
 - u. Vale of Glamorgan
 - v. WrexhamOutside Wales – please specify where.

About the Rider:

4. How long have you been a motorcycle rider?
5. What do you use your motorcycle for?
 - a. Leisure / pleasure
 - b. Commuting

6. Which of the following best describes your motorcycle?
- Standard
 - Cruiser
 - Sport Bike
 - Touring Bike
 - Sport touring bike
 - Dual sport
 - Scooter/ Underbone/ Moped
 - Off road motorbike
 - Other, please specify.
7. How frequently do you ride your motorcycle?
- Every day
 - Once or twice a week
 - Once or twice a month
 - Once or twice a year
 - Less than once or twice a year
8. What is the longest period you have gone without riding your motorcycle?
- No break / less than a week etc.
 - Less than a month
 - A few months
 - Less than a year
 - 1 to 2 years
 - 3 to 5 years
 - More than 5 years
9. If they answer Q7 with options c-g: To what extent do you think this break had on your skills?
- Significant impact
 - Some impact
 - No impact

[Only ask if answer a/ b for above]

10. Did you partake in any retraining after your break from riding? If so, which course?

Knowledge of Motorcycle Riding Accidents

11. What in your view is the main cause of motorcycle accidents in Wales?
- Rider error (e.g. Loss of control on bends, Loss of control more generally, Excess speed, Rider failed to look)
 - Other road users error (e.g. Driver failed to look)
 - Road infrastructure issues
 - Poor weather conditions
 - Other: please specify

Awareness of Post Compulsory Training Schemes

12. Do you consider compulsory motorcycle training to be sufficient? Are there any improvements that need to be made?
13. Which POST compulsory training schemes are you aware of?
- a. Advanced Rider Training
 - b. RoADAR (Advanced Driver and Rider)
 - c. Bike Safe
 - d. CRASHcards
 - e. Dragon Rider
 - f. ERS (Enhanced Rider Scheme)
 - g. First Bike on Scene
 - h. Ride Out Ride Right
 - i. Rider Safe
 - j. Scooter Safe
 - k. Scooter Smart and Commuter Motorcycle Training
 - l. Wales by Bike
 - m. Biker Down! Cymru
 - n. Ride On
14. Have you ever taken part in a post compulsory training scheme
- a. If yes, which one(s)?
 - b. If no, skip to Q25
15. How did you hear about the scheme(s) that you attended?
- i. Word of mouth
 - ii. A leaflet
 - iii. A promotion in my area
 - iv. I heard about it after I took my CBT / Motorcycle riding test
 - v. Internet
 - vi. Motorcycling magazine
 - vii. Other, please specify

About the Post Compulsory Training Schemes

16. What was the main reason why you participated in the scheme(s)?
- a. To reduce my insurance premium
 - b. Improve skills
 - c. Wanted to gain specific knowledge
 - d. Social occasion
 - e. Improve hazard perception
 - f. Cost
 - g. Other: please specify
17. Overall, did you find the course useful? Why/ why not?

18. What was the main benefit to you from attending the course? What were the key messages you took away?

19. What impact did the course(s) have on you as a motorcycle rider for each of the following...

Please rate on a scale of 1 to 5 where 1 = No Impact and 5 = Significant Impact.

- a. Riding more defensively
- b. Being more aware of the potential hazards of riding
- c. The speed at which you ride
- d. Taking fewer risks when riding
- e. Your ability to deal with an emergency / accident situation
- f. Your confidence as a rider
- g. Your skills
- h. Your hazard perception

20. Do you think the course was good value for money? If not, why not?

21. In your opinion, what is / are the most effective post compulsory training approaches and why?

22. What impact do you think the post compulsory training course you attended will have on reducing the number of injuries/ fatalities among motorcyclists?

- viii. A significant impact
- ix. Some impact
- x. No impact

23. Can you think of any training not available to you that you would like to have attended or which you think should be offered to help reduce casualties?

[ONLY THOSE ANSWERING "NO" TO QUESTION 10]

24. Have you ever considered attending a post compulsory training scheme?

- a. If yes: Why have you not yet attended?
 - xi. Time
 - xii. Cost
 - xiii. Location
 - xiv. Did not meet my training needs (please provide details)
 - xv. Other, please specify
- b. If no: Why not?
 - xvi. Time
 - xvii. Cost
 - xviii. Never heard of post training courses
 - xix. Did not meet my training needs (please provide details)
 - xx. I don't require additional training
 - xxi. Other, please specify

25. What sort of post compulsory motorcycle training or campaigns would interest you?
And why?