



# Biker Down

## Process and Impact Evaluation *Final Report*

Samuel Scott,  
Özgün Özkan,  
Drishti Khatri,  
Tanya Fosdick

Provided to Vision Zero South West  
Partnership

agilysis



## Report Details

<b>Report prepared for:</b>	Vision Zero South West
<b>Project name:</b>	Biker Down: Impact and Process Evaluation
<b>Copyright:</b>	©Agilysis Limited
<b>Report date:</b>	08/04/2025
<b>Report status/version:</b>	Final Report
<b>Project manager:</b>	Samuel Scott
<b>Report authors:</b>	Samuel Scott, Özgün Özkan, Drishti Khatri, Tanya Fosdick

## CONTENTS

---

Contents.....	3
Executive summary.....	5
Findings.....	6
Recommendations.....	7
Introduction.....	9
Biker Down.....	10
Course Content.....	10
Course Delivery.....	10
Behavioural Premise.....	10
Development Process.....	11
Aims and Objectives.....	11
Logic Model.....	12
Methodology.....	12
Evaluation Design.....	12
Survey Design.....	12
Dissemination.....	13
Evaluation Results.....	13
Interim Review (Year 1 / 2023).....	13
Final Results (Years 1-3 / 2023-2025).....	13
Response Rate.....	14
Findings.....	15
Pre-survey results.....	15
Demographics.....	15
Pre and post-test accreditation.....	16
Riding Experiences.....	17
Riding Patterns.....	18
Self-reported collision involvement as a motorcyclist.....	18
Post-survey results.....	18
Demographics.....	18
Course (Module) Effectiveness.....	19
Self-reported collision involvement as a motorcyclist.....	21
Additional Training.....	21
Pre and post Comparisons.....	21
Self-reported changes in knowledge, confidence, and intentions.....	21

Statistical Testing .....	26
Qualitative Analysis.....	28
Methodology (Thematic Analysis) .....	28
Socio-Demographic Analysis .....	37
Conclusions .....	42
Impact Assessment .....	42
Delivery Assessment .....	42
Recommendations .....	43
Bibliography .....	44
Appendix A- Logic Model .....	45
Appendix B – Statistical Testing .....	47
Statistical Testing Data.....	48
Appendix C - Questionnaires .....	50
Appendix D – Thematic analysis .....	65
Appendix E – Acorn Classification.....	74

## EXECUTIVE SUMMARY

---

This final report is the culmination of a two-year evaluation project (April 2023 to March 2025) investigating the effectiveness of the Biker Down scheme, as delivered in Devon and Cornwall. The Biker Down course is an intervention which focuses on what to do in the event a motorcyclist encounters a collision involving a fellow rider. The premise of the course is that by increasing knowledge, and the confidence to apply that knowledge, there will be greater intentions to apply what they have learned about scene management, first aid administration, and self-visibility in the real world.

Biker Down is a scheme delivered across the UK and whilst there may have been local evaluations conducted previously, there are currently no published studies from elsewhere in the country. This multi-year evaluation includes both process and outcome measures, designed to test knowledge and intentions before and after course attendance, as well as gaining qualitative feedback on the delivery of the course as well as how participants intended to use what they have learned.

The overarching aim of Biker Down is to equip attendee motorcyclists to competently manage the scene of a collision involving another motorcyclist and to increase their conspicuity whilst riding. The South West Biker Down management team worked with Agilysis on the creation of nine objectives to be tested in the evaluation (three for each module, assessing knowledge, confidence, and intention for each). The objectives are that, by attending Biker Down,

- Motorcyclists' knowledge of what to do in the event of a motorcycle collision increases
- Motorcyclists' knowledge of post collision response in the event of a motorcycle collision increases
- Motorcyclists' knowledge of the 'science of being seen' whilst riding increases
- Motorcyclists' confidence in applying knowledge of what to do in the event of a motorcycle collision increases
- Motorcyclists' confidence in applying knowledge of post collision response in the event of a motorcycle collision increases
- Motorcyclists' confidence in applying knowledge of the 'science of being seen' whilst riding increases
- Motorcyclists' intentions to apply knowledge of what to do in the event of a motorcycle collision increases
- Motorcyclists' intentions to apply knowledge of post collision response in the event of a motorcycle collision increases
- Motorcyclists' intentions to apply knowledge of the 'science of being seen' whilst riding increases

Three-quarters of respondents were aged over 45 years in the pre-survey (and 84% in the post-survey). Most had not completed any form of post-test accreditation (69%) and two-thirds had not completed any first-aid training in the last 5 years. Motorcycle experience levels were mixed – 41% had more than 16 years of riding whilst a further 27% were relatively new to motorcycling (1 to 5 years). However, over half of respondents had taken a break from motorcycling that had lasted more than a year, with one-third taking a break of 16 years or more. **These insights into their motorcycling experience suggests that motorcyclists see the Biker Down course as a refresher for their return to riding.**

## FINDINGS

**Almost all (94%) of respondents after attending Biker Down indicated that they intended to acquire further knowledge and skills to improve their safety as a motorcyclist and that of fellow motorcyclists.**

The measures related to the nine objectives all saw positive improvements post-attendance, with pre-scores shown first in the brackets (some of the statements were phrased negatively so a reduction is often a positive).

### *Scene Management*

- Knowledge – agreement with limited knowledge (63% to 7%)
- Confidence – agreement with having confidence (22% to 97%)
- Intentions – agreement to manage scene (82% to 100%)

### *First Aid*

- Knowledge – agreement with limited knowledge (52% to 2%)
- Confidence – agreement with having confidence (33% to 97%)
- Intentions – agreement to manage scene (57% to 97%)

### *Conspicuity*

- Knowledge – agreement with good knowledge (75% to 99%)
- Confidence – disagreement with having no confidence (48% to 89%)
- Intentions – agreement with need to make themselves more visible (69% to 79%) \*

**Statistical testing of these nine statements indicates that all but one of the improvements were highly significant (with the non-significant statement starred above) and were unlikely to have occurred by chance.**

It should be noted that the sample of attendees who completed the post survey were slightly older than those who completed the pre survey (62% compared to 51%). This might have created bias in the responses, although the effect sizes were highly significant.

Assessing the effectiveness of the course overall, respondents were extremely positive, stating that they thought all three modules were effective in teaching them about the topics. There were very high levels of agreement (87% or more) with statements about:

- Increasing their intention to wear relevant and equipment to increase their visibility
- Adopting safe riding behaviours to make themselves noticeable to other road users
- Increasing their overall first aid skills
- Increasing their ability to manage the scene of a collision

Respondents were asked to rate how confident they would feel dealing with an imaginary scenario where they were on a solo ride in the countryside and encountered an unconscious motorcyclist who had obviously been involved in a collision. **Before Biker Down attendance, 21% of respondents rated their confidence as 4 or 5 (where 5 is very confident). After attendance, 90% rated their confidence as 4 or 5 (where 5 is very confident).**

Open questions were also posed to respondents, to identify their motivations for attending Biker Down and how they found the course. There were three main reasons why people were attending Biker Down:

- Improving their riding and skills
- Knowing how to administer first aid
- Learning about motorcycle safety

In terms of what they wanted to get out of the session, first aid training, confidence building, knowledge and skills, and emotion and practical preparedness were common themes.

When asked, post-attendance to state what they had learned there were a number of key themes which emerged related to:

- Helmet removal
- Controlling the scene of a collision
- Wearing the right colour high visibility clothing
- Learning how to use a defibrillator

Respondents reported a number of ways in which they have changed their behaviour since attending Biker Down, including:

- Having greater levels of confidence for managing scenes
- Being more cautious on the roads and changing their riding behaviour
- Adopting better road positions
- Investing in high visibility jackets (specifically pink)
- Carrying first aid kits on their bikes

Feedback provided about the content and delivery of Biker Down resulted in very positive thoughts about the safe environment for learning and the benefits of having Fire and Rescue and Paramedic trainers.

Before Biker Down, participants provided some sensible responses to what they would do if they came across another motorcyclist who had been involved in a collision. They mentioned basic first aid principles and making the scene safe. Clear learning was demonstrated in the post-survey responses, with detail about the order of actions required to undertake proactive scene management and first aid actions, including providing CPR.

## RECOMMENDATIONS

It is clear that those who attend Biker Down find the course valuable and enjoy the session. The quantitative measures demonstrate strong improvements in knowledge, confidence and intentions for first aid, scene management, and personal visibility. The qualitative responses show that respondents have learned skills and specific knowledge, and report intentions to behave differently. The feedback on the course content and delivery was extremely positive.

There are some recommendations for future improvement and to support further co-ordination.

There is a desire for further support to equip motorcyclists to better manage collision scenes, provide first aid, and be more conspicuous. Both before and after Biker Down attendance, respondents agreed that they would feel better if there was more support:

- To equip motorcyclists to better manage the scene of a collision (90%)
- To provide motorcyclists with first aid skills (93%)
- To help motorcyclists become more visible (91%)

Further support was suggested in some of the free text feedback after Biker Down:

- The course could actually be longer to cover more content
- More detail in the first aid section
- Better promotion of the course as some participants only heard about it through friends
- More clarity on how to make themselves more visible and the various products which could be effective
- Assistance for those with disabilities attending the course (those with hearing impairments or learning difficulties)

When asked how attending Biker Down will affect participants in the future, aside from the positive feedback provided earlier, there are some points to consider. One participant specifically mentioned feeling slightly nervous after hearing the content and engaging in the discussions, whilst several others mentioned being more confident. Whilst increasing confidence links back to the course objectives, there is a balance to be achieved through increasing knowledge without creating over-confidence. Research into some training and education road safety interventions have identified that increases in confidence can result in participants taking greater risks (such as choosing higher speeds) (Gregersen, 1996) (Elvik, Høyve, Vaa, & Sørensen, 2009). Those delivering Biker Down should strive to ensure that participants are provided with the required skills and knowledge without making them over-confident.

Attendees to Biker Down tend to be male and aged over 45 years. Promotional efforts could concentrate on female and younger motorcyclists to attract a more diverse audience. Furthermore, whilst some of the sociodemographic groups most at risk as motorcycle casualties are well represented amongst respondents, others at risk are less likely to attend, and therefore identifying methods to widen the appeal might be beneficial.

As a post-collision response intervention, Biker Down supports targeted resilience for motorcyclists as a vulnerable road user group who are generally over-represented in casualty data. It is clear that the results of the evaluation have implications for 'by-stander' safety and care provision. The results should also be viewed in the context of ongoing work in this area and broader research and best practice development in post-collision response outcomes across the sector.

## INTRODUCTION

---

This report sets out the process and impact evaluation for Biker Down, covering the delivery of the intervention in Devon and Cornwall between April 2023 and March 2025. This regional evaluation was commissioned by the Vision Zero South West Partnership (VZSW) as part of their ongoing commitment to motorcycle safety in the South West, to inform the delivery and assess effectiveness of Biker Down as a post-collision response (PCR) intervention. The Biker Down course is specifically centred upon the development of core competencies considered vital when motorcyclists come across fellow riders who have been injured or involved in collisions whilst out riding.

The evaluation, carried out by Agilysis, has been set out across two outputs. Firstly, a preliminary review of results (Year 1) was delivered in April 2024 which provided an interim assessment and opportunity to digest emerging findings. The first report was also an opportunity to take stock of participation levels in the evaluation, with a view to identifying methods to maximise attendee input and feedback findings. The first-year review only included quantitative analysis, as a snapshot of initial results. This final report is the second output and is the culmination of the project. It includes an assessment of all the data collected and has been used to inform an overarching review of effectiveness and delivery based on attendees' experiences of participating in Biker Down in Devon and Cornwall over the last two years. This final reporting involves critical assessment of the qualitative reflections from respondents, offering a valuable source of primary feedback for local practitioners and those further afield who deliver Biker Down courses.

Biker Down has acquired a national profile as an intervention selected by delivery partners involved in motorcycle safety across the country since its inception in Kent over a decade ago. Evaluations into its effectiveness have nevertheless been limited, and so this is the first time that a Biker Down scheme has been evaluated with published outputs (there are no published studies for elsewhere in the country). This multi-year evaluation, therefore, provides a notable contribution to the evidence base on the efficacy of a commonly used motorcycle safety intervention. Other motorcycle safety interventions that have been subject to evaluation previously have largely focused on safe riding competencies, as opposed to Biker Down which is a PCR intervention to support motorcyclists in the event that they come across a fellow rider involved in a collision. It is centred on the premise that for each of the vital course competencies (scene management; first aid administration; and increasing self-visibility) increasing knowledge and confidence to apply that knowledge will lead to a greater level of intention to apply them in real life scenarios whilst out riding.

It is envisaged that this evaluation will sit alongside other Biker Down evaluations conducted elsewhere, helping to generate dialogue, key learnings, and pinpoint success and areas of improvement together with delivery partners nationally.

The delivery and data collection periods were designed to help maximise uptake by participants and ensure that as much data as possible was collected. This final report is intended to provide an overarching assessment of effectiveness and associated insights for practitioners. The evaluation represents a practical and proportionate assessment based on the available data (self-reported pre versus post survey) and has been designed to elicit genuine insight regarding the parameters of the scheme's delivery in Devon and Cornwall.

## BIKER DOWN

---

### COURSE CONTENT

Biker Down is a national initiative which originated in Kent in 2011. As a post-collision response intervention, it is primarily delivered by Fire and Rescue Services (FRS), covering three main modules:

- **Module 1: Scene management:** Competency in managing the scene of a collision involving a fellow motorcyclist.
- **Module 2: First aid:** Ability to administer first aid and apply basic trauma management to injured riders upon arrival at the scene of a collision involving a fellow motorcyclist (prior to the arrival of certified emergency medical service (EMS) responders).
- **Module 3: Conspicuity / 'science of being seen':** Taking steps to increase perceived visibility by others as a motorcyclist while out riding; adopting behaviours which including wearing high-visibility protective clothing; and adopting on-road positions which increase self-conspicuity. This also covers driver perception and search strategies.

To date, there has been very limited quality assurance and ongoing monitoring of Biker Down schemes, nor has there been a national evaluation despite Biker Down having been delivered by various local highways authorities (LHAs) and fire & rescue service (FRS) providers across the country for a number of years. Expectedly, this has also meant that despite the widespread use of the scheme and adaptation of its content to local requirements and delivery contexts, it has lacked any precise aims and objectives that would lay the groundwork for evaluation. Working with delivery partners in Devon and Cornwall, Agilysis helped to develop a logic model for Biker Down (a 'theory of change' setting out 'how' the intervention was envisaged to deliver defined intervention objectives), making use of local experiences and practitioner insight of previous rollouts of the Biker Down course in the South West.

### COURSE DELIVERY

The Biker Down sessions covered by this evaluation have been administered differently in Devon and Cornwall. In Devon and Somerset, Devon and Somerset Fire and Rescue Service (DSFRS) has directly delivered courses based on a pre-agreed schedule. In Cornwall, Cornwall County Council (CCC) / Fire & Rescue Service (CFRS) has commissioned a third-party provider to administer Biker Down. These have not been delivered based on a pre-agreed schedule but instead scheduled at *ad hoc* intervals as more sessions were deemed necessary.

Whilst the evaluation, therefore, includes data covering courses delivered in both areas, the specific approaches to their rollout mean that the conclusions in this final report provide an opportunity for both areas to assess how the findings can be incorporated into their selected toolkits to support motorcycle safety in their respective areas. The commissioning of a joint evaluation covering Devon and Cornwall has notably increased the likelihood of larger sample sizes and has naturally been enabled by regional commitments to collaborate, adopt joined-up thinking, and share best practice within the Vision Zero South West Partnership. The evaluation's design and data collection have directly been informed by partner input in Devon and Somerset and Cornwall.

### BEHAVIOURAL PREMISE

There was broad agreement amongst the Biker Down project team with the underpinning theory that increasing knowledge and confidence will lead to increased intentions to confidently apply knowledge acquired from Biker Down. This is an opportunity to test this theory of change. The novelty of this intervention, and the fact that previous motorcycle safety evaluations have not measured changes in

scene management competencies specifically, mean that this this evaluation fills a key gap in the evidence base. The results of this evaluation of Biker Down in Devon and Cornwall will help to inform future road safety interventions which seek to improve behavioural intentions based on building knowledge and confidence.

## DEVELOPMENT PROCESS

The parameters of the evaluation set out in this report have been agreed with those directly involved with the delivery of Biker Down in Devon and Cornwall. The research and evaluation design stages (objective setting and logic model creation) were carried out in consultation with lead practitioners involved in its delivery in Devon and authorities in Cornwall which involved:

- Setting aims and objectives: to enable measurement of desired outcomes based on agreed intervention goals, to answer ‘what are we trying to achieve’.
- Creating a logic model: To elicit how different elements (inputs, outputs, and outcomes) fit together to achieve stated objectives, highlighting any assumptions and/or external factors that could influence the results.
- Setting out timings and data collection parameters to support a thorough evaluation process.
- Designing the pre and post surveys to enable direct comparison and changes in attendee responses before and after their participation in Biker Down.

## AIMS AND OBJECTIVES

The overarching aim of Biker Down is **to equip attendee motorcyclists to competently manage the scene of a collision involving another motorcyclist and to increase their conspicuity whilst riding.**

*Table 1 - Module Objectives*

Module	Knowledge	Confidence	Intention
Scene Management	By attending Biker Down, motorcyclists’ knowledge of what to do in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists’ confidence in applying knowledge of what to do in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists’ intentions to apply knowledge of what to do in the event of a motorcycle collision increases
First Aid	By attending Biker Down, motorcyclists’ knowledge of post collision response in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists’ confidence in applying knowledge of post collision response in the event of a motorcycle collision increases.	By attending Biker Down, motorcyclists’ intentions to apply knowledge of post collision response in the event of a motorcycle collision increases
Conspicuity / ‘science of being seen’	By attending Biker Down, motorcyclists’ knowledge of the ‘science of being seen’ whilst riding increases	By attending Biker Down, motorcyclists’ confidence in applying knowledge of the ‘science of being seen’ whilst riding increases	By attending Biker Down, motorcyclists’ intentions to apply knowledge of the ‘science of being seen’ whilst riding increases

The first part of the aim covers both scene management and first aid delivery upon arrival. This primary aim has then been broken down ([Error! Reference source not found.](#)) to enable measurement of success against the outcomes related to the core competencies under each of the three Biker Down modules.

## LOGIC MODEL

A logic model was put together as part of this process in order to set out the 'theory of change' (how Biker Down will achieve its aim). The logic model ([Error! Reference source not found.](#)) provides information on the inputs, outputs, and outcomes (short, medium, and long term). It also sets out the key assumptions that the evaluation makes and external factors that could influence the results.

