ARSC2018 Symposium Program

Program subject to change

Draft as at 20 September 2018

As part of the program for ARSC2018, and thanks to the high level of interest from the road safety community, we are delighted to present a **strong program of symposia aimed at expediting road trauma reduction both regionally and internationally**.

Symposium sessions are each programmed to run for 90 minutes and will typically include 3-4 speakers who cover a particular theme. Speakers are hand-picked by each symposium organiser to provide all delegates with an engaging and educational experience.

A selection of symposia accepted for presentation at ARSC2018 includes the following:

1. **Motorcycle Awareness Month**
2. **Enhancing Enforcement of Road Safety Regulations in Low- and Middle-Income Countries**
3. **New Research Applications for Tackling Complex Road Safety Issues**
4. **Debate: Safe Systems – Where do we go?**
5. **Getting the Inside Scoop: The Nexus Between Research, Policy and Practice: Working in Partnership towards Road Safety for Aboriginal and Torres Strait Islander People**
6. **Post-Crash Response**
7. **The Workplace, why does Road Safety Management Vary so much?**
8. **Advanced Vehicle Technologies and Automation**
9. **Reducing Fatigue-Related Crashes: Addressing the Gaps for Improved Road Safety**
10. **Cyclists, Heavy Vehicles and Safety**
11. **Road Safety Data linkage**
12. **Safe System Road Infrastructure Program (SSRIP)**
13. **Construction Logistics and Community Safety (CLOCS): Australia's Major Transport Projects Bringing UK's World Best Practice to Australia and New Zealand y**
14. **Current and Emerging Challenges and Opportunities in Level Crossings**
15. **Road Safety of Young Drivers: A Global Perspective**

1. Motorcycle Awareness Month

Organiser: **Associate Professor Teresa Senserrick**
Email: t.senserrick@unsw.edu.au

Background

The timing and location of ARSC2018, during October in Sydney, New South Wales (NSW), coincides with Motorcycle Safety Awareness Month in NSW.

In NSW, as elsewhere in Australia and internationally, motorcyclists are significantly over-represented in road trauma statistics. Despite motorcycles comprising only 4.2% of registered motor vehicles, motorcyclists represent 19.1% of road fatalities and 20.5% of those seriously injured.

Purpose of Symposium

This symposium will provide an important platform for a launch of Motorcycle Awareness Month by the Motorcycle Council of NSW. Presentations will include a range of updates on the latest research and developments in motorcyclist safety, including training, licensing and protective clothing initiatives, and new findings from a longitudinal study of newly-licensed motorcyclists.

Justification

The over-representation of motorcyclists in road trauma has persisted for many years, but the need to address this trend is increasing in urgency with a rapid increase in motorcycling popularity in recent years. In NSW alone, motorcycle registrations increased by 146% between 2000 and 2015; over three and half times the rate of other motor vehicle registrations. This presents a key issue to address to meet state and national road safety strategy trauma reduction targets.

Presenters, Title of Presentation & Brief Description

Chair – Teresa Senserrick, Transport and Road Safety Research Centre, The University of New South Wales

Launch – Motorcycle Awareness Month

This symposium will commence with the launch of Motorcycle Awareness Month, NSW 2018, including Steve Pearce on behalf of the Motorcycle Council of NSW and representatives from the Centre for Road Safety, Transport for NSW.

Emerging Research

Gray Knight, PhD Candidate, Transport and Road Safety Research Centre, The University of New South Wales
Gray will present on emerging findings from his qualitative PhD research in NSW into the potential benefits of rider training and other experiential and social influences on riders, with a focus on new learners and returning riders.

Holger Moeller, The George Institute for Global Health
This presentation will highlight the latest findings from data collected for the VicRoads VicRide trial with newly-licensed riders in Victoria. The findings will provide new insights into the safety and risks of this rider cohort surveyed on three occasions over 12 months.

Liz de Rome PhD, Institute for Frontier Materials, GTP Research, Deakin University
Liz will provide updates on the latest research and developments in motorcyclist personal protective equipment. This will be followed in the program by a more specific presentation by representatives from Transport for NSW on the development of a star rating system for protective clothing, to which Liz has been a key contributor.

