

TRIP

TARGETING ROAD INJURY PREVENTION

PROJECT OUTLINE

| Version History | Author | Date |
|---------------------------|-------------|----------------|
| TRIP Project Outline v1 | Matt Staton | 24 June 2016 |
| TRIP Project Outline v1.1 | Matt Staton | 15 July 2016 |
| TRIP Project Outline v1.2 | Matt Staton | 10 August 2016 |
| TRIP Project Outline v2 | Matt Staton | 07 March 2017 |

1 SUMMARY

The TRIP project will look in detail at crashes that cause severe injury and death, in particular examining the types of drivers that are involved in these crashes. This innovative project brings together partners from the local authority, emergency services and Cambridge University Hospitals to explore whether prevention strategies targeted at groups of drivers similar to those considered culpable for crashes, rather than targeting groups who are likely to be injured, have an impact on road safety.

The TRIP project is split into two work packages:

WP1 – A detailed epidemiological analysis of collisions to explore whether prevention strategies targeted at high risk profiles, in contrast to road user profiles derived solely from road crash and casualty data (as recorded by STATS19), have an impact on casualty reduction.

WP2 – The development of a framework for the delivery of research-led practice in road safety.

2 INTRODUCTION

2.1 BACKGROUND

The Cambridgeshire and Peterborough Road Safety Partnership (CPRSP) is a mature strategic partnership covering the geographical County of Cambridgeshire and the Unitary Authority of Peterborough. In addition to local authority, emergency services and Highways England representation, the partnership includes the East of England Trauma Network, the Road Victim's Trust and the East of England Major Trauma Centre at Cambridge University Hospitals.

The Partnership's vision is **to prevent all road deaths across Cambridgeshire and Peterborough and to significantly reduce the severity of injuries and subsequent costs and social impacts from road traffic collisions**. The current Partnership strategy is illustrated in appendix 1.

The Partnership has a strong track record in inter-agency data sharing and data analysis and has previously participated in projects that cover the spectrum of Engineering, Education/Training/Publicity (ETP), Enforcement and Epidemiology. One of these projects, the Cambridgeshire Trauma Audit and Research Project (CTARP), identified significant differences, in terms of demographics and marketing preferences, between profiles for injured road users and profiles for those who were uninjured but considered culpable for crashes. These differences highlighted that existing prevention strategies, if targeted on injured road user profiles, may not be effectively targeted at high-risk or culpable road users.

Targeting Road Injury Prevention (TRIP) is an innovative post-graduate research project that seeks to explore whether prevention strategies targeted at these high risk profiles, in contrast to road user profiles derived solely from road crash and casualty data (as recorded by STATS19), have an impact on casualty reduction.

Alongside this epidemiological research, the TRIP project will also seek to develop a framework for the delivery of research-led practice in road safety and facilitate knowledge transfer to the industry.

The TRIP research project fulfils the principle objective of the Partnership and will result in practical interventions, based on detailed epidemiological understanding, which we believe will reduce the numbers of people killed or injured on the roads.

With returns on Engineering investment expected to diminish, greater proportions of funding are being directed at ETP and Enforcement. In order to ensure that value for money is delivered from these activities, we need to ensure that they are targeted effectively. Whilst broad-spectrum campaigns (such as those delivered by the Think! team) remain essential for supporting and maintaining long-term changes within British standards of social acceptability regarding road usage, value for money at the local level could be improved by the adoption of a more logical and systematic targeting process, such as that which TRIP proposes to develop.

In the current economic climate, there are increasingly limited resources for road safety interventions and CPRSP believes that TRIP may offer the single most effective 'invest to save' opportunity available to the UK road safety community.

2.2 KNOWLEDGE OF THE RELEVANT LITERATURE OR PRACTICE

Human error is a contributory cause in over 90% of collisions – but the error is not necessarily that of the injured party. Highways England, the Department of Transport and Road Safety Partnerships continue to allocate large amounts of funding to ETP and enforcement campaigns that are based on the premise that STATS19 *casualty* data, currently the most comprehensive data available, provides a valid profile of those ‘Killed and Seriously Injured (KSI)’ who must be targeted with ETP messages.