## METHODOLOGY

---

### EVALUATION DESIGN

The primary evaluation method selected is a pre- and post-survey design, to compare differences in results before and after attendee participation in the sessions. This was selected to enable direct assessment of changes in respondents' attitudes, intentions, and their overall risk profiles as a result of participating in Biker Down. This was considered to be the most appropriate method as other methods such as randomised control trials (RCTs) require pre-selection of attendees to create 'intervention' and 'control' groups. An RCT style evaluation would not be appropriate given that Biker Down attendance is purely self-selecting (voluntary), meaning that controlling for specific demographic factors or levels of rider competency would not be possible. The pre-and post-design approach means it is possible to compare differences within the overall respondent cohort itself, as opposed to comparison with a separate non-attendance cohort (such as a non-motorcyclist group or a control group who do not attend Biker Down.).

### SURVEY DESIGN

The primary data collection methods were online surveys covering both pre and post attendance (created and managed via SmartSurvey). These surveys have been designed to capture both quantitative and qualitative responses. Questionnaires and overall framing approaches from well-established and tested surveys designed for previous evaluations were utilised. The Rider Attitude Questionnaire (RAQ) and Rider Behaviour Questionnaire (RBQ), for example, have been used in a variety of contexts and have been found to be effective in gathering responses for similar interventions in a simple but effective way.

The surveys used for this evaluation utilise research design methods aimed at eliciting as honest and complete responses as possible. Psychological sentiment inversion and other question framing approaches have been used to ensure that data collected from participants reflects thoughtful consideration of Biker Down and genuine responses to the course content, how it is delivered, and its impact. The surveys can be found in [Appendix C - Questionnaires](#).

The pre-survey asks participants about several important aspects related to their level of training and overall experiences as motorcyclists. Questions are also asked to elicit basic demographic information and insight relating to how they themselves view their riding abilities and their motivations for booking a place on Biker Down.

The post-survey asks participants to reflect on their experiences of the Biker Down course; what they feel they have learnt from attending (or alternatively not learnt); and how this will impact them as a motorcyclist. The post-survey includes more 'free-text' questions to elicit perceptions of efficacy related to the three post-collision response competencies and how well attendees feel that the Biker

Down course they attended equipped them with the information and skills to deploy them in an ‘on-road’ scenario.

To test the underlying theory of change for Biker Down, a number of questions feature in both surveys to measure quantitative levels of change before versus after attendance.

## DISSEMINATION

The pre-surveys were disseminated to attendees upon booking a course and before their attendance. The post-survey was issued to participants via e-mail **at a minimum of four weeks after attendance**. It was decided that the post-survey should not be completed at the end of the course itself for several reasons. Firstly, responses in surveys completed at the end of a session could be influenced by the course trainers in the room. Even if not directly influenced by the trainers, respondents could seek to ‘please’ those who they have just spent time with by providing favourable responses. Surveys completed at the end of a session could also be rushed, with a view to being able to leave and head home. Finally, leaving a four-week interval provided time for the course content to ‘settle in’ and for participants to reflect on what they had learned and for the researchers to test levels of recall of the content.

Ninety-three percent of respondents who completed the post-survey filled out their post-survey at a minimum of 4 weeks after their attendance at a Biker Down course (based on their self-reported information about course attendance and SmartSurvey completion dates). Only seven percent of respondents who completed the post-survey indicated (from the information they provided) that the input they gave was less than four weeks after course attendance. This does not account for self-reported input errors as there was some indication that a very small minority of respondents selected the wrong course date. Virtually all of the completed responses were considered to fit the research design requirement of having sufficient time between attendance and post-survey completion.

## EVALUATION RESULTS

---

### INTERIM REVIEW (YEAR 1 / 2023)

For the preliminary review, the analysis covered all data collected between April 2023 (when the surveys were first live) and the end of December 2023. This provided a snapshot of emerging findings for the most part of Year 1, providing sufficient time for initial reporting, with the first report delivered by April 2024 a full year after the evaluation went live. As this was a ‘snapshot’ piece of analysis for the first year of data, qualitative and broader thematic analysis was not included.

For the Year 1 pre-survey, the total number of responses gathered was 105, comprising of 82 completed responses and 23 partial responses.

For the Year 1 post-survey, the total number of responses was 42, comprising of 35 completed responses and 7 partial responses.

The relatively small sample sizes for the Year 1 analysis meant that ‘unknowns’, (where partial responses did not include answers to specific questions), were excluded, to ensure indicative trends were clear, based on the answers given.

### FINAL RESULTS (YEARS 1-3 / 2023-2025)

For this final review, the analysis covers all data collected over the course of the evaluation from April 2023 to March 2025. Final analysis includes consideration of all quantitative and qualitative data provided by attendees over the course of the last two years. As with the initial review, ‘unknowns’

have been omitted from the main analysis in order to show proportions based on those who actually provided a response for each given question.

The total number of responses gathered for the pre-survey was 316, comprising of **256** completed responses and **60** partial or 'incomplete' responses.

The total number of responses gathered for the post-survey was 168, comprising of **129** completed and **39** partial responses.

#### *Response Rate*

The total number of completed responses (who completed the pre and post surveys) is therefore **129**. The number of attendees over the study period was 540, meaning a response rate of 24% was achieved. A response rate of 30% would have been considered excellent, whereas anything between 5 and 30% is deemed acceptable.

# FINDINGS

## PRE-SURVEY RESULTS

### Demographics

Respondents to the pre-survey were largely aged 45 or above (73%) with a breakdown by group (Figure 1) showing that those aged 55-64 made up almost a third of respondents (32%).

Three-quarters of respondents identified as male ( Figure 2)

Figure 1 - Pre-Survey Respondents by Age Group

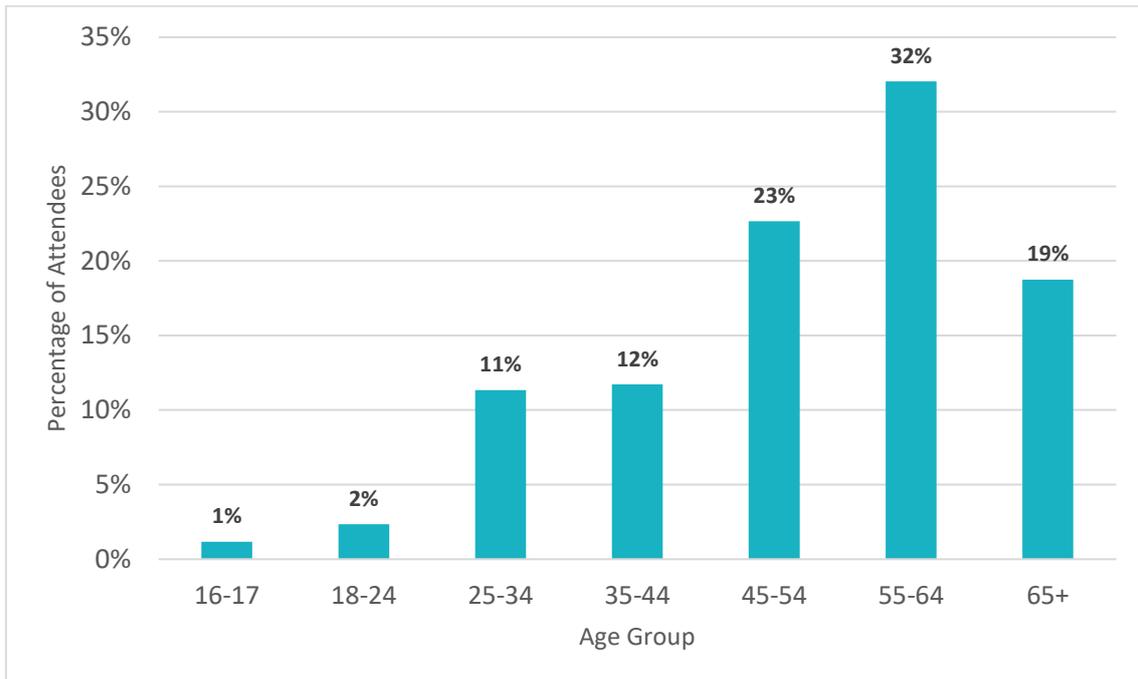
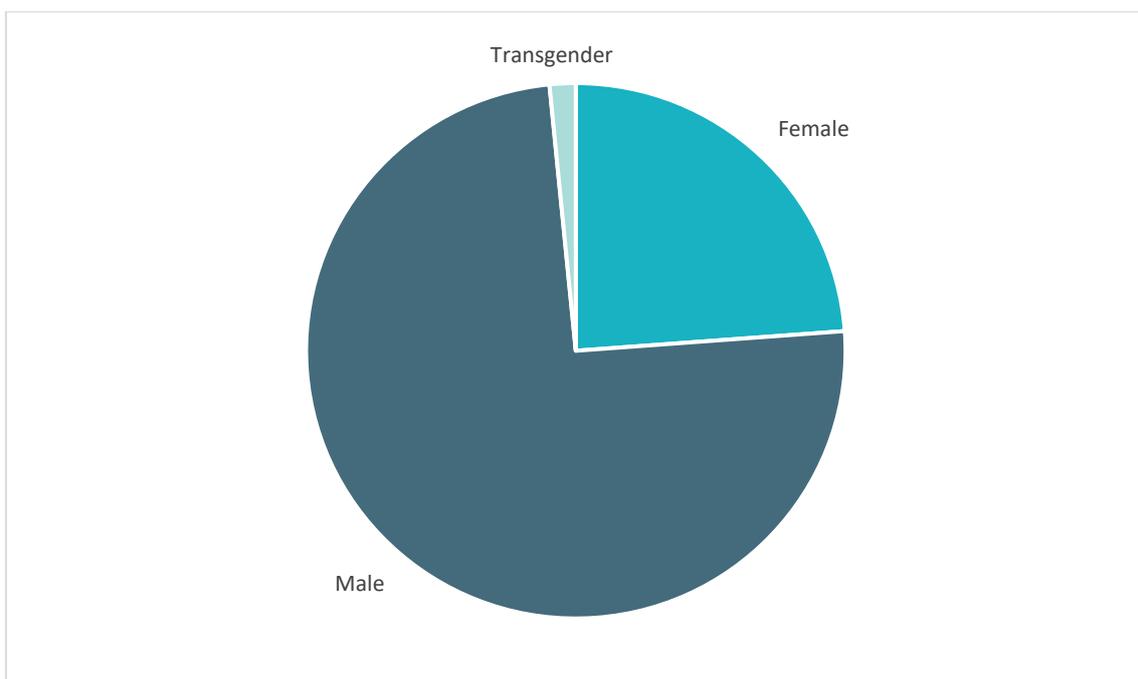


Figure 2 - Pre-Survey Respondents by Gender



### Pre and post-test accreditation

The highest levels of reported accreditation amongst respondents to the pre-survey were for full motorcycle test (53%) and compulsory basic training (44%), with a slightly lower rate of reported accreditation for direct access (38%) and almost no accreditation with the accelerated access course (2%). Respondents could have selected more than one option.

Figure 3 - Pre-test accreditation

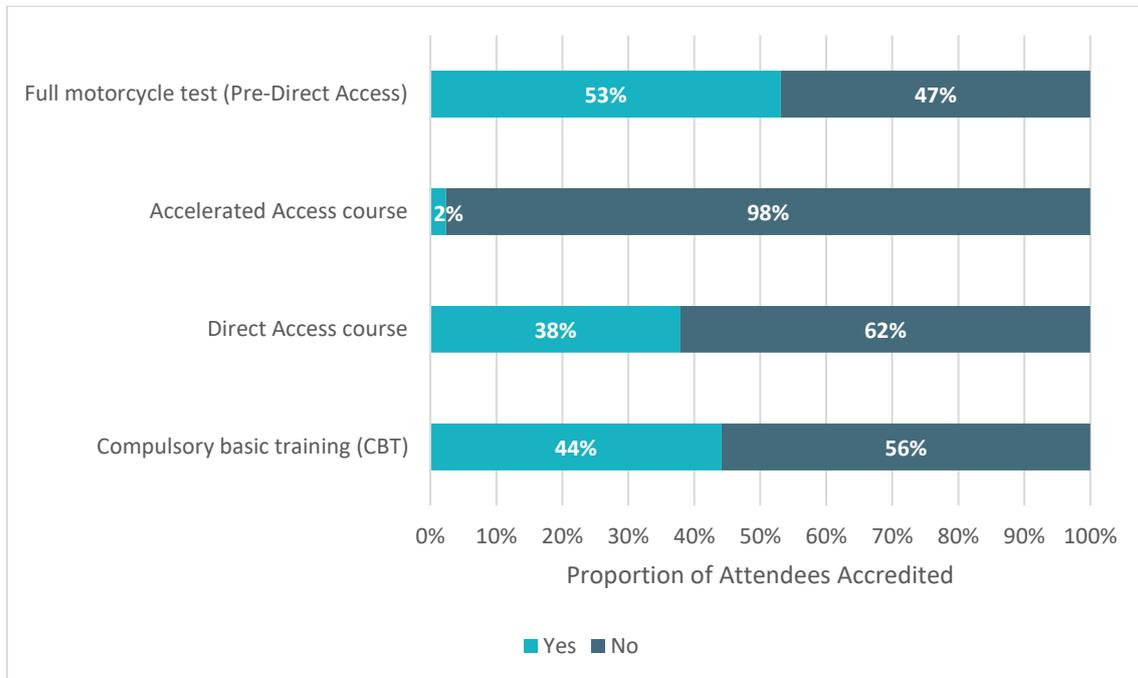
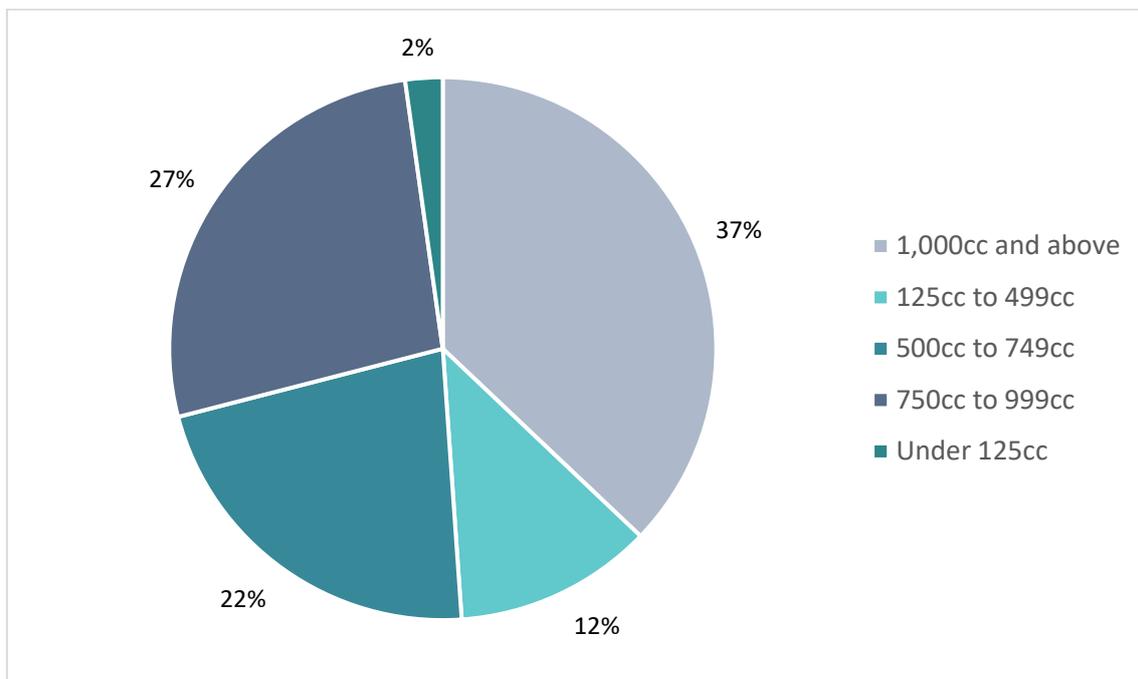


Figure 4 - Motorcycle Engine Size



The majority of respondents had not completed any form of post-test accreditation (69%) and of the remaining who had (31%), IAM RoadSmart, RosPA and BikeSafe courses were selected most

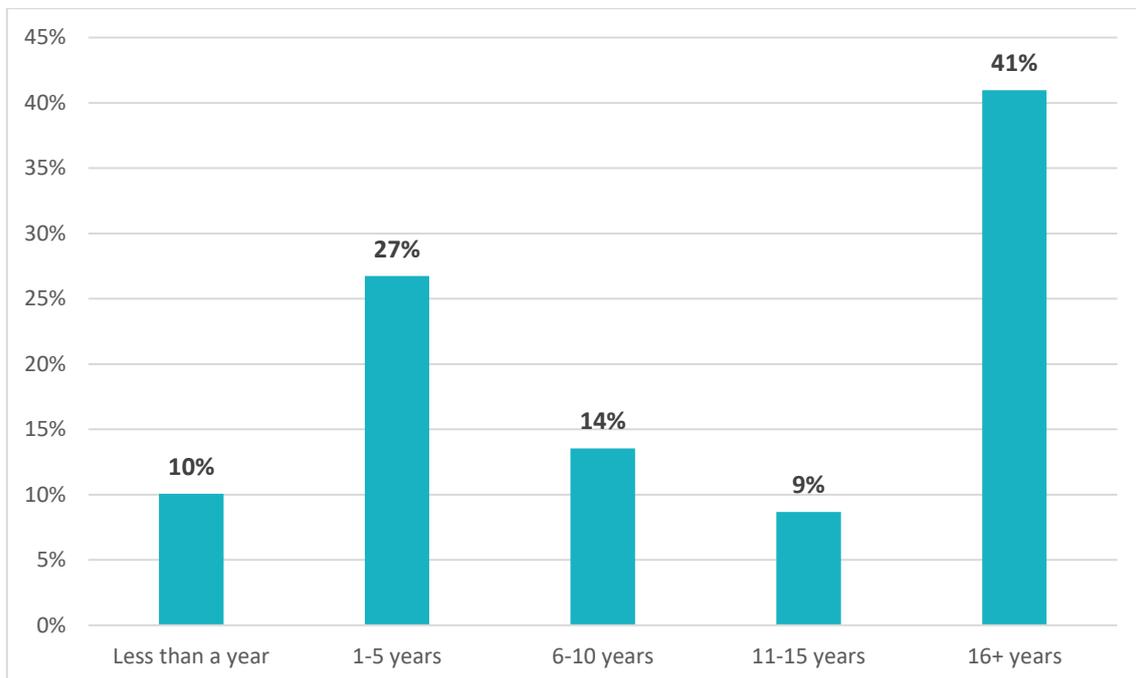
frequently. Respondents were most likely to state that their motorcycle was at least 1,000cc or above ( Figure 4).