2. Enhancing Enforcement of Road Safety Regulations in Low- and Middle-Income Countries

Organiser: **Mark King**
Email: mark.king@qut.edu.au

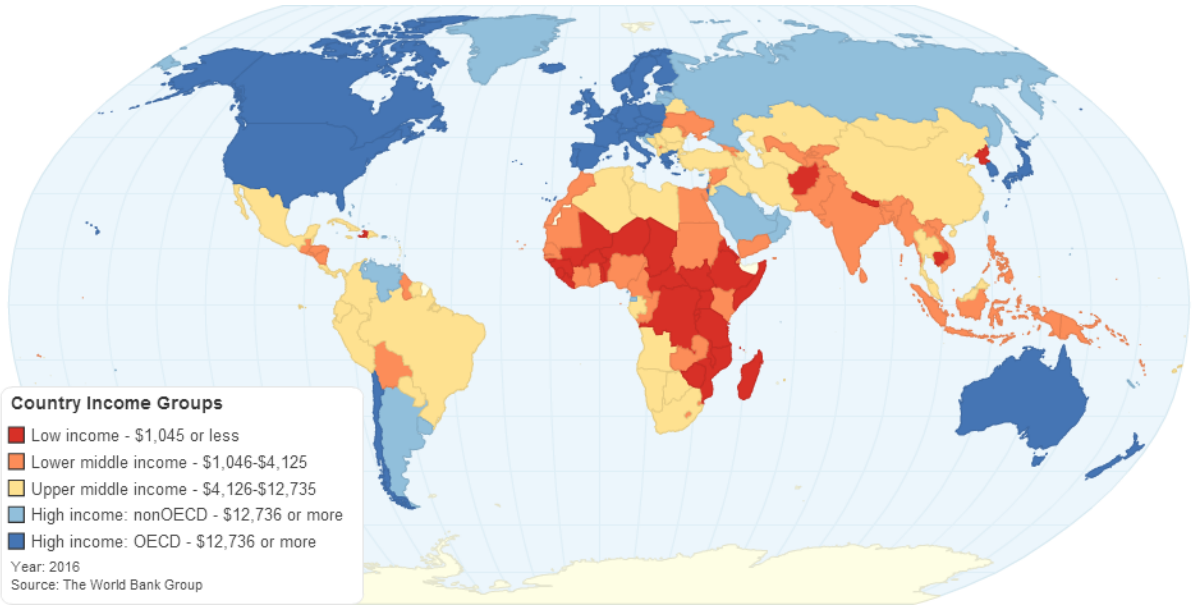
Background

Road user behaviour in low and middle income countries (LMICs)is frequently characterised by noncompliance with traffic regulations, contributing to significant road safety problems. In recognition of this issue, the LMIC scholarship scheme for ARSC2018 has focused on the enhancement of road safety-related enforcement in LMICs, with this symposium organised as a forum for sharing cases of successful enforcement initiatives.

Purpose of Symposium

The purpose of this symposium is to:

1. highlight the challenge of enforcement in LMICs; and
2. provide an opportunity for LMIC scholarship holders to share their cases studies of successful enforcement initiatives and thereby foster collaboration and transfer of successful approaches.



Justification

Large amounts of infrastructure funding is being devoted to improving roads in LMIC, however unless road users comply with safety regulations, the benefits of improved infrastructure may not be realised, e.g. the benefits of better roads might be traded off for increased illegal travel speeds. There are capacity and resource constraints on police that present challenges to successful enforcement of traffic regulations, and in various countries there have been innovative initiatives to meet these challenges. However there is little opportunity for the learning from these initiatives to be shared. This symposium will promote the sharing of information and highlight the issues to the conference in general.

Symposium Program

Introduction and overview of the dimensions of enforcement capacity (star rating)
Dr Ray Shuey, Strategic Safety Solutions

Presentations
The symposium presenters are winners of the Low and Middle Income Country Scholarships, kindly supported by the Department of Infrastructure, Regional Development and Cities, and were selected from targeted enforcement practitioners in LMIC:

"No Helmet-No Petrol" making compulsory wearing of helmet by motor cycle riders
Dr Srinivas Puppala, Regional Transport Officer, Transport Dept, Hyderabad, Telangana, India

Role of enforcement agency in implementing helmet laws in Rajasthan
Srinivas Rao, Additional Director General of Police, Police Dept, Jaipur, Rajasthan, India

Police countermeasures in the enforcement of alcohol impaired driving
Visal They, Chief of Road Traffic Police Office, Cambodian National Police, Phnom Penh

Helmet wearing awareness and enforcement campaign in Lao PDR
Sangkhom Phommarath, Deputy Director, Vientiane Traffic Police, Lao

Panel discussion
Facilitator: TBC
The scholarship winners and invited panel members will be presented with focus questions on road safety-related enforcement in LMIC and the audience will be encouraged to contribute to the discussion.

3. New Research Applications for Tackling Complex Road Safety Issues

Organiser: **Jason Thompson**
Email: jason.thompson@unimelb.edu.au

Background

Complex systems are comprised of multiple, interdependent factors that interact dynamically. While they can be influenced, complex systems cannot be controlled. There is increasing recognition that road safety and injury rehabilitation schemes are complex systems. Further, there is recognition that reductionist research methods used to study complex road safety and injury recovery issues are frequently inadequate for providing policy-makers and managers with clear insight or guidance for action.

Purpose of Symposium

The purpose of this symposium is to provide participants with an overview of emerging methods for studying complex systems, specifically applied to road safety and injury recovery. In 5 brief presentations, the symposium will provide attendees with an overview of methods, a description of domains and problems to which they may be applied, and practical examples of how their use can advance the tools available to audience members and impact of interventions in Australia. Four of these presentations will detail techniques central to research that has been awarded funding in recent Australian Research Council Linkage and Discovery Project awards.

Justification

Complexity science and complex systems methods are not new. However, the recent confluence of robust systems frameworks, access to 'big data', and reductions in the cost of computation has seen their availability to the research community expand markedly. The range of tools now available is broad and growing fast. Without conscious effort to embrace new methodological approaches, road transport and injury researchers may find that traditional methods for addressing the complex challenges that await future Australian road safety and injury systems are inadequate.

Presentations

A complex systems Ergonomics approach to road safety: using STAMP, Cognitive Work Analysis, and Systems Dynamics to understand and prevent road trauma

Professor Paul Salmon, University of the Sunshine Coast

This presentation describes a program of research in which a systems ergonomics approach was adopted to develop new interventions designed to reduce road crashes involving the fatal five behaviours (Speeding, Distraction & Inattention, Drink and Drug driving, Failure to wear a seatbelt, and Driving while fatigued). This involved developing STAMP and CWA models of the road transport system in Queensland, Australia, identifying the system wide contributory factors underpinning drivers' engagement in the fatal five behaviours, developing new interventions designed to remove these contributory factors, and then using Systems Dynamics (SD) modelling to simulate the impact of each of the interventions developed. The presentation describes the overall process adopted and discusses each of the three analyses (STAMP, CWA and SD), alongside implications for the development and implementation of road safety interventions.

Cognitive work analysis to identify potential risks from the introduction of advanced autonomous vehicles

Dr Gemma Read, University of the Sunshine Coast

This presentation will demonstrate how cognitive work analysis (CWA) can provide a holistic perspective of road systems. It will illustrate how CWA can identify potential new risks emerging from the introduction of advanced autonomous vehicles, focusing on potential incompatibilities and conflicts with other road users (e.g. human drivers, cyclists, pedestrians).

The utilisation of Agent-Based Models (ABMs) to for understanding mechanisms contributing to vulnerable road user safety

Dr Jason Thompson, University of Melbourne

Agent-Based-Models are methods of computational social science that blend computer science, domain-specific knowledge and mathematical models to create simulated societies in which the behaviour and interaction of individual actors within a system can be modelled. Simulated systems can then be exposed to environmental, behavioural, or policy shock to test the performance of the system in a safe, off-line environment. This presentation will describe the utility of agent-based models for testing road safety theory prior to experimentation or validation in on-road environments.

