Workshop to discuss the National Road Safety Research Strategy

A workshop of the National Health and Medical Research Council
and
the Australasian College of Road Safety

Australian Government
National Health and Medical Research Council

AUSTRALASIAN COLLEGE OF ROAD SAFETY

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Canberra

Workshop Report

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Executive Summary

On 21 and 22 February 2013, the National Health and Medical Research Council (NHMRC) and the Australasian College of Road Safety (ACRS) hosted a workshop aimed at developing a national road safety research strategy. Forty-five stakeholders from around Australia including economists, policy makers, lobbyists, health professionals, researchers and scientists, met to discuss a research strategy, determining national research priorities in line with the current National Road Safety Strategy 2011-2020 and the UN Decade of Action for Road Safety. A list of workshop participants is at Appendix 1.

The research strategy aims to provide a high quality and effective framework for efficient research, development and evaluation activities, with the longer term goal of decreasing the rate of fatalities and injuries on Australia's roads.

Day 1 focussed on the high level framework of the research strategy and opportunities for implementing and monitoring. Day 2 was planned to refine the details of a research strategy and plan for implementation. Representatives from the Australian Research Council (ARC) and NHMRC presented at the workshop and provided information around funding in this area, including different funding schemes and how researchers could apply. Key researchers provided background on the 1997 National Road Safety Research and Development Strategy, including what has been learnt and what a new research strategy could look like.

Implementation and clear governance arrangements are integral to the lasting success of a research strategy, as stakeholders reported the lack of any monitoring and implementation strategies were major flaws in the 1997 Research Strategy. The Department of Infrastructure and Transport presented governance information and commented on the changing landscape in this sector. The remainder of the workshop involved interactive sessions where small groups discussed the research strategy, potential ownership of the strategy, what resources would be needed for ongoing maintenance, where the funding opportunities may be, and how the strategy could be monitored and evaluated over time.

Participants also discussed research priorities and the current issues and gaps in the road safety sector. Examples of suggested priorities include the economical impact/costs of accidents, post-crash response, road and vehicle design, and safety. Issues and gaps included data, funding opportunities, alternate modes of transport, and influences outside the transport system, communication, community acceptance, research methodology and capacity building.

The desired outcomes of the workshop were to identify the barriers, gaps and opportunities for research in the road safety sector in order to improve the coordination and concerted promotion of road safety research efforts across Australia.

The main outcomes of the workshop included agreement and consensus on the need for a research framework that could be monitored and updated on an annual basis – possibly at the annual ACRS conference. Outcomes also included the need to look closely at implementation of the framework, including the possibility of a joint NHMRC/NRMA-ACT Road Safety Trust Fellowship and a NHMRC Partnership Centre.

The core of the framework was discussed by attendees, and a planning group representative of the variety of stakeholders was established to further develop and advise on the consultation needs of this research framework. NHMRC and ACRS will work with the drafting group and provide secretariat support to finalise the framework and plan for implementation.

The Office of the National Health and Medical Research Council (ONHMRC) and ACRS have considered the information described at the workshop, and in consultation with workshop participants, developed this workshop report.

Box 1: Summary of key actions from the Workshop

1. Develop a Framework for Road Safety Research in Australia, rather than a research strategy. While similar, a framework document could be used more widely and does not necessarily require agreement or ownership by any other organisation than those represented at the workshop. However, the Framework would be circulated widely for comments and suggestions.

2. Establish a volunteer 'Drafting Group' with secretariat support from NHMRC and ACRS, tasked with drafting the Research Framework by mid-April. The drafting of the Framework would be based on preliminary work on the Research Strategy, the Survey results and the Workshop Report, as well as feedback and consultation with other interested stakeholders.

   The following participants volunteered to be part of the Drafting Group:
   - Barry Watson
   - Ann Williamson
   - Jeremy Woolley
   - Judith Charlton
   - Shaun Lennard
   - Michael Tziotis

   Following the workshop, Julian Lyngcoln also volunteered to be part of the group. This group is open to other volunteers.

3. NHMRC and ACRS to provide secretariat support to the group and circulate the draft Research Framework for comment. Broad circulation of the Framework is recommended to encourage commitment from a wide range of stakeholders.

4. Present the Framework at national conferences such as the:
   - The Australasian Road Safety Research, Policing & Education Conference in Brisbane on 28-30 August 2013,
   - ACRS Conference in Adelaide 7-8 November 2013, and
   - National Road Safety Strategy reviews that are scheduled for 2013.

5. The President of ACRS, Mr Lauchlan McIntosh, to send a letter to all stakeholders seeking their support for the Framework. Mr McIntosh will promote the Framework and inform stakeholders that its inclusion in the National Strategy, as part of the decade of action on road safety, will assist research funding organisations, provide better collaboration between researchers and lead to reduced road crashes, injuries and deaths.

6. Communicate the benefits of the Research Framework to national and state politicians prior to the next election. The ACRS can write to all relevant politicians, demonstrating that we have the backing of all stakeholders (by documenting all stakeholders who have participated in the development of the Framework).

The Workshop

Background

Stakeholders in the road safety sector have indicated that research efforts in this area are somewhat fragmented and suggested opportunities exist to improve the coordination and strategic direction of Australian research funding to complement the National Road Safety Strategy 2011-2020 (National Strategy).

The idea to develop a National Road Safety Research Strategy to underpin the National Strategy came about after discussions held by the ACRS National Executive Committee, many of whom are directors of major road safety research institutions in our region. Subsequent consultation with NHMRC at a senior level led to the agreement to progress this initiative.

Reducing road trauma is a preventive activity for health care, with the potential to significantly relieve financial and social pressure on our public health system. The value of a shared goal to ensure road safety research in our region is as effective and efficient as possible, and is aligned with the aims of the National Strategy, is therefore inherent in this initiative.

Due to the broad ranging causes and consequences of road trauma, development of a National Road Safety Research Strategy requires input from a wide range of organisations. To ensure the widest possible consideration of views about the strategic direction of road safety research in Australia, NHMRC in collaboration with ACRS, convened this workshop to facilitate the development of a research strategy to improve the coordination and concerted promotion of road safety research efforts across Australia.

Purpose

To facilitate the development of a National Road Safety Research Strategy to ensure high quality, effective and efficient research, development and evaluation activities, with the longer term aim of sustainably decreasing rates of fatalities and injuries on Australia's roads.

Workshop Objectives

1. To draft a National Road Safety Research Strategy

2. Determine national research priorities in line with the current National Strategy that encompasses 4 pillars of road safety, and the over-arching UN Decade of Action

3. Begin planning for implementation of the Research Strategy including identifying:
   - The relevant funding bodies,
   - Strategies for funding bodies to include the Research Strategy in their funding policy, and
   - Administrative processes required to support the Research Strategy to ensure its longevity

4. Bring together all relevant stakeholders and end users into the current road safety research space.

The 2-day Program for the workshop is at Appendix 2. In addition to a day focussed on the high level framework of the Research Strategy and opportunities for implementing and monitoring, NHMRC and ACRS planned a half day to refine and flesh out the details of the Research Strategy, and plan for implementation with those who wished to participate.

Workshop Facilitators

The workshop was co-facilitated by Professors Don Aitkin and Murray Lampard.

Professor Don Aitkin AO is a writer, strategist and consultant. He has been Chair of the NRMA/ACT Road Safety Trust since 2002 and before that chaired the committee that devised Road Ready in the ACT. He served as Vice-Chancellor and President of the University of Canberra from 1991 to 2002, and as Vice-President of the Australian Vice-Chancellors Committee in 1994 and 1995. Professor Aitken was made an Officer of the Order of Australia in 1998.

Professor Murray Lampard APM is currently the Independent Chairman of the Road Safety Council of Western Australia. In 2008 he retired from the Western Australia Police at the rank of Deputy Police Commissioner and brought a wealth of both strategic and operational road safety experience to the workshop. He is the Chairman of the Defence Reserves Support Council of Western Australia and Chairman of the Child Health Promotion Research Centre at Edith Cowan University.

Road Safety Stakeholders

To better appreciate the large number of stakeholders working in the road safety sector, ONHMRC and ACRS developed a Road Safety Stakeholder Mud Map (Appendix 3). This attempts to illustrate the relationship between stakeholders and the National Strategy. As the landscape in this sector is undergoing change, please note that this may need updating at a later stage.

Australia's National Road Safety Strategy 2011-2020

The Department of Infrastructure and Transport, through the Standing Council on Transport and Infrastructure, released its ten year National Road Safety Strategy (National Strategy) in 2011. The National Road Safety Strategy is based on Safe System principles. Its overarching aim is that no person should be killed or seriously injured on Australia's roads. The National Road Safety Strategy has four pillars that focus the strategies and activities for the decade:

- Safe Roads,
- Safe Vehicles,
- Safe Speeds, and
- Safe People.

The National Strategy represents the commitment of federal, state and territory governments to an agreed set of national road safety goals, objectives and action priorities. It sets out a range of high-level directions and priority actions to drive national road safety performance to the end of 2020, and also lays the groundwork for longer-term goals and aspirations. The Prime Minister praised the National Strategy as marking a 'turning point for global road safety, (working towards) sparing people from avoidable deaths and injuries that cause so much anguish and cost for our communities'. Workshop participants noted that although the National Strategy does not detail specific actions and explicitly say research, there are innumerable actions which say explore, investigate, and further develop, which is code for research.

Workshop Proceedings

Introduction

Mr Lauchlan McIntosh AM, President, Australasian College of Road Safety, opened proceedings and stressed how improving road safety to further reduce unnecessary road trauma in Australia is essential. Despite Australia's respectable record in reducing road trauma based on high quality research, our world ranking has slipped and we are not reducing death and injuries from road crashes at the rates forecast in the National Strategy. He said while we often know what to do, we do need research to find more solutions so we can save lives and injuries.

Professor Don Aitkin emphasised the importance of collaboration and partnerships, stating that a research strategy must be inclusive of all stakeholders, encouraging players to own the problem and take responsibility of improving the problem.

Professor Murray Lampard highlighted the importance of a whole-of-Australia response, noting that on average 25 people across Australia die every week on the road and road trauma is everyone's business. He highlighted the significant experience and skills of all workshop participants, and the ideal opportunity presented for all to make a significant contribution.

Setting the Scene

Australian Research Council (ARC) and NHMRC research funding in the sector

Presentation by Professor Marian Simms, Executive Director, ARC

Professor Simms outlined the process of applying for specific research grants at ARC, stating there are 22 disciplinary areas ranging from statistics to literature, culture and religious studies, and everything in between. Although ARC does not have a field of research specifically dedicated to road safety, research in this area is picked up through Discovery projects that include projects such as improvements in drivers' speed and management behaviour and the linkages to reducing the cost of accidents from sleep medication. In 2012 there were approximately 8,000 applications from individual researchers; however, there is an up-hill trend showing the number of approvals dropping in relation to the number of applications received.

Presentation by Mr Chris Thorpe, Assistant Director, NHMRC

Mr Thorpe outlined the variety of NHMRC funding schemes including project grants, program grants and targeted calls for research. Although NHMRC is not a major funder of road safety research, it is interested in the health and medical issues involved with driver behaviour. Although grants are competitive, he encouraged participants to look at the NHMRC website and explore the various avenues that are available.