CTARP and Trauma Network development has allowed a more sophisticated understanding of casualty data. Amongst the KSI group, it is widely recognised that there are persons who were culpable for the injury event, in whole or in part, and persons who were not. Culpability analysis has not been previously studied in depth in relation to identifying targets for injury prevention. In the first CTARP sample (a five year sample of all persons severely injured in the County of Cambridgeshire between 2000 and 2004), it was identified that whilst young adult males constituted the majority of ‘KSI’ casualties, the culpable group had a different demographic profile.

Culpability analysis, also referred to as responsibility analysis, is a powerful technique with a long history in road safety research. The method was first used to study the association of alcohol with crashes and has since been applied numerous times to the study of crash risk – most recently in relation to mobile phone use.¹ The term ‘culpability’ when used in the assessment of crashes is drawn from its historical application as a means for determining legal fault; however, modern applications of culpability analysis have moved beyond this perspective to assess responsibility based upon a comprehensive set of indicators observed from the crash. Modern culpability studies, as well as considering whether actions of the index driver contributed to the crash, also look for other contributory factors such as road type, driving conditions, vehicle condition, contribution from other parties, crash type and difficulty of the task being performed. When actions of the index driver did not contribute to the crash and other factors did contribute, then the index driver is deemed ‘non-culpable’. TRIP intends to further explore the concept of culpability analysis and road traffic related injury and, specifically, whether geo-demographic profiling of culpable persons can lead to better targeted EPR strategies.

It is also widely recognised that there are persons whose ‘serious injury’ in STATS19 terms would not constitute a ‘severe injury’ in trauma care or injury prevention terms (i.e. an injury with an anatomical Injury Severity Score (ISS) above a certain threshold – a score that is closely associated with mortality and long term disability). The information sharing agreements in CTARP allowed the direct linkage of STATS19 with Trauma Register data and the allocation of an ISS to all casualties. This analysis showed that only 31% of the STATS19 ‘Serious’ group would be considered to be severely injured from a Trauma Network perspective. Again, the profile of the truly severely injured was different from that for the STATS19 ‘serious’ group. TRIP intends to further explore the utility of combining NHS and STATS19 data to define the true ‘severely injured’ group and whether geo-demographic profiling can lead to better targeted EPR strategies.

Geo-demographic profiling, sometimes referred to as ‘market segmentation’ is a process whereby an individual is classified, in terms of marketing preferences and other characteristics, on the basis of

¹ Asbridge M, Brubacher JR, Chan H. Cell phone use and traffic crash risk: a culpability analysis. *Int J Epidemiol* 2013;42:259-67.

where they live. Geo-demographic profiling systems, such as the widely used Mosaic Public Sector system, offer commercially based marketing insights into people involved in crashes. The underlying principle is that if the marketing preferences of defined communities are known (such as how their behaviours may be influenced by different media preferences). Social marketing is the term that has evolved to describe the process of utilising commercial marketing concepts to influence behaviors that benefit individuals and communities for the greater social good.²

Geo-demographic profiling has recently been applied to STATS19 data on a population basis and is available through the MAST system (<http://www.roadsafetyanalysis.org/mast-online/>). Elements of social marketing are also being adopted as strategy by the Department of Transport³ but these are based on STATS19 casualty data (rather than culpability or injury severity data) and focus on social media. There is little experience of how to most effectively use this data, and these insights, to more effectively target ETP strategies. TRIP seeks to not only explore the utility of geo-demographic profiling in injury prevention but also to investigate how geo-demographic profiling, combined with culpability and injury severity analysis, might influence ETP strategies.

A central theme of TRIP is a change of focus from those who are killed or seriously injured to those who are 'at risk' of causing death or serious injury, regardless of whether they themselves are harmed or not. In short, we wish to explore and evaluate the effectiveness of identifying and treating the pathogens (culpable parties and high-risk road users), as opposed to the treatment of the symptom (injured parties), which may represent two very different audiences, requiring very different prescriptions. This approach is echoed by the Audit Commission which has stated that 'in future the emphasis will need to shift, focusing more on changing the attitudes and behaviours of road users and being more sophisticated in targeting groups at particular risk'.⁴

2.3 RESEARCH AND/OR PROJECT OBJECTIVES

The principal objective of TRIP is to inform and improve road safety interventions to reduce the numbers of people killed and seriously injured in road traffic collisions.