Action recognition to prevent fatigue-related road trauma using artificial intelligence

Dr Jasper Wijnands, University of Melbourne

Human error, including driver fatigue, is a contributing factor in most motor vehicle crashes. This presentation describes a novel method for detection of fatigue in drivers based on a form of artificial intelligence, namely image recognition using convolutional neural networks. Where traditional two-dimensional neural networks are generally used to identify objects in images, an additional time dimension allows for real-time action recognition. This new method, implemented as a phone application, can provide immediate warning signals to a drowsy driver. We demonstrate it as an example of how artificial intelligence can be used as a methodological tool to study and prevent road trauma.

Explaining recent inflections in the Australian road toll

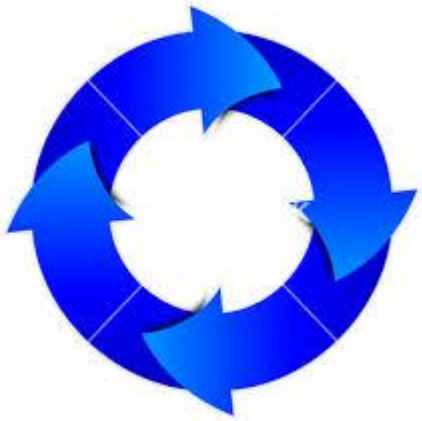
Professor Rod McClure, University of New England

System dynamics is a quantitative methodology (based on integral calculus), developed explicitly to support improved policy analysis and implementation. The approach focuses on identifying underlying structures that determine system behavior. The presentation will demonstrate a participatory model building exercise aimed at explaining the reasons for recent inflections in the Australian Road Toll.

4. Debate: Safe Systems – Where do we go?

Organiser: **David McTiernan**
Email: david.mctiernan@arrb.com.au

Background



The Safe System approach to road safety has been in place in Australia since 2004/05. It has been adopted over this time as the core of the road safety strategies developed by Australian and New Zealand national and state governments, and provides a framework of defined pillars that has guided policy and action in response to the trauma occurring on our roads.
With road trauma trending away from adopted targets, is there more that needs to be done? Can we identify refinements to the Safe System to make it more effective for delivering road safety outcomes?

Purpose of Symposium

This symposium will see four leaders in the field of road safety present their assessment of the Safe System approach as it is currently applied in Australia and internationally. They will debate the need for change, what this might look like and how it could be implemented to see a 'step change' in road safety performance. Each speaker will be allocated 10 – 12 minutes to outline their views about the Safe System approach and what is required going forward to a new NRSS. They will identify one or two of their highest priority actions for achieving the change they believe is required and each speaker will be invited to critique the arguments put forth by the others. Delegates will be provided question/suggestion forms and will be invited to challenge the speakers and contribute their ideas of what a truly Safe System might look like during a 30 minute interactive Q&A session, where they will be invited to critique the suggested actions and to propose their own actions.

Justification

The Safe System approach has been the road safety paradigm in Australia and New Zealand since 2004/05 and it is has overwhelmingly, with a good degree of success, shaped the response to road trauma on our roads.

But, is it the best approach that we can take? Does it provide a sufficiently wide view of the underlying root causes of road trauma, or does the Safe System approach put a filtering lens over how we consider the response to road safety trauma?

Current views are developing that suggest the Safe System approach, as it is applied, is not a true systems view and that road safety would benefit from taking a step back and re-evaluating what is required 'to make it happen'. The outcome of the symposium will be a discussion paper that highlights key action items for taking the Safe System approach forward as a full system-based model.

Presenters, Title of Presentation & Brief Description

Presenter 1 - Dr Blair Turner, Principal Australian Road Research Board
- will set the scene by outlining the current status of the Safe System approach in Australasia, what it looks like, what has been achieved and where it has fallen short.

Presenter 2 - Dr Paul Roberts, Principal, Australian Road Research Board
- will outline where the Safe System can be strengthened by being more inclusive and generating more interactive system elements working to a vision zero objective.

Presenter 3 - Dr Brett Hughes, Executive Director Transport Strategy and Reform, Department of Transport
- will identify what a systems based approach is and how a change in the Safe System approach can be developed by looking to approaches by industries such as the aviation and nuclear industries where safety performance is central.

Presenter 4 - Dr Johan Strandforth, Safe System Lead, Safe System Road Infrastructure, VicRoads
- will provide a global perspective on road safety systems and how VicRoads has taken the Australian approach and applied it to deliver road safety across Victoria as policy and funded programs.

5. Getting the Inside Scoop – The Nexus Between Research, Policy and Practice: Working in Partnership towards Road Safety for Aboriginal and Torres Strait Islander People

Organiser: **Kate Hunter**
Email: khunter@georgeinstitute.org.au

Background

Road safety and driver licensing for Aboriginal and Torres Strait Islander people are national priorities http://roadsafety.gov.au/performance/files/NRSS_Implementation_report_Nov2017.pdf fueling research, policy and program delivery across the nation. Are key groups (researchers, policy makers and practitioners) working together to achieve a shared outcome? There are few opportunities that bring together experts in their area to dissect how they see themselves and each other working.

Purpose of Symposium

This highly interactive panel mimicking SBS's Insight program, will draw on researchers, policy makers and practitioners to explore the nexus between their work. The hard questions will be asked. Are we really effectively sharing and using our lessons learnt? How can we improve what we do? What are the constraints and how can we work through them? We will draw on experience in road safety for Aboriginal and Torres Strait Islander people to explore the potential partnerships between policy makers, researchers and practitioners.

Justification

In the age of competing interests, where government departments, researchers and practitioners have their individual strategic priorities but work in a shared space, there are few opportunities to have robust discussion about how best to share experiences and leverage off each organisation's expertise and strategic direction. Work being conducted in road safety and driver licensing for Aboriginal and Torres Strait Islander people is an example where researchers, practitioners and policy makers have worked together to strengthen capacity to deliver road safety programs and generate policy.