Prior to attending their allocated Biker Down session, almost two-thirds of respondents (65%) stated that they had not completed any form of first aid training in the last 5 years. This suggests that administering first aid at the scene of a collision involving a fellow motorcyclist is not a core competency that respondents feel they have before attending Biker Down. This is confirmed in other quantitative and in open-text responses.

### *Riding Experiences*

A sizeable proportion of respondents (41%) stated they had a least 16 years or more of direct experience as a motorcyclist ( Figure 5), whilst over a third had less than five years.

*Figure 5 - Riding Experience*



Over half of respondents said they had taken a break from riding their motorcycle (a break that had lasted at least a year in duration). Generally, respondents had either taken a break from motorcycling for 1- 5 years (37%) or for 16 years or more (35%). Far fewer said that the break they took lasted 6-10 years (16%) or less than a year (8%).

Although there was a more even distribution of responses across different timeframes when asked how recently they had returned to riding a motorcycle since this break, the most commonly selected timeframe amongst respondents was within the last (1-5 years) selected by over a third of respondents.

It is notable that many respondents are experienced motorcyclists (with at least 10 years riding experience) who having a taken break for a number of years have recently returned to motorcycling. This prominence of the demographic suggests that experienced riders see the Biker Down course as a refresher-type course as they return to riding more regularly. This and other related findings, including their implications for Biker Down, are explored later in this report.

### Riding Patterns

Looking at how often and when respondents said they go out riding as motorcyclists, most stated that they ride either weekly (53%) or daily (23%).

Almost two-thirds of respondents stated they ride their motorcycle all year round (63%), with a third riding in Spring and Summer (34%) and fewer in Summer only (3%).

Generally, the most common journey purposes for trips made more frequently were social occasions, for pleasure, for running errands and for shopping (Table 2).

Table 2 - Journey Purpose

Journey purpose	2-3 times a week	Every couple of weeks	Every weekday	Everyday	Less often	Most days	Never	Once a month	Once a week	Weekends only
Shopping	11%	11%	0%	3%	27%	3%	22%	9%	9%	4%
Social occasions	21%	19%	1%	3%	18%	4%	6%	10%	10%	8%
Commuting to/from work	7%	6%	6%	7%	14%	5%	47%	4%	5%	0%
Holiday/touring sightseeing	6%	13%	0%	2%	37%	2%	10%	19%	5%	7%
Work purposes	4%	2%	1%	5%	16%	2%	64%	2%	2%	0%
Errands	13%	12%	1%	2%	24%	5%	23%	9%	8%	2%
For pleasure	30%	17%	1%	7%	5%	9%	2%	6%	14%	10%
For college / university	1%	0%	1%	0%	1%	0%	96%	0%	0%	0%
Track days	0%	0%	0%	0%	10%	0%	89%	0%	0%	0%
Club meetings	3%	10%	1%	0%	23%	0%	41%	14%	6%	1%

### Self-reported collision involvement as a motorcyclist

The majority of respondents said that they had not been involved in a motorcycle collision (56%), with a similar majority stating that they had not witnessed a motorcycle collision (58%). This is indicative that even for many respondents who had stated they had no prior involvement in an 'on-road' collision scenario, or witnessed such a scenario, Biker Down was considered to be a suitable course to attend.

## POST-SURVEY RESULTS

### Demographics

Respondents to the post-survey were largely aged 45 or above (84%) with a breakdown by group (Figure 6) showing that those aged 55-64 specifically made up 40% of post-survey respondents. The age group distribution is similar to the pre-survey, although there was a greater input from younger respondents proportionally in the pre-survey than in the post-survey.

Over three-quarters (78%) of respondents identified as male ([Error! Reference source not found.](#))

Figure 6 - Post-Survey Respondents by Age Group

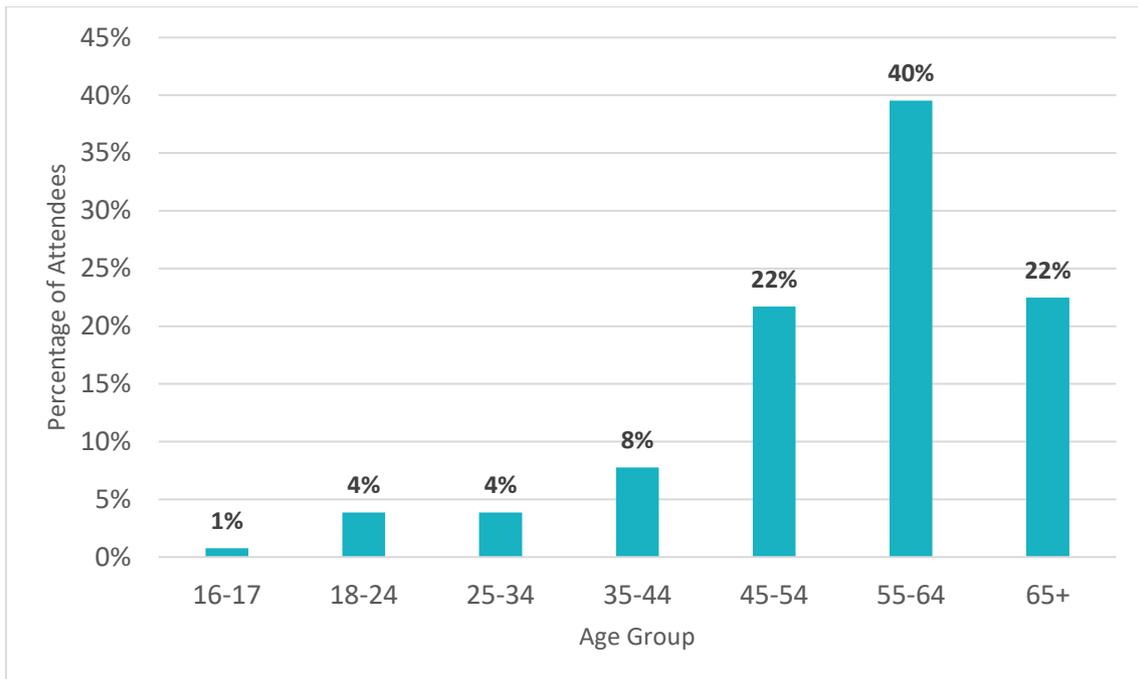
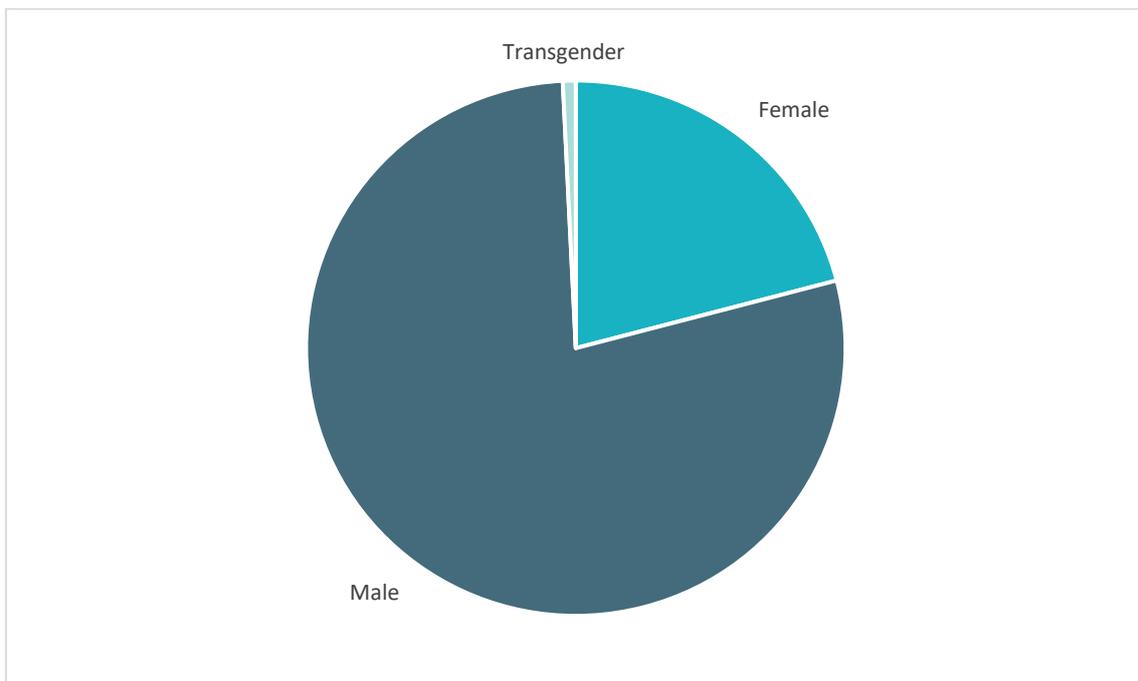


Figure 7 - Post-Survey Respondents by Gender



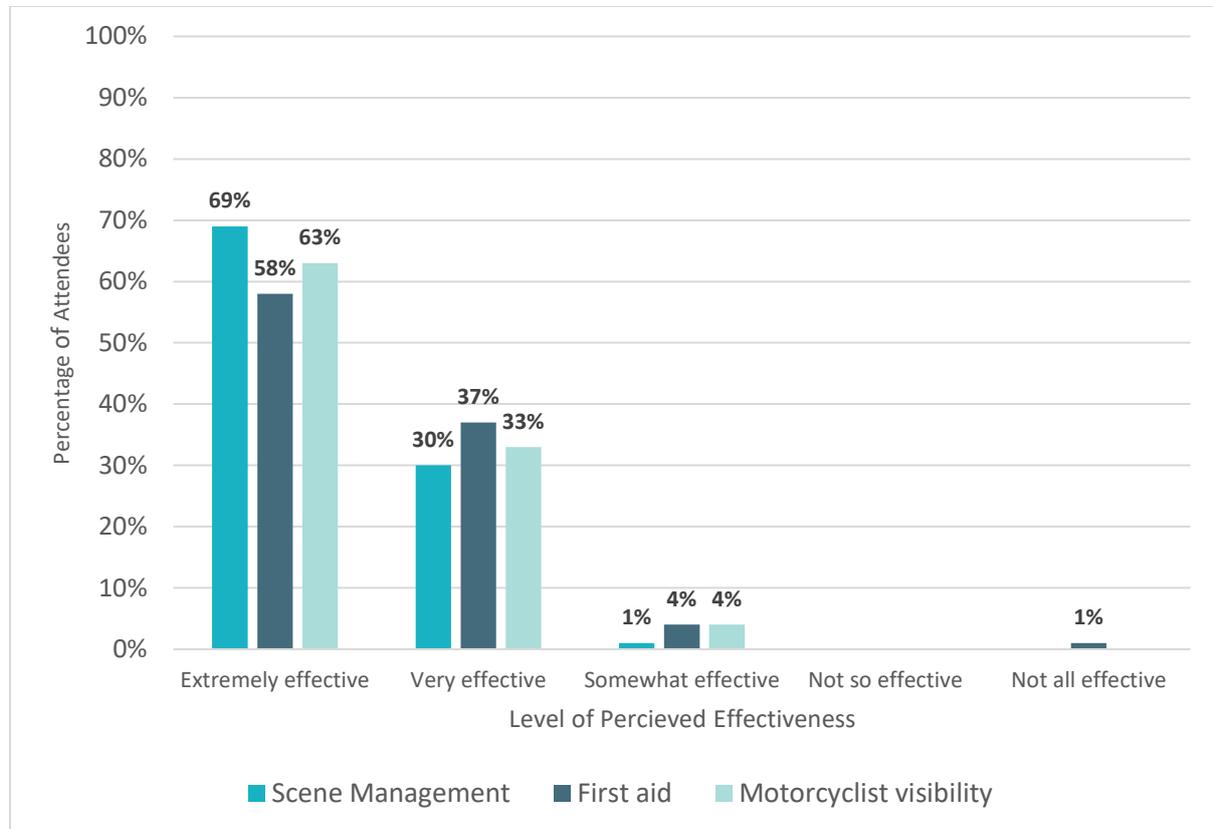
### Course (Module) Effectiveness

Overall, respondents thought that the quality of delivery of the Biker Down course was of a very high standard, with 90% rating the course delivery as 'excellent'.

This sentiment was reflected in participant responses to each of the three modules delivered as part of the Biker Down course. When asked about how effective they thought the content was for each of the modules, the majority of the responses given were 'extremely effective' or 'very effective'. A very small minority of responses stated that delivery of content related to some of the core competencies

was either 'somewhat effective' or 'not at all effective' ([Error! Reference source not found.](#)). Delivery of first aid content received one response of being 'not at all effective'.

Figure 8 - Responses to Q3 'How effective do you feel the overall content of Biker Down was in terms of teaching you about the following?'



There were very high levels of net agreement with post-attendance statements around changes in self-reported behaviour as a result of participating in Biker Down:

- 87% of post-survey respondents agreed that *'Biker Down has increased my intention to use relevant clothing and equipment to make myself more visible to the other road users whilst out riding'* (11% neither agreed nor disagreed, with only 2% disagreeing with this statement).
- 94% of respondents agreed that *'Biker Down has made me more likely to adopt safe riding behaviours to make myself as noticeable as possible to other road users'*. Only 6% neither agreed nor disagreed with this statement, whilst none explicitly disagreed.
- 96% of respondents agreed that *'Biker Down has increased my overall first aid skills if I were to come across an injured motorcyclist'* (3% neither agreed nor disagreed, with only 1% disagreeing with this statement)
- There was a similarly very high level of agreement with the statement that *'Biker Down has increased my general ability to manage the scene if I were to come across a collision involving another motorcyclist'* with virtually all respondents agreeing (98%)
- Moreover, the proportion of respondents who stated that they did something to help other road users make sure they are seen on their motorcycle when riding was 100%, up from the pre-survey, although this was already very high at 94%.

### Self-reported collision involvement as a motorcyclist

Over half of post-survey respondents (49%) said that they had not been involved in a motorcycle collision. Fifty-eight percent of post-survey respondents stated that they had not witnessed a motorcycle collision, which was also true of the pre-survey.

### Additional Training

Participants who took part in the post survey overwhelmingly stated that they intended to acquire further knowledge and skills to improve their safety as a motorcyclist and that of fellow motorcyclists (94%).

Both before and after attendance at a Biker Down session, the majority of respondents (95%/90%) felt they would feel better if there was more support to equip motorcyclists to better manage the scene of a collision involving a fellow motorcyclist. This was also true of additional first aid (96%/93%) and support for better self-conspicuity (81%/91%).

## PRE AND POST COMPARISONS

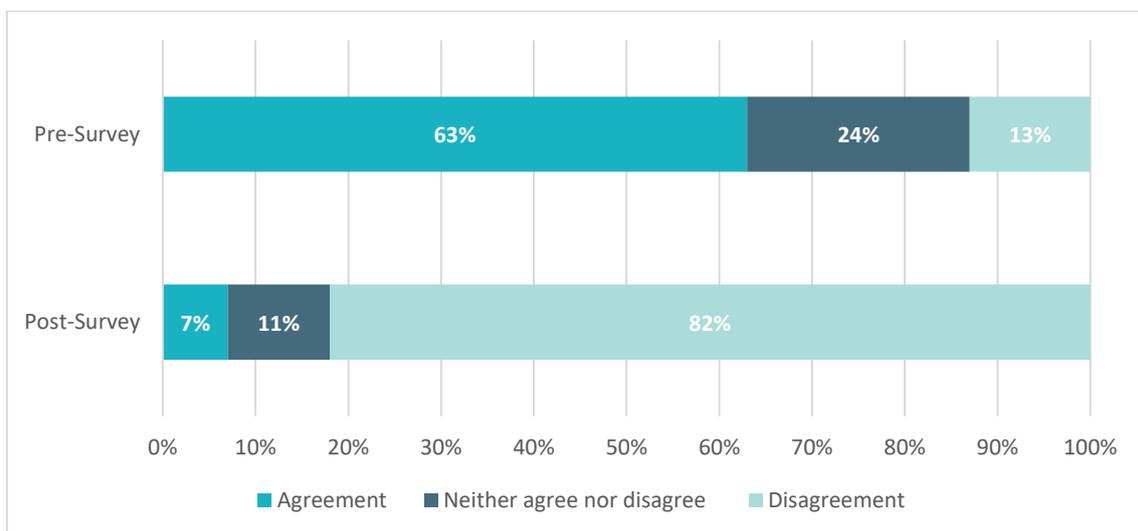
### Self-reported changes in knowledge, confidence, and intentions

Respondents were asked about their net levels of agreement or disagreement with a set of nine statements to test changes in levels of knowledge, confidence, and intentions to apply the knowledge acquired for each of the three overarching course competencies. The statements utilised psychological inversion and randomised order questioning techniques to elicit thoughtful and honest responses.

### Scene Management

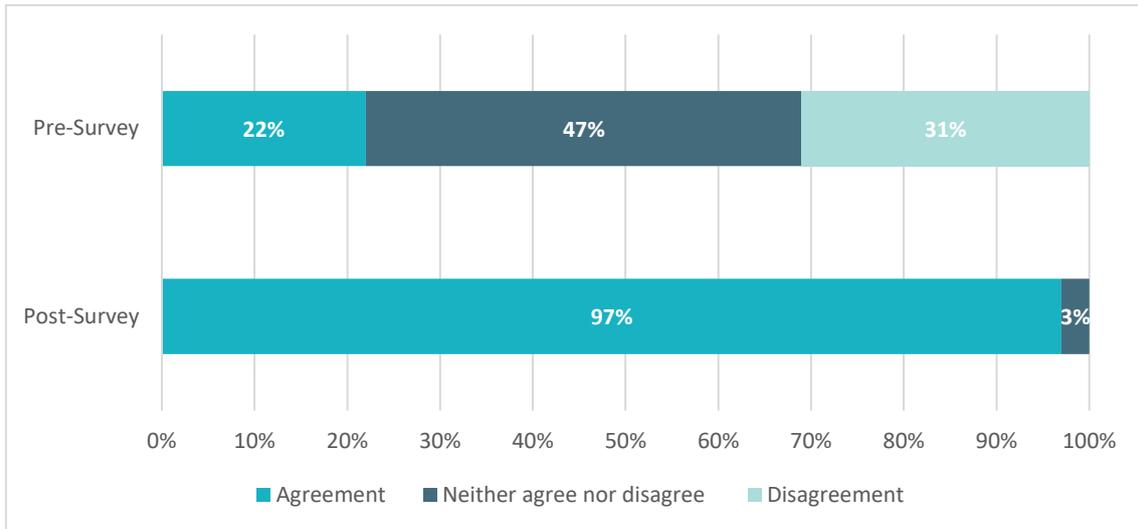
Positive changes in knowledge and confidence regarding scene management were found when comparing the pre versus post survey results, decreasing from 63% agreeing that they had limited knowledge of scene management down to 7% after attendance.