A secondary objective of TRIP is to raise the profile of Injury Prevention and Control Research in the UK. There is currently a paucity of high quality epidemiological research and the TRIP project represents an opportunity to engage a leading academic institution (Loughborough University) and regional trauma centre (Cambridge University Hospitals) and significantly raise the profile of research in this area. This, in turn, would stimulate further funding for injury prevention and control research.

TRIP will achieve these objectives through two separate work packages (WP1 and WP2), as outlined below:

WP1 will fully explore the utility of supplementing conventional STATS19 analysis with culpability analysis, trauma register cross-referencing and geo-demographic profiling in order to target more

² See Truss, Aiden (2010). French et al., Social Marketing and Public Health: Theory and practice. Oxford University Press.

³ See Department for Transport THINK! campaign marketing plan 2015-17 at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/462802/think-marketing-plan-2015-2016-and-2016-2017.pdf

⁴ Audit Commission. Changing Lanes: Evolving roles in road safety. Feb 2007

cost-effective ETP strategies for road injury prevention. The hypothesis underpinning this is that ETP prevention strategies based on the marketing preferences of culpable persons and high-risk road user profiles will be more effective at reducing the number of road traffic related injuries and deaths than current strategies based on casualty based data alone (STATS19 and Trauma Network).

WP2 will focus on developing a framework for the delivery of research-led practice in road safety and how knowledge from academic research is transferred to the industry.

2.4 ROAD SAFETY BENEFITS TO THE ROAD USER COMMUNITY

The project will provide a clearer understanding of the epidemiology of persons involved in, not just injured in, road traffic collisions and ensure that this knowledge is transferred both to the front-line staff who are developing and delivering casualty prevention and reduction interventions and to inform the strategic direction of the area served by the Partnership, including:

- Cambridgeshire's Police and Crime Plan (£131m fund)
- Local Transport Plans
- Cambridgeshire Police's strategic assessment process
- Joint Strategic Needs Assessments for Cambridgeshire and Peterborough Public Health
- Cambridgeshire and Peterborough's Health and Well-being Strategies
- Victim and Offender Needs Assessments
- Cambridgeshire and Peterborough CCG (£1bn fund)
- The Roads Policing Strategy for Bedfordshire, Cambridgeshire and Hertfordshire Joint Protective Services
- Wider road safety and transport policy based on potential expansion of the project within the region and open access dissemination of findings through publications and conference presentations

With regard to the road user community, clearly we see an early benefit to all those using the road network within our Partnership area. More widely TRIP will inform prevention strategy in a way that can be replicated in other Local Authority areas, providing the personal, organisational and socio-economic benefits that would be realised from a reduced injury burden. Our basic business case is that the investment in TRIP will result in a novel approach to targeting road safety interventions that may significantly cut the cost of road casualties across the whole of the UK.

3 WORK PACKAGE 1

3.1 METHODOLOGY

The core TRIP methodological approach is:

(a) Utilise STATS19 and Trauma Network datasets, together with culpability analysis techniques, to identify, over a defined historical time period, three groups:

- (i) The severely injured (those identified from combined STATS19 and Trauma Network data)
- (ii) Culpable persons involved in crashes (whether injured or uninjured)
- (iii) 'High-risk' road users who have **not** been involved in a crash (such as speeding, drink-driving, failure to wear a seatbelt and mobile phone use)

(b) Undertake detailed epidemiological analysis to further define the geo-demographic profile (Mosaic Public Sector) and dominant marketing preferences of each of these groups. Explore and clarify any differences between the profile(s) of these groups.

(c) Identify all postcode areas throughout Cambridgeshire which match the over-represented geo-demographic profile of each identified group (compared to the frequency that profile in the general population) – these are people with similar geo-demographic profiles to the severely injured, culpable and high-risk road user groups.

(d) Develop a targeted ETP prevention strategy, designed around marketing preferences, for defined geographically bounded sub-sets of these groups. If we were to discover that there are a certain over-represented group/type (e.g. B12) in two different population centres in the County, we would design a prevention strategy targeted at B12s in one of these areas only – and use the other area (or areas) as a control.