Governance: what is the current landscape of the road safety sector in Australia?

Presentation by Mr John Goldsworthy, Director, Road Safety Policy, Department of Infrastructure and Transport

Mr Goldsworthy outlined some of the national governance arrangements currently in place and highlighted that the landscape of the road safety sector is undergoing change. The Australian federated system, comprising the Australian Government, eight state and territory governments and 600 local councils, brings some challenges. Under Australia's constitution, road safety is the province

of state and territory governments which are responsible for roads, transport regulation, broad traffic laws enforcement, driver licensing arrangements, vehicle registration, road maintenance and road safety education. A number of important national regulatory processes are in place with the agreement of state governments including the Motor Vehicle Standards Act, the National Transport Commission, Australian road rules, vehicle standards/rules, heavy vehicle driver fatigue, the Road Safety Remuneration Act, work, health and safety and Australian consumer law.

The key body for national governance arrangements is the Standing Council on Transport and Infrastructure (SCoTI), supported by the Transport and Infrastructure Senior Officials Committee (TiSOC) which is responsible for coordinating and delivering national road safety initiatives. They are supported by two peak bodies, the National Transport Commission and Austroads.

Feedback from peers: Pre-workshop survey results

Presentation by Professor Barry Watson, Director, Centre for Accident Research and Road Safety, Queensland

Professor Watson referred to the survey that was developed to help inform discussions at the workshop. The survey was sent to approximately 60 road safety stakeholders in early January 2013 to elicit information about their organisation and their views on road safety research. The Pre-Workshop Survey Results Report is at Appendix 4 and summarises the information gathered.

Brief history of the 1997 National Road Safety Research and Development Strategy

Presentation by Professor Barry Watson, Director, Centre for Accident Research and Road Safety, Queensland

Professor Watson referred participants to the previous research strategy, the National Road Safety Research and Development Strategy, produced in 1994 and updated in 1997. Although this Strategy has not been maintained, it is still highly relevant and has been used as a starting point to draft a new research strategy.

Draft New Research Strategy – Overview

Presentation by Professor Ann Williamson, Director and NHMRC Senior Research Fellow, Transport and Road Safety (TARS) Research, School of Aviation, University of New South Wales

Professor Williamson discussed the structure of the draft road safety research strategy, including the vision, goals, strategies, actions and research priorities, and definitions of each:

- *Goals:* the objectives set to ensure that the strategic program is effective,
- *Strategies*: the methods and approaches proposed in order to achieve the goals,
- *Actions:* the activities that are needed to achieve the strategies, and
- *Research Priorities:* specific topics and areas of research that are identified as priorities (these may take the form of an Implementation plan which will be changed on a more regular basis).

Professor Williamson stressed the importance of a new group being involved to keep the strategy active.

Workshop Session One: Draft Research Strategy

Professor Lampard opened the session emphasising the need for research to be global, outcomes-based, delivered on time and on budget, and with capacity to influence policy and legislation. Workshop participants broke into six table groups to discuss the overall structure and scope of the draft research strategy, including the vision, goals and strategies.

The following general comments were received:

- It is essential that the research strategy:
    - is innovative, ambitious and forward-thinking,
    - clearly articulates the purpose,
    - clearly identifies the target audience - determining where the strategy should be targeted – i.e. namely government, funders, non-government organisations and other stakeholders,
    - sets the agenda around big research goals such as the reduction of road trauma,
    - contains clear definitions which are universally understood,
    - encourages transparency in research,
    - includes tangible actions and timeframes – immediate, medium term and aspirational, and
    - is an enabling document and a point of reference for all jurisdictions.

- The research strategy must also include:
    - **an international perspective:** it is important that the strategy links to global research, and explores comparative visions of international research organisations,
    - **interaction with broader health issues and other influences on road safety:** the strategy needs to involve all stakeholders and seek expertise outside the road safety sector (e.g. urban design, public transport, rural and remote users, community/consumers) and identify how we can better interact with these influences. Participants agreed that many agencies/individuals are interested in doing something, but don't have the big picture road map. It is important to give other domains some direction to make sure their research is targeted to meet our safety goals, and
    - **alignment with other national strategies:** such as cycling, railway level crossings, preventative health strategies, binge drinking and Australian work, health and safety frameworks.

- Participants agreed that further exploration is required on:
    - policy determinants - although this is a research strategy, the link to policy-makers, i.e. those that can make road safety happen once the research is done, is essential. The new strategy must strike a balance between research and policy outcomes, as the 1997 Strategy was too research-focused,
    - commitment to value, and
    - how the jurisdictions will connect with the research strategy.

More specific comments relating to the vision and goals include:

Vision

The vision outlined in the draft Research Strategy states:

A research strategy that ensures high quality, high impact, effective and efficient research, development and evaluation activities and funding to sustain it in order to support the goals, strategies and activities of the National Road Safety Strategy 2011-2020.

The following comments were received from workshop participants:

- The vision should:
  - underpin the goals of the National Strategy but also reflect any other road safety strategies (e.g. state-based) in Australia,
  - be more ambitious, aspirational, and provide a more long-term perspective that supports the vision of no deaths or injuries – it could mention reducing road trauma and aspiring to reductions equal to the best in the world,
  - be concrete, measurable and priority-driven,
  - relate to output rather than associated with a national strategy - expand and extend the focus beyond the life and scope of the National Strategy to also capture a vision for future research. A better approach could be to align the vision with the 'zero target' concept that `no person should be killed or seriously injured on Australia's roads', rather than direct alignment with the National Strategy,
  - encourage community interest in road safety, and
  - support the UN decade of action for road safety.

- `High impact' needs to be better explained. It is not clear whether this relates to the bottom line of reducing deaths and serious injury.
- Suggested re-wording: change the word `ensures' to `facilitates'.
- Consideration should be given to including a set of "Guiding Principles" in the document, in order to highlight key strategic and contextual issues underpinning the development of the Framework. Among these issues could be the need for the Framework to link to both national and international road safety strategies, while still adopting a long-term perspective to our research. These "Guiding Principles" could also be informed by the Strategic Issues identified in the previous strategy (which included Co-ordination, Information Management, Setting Priorities, Utilisation of Research, Research into Improved Management Systems, Developing Expertise, Resourcing, and Evaluation).
- These guiding principles represent underpinning values that the goals need to achieve.

  Suggested Principles for consideration of the Framework

  Any research in this field should:
  - be problem oriented and focussed,
  - complement the National Road Safety Strategy,
  - work with policy makers to ensure translation,
  - build on the work of others, including that with an international perspective,
  - where possible, cooperate or assist with other international research efforts,
  - support the United Nations 'Decade of Action',
  - engage the community (towards community ownership),
  - consider all the harm associated with crashes (not just fatalities), and
  - commit to evaluating all activities.

Goals

Participants noted that the goals should be strategic, clearly defined, focus on priority-driven research and concentrate on return on investment in view of scarce resources.

The following comments were received for each of the Goals outlined in the draft Research Strategy:

Goal 1: Road safety research that is progressive, innovative, responsive and relevant to the road safety needs of Australia

- `Road safety needs of Australia' should be broadened to demonstrate a more international perspective.

Goal 2: Road safety research that is nationally coordinated and integrated with programs and strategies across jurisdictions and other community sectors

- `Programs and strategies' should be changed to `research strategies and programs' – there could be an issue in that programs are already running and to get national coordination would be a bit ambitious.
- Areas outside transport should be incorporated.
- In-line with this goal, a register should be set up of current research to promote data sharing.

Goal 3: Road safety research that is based on the best available evidence and analytical techniques with priorities set in the most effective way

- Inconsistency in this goal written on page 3 and what is written in the table on page 4 - `best available evidence' rather than `best available information sources'.
- It is important that this goal accommodates emerging issues.
- This goal could also include 'and best research methodologies' after 'best available evidence'.

Goal 4: Road safety research that is adequately resourced in terms of expertise and funding, including value for money.

- A clear definition of `adequately resourced' is required.
- The word `management' is missing – often projects are well resourced but do not have appropriate management and therefore achieve poor outcomes.
- Suggested rewording: Road safety research that is appropriate in terms of expertise and management and funding that delivers value for money.
- This goal should emphasise the importance of funding projects at a high level and to conduct research more thoroughly - not to encourage getting the cheapest cost per research project.
- It is important to identify where we can get the best value for money in terms of road safety initiatives, to look further than just research and involve stakeholders even if they cannot commit funds.

Goal 5: Road safety research that is peer reviewed, communicated promptly, disseminated widely and promoted to encourage translation into policy and practice.

- This goal is not well defined and could be split into two goals - `peer reviewed' needs to be highlighted separately – perhaps included into goal three.
- Any use of tax dollars should be made public, however, not all research is funded by government, and this research also needs to be captured.
- Suggested rewording: change `disseminated widely' to `made publicly available'.
- A definition of `disseminated' is required.

Workshop Session Two: Governance and Implementation

Professor Warwick Anderson, Chief Executive Officer, NHMRC, addressed workshop participants and discussed the new 2013-15 NHMRC Strategic Plan, stating that for the first time, NHMRC has committed to specific actions within each National Health Priority Area, of which *Injury Prevention and Control* is one. NHMRC is Australia's leading expert body for supporting health and medical research; for developing health advice for the Australian community, health professionals and

governments; and for providing advice on ethical behaviour in health care and in the conduct of health and medical research.

Professor Anderson noted that Members of the Council of NHMRC include the chief medical officers from each state and territory and that there are mechanisms within Council to develop a case for action and reach into the funded research community to build a case. These could include issuing public statements and calls for priority-driven research or advising national or state governments directly. Professor Anderson commented that there are ways NHMRC could influence public policy. The process can take a while but the Council does consult, base what it does on evidence and ensure that all parts of the Australian community have a say. He highlighted that the Council of NHMRC has been happy to co-host this workshop.

International Perspectives:

A video clip presentation was played to participants – A *Press Club Address by Brian Schmidt and Alan Finkel – Research and Innovation: Australia's Global Influence.*

Workshop participants discussed whether there were international examples of road safety research strategies and concluded that not many existed as most other countries tend to integrate research more into national strategies. Participants agreed that research carried out in Australia should be made available to other organisations overseas, and that the strategy needs to encourage local researchers to work with international researchers.

Professor Aitkin introduced the second workshop session and emphasised the importance of collaboration and partnerships, providing an example of the difference between Australia and Sweden. Participants then broke into six table groups to discuss:

- Governance – who should `own' the research strategy
- Resourcing – what is needed to ensure adequate resources to achieve the aim of the Research Strategy and ongoing governance and maintenance?
- Where are the funding opportunities?
- What do we need to do to ensure translation of research findings in this sector?
- Monitoring and evaluation – how will we know if the strategy has been effective and over what time frame?

The following comments were received:

Governance/ownership

There were differing views on who should own the strategy. Some participants thought a level of independence is important, although there was concern that an independent group could become marginalised. Others believe that a strong government link with some sort of a management panel is important and that the link needs to be maintained by the people who can implement research. Some participants commented on the need to attract groups that are interested in road safety and willing to pay for it, suggesting linking the strategy to industry groups with the potential for them to provide funding.