Figure 9 - 'I have limited knowledge about how to manage the scene of a collision involving a motorcyclist' -



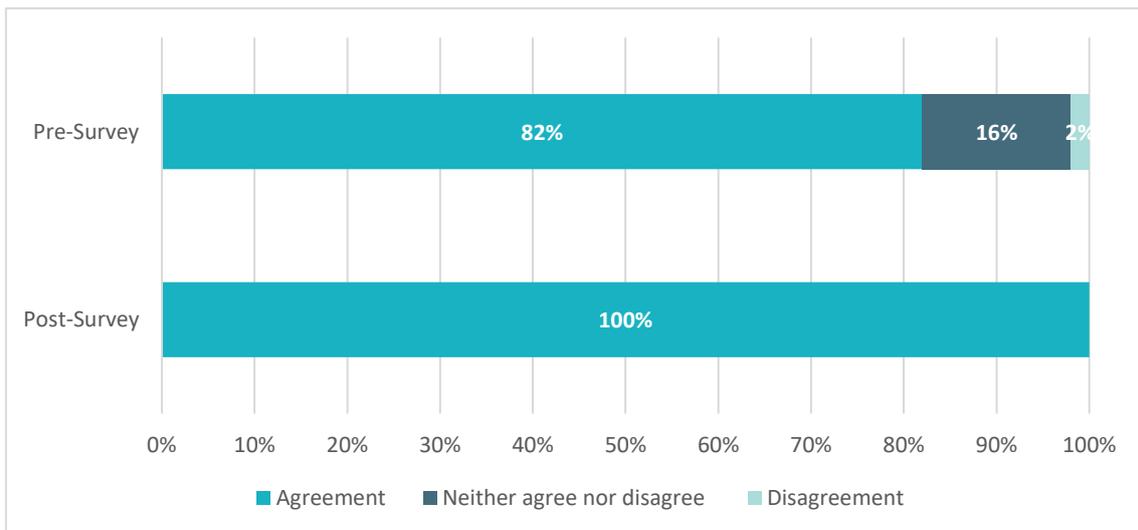
Almost all respondents felt they could confidently manage the scene of a collision involving a fellow motorcyclist after attending Biker Down (97%).

Figure 10 - 'I could confidently manage the scene of collision involving a motorcyclist if I encountered one'



All respondents who answered whether they would take steps to manage the scene said they would do so, although pre-survey intentions were already high for this competency (82%).

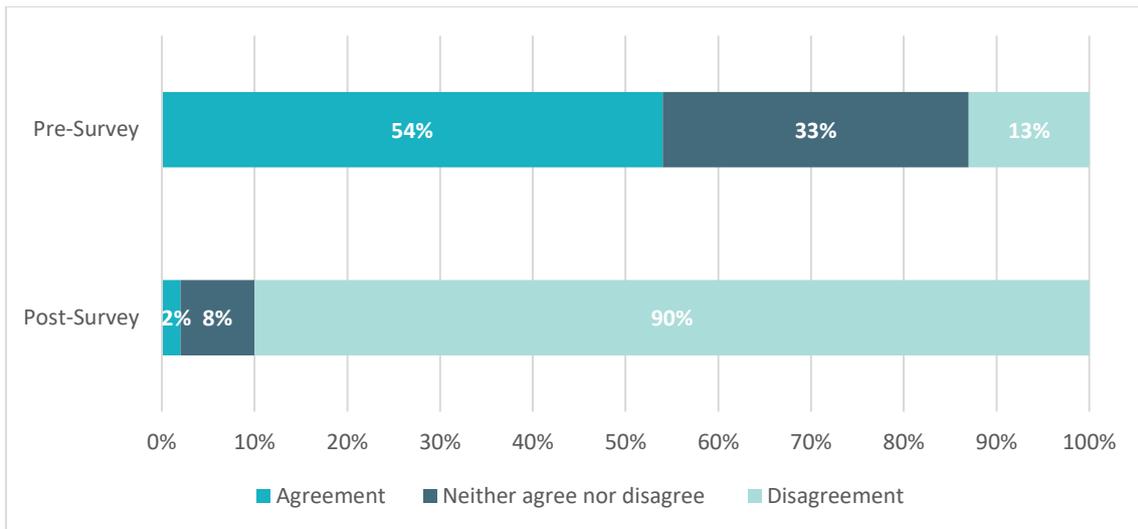
Figure 11 - 'If I encountered a motorcycle collision, I would take steps to manage the scene'



### First Aid

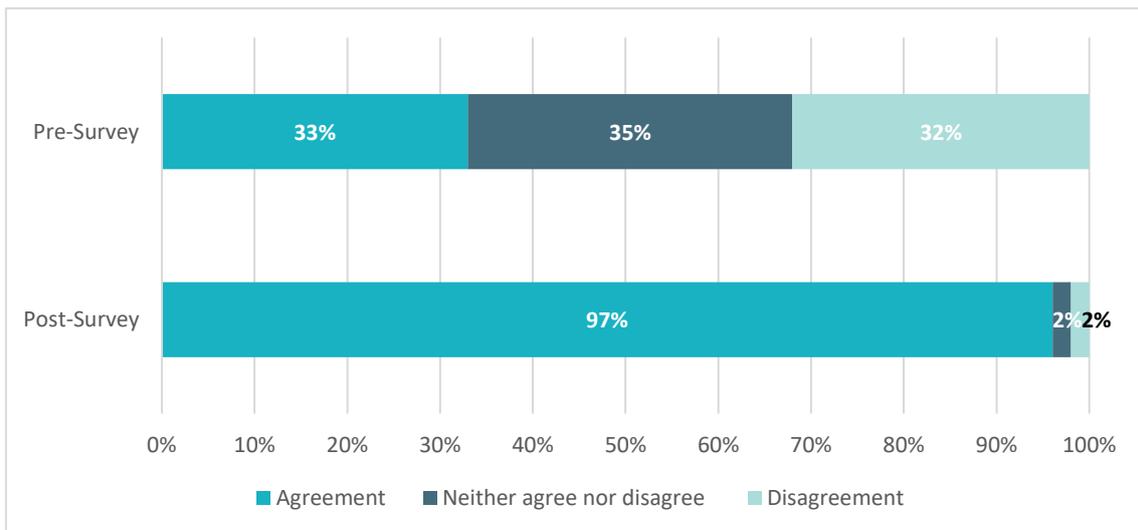
Self-reported knowledge levels in how to correctly administer first aid to an injured motorcyclist increased substantially, with net disagreement that respondents were unsure of how to administer first aid in this scenario increasing from 13% pre-survey to 90% post-survey.

Figure 12 - 'I am unsure of how to correctly administer first aid to an injured motorcyclist'



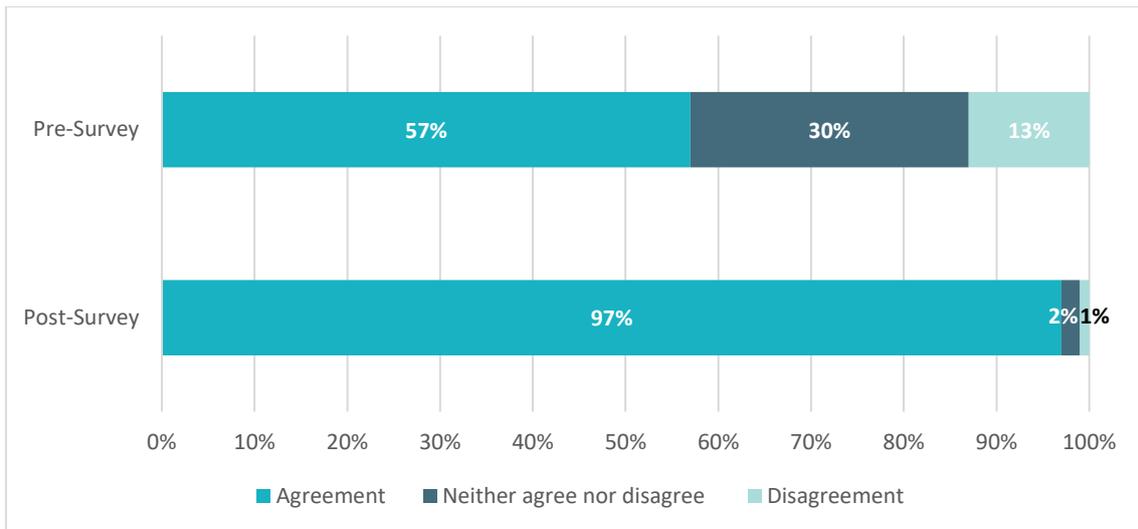
Whilst a third agreed in the pre-survey that they could confidently administer first aid to an injured motorcyclist, this increased to 90% post-survey.

Figure 13 - 'I would feel fairly confident in administering first aid to an injured motorcyclist'



Similarly, whilst intentions to administer first aid were already moderately high for the pre-survey (57%), this increased to 97% post-survey.

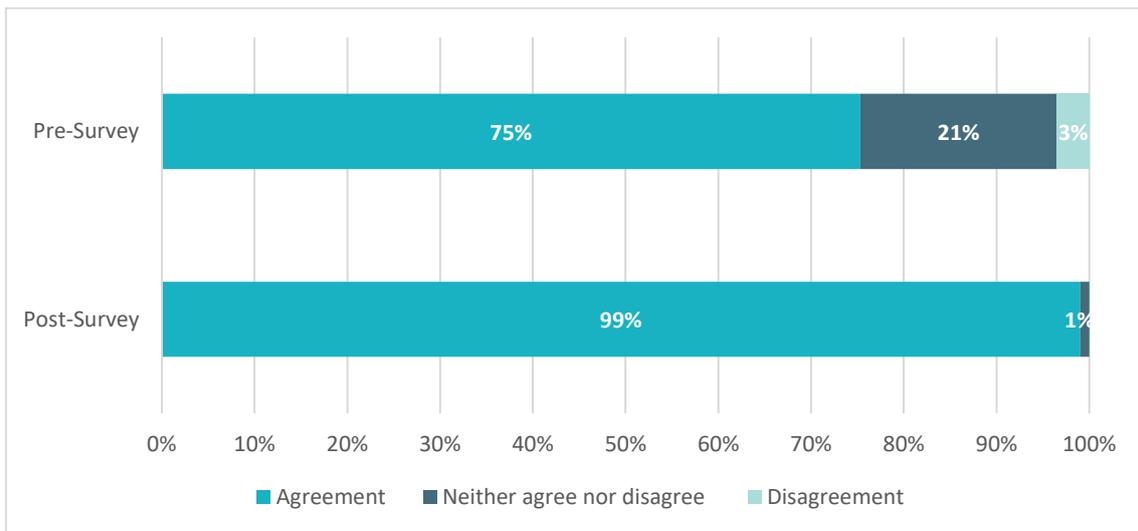
Figure 14 - 'If I encountered an injured motorcyclist, I would deliver first aid'



*Conspicuity*

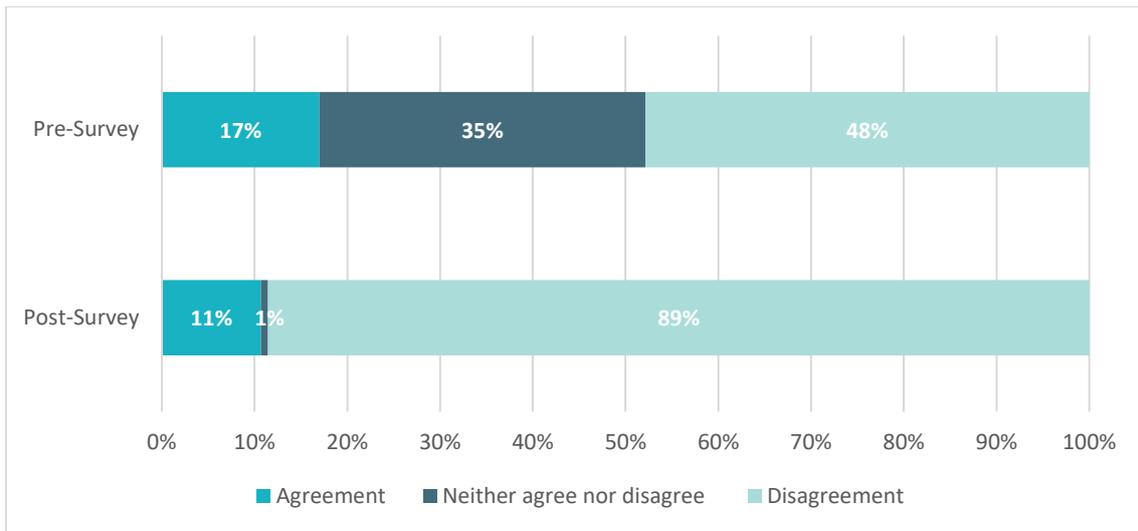
Levels of self-reported knowledge of how to increase riders' own conspicuity were already high pre-survey (75% agreed they had a good level of knowledge). This increased to 99% post survey.

Figure 15 - 'I have a good level of knowledge of how to increase my own visibility to other road users'



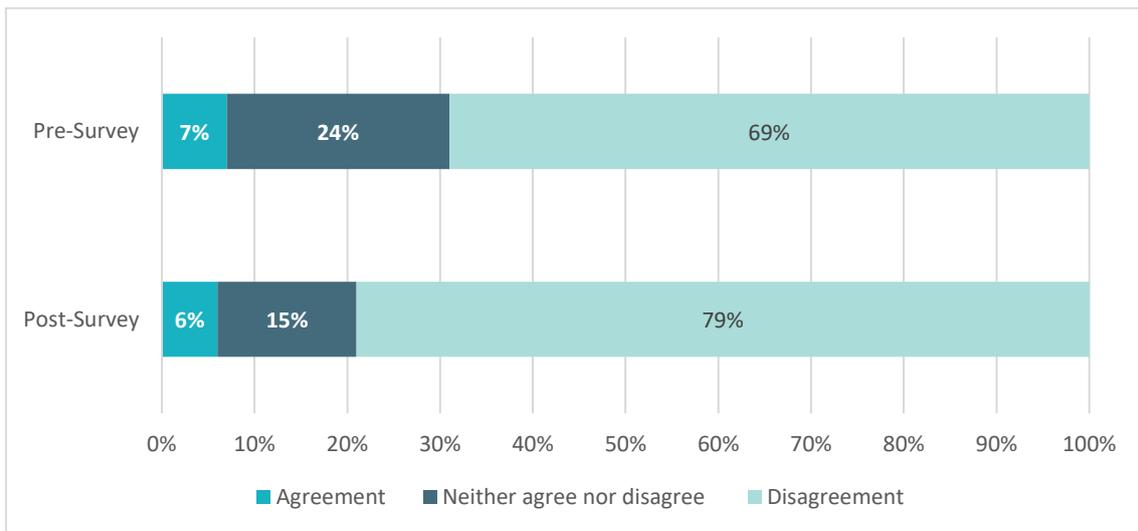
Respondents were more likely to disagree with the statement that they are not confident about making themselves more visible to other road users, increasing from 48% to 89%. Agreement with low confidence reduced from 17% to 11%.

Figure 16 - 'I am not confident about what I need to do make myself more visible to other road users while out riding'



Whilst intentions were high (increasing from 69% to 79%), a small but persistent percentage of respondents either felt they did not need to make themselves more visible to others after attending Biker Down or were in neither agreement nor disagreement.

Figure 17 - 'I don't need to make myself more visible to other road users while out riding'



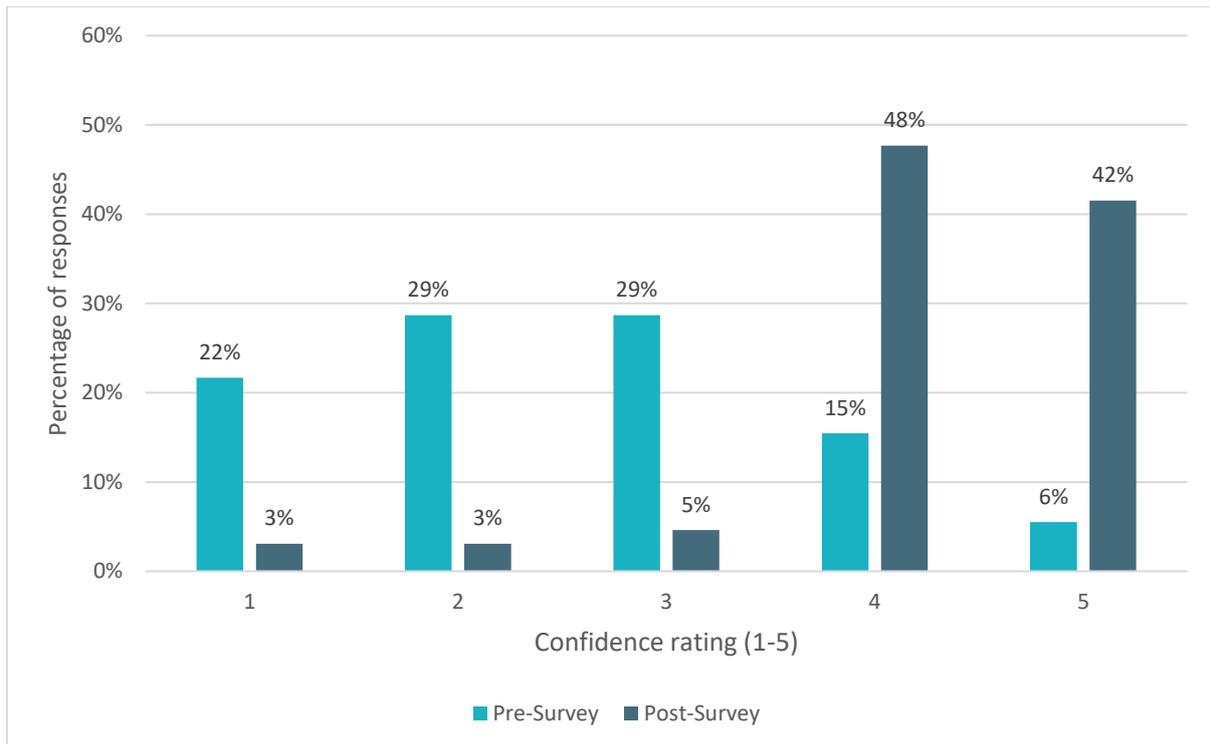
*Scenario Question*

Respondents were asked before and after attendance to rate (where 1 is not at all confident and 5 is very confident) how confidently they would deal with the following scenario:

*'Imagine you were on a Sunday afternoon solo ride in the countryside, and you rode around a bend to find a motorcycle in the road and an unconscious rider lying in the verge. How confident would you feel in dealing with this scenario?'*

Figure 18 shows that respondents in the post-survey were far more likely to rate themselves as very confident in dealing with the outlined scenario than those in the pre-survey.