(e) The prevention strategy would be developed using Partnership resources and be informed through stakeholder engagement within the targeted profiles. The intervention itself will depend to a large degree on the marketing preferences of the identified profiles. But current best practice with regard to effective marketing practices would be followed.

(d) Analyse STATS19 data and Trauma Network data in the period following the targeted campaign to assess the impact of the prevention strategy. This is achieved by Mosaic profiling all STATS19 cases (routinely) and all offenders and counting the proportion of the defined profile group (e.g. B12) from intervention and control postcode areas.

The research would be carried out within the framework of a full-time post-graduate programme linked with Cambridge University Hospitals and the Transport Safety Research Centre at Loughborough University. Professional statistical and epidemiological advice will be provided in addition to academic supervision.

The Partnership has been an early adopter of inter-agency information sharing agreements and protocols that allow sharing of data between agencies. A major element of the CTARP project involved the sharing of personally identifiable information between NHS and non-NHS organisations for the purposes of developing a population-based Trauma Register for Cambridgeshire. This register

facilitated the modeling and design for the East of England Trauma Network.⁵ One of the legacies of CTARP has been the development of, and continued confidence in, information sharing agreements that comply with all the necessary legal, regulatory, professional and organisational requirements.

It is intended that this project does not utilise sensitive personally identifiable data but instead utilises the existing data handling procedures within partner organisations to create appropriately anonymised and matched datasets for analysis. For example, STATS19 data within Bedfordshire, Cambridgeshire and Hertfordshire also now includes NHS number in order to facilitate adding true injury severity scores to STATS19 and better mechanism of injury data for the Trauma Network.

The Health Research Authority (HRA) will be consulted regarding whether there are any advanced ethical approvals required for this research. It is not anticipated that there will be a HRA requirement as the proposed research does not influence medical care or treatment and does not increase risk. Should there be a requirement to obtain ethical or regulatory approval for any specific aspect of TRIP however, this would be identified early in the detailed planning process and within a sufficient timescale to ensure that the project timelines and milestones were maintained.

3.2 TIMESCALES, MILESTONES AND KEY TASKS

The WP1 timelines are illustrated in the schematic charts below which are separated into key tasks for each year of the studentship. More detailed project plans and milestones will be generated as the initial project gets underway.

| Year 1 Key Tasks | 2017/18 | | | | | | | | | | | |
|---|---------|---|---|---|---|---|---|---|---|---|---|---|
| | F | M | A | M | J | J | A | S | O | N | D | J |
| 1.1 Secure and finalise funding arrangements | ■ | | | | | | | | | | | |
| 1.2 Appoint supervisor and host academic provider | ■ | | | | | | | | | | | |
| 1.3 Recruit and appoint post-graduate student | ■ | ■ | | | | | | | | | | |
| 1.4 Literature review and technical training | | | ■ | ■ | ■ | | | | | | | |
| 1.5 Historical analysis and phase 1 study design | | | ■ | ■ | ■ | | | | | | | |
| 1.6 Phase 1 data capture | | | | ■ | ■ | ■ | ■ | ■ | | | | |
| 1.7 Phase 1 data analysis | | | | | | | | ■ | ■ | | | |
| 1.8 Phase 1 report | | | | | | | | | ■ | ■ | | |
| 1.9 Prevention strategy prioritisation | | | | | | | | | | ■ | ■ | |
| 1.10 Complete Year 1 report | | | | | | | | | | | ■ | ■ |
| Year 2 Key Tasks | 2018/19 | | | | | | | | | | | |
| | F | M | A | M | J | J | A | S | O | N | D | J |
| 2.1 Phase 2 study design | ■ | | | | | | | | | | | |
| 2.2 Phase 2 implementation | ■ | ■ | ■ | | | | | | | | | |
| 2.3 Phase 2 data capture | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | |
| 2.4 Phase 2 basic analysis | | | | | | | | | | ■ | ■ | |
| 2.5 Phase 2 initial report | | | | | | | | | | | ■ | ■ |
| 2.6 Complete Year 2 report | | | | | | | | | | | | ■ |

⁵ See Mackenzie et al., Trauma Care Organization. In: Anaesthesia, Pharmacology, Intensive Care and Emergency A.P.I.C.E.: Proceedings of the 25th Annual Meeting - International Symposium on Critical Care Medicine, Chapter: 5, Publisher: Springer, pp.49-71.