Most participants agreed that, given the limited resources, lack of appetite in government for new bodies, and the number of different groups/committees that are established and then discontinued, setting up another group would not be a good idea. Rather, we should explore ownership by an already established group that represents government, independent stakeholders and researchers.

Other comments included:

- The current governance structure is not ideal – road safety governance is currently fluid and we need to work with the different road agencies,
- It is important to protect the links between government agencies and the research centres,
- A definition of `own' is required - ownership is different to monitoring and implementing. Groups involved in each of these will have different roles to play,
- A diverse group of people benefit from the research strategy and a basic government model does not support the wide range of stakeholders, and
- International models should be explored, such as big studies in the UK, USA and Europe that involve a number of universities. The theft reduction council has been highly successful and could also be a good model to explore.

Participants commented that the group who owns the Research Strategy needs to:

- Include stakeholders who need outcomes - jurisdictions, policy-makers, researchers, clinicians and consumer groups,
- Ensure that the research strategy prospers - it is important to identify who wants to own it,
- Be an independent body funded by government which cuts across political and state boundaries,
- Link strongly with government – the best vehicle for the link would be for buy-in from Ministers, and
- Report to the National Road Safety Executive Group (NRSEG) and include external organisations.

Resourcing

There were differing views on resourcing and what is needed to ensure adequate resources to achieve the aim of the research strategy and ongoing governance and maintenance. Most participants agreed that this is a challenging area as there is no magic pot of money. Some participants considered that more money and resources need to be made available and that this should be provided by government. Others believed it is important to explore alternative and expanded sources of funding, and to look more broadly into the more affluent parts of the private sector (such as insurance companies).

Other comments included:

- There needs to be an ability to leverage government funds to build big partnerships with reasonable budgets,
- Collaboration is important - the more collaboration that can be achieved, the more likely it is to unlock funding for projects. Many of the jurisdictions are conducting research, so increasing collaboration across jurisdictions would be valuable; national collaboration would allow large scope projects and perhaps some research in areas which may not otherwise be tackled; and bringing together funders and research groups would be beneficial,
- A more systematic focus on research is required,
- More linkage and partnership funds with three or five year grants would be beneficial, and
- Development of a road safety research register, to make sure existing resources are utilised.

1997 National Road Safety Research and Development Strategy

The previous research strategy, the National Road Safety Research and Development Strategy, produced in 1994 and updated in 1997, has not been maintained but is still valued by most of the participants.

Participants agreed that implementation and clear governance and monitoring arrangements are integral to the lasting success of the research strategy, as the lack of implementation strategies was a major flaw in the 1997 Strategy.

Monitoring/evaluation

Participants agreed that there is a need for measurable goals to evaluate the success of the research strategy, and that ongoing evaluation of the strategy's success is required.

Suggested measurable goals include:

- more information sharing and less duplication,
- more/larger collaborative projects,
- more research translated into practice,
- more funding for road safety research projects,
- increased capacity building,
- projects in line with the strategy,
- stable governance structure, and
- recognition of the strategy in industry.

Participants agreed that it will be important to reference the strategy, keep it updated and ensure there are mechanisms in place to refresh it. They also suggested to:

- coordinate an annual forum to develop research priorities and discuss research undertaken, and
- hold annual or biannual meetings to review the research strategy.

Workshop Session Three: Research Priorities and Strategic Issues/Gaps

Participants split into six groups to discuss research priorities and strategic issues/gaps, and the following comments were received:

Research priorities

Participants suggested the following research priorities (defined as specific topics and areas of research that are identified as priorities):

- Economical impact/costs of accidents (including societal costs),
- Post-crash response,
- Vehicle design and safety – to help determine how and why Australia has fallen behind international best practice and how we can recapture momentum and bring our fleets back up to the best in the world,
- Safe system framework – need to look across the safe system for broader counter measures and explore the role of the different pillars of the safe system within crashes,
- Understanding intelligent transport systems and electronic 'gadgetry' both for roads and vehicles and how that will impact lives over the next decade, and
- Other non-road safety specific research, such as geography and urban design, which can also contribute to road safety issues.

Participants suggested that the Austroads budget could be targeted more closely to research priorities, and proposed that as a starting point for prioritising research, a priority framework could be developed in the form of a matrix comparing the size of the data gap (or problem), its impact on health dollars and its ability to be translated into policy. Another idea was to create a register of existing and past research so all stakeholders could easily see what is being studied now as well as what has been undertaken in the past.

Other strategic issues or gaps

The following issues/gaps were also raised as important to consider in the development and implementation of the research strategy:

Data

Participants all agreed that data harmonisation is an important issue for the future – this refers to the collection of and access to comparable and interpretable data across the broad range of stakeholders, and data linkage and bottom up data that creates a closer link with surgeons and hospital data. There is a need for core shared datasets and to conduct national projects with data collected in all jurisdictions, rather than just the areas which could afford to contribute funds. Participants noted that the National Strategy has a target reduction that can't be measured in all jurisdictions, and that Austroads may be interested in a project in this area. Funding is also needed to develop a road safety evidence data base, similar to what exists for some health professionals, where research receives a quality rating. This would help researchers to know what is expected and funders to know what research is worth.

Participants agreed that the following data does not exist or is not accessible enough and needs to be part of the road safety data picture:

- Demographic characteristics of road trauma victims, which also includes cyclists and pedestrians,
- Post-crash data (e.g. from police, GPs, nurses, surgeons). Post-crash response could be brought into mainstream road safety, and
- There is also the burden of road trauma, rehabilitation and beyond and the emerging issue of psychological impacts of road crashes.

Speed

Speed is still considered a major road safety issue and contributor to road trauma. Participants agreed that getting the message out about speed is an issue. Further research quantifying the impact of speed on road trauma is not required (there is already sufficient research on this), but rather a new approach to selling the message about the dangers of speed is needed. Some participants noted that there are new technologies and issues with P- platers who could be used as a cohort study.

Funding opportunities

Participants agreed that the research strategy provides an opportunity to make a difference to the government funding structure, and that a broad view of funding is required. There are multiple sources of funding and it is important to be smarter, more collaborative, and explore funding outside ARC, NHMRC and other government sources.

Insurance companies provide many funding opportunities that should be explored. There is an incentive for insurers because of third party and property damage issues. The economic aspects of road trauma and the cost of injury were mentioned as potential drivers of road safety, and participants suggested that this could be an angle from which to approach insurance companies about potential funding. Participants noted the current jurisdictional reform of Compulsory Third Party insurance and the potential of including road safety and research funding on the agenda as part of this reform.

Collaboration with vehicle manufacturers and research centres with expertise in vehicle technology is also important. Exploring research undertaken internationally (and who's funded it) could also provide clues as to how best to secure funding.

Alternate modes of transport

Participants agreed that road safety strategies have been too car-centric in the past, and that with more people travelling by different methods (such as walking, cycling and by motorcycle) there is a need for research and data across a range of transport modes. The Amy Gillett Foundation expressed its full support for the notion of a nationally coordinated approach to cycling research and to issues which affect cyclists and their safety.
The strategy could also have a role in extending the reach of road safety into other areas, such as city planning. This would involve extending the understanding of outcomes of research into other areas to identify common goals. Participants agreed that strong communication is essential to achieve this outcome.

Communication and Community interest and acceptance

Community awareness and acceptance of road safety was also raised as a public health research priority. The community accepts the road toll as a fact of life and the road safety sector is saying it is an issue – a demand for road safety in the community needs to be created. Good communication is a high priority, and this communication involves a range of people – the general community, politicians and funders. The strategy needs a communication strategy.

Political will and support will be important to the success of the strategy, as is the need to effectively work with the media- a clear message is needed so this is part of the public conversation on road safety, and extend beyond the 'converted ABC audience' to include a much broader audience.

Participants agreed that a clear and collective identity is needed, suggesting that perhaps road safety is not talked about, but rather road danger, which costs as much as the defence budget.
The road safety sector needs to show stakeholders that while a lot of research is being done, it is not well communicated or coordinated and there are suggestions about how it can be improved. The outcome would be fewer deaths, financial savings and less horror. Australia is recognised internationally as a leader in road safety. This has come from a vast amount of research over the last 40 years which needs to be communicated to the funders – a way of alerting funders to the value of road safety research.

Participants noted the number of existing communication mechanisms that could be leveraged from instead of reinventing new ones. Suggestions on methods to improve communication included:

- Email or newsletter to notify stakeholders of what is happening in research,
- Annual conference forum where stakeholders discuss current research, and
- Development of a matrix demonstrating the value of research.

Research Methodology and Capacity Building:

Participants noted the challenges for the next generation of researchers, arguing that it is incredibly difficult to sustain an academic career on just road safety. There is a push from universities for academics to build a track record. Many researchers move away from road safety or broaden their field into something else of which road safety is a small part.

There is a need to encourage interest in research and its application to road safety. Road safety should be identified as a field of study rather than a discipline with clear determinants as to what falls into this field of study. As it is a multi-disciplinary field of study, researchers need to be careful not to be excluded from funding because road safety research doesn't fit into a single category.

Participants argued the importance of high-quality translation of targeted research, support for more fundamental theoretical research (through discovery grants), and better use of existing funding to give researchers longer timeframes to put in tenders and promote better quality of research.

Summary and Next Steps

Professor Aitkin opened this session by referring to a road safety PhD student, Lucienne Kleissen, who addressed him at a seminar saying `we talk about road safety but it is all about death and trauma; it should be about a feeling of well-being knowing that everybody will look after you'. Professor Aitkin went on to discuss road safety research in Australia stating that ARC funding applications have increased from 2,000 per year in 1988 to 8,000 now, and that some 122,000 full time members constitute the research industry in Australia, demonstrating the considerable research endeavour in this country.

Jurisdictions are part of the federal system and the Commonwealth has no particular role in section 51 of the Constitution about roads and road safety. However, the Commonwealth has grown enormously relative to the states in the last 113 years through uniform taxation power and the acquisition of wealth which, through another constitutional facility, enables it to make grants to the states. The Commonwealth can say to the states `if you want to do something we will give you the money'.

Australia is intensely competitive compared to other cultures. Road safety is naturally a national issue, but there is a tension because the jurisdictions have policy responsibility. Stakeholders have very different reasons for wanting research in road safety. The ACT Minister has said that he will only propose new legislation which is based on good research and evidence. As such, the ACT takes longer to do something compared to other jurisdictions. If something works in one jurisdiction, other jurisdictions will say `why don't we do it'? This is the way a style of federal system has evolved.

Another activity that occurs in road safety is citizen action, where citizens are funded to develop and make areas for pedestrians, vehicles and bicyclists safer. An example is schools which are funded to stop children running out on the street.

Governments have an important role in regulation – random breath testing and seat belts – where it can be shown that the reduction in deaths is consistent with the passage of legislation.

All of this tension affects the research endeavour in road safety, and that is why collaboration is so important. At the same time a lot of work is conducted by research enterprises which are competitive in what they do and how they do it. In early 1992 a model was brought in where people who were competitive but needed to collaborate were brought together to work against a common enemy. Such a body could be called a cooperative research endeavour, and participants here today are just the people to take something like this forward.