Implementation research – bringing research to the practitioner and policy space
Dr Kate Hunter, The George Institute for Global Health, UNSW

Dr Hunter brings to the group her experience in implementation science and qualitative research. As facilitator, she will weave the discussion with panelists and "planted experts" from key organisations to delve into the core issues that go beyond the usual presentation of what we know and what is being done.

Setting the research scene - understanding driver licensing and road safety for Aboriginal and Torres Strait Islander people

Prof Rebecca Ivers and Dr Trish Cullen, The George Institute for Global Health, UNSW

Our understanding of road safety and driver licensing issues for Aboriginal and Torres Strait Islander people will be discussed in terms of the data that are collected and accessible. We will explore how these data are used and shared.

Driver licensing and child car seat use (NSW & NT experience)

Bobby Porykali, The George Institute for Global Health, UNSW, UTS

Representatives from key organisations including Louise Cosgrove, Kids and Traffic Early Childhood Road Safety Program

Drawing on key findings and implications from two driver licensing and child car seat programs the role of research in developing and trialing community-based programs will be discussed. Further, the potential for maintaining contact, support and connection with relevant services to ensure program longevity will be explored.

Current focus and initiatives – working across the sectors
George Shearer, Roads and Maritime Services

Mr George Shearer will draw on the NSW Road Safety Strategy and the NSW Aboriginal Road Safety Action plan to highlight how the strategic and action plans were developed, the level of consultation and how they are being implemented, evaluated and progressed.

6. Post-Crash Response - Case Study and Latest Advances

Organisers: **Teresa Senserrick**
Email: t.senserrick@unsw.edu.au

Background

The United Nations Decade of Action for Road Safety 2011-2020 declared five pillars of action: road safety management; safer roads; safer vehicles; safer road users; and post-crash response. Despite important advances in crash prevention efforts in the first four pillars, many thousands of Australian and New Zealand road users are involved in road crashes each year, signifying the importance of the fifth pillar to reduce the severity of trauma outcomes.

Purpose of Symposium

This symposium will present on recent advances in post-crash response over the Decade of Action for Road Safety. It will include the case study of at-scene, hospital and rehabilitation treatments of a motorcyclist who has made a remarkable recovery following a high-speed impact, and showcase other recent developments.

Justification

Australia's National Road Safety Strategy 2011-2020 targets a 30% reduction in road fatalities and serious injuries. While significant decreases in fatalities were achieved in recent decades, latest statistics show a reversing trend. Moreover, recent research suggests limited, if any gains in reducing serious injuries and, in some cases, these are increasing. Advances in post-crash response will be a key component in achieving the targeted road trauma reductions by the end of the Decade for Action.

Presenters, Title of Presentation & Brief Description

Teresa Senserrick PhD, Transport and Road Safety Research, The University of New South Wales

Teresa will provide an introduction to the post-crash response symposium, noting progress that has been made to-date over the Decade of Action.

Max Thompson, Former National Training and Development Manager, Stay Upright Rider Training

Max is well-known in Australasian motorcycling circles through his career at Stay Upright and as a former Australian motorcycling champion. Following a medical episode, Max was involved in a high-speed motorcycle crash in July 2017. Max will provide a personal account of his experience.

Ryan Bell MD, Princess Alexandra Hospital

Ryan had an instrumental role in Max's recovery. Post-crash care included first-response, air transfer from regional to major trauma hospital, intensive care to brain injury unit treatment, and the Acquired Brain Injury Translational Rehabilitation Service research trial. Ryan will present on key aspects of Max's treatment and the ABI-TRS trial.

Ha Nguyen PhD, John Walsh Centre for Rehabilitation Research, The University of Sydney

Ha is a Research Fellow at JWCRR and actively involved in the NHMRC Centre for Research Excellence in Recovery Following Road Traffic Injuries. The CRE addresses the need to improve health outcomes for individuals with non-hospitalised road traffic crash injury through translational research, capacity building and end-user engagement focused on primary care and community-based interventions. Ha will present key factors associated with good recovery following road traffic crash injury.

7. The Workplace, why does Road Safety Management Vary so much?

Organisers: **Jerome Carslake**
Email: jerome.carslake@arrb.com.au

Background

A vehicle used for work related activities under Australian law is a workplace. Yet management of work driving risk varies significantly. An organization with any form of heavy vehicle related transport is often aware of their responsibilities and seeks to ensure they have the necessary systems and processes in place. When it comes to light or grey fleet vehicles often the same thorough risk-based approach often does not apply. Why is that?

Purpose of Symposium

To explore the legal implications with regards to heavy, light and grey fleet and highlight where the law is yet to be tested using hypothetical examples. Industry and research experts will explore the findings and discuss why variations exists depending upon modes, between industries, within large organisations and workplace risk. The National Road Safety Partnership Program can draw on the learnings from the symposium to identify opportunities to assist organisations to bridge the gaps.

Justification

Driving a vehicle for work related purposes is among the highest risk jobs a worker can do. In Australia 2/3 of workplace fatalities involve a vehicle. The heavy vehicle sector is heavily regulated with proactive state road side enforcement common place. In contrast the light and grey fleet sectors over rely on a reactive approach addressing risk after the crash occurs. Improvement in work driving safety risk management depends on active leadership to achieve the result of proactive road safety becoming part of the organisation's workplace safety culture.

Presenters, Title of Presentation & Brief Description

The session will be facilitated by NRSPP Fleet expert Dr Darren Wishart and will draw upon research NRSPP commissioned to understand the legal implications for organisations with

regards to having a grey, light and heavy vehicles. The research also includes a series of plausible scenarios which could relate to any organisation.