| Year 3 Key Tasks | 2019/20 | | | | | | | | | | | |
|---|---------|---|---|---|---|---|---|---|---|---|---|---|
| | F | M | A | M | J | J | A | S | O | N | D | J |
| 3.1 Phase 2 detailed and sub-group analysis | ■ | ■ | | | | | | | | | | |
| 3.2 Phase 2 detailed report | | | ■ | ■ | | | | | | | | |
| 3.3 Plan for project development | | | | ■ | ■ | | | | | | | |
| 3.4 Grant applications | | | | ■ | ■ | ■ | | | | | | |
| 3.5 Complete publications and conference papers | | | | | | | ■ | ■ | ■ | | | |
| 3.6 Complete thesis/dissertation | | | | | | | | | ■ | ■ | ■ | |
| 3.7 Complete final project report | | | | | | | | | | | ■ | ■ |

A risk log including proposed mitigation measures can be found in appendix 2.

3.3 FINANCES

The WP1 costs over three academic years are shown in the table below:

| Project Costs (all figures in £) | 2017/18 | 2018/19 | 2019/20 | TOTAL |
|--|---------------|---------------|---------------|----------------|
| Tuition Fees + academic supervision | 15,410 | 16,052 | 16,615 | 48,077 |
| Stipend | 15,000 | 15,000 | 15,000 | 45,000 |
| Research Training and Support Grant | 5,000 | 5,000 | 5,000 | 15,000 |
| Publications (open source publications in <i>Injury Epidemiology</i>) | 0 | 2,000 | 2,000 | 4,000 |
| Travel and Conference Allowance | 500 | 500 | 1,500 | 2,500 |
| Knowledge Transfer to front-line delivery ^[3] | 4,800 | 4,800 | 4,800 | 14,400 |
| TOTAL | 40,710 | 43,352 | 44,915 | 128,977 |

^[3] Based on £400/month

The project has secured £100,000 grant support from the Road Safety Trust for WP1 over a three year period: £33,000 in 2017/18; £33,000 in 2018/19; and £34,000 in 2019/20.

The remaining £28,977 is being supported from Cambridgeshire Police and Crime Commissioner's Casualty Reduction Fund: £7,710 in 2017/18; £10,352 in 2018/19; and £10,915 in 2019/20.

4 WORK PACKAGE 2

4.1 METHODOLOGY

The methodology for WP2 will focus on developing a framework for the delivery of research-led practice in road safety and will include up to three smaller studies in order to develop this framework. Possible specific areas of study dependent on the specific expertise the successful student brings to the project are:

- (a) A literature review of research-led practice in road safety or other behaviour change related fields.
- (b) Undertaking stakeholder interviews across the road safety industry in order to understand the current landscape relating to research and practice in the UK.
- (c) Using findings from the epidemiological study to include demographic indicators alongside traffic and casualty data to risk profile routes/locations/groups for intervention.
- (d) Using the detailed injury outcome information to develop a better understanding of the local costs of road crashes in order to inform cost benefit analyses in local decision making.

It is proposed that WP2 will be carried out within a part-time post-graduate studentship at Loughborough University. The benefits of this second studentship being part-time are twofold:

- (a) The part-time studentship allows a practising professional to undertake the research, and this practical expertise will be essential to knowledge transfer to the industry.
- (b) The extended time period allows knowledge gained from WP1 to be utilised in WP2.

4.2 TIMESCALES, MILESTONES AND KEY TASKS

The project timelines are illustrated in the schematic chart below which are separated into key tasks for each year of the studentship. More detailed project plans and milestones will be generated as the project gets underway.