Once ministers and others can be convinced that there is a payoff to be had, and that death and trauma rates will decrease by improving quality of data, research and collaboration, they will listen. Participants agreed that a meeting could be held annually or biannually to represent the research endeavour in Australia, and suggested that a secretariat would be required that could set a framework around research priorities and collaboration.

Conclusion Day 1:

In summary, the research strategy should identify long-term collaborative projects, stress the need for a road safety research data base which reflects all Australasian literature (with links to international research), demonstrate potential cooperation mechanisms, include a suggested quantum for research expenditure on road safety in Australia, contain a clear articulation of the likely benefits to the community and be a dynamic document subject to constant review.

Effective engagement with all stakeholders is essential to ensure good research that leads to positive change. It is important to recognise the cost constraint environment and the difficulty of competing with small budgets and tight timeframes.

It is essential that the research strategy helps to optimise the research that is already happening and encourage better utilisation of that research, builds research capacity, strengthens communication with governments, funders and the community, and facilitates information sharing and relations among stakeholders, all with the aim to making a substantial contribution to saving lives.

Day 2 - 22 February 2013

Mr McIntosh commenced proceedings with the aim of refining the draft research strategy and developing ideas on how it could be implemented successfully. He re-capped Day 1 discussions and clarified the desired outcomes for Day 2.

There was open group discussion with the 22 participants, and then smaller table discussions regarding the research strategy and implementation and monitoring issues. For the purposes of this report – discussions from these sessions relevant to Day 1 topics have been included in the outcomes from Day 1.

Recommended key actions from the Workshop

1. Develop a Framework for Road Safety Research in Australia, rather than a research strategy. While similar, a framework document could be used more widely and does not necessarily require agreement or ownership by any other organisation than those represented at the workshop. However, the Framework would be circulated widely for comments and suggestions.

2. Establish a volunteer 'Drafting Group' with secretariat support from NHMRC and ACRS, tasked with drafting the Research Framework by mid-April. The drafting of the Framework would be based on preliminary work on the Research Strategy, the Survey results and the Workshop Report, as well as feedback and consultation with other interested stakeholders.

   The following participants volunteered to be part of the Drafting Group:
   - Barry Watson
   - Ann Williamson
   - Jeremy Woolley
   - Judith Charlton
   - Shaun Lennard
   - Michael Tziotis

   Following the workshop, Julian Lyngcoln also volunteered to be part of the group. This group is open to other volunteers.

3. NHMRC and ACRS to provide secretariat support to the group and circulate the draft Research Framework for comment. Broad circulation of the Framework is recommended to encourage commitment from a wide range of stakeholders.

4. Present the Framework at national conferences such as the:
   - The Australasian Road Safety Research, Policing & Education Conference in Brisbane on 28-30 August 2013,
   - ACRS Conference in Adelaide 7-8 November 2013, and
   - National Road Safety Strategy reviews that are scheduled for 2013.

5. The President of ACRS, Mr Lauchlan McIntosh to send a letter to all stakeholders seeking their support for the Framework. Mr McIntosh will promote the Framework and inform stakeholders that its inclusion in the National Strategy, as part of the decade of action on road safety, will assist research funding organisations, provide better collaboration between researchers and lead to reduced road crashes, injuries and deaths.

6. Communicate the benefits of the Research Framework to national and state politicians prior to the next election. The ACRS can write to all relevant politicians, demonstrating that we have the backing of all stakeholders (by documenting all stakeholders who have participated in the development of this Framework).

Mapping outcomes to the original 'Workshop Objectives':

Objective One:

To draft a National Road Safety Research Strategy

Outcome:
Framework drafting group established to provide the Draft Framework by mid-April 2013. Secretariat support for the Drafting Group to be provided by ONHMRC/ACRS.

Objective Two:

Determine national research priorities in line with the current National Strategy that encompasses 4 pillars of road safety, and the over-arching UN Decade of Action

Outcome:
Participants discussed research priorities during workshop session three and included:

- Economical impact/costs of accidents,
- Post-crash response,
- Vehicle design and safety,
- Safe system framework,
- Understanding intelligent transport systems and electronic 'gadgetry', and
- Other non-road safety specific research, such as geography and urban design, which can also contribute to road safety issues.

Research priorities, in line with the National Strategy and the UN Decade of Action, could be discussed further once the Framework is in place, or may evolve as part of these activities.

Objective Three:

Begin planning for implementation of the Research Strategy including identifying:

- The relevant funding bodies,
- Strategies for funding bodies to include the Research Strategy in their funding policy, and
- Administrative processes required to support the Research Strategy to ensure its longevity

Outcome:
NHMRC Partnership Centres were discussed. NHMRC co-funds a $25m scheme over five years aimed at better translation of research. Injury prevention and road safety could be a potential subject for a Partnership Centre. The first step is to identify partners and funding sources and then establish a business case and take it to the research area of the NHMRC for consideration. Mr McIntosh and Professor Aitken will follow up this potential with Professor Anderson, NHMRC CEO. ACRS and ONHMRC will further discuss the necessary administration details to ensure implementation of the Framework. Ideas suggested at the workshop include follow up of this activity at subsequent ACRS or other road safety conferences or meetings with a group representative of workshop participants.

Objective Four:

Bring together all relevant stakeholders and end users into the current road safety research space.

Outcome:
This was achieved by inviting all stakeholders to participate in the Workshop.

Appendix 1: List of Workshop Participants

Agency/Organisation	Participant Name
Amy Gillett Foundation	Marilyn Johnson
ANZPAA representative	Neville Taylor
ANZPAA representative	Robert Fauser
Australasian College of Road Safety	Claire Howe
Australasian College of Road Safety	Lauchlan McIntosh
Australasian College of Road Safety	Laurelle Tunks
Australasian New Car Assessment Program (ANCAP)	John Metcalfe
Australian Automobile Association	Craig Newland
Australian Motorcycle Council	Shaun Lennard
Australian Research Council (ARC)	Marian Simms
Australian Road Research Board (ARRB)	Michael Tziotis
Austroads - Road Safety Taskforce & representing Qld Transport & Main Roads	Pam Palmer
Centre for Accident Research and Road Safety Queensland (CARRS-Q), Queensland University of Technology	Barry Watson
Centre for Accident Research and Road Safety Queensland (CARRS-Q), Queensland University of Technology	Kerry Armstrong
Centre for Automotive Safety Research, University of Adelaide	Jeremy Woolley
Centre for Automotive Safety Research, University of Adelaide	Mary Lydon
Centre of National Research on Disability and Rehabilitation Medicine	Luke Connelly
Department of Infrastructure and Transport (DoIT)	John Goldsworthy
Department of Infrastructure and Transport (DoIT)	Olivia Sherwood
Department of Planning, Transport and Infrastructure (SA)	Paula Norman
Edith Cowan University	Murray Lampard
Federal Chamber of Automotive Industries (FCAI)	James Hurnall
Foundation of Alcohol Research and Education	Michael Thorn
IAG Research Centre	Naomi Quinn
IAG Research Centre	Robert McDonald
Monash University Accident Research Centre (MUARC)	Judith Charlton
Monash University Accident Research Centre (MUARC)	Mark Stevenson
National Health and Medical Research Council (NHMRC)	Cathy Connor
National Health and Medical Research Council (NHMRC)	Christopher Thorpe
National Health and Medical Research Council (NHMRC)	Joanna Bencke
National Health and Medical Research Council (NHMRC)	John McCallum
National Transport Commission	Jeff Potter
Neuroscience Research Australia, University of New South Wales	Julie Brown
Neuroscience Research Australia, University of New South Wales	Lynne Bilston
NRMA Motoring and Services	Jack Haley
NSW Motor Accidents Authority	Christine Baird
Pedestrian Council of Australia	Harold Scruby
Queensland Motor Accident Insurance Commission	Matthew Waugh
RACV	Melinda Congiu
Royal Australasian College of Surgeons	Danny Cass
SA Motor Accident Commission	Ross McColl
Sapere Research Group Limited	Richard Tooth
St John's Ambulance	Amanda Power
The George Institute, University of Sydney	Rebecca Ivers
Towards Zero Road Safety Strategy (WA) Road Safety Council for the Office of Road	Linley Crackel
Transport and Road Safety Research Centre (TARS), University of New South Wales	Ann Williamson
Transport and Road Safety Research Centre (TARS), University of New South Wales	Raphael Grzebieta
Transport for NSW	Ben Barnes
Transport for NSW	Evan Walker
Vic Roads	Julian Lyngcoln
Victorian Transport Accident Commission	Michael Nieuwesteeg

Appendix 2: Workshop Program

DAY 1 – THURSDAY 21 FEBRUARY 2013

Purpose of Day 1	To discuss the Draft National Road Safety Research Strategy (Research Strategy)
Day 1 desired outputs	• A broad consensus on the framework of the Research Strategy • Ideas for who would own the Strategy and how it would be implemented and monitored

Time	Day 1 Topics	Speaker
9:30	**Arrivals and Registrations – Guest arrival**	
10:00am – 10:15am	**1. Introduction** • Purpose of workshop and National Roads Safety Research Strategy – why do we need one?	Lauchlan McIntosh
10:15am – 11:00am	**2. Setting the scene** • ARC and NHMRC Research Funding in this Sector • Governance: what is the current landscape of the Road Safety sector in Australia? • Video Clip: Press Club Address by Brian Schmidt and Alan Finkel – Research and Innovation: Australia's Global Influence • Feedback from peers: Pre-Workshop Survey Results • Brief history of the 1997 National Road Safety Research and Development Strategy • Draft New Research Strategy – overview	ARC and NHMRC John Goldsworthy Facilitator Barry Watson Barry Watson Ann Williamson
11:00am	*Morning Tea – 15 minutes*	
11:15am – 12:45pm	**3. Workshop Session One: Draft Research Strategy – Big Picture Aspects** • Interactive workshop session on: – Overall Structure and Scope – Vision – Goals – Strategies (that support the Goals in the Research Strategy) Whole group discussion and input from groups	Facilitator
12:45pm	*Lunch – 30 minutes*	
1:15pm – 2:45pm	**4. Workshop Session Two: Governance and Implementation** Interactive workshop session to discuss: • Governance – who should 'own' the Research Strategy? • Resourcing – what is needed to ensure adequate resources to achieve the aim of the Research Strategy and ongoing governance and maintenance? • Where are the funding opportunities? • What do we need to do to ensure translation of research findings in this sector? • Monitoring and evaluation – how will we know if the Strategy has been effective and over what time frame? Whole group discussion and input from groups	Facilitator
2:45pm	*Afternoon tea – 15 minutes*	