Figure 18 - Responses to Scenario Question



## STATISTICAL TESTING

To assess whether the Biker Down sessions led to an increase in participants' knowledge, confidence, and intention scores across the three main modules (scene management, first aid, and conspicuity), relevant pre-survey and post-survey data, specifically for the **nine question statements** (see **Self-reported changes in knowledge, confidence, and intentions**) were also compared. This statistical testing approach compares pre and post Likert scales for each of the nine questions using a non-parametric test (Mann Whitney U test). Researchers analyse Likert scale data in diverse ways with some assuming Likert scales to be interval data and others as ordinal data (Bishop & Herron, 2015). This study assumes that the Likert scale responses are ordinal (responses in the Likert scale have a specific order or ranking). Like most ordinal data, the assumption of normality could not be met hence, a non-parametric test was chosen [Appendix B – Statistical Testing](#).

The pre and post survey comprises of the same participants (paired data) with a larger drop off rate in the post survey. While the data consisted of the same participant population, the deliberate absence of unique identifiers was implemented to address participant anonymity concerns which necessitated treating the data as unpaired. Thus, the Mann Whitney U test was chosen as it is used for assessing non – parametric and independent groups of data (unpaired data). As a result, these tests presume that participants in both the pre and post groups start from the same baseline. Despite this limitation, statistical testing remains a valuable tool for distinguishing between chance variations and statistically significant differences in the observed data.

To ensure consistent interpretation across all survey questions, responses to negatively framed questions were reverse scored, with "strongly agree" receiving a score of 1 (unfavourable) on negative items and 5 (favourable) on positive items. This standardisation enabled meaningful comparisons across all measures. In accordance with established research practices, the analysis incorporated Bonferroni corrections to the p-values to control for Type I error inflation (false positives) resulting

from multiple statistical tests (nine) on the same related data. Moreover, the effect size and medians were calculated to determine the direction and magnitude of the change. Cliff's delta was selected as the effect size measure due to its appropriateness for non-normal, ordinal data with independent groups. This metric measures the probability difference between group values on a scale from -1 to +1. The interpretation of effect sizes follows (Meissel & Yao, 2024) research framework, which defines effect sizes of 0.15 as small, 0.33 as medium, and values exceeding 0.47 as a large effect size. The effect sizes are seen as a negative value in this data as the post survey responses were higher than the pre survey responses - a positive intervention outcome. Table 3 shows the statistical testing results with further details about the absolute numbers and confidence intervals in [Statistical Testing Data](#).

Table 3 - Statistical Testing Results

Question	P Value	Effect Size (Cliff's Delta)	Effect Size Interpretation	Median (Pre)	Median (Post)
I have a good level of knowledge of how to increase my own visibility to other road users	Highly Statistically Significant	- 0.5	Large Effect	4	5
I could confidently manage the scene of collision involving a motorcyclist if I encountered one	Highly Statistically Significant	- 0.8	Large Effect	3	4
<b>I don't need to make myself more visible to other road users while out riding</b>	<b>Not Statistically Significant</b>	<b>- 0.1</b>	<b>Small Effect</b>	<b>4</b>	<b>4</b>
I am unsure of how to correctly administer first aid to an injured motorcyclist	Highly Statistically Significant	- 0.8	Large Effect	2	4
If I encountered an injured motorcyclist, I would deliver first aid	Highly Statistically Significant	- 0.6	Large Effect	4	5
I am not confident about what I need to do to make myself more visible to other road users while out riding	Highly Statistically Significant	- 0.5	Large Effect	3	4
If I encountered a motorcycle collision, I would take steps to manage the scene	Highly Statistically Significant	- 0.5	Large Effect	4	5
I would feel fairly confident in administering first aid to an injured motorcyclist	Highly Statistically Significant	- 0.7	Large Effect	3	4
I have limited knowledge about how to manage the scene of a collision involving a motorcyclist	Highly Statistically Significant	- 0.8	Large Effect	2	4

The statement, 'I don't need to make myself more visible to other road users while out riding' was the only statement that did not achieve a statistically significant result and had a small effect. All

the other statements showed that Biker Down has achieved highly statistically significant results and large effect sizes across the three core themes of first aid, scene management and conspicuity. The largest improvements were seen in first aid administration confidence with effect sizes ranging from (- 0.6 to - 0.8). Confidence in scene management has also seen large effect sizes (- 0.8). While motorcycle visibility also saw large effect sizes (- 0.5) barring the above-mentioned statement that did not achieve a statistically significant difference, the effect sizes were smaller than the other core themes of first aid and scene management.

Overall, this data suggests that the intervention was highly effective at improving participants' knowledge, confidence, and willingness to engage among the themes explored in Biker Down.

## QUALITATIVE ANALYSIS

---

This evaluation has provided a seminal opportunity to collect qualitative data. As a motorcycle safety intervention with a national profile, which is set to continue to be used in different areas in the future, it is vital that practitioners engage with insight from those who have participated directly in Biker Down in order to maximise effectiveness and implement any changes in an evidence-led manner.

Several 'free-text' questions posed across the pre- and post-surveys were designed to collect such data, with a focus on motivations, experiences, key learnings, and potential areas of improvement from the perspective of participating attendees in Devon and Cornwall.

### *Methodology (Thematic Analysis)*

To elicit insight across the answers offered by respondents, a number of analytical techniques were utilised to draw out trends and core themes in the data collected:

- **Word Frequency Analysis:** To identify the most frequently occurring words in participants' responses to help draw out themes associated with the course and the desired competencies.
- **Bigram Analysis:** To identify common two-word phrases (bigrams) within participant responses that provide more contextual meaning than single words.
- **Word Clouds:** To visualise word and phrase frequencies (via SmartSurvey).
- **Topic Modelling:** Utilising an unsupervised machine learning technique (to discover hidden thematic structures within text data. This includes Latent Dirichlet Allocation (LDA) which can identify groups of words (topics)).
- **Qualitative (human) judgment:** To connect and draw out different trends by assessing different responses and categorising answers into identifiable themes.

This methodology enabled a structured analysis of free-text responses, revealing frequently mentioned concepts, common phrases, and underlying themes within the data, based on statistical techniques and more general qualitative judgement.

Based on the answers given, some techniques are only applied to certain free-text questions where there was enough variation and content for meaningful outputs.

### *Pre-Survey*

The pre-survey asked respondents to reflect on their motivations for booking a place on Biker Down; what they hoped to get out of attending; pre-existing approaches to on-road collision scenarios involving motorcyclists; and strategies used to increase self-conspicuity.

*Question: What made you book the Biker Down Course?*

Word frequency and bigram analysis revealed that respondents felt that they wanted to be prepared for emergencies ('first aid skills' cited very frequently) and that they want to know what to do at the scene of a collision involving a motorcyclist ('motorcycle accident' cited very frequently). Both of these sentiments were underpinned by the sense of a need to know what to do if 'first on the scene' / 'come across' a collision.

The LDA model identified three main themes from the data, based on word patterns:

- Riding and Skills – focusing on the practical aspects of riding, collisions, and riding skills.
- Bikers and First Aid – highlighting bikers' need for first aid and preparedness.
- Knowledge and Safety – focusing on the importance of learning and safety regarding motorcycle incidences.

Quotes that reflect these sentiments include:

*"I'm a retired RAF trauma nurse specialist and wanted to brush up on my pre-hospital skills"*

*"I feel it is important, as a biker, to be able to help other bikers"*

*"My wife. Also about to embark on a lengthy road trip/tour and would like to increase my knowledge of first aid should anything happen"*

*"Worst case scenarios"*

*"So as to feel confident to help if confronted with road traffic accident."*

*"I am a pillion passenger on my husband's bike and want to be well prepared, should anything happen to us or other road users, not just bikers, the more information I learn, the better prepared I am. Also, we are out and about a lot and sometimes ride with other bikers, so as much info as possible could be very helpful."*

*"Looking to gain confidence in dealing with a biker down situation"*

*"See it on a Facebook post and thought I'd like to learn."*

*"I have friends who have recently attended the course and have recommended it to me"*

*"Want to add to first aid skills"*

Key themes from this question were found to be:

- Crisis Preparedness
- Family influence
- Peer influence
- Safety concerns
- Skill improvement

The bigram, word cloud and LDA topic model for this question can all be found in [Appendix D – Thematic analysis](#).

*Question: What do you hope to get out of Biker Down?*

Overall, the key themes identified for this question were:

- **First Aid Training:** A majority of responses point to the importance of **first aid** training, either directly (e.g., "first aid") or in relation to helping others in emergencies. This reinforces the course's role in preparing participants for critical accident scenarios.
- **Confidence Building:** Confidence is a recurring theme, both in individual words and bigrams. Many respondents want to feel more confident in dealing with motorcycle incidents, accidents, and emergency situations. This suggests that Biker Down could be seen as a confidence-building course.
- **Knowledge and Skills:** Many responses also highlight knowledge and skills as key motivations, indicating that people want to be equipped with specific, practical information about accident management and safety.
- **Emotional and Practical Preparedness:** The mix of terms like knowledge, confidence, and aid suggests a blend of emotional preparedness (confidence) and practical skills (first aid, accident handling).

Quotes that reflect these sentiments include:

*"Confidence to handle/manage emergency situations involving collisions or any issue where another biker might need assistance."*

*"Enhanced skills and confidence in related situations if & when they happen"*

*"Up to date first response if confronted with RTA"*

*"More knowledge and confidence"*

*"A better understanding of how to manage the scene of an accident better and what is available to help avoid an accident"*

*"Understand better the Do's and Don'ts of first aid. Obtain valuable knowledge that could save a life"*

*"The safety in knowledge that if I needed it, I could call stay cool in a potentially stressful situation and make everyone safe/feel better"*

Word frequency analysis identified the most common words within answers to this question as:

- **Knowledge** (72 mentions)
- **Confidence** (56 mentions)
- **First** (49 mentions)
- **Aid** (45 mentions)
- **Help** (42 mentions)

These were reflected in the analysis of word pairings and phrases, with the most common pairings shown in [Appendix D – Thematic analysis](#)

*Question: What actions would you currently take if you come across a collision involving another motorcyclist?*

Overall, the key themes reflected in answers to this question include some widespread recourse to basic first aid principles including:

- Ensuring that the first aider is safe and the setting is safe for people to help
- Asking for help from the general public and calling the emergency services
- There is some knowledge of first aid prioritisation: Breathing, bleeding, breaks and burns.
- Putting people in the recovery position
- Scene safety and taking immediate action
- Assessment and communication

Key quotes include:

*“Call emergency services, make the area safe- set up traffic control by using other onlookers and then assess the casualties”*

*“if injured parties call 999, check casualties and take action to try and stabilise until help arrives, i.e. check breathing, reassure casualty if conscious, slow rate of blood loss, protect scene to prevent further accidents and don’t put yourself at risk.”*

*“Call emergency services, check for breathing and keep warm.”*

*“Danger (assess/999/help)*

*Response*

*Airway*

*Breathing*

*Compression”*

Word frequency analysis and bigram identified the most common words and pairings within answers to this question in [Appendix D – Thematic analysis](#)

*Question: Describe what you do to help those other road users see you (pre-survey)*

The key themes seen in the data relate to being visible through using hi viz jackets, daytime running lights, fixing road position to always been seen, wearing appropriate clothing. Visibility and positioning, using reflective gear and establishing contact with other road users are amongst are the primary topics contained in the answers for this question.

The following quotes also reflect these insights:

*“Always wear hi-viz jacket and bright helmet, signal early and give plenty of space, don’t hang out in their blind spots, always expect they won’t see you.”*

*“Lights on bike*

*High viz vest/jacket*

*Coloured helmet”*

*“I ride with my headlight and spotlights on and ensure that I position myself correctly at approaches to all junctions to enable maximum vision.”*

*“Black and white helmet which is not a single colour, lights on, reflective patches on my jacket, riding defensively using road position correctly.”*

#### *Post-Survey*

The post-survey asked respondents to reflect on what they had learned from attending Biker Down; prompting reflections on the course’s content and delivery; where it may have lacked clarity; and what suggested improvements might look like. Lastly the post-survey prompted respondents to think about how attending would affect them as motorcyclists in the future (and associated actions stemming from participation).

*Question: What have you learnt from Biker Down that you did not already know?*

The key themes emerging from this question include:

- There was previously a lack of clarity around whether helmets should be removed while performing first aid (as seen in the pre survey). Many responses in the post survey revolved around having learnt the appropriate helmet removal technique from Biker Down. Tackling ‘myths’ around helmet removal was also identified by some participants
- In addition to this, participants emphasised learning to control the scene when an incident occurs including managing the public.
- The theme of being visible using hi viz jackets was also emphasised. Some participants also understood that high viz might not always be ideal and pink hi viz is more noticeable than yellow.
- Participants also appreciated learning how to use a defibrillator and being able to more confidently apply first aid

Quotes that reflect core sentiments include:

*“Latest CPR techniques have changed a lot since my last 1st aid course.*

*Helmet removal technique demonstrated and taken on board.*

*The importance of how to manage a road traffic collision scene, with safe 1st being key.”*

*“Scene management, and tips on dealing with interference. Hands only CPR”*

*“About the effect of dazzle camouflage and how a bike can have the same effect because of its shape. That bikes with headlights are not easily seen by other drivers. That yellow hi viz vests can disappear in a rural environment in particular”*

*“That is ok to remove a helmet - and how to do it safely”*

*“Visibility, for example pink is more noticeable than yellow, and yellow 'fog lamps' are also more noticeable to oncoming vehicles and those turning out from side roads, there is a general consensus that a logical calm approach is better suited to an emergency situation, someone has to be assertive and control the sequence of events or disposition of assistance as offered”*

*Question: Do you have any additional thoughts about the content and delivery of Biker Down that you would like to share?*

The participants were quite happy with the delivery of the course and the knowledge of the trainers. Several participants appreciate the safe environment created for learning, along with it being engaging and professional. Learners also emphasised that they liked the combination of Fire & Ambulance services and Paramedics delivering the course. Participants also seem to have an appetite for a detailed first aid session. Overall, the course was very well received.

Quotes that reflect core sentiments include:

*"A fantastic course that every biker should do. Lots of useful information and very well delivered. Thank you!"*

*"The course was pitched perfectly at the audience and the friendly way the instructors dealt with participants made them more willing to engage in the practical lessons in particular"*

*"It was excellent. If more time was available would like a more in-depth section on first aid."*

*"I found the combination of having a paramedic and the fire service giving their knowledge on the subject of dealing with motorcycle accidents very beneficial."*

*"More detail on managing casualties with common injuries, as in how to prioritise to medical attention"*

*Question: Is there anything which you feel could be improved about the Biker Down course?*

There was positive feedback about the course and trainers along with feedback that it was a safe environment to ask questions however basic they may seem. The trainers were again found to be knowledgeable and engaging.

There was a shared consensus among participants that there could be some more detail on first aid skills. Some participants also suggested that the length of the course can be increased further. There were also some comments on making the training more inclusive for people with disability. There was also some feedback about catering to the deaf community involved in a collision.

Quotes that reflect core sentiments include:

*"Nothing. It was all fully explained."*

*"Nope, all good and easy to follow and understand. Very informative throughout."*

*"The course was clear, presented at a pace for all with plenty of opportunity for interaction whilst offering support to any questioner followed by encouragement"*

*"No, the content was clear and well presented."*

*"No, because I asked for things to be explained if I didn't understand, the instructors were first class."*

*"I personally would be happy if the course was extended by about an hour."*

*"No, a good level of content and open discussions."*

*"I thought it was quite a short course, maybe increase time"*

*"It was better than I expected. Timing was perfect and content was really informative. I genuinely (and arrogantly) didn't actually expect to learn anything I didn't already know, but I did. A lot."*

*"More first aid detail."*

*“The availability and promotion of courses. I only heard about it through a friend, I may not have discovered it for years otherwise. I would have liked a bit more content on first aid.”*

*“A little more on motorcyclists’ visibility.”*

*“More assistance with first aid and a longer course would be better even if a small charge has to be made for this as concentrating for long periods is not a good way to learn”*

*“I’ve passed on my feedback regarding Deaf Community and how this course can support them but also educate hearing persons in what to do if they need to support a deaf person in an accident”*

**There were two participants who gave feedback on covering more ground on visibility and using equipment such as defibrillators.**

*“I found that the section on visibility on the road left me with an amount of self-questioning in terms of my equipment choices. It isn’t a criticism as the topic is very complex with no clear answers. It might be an area that could be expanded to the floor in terms of equipment choices and feedback as the collective tastes and history may highlight good equipment options that other riders may not know about?”*

*“I’d like to attend more to better understand equipment like the defib as I’m dyslexic so can’t always find things easy to understand on the first session”*

*Question: How will attending Biker Down affect you as a motorcyclist in the future?*

The central theme for this question revolved around developing greater levels of confidence for managing the scene and tackling situations. Some participants also mentioned that they have become more cautious when they are on the road and subsequently made some changes to their riding behaviour, such as increasing their visibility when riding a bike and having a better road position whilst riding. Investing in hi viz jackets specifically (pink) was also mentioned, as was carrying a first aid kit with them on their bikes.