Confirmed panelists include:

- *Luke Byrnes | SHE Manager – Admin & Sales - Nestle Australia*
- *Keith Hoskins or Richard Morgan - APA Group – host of 2018 NRSPP Utilities Forum*
- *Sarah Jones – Toll Group*
- *Shane Stockill – Manager, Manufacturing, Transport and Logistics, Office of Industrial Relations*
- *Ken Leacy - National Road Safety Manager – Suez – developing NRSPP Webinar*
- *Mark Stephens - Uniting Care Queensland*

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1. **Approach for the panel**
    a. Introduction of our panellists
    b. Set the scene – legal framework
        i. Heavy vehicles enforced but what about the other wor vehicles?
        ii. Just because there is no case law, does it matter?
        iii. Complexities between grey and light fleet safety management
        iv. Differences between worker and organisation interpretation of legislation
    c. Philosophies to safety management
    d. What is reasonably practicable in addressing these risks?
    e. Stakeholder responsibility and how to obtain buy-in
    f. Building an understanding of how to manage the risk
    g. Emerging issues and their management
    h. Key philosophy
2. **What is the tone of the panel?**
    a. Conversational – panellists discussing the questions and issues amongst themselves and building on each other's inputs.
    b. Factual and informative – share specific risks, facts and statistics.
    c. Empathetic – don't patronise the audience; speak to them as a friend offering advice, not lecturing
    d. Reassuring – based on facts and solid research with all voices involved in the discussion
    e. Practical – understand how different organisations are approaching the issue
3. **Principles for session**
    a. No surprises
    b. Constructive discussion working from a shared running sheet which will be finalised closer to the event with a supporting PPT. The running sheet will include the flow and delivery of facts with core questions to be explored.
    c. The panel is a not live broadcast
    d. Panellists will be invited to provide graphs or images to convey key information.
4. **Outline for the panel 90 min**
    a. Each panelist provided 5 minutes to:

i. Scope of risk
ii. Safety Culture in the organisation
iii. How does transport factor in and does management vary between modes
iv. Major risks – concerns

b. Panel discussion
i. Common approaches
ii. Gaps
iii. Where is leadership needed and where should it come from
iv. What help is needed

Once confirmed a detailed running sheet will be developed with questions which act as the base.

8. Advanced Vehicle Technologies and Automation

Organisers: **Julie Brown**
Email: j.brown@neura.edu.au

Background

Advanced vehicle technologies and automation are the new frontier in vehicle and equipment safety. The pace of development and implementation of these technologies is moving faster than development of regulation and assessment methods. There is evidence that these technologies may have significant positive impacts for crash prevention and injury mitigation but a number of challenges are emerging that must be addressed to see the full benefit from these technologies.

Purpose of Symposium

This symposium will be the first detailed presentation in Australia of research findings from studies investigating the performance of technologies already being implemented. It will cover aspects of performance related to the systems as well as user experiences. Importantly it will provide an opportunity to hear how performance of these systems will be monitored through ANCAP, a view from Industry about barriers to implementation and the potential to extend these types of technologies to other vehicles such as motorcycles.

Justification

There is currently little research in this area being conducted in Australia, yet it is one of the most important emerging areas in road safety globally. This symposium will provide the opportunity to hear from world leaders in these research areas and marry this information with the Australian context.

Presenters

Chair: Associate Professor Brown, NeuRA and UNSW

Presenters:

Jessica Jermakian, Insurance Institute of Highway Safety

Crash reduction and driver experience with advanced vehicle technologies and automation: Studies from the Insurance Institute of Highway Safety.

Passenger vehicles are increasingly equipped with crash avoidance technologies and driver assistance systems. The choices can be overwhelming for consumers who are trying to choose the safest options. Gain insight into which of the latest technologies are effective at reducing crashes and what drivers' experiences and challenges are with advanced technologies.

Jessica S. Jermakian is a senior research engineer at the Insurance Institute for Highway Safety.

Dr. Jermakian joined the Institute in 2009 and has conducted research on topics ranging from crash avoidance and crashworthiness to child passenger safety. Prior to joining the Institute, Dr. Jermakian worked for Nissan North America and The Children's Hospital of Philadelphia. She received her doctorate in Transportation Safety Engineering from The George Washington University.

Mark Tyrell, ANCAP

Australasian NCAP and Safety Assist Systems

Mark is the Chief Technical Officer with Australasian NCAP and is overseeing the implementation of new assessment protocols in Australia. He has extensive experience in vehicle safety systems with over 20 years' experience in vehicle safety standards, regulations and now consumer testing.

Heelong Wong Hyundai Motor Company Australia

Facilitators and barriers to implementation of advanced technologies and automation

Wongy is the General manager Product Engineering with Hyundai Australia and has intimate knowledge of the industry experience with development and implementation of active safety systems and automation in Australia and elsewhere in the world. No costs required

The symposium will immediately be followed by two papers submitted by locale authors reporting on relevant Australian research.

The session will conclude with a 15-minute Q and A style panel including all presenters in this session.

Dr Savino is a mechanical engineer leading a program of research into advanced rising assistance systems at the University of Florence in Italy. As a member of the EU COST Action he has recently completed a systematic review of the state of the art in active safety systems for motorcycles.

9. Reducing Fatigue-Related Crashes

Organiser: **Clare Anderson**
Email: clare.anderson@monash.edu

Background

Driving while drowsy contributes to around 20% of motor vehicle crashes, and poses particular risk to individuals with sleep disorders or shift workers. While advances have been made to both policy and regulation and technology use, the risk of driver fatigue remains. Major gaps include the development of accurate tools for roadside testing/fitness to drive, accurate education campaigns for signs of fatigued driving, and strong evidence for drivers' awareness of the impending fatigue state.

Purpose of Symposium

This symposia will include high impact published data and novel unpublished data to understand better the current gaps in promoting alertness and road safety, and the current research being undertaken to address these gaps. Scientific data and case studies will be used to highlight these issues.

Justification

This symposia presents novel data in the area of drowsy driving. Developing tools for fitness to drive and awareness of drowsy driving remain leading topics within fatigue and road safety research, and present significant medico-legal issues. Bringing them together in the same symposia addresses a hot topic in fatigue and road safety, that is, the capacity to accurately predict driving impairment in those at risk of falling asleep at the wheel.

Presenters, Title of Presentation & Brief Description

Speaker 1 *Associate Professor Clare Anderson, Monash University and CRC for Alertness, Safety and Productivity*

"Current gaps in Fatigue and Road Safety"

Assoc Professor Anderson will describe current gaps in fatigue and road safety, using research and case studies to highlight the need for better regulation, technology and scientific research.