| Year 1 Key Tasks | 2017/18 | | | | | | | | | | | |
|---|---------|---|---|---|---|---|---|---|---|---|---|---|
| | J | A | S | O | N | D | J | F | M | A | M | J |
| 1.1 Secure and finalise funding arrangements | ■ | | | | | | | | | | | |
| 1.2 Appoint supervisor and host academic provider | ■ | | | | | | | | | | | |
| 1.3 Recruit and appoint post-graduate student | ■ | ■ | ■ | | | | | | | | | |
| 1.4 Literature review and technical training | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | |
| 1.5 Literature review report | | | | | | | | ■ | ■ | | | |
| 1.6 Phase 1 study design | | | | | | | | | | ■ | ■ | |
| 1.7 Complete Year 1 report | | | | | | | | | | | ■ | ■ |
| Year 2 Key Tasks | 2018/19 | | | | | | | | | | | |
| | J | A | S | O | N | D | J | F | M | A | M | J |
| 2.1 Phase 1 stakeholder interviews | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| 2.2 Phase 1 data analysis | | | | | | | ■ | ■ | ■ | | | |
| 2.3 Phase 1 report | | | | | | | | | ■ | ■ | ■ | |

5 PROJECT STRUCTURE AND MANAGEMENT

The delivery of the TRIP project will be managed by a dedicated project group that will provide, as a minimum, quarterly reports to the Addenbrooke's Charitable Trust (ACT) and the Cambridgeshire and Peterborough Road Safety Partnership (CPRSP) Board.

The project group comprises the following individuals but this may be extended dependent on any specific additional expertise required, e.g. additional student supervisors:

- Matt Staton – Chair, CPRSP Data & Intelligence Group
- Dr. Roderick Mackenzie – Clinical Director, East of England Major Trauma Centre, Addenbrooke's Hospital
- Assiah Mahmood – East of England Trauma Network Manager
- Hannah Wilson – Trusts and Foundations Manager, Addenbrooke's Charitable Trust
- Richard Mills – Senior Trusts Fundraiser, Addenbrooke's Charitable Trust
- Jenny Longmore – Director of Research, Addenbrooke's Charitable Trust
- Dr. Jo Barnes – Loughborough University
- PhD student(s) (TBC)

The TRIP project group lies within the Road Safety Partnership Data and Intelligence Group (Committee) which meets at least quarterly and reports directly to the Road Safety Partnership Board (which meets quarterly). The project group will provide ACT with regular updates on the progress of the project which will include financial reporting that complies with any specified grant requirements. In terms of financial controls funding will go into a specific ACT fund for the TRIP project. The TRIP project group will be designated as Fund Advisors and have authority for expenditure. ACT permits Fund Advisors to commit expenditure for charitable purposes up to £5,000. Above this limit, approval by ACT's Chief Executive is also required and for expenditure over £10,000, ACT trustee approval is required. These reporting and controls processes will ensure that the project funding will be protected and only spent on the purpose for which it was awarded.

Quarterly reporting will include, but not be limited to, the following:

- Financial spend in the previous quarter
- Project progress
- Risk log

6 PROJECT OUTCOMES

6.1 PLANS FOR DISSEMINATION AND/OR PUBLICATION

It is anticipated that this project will demonstrate an improved level of understanding, and significant wider interest, in relation to the role of social marketing, geo-demographic profiling and assignment of culpability in road injury prevention thinking.

In addition to the planned annual reports and any papers or abstracts submitted throughout the project, the project includes funds specifically for the purposes of:

- (a) two open source publications in *Injury Epidemiology*, one of the leading academic journals for injury prevention (www.injepijournal.com).
- (b) two open source publications in *Accident Analysis & Prevention*, one of the leading academic journals for the medical, legal, economic, educational, behavioural, theoretical or empirical aspects of transportation accidents (<http://www.journals.elsevier.com/accident-analysis-and-prevention/>).
- (c) annual attendance at Road Safety GB's National Road Safety Conference and National Data Analysts' Conference (www.roadsafetygb.org.uk).
- (d) attendance, for the purposes of abstract presentation, at the World Conference on Injury Prevention and Safety Promotion.

A detailed publication and dissemination scheme will be included in each annual report.

6.2 PROPOSED METHODS FOR EVALUATION

Within the academic year cycles, annual reports and performance will be scrutinised to ensure that the project is on track and that any problems are identified. This would be in keeping with normal post-graduate research supervision practice.

We seek to apply the learning from TRIP in a trial of whether or not these approaches to developing an ETP strategy are effective. Without pre-empting the work of the research students, it is anticipated that a formal evaluation of the TRIP methodology, once fully established, is undertaken within the project.