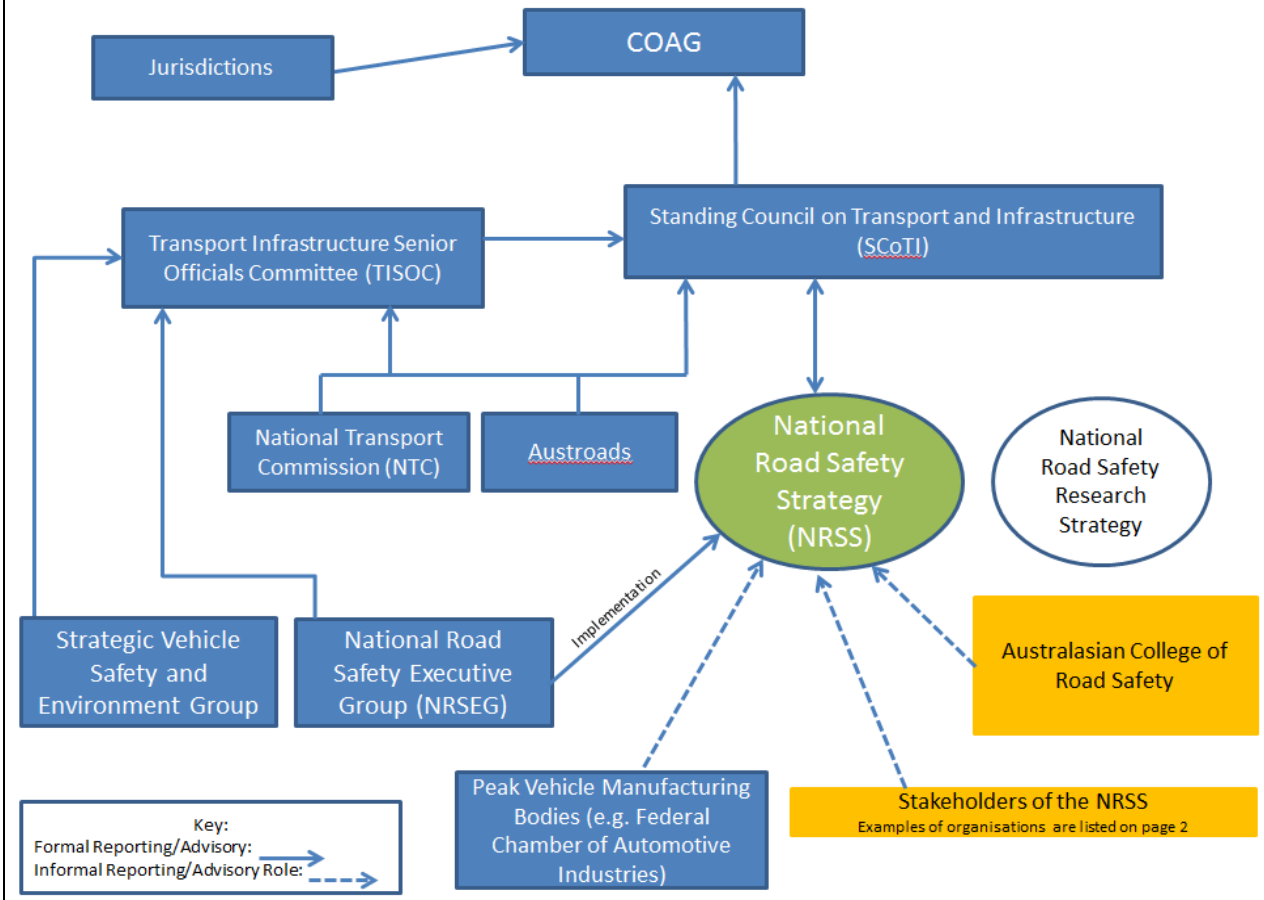
Time	Day 1 Topics	Speaker
3:00pm – 4:30pm	**5. Workshop Session Three: Research Priorities and Strategic Issues/Gaps** • Interactive workshop session to discuss: – Strategic issues – Research priorities Whole group discussion and input from groups	Facilitator
4:30pm–4:45pm	**6. Summary and Next Steps** • Recap of: – Broad Research Strategy framework – Governance/implementation ideas (ownership and how it will be monitored) • Recommendations for Day 2 discussions	Facilitator
4:45pm	*Day 1 Workshop close*	

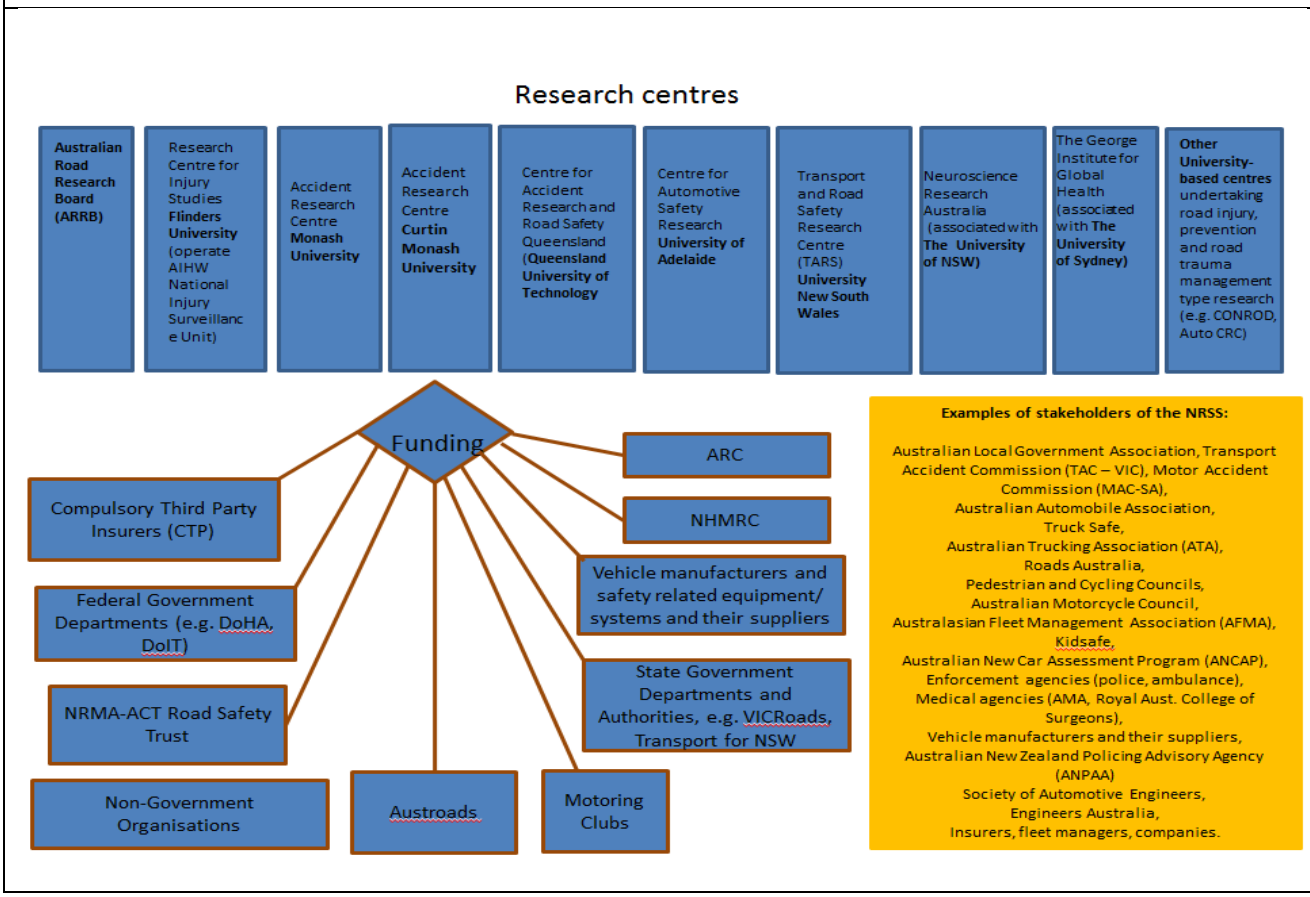
DAY 2 – FRIDAY 22 FEBRUARY 2013

Purpose of Day 2	To refine the draft Research Strategy and develop ideas on how it can be implemented successfully
Day 1 desired outputs	• Draft Research Strategy to circulate to all workshop participants for final input/comment • Draft plan for implementation

Time	Day 2 Topics	Speaker
9:00am – 9:45am	**1. Introduction** • Recap of Day 1 and clarification of desired outcomes for Day 2	Facilitator and open discussion
9.45am – 10:45am	**2. Consolidating the Research Strategy** • Group discussions to further develop the actions, ideas and activities to support the Goal/Strategies	Facilitator
10:45am	*Morning tea – 15 minutes*	
11:00am – 12:00pm	**3. Implementation and Monitoring Issues** • Group discussions to expand any issues from Day 1 relating to implementation, monitoring and what an implementation plan could look like	Facilitator
12:00pm – 1:00pm	**WORKING LUNCH** **4. Summary, Next Steps and Related Tasks** Specific actions – what is needed and who is responsible for action items?	Facilitator Lauchlan McIntosh
1:00pm	*Day 2 Workshop close*	

Appendix 3: Road Safety Stakeholder Mud Map





Appendix 4

DRAFT

National Road Safety Research Strategy (NRSRS)

Pre-Workshop Survey Results

Prepared by David Soole, Barry Watson & Kerry Armstrong

February 2013

Executive Summary

The survey reported in this paper was conducted to inform the development of the National Road Safety Research Strategy (NRSRS) for Australia. More particularly, it was undertaken to inform deliberations at the workshop being held to finalise the NRSRS in late February 2013.

A total of 33 individuals from 27 organisations responded to the pre-workshop survey. These organisations included representative bodies or member organisations (36.4%), State-based research organisations (24.2%), State government bodies (18.2%), national research organisations (12.1%), a Federal government body (3%), State-based funding agency (3%) and an insurance agency (3%). Half of the involved organisations were, at least in part, directly involved in conducting research, while a third reported that they provided funding for road safety research.

Of the research organisations, safer speeds, safer vehicles and safer road users were the predominant topics they researched, followed by safer roads and roadsides and road safety management and coordination. Research investigating post-crash response was a less frequent activity. Of the funding organisations, research investigating safer vehicles was the primary topic funded, followed closely by safer roads and roadsides and safer road users. Safer speeds also attracted substantial funding allocation, while road safety management and coordination and post-crash response were identified as attracting lower levels of funding. Perhaps not surprisingly then, safer vehicles, safer roads and roadsides and safer road users were nominated as key research priorities (84.2% of organisations). In addition, safer speeds and road safety management and coordination were also seen as important (68.4%), while post-crash response was perceived as a lower research priority (52.6%).

Furthermore, qualitative responses suggested a number of additional priorities, which required more research attention to support the National Road Safety Strategy. These included: the need to better define, collect and organise road safety data, particularly relating to crash statistics; conducting research in a more holistic fashion; and improving the coordination and management of research activities, particularly in relation to collaborations between organisations nationally and internationally.