Quotes that reflect core sentiments include:

*“Gives me the confidence to manage a situation and give the best and latest care to fellow motorcyclists if the need ever arises.”*

*“Some of the content and discussions made me slightly nervous and feeling like I don’t want to be another statistic, but I am trying to educate myself and become the best rider I can. These courses arm you with the confidence and knowledge to help when needed and also raise awareness about your own riding.”*

*“I’m much more aware of how I appear to other road users and have adjusted how I ride and what I wear as a result”*

*“Be more confident if I have to manage an RTC incident”*

*“Awareness of self on the bike and confidence to take control of an incident”*

*“I will be considering my riding, especially road positioning and equipment choices in more detail. I have also added crash cards to my helmets. I would like to do more first aid training and advance rider training.”*

*“Awareness. Visibility. Confidence I’ll be of some help given an emergency situation.”*

*"I have always tried to ride safely, and this course has impressed on me the advantages of so doing."*

*Question: What actions would you currently take if you came across a collision involving another motorcyclist? (post-survey)*

The core themes of this question reflect the overall knowledge acquired of first aid skills, including basic first aid and scene management principles such as:

- Keeping yourself safe
- Proactive scene management
- Assessing whether the affected person (s) is breathing
- Clearing the airway and performing CPR where necessary
- Taking help of the public for calling the emergency services
- Ensuring vehicles are parked in a manner that emergency services can access the location

Quotes that reflect core sentiments include:

*"Position my bike safely.*

*"Get another person to Ring 999.*

*"Get further help from other members of the public to stop or direct traffic.*

*"Assess the scene."*

*"Ensure that I was in a safe position to manage the scene. Use other people to keep the scene safe and call emergency services. After that I would attend to any potential injuries."*

*"Stop, breath, assess the situation if possible use people to help by getting them to phone for emergency services if needed and controlling traffic while you check and deal with anyone who has been injured also before removing vehicles or bikes etc from the scene to take pictures so emergency services get an idea of what happened"*

*"Make sure I'm safe, alert oncoming traffic, make the bike involved in the accident safe (turn engine off, etc), identify/locate all the casualties, involve passersby to help and give them tasks, call or ask someone else to call an ambulance and someone else to call police and if needed fire services, assess the casualties, starting with their breathing and heart rate and administering CPR if needed, stopping bleeding if needed perhaps with a tourniquet, comfort and reassure the casualties, prepare the scene for the arrival of emergency services (e.g. access)."*

*"Park my bike at the side of the road. Go to the person and see if they are conscious and how badly hurt. Start CPR if they aren't breathing and call and ambulance."*

*"Take a moment to calm myself... Access the incident keeping myself safe... Do my best if alone... Give people jobs of calling ambulance stopping traffic if possible... Talk to and reassure casualty... Film or take photos to record evidence being aware of people's privacy... Deal with most serious casualty first... Feel confident in using chest compressions if necessary... Feel confident in removing the helmet"*

*Question: Please describe what you do to help those other road users see you (post-survey)*

Key themes of this question include stated action by respondents on:

- Daytime running lights
- Reflective strips on the bike and the back of the helmet
- Wearing protective clothing
- Hi viz jackets
- Slowing down at a junction
- Effective road positioning to ensure that other vehicles can see you
- Giving clear signals/ giving information to other road users
- Using a horn occasionally if the other person has not seen you or announce your presence accordingly.
- Making space and establishing eye contact

Participants recognise the benefits of not only having effective lights in the nighttime but also daytime running lights. They also understand the merits of good road positioning and wearing appropriate contrasting clothing.

Quotes that reflect core sentiments include:

*“Change of my road position. Daytime running lights. Urban glow top. White crash helmet Reduce speed if required.”*

*“Move my position as appropriate. Wear appropriate reflective clothing. Use my observation skills to anticipate and plan and make adjustments to my position, speed etc.”*

*“Make sure I move the bike slightly to change their view of me.”*

*“Reflective gear, position my bike appropriately and move my bike so my headlights (daylight running) can be seen as movement can catch eye movement (in case my headlights are mistaken for a following car).”*

*“Mainly I move to a more visible position and slow down. I try and make sure that I am moving across their line of vision as much as I am moving towards them, if I can.”*

*“Primary is a high level of roadcraft applied at all times. I find subtle changes in my road positioning increases other road users’ conscious awareness of my presence. Axillary lighting on bike with riding lights and headlight in a spread-out triangle to help others assess my distance from them and my speed.”*

## SOCIO-DEMOGRAPHIC ANALYSIS

The evaluation of Biker Down has enabled analysis of the socio-demographic profiles of those who booked themselves onto courses delivered in Devon and Cornwall over the last two years. For both the pre- and post-surveys, information provided by participants themselves has revealed that attendees are overwhelmingly more likely to be male and aged 45 and above. Conversely, there is a much lower representation from female, as well as younger motorcyclists more generally, in the self-reported data.

Respondents were also asked to provide their postcode on a voluntary basis as part of both surveys.<sup>1</sup> This has enabled analytical consideration not only of age and gender, but also of home deprivation level and broader socio-demographic insight. This has helped to build up a picture or 'profile' of the respondent cohort. This will help further place the evaluation's findings in context in terms of the type of people the intervention has fostered changes for.

Postcode analysis can be used to indicate where Biker Down respondents live. Table 4 shows the home local authority area for respondents. Whilst almost half live in Devon, there were respondents from across the South West, including as far as field as Gloucestershire and Wiltshire.

Sixty-three percent of respondents live in either Devon or Cornwall, which indicates notable interest in Biker Down amongst those local to the partnership area.

*Table 4 - Home postcode authority of respondents*

Home Local Authority	Percentage of Respondents
Devon	47%
Somerset	19%
Cornwall	16%
Plymouth	5%
Torbay	4%
North Somerset	4%
Bristol	2%
Bath and North East Somerset	1%
South Gloucestershire	1%
Wiltshire	1%
Dorset	0.5%

### *Index of Multiple Deprivation (IMD)*

The Index of Multiple Deprivation (IMD)<sup>2</sup> is used to identify how deprived an area is. It uses a range of economic, social and housing data to create a single deprivation score for each small area of the country. These small areas are known as Lower Super Output Areas (LSOAs) with each small area attributed a IMD 'rank' or 'decile' based the aggregated deprivation score from different indicators. LSOAs contain a similar number of individuals (resident populations) and so allow for comparable analysis between them.

---

<sup>1</sup> Postcodes provided have not been linked to any individual-level records that could be used to identify individuals, and specific postcodes are not presented in this report. All data is therefore aggregated for general pattern and trend analysis about the socio-demographic characteristics of the types of people who have participated in Biker Down.

<sup>2</sup> <https://data.cdrc.ac.uk/dataset/index-multiple-deprivation-imd>

An IMD decile places the deprivation scores of individual areas into one of ten groups of equal frequency, ranging from the 10% most deprived areas to the 10% least deprived areas.

93% of postcodes provided for Devon and Cornwall were matched to an LSOA and corresponding IMD Decile from 1-10 ('1' being the most deprived decile and '10' being the least deprived decile). This used the most recent Census Data collected in 2021.

Figure 19 - IMD Deciles based on Respondent Postcodes

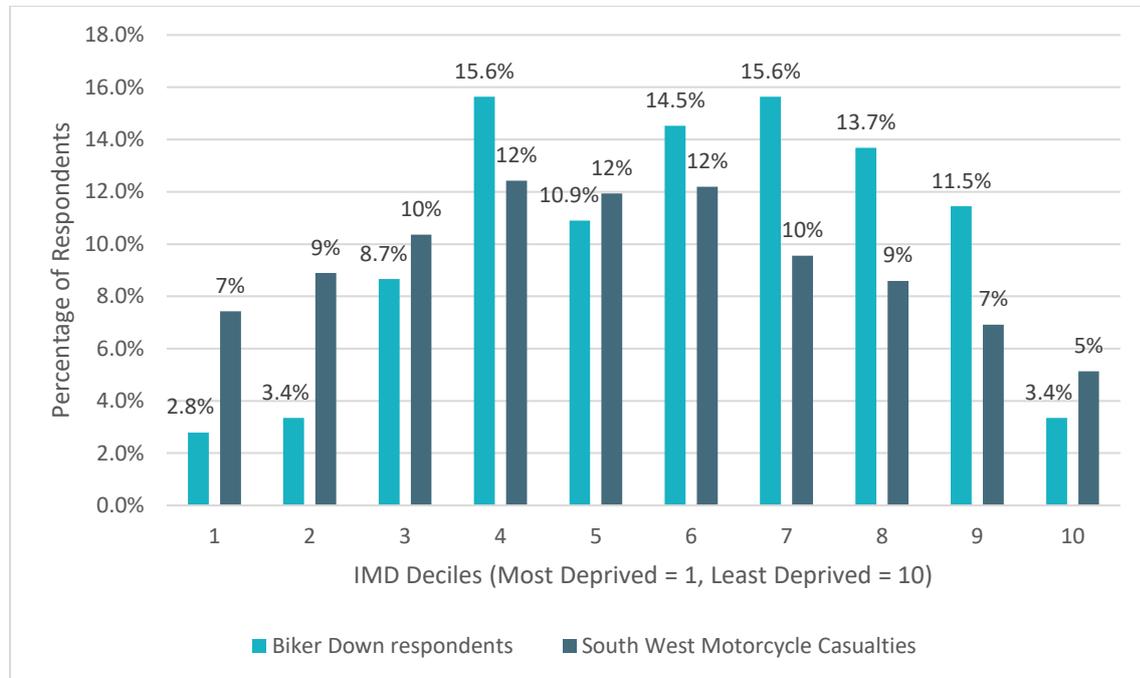


Figure 19 shows that generally respondents are from the lesser deprived areas of Devon and Cornwall, with fewer respondents providing postcodes from more deprived areas. Although there is fairly even distribution in the middle deciles with the more deprived 40% and less deprived 40% deciles featuring prominently (deciles '4' and '7' respectively) based on the postcodes provided.

Casualty analysis for 2019 to 2023, exploring injured riders and their pillion passengers who live in the South West shows some differences in background. There were more casualties from the more deprived areas than are represented amongst Biker Down respondents, and fewer casualties from the least deprived areas.

Analysis of postcode-derived socio-demographic data also reveals information as to the prevalence of characteristics for those areas corresponding to postcodes provided by Biker Down respondents. This has been done using [Acorn](https://acorn.caci.co.uk/) a pioneering dataset by [CACI](https://acorn.caci.co.uk/), which provides a classification of different groups based on their socio-demographic characteristics, lifestyle choices, preferences and behaviours, It is intended to provide an accurate and comprehensive view of citizens through a classification that is built upon in-depth analyses of these social factors and population level datasets.

The population is divided into a taxonomy of **7 Categories**, **22 Groups** and **65 Types**<sup>3</sup> based on individual postcodes, where typically a category embraces between 2 and 4 groups, and a group embraces between 2 and 4 types. These postcodes are segmented based on an array of socio-demographic data related to individuals' personal circumstances and the dominant social, economic

<sup>3</sup> The full segmentation and descriptions can be found at <https://acorn.caci.co.uk/>

and cultural characteristics of their communities as indicators of relative prosperity, deprivation, health and other lifestyle dynamics.

The dominant Acorn categories, groups and types (the three 'levels' of Acorn segmentation) for Biker Down respondents, who provided a postcode that is still in use are set out below. Acorn is derived directly from postcodes, with the Acorn dataset matched to them utilising the most up-to-date postcode directory. The most recent directory was updated in 2024 and so broadly aligns with the midpoint for the evaluation itself.

Figure 20 - Acorn Category Breakdown

1	Luxury Lifestyles	2.2%
2	Established Affluence	9.7%
3	Thriving Neighbourhoods	34.2%
4	Steadfast Communities	38.8%
5	Stretched Society	12.4%
6	Low Income Living	2.2%
7	Not Private Households	0.5%

The most common Acorn categories for Biker Down respondents are:

- **3- Thriving Neighbourhoods:** *Comfortable, stable families and empty nesters who have a good standard of living, on an income above the UK average.*
- **4- Steadfast Communities:** *Contains much of 'middle of the road' Britain with working families on incomes just below the UK average.*

Figure 21 - Acorn Group Breakdown

		Casualties
C	Upmarket Families	2.2% 0.4%
D	Commuter Belt Wealth	9.7% 7.8%
F	Mature Success	15.4% 7.9%
G	Settled Suburbia	4.6% 3.9%
I	Up-and-Coming Urbanities	1.1% 1.6%
J	Aspiring Communities	13.2% 9.9%
K	Semi-Rural Maturity	18.1% 8.9%
L	Traditional Homeowners	5.4% 5.1%
M	Family Renters	5.1% 9.2%
O	Stable Senior	10.2% 6.8%
P	Tenant Living	3.8% 11.0%
Q	Limited Budgets	5.7% 8.5%
R	Hard-Up Households	3.0% 8.0%
S	Cash-Strapped Families	0.5% 2.7%
T	Constrained Pensioners	0.3% 2.3%
U	Challenging Circumstances	1.3% 3.8%
V	Not Private Households	0.5% 1.0%

The most common Acorn groups for Biker Down respondents are:

- **K- Semi-Rural Maturity:** *Older couples who are coming up to retirement, or already retired, living in sizeable properties in semirural areas.*
- **F- Mature Success:** *Empty nesters living in comfortable detached homes, enjoying the endeavours of their earlier careers.*
- **J - Aspiring Communities:** *Home owning families and couples with above average incomes, in areas where there has been higher turnover of housing over the last few years.*

Compared to South West motorcycle casualties, there were more Biker Down respondents from these three groups, although J is the second largest group of motorcycle casualties and so those at risk are attending. Group P is the largest Acorn group for casualties and other casualties from least affluent types don't tend to attend Biker Down.

Figure 22 - Acorn Type Breakdown

6	Executives in expensive suburban houses	2.2%
8	Affluent, older homeowners	1.1%
9	Families and couples in comfortable homes	0.5%
11	Mature and moneyed out-of-towners	2.7%
12	Well-to-do empty nesters in detached houses	5.4%
16	Families and couples in detached houses	0.5%
17	Older, rural empty nesters and couples	7.8%
19	Sophisticated couples living comfortably in detached homes	7.0%
20	Mixed lifestages in semi-detached homes	3.2%
21	Mid-life suburban living	1.3%
25	Privately renting students and house sharers	0.5%
26	Younger couples and singles in flats	0.5%
27	Professional families and couples in suburban, owner-occupied areas	11.6%
28	Families and couples in terraces	1.6%
29	Senior-home owning couples	6.7%
30	Empty nesters in owner-occupied detached homes	6.7%
31	Comfortable, home-owning families and empty nesters	1.6%
32	Older comfortable families and couples in detached, rural properties	3.0%
34	Older owner-occupier households in semis	4.0%
35	Settled communities, semi-detached properties	1.3%
36	Cost-conscious families in terraces	2.2%
37	Restricted residents, socially renting	3.0%
41	Living on modest means in terraces	6.7%
42	Retired homeowners in semi-detached and detached houses	1.9%
43	Older couples living in detached houses, rural communities	1.6%
45	Privately renting squeezed professionals in flats	1.9%
47	Singles and couples in rented flats	1.9%
48	Routine occupations, socially renting families in terraced housing	2.7%
49	Socially renting single adults households	3.0%
50	Single-parent families in terraced housing	0.5%
51	Older, single-person households on the outskirts of town	1.3%
52	Socially renting families in terraces	1.1%
54	Young families in socially rented semis	0.3%
55	Families in low value terraced housing	0.3%

57	Older renters in flats and tenements	0.3%
59	Students and sharers in multi-occupancy flats	0.3%
61	Socially rented flats, singles and pensioners	1.1%
65	'Non-residential postcodes'	0.5%

The most common Acorn types for Biker Down respondents are:

- **27 - Professional families and couples in suburban, owner-occupied areas:** These neighbourhoods comprise mainly of homeownership families and couples, living in detached or semi-detached houses in suburban areas where house prices are around, or a little above, the UK average. There has been a much higher rate of turnover in these areas in the past five years when compared to the UK average. With an above average income, they are typically financially secure.
- **17 - Older, rural empty nesters and couples:** Located in some of the more rural areas of the UK, these older couples are more likely to have paid off the mortgage on their large, detached home. Having earned an income above the UK average, a good proportion of these households are looking forward to a comfortable retirement, with a healthy level of savings and investments to draw upon.
- **19 - Sophisticated couples living comfortably in detached homes:** Most of the homes in these neighbourhoods are detached with at least three bedrooms, with a significant minority being bungalows. These households are typically older couples, with many coming up to retirement, if not already retired. Levels of disposable income are high for their income, as most have paid off their mortgage.

## CONCLUSIONS

---

### IMPACT ASSESSMENT

This evaluation has found that Biker Down courses, delivered over the last two years in Devon and Cornwall, have had an overall positive impact on attendees' self-reported knowledge, confidence, and intentions to apply learnings acquired should they find themselves at the scene of a collision involving a motorcycle whilst out riding.

#### Scene Management

Levels of self-reported knowledge and confidence to manage the scene of a collision involving a fellow motorcyclist increased notably amongst the respondents after participating in Biker Down. All respondents to the post-survey stated that they would take steps to manage the scene of such a collision. These increases across all three behavioural measures for scene management was supported by qualitative responses. In particular, respondents noted that they felt more confident to manage different elements of such a scenario, including around scene assessment, managing bike and casualty placement, and dealing with live traffic scenarios to ensure safe intervention. Respondents also felt better equipped to seek help and control traffic.

#### First Aid

Building competency to administer first aid was one of the primary motivations stated by motorcyclists for booking a place on Biker Down, with levels of self-reported knowledge increasing significantly after attendance. This was also true of confidence to actually use this information in a live scenario. Intentions, however, were moderately high before Biker Down. This might mean that beforehand, well-meaning intentions to intervene may not have actually been supported by adequate knowledge or innate confidence to do so in a way that was safe and effective. Free-text responses emphasised that, for many, the Biker Down course they attended helped them to intervene based on the latest best practice and help them dispel myths around helmet removal procedures, including how and in what context this procedure should be applied. Respondents felt that information provided on CPR procedure and casualty management (positioning and injury assessment) was very positive. Some felt that more time and detail on administering first aid would have been useful.

#### Conspicuity

Levels of self-reported knowledge amongst respondents as to how to increase their own conspicuity (or visibility) were very high prior to attendance, which nonetheless increased to almost 100% afterwards. Confidence to deploy strategies to increase self-conspicuity were, however, lower pre-survey but increased notably in the post-survey. Whilst intentions to apply knowledge of making oneself more visible to other road users were already very high amongst respondents before participating in Biker Down, a small but persistent proportion of respondents felt they did not need to make themselves more visible or did not agree that more was needed on an individual level. Interestingly, as with first aid, increasing visibility was an area identified as one where attendees would have liked to have seen more content and/or time spent, although much was learnt based on qualitative responses.

### DELIVERY ASSESSMENT

This evaluation has found that, overall, respondents felt that delivery of Biker Down was very strong in Devon and Cornwall. There was a tangible appreciation for the quality of delivery as well as the knowledge and input provided by trainers.

Respondents were keen to emphasise the credibility of the course when having experts deliver it in an accessible manner. Overall, the course was delivered in a professional manner that was cited as being audience friendly. Participants also noted that there was plenty scope for interaction with those delivering the course and that there was lots of useful information provided. These elements came together to help create what was generally considered to be an excellent presentation for the courses delivered, an approach which clearly fostered a willingness to engage from many participants and their receptiveness to its approach.

## RECOMMENDATIONS

---

The quantitative and qualitative insights produced from this evaluation have shown Biker Down in Devon and Cornwall is well-received, is thought to be well-delivered, and meets its evaluation objectives related to scene management, first aid, and conspicuity.