Speaker 2 - *Dr Jennifer Cori, Institute of Breathing and Sleep and CRC for Alertness, Safety and Productivity*

"Recent advances in fatigue detection – developing a roadside test for fatigue"

Dr Cori will describe a body of work focusing on ocular measures to accurately detect and predict the fatigue state.

Speaker 3 - *Associate Professor Clare Anderson, Monash University and CRC for Alertness, Safety and Productivity*

"Distraction or Fatigue? – allocation of attention due to fatigue"

While much research and technology focuses on the process of falling asleep (e.g., eye closure), Associate Professor Anderson will describe a growing body of evidence that 'where' the eyes are looking provides vital information regarding the fatigued state.

Speaker 4 - *Associate Professor Mark Howard, Institute of Breathing and Sleep and CRC for Alertness, Safety and Productivity*

"Awareness of Sleepiness – are drivers aware of fatigue while driving"

Associate Professor Howard will present evidence contrary to the current position in the field, that drivers are aware of sleepiness while driving and how we can enhance awareness.

10. Cyclists, Heavy Vehicles and Safety - Amy Gillett Foundation Safe Together Competition

Organiser:
Email:

Background

The annual Amy Gillett Foundation Safe Together Competition invites the community to create a short video in response to an urgent road safety issue. Previous competitions have addressed entitlement on our roads, and the common hazard for cyclists, car-dooring. This Australasian competition stimulates public discussion and creates an opportunity to find new ways of communicating together. This year, the focus is on how to maximise safe interactions between cyclists and heavy vehicles.

Purpose of Symposium

The purpose of the symposium is to generate discussion of effective communication of road safety issues. The Symposium will introduce the finalists' entries and the creators will 'pitch' their ideas. Based on the ABC television program, *Gruen Transfer* segment 'The Pitch', the symposium will also include facilitated discussion with an expert panel which will broaden the discussion to include community, creative and industry perspectives. Before the conference, finalist entries will be open to a People's Choice public vote. The public vote will continue live during the symposium with the winner announced at the end of the session.

Justification

Heavy vehicles are over-represented in cyclist fatality crashes. As Australasian cities continue to grow and develop, greater heavy vehicle movements, particularly as part of major projects works increases the need to consider the impact of heavy vehicles on all road users. The symposium generates a sophisticated and accessible conversation about road safety messaging and is well aligned with the theme 'Towards Zero, Making it Happen'. This competition produces high-quality content which can be distributed via online media to generate awareness of road safety issues.

Presenters, Title of Presentation & Brief Description

The symposium will be structured as in previous years with a Host (Kenn Beer), an expert panel (TBC), interaction with conference delegates and videos from the competition finalist will be shown and discussed.

Presenter 1: Host, Kenn Beer

Kenn Beer will be the Host and has facilitated the two previous competitions. Kenn will facilitate the event, direct finalists to introduce their videos and facilitate the discussion and feedback from the judges. The host will also prompt the audience to vote for the People's Choice award.

Presenter 2: The Judging Panel

The Judging panel is yet to be confirmed. Ideally it will include:

- A representative from the Amy Gillett Foundation
- An industry competition sponsor
- An advertising/communications expert
- A representative from the Australasian College of Road Safety

Presenter 3: Finalists

Finalists will be invited to join the symposium to present and discuss their videos. Local finalists will present in person, all non-local finalists will be involved via video/telephone link. Finalists will be confirmed prior to the conference.

Partnership with TAC

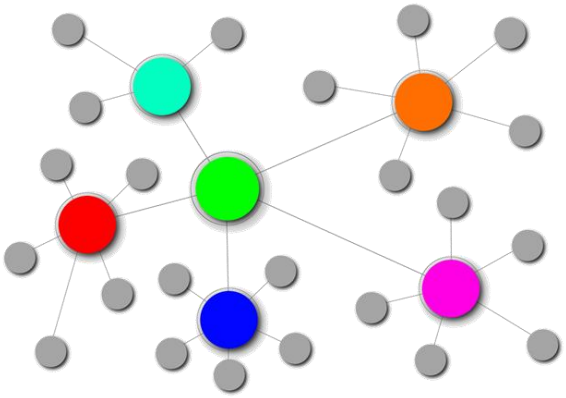
The 2018 competition is supported by the Victorian Transport Accident Commission (TAC). The details are to be confirmed but includes support for distribution of the winning entries.

11. Road Safety Data Linkage

Organiser: Angela Watson
Email: angela.watson@qut.edu.au

Background

Road safety agencies recognise that data on non-fatal road injuries, as well as deaths, should guide programs. Available data on non-fatal cases are insufficiently complete and reliable and improvement was foreshadowed in the National Road Safety Strategy Review and action plan.



Linkage of crash data with health data has potential to provide better information. Successful projects have been conducted in New South Wales with projects underway in Victoria and Queensland. Linkage at the national level could also provide additional benefits including consistency of method, the measurement of cross-border flows and extension to all jurisdictions.

This symposium will include presentations of two extended abstracts relating to data linkage work in Victoria and New South Wales. There will also be brief presentations from Transport for New South Wales' Centre for Road Safety about the data linkage and serious injury project and from the Austroads funded national data linkage project. Finally, there will be a panel discussion on the challenges and next steps for road safety data linkage, including road safety data linkage experts from government and academia.

Presenters, Title of Presentation & Brief Description

Oral presentations:

Victorian Pilot Data Linkage: Match Rates and Serious Injury Metrics

Paulette Ziekemijjer

Using high-quality serious injury data to inform development of road safety measures

Bernard Carlon/Hassan Raisianzadeh

Brief presentations:

Data linkage and Serious Injuries in New South Wales

Hassan Raisianzadeh

Austroads National Data Linkage Project

James Harrison/Angela Watson

Panel discussion: Road Safety Data Linkage: Challenges and Next Steps

Facilitator: Angela Watson
Panel Members:

- *James Harrison*
- *Hassan Raisianzadeh*
- *Paulette Ziekemijjer*
- *Ann Williamson*

12. Safe System Road Infrastructure Program (SSRIP) I & II

Organiser: **Amir Siobhani**
Email: amir.sobhani@arrb.com.au

I

Background

The Safe System Road Infrastructure Program (SSRIP) is a partnership between the Transport Accident Commission (TAC) and VicRoads to deliver road safety infrastructure in Victoria and move towards transforming the Victorian road network to meet the objectives of Towards Zero. The TAC has committed $1.6 billion to the program over 10 years.