Research gaps were perceived to be most evident in the areas of road safety management and coordination (73.7% of all organisations), followed by safer road users (68.4%), safer speeds and safer vehicles (57.9%) and safer roads and roadsides (47.4%). Fewer respondents suggested that there were research gaps in the area of post-crash response (36.8%). In addition, qualitative responses suggested a number of additional gaps in road safety research. These included: increasing the innovativeness of research; ensuring that policies and practices are developed from best practice and are rigorously evaluated

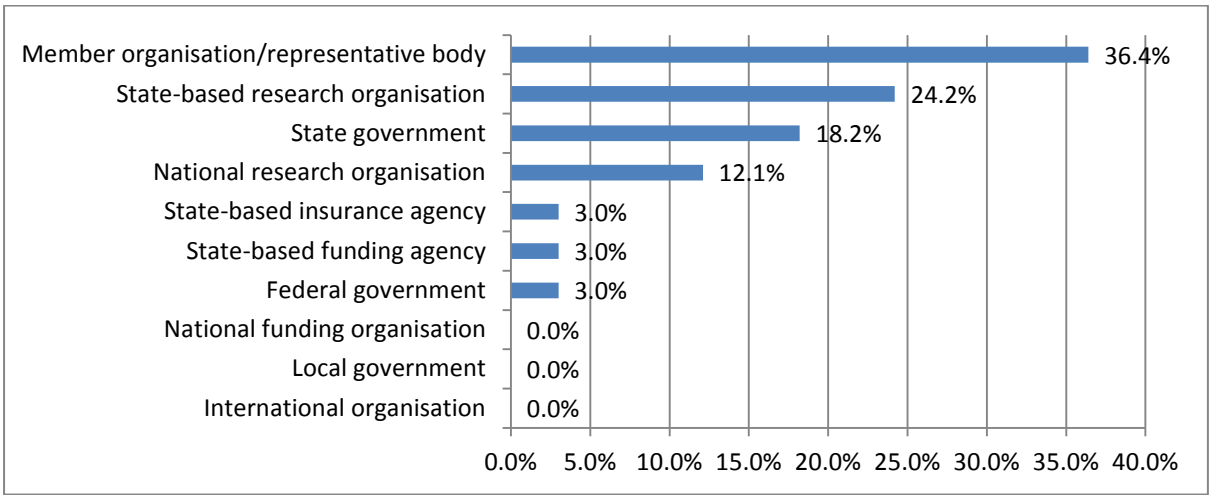
Regarding who should exercise ‘ownership’ of the NRSRS, the majority of respondents suggested this should be the responsibility of either a new body, which is independent of

government (36.8%) or the National Road Safety Executive Group (NRSEG), an Austroads safety taskforce or equivalent body (31.6%). There was limited support for a new body within the current government structure (15.8%), the Department of Transport and Infrastructure (15.8%), an existing independent body (10.5%), or the Standing Council on Transport and Infrastructure (SCOTI) (5.3%).

1. Survey Respondents

A total of 33 individuals from 27 organisations responded to the pre-workshop survey. Figure 1 provides a breakdown of the types of organisations from which responses were received (see Appendix A for a precise list of involved organisations). As can be seen, over a third of the participating individuals were from representative bodies or member organisations (36.4%). A further quarter were from State-based research organisations(24.2%), while 18.2% were from State government bodies and 12.1% were from national research organisations. A single representative from Federal government, as well as State-based funding and an insurance agency also participated. No representatives from international organisations, national funding agencies or local government responded to the survey.

Figure 1. Type of Participating Organisations.

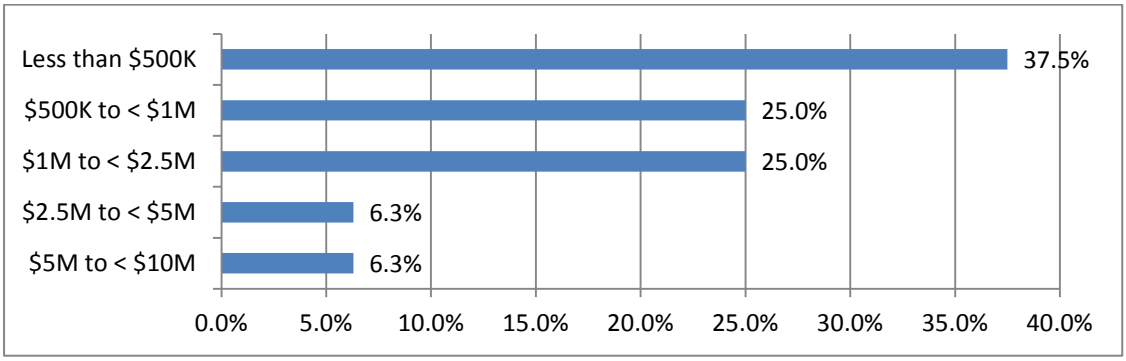


N = 33.

Half of the individuals represented organisations that undertake road safety research, while 32.3% represented organisations that fund road safety research. Three of the organisations were identified as both undertaking and funding road safety research. Half of the represented organisations had between 10-24 staff employed in road safety specific roles within the organisation, while 43.8% had less than 10. Only one organisation identified itself as having more than 50 staff employed in road safety specific roles.

Of the 16 organisations who identified themselves as serving, at least in part, a research role, 37.5% (*n*=6) had an estimated annual level of road safety funding (in the most recent financial year) of less than $500K (see Figure 2). Alternatively, a quarter (25%, *n*=4) had an annual funding level of $500K-$1M, while another quarter (25%, *n*=4) reported $1M-$2.5M. One organisation (6.3%, *n*=1) reported an annual funding level of $2.5M-$5M, while another (6.3%, *n*=1) reported $5M-$10M.

Figure 2. Annual level of road safety research funding for the most recent financial year (research organisations).



N = 16.

2. Current Activity

The 16 individuals representing organisations which serve, at least in part, a road safety research role, identified the following research priorities within their organisation (see also Table 1):

- Safer speeds – 86.7% (*n* = 13), with up to 40% of resources allocated to this area;
- Safer vehicles – 86.7% (*n* = 13), with up to 60% of resources allocated to this area;
- Safer roads/roadsides – 66.7% (*n* = 10), with up to 50% of resources allocated to this area;
- Safer road users – 86.7% (*n* = 13), with up to 70% of resources allocated to this area;
- Post-crash response – 46.7% (*n* = 7), with up to 30% of resources allocated to this area; and
- Road safety management/coordination – 66.7% (*n* = 10), with up to 80% of resources allocated to this area.

One organisation identified the major focus of their work as being in the area of statistical measurement and the description of injuries and the burden of injury, particularly among specific groups (e.g., Indigenous Australians). In addition, four organisations highlighted they are more often indirectly involved in the research process, and typically engage and fund research which is designed to inform policy decisions.

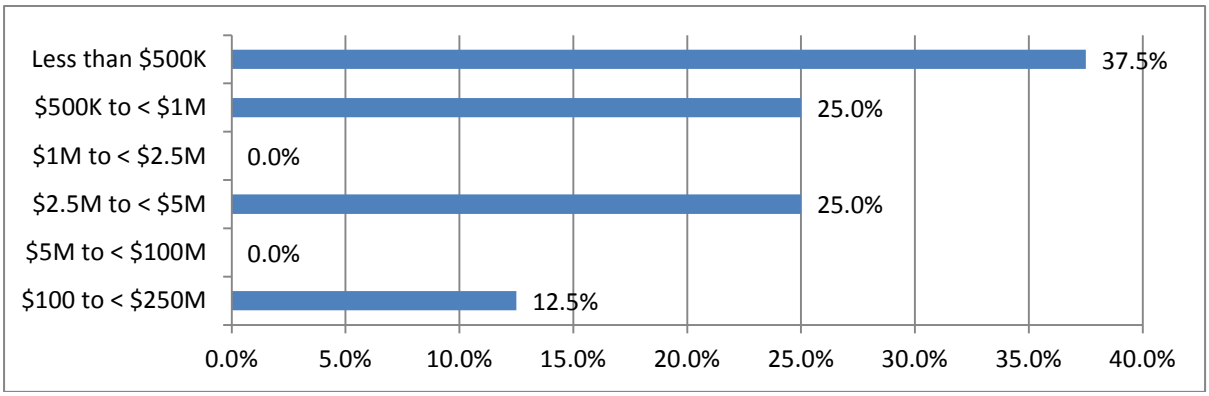
Of the ten organisations who identified themselves as having a funding role, more than a third (37.5%, *n*=3) expended less than $500K on road safety funding (in the most recent financial year - see Figure 3). Alternatively, a quarter (25%, *n*=2) expended between $500K-$1M in funding, while another quarter (25%, *n*=2) expended between $2.5M-$5M. One organisation (12.5%, *n*=1) reported expending between $100M-$250M, while two did not respond.

Table 1. Percentage allocation of resources to road safety research priority areas (research organisations).

	Percentage of resources allocated to road safety research priorities							
	1-10	**11-20**	**21-30**	**31-40**	**41-50**	**51-60**	**61-70**	**71-80**
Safer speeds	26.7%	**46.7%**	6.7%	6.7%				
	n=4	**n=7**	n=1	n=1				
Safer vehicles	**46.7%**	6.7%	26.7%			6.7%		
	n=7	n=1	n=4			n=1		
Safer roads and roadsides	**20%**	**20%**	**20%**		6.7%			
	n=3	**n=3**	**n=3**		n=1			
Safer road users	6.7%		**33.3%**	6.7%	26.7%	6.7%	6.7%	
	n=1		**n=5**	n=1	n=4	n=1	n=1	
Post-crash response	**26.7%**	6.7%	13.3%					
	n=4	n=1	n=2					
Road safety management/ coordination	**26.7%**	20%	6.7%		6.7%			6.7%
	n=4	n=3	n=1		n=1			n=1

N = 15.
Note: No organisations allocated more than 70% of resources to any single road safety research priority.
Bolded cells represent the median amount of resource allocation per road safety research priority (row).

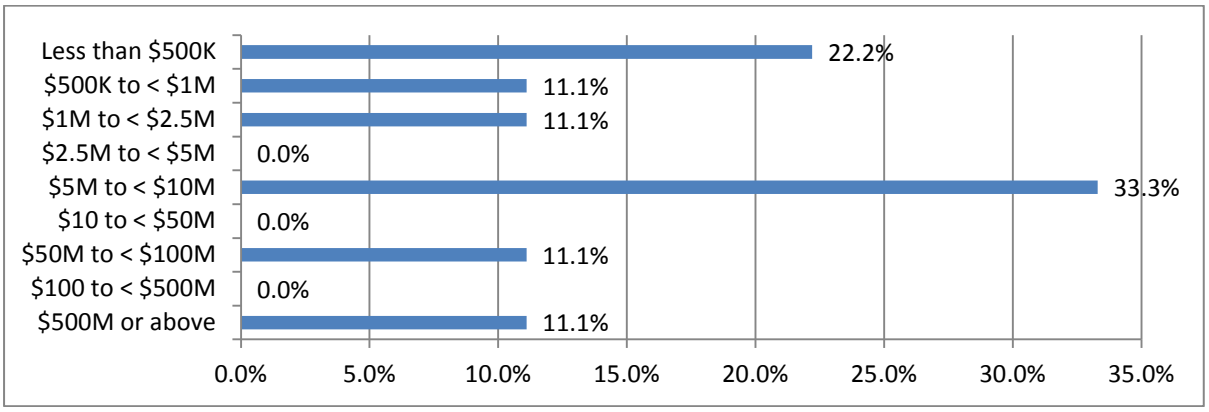
Figure 3. Annual level of road safety research funding expenditure for the most recent financial year (funding organisations).