There are some recommendations as to how Biker Down could be further improved and where additional value may be created:

1. Both before and after Biker Down, respondents felt that even more support could be provided around the three core topics. Practitioners more widely could consider how to join up with Biker Down to promote the course and also to align other training content so as to extend the support available.
2. Consider extending the length of the course to provide more detailed content in the first aid section and on how to make motorcyclists more visible (including displaying various products).
3. Consider providing a follow-on course instead of a longer session. This would allow more detail to be provided without tiring attendees.
4. Consider the promotional routes used to encourage more attendees, especially to encourage more female and younger motorcyclists to attend.
5. Consider how to attract motorcyclists from more deprived backgrounds, who are represented in collisions amongst those living in the South West.
6. Communicate that Biker Down provides important resilience for on-road and post-collision response behaviours, and that whilst some cohorts may be easier to reach than others, those who do attend will be able to assist all motorcyclists in the area. Emphasising that those who attend are supporting the wider motorcycling community is a really positive message.
7. Consider how to support attendees with disabilities, including hearing impairments and learning difficulties.
8. Ensure that whilst increasing confidence on how to act in collision scenarios is a key outcome from Biker Down, a balance is maintained so as not to create over-confidence (and thus risky behaviours).
9. Consider how these evaluation results for Biker Down in Devon and Cornwall compare with evaluations of the scheme in other areas. This may include looking at where there are opportunities to co-ordinate and plan for future assessments of Biker Down with practitioners elsewhere (or of other similar interventions) to ensure consistency at the national level
10. Biker Down supports better post-collision response outcomes; there may be opportunities to promote its value and that of broader intervention in this part of the Safe System within post-collision response forums. The role of by-standers in improved safety outcomes is a growing area of research and evaluation efforts in the UK.

## BIBLIOGRAPHY

---

- Bishop, P. A., & Herron, R. L. (2015). Use and misuse of the Likert item responses and other ordinal measures. *International Journal of Exercise Science*, 8(3), 297–302.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4833473/>
- Elvik, R., Høyen, A., Vaa, T., & Sørensen, M. (2009). *The handbook of road safety measures*. Emerald Group Publishing Limited.
- Gregersen, N. (1996). Young drivers' overestimation of their own skill: An experiment on the relation between training strategy and skill. *Accident Analysis & Prevention*, 28(2), 243–250.  
[https://doi.org/10.1016/0001-4575\(95\)00066-6](https://doi.org/10.1016/0001-4575(95)00066-6)
- Meissel, K., & Yao, E. S. (2024). Using Cliff's Delta as a non-parametric effect size measure: An accessible web app and R tutorial. *Practical Assessment, Research & Evaluation*, 29(2).  
<https://openpublishing.library.umass.edu/pare/article/1977/galley/1980/view>

## APPENDIX A- LOGIC MODEL

### Biker Down Logic Model

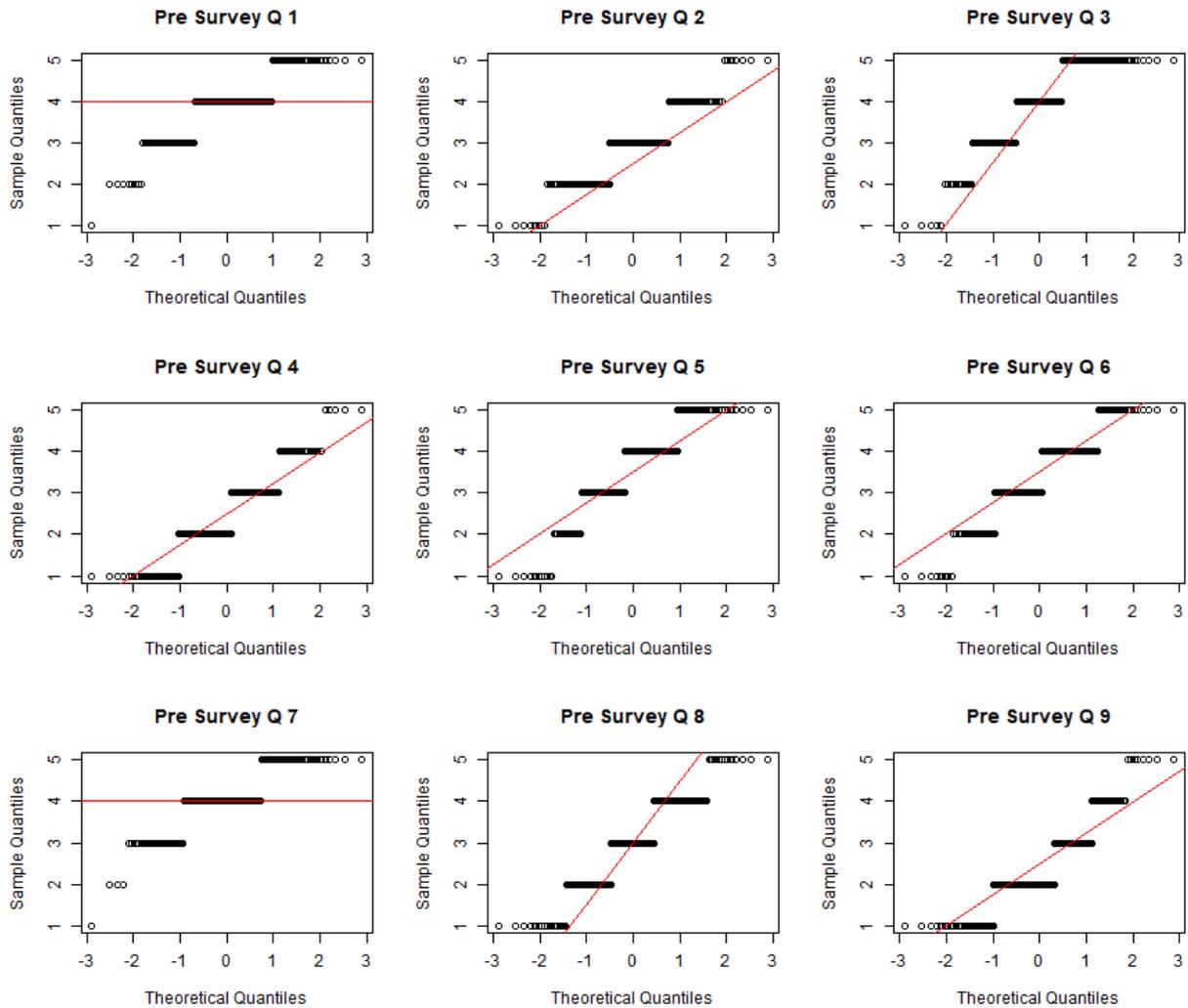
**Aim: To equip attendee motorcyclists to competently manage the scene of a collision involving another motorcyclist and to increase their conspicuity whilst riding**

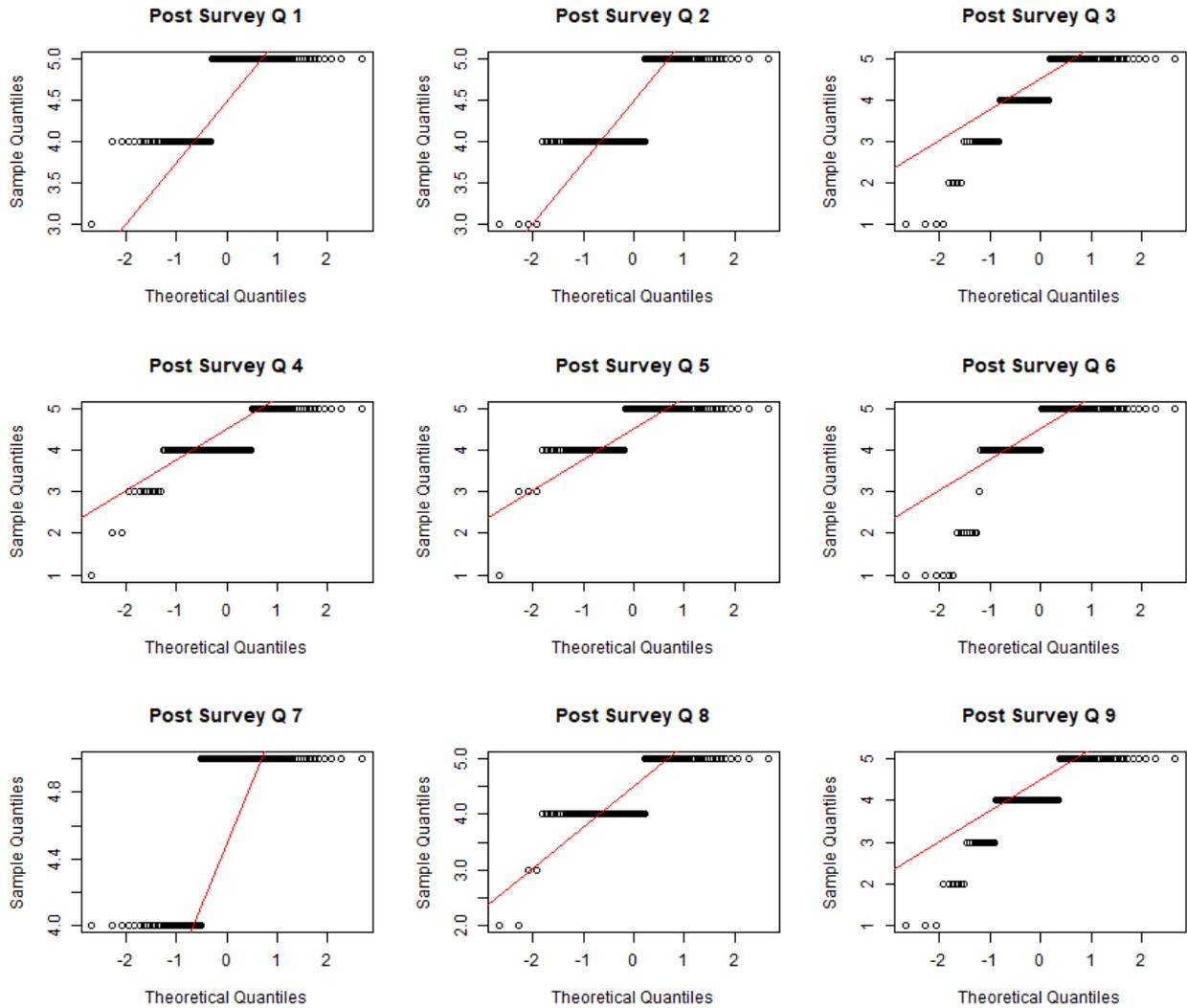
Inputs		Outputs	Short Term Outcomes	Medium Term Outcomes	Long term Outcomes
Course materials	Equipment/ props	Number of courses delivered	That knowledge increases as to what to do with scene management in the event of a motorcycle collision	That confidence increases as to what to do with scene management in the event of a motorcycle.	That intentions to manage the scene effectively increases in the event of a motorcycle collision
Venue	Credible trainers / practitioners	Number of attendees at courses	That knowledge increases of post collision response measures in the event of a motorcycle collision	That confidence increases in applying post collision response measures in the event of a motorcycle collision	That intentions of applying post collision response measures in the event of a motorcycle collision
First aid kits	Marketing and promotion	Number of local attendees at courses (given these are more likely to encounter collisions)	That knowledge of the 'science of being seen' increases	That confidence to apply knowledge of the 'science of being seen' whilst riding increases	That intentions to apply knowledge of the 'science of being seen' whilst riding increases

Objectives			External Factors	Assumptions
By attending Biker Down, motorcyclists' knowledge of what to do in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists' confidence in applying knowledge of what to do in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists' intentions to apply knowledge of what to do in the event of a motorcycle collision increases	<ul style="list-style-type: none"> <li>➤ Motorcyclists might not have the time to attend a full day course</li> <li>➤ Other interventions recently received by attendees which have affected their knowledge, confidence and intentions related to motorcycle post-collision response scenarios</li> <li>➤ Legislative changes (changes in bystander assistance laws)</li> <li>➤ Changes in levels of funding</li> <li>➤ Level of previous experience and competency acquired from other courses or elsewhere</li> </ul>	<ul style="list-style-type: none"> <li>➤ That attendee motorcyclists don't have the knowledge, confidence and intentions to manage scenes of collisions involving fellow riders</li> <li>➤ Attendees to Biker Down are different (they are not 'Biker reborn' or 'badge collector' persona type motorcycle riders etc.)</li> <li>➤ That certified instructors are available on course delivery dates</li> <li>➤ That increasing knowledge leads to increased confidence and intentions (and therefore behaviour change)</li> </ul>
By attending Biker Down, motorcyclists' knowledge of post collision response in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists' confidence in applying knowledge of post collision response in the event of a motorcycle collision increases	By attending Biker Down, motorcyclists' intentions to apply knowledge of post collision response in the event of a motorcycle collision increases		
By attending Biker Down, motorcyclists' knowledge of the 'science of being seen' whilst riding increases	By attending Biker Down, motorcyclists' confidence in applying knowledge of the 'science of being seen' whilst riding increases	By attending Biker Down, motorcyclists' intentions to apply knowledge of the 'science of being seen' whilst riding increases		

## APPENDIX B – STATISTICAL TESTING

Normality testing was evaluated using QQ (Quantile – Quantile) Plots where the X axis shows the theoretical quantiles of a normal distribution, and the Y axis shows the quantiles from the data evaluated. As evident from the below two plots from both the pre and post survey responses, the data does not follow a normal distribution. A clustering of data points can be seen at set quantiles with the data not following the red line as would be expected in a normal distribution. Hence, a non-parametric test was used to assess whether statistically significant differences exist between both groups.





STATISTICAL TESTING DATA

Question	P Value	Effect Size (Cliff's Delta)	Confidence Interval (Lower)	Confidence Interval (Upper)	Median (Pre)	Median (Post)
I have a good level of knowledge of how to increase my own visibility to other road users	< 0.001	- 0.5	- 0.6	- 0.5	4	5
I could confidently manage the scene of collision involving a motorcyclist if I encountered one	< 0.001	- 0.8	- 0.9	- 0.8	3	4
I don't need to make myself more visible to	0.11	- 0.1	- 0.3	0.0	4	4

other road users while  
out riding

I am unsure of how to correctly administer first aid to an injured motorcyclist	< 0.001	- 0.8	- 0.9	- 0.8	2	4
If I encountered an injured motorcyclist, I would deliver first aid	< 0.001	- 0.6	- 0.6	- 0.5	4	5
I am not confident about what I need to do to make myself more visible to other road users while out riding	< 0.001	- 0.5	- 0.6	- 0.4	3	4
If I encountered a motorcycle collision, I would take steps to manage the scene	< 0.001	- 0.5	- 0.6	- 0.4	4	5
I would feel fairly confident in administering first aid to an injured motorcyclist	< 0.001	- 0.7	- 0.8	- 0.7	3	4
I have limited knowledge about how to manage the scene of a collision involving a motorcyclist	< 0.001	- 0.8	- 0.8	- 0.7	2	4



# Biker Down Evaluation Pre-Questionnaire

## 1. Introduction

Thank you for booking a place on the Biker Down course and taking the time to complete this survey.

This survey is part of the Biker Down course which you have signed up to attend soon. We would appreciate it if you completed these questions **before** you take part in the course itself.

As part of this exercise, you will be asked a little about who you are, how you ride, and why you have decided to book yourself a place on this course. The answers you give are fully anonymised, meaning you do not need to provide any details which could identify you personally in any of the sections.

Please complete this before you attend and give honest answers to the questions asked.

Thank you for your upcoming attendance to Biker Down!

## 2. Motorcycle Licence and Habits

In this section, we would like to ask you a few questions about your motorcycling experience and why you ride.

1. Which of the following have you completed?

- Compulsory basic training (CBT)
- Direct Access course
- Accelerated Access course
- Full motorcycle test (Pre-Direct Access)

2. How many years riding experience do you have? (not including years when you had a break)

- Less than a year
- 1-5 years
- 6-10 years

11-15 years

16+ years

3. Have you ever taken a break from riding for more than a year?

Yes

No

4. How long did the break(s) from riding last for in total?

Less than year

1-5 years

6-10 years

11-15 years

16+ years

5. How many years ago did you return to riding after this break?

Less than a year

1-5 years

6-10 years

11-15 years

16+ years

6. How often do you ride a motorcycle?

Daily

Weekly

Monthly

A few times a year

Once a year or less

7. When do you tend to ride across the year?

- All year round
- Summer only
- Spring, Summer, Autumn (i.e., not winter)

8. Which of the following describe your journey purposes when you are out riding?

	Everyday	Every weekday	Weekends only	Most days	2-3 times a week	Every Once a couple of weeks	Once a month	Less often	Never
Shopping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Social occasions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Commuting to/form work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Holiday/touring/sightseeing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Work purposes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Errands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
For pleasure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
For college / university	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Track days	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Club meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

9. What cc is your motorcycle?

- Under 125cc
- 125cc to 499cc
- 500cc to 749cc
- 750cc to 999cc
- 1,000cc and above

10. Have you ever been involved in a motorcycle collision?

- Yes

No

11. Have you ever witnessed a motorcycle collision?

Yes

No

12. Imagine you were on a Sunday afternoon solo ride in the countryside, and you rode around a bend to find a motorcycle in the road and an unconscious rider lying in the verge.

How confident would you feel in dealing with this scenario (where 1 is not at all confident and 5 is very confident)?

13. How much do you agree with the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
'I would feel better if there was more support to equip motorcyclists to better manage the scene of a collision involving a fellow motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I would be happier if there was more support to equip motorcyclists to better administer first aid in the event of a collision involving another motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I think it would be beneficial if there was more support to equip motorcyclists to increase their own visibility to other road users as a motorcyclist whilst riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Have you completed a post-test accredited training course? (e.g. IAM RoadSmart, RoSPA, ERS)

Yes

No

15. Which post-test accredited training courses have you completed. Select all that apply, if 'other' please specify

IAM RoadSmart

RosPA

ERS

RideFree

BikeSafe

Dragon Rider

Other (please specify):

16. Have you completed any first aid training in the past five years?

Yes

No

### 3. Reasons for attending Biker Down. Pre-Existing

17. What made you book the Biker Down course?

18. What do you hope to get out of Biker Down?

19. What actions would you currently take if you came across a collision involving another motorcyclist?

20. When you are riding, do you do anything to help other road users make sure they see you on your motorcycle?

Yes

No

21. Please describe what you do to help those other road users see you.

#### 4. Course-Specific Questions

22. How much do you agree with the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
'I have a good level of knowledge of how to increase my own visibility to other road users'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I could confidently manage the scene of collision involving a motorcyclist if I encountered one'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
'I don't need to make myself more visible to other road users while out riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I am unsure of how to correctly administer first aid to an injured motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'If I encountered an injured motorcyclist, I would deliver first aid'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I am not confident about what I need to do make myself more visible to other road users while out riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'If I encountered a motorcycle collision, I would take steps to manage the scene'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I would feel fairly confident in administering first aid to an injured motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I have limited knowledge about how to manage the scene of a collision involving a motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 5. About You

23. What is your post code?

24. What date is your Biker Down course booked for?

25. Which age group are you in?

16-17

18-24

25-34

35-44

45-54

55-64

65+

26. Are you?

Female

Male

Intersex

Transgender

Non-binary

Other

Prefer not to say



# Biker Down Evaluation Post-Questionnaire

## 1. Introduction

Thank you for attending the Biker Down course and taking the time to complete this survey.