Purpose of Symposium

The vision of the SSRIP is to save lives and prevent serious injury by transforming the hearts and minds of all providers, managers and users of the Victorian transport network. The SSRIP team has, and will continue to define several investment plans that target the serious casualty risk and maximize the reduction of fatalities and serious injuries (FSIs) throughout Victoria. This symposium outlines the practical plans, solutions and program philosophies developed to ensure delivery of the most effective and efficient program to commence the systematic transformation of the Victorian road network on the journey Towards Zero.

Justification

The Victorian Government has taken significant actions to move towards zero death and serious injuries on the road network. This has also been the intention of other jurisdictions in Australia and New Zealand and is a very challenging goal to achieve. Consistent with conference theme (Towards Zero – Making it Happen), sharing the learnings/successes achieved in the SSRIP program helps to move towards the objectives of the Safe System approach in Australia and New Zealand.

Presentations:

Zero 2050 in Victoria

Dr Johan Strandroth, Safe System Lead, SSRIP, VicRoads

Several countries and overseas jurisdictions have formulated ambitious road safety targets by setting a date for achieving Vision Zero. However, few have described how this future safe system will look and how to get there. The aim of this presentation is to map a road trauma elimination agenda to 2050 by outlining necessary step changes and requirements of roads, vehicles and road users. A plausible zero scenario will be presented as well as some major challenges including the need for a clearer safety philosophy and a stronger ethical focus than what exists today.

Focusing the Investment of Today on the Vision of Zero

Mr. Shaun Luzan, Program Planning Coordinator, SSRIP, VicRoads

As Zero is unlikely to be achieved by 2023, SSRIP has developed an investment strategy that takes into consideration the vehicles, users and speeds which will be part of this future system rather than those which are present today. Enabling this approach has required changes to the way projects are approved as part of SSRIP. This includes the role of Benefit-Cost Ratio (BCR) in project selection, prioritisation and approval. This presentation outlines the SSRIP investment strategy and a new approach to BCR that has been devised to enable SSRIP to deal proactively and systematically with safety risks.

The Role of Knowledge Management and Evaluation to Achieve Zero

Dr Amir Sobhani, Data and Evaluation Lead, SSRIP, VicRoads

Planning for zero death and serious injuries requires accurate information as well as appropriate tools to support decision making in strategic, tactical and operational levels. It is also crucial to develop a learning process to ensure the efficiency of the program delivery. This presentation outlines the learning process developed through evaluating the SSRIP program, investment plans and projects. Furthermore, the plans developed to create the required database and analysis tools are explained.

Innovative Methods to Develop and Deliver Towards Zero Projects

Mr. Daniel Mustata, Manager Delivery, SSRIP, VicRoads

The SSRIP team is currently delivering 13 different Investment Plans that are targeted at improving the safety of all road users. These investment plans range from barrier remediation and line marking to complex solutions for bicycles and pedestrians. Inevitably the need to implement such a big

program in a short time led to discovery of innovative methodologies for delivery and sparked interest into looking for some project specific measures that are also innovative. This presentation outlines some of our experiences and challenges in adopting some of these innovative solutions.

Developing the Community Understanding of Towards Zero Vision

Mr. Arpad Maksay, Head of Engagement, SSRIP, VicRoads

The Safe System Road Infrastructure Program is leading the delivery of 13 Investment Plans that are targeting to improve safety of all road users. With any change, there is a need to bring the community along for the journey and the engagement program has been a critical ingredient. This presentation will discuss the Program's engagement challenges and approaches to gaining critical community support.

Breaking Down Barriers to the Environment – The Challenge of Making Zero Real

Ms. Joanna Kowalczyk, Project Environmental Coordinator, SSRIP, VicRoads

Safe System Road Infrastructure Program (SSRIP) considers environmental challenges as an important dimension in delivering road safety improvements throughout Victoria. Balancing environmental considerations and road safety is a challenge that is being met head on. This presentation explains the innovative solutions developed to address these environmental challenges.

13. Construction Logistics and Community Safety (CLOCS): Australia's Major Transport Projects Bringing UK's World Best Practice to Australia

Organiser: **Jamie Ross**
Email:

Background

Melbourne and Sydney combined have nearly $50 billion in major transport infrastructure projects under development. The projects are generating unprecedented truck movements through each city's urban centres, significantly increasing the risk for incidents with other road users. To mitigate this increased risk, the projects have identified best practice transport safety risk management as Transport for London's (TfL) CLOCS program. The NRSPP, in conjunction with a Victorian truck and vulnerable road users project which involves membership from Victorian major transport projects (MMRA, LXRA, VicRoads, and Transurban), has attempted to bring a national approach to creating an Australian version CLOCS leveraging off the opportunities provided by these major projects. The NZ based Share the Road (StR) Campaign is now seeking to learn from the Australian experience to inform its stakeholders about the benefits of introducing a CLOCS type initiative into New Zealand.

Purpose of Symposium

TfL took a leadership position within the United Kingdom and created CLOCS, a program and standard which they manage and is applied outside of London, beyond its original scope. Australia's major infrastructure projects themselves have adapted a similar standard to their own projects and worked collaboratively with industry to align parameters, standards, training, monitoring and auditing. Melbourne and Sydney Metro and Victorian transport partners will outline what they have accomplished, new tools created and seek input from attendees on where their continuous improvement journey can go next. StR is looking at the benefits a local CLOCS program could bring to the $3billion Auckland City Rail Link project.

Justification

Major transport projects mean more trucks on the road. Melbourne Metro alone will generate an additional truck movement every three minutes for five years through the heart of the city, increasing the risk to vulnerable road users. These major projects have adapted what they have identified as world's best practice, CLOCS, to the Australian context. What they have created is an unprecedented opportunity to take their approach nationally and continuously improve. Thus, providing any construction project consistent standards and certainty to industry and truck operators.