N = 8.

These ten organisations also identified their total annual level of funding for the most recent financial year (see Figure 4). A third had an annual funding budget of between $5M and $10M. In contrast, just under a quarter (22.2%) had an annual funding budget of less than $500K. One organisation (11.1%, *n*=1) each reported an annual funding budget of: $500K-$1M, $1M-$2.5M, $50M-$100M and over $500M.

Figure 4. Annual level of total funding for the most recent financial year (funding organisations).



N = 9.

Of the ten funding organisations, nine responded to an item and identified their organisations as having the following research funding priorities (see also Table 2):

- Safer speeds – 77.8% (*n* = 7), with up to 30% of funding allocated to this area;
- Safer vehicles – 100% (*n* = 9), with the majority of organisations allocating up to 30% of funding to this area and one organisation allocating 91-100% of their funding to this area;
- Safer roads/roadsides – 88.9% (*n* = 8), with up to 70% of funding allocated to this area;
- Safer road users – 88.9% (*n* = 8), with up to 70% of funding allocated to this area;
- Post-crash response – 11.1% (*n* = 1), with up to 20% of funding allocated to this area; and
- Road safety management/coordination – 33.3% (*n* = 3), with up to 20% of funding allocated to this area.

Table 2. Percentage allocation of road safety funding to research priority areas (funding organisations).

	Percentage of resources allocated to road safety research priorities									
	1-10	**11-20**	**21-30**	**31-40**	**41-50**	**51-60**	**61-70**	**71-80**	**81-90**	**91-100**
Safer speeds	11.1% n=1	**55.5%** **n=5**	11.1% n=1							
Safer vehicles	33.3% n=3	**44.4%** **n=4**	11.1% n=1							11.1% n=1
Safer roads and roadsides	11.1% n=1	**55.5%** **n=5**	11.1% n=1				11.1% n=1			
Safer road users		22.2% n=2	**33.3%** **n=3**		22.2% n=2		11.1% n=1			
Post-crash response		**11.1%** **n=1**								
Road safety management/ coordination	**22.2%** **n=2**	11.1% n=1								

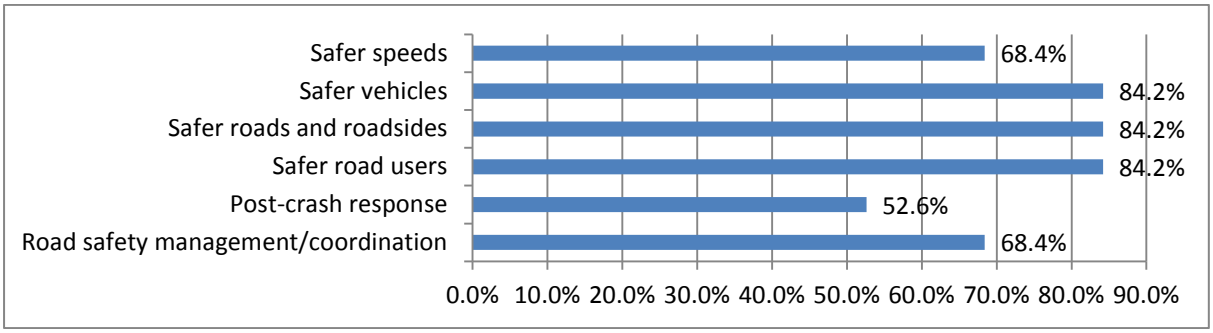
N = 9.
Bolded cells represent the median amount of funding allocation per road safety research priority (row).

Two organisations also highlighted that their budget is also used to fund staff salaries at research organisations.

Individuals were requested to identify those road safety research areas they believed were of high priority. Respondents were also asked to identify those areas in which they perceived there to be gaps in the research, particularly those the National Road Safety Research Strategy (NRSRS) could target in order to help reduce the road toll. In addition, respondents were asked to identify which organisation (if any) should 'own' the NRSRS, should it be implemented. A total of 19 individuals responded to these items (57.6%).

As can be seen in Figure 5, the majority of individuals identified each of the listed issues as priorities. Specifically, 84.2% (*n*=16) agreed that safer vehicles, safer roads and roadsides and safer road users were research priorities. In addition, 68.4% (*n*=13) agreed that safer speeds and road safety management and coordination were research priorities, while slightly more than half (52.6%, *n*=10) listed post-crash response as a research priority.

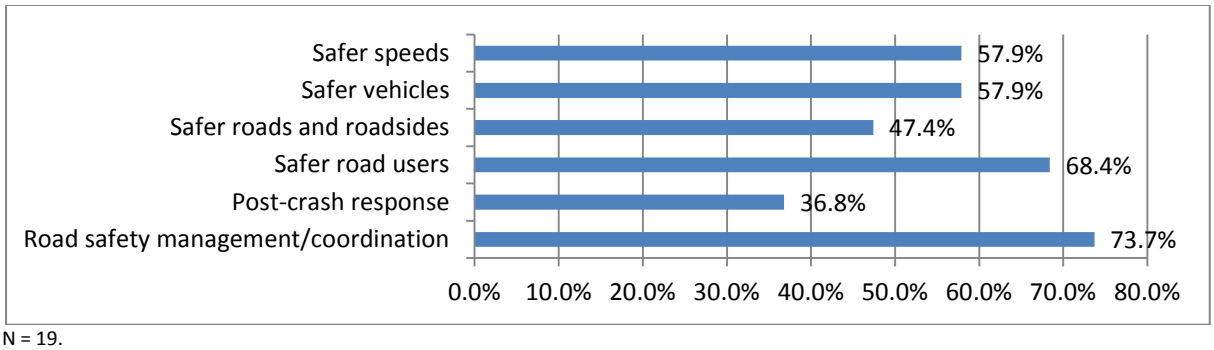
Figure 5. Perceived road safety research priorities.



N = 19.
Note: Multiple responses were permissible by a single individual/organisation.

As can be seen in Figure 6, almost three-quarters argued that there were research gaps in the areas of road safety management and coordination (73.7%, *n*=14) and safer road users (68.4%, *n*=13). Similarly, more than half (57.9%, *n*=11) suggested there were gaps in the areas of safer speeds and safer vehicles, 47.4% (*n*=9) in the area of safer roads and roadsides and 36.8% (*n*=7) in the area of post-crash response.

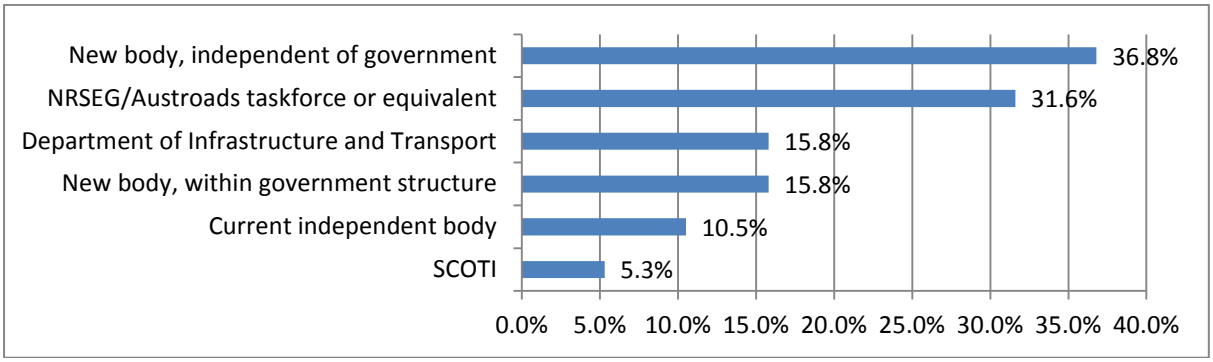
Figure 6. Perceived gaps in road safety research priorities.



N = 19.
Note: Multiple responses were permissible by a single individual/organisation.

As can be seen in Figure 7, over one-third of respondents (36.8%, *n*=7) suggested that a new body, which is independent of government, should 'own' the NRSRS, while just under one-third (31.6%, *n*=6) suggested that the National Road Safety Executive Group (NRSEG), an Austroads safety taskforce or equivalent body would be most appropriate. There was also some support for a new body, within the current government structure (15.8%, *n*=3), the Department of Transport and Infrastructure (15.8%, *n*=3), an existing independent body (10.5%, *n*=2), or the Standing Council on Transport and Infrastructure (SCOTI) (5.3%, *n*=1).

Figure 7. Most appropriate perceived organisation to 'own' the NRSRS, should it be implemented.



N = 19.

In addition to the quantitative responses to items as discussed above, the pre-workshop survey also included a number of qualitative response items. These items investigated respondent opinions regarding the perceived successes and areas in need of improvement in road safety research in Australia, as well as more in-depth probing of the current research priorities and current gaps in road safety research. Overall, responses could largely be organised into two themes: broader priorities relating to how research activities are conducted, such as funding, methodology, and management and coordination; and what road safety issues require research (e.g., identifying and establishing specific research priorities). The responses to these items are discussed in more detail in the following sections.

3. What have been the perceived successes in road safety research in Australia?

How research activities are conducted

A number of the respondents highlighted improvements associated with research organisations and their staff. Specifically, improved "*multi-disciplinary collaboration between researchers*" at local, state, national and international levels, including the "*establishment and creation of research networks*", was argued to have increased "*the development of strong partnerships between government and other stakeholders [and] allow for focused research programs and translation of research outcomes*" into actual policy and practice. In addition, it was argued that "*high quality research outputs [have been achieved] for modest financial investment*". Finally, it was suggested that there has been an

increased number of "*researchers and research organisations with domestic and international recognition and credibility*".

The focus on innovative, evidence-based research and the safe systems approach to guide policy and practice decisions in a holistic fashion was also highlighted by a number of respondents. Indeed, as one respondent wrote:

> "*Evidence-based research has driven the formation of a National Road Safety Strategy. It has contributed to the development of the four key areas of the safe systems approach, ensuring road safety improvement is tackled holistically*".

In addition, it was argued that Australian research has been successful in "*proactively keeping pace with emerging international road safety trends*".

Research topics and issues

A number of respondents suggested that significant successes have been experienced in relation to improving legislation, policy and practice in a wide variety of road safety areas, including:

- Speeding, in particular the lowering of speed limits and improved enforcement;
- Seat belt use, in particular mandatory wearing legislation;
- Drink driving, in particular random breath testing (RBT);
- Drug driving, particularly random roadside drug testing (RDT);
- Driver fatigue;
- Graduated licensing schemes and other safety initiatives for young novice drivers;
- Helmet wearing for both cyclists and motorcyclists;
- Cyclist safety;
- In-vehicle technologies to enhance safety;
- Vehicle and other equipment safety ratings (e.g., ANCAP; New Car Assessment Program);
- Improved road designs and safer roads and roadsides;
- Development of at-scene crash investigation for research purposes; and
- Traffic enforcement in general.