Below is a worked example of how this evaluation might work:

- (a) We identify from historical police data that amongst high-risk users (offenders), Mosaic type 'B12' is over-represented compared to the frequency of B12s in the general population. B12's become our target. There may be more than one target group (almost certainly is) but we will use B12s as an example.
- (b) We map the postcodes of all B12s in the county – irrespective of whether they were identified in the police data – these are people with similar geo-demographic profiles to the high-risk road users.

(c) If we were to discover that there are B12s in each district, with no particular clusters, we would then introduce a prevention strategy targeted at B12s in one of the districts only – and use the others as controls. Alternately, if we identified clear clusters of B12s in comparable towns (e.g. Huntingdon and March), we could introduce the intervention in one town area but not the other.

(d) The intervention itself depends to a large degree on the marketing preferences of the B12's. But we would follow current best practice with regard to effective marketing practices according to the B12 preferences. The cost of this intervention would be met by the Partnership within their ETP budget. The Mosaic profile of all STATS19 cases and all offenders would be compared to the proportion of B12s from intervention and control postcode areas.

The simplistic evaluation framework outlined above is illustrative and clearly would be refined by the project itself. It does however illustrate the evaluative framework that we would seek to apply.

The research project, as a post-graduate project within a higher education institution, would be subject to formal assessment and the award of a post-graduate degree.

6.3 POTENTIAL FOR PROJECT SUSTAINABILITY AND THE REPLICATION OF RESULTS

The TRIP methodological approaches to culpability analysis and the use of Mosaic Public Sector geo-demographic segmentation profiles to identify the marketing preferences of culpable persons in injury crashes and 'high-risk' road users has national and international applicability and could be easily replicated.

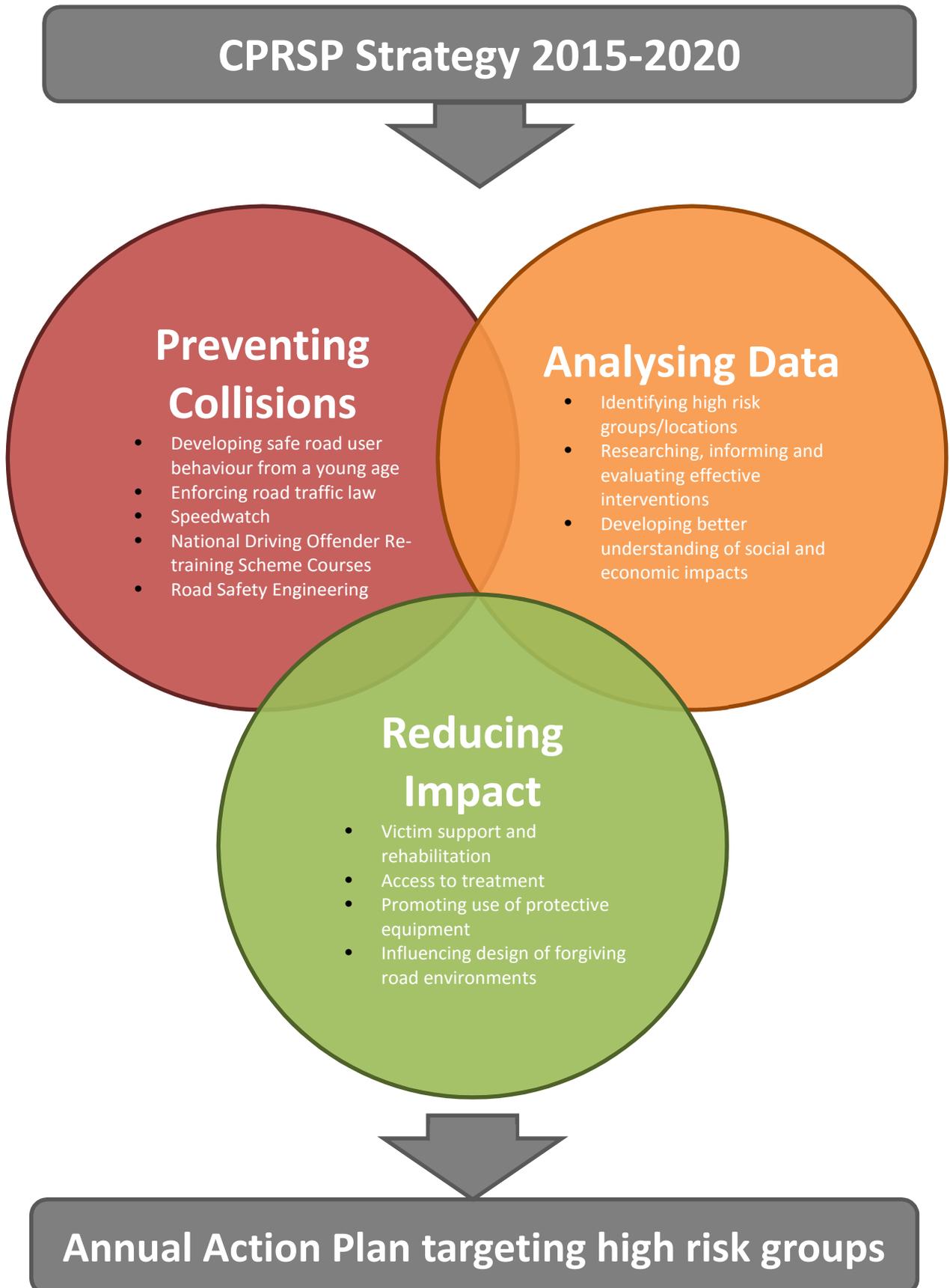
Should the project be as successful as anticipated, culpability analysis and geo-demographic profiling could become better integrated into STATS19 analysis and regional, population based, trauma registers. This would allow a routine and consistent analysis of trends in patterns of both high-risk road users and culpable persons in injury events as well as those who are killed or seriously injured.