This survey is part of the Biker Down course which you have just completed. We would appreciate it if you completed these questions **after** you take part in the course itself.

As part of this exercise, you will be asked a little about who you are, your experience of the course, what you feel you may or may not have learnt from it and how you feel your attendance will impact you as a motorcyclist. The answers you give are fully anonymised, meaning you do not need to provide any details which could identify you personally in any of the sections.

Please complete this survey once you have attended and give honest answers to the questions asked.

Thank you for your participation in BikerDown!

## 2. About the course

In this section, we would like to learn how you found the course and what you may be considering doing next

1. Do you intend to gain further knowledge and skills to improve your safety as a motorcyclist and that of fellow motorcyclists?

Yes

No

2. What have you learnt from Biker Down that you did not already know?

3. How effective do you feel the overall content of Biker Down was in terms of teaching you about the following?

	Extremely effective	Very effective	Somewhat effective	Not so effective	Not at all effective
Scene management	<input type="checkbox"/>				
First aid	<input type="checkbox"/>				
Motorcyclist visibility	<input type="checkbox"/>				

4. How would you rate the quality of delivery of the Biker Down content?

- Excellent
- Above Average
- Average
- Below Average
- Very Poor

5. Do you have any additional thoughts about the content and delivery of Biker Down that you would like to share?

6. Is there anything that you didn't understand in the course? If so, please share which section wasn't clear

7. Is there anything which you feel could be improved about the Biker Down course?

8. How will attending Biker Down affect you as a motorcyclist in the future?

9. How much do you agree with the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
'Biker Down has increased my intention to use relevant clothing and equipment to make myself more visible to the other road users whilst out riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'Biker Down has made me more likely to adopt safe riding behaviours to make myself as noticeable as possible to other road users'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'Biker Down has increased my overall first aid skills if I were to come across an injured motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'Biker Down has increased my general ability to manage the scene if I were to come	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Strongly agree      Agree      Neither agree  
nor disagree      Disagree      Strongly  
disagree

across a collision involving another motorcyclist'

10. What actions would you currently take if you came across a collision involving another motorcyclist?

11. When you are riding, do you do anything to help other road users make sure they see you on your motorcycle?

Yes

No

12. Please describe what you do to help those other road users see you.

### 3. Course-Specific Questions

13. How much do you agree with the following statements?

Strongly agree      Agree      Neither agree  
nor disagree      Disagree      Strongly  
disagree

'I could confidently manage the scene of collision involving a motorcyclist if I encountered one'

'I would feel fairly confident in administering first aid to an injured motorcyclist'

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
'I don't need to make myself more visible to other road users while out riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I am unsure of how to correctly administer first aid to an injured motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'If I encountered an injured motorcyclist, I would deliver first aid'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I have a good level of knowledge of how to increase my own visibility to other road users'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I am not confident about what I need to do make myself more visible to other road users while out riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'If I encountered a motorcycle collision, I would take steps to manage the scene'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I have limited knowledge about how to manage the scene of a collision involving a motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Have you ever been involved in a motorcycle collision?

Yes

No

15. Have you ever witnessed a motorcycle collision?

Yes

No

16. Imagine you were on a Sunday afternoon solo ride in the countryside, and you rode around a bend to find a motorcycle in the road and an unconscious rider lying in the verge. How confident would you feel in dealing with this scenario?

How confident would you feel in dealing with this scenario (where 1 is not at all confident and 5 is very confident)?

17. How much do you agree with the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
'I would be happier if there was more support to equip motorcyclists to better administer first aid in the event of a collision involving another motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I think it would be beneficial if there was more support to equip motorcyclists to increase their own visibility to other road users as a motorcyclist whilst riding'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'I would feel better if there was more support to equip motorcyclists to better manage the scene of a collision involving a fellow motorcyclist'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4. About You

18. What is your post code?

19. What date was your Biker Down course booked for?

20. Which age group are you in?

16-17

18-24

25-34

35-44

45-54

55-64

65+

21. Are you?

Female

Male

Intersex

Transgender

Non-binary

Other

Prefer not to say

## APPENDIX D – THEMATIC ANALYSIS

Figure 23 - 'What made you book the Biker Down course?'

```
> print(bigrams)
# A tibble: 1,582 × 2
  bigram          n
  <chr>         <int>
1 first aid      27
2 come across   10
3 motorcycle accident 7
4 years ago      7
5 across one     5
6 fellow riders  5
7 first scene    5
8 able help      4
9 aid skills     4
10 better equipped 4
```

Figure 24 - Word cloud "What made you book the Biker Down course?"



Figure 25 - LDA Topic Model 'What made you book the Biker Down course?'

```
> # Fit LDA model
> lda_model <- LDA(dtm, k = k, control = list(seed = 1234))
> # View top terms for each topic
> terms(lda_model, 10) # 10 terms per topic
  Topic 1      Topic 2      Topic 3
[1,] "riding"   "bikers"   "knowledge"
[2,] "bike"     "ride"     "accident"
[3,] "skills"   "aid"      "motorcycle"
[4,] "scene"    "prepared" "biker"
[5,] "learn"    "recommended" "aid"
[6,] "feel"     "biker"    "friend"
[7,] "accident" "motorcycle" "beneficial"
[8,] "rider"    "motorcyclist" "training"
[9,] "road"     "refresher" "facebook"
[10,] "collision" "im"       "event"
```

Figure 26 - Bigram analysis 'What do you hope to get out of Biker Down?'

bigram	n
<chr>	<int>
1 first aid	41
2 able help	11
3 better understanding	11
4 confidence deal	10
5 better knowledge	9
6 come across	9
7 help someone	8
8 knowledge confidence	8
9 deal situations	5
0 feel confident	5

Figure 27 - Word frequency analysis 'What actions would you currently take if you come across a collision involving another motorcyclist?'

```
> print(word_counts_q19)
# A tibble: 784 x 2
  word      n
  <chr>   <int>
1 call    145
2 emergency 109
3 check   108
4 services 102
5 safe     96
6 make     93
7 help     62
8 scene    58
9 breathing 53
10 first   53
" * 774
```

Figure 28 - Word cloud 'What actions would you currently take if you come across a collision involving another motorcyclist?'



Figure 29 - LDA Topic Model 'What actions would you currently take if you come across a collision involving another motorcyclist?'

```
> terms(lda_model_q19, 10) # 10 terms per topic
      Topic 1      Topic 2      Topic 3
[1,] "services"   "safe"      "call"
[2,] "emergency"  "scene"     "check"
[3,] "check"      "emergency" "assess"
[4,] "call"       "check"     "safe"
[5,] "rider"     "helmet"    "road"
[6,] "stop"      "breathing" "situation"
[7,] "motorcyclist" "aid"      "traffic"
[8,] "traffic"   "casualty" "breathing"
[9,] "aid"       "call"     "ambulance"
[10,] "breathing" "rider"    "injured"
```

Figure 30 - Bigram analysis: What actions would you currently take if you come across a collision involving another motorcyclist?'

```
> print(bigrams_q19)
# A tibble: 2,487 x 2
  bigram          n
  <chr>         <int>
1 emergency services 99
2 call emergency  59
3 first aid       41
4 make sure       30
5 scene safe      20
6 road users      19
7 make scene      16
8 area safe       15
9 check breathing 13
10 make area      13
```

Figure 31 - Word frequency analysis: 'Describe what you do to help those other road users see you (pre-survey)?'

```
# A tibble: 603 x 2
  word          n
  <chr>        <int>
1 lights      115
2 road        102
3 position    88
4 wear        57
5 clothing    50
6 bike        46
7 hi          43
8 high        42
9 ride        42
10 viz        41
```

Figure 32 - Bigram analysis: 'Describe what you do to help those other road users see you (pre-survey)?'

bigram	n
<chr>	<int>
1 hi vis	4
2 hi visibility	2
3 ability see	1
4 acceleration sense	1
5 accident also	1
6 according circumstances	1
7 actions signals	1
8 actually follow	1
9 add movement	1
10 addition always	1

Figure 33 - Word cloud 'Describe what you do to help those other road users see you (pre-survey)?'



Figure 34 - Describe what you do to help those other road users see you (pre-survey)?'

```
> terms(lda_model_q21, 10) # 10 terms per topic
  Topic 1      Topic 2      Topic 3      Topic 4
[1,] "road"      "vis"      "road"      "reflective"
[2,] "position"  "lights"   "headlights" "jacket"
[3,] "lights"    "position" "eye"       "wear"
[4,] "clothing"  "road"     "drivers"   "helmet"
[5,] "bike"      "bike"     "mirrors"   "lights"
[6,] "visible"   "wear"     "contact"   "bright"
[7,] "positioning" "running"  "positioning" "ride"
[8,] "headlight" "times"    "im"       "white"
[9,] "ride"      "gear"     "ride"     "yellow"
[10,] "additional" "time"     "stay"     "spots"
```



Figure 38 - LDA Topic Model 'What have you learnt from Biker Down that you did not already know?'

```
> # View top terms for each topic
> terms(lda_model_post, 10) # 10 terms per topic
      Topic 1      Topic 2      Topic 3
[1,] "scene"      "helmet"      "helmet"
[2,] "accident"   "scene"       "remove"
[3,] "helmet"     "aid"         "road"
[4,] "removal"    "removal"     "aid"
[5,] "defibrillator" "management" "cpr"
[6,] "emergency"  "confidence"  "safely"
[7,] "cpr"        "crash"       "accident"
[8,] "management" "removing"    "learnt"
[9,] "bike"       "manage"      "removal"
[10,] "safe"      "taking"      "scene"
```

Figure 39 - Bigram analysis 'Do you have any additional thoughts about the content and delivery of Biker Down that you would like to share?'

```
# A tibble: 382 x 2
  bigram          n
  <chr>          <int>
1 dont change      2
2 enjoyed course  2
3 everything explained 2
4 really appreciated 2
5 really enjoyed  2
6 access level    1
7 accidents beneficial 1
8 aching group    1
9 across effectively 1
10 across well    1
```

Figure 40 - Word cloud 'Do you have any additional thoughts about the content and delivery of Biker Down that you would like to share?'





Figure 44 – Word frequency analysis: What actions would you currently take if you came across a collision involving another motorcyclist? (post-survey)

```
> print(word_counts_clean_Q10)
# A tibble: 647 x 2
  word      n
  <chr>    <int>
1 scene     97
2 help      72
3 emergency  63
4 services  60
5 safe      59
6 call      48
7 first     46
8 assess    42
9 make      39
10 aid      38
```

Figure 45 - Word frequency analysis Please describe what you do to help those other road users see you (post-survey)

```
# A tibble: 565 x 2
  word      n
  <chr>    <int>
1 light     65
2 road      62
3 position  52
4 clothing  43
5 wear      40
6 use       33
7 positioning 28
8 bike      26
9 hi        25
10 reflective 20
# i 555 more rows
```

Figure 46 - Word cloud – ‘Please describe what you do to help those other road users see you (post-survey)’?



Figure 47 - LDA Topic Model: 'please describe what you do to help those other road users see you (post-survey)?

```
> terms(lda_model_Q12, 10) # Top 10 words per topic
      Topic 1      Topic 2
[1,] "position"   "wear"
[2,] "lights"     "road"
[3,] "road"       "clothing"
[4,] "bike"       "lights"
[5,] "move"       "positioning"
[6,] "time"       "jacket"
[7,] "visibility" "junctions"
[8,] "clothing"   "reflective"
[9,] "ride"       "approaching"
[10,] "reflective" "movement"
```

## APPENDIX E – ACORN CLASSIFICATION

Acorn utilises an array of government, administrative and commercial data to add additional value to their own proprietary datasets, CACI's approach in developing this classification system has enabled the incorporation of new datasets which exploits the changes to government policies on Open Data. Unlike other classification systems, regular and continual updates to these large-scale datasets give Acorn the capability for its data to be exhibited through a greater spectrum of geographies ranging from neighbourhoods to much larger scale areas based on the most recent data available.

Public sector Open Data and commercial data used include the Land Registry and data on resident age, welfare remuneration, housing and rental information alongside that from the Census and other national surveys. CACI's proprietary datasets cover a wide range of location data on prisons, housing and care home developments as well offices and student accommodation.

Category	Group	Type
Luxury Lifestyles	A	Exclusive Addresses
	B	Flourishing Capital
	C	Upmarket Families
Established Affluence	D	Commuter-Belt Wealth
	E	Prosperous Professionals
Thriving Neighbourhoods	F	Mature Success
	G	Settled Suburbia
	H	Metropolitan Surroundings
	I	Up-and-Coming Urbanites
	J	Aspiring Communities
Steadfast Communities	K	Semi-Rural Maturity
	L	Traditional Homeowners
	M	Family Renters
	N	Urban Diversity
	O	Stable Seniors
Stretched Society	P	Tenant Living
	Q	Limited Budgets
	R	Hard-Up Households
Low Income Living	S	Cash-Strapped Families
	T	Constrained Pensioners
	U	Challenging Circumstances
Not Private Households	V	Not Private Households

Category	Description	UK Population%
1	Luxury Lifestyles	3.3%
2	Established Affluence	13.1%
3	Thriving Neighbourhoods	23.2%
4	Steadfast Communities	25.8%
5	Stretched Society	19.5%
6	Low Income Living	13.1%
7	Not Private Households	1.9%

Group	Description	UK Population %
A	Exclusive Addresses	0.3%
B	Flourishing Capital	1.0%
C	Upmarket Families	2.0%
D	Commuter Belt Wealth	9.8%
E	Prosperous Professionals	3.3%
F	Mature Success	7.1%
G	Settled Suburbia	5.6%
H	Metropolitan Surroundings	2.1%
I	Up-and-Coming Urbanities	2.1%
J	Aspiring Communities	5.6%
K	Semi-Rural Maturity	6.6%
L	Traditional Homeowners	5.9%
M	Family Renters	4.8%
N	Urban Diversity	3.4%
O	Stable Senior	5.1%
P	Tenant Living	6.7%
Q	Limited Budgets	5.2%
R	Hard-Up Households	7.6%
S	Cash-Strapped Families	7.5%
T	Constrained Pensioners	2.3%
U	Challenging Circumstances	3.3%
V	Not Private Households	3.3%

Type	Description	UK Population %
1	High flyers in luxury apartments and townhouses	0.1%
2	Wealthy gentrified areas	0.1%
3	Asset-rich, out-of-town older families	0.1%
4	High-end professionals in city flats	0.4%
5	Successful young families in smart urban areas	0.6%
6	Executives in expensive suburban houses	1.1%

7	Prosperous families in green-belt areas with substantial homes	0.9%
8	Affluent, older homeowners	2.3%
9	Families and couples in comfortable homes	1.8%
10	Well-off families in larger semis	1.2%
11	Mature and moneyed out-of-towners	2.3%
12	Well-to-do empty nesters in detached houses	2.1%
13	Families in leafy suburbs	1.5%
14	Upmarket young families in terraces	1.0%
15	Educated professionals renting flats	0.8%
16	Families and couples in detached houses	2.3%
17	Older, rural empty nesters and couples	2.5%
18	Countryside retirees in spacious houses	0.1%
19	Sophisticated couples living comfortably in detached homes	2.1%
20	Mixed lifestages in semi-detached homes	2.7%
21	Mid-life suburban living	2.9%
22	Younger families and sharers in city terraces	1.2%
23	Culturally diverse suburban families	0.9%
24	Young professionals renting city flats	1.1%
25	Privately renting students and house sharers	0.3%
26	Younger couples and singles in flats	1.4%
27	Professional families and couples in suburban, owner-occupied areas	3.3%
28	Families and couples in terraces	2.4%
29	Senior-home owning couples	2.7%
30	Empty nesters in owner-occupied detached homes	2.0%
31	Comfortable, home-owning families and empty nesters	0.9%
32	Older comfortable families and couples in detached, rural properties	0.8%
33	Retirees in semi-detached and detached properties	0.1%
34	Older owner-occupier households in semis	2.8%
35	Settled communities, semi-detached properties	3.1%
36	Cost-conscious families in terraces	2.2%
37	Restricted residents, socially renting	2.6%
38	Younger families, multi-occupancy and rented households	1.2%
39	Diverse communities in smaller semis and terraces	1.0%
40	Young Families, limited means in terraced in terraced metropolitan areas	1.2%
41	Living on modest means in terraces	2.6%
42	Retired homeowners in semi-detached and detached houses	1.2%
43	Older couples living in detached houses, rural communities	1.3%
44	Urban, aspiring flat dwellers	1.3%
45	Privately renting squeezed professionals in flats	2.2%
46	Sharers and students in private rentals	1.0%
47	Singles and couples in rented flats	2.3%
48	Routine occupations, socially renting families in terraced housing	3.5%
49	Socially renting single adults households	1.8%
50	Single-parent families in terraced housing	3.0%

<b>51</b>	Older, single-person households on the outskirts of town	2.2%
<b>52</b>	Socially renting families in terraces	2.4%
<b>53</b>	Diverse families and sharers in flats	1.7%
<b>54</b>	Young families in socially rented semis	1.9%
<b>55</b>	Families in low value terraced housing	3.1%
<b>56</b>	Diverse young families in rented terraces and flats	0.8%
<b>57</b>	Older renters in flats and tenements	1.4%
<b>58</b>	Poorer Pensioners in semis	1.3%
<b>59</b>	Students and sharers in multi-occupancy flats	0.2%
<b>60</b>	Socially renting single adult households in flats	0.7%
<b>61</b>	Socially rented flats, singles and pensioners	2.4%
<b>62</b>	Students in halls of residence	0.8%
<b>63</b>	Active communal populations	0.2%
<b>64</b>	Inactive communal populations	0.2%



27 Horsefair | Banbury | Oxfordshire | OX16 0AE  
+44 1295 731810 | [info@agilysis.co.uk](mailto:info@agilysis.co.uk) | [www.agilysis.co.uk](http://www.agilysis.co.uk)

*An associated company of Road Safety Analysis*  
*A company registered in England, Company Number: 10548841*  
*VAT Reg No: 260474119*

**agilysis**