Panel Session

Following the presentations, a panel session facilitated by NRSPP will be held with the presenters and Share the Road representative developing their CLOCS program to explore:

- What are the foundations for CLOCS?
- Where will national leadership come from? Where are the failures?
- What are the next opportunities for industry and major projects to drive change?

Presenters, Title of Presentation & Brief Description

Jamie Ross – Rail Projects Victoria: Director, Safety,

With multiple major projects commencing simultaneously across Melbourne, this presentation will outline how the entire industry, from government to fleet operators and drivers, have been brought together to achieve unprecedented industry change to improve road safety. In particular the presentation will focus on the engagement processes, the achievements to date, and the multi-front approach to influencing behaviour change across all parties.

Stephen Jones - Sydney Metro: Executive Director, Safety, Sustainability and Environment

Sydney Metro developed a safe system approach to manage road safety during long-term major construction in urban environments such as the busy Sydney CBD. The presentation will focus on the risk-based methodology taken and improvements made to vehicle safety standards and technology, road user training and awareness, traffic management and enforcement measures developed and implemented in collaboration with industry and NSW government.

Lora Colussi and Lydia Foster-Smith – AJM-JV Metro Tunnel Project

As part of the Victorian project to improve vulnerable road user safety around construction project and sites, two working groups were formed to deliver improved practices for temporary traffic changes and traffic management plans, and the risk assessment of proposed truck haulage routes. These groups have now finalised their tools, both of which fill current gaps in design and risk management for impacts on road safety. The presentation will present the two tools – the 'Human Impact Risk Assessment' tool, and the 'Guidelines for the Consideration of Vulnerable Road Users around Construction Sites' - and show case studies of their successful implementation.

Panel Session:

- the above presenters,
- plus Share the Road representative James Newton
- facilitated by NRSPP representative.

James Newton, New Zealand Share the Road (StR) Team focusing on heavy vehicle and cycling safety in urban areas

Currently in Auckland there is a major infrastructure project taking place for a Centre Rail Link. The NZ StR team, working with the Heavy Vehicle Industry, with a core focus on cycling and Heavy Vehicle safety in Urban areas, particularly around major construction areas. The StR team developing and implementing its own version of CLOCS and had hoped to align with Australia if a national version was created.

14. Current and Emerging Challenges and Opportunities in Level Crossings

Organiser: **Andrew Meier**
Email: Andrew.meier@infrastructure.gov.au

Bringing rail industry representatives, regulators and researchers to discuss with the road safety community how the two sectors are working together and where there may be opportunities for further collaboration.

Facilitator: Andrew Meier, Executive Director/CEO, Australasian Centre for Rail Innovation (ACRI)

Presentations

Associate Professor Anjum Naweed
School of Health, Medical and Applied Sciences, CQ University Adelaide

An active look at level crossings: Deconstructing their history, underpinning theory, and role today

Peter Doggett
Acting Rail Safety Regulator, Office of the National Rail Safety Regulator

Level crossings from the Regulator's perspective

Dr Gemma Read
Theme Leader Transport & Infrastructure
Centre for Human Factors and Sociotechnical Systems, University of Sunshine Coast

Practical considerations in changes to level crossing warnings from the road and rail perspectives

Mick Timms
NSW Police

Partnering for Road Safety at Level Crossings: New South Wales Traffic and Highway Patrol Command

Panel
Presenters plus the following additional panelists to further discuss challenges and opportunities

Naomi Frauenfelder
Executive Director, TrackSAFE Foundation
Dr George Rechnitzer
Forensic and Safety Engineer and Director, George Rechnitzer & Associates

15. The Road Safety of Young Drivers: A Global Perspective

Organiser: **Bridie Scott-Parker**
Email: bscottpa@usc.edu.au

Despite multiple interventions, young driver road safety remains an intractable problem in the UN Decade of Action for Road Safety. Irrespective of road use (e.g., as driver, passenger, pedestrian, or rider), road crashes are among the greatest threats to adolescent health around the world. Considering the persistence of young driver road crashes, a desire to improve young driver safety during this UN Decade of Action for Road Safety is apposite (WHO, 2017).

Purpose of Symposium

The dearth of multi-country studies, the plethora of factors contributing to young driver crashes, and the intricacies of peer-reviewed dissemination, which may mitigate against researchers based in developing nations from publishing, prompted the first presenter to develop the Consortium of Adolescent Road Safety (CADROSA, cadrosa.org), a not-for-profit international consortium that operationalises an innovative approach to improving adolescent road safety by implementing simultaneous multi-country studies. The symposium will highlight CADROSA-supported, young driver-related research findings.

Justification

Through CADROSA, multi-country findings are disseminated to a wider audience, to inform policy and intervention development, implementation, and evaluation, more rapidly than the traditional piecemeal approach that is typical of young driver-focused research. As the Decade of Action for Road Safety draws to a close, learning from insights gleaned through multi-country projects, in addition to insights gained through a collaborative methdology, is critical.

Presenters

Dr Bridie Scott-Parker, Adolescent Risk Research Unit, Sunshine Coast Mind and *Neuroscience-Thompson Institute, University of the Sunshine Coast*
Dr Scott-Parker will provide a global overview of adolescent road safety, with a focus on young drivers. She will also provide a brief history of the development and research of the Consortium of Adolescent Road Safety (CADROSA).

Ms Natalie Watson-Brown, Adolescent Risk Research Unit, Sunshine Coast Mind and *Neuroscience-Thompson Institute, University of the Sunshine Coast*
Ms Watson-Brown will provide an overview of the validation of the Behaviour of Young Novice Drivers Scale (BYNDS) within the context of Lithuania, as an exemplar of research undertaken by CADROSA.

Professor Barry Watson, Centre for Accident Research and Road Safety – Queensland *(CARRS-Q), Queensland University of Technology*
Prof Watson will provide an overview of the global research priorities in young driver safety. Prof Watson's expertise gleaned through his time as the CEO of the Global Road Safety Partnership is ideal to provide insight into the road safety of young drivers at a global level.