Over-represented sections of the population, based on geo-demographic profiles that extend across the UK, could be more consistently targeted and supported with respect to road safety interventions.

If targeting culpable or high-risk road user groups proves to be more effective than targeting casualty groups, TRIP has the potential to promote more efficient use of funds across the road safety community. The TRIP model could be integrated as a patch for the Market Analysis and Segmentation Tools (MAST) system, further enhancing the power of this tool and allowing even smarter targeting of road safety education and enforcement.

The knowledge transfer element of the TRIP project will facilitate replication of the results nationally and internationally and will also ensure the knowledge acquired continues to drive interventions in the Partnership area beyond the life of the existing project.

APPENDIX 1 – CPRSP DELIVERY MODEL



APPENDIX 2 – WP1 RISK LOG

| Risk | Effect | Proposed mitigation |
|---|--|---|
| Failure to recruit suitable student | Unable to undertake project | Recruitment process will begin immediately on notice of success from the Road Safety Trust. |
| Incomplete/inaccurate data completion e.g. NHS number not completed for casualties on STATS19 | Reduced/insufficient data set to undertake analysis on | Training and information for officers collecting data. Validation protocols in place. |
| Funding cuts to any of the partner organisations which affect staff involved in the project | Reduced capacity to implement ETP interventions within the project | <p>Funding commitment to support the Partnership's delivery is in place for at least phase 1 of the project from Cambridgeshire's Police and Crime Commissioner. Further funding will be at least partly dependent on the outcome of elections in 2016.</p> <p>Financial administration of the grant monies will be protected through the Addenbrooke's Charitable Trust.</p> |
| Students drop out/fail to complete course | Delay | The higher education institution responsible for the post-graduate student has processes in place to support and manage students (and projects) in difficulty |

APPENDIX 3 – WP2 RISK LOG

| Risk | Effect | Proposed mitigation |
|---|--|---|
| Failure to recruit suitable student | Unable to undertake project within post-graduate programme | Recruitment process will begin immediately on notice of success from funders. |
| Securing sufficient funding for the project over 5 years | Unable to complete project or financial liability on underwriting body | Separating the work packages allows separate funding streams which will be easier to source. |
| Funding cuts to any of the partner organisations which affect staff involved in the project | Reduced capacity to implement ETP interventions within the project | Financial administration of the grant monies will be protected through the Addenbrooke's Charitable Trust. |
| Students drop out/fail to complete course | Delay | The higher education institution responsible for the post-graduate student has processes in place to support and manage students (and projects) in difficulty |