4. What have been the perceived failures in road safety research in Australia?

How research activities are conducted

Numerous shortcomings associated with road safety research in Australia were identified. A number of respondents argued there are a "*lack of priorities for research, especially taking a longer-term view*" and that "*research agendas [are often] set by non-research organisations, [which are] often politically motivated*". Moreover, it was argued that the "*political process [is often] not concerned with evidence*" and that "*projects are not always prioritised based*

on ability to improve road safety outcomes". It was argued that this uncoordinated approach to research results in a "*tendency for duplication of some research effort[s] and other areas attracting little or no research at all*", an "*inability to meet needs and maintain engagement across [the] three tiers of government*", and "*poor coordination of projects at a national level*".

A number of problems associated with funding opportunities were identified. Specifically, it was suggested that current funding schemes result in "*competition for scarce funding, rather than collaborative research efforts across research agencies*". The difficulties associated with contracted/tendered projects, compared to competitive grant projects, were also highlighted. As one respondent wrote:

> "*Much 'research' occurs as contract work and therefore funding streams are not recognised as competitive funding. Another downside to this is that ... it might limit the potential outcomes of research by limiting the focus of the research work. [There are also] difficulties for road safety researchers to translate their success as contract researchers to success as academic researchers*".

A number of problems associated with acquiring necessary funds were identified, particularly in relation to the willingness of key stakeholders to allocate funds for road safety research. Indeed, it was argued that there has been "*insufficient federal government funding for rigorous research and evaluation*", a "*lack of research funding by [the] insurance industry*", a tendency toward "*industry not [being] involved and/or unwilling to fund road safety related research*", as well as concerns of the "*ARC and NHMRC not including road safety as a high research priority*".

A number of difficulties associated with the process of conducting research projects, ensuring outcomes have meaningful impacts on policies and practices, and conducting further research, were also identified. That is, it was argued that there are "*few formal mechanisms for conducting research*". Moreover, it was argued that the "*lack of nationally consistent data collection*", particularly in relation to crash statistics, has resulted in an "*inability to look at things on a national or more aggregated basis*". Moreover, as one respondent noted: "*failure to implement, or the significant time required to implement, more recent research is of concern ... once a road safety measure is implemented, research into its effectiveness must be a priority*".

Research topics and issues

A number of research areas were highlighted as having received insufficient attention. These included:

- Vulnerable road users, particularly older road users (perceived as particularly important given the ageing population in Australia), minority groups and rural/remote road users;

- Economics (public policy and regulatory economics) of road safety and overall governance of road safety strategies;
- The burden of injury and disability (argued that too great a focus is placed on fatal crashes);
- Road safety education;
- Speeding and speed enforcement (acknowledged as having experienced successes in recent years, however argued to still have significant required improvements);
- Vehicle design and safety standards (argued as not keeping up with international developments);
- Other indicators of road safety performance (based on the concern that fatalities are often utilised as a sole measure of performance) and an over-reliance on crash data (particularly fatalities); and
- Fundamental and theoretical issues (which were argued to be able to facilitate major paradigm shifts).

As a result of these shortcomings, a number of respondents suggested that current road safety research efforts have "*not been in line with the National Road Safety Strategy*" and that there has been a "*lack of a coordinated approach to Vision Zero strategies*". In addition, it was argued that road safety research has too often been conducted without considering other disciplines, or with an "*inability to understand how road safety intersects with other key areas – e.g., alternative transport, alcohol management and treatment*".

5. What are the current research priorities in the road safety sector in Australia?

How research activities are conducted

There was a strong consensus for the need to better define, collect and organise road safety data, particularly relating to crash statistics. It was argued that without improved coordination of these activities, research would continue to be conducted which duplicated other projects and failed to collaboratively and efficiently utilise existing resources.

> "*Consistency in definitions of data captured around road safety could also be improved and is an issue that would benefit from leadership on a national level*".
>
> "*Good data both at state and national level for problem identification, monitoring interventions and evaluating interventions*".
>
> "*Improvements to crash data are needed so that accurate and consistent data is available and accessible nationwide*".
>
> "*More effort is needed to be put into demonstration projects and trials and when these are done they need to be evaluated properly*".

A number of respondents suggested that "*priority should be given to projects able to demonstrate direct relevance and support to the National Road Safety Strategy and those projected to provide the greatest benefit*". In addition, "*quantifying the funding required to implement the National Road Safety Strategy and assisting to identify sources of these funds*" was also perceived to be an important goal. Furthermore, one respondent noted how the coordination and management of such processes need to be improved:

> "*The NRSS 'first steps' and 'future steps' sections include opportunities for partnership with government and non government organisations to reduce the national road toll. However information and research on how this is coordinated and/or managed is missing*".

6. What are the current gaps in road safety research in Australia?

How research activities are conducted

A number of respondents questioned the innovativeness of road safety research in Australia. Indeed, it was suggested that research is often dictated by funding opportunities, rather than addressing actual needs or identifying the optimal approach to conducting research activities.

> "*Road safety research in Australia tends to just follow the funding. There is very little blue-sky research or research on improving methodologies and approaches because this is not seen as being directed at specific problems*".

Moreover, it was argued that evaluation must be the logical continuation of the implementation of a road safety countermeasure, and that such evaluations must include process, outcome and cost-effectiveness analyses. Indeed, such an approach was perceived as facilitating the adoption and continuation of best-practice policies and initiatives.

> "*Evaluation research is generally lacking totally or is too perfunctory. There is little analysis of cost effectiveness. Despite the implementation of many major road safety interventions, very little is evaluated, so there is little understanding of what works, why and what should be avoided in the next intervention*".

Research topics and issues

A number of respondents also highlighted the need for research efforts to be conducted in a holistic fashion, rather than viewing road safety issues as isolated phenomena. As one respondent noted,

> "*There is also a strong argument to change the focus from emphasis on specific aspects of the road safety problem to a much more holistic approach that looks at how these categories, e.g., drivers, vehicles, roads and road safety management, interact to improve safety".*

"*There is a need to understand how smart vehicle technologies interact with older drivers; how road side treatments interact with vulnerable road users like motorcyclists and bicyclists, etc".*

"*It is essential that an interdisciplinary approach is taken to road safety. Safer roads are not the sole domain of road design or traffic engineers and requires input from behavioural science, social science, public health etc*".

Numerous road safety issues were identified as requiring greater direction in research efforts. The quotes that follow highlight these issues, as well as providing an argument for their importance.

"*Cooperative, intelligent transport systems and intelligent systems in vehicles in particular have the potential to reduce the road toll, but will need much more research, especially on the usability of these new approaches*".

"*Some underpinning research will also be required on topics such as economic analysis (differences between Willingness to Pay and Cost of Life methods for estimating the cost of road trauma*".

"*There are gaps in understanding the nature of the road safety problem for remote and regional road users, and culturally and linguistically diverse road users including Indigenous and non-English speaking background migrant communities*".

"*Road user behaviour including culture is the ultimate 'game changer'. This will be addressed through education, media and time. It is these areas that will have the greatest impact after high cost long term engineering solutions*".

"*Much of the safe system approach, e.g., safe speed and the willingness to pay philosophy, rely on public acceptance. There are research gaps in understanding how to influence public opinion in this regard. Similarly there are gaps in research in how to best educate and influence rule makers and the managers of the road system*".

"*Post crash care and response should be recognized in a national road safety research strategy*".

7. Summary & Conclusions

A total of 33 individuals from 27 organisations responded to the pre-workshop survey investigating particular aspects of the development of a National Road Safety Research Strategy (NRSRS) for Australia. These organisations included representative bodies or member organisations (36.4%), State-based research organisations (24.2%), State government bodies (18.2%), national research organisations (12.1%), a Federal government

body (3%), State-based funding agency (3%) and an insurance agency (3%). Half of the involved organisations were, at least in part, directly involved in conducting research, while a third performed in a funding capacity.

Of the research organisations, safer speeds, safer vehicles and safer road users were the predominant research topics, followed by safer roads and roadsides and road safety management and coordination. Research investigating post-crash response was a lower priority. Of the funding organisations, research investigating safer vehicles was the primary topic funded, followed closely by safer roads and roadsides and safer road users. Safer speeds also attracted substantial funding allocation, while road safety management and coordination and post-crash response were identified as lower priorities. Perhaps not surprisingly then, safer vehicles, safer roads and roadsides and safer road users were nominated as key research priorities (84.2% of organisations). In addition, safer speeds and road safety management and coordination were also seen as important (68.4%), while post-crash response was perceived as a lower research priority (52.6%).

Furthermore, qualitative responses suggested a number of additional perceived priorities, which it was argued should seek to support the National Road Safety Strategy. These included: the need to better define, collect and organise road safety data, particularly relating to crash statistics; conducting research in a more holistic fashion; and improving the coordination and management of research activities, particularly in relation to collaborations between organisations nationally and internationally.

Research gaps were perceived to be most evident in the areas of road safety management and coordination (73.7% of all organisations), followed by safer road users (68.4%), safer speeds and safer vehicles (57.9%) and safer roads and roadsides (47.4%). Fewer respondents suggested that there were research gaps in the area of post-crash response (36.8%). In addition, qualitative responses suggested a number of additional gaps in road safety research. These included: increasing the innovativeness of research; ensuring that policies and practices are developed from best practice and are rigorously evaluated

Regarding who should exercise ‘ownership’ of the NRSRS, the majority of respondents suggested this should be the responsibility of either a new body, which is independent of government (36.8%) or the National Road Safety Executive Group (NRSEG), an Austroads safety taskforce or equivalent body (31.6%). There was limited support for a new body, within the current government structure (15.8%), the Department of Transport and Infrastructure (15.8%), an existing independent body (10.5%), or the Standing Council on Transport and Infrastructure (SCOTI) (5.3%).

Appendix A. Involved Organisations

A total of 27 organisations participated in the pre-workshop survey. Two of these organisations did not provide the name of their organisation.

1. Transport and Road Safety Research, University of New South Wales (UNSW)*
2. Curtin Monash Accident Research Centre**
3. Monash University Accident Research Centre (MUARC)
4. Amy Gillett Foundation**
5. Australian Automobile Association (AAA)
6. Royal Australian Club of Victoria (RACV)
7. Neuroscience Research Australia
8. VicRoads
9. Australasian Fleet Management Association
10. Centre for Automotive Safety Research (CASR), University of Adelaide
11. NRMA-ACT Road Safety Trust
12. NRMA Motoring & Services
13. Motor Accident Insurance Commission (MAIC), Queensland**
14. SAE Australia
15. Royal Australasian College of Surgeons**
16. The George Institute for Global Health
17. Federal Chamber of Automotive Industries
18. Office of Road Safety
19. St John Ambulance Australia Inc.
20. Sapere Research Group***
21. Victoria Police
22. South Australia Police
23. Motor Accident Commission
24. Research Centre for Injury Studies & AIHW National Injury Surveillance Unit
25. Centre for Accident Research and Road Safety – Queensland (CARRS-Q)

* Three representatives from this organisation responded to the survey.
** Two representatives from this organisation responded to the survey.
*** The comments made by the individual from the Sapere Research Group were identified as being those of the responding individual only, and did not necessarily reflect the attitudes and opinions of the organisation as a